MAGNETICAL AND METEOROLOGICAL

OBSERVATIONS

MADE AT

THE ROYAL OBSERVATORY, GREENWICH,

IN THE YEAR

1842:

UNDER THE DIRECTION OF

GEORGE BIDDELL AIRY, ESQ. M.A.

ASTRONOMER ROYAL.

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ERRATA.

GREENWICH MAGNETICAL AND METEOROLOGICAL OBSERVATIONS FOR 1841.

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xxxi In the column under Hour Angle, *for* ' the symbol for minutes of space, *read* ^{m} the symbol for minutes of time.

7 *For* the mean position at 14^{h} is more westerly, *read* more easterly.
, , , , 0^{h} is more easterly, *read* more westerly.
, , , , 8^{h} is more westerly, *read* more easterly.

GREENWICH MAGNETICAL AND METEOROLOGICAL OBSERVATIONS FOR 1842.

(111) July $21^{d}.12^{h}$. In the General Remarks, *for* $14^{h}.10^{m}$, *read* $11^{h}.10^{m}$.

(126) August $19^{d}.22^{h}$. In the column under Rain-gauge No. 3, *dele* 8·315, and *depress* 11·160 to range with the day.

(133) Foot-note. Aug. $30^{d}.6^{h}$ and 8^{h}, *for* $\frac{1}{8}$ inch, *read* 1·8 inches.

(148) Sep. $26^{d}.18^{h}$. In the column under Barometer Corrected, *for* 22·776, *read* 29·776.

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(152) Sep. $30^{d}.22^{h}$. In the column under Barometer Corrected, *for* 39·128, *read* 30·128.

(162) Oct. $20^{d}.0^{h}$. In the column under Pressure by Estimation, *for* $\frac{3}{5}$, *read* $\frac{3}{4}$.

(164) Oct. $23^{d}.14^{h}$. *Add* to the foot-note—"at the two-hourly observations, but a lower reading than this occurred at $23^{h}.40^{m}$ in extra observations, when the reading was $28^{in}·681$, being the lowest reading during the year."

(183) Nov. $25^{d}.12^{h}$. In the General Remarks, *for* $1\frac{1}{2}$ lb. *read* $1\frac{1}{2}$.

(216) May $21^{d}.11^{h}$. In the column under Barometer Corrected, *for* 20·627, *read* 29·627.

8 Line 9 from the bottom, *for* 12^{h}, *read* 20^{h}.

Line 5 from bottom, *for* The minimum at 11^{h}, *read* A minimum at 12^{h}

In the last line, *for* A minimum, *read* The minimum.

43 *Insert* over Table XXIII., *Results of the Observations of the Thermometers.*

52 *Insert* over Table XLII., *Abstracts of the Results of the Temperature of Evaporation.*

88 17 lines from the top, *for* 0·5 lb., *read* 0·05 lb.

GREENWICH MAGNETICAL AND METEOROLOGICAL OBSERVATIONS.

INTRODUCTION.

In consequence of a representation of the Board of Visitors of the Royal Observatory to the Lords Commissioners of the Admiralty, an additional space of ground on the south-east side of the existing boundary of the Observatory grounds was inclosed from Greenwich Park for the site of a Magnetic Observatory, in the summer of 1837. In the spring of 1838 the Magnetic Observatory was erected. Its nearest angle is about 230 feet from the nearest part of the Astronomical Observatory, and about 170 feet from the nearest outhouse. It is built of wood; iron is carefully excluded. Its form is that of a cross with four equal arms, nearly in the direction of the cardinal magnetic points: the length within the walls, from the extremity of one arm of the cross to the extremity of the opposite arm, is forty feet: the breadth of each arm is twelve feet. The height of the walls inside is ten feet, and the ceiling of the room is about two feet higher. The northern arm of the cross is separated from the central square by a partition, so as to form an ante-room. The meridional magnet (placed in its position in 1838) is mounted in the southern arm; the bifilar magnet, for variations of horizontal force (erected at the end of 1840), is mounted in the eastern arm; and the balance-magnetometer, for variations of vertical force (erected in 1841), in the western arm. The mean-time clock is in the southern arm, near its union with the western arm; the standard barometer is near it, in the western arm; the sidereal-time clock is fixed to the wall which divides the central square from the ante-room, and is nearer to the balance-magnetometer than to the bifilar; the "check-clock," or "watchman's clock," is in the ante-room, affixed to the dividing wall, nearer to the bifilar-magnet than to the balance-magnet; the alarum-clock is in the north-east corner of the ante-room; and the fire-grate at the middle of its west side. These are all the fixtures which contain iron; but as the ante-room is used as a computing-room in the day, and as a room for occasional repose at night, it is impossible to avoid

introducing into it iron in small quantities. On the outside, near the north-east corner of the ante-room, a pole 79 feet in height is fixed, for the support of the conductor and wires of an electrometer; the electrometer, &c. are planted in the window-seat, at the north end of the ante-room; and in the re-entering angle, between the north and east arms, is fixed the stand carrying the thermometers.

I shall now proceed to describe the instruments, their adjustments and constants of calculation, and the modes of using them.

§ 1. *Declination Magnet, and Apparatus for Observing it.*

The theodolite with which the meridional magnet is observed is by Simms: the radius of its horizontal circle is 8·3 inches: it is divided to 5′, and read to 5″ by three verniers, carried by the revolving frame of the theodolite. The fixed frame stands upon three foot-screws, which rest in brass channels let into a stone pier, that is firmly fixed in the ground and unconnected with the floor. The revolving frame carries the Y's (with vertical adjustment at one end) for a telescope with transit axis: the length of the axis is ten inches and a half: the length of the telescope twenty-one inches: the aperture of the object-glass two inches. The Y's are not carried immediately by the T head which crosses the vertical axis of the revolving frame, but by pieces supported by the ends of that T head and projecting horizontally from it: the use of this construction is, to allow the telescope to be pointed sufficiently high to see δ Ursæ Minoris above the pole. The eye-piece of the telescope carries only one fixed horizontal wire, and one vertical wire moved by a micrometer-screw. The stone pier is fixed nearly in the line which divides the southern arm of the cross from the central square: in the roof of the building an opening is made (closed by shutters), in the direction of the astronomical meridian of the pier, through which circumpolar stars can be observed, as high as δ Ursæ Minoris above the pole, and as low as β Cephei S. P.

For supporting the magnet, a braced tripod wooden stand is provided, resting on the ground and unconnected with the floor. Upon the cross-bars of the stand rested a drum (having a covering of glass), within which the magnet vibrated. On June 16^{d}, between 0^{h} and 1^{h}.50^{m}, this drum was changed for a double rectangular box (one box completely inclosed within another), both boxes being covered with gilt paper, on the exterior and interior sides of both. On the southern side of the principal upright piece of the stand, is a moveable upright bar, turning in the vertical E. and W. plane, upon a pin in its center, which is fixed in the principal upright: this moveable upright piece carries at its top the pulleys for suspension of the magnet: and this construction is adopted in order to give an E. and W. movement to the point of suspension, by giving a motion

to the lower end of the bar. The top of the upright piece carries a brass frame with two pulleys: one of these pulleys projects beyond the north side of the principal upright, and from it depends the suspension skein: the other pulley projects on the south side: the suspension skein being brought from the magnet up to the north pulley is then carried over it and over the south pulley, and is then attached to a leather strap, which passes downwards to a small windlass, that is carried by the lower part of the moveable upright. The intention of this construction is, to make it easy to alter the height of the magnet without the trouble of climbing to the top of the frame. The height of the two pulleys above the floor is about eleven feet nine inches, and the height of the magnet is about three feet: so that the length of the free suspending skein is about eight feet nine inches.

The magnet was made by Meyerstein, of Göttingen: it is a bar two feet long, one inch and a half broad, and about a quarter of an inch thick: it is of hard steel throughout. The suspension-piece was also made by Meyerstein, but it has since been altered under my direction by Simms. The magnet is not now inserted endways in its support, but sideways; a double square hook being provided for sustaining it: and the upper part of the suspension-piece is simply hooked into the skein.

The suspending skein is of silk fibre, in the state in which it is first prepared by silk manufacturers for further operations; namely, when seven or more fibres from the cocoon are united by juxtaposition only (without twist) to form a single thread. It was reeled for this purpose at my request by Mr. Vernon Royle, of Manchester. The skein is strong enough to support perhaps six times the weight of the magnet, &c. I judged this strength to be necessary, having found that a weaker skein (furnished by Mr. Meyerstein) broke ultimately even with a smaller weight.

Upon the magnet there slide two small brass frames, firmly fixed in their places by means of pinching-screws. One of these contains, between two plane glasses, a cross of delicate cobwebs: the other holds a lens, of thirteen inches focal length and nearly two inches aperture. This combination, therefore, serves as a collimator without a tube: the cross of cobwebs is seen very well with the theodolite telescope, when the suspension bar of the magnet is so adjusted as to place the collimator object-glass in front of the theodolite object-glass, their axes coinciding. The wires are illuminated by a lamp and lens in the night, and by a reflector in the day.

In order to diminish the extent of vibrations of the magnet, a copper bar, about one inch square, is bent into a long oval form, intended to contain within itself the magnet (the plane of the oval curve being vertical). A lateral bend is made in the upper half of the oval, to avoid interference with the suspension-piece of the magnet. The effect of this copper bar is very striking: it appears, from rough experiments, that every second vibration of the magnet (that is, when a direct and reverse swing have been finished) is reduced in the proportion of 5 : 2 nearly.

Observations relating to the permanent Adjustments of the Declination Magnet and its Theodolite.

1. Inequality of the pivots of the theodolite telescope.

From observations made 1838, June 6, and printed in the Introduction to the volume for 1841, it appears that when the level indicates the axis to be horizontal, the axis at the illuminated end is really too low by $1^{div.}66$. And this quantity has been taken into account in the reduction of all observations with the theodolite, for the determination of the theodolite-reading for the Astronomical meridian. One division of the level scale was found by Mr. Simms to be equal to $1''{\cdot}0526$.

2. Determination of the value of one revolution of the micrometer-screw of the theodolite-telescope.

1842, Jan. 1. The magnet was made to rest on blocks of wood, and the collimator was used as a fixed mark at an infinite distance. The micrometer was placed in different positions, and the telescope of the theodolite was then turned till the micrometer-wire bisected the cross. Observer, Mr. Glaisher.

Microm. set at 92, Reading of Theodolite	246. 38. 53·33	Difference for 23 rev.	36. 8·33	Corresponding value for 1 rev.	1. 34·28
Microm. set at 115, Reading of Theodolite	246. 2. 45·00				
Microm. set at 92, Reading of Theodolite	246. 39. 0·67	Difference for 23 rev.	36. 14·00	Corresponding value for 1 rev.	1. 34·52
Microm. set at 115, Reading of Theodolite	246. 2. 46·67				
Microm. set at 92, Reading of Theodolite	246. 38. 59·33	Difference for 23 rev.	36. 6·66	Corresponding value for 1 rev.	1. 34·20
Microm. set at 115, Reading of Theodolite	246. 2. 52·67				
Microm. set at 92, Reading of Theodotite	246. 38. 56·67	Difference for 23 rev.	36. 6·34	Corresponding value for 1 rev.	1. 34·19
Microm. set at 115, Reading of Theodolite	246. 2. 50·33				
Microm. set at 92, Reading of Theodolite	246. 38. 54·67	Difference for 23 rev.	36. 3·00	Corresponding value for 1 rev.	1. 34·04
Microm. set at 115, Reading of Theodolite	246. 2. 51·67				
Microm. set at 92, Reading of Theodolite	246. 38. 55·67	Difference for 23 rev.	36. 4·00	Corresponding value for 1 rev.	1. 34·09
Microm. set at 115, Reading of Theodolite	246. 2. 51·67				
Microm. set at 92, Reading of Theodolite	246. 38. 55·67	Difference for 23 rev.	36. 7·67	Corresponding value for 1 rev.	1. 34·25
Microm. set at 115, Reading of Theodolite	246. 2. 48·00				

Therefore, the mean value of one revolution appeared to be $1'.34''{\cdot}227$.

1842, Jan. 3. The collimator-cross was used as before. Observer, Mr. Glaisher.

Microm. set at 92, Read^{g} of Theod.	246. 34. 42·67	Diff. for 23 rev. 36. 13·67,	Cor. val. for 1 rev. 1. 34·50
Microm. set at 115, Read^{g} of Theod.	245. 58. 29·00		
Microm. set at 92, Read^{g} of Theod.	246. 34. 45·00	Diff. for 23 rev. 36. 8·33,	Cor. val. for 1 rev. 1. 34·28
Microm. set at 115, Read^{g} of Theod.	245. 58. 36·67		

r	° ′ ″	′ ″	′ ″
Microm. set at 92, Reads of Theod.	246. 34. 33·33	Diff. for 23 rev. 36. 10·00,	Cor. val. for 1 rev. 1. 34·35
Microm. set at 115, Reads of Theod.	245. 58. 23·33		
Microm. set at 92, Reads of Theod.	246. 34. 31·67	Diff. for 23 rev. 36. 6·67,	Cor. val. for 1 rev. 1. 34·20
Microm. set at 115, Reads of Theod.	245. 58. 25·00		
Microm. set at 92, Reads of Theod.	246. 34. 32·67	Diff. for 23 rev. 36. 11·00,	Cor. val. for 1 rev. 1. 34·39
Microm. set at 115, Reads of Theod.	245. 58. 21·67		
Microm. set at 92, Reads of Theod.	246. 34. 31·67	Diff. for 23 rev. 36. 5·00,	Cor. val. for 1 rev. 1. 34·13
Microm. set at 115, Reads of Theod.	245. 58. 26·67		
Microm. set at 92, Reads of Theod.	246. 34. 31·67	Diff. for 23 rev. 36. 6·00,	Cor. val. for 1 rev. 1. 34·17
Microm. set at 115, Reads of Theod.	245. 58. 25·00		
Microm. set at 92, Reads of Theod.	246. 34. 31·67	Diff. for 23 rev. 36. 6·00,	Cor. val. for 1 rev. 1. 34·17
Microm. set at 115, Reads of Theod.	245. 58. 25·00		

And the mean value of one revolution was 1′.34″·271.

The mean of this and of the preceding determination was 1′.34″·249. The value which was previously obtained (see the volume for 1841) was 1′.34″·07. Of the multiples of this adopted value, special tables had been formed for every value between 91^r and 115^r, to every 0^r·01; and as the new determination, though undoubtedly good, differed little from the old one, it was not thought necessary to form new tables. The old value has therefore been used throughout this year. All readings of the micrometer are registered on the supposition that the reading for the central notch is 100 revolutions; and all readings of the micrometer thus taken, are converted into arc at once by the use of the above table.

3. Determination of the micrometer reading for the line of collimation of the theodolite-telescope.

1842, January 1. The vertical axis of the theodolite had been adjusted to verticality, and the transit axis was made horizontal. The declination magnet was made to rest on blocks, and the cross-wires carried by it were used as a collimator for determining the line of collimation of the telescope of the theodolite. The telescope was reversed at each observation. Observer, Mr. Glaisher.

Position of Micrometer Head	Micrometer Reading r	Position of Micrometer Head	Micrometer Reading r
E	100·240	W	100·178
W	180	E	222
E	230	W	158
W	172	E	228
E	221	W	165

Position of Micrometer Head	Micrometer Reading r	Position of Micrometer Head	Micrometer Reading r
E	100·221	W	100·191
W	192	E	232
E	242	W	172
W	202	E	215
E	232	W	175

From these observations, the reading for the line of collimation is $100^{r}\cdot203$.

January 1. The following observations were then taken by Mr. Hind.

Micrometer Head		r	Micrometer Head		r
	E	100·204		E	100·227
	W	152		W	134
	E	274		E	253
	W	152		W	094
	E	281		E	220
	W	124		W	152
	E	273		E	253
	W	104		W	148
	E	250		E	278
	W	148		W	140

The mean of these is $100^{r}\cdot193$; combining this with the previous result, viz., $100^{r}\cdot203$, the mean is $100^{r}\cdot198$; and this number is used as the reading for the line of collimation through the whole year.

4. Determination of the error of collimation for the plane glass in front of the boxes of the declination magnet.

From observations taken on July 31st, 1840, and printed in the volume for 1841, it appears that the error of collimation for the plane glass in front of the box is $8''\cdot75$, and this quantity is to be subtracted from all theodolite-readings when the observations have been made with the micrometer head to the East, and the glass with its marked side out of the box. The telescope and the glass were kept in these positions through the whole year, and $8''\cdot75$ has, therefore, been subtracted from all readings for the bisections of the magnet cross.

5. Determination of the error of collimation of the magnet collimator, with reference to the magnetic axis of the magnet.

1842, January 1. A magnet of the same size was suspended on a tripod in a temporary building erected S. of the Magnetic House: a reflector was attached to its center: and a telescope with a wire in its focus was directed to the reflector. A scale of numbers was fixed just below the object-glass of the telescope. The time of vibration of the magnet was 23^s. The distance of the scale from the reflector was $22^{ft}.10^{in.}$; two feet of the scale corresponded to $61^d.8^h$ exactly, and, consequently, the value of one division of the scale was $146''.17$. One observer, Mr. Hind, observed this magnet at intervals of 23^s; while another, Mr. Glaisher, observed the declination magnet, then reversed it in its stirrup, and again observed it, and so on. The illuminated end of the axis was to the East. The results are contained in the following table:—

1842.	Position of Cross of Collimator.	Mean Micrometer Reading.	Mean Reading of Scale for Temporary Magnet.	Micrometer Reading reduced to Arc, increased by 2°.	Scale Reading for temporary Magnet reduced to Arc.	Excess of increased Micrometer Reading reduced to Arc over Scale Reading reduced to Arc.	Excess with Collimator East — Excess with Collimator West.	Half Difference, or Error of Collimation.
		r	d	° ′ ″	° ′ ″	° ′ ″	′ ″	′ ″
Jan. 1	W	100·055	67·10	4. 36. 52·17	2. 43. 28·01	1. 53. 24·16	9. 29·68	4. 44·84
	E	105·738	66·86	4. 45. 46·77	2. 42. 52·93	2. 2. 53·84		
	W	100·836	66·71	4. 38. 5·64	2. 42. 31·00	1. 55. 34·64	7. 44·98	3. 52·49
	E	105·810	66·73	4. 45. 53·55	2. 42. 33·93	2. 3. 19·62		
	W	100·966	66·52	4. 38. 17·86	2. 42. 3·23	1. 56. 14·63	6. 56·70	3. 28·35
	E	105·784	66·77	4. 45. 51·10	2. 42. 39·77	2. 3. 11·33		
	W	101·500	67·26	4. 39. 8·11	2. 43. 51·39	1. 55. 16·72	6. 47·56	3. 23·78
	E	106·936	67·97	4. 47. 39·46	2. 45. 35·18	2. 2. 4·28		
	W	101·590	68·04	4. 39. 16·57	2. 45. 45·41	1. 53. 31·16	7. 52·16	3. 56·08
	E	101·637	64·84	4. 39. 20·99	2. 37. 57. 67	2. 1. 23·32		
	W	100·599	68·91	4. 37. 43·35	2. 47. 52·58	1. 49. 50·77	7. 25·22	3. 42·61
	E	105·254	68·86	4. 45. 1·26	2. 47. 45·27	1. 57. 15·99		
	W	100·160	64·60	4. 37. 1·11	2. 37. 22·59	1. 59. 38·52	10. 17·88	5. 8·94
	E	108·718	65·43	4. 49. 20·31	2. 39. 23·91	2. 9. 56·40		
	W	98·224	63·98	4. 33. 59·93	2. 35. 51·96	1. 58. 7·97	6. 45·05	3. 22·53
	E	103·198	64·41	4. 41. 47·83	2. 36. 54·81	2. 4. 53·02		

The mean of the values in the last column is $3'.57''.45$, and when the collimator is West of the magnet, the readings are too small by the above amount. During the year 1842, the telescope was always used with the micrometer head East, and the collimator of the magnet was always West of it: therefore, $3'.57''.45$ has been added to all observations till June 16. At that time, the piece of leather connecting the silk skein with the windlass, broke at about four inches below its junction with the silk, and the magnet fell through a distance of about two inches; in falling, the framework of the achromatic lens and its counterpoise, and the framework of the plane glasses between which is the cross, and its counterpoise, were struck. To ascertain if the error of collimation was altered, the following observations were taken; the scale, the telescope, and the magnet

were in the same positions as they were on January 1. Observers, Messrs. Glaisher and Dunkin.

1842.	Position of Cross of Collimator.	Mean Micrometer Reading.	Mean Reading of Scale for Temporary Magnet.	Micrometer Reading reduced to Arc.	Scale Reading for temporary Magnet reduced to Arc.	Excess of Micrometer Reading reduced to Arc above Scale Reading reduced to Arc.	East Excess − West Excess.	Half Difference or Error of Collimation.
		r	d	° ′ ″	° ′ ″	′ ″	′ ″	′ ″
July 5	W	95·923	56·22	2. 30. 23·47	2. 16. 58·11	13. 25. 36	8. 36·30	4. 18·15
	E	100·790	55·82	2. 38. 1·31	2. 15. 59·65	22. 1·66		
	W	96·092	55·36	2. 30. 39·36	2. 14. 51·39	15. 47·97	5. 52·37	2. 56·19
	E	100·032	55·48	2. 36. 50·00	2. 15. 9·66	21. 40·34		
	W	94·862	55·67	2. 28. 43·66	2. 15. 37·15	13. 6·51	8. 12·09	4. 6·05
	E	100·132	55·69	2. 36. 59·41	2. 15. 40·81	21. 18·60		
	W	95·489	56·05	2. 29. 42·65	2. 16. 32·25	13. 10·40	10. 27. 46	5. 13·73
	E	102·569	56·31	2. 40. 48·69	2. 17. 10·83	23. 37·86		

From these it would appear, that the fall of the magnet has not altered the error of collimation; and, as the above results do not agree well among themselves, it was thought better to use 3′.57″·45 as before; this value was therefore used to the end of the year.

6. Disturbing effect of the oval copper bar, or damper, on the declination magnet.

In the volume for 1841, observations are exhibited shewing that the bar had but little or no effect on the magnet; the same bar has encircled the magnet throughout the year.

7. On the effect of the fire-grate in the ante-room of the magnetic observatory on the declination magnet.

In the volume of 1841, observations are exhibited shewing that the effect of the grate is nearly insensible.

8. The effect of the mean time-clock on the declination magnet.

In the volume for 1841, observations are shewn by which it appears that the clock draws the N. end of the magnet towards itself through an arc of 9″·41, and causes the micrometer reading to be too small by this amount: the correction 9″·41 has, therefore, been added to every observation throughout 1842.

9. Compound effect of the vertical force magnet and of the horizontal force magnet, when in their places of observation, on the declination magnet.

In the volume for 1841, are detailed experiments by which the effect of each of the two other magnets separately upon the declination magnet is shewn, and also their compound effect on the declination magnet, which is to cause the marked end of the magnet to approach the East by 55″·22 of arc. As the effect is to increase all micrometer readings, the correction is subtractive; and, therefore, from all theodolite readings 55″·22 has been subtracted.

10. Effect of the iron windlass attached to the electrometer pole.

A windlass of iron having been affixed to the electrometer pole, the following experiments were made for the purpose of ascertaining its effect on the declination magnet.

The windlass was alternately placed at the foot of the electrometer pole, and then removed from it, and the readings of the micrometer for the bisection of the cross of the theodolite, were recorded at times corresponding to the successive positions of the windlass. Observer, Mr. Glaisher. The following table contains the results:—

Day, 1842.	Windlass away, or in its place.	Reading of Micrometer of the Theodolite.	Mean of Readings, the one preceding and the other following that for the Windlass in its place.	Reading with the Windlass away — Reading with the Windlass in its place.	Mean.
		r	r	r	r
Feb. 4	Away	101·126			
	In its place	101·111	101·053	— 0·058	
	Away	100·980			
	In its place	100·990	100·986	— 0·004	
	Away	100·991			— 0·025
	In its place	101·006	100·964	— 0·042	
	Away	100·936			
	In its place	100·931	100·934	+ 0·003	
	Away	100·931			

From these numbers we may safely infer that the windlass has no sensible effect on the meridian magnet.

On February 28, a break was added to the windlass of the electrometer pole, and the following observations were in consequence made, in a similar manner to the preceding set.

Observers, Messrs. Glaisher and Hind.

Day, 1842.	Windlass away, or in its place.	Reading of Micrometer of the Theodolite.	Mean of Readings, the one preceding and the other following that for the Windlass in its place.	Reading with the Windlass away — Reading with the Windlass in its place.	Mean.
		r	r	r	r
Feb. 28	Away	105·706			
	In its place	104·900	105·733	+ 0·833	
	Away	105·759			
	In its place	104·394	104·767	+ 0·373	
	Away	103·774			
	In its place	103·508	103·692	+ 0·184	
	Away	103·609			
	In its place	103·660	103·346	− 0·314	
	Away	103·083			
	In its place	103·036	102·991	− 0·045	
	Away	102·899			
	In its place	102·892	102·915	+ 0·023	+ 0·187
	Away	102·931			
	In its place	102·536	102·794	+ 0·258	
	Away	102·656			
	In its place	102·771	102·898	+ 0·127	
	Away	103·139			
	In its place	102·522	102·850	+ 0·328	
	Away	102·560			
	In its place	102·161	102·375	+ 0·214	
	Away	102·190			
	In its place	102·235	102·309	+ 0·074	
	Away	102·428			

The apparent effect was to cause the theodolite reading to be too small by 0r·187. This has *not* been applied, either in the various sections of Observations or in the Abstracts.

11. Calculation of the constant used in the reductions of the observations of the Declination Magnet.

	° ′ ″
Micrometer equivalent for reading for line of collimation 100r·198	− 2. 37. 5·62
Micrometer head of the theodolite East. Correction for the plane glass in the front of the box, in its usual position	− 8·75
Correction due to the compound effect of the vertical force magnet and the horizontal force magnet	− 55·22
	− 2. 38. 9·59
Correction for the effect of the mean time clock	+ 9·41
	− 2. 38. 0·18
Cross wire of the collimator West of the magnet. Correction for error of collimation	+ 3. 57·45
	− 2. 34. 2·73

This was used throughout the year 1842.

12. The time of vibration of the declination magnet, loaded with its collimator, counterpoises, &c., when suspended for observation.

In the volume for 1841, are exhibited observations, by which it appeared that the time of vibration was 30^s; during the year 1842, a few observations were frequently taken, and no reason appearing for departing from the above determination (excepting a few results obtained at times when the temperature was unusually high), 30^s was used as the time of vibration throughout the year 1842.

1842.	Clock Times of Extremes of Vibration.	Intervals in Solar Time.	Mean.	Temperature.	1842.	Clock Times of Extremes of Vibration.	Intervals in Solar Time.	Mean.	Temperature.
	s	s	s	°		s	s	s	°
June 13	23·0				June 13	9·5			
		29·8					30·6		
	52·8					40·1			
		31·2					30·9		
	24·0					11·0			
		31·0					30·6		
	55·0		30·6	67·0		41·6			
		29·8					30·7		
	24·8					12·3			
		30·2					30·7	30·6	81·5
	55·0					43·0			
		31·5					31·1		
	26·5					14·1			
							29·9		
	28·0					44·0			
		29·5					31·0		
	57·5					15·0			
		31·5					30·0		
	29·0					45·0			
		30·0							
	59·0		30·5	70·0					
		31·0							
	30·0					14·3			
		30·5					30·7		
	0·5					45·0			
		30·5					30·5		
	31·0					15·5			
							30·6		
						46·1			
	7·0						31·2	30·6	80·5
		31·0				17·3			
	38·0						30·1		
		30·6				47·4			
	8·6						30·1		
		31·4				17·5			
	40·0		30·7	75·5			31·1		
		30·0				48·6			
	10·0								
		31·0							
	41·0								
		30·0				44·0			
	11·0						30·8		
						14·8			
							30·5		
	50·5					45·3			
		30·9					30·7		
	21·4					16·0			
		30·8					30·5	30·6	76·5
	52·2					46·5			
		30·9					30·6		
	23·1					17·1			
		30·7	30·8	79·0			30·2		
	53·8					47·3			
		30·7					30·9		
	24·5					18·2			
		30·7							
	55·2								
		30·8							
	26·0								

13. The fraction, expressing the proportion of the torsion force to the earth's magnetic force.

The mean value of the fraction $\frac{\text{torsion force}}{\text{earth's magnetic force}}$ was determined to be $\frac{1}{182}$ in the volume for 1841, and no alteration has been made in this value during the year 1842.

Occasional Adjustments of the Suspension Apparatus, 1842.

1842, May 23d. Observer, Mr. Glaisher.

The detorsion bar was a long time coming to its state of rest, and it was then several degrees from the magnetic meridian; the torsion circle was left, reading 193°; the result not satisfactory.

1842, May 27d. Observer, Mr. Glaisher.

The brass bar would not take any definite position within 1° or 2° of the magnetic meridian. The time of observation of the magnet drawing near, it became necessary to insert the magnet with the torsion circle reading 185°: not satisfactory.

1842, June 16d.

After the observation, June 16d. 0h, the piece of leather, connecting the silk suspending skein with the windlass, broke: on Mr. Glaisher examining the silk skein, he found that the greater part of the silk was off the two rollers at the top of the upright, and that a few of the divisions of the silk were broken. With great care he placed the divisions of the silk on the rollers again, and made the suspending skein even throughout. The reading of the torsion circle was found to be 215° when the brass bar rested in the magnetic meridian, and this reading is the same as it was before the fall. The threads of the suspension silk were then found to be parallel to a distance of six feet downwards from the top; in the remainder was a left-handed twist of $\frac{1}{4}$ of a revolution; this was exactly its state when previously examined in this respect.

1842, June 16d.

After the observation at 22h, a new piece of leather, much stronger than the piece which broke yesterday, was put up, connecting the skein of silk fibres with the windlass. The image of the cross since the magnet fell has been very faint; Mr. Glaisher well examined all the screws about the frame work; those connected with the achromatic lens he pinched; and finally all was left firm, and the cross was black and well seen through the telescope. The silk skein was then cleared of torsion, and the reading of the circle was then 238°. The suspension thread was then examined and found to be in the same state as when examined the day before. The magnet was then inserted at about $\frac{1}{4}$ of an hour before the time of observation.

1842, June 20d. Observer, Mr. Glaisher.

The brass bar would not, during $1\frac{1}{2}$ hour, come to a state of rest, but with a reading of 245° it oscillated on each side of the magnetic meridian, with probably an error of 2°.

1842, June 22d. Observer, Mr. Glaisher.

It was found that the magnet had dropped ½ an inch; it was raised by that quantity.

1842, October 4d. Observer, Mr. Glaisher.

With the torsion circle reading 239°, the North end of the brass bar settled about 40° East. After a long time the bar would not take any definite position. The time for observation of the magnet approaching, the torsion circle was left reading 203°: not at all satisfactory.

1842, November 7d. Observer, Mr. Glaisher.

On this day the brass bar would not take any definite position, but settled sometimes in one position and sometimes in another.

1842, December 7d. Observer, Mr. Glaisher.

Immediately on inserting the brass bar it swung with its North end towards the West 30°. After a long time the bar remained near the meridian, with a reading of 203°. The morning was exceedingly damp, as the night had been. A fog had prevailed during the preceding 24 hours.

These are the only observations which present any anomalies. The determinations of the positions of rest of the brass bar at other times, are, for the most part, pretty certain. In several instances, the position has changed many degrees in one week without apparent cause; in all these cases, the readings for the position of rest have been certain.

Determination of the Readings of the Horizontal Circle of the Theodolite corresponding to the Astronomical Meridian.

The error of level is determined by application of the spirit level at the time of observation (due regard being paid, in the reduction, to the inequality of pivots already found, and to the value of its scale, one division having been found by Mr. Simms to be equal to 1″·0526); and the azimuth reading is then corrected by the quantity, elevation of W. end of axis × tan. star's altitude. The readings of the azimuth circle increase as the instrument is turned from N. to E., S., and W.: from which it follows that the correction must have the same sign as the elevation of the W. end.

The correction for the azimuth of the star observed, has been computed independently in every observation, by a method explained in the volume for 1841, from the following formula:—

$$\text{Log. } A_a = \text{log. } C_s + \text{log. } E + \text{log. } (a_a + F) + \text{log. cos. } \varphi.$$

Where A_a = seconds in arc of azimuth.

,, C_s = seconds in time of hour angle.

,, a_a = seconds of N.P.D. for the day of observation.

E and F and cos. φ are tabulated in the volume for 1841, for Polaris and δ Ursæ Minoris.

The following table contains the whole of the operations for determining the readings for the astronomical meridian in 1842:—

Observations with the Magnetic Theodolite at the Royal Observatory, Greenwich, for ascertaining the Reading of its Horizontal Circle corresponding to the Astronomical Meridian.

Day, 1842.	Object.	Reading of Micrometer Wire.	Reading of Circle Verniers. A	B	C	Mean.	Clock Time.	Sidereal Time.	R.A. of Object.	N.P.D. of Object.	Correction to Meridian in Azimuth	Resulting Reading for North Meridian.	Mean.	W. end of Level High.	Corresponding Correction.	Corrected Reading for North Meridian.	Observer.
		r	° ′ ″	″	″	° ′ ″	h m s	h m s	h m s	° ′ ″	′ ″	° ′ ″	° ′ ″	″	″	° ′ ″	
Jan. 7	Polaris.....	100·194	90. 11. 85	50	55	90. 12. 3·3	0. 31. 11	0. 32. 1	1. 2 39	1. 31. 32	−20. 15·7	89. 51. 47·7					
			90. 10. 65	23	27	90. 10. 38·3	0. 33. 13	0. 34. 3			−18. 55·4	89. 51. 42·9					
			90. 9. 57	18	23	90. 9. 32·7	0. 35. 1	0. 35. 51			−17. 44·4	89. 51. 48·3	89. 51. 48·2	0·0	0·0	89. 51. 48·2	JH
			90. 7. 85	50	50	90. 8. 1·7	0. 37. 10	0. 38. 0			−16. 19·4	89. 51. 42·3					
			90. 6. 55	18	23	90. 6. 32·0	0. 39. 49	0. 40. 39			−14. 34·4	89. 51. 57·6					
			90. 5. 48	5	12	90. 5. 31·7	0. 41. 10	0. 42. 0			−13. 40·9	89. 51. 50·7					
Jan. 14	Polaris S.P.. .	100·198	89. 52. 75	35	40	89. 52. 50·0	13. 2. 48	13. 4. 2	1. 2. 33	1. 31. 32	− 0. 55·2	89. 51. 54·8					
			89. 53. 85	42	52	89. 53. 59·7	13. 4. 40	13. 5. 54			− 2· 4·8	89. 51. 54·9					
			89. 55. 32	0	5	89. 55. 12·3	13. 6. 41	13. 7. 55			− 3. 19·8	89. 51. 52·5					
			89. 56. 37	0	10	89. 56. 15·7	13. 8. 25	13. 9. 39			− 4. 24·4	89. 51. 51·3					
			89. 56. 90	55	63	89. 57. 9·3	13. 10. 7	13. 11. 21			− 5. 27·6	89. 51. 41·7	89. 51. 52·1	+7·0	+ 8·8	89. 52. 0·9	D
			89. 58. 60	25	30	89. 58. 38·3	13. 11. 57	13. 13. 11			− 6. 35·9	89. 52. 2·5					
			89. 59. 67	33	40	89. 59. 46·7	13. 14. 10	13. 15. 24			− 7. 58·3	89. 51. 48·4					
			90. 0. 90	45	53	90. 1. 2·7	13. 16. 7	13. 17. 21			− 9. 10·8	89. 51. 51·9					
			90. 2. 42	5	10	90. 2. 19·0	13. 18. 12	13. 19. 26			−10. 28·2	89. 51. 50·8					
Jan. 23	Polaris S.P.. .	100·198	89. 49. 60	20	25	89. 49. 35·0	12. 56. 55	12. 58. 34	1. 2. 26	1. 31. 32	+ 2. 24·0	89. 51. 59·0					
			89. 50. 80	45	52	89. 50. 59·0	12. 59. 26	13. 1. 5			+ 0. 50·3	89. 51. 49·3					
			89. 52. 35	0	5	89. 52. 13·3	13. 1. 26	13. 3. 5			− 0. 24·2	89. 51. 49·2	89. 51. 54·3	+7·4	+ 9·2	89. 52. 3·5	D
			89. 53. 45	10	14	89. 53. 23·0	13. 3. 15	13. 4. 54			− 1. 31·9	89. 51. 51·1					
			89. 54. 75	35	40	89. 54. 50·0	13. 5. 28	13. 7. 7			− 2. 54·4	89. 51. 55·6					
			89. 55. 90	50	56	89. 56. 5·3	13. 7. 20	13. 8. 59			− 4. 3·9	89. 52. 1·4					
Feb. 13	Polaris S.P.. .	100·198	89. 51. 78	45	47	89. 51. 56·7	12. 59. 30	13. 1. 58	1. 2. 11	1. 31. 34	+ 0. 8·1	89. 52. 4·7					
			89. 53. 50	0	5	89. 53. 18·3	13. 1. 44	13. 4. 12			− 1. 15·1	89. 52. 3·2					
			89.53.105	52	55	89. 54. 10·7	13. 3. 13	13. 5. 41			− 2. 10·4	89. 52. 0·3					
			89. 55. 40	0	5	89. 55. 15·0	13. 4. 55	13. 7. 23			− 3. 13·7	89. 52. 1·3	89. 52. 0·4	+4·4	+ 5·5	89. 52. 5·9	D
			89. 56. 50	12	17	89. 56. 26·3	13. 6. 55	13. 9. 23			− 4. 28·2	89. 51. 58·2					
			89. 57. 60	15	20	89. 57. 31·7	13. 8. 35	13. 11. 3			− 5. 30·2	89. 52. 1·4					
			89. 58. 60	7	2	89. 58. 23·0	13. 10. 10	13. 12. 38			− 6. 29·2	89. 51. 53·8					
Mar. 6	Polaris S.P.. .	100·198	90. 2. 80	40	44	90. 2. 54·7	13. 16. 15	13. 19. 21	1. 2. 0	1. 31. 39	−10. 46·3	89. 52. 8·4					
			90. 4. 55	15	17	90. 4. 29·0	13. 18. 50	13. 21. 56			−12. 22·4	89. 52. 6·7					
			90. 6. 60	20	24	90. 6. 34·7	13. 22. 10	13. 25. 16			−14. 26·1	89. 52. 8·5	89. 52. 6·7	+9·1	+11·4	89. 52. 18·1	P
			90. 8. 50	15	17	90. 8. 27·3	13. 25. 17	13. 28. 23			−16. 21·7	89. 52. 5 6					
			90. 10. 40	0	3	90. 10. 14·3	13. 28. 5	13. 31. 11			−18. 5·4	89. 52. 8·9					
			90. 11. 65	25	30	90. 11. 40·0	13. 30. 35	13. 33. 41			−19. 37·9	89. 52. 2·1					
Mar. 11	Polaris S.P.. .	100·198	89. 50. 55	15	20	89. 50. 30·0	12. 56. 15	12. 59. 27	1. 1. 58	1. 31. 41	+ 1. 33·9	89. 52. 3·9					
			89. 51. 45	8	12	89. 51. 31·7	12. 57. 46	13. 0. 58			+ 0. 37·3	89. 52. 9·0					
			89. 52. 53	18	24	89. 52. 31·7	12. 59. 22	13. 2. 34			− 0. 22·4	89. 52. 9·3	89. 52. 6 7	+3·6	+ 4·5	89. 52. 11·2	JH
			89. 53. 57	22	26	89. 53. 35·0	13. 1. 10	13. 4. 22			− 1. 29. 5	89. 52. 5·5					
			89. 54. 49	12	16	89. 54. 25·7	13. 2. 28	13. 5. 40			− 2. 18·0	89. 52. 7·7					
			89. 55. 50	13	18	89. 55. 27·0	13. 4. 11	13. 7. 23			− 3. 22·0	89. 52. 5·0					
April 1	Polaris S.P.. .	100·198	90. 0. 90	48	38	90. 0. 58·7	13. 12. 40	13. 15. 55	1. 1. 55	1. 31. 47	− 8. 42·4	89. 52. 16·3					D
			90. 2. 60	12	23	90. 2. 31·7	13. 15. 5	13. 18. 20			−10. 12·5	89. 52. 19·2					
			90. 3. 65	15	25	90. 3. 35·0	13. 16. 55	13. 20. 10			−11. 20·7	89. 52. 14·3					

Observations with the Magnetic Theodolite at the Royal Observatory, Greenwich, for ascertaining the Reading of its Horizontal Circle, corresponding to the Astronomical Meridian—*continued*.

Day, 1842.	Object.	Reading of Micrometer Wire.	Reading of Circle Verniers. A	B	C	Mean.	Clock Time.	Sidereal Time.	R.A. of Object.	N. P. D. of Object.	Correction to Meridian in Azimuth	Resulting Reading for North Meridian.	Mean.	W. end of Level High.	Corresponding Correction.	Corrected Reading for North Meridian.	Observer.
		r	° ′ ″	″	″	° ′ ″	h m s	h m s	h m s	° ′ ″	′ ″	° ′ ″	° ′ ″	″	″	° ′ ″	
Apr. 1	Polaris S. P. ..	100·198	90. 4.65	22	32	90. 4.39·7	13.18.40	13.21.55	1. 1.55	1.31.47	−12.25·9	89.52.13·8	89.52.14·7	+4·3	+ 5·3	89.52.20·0	D
			90. 5.72	22	34	90. 5.42·7	13.20.27	13.23.42			−13.32·2	89.52.10·5					
			90. 6.77	30	40	90. 6.49·0	13.22.12	13.25.27			−14.37·2	89.52.11·8					
			90. 7.85	38	45	90. 7.56·0	13.23.52	13.27. 7			−15.39·2	89.52.16·8					
Apr. 6	Polaris S. P. ..	100·198	89.47.90	58	62	89.48.10·0	12.52. 1	12.55.22	1. 1.55	1.31.48	+ 4. 4·6	89.52.14·6					
			89.48.92	58	62	89.49.10·7	12.53.37	12.56.58			+ 3. 4·8	89.52.15·5	89.52.12·7	+6·8	+ 8·6	89.52.21·3	JH
			89.54.58	17	23	89.54.32·7	13. 2.23	13. 5.44			− 2.22·5	89.52.10·2					
			89.55.87	50	64	89.56. 7·0	13. 4.54	13. 8.15			− 3.56·5	89.52.10·5					
Apr. 8	Polaris S. P. ..	100·198	89.51.45	0	8	89.51.17·7	12.57.25	13. 0.47	1. 1.55	1.31.49	+ 0.42·3	89.52. 0·0					
			89.52.42	0	6	89.52.16·0	12.58.45	13. 2. 7			− 0. 7·5	89.52. 8·5					
			89.53.45	2	10	89.53.19·0	13. 0.32	13. 3.54			− 1.14·1	89.52. 4·9	89.52. 6·2	+5·7	+ 7.1	89.52.13·3	D
			89.54.47	0	8	89.54.18·3	13. 1.57	13. 5.19			− 2. 7·0	89.52.11·3					
			89.55.45	0	7	89.55.17·3	13. 3.45	13. 7. 7			− 3.14·2	89.52. 3·1					
			89.55.103	55	62	89.56.13·3	13. 5. 5	13. 8.27			− 4. 4·0	89.52. 9·3					
Apr.19	Polaris S. P. ..	100·198	90. 0.82	32	37	90. 0.50·3	13.16.10	13.16.15	1. 1.58	1.31.53	− 8.53·5	89.51.56·8					
			90. 2.45	5	12	90. 2.20·7	13.18.16	13.18.21			−10.11·9	89.52. 8·8					
			90. 3.37	0	5	90. 3.14·0	13.19.45	13.19.50			−11. 7·1	89.52. 6·9					
			90. 4.30	0	5	90. 4.11·7	13.21.25	13.21.30			−12. 9·3	89.52. 2·4	89.52. 4·6	+7·5	+ 9·4	89.52.14·0	D
			90. 4.88	55	60	90. 5. 7·7	13.22.48	13.22.53			−13. 0·8	89.52. 6·9					
			90. 5.87	50	57	90. 6. 4·7	13.24.22	13.24.27			−13.59·1	89.52. 5·6					
Apr.25	Polaris S. P. ..	100·198	89.51.80	50	80	89.52.10·0	13. 1.30	13. 1.23	1. 2. 0	1.31.54	+ 0.23·1	89.52.33·1					
			89.54.55	15	20	89.54.30·0	13. 5.10	13. 5. 3			− 1.54·0	89.52.36·0					
			89.57.55	20	80	89.57.51·7	13.10.37	13.10.30			− 5.17·7	89.52.34·0	89.52.35·2	+9·3	+11·7	89.52.46·9	P
			89.59.25	45	55	89.59.41·7	13.13.10	13.13. 3			− 6.52·9	89.52.48·7					
			90. 0.85	65	55	90. 1. 8·3	13.16.41	13.16.34			− 9. 4·2	89.52. 4·1					
Apr.26	Polaris S. P. ..	100·198	89.47.78	35	40	89.47.51·0	12.55.20	12.55. 9	1. 2. 0	1.31.55	+ 4.16·1	89.52. 7·1					
			89.49.65	27	35	89.49.42·3	12.58. 0	12.57.49			+ 2.36·4	89.52.18·7					
			89.50.77	35	40	89.50.50·7	12.59.52	12.59.41			+ 1.26·6	89.52.17·3	89.52.11·5	+6·5	+ 8·2	89.52.19·6	D
			89.51.72	35	43	89.51.50·0	13. 1.43	13. 1.32			+ 0.17·5	89.52. 7·5					
			89.52.80	42	50	89.52.57·3	13. 3.18	13. 3. 7			− 0.41·8	89.52.15·6					
			89.54.50	5	12	89.54.22·3	13. 5.55	13. 5.44			− 2.19·6	89.52. 2·8					
Apr.27	Polaris S. P. ..	100·198	89.54.75	40	40	89.54.51·7	13. 6.21	13. 6. 4	1. 2. 0	1.31.55	− 2.32·1	89.52.19·6					
			89.55.97	58	64	89.56.13·0	13. 8.37	13. 8.20			− 3.56·8	89.52.16·2					
			89.57.70	35	40	89.57.48·3	13.11. 9	13.10.52			− 5.31·5	89.52.16·9	89.52.17·8	+2·8	+ 3·5	89.52.21·3	JH
			89.58.84	47	52	89.59. 1·0	13.12.58	13.12.41			− 6.39·3	89.52.21·7					
			89.59.98	58	63	90. 0.13·0	13.15. 5	13.14.48			− 7.58·4	89.52.14·6					
May 13	δ Ursæ Minoris	100·198	90. 1.45	10	15	90. 1.23·3	18.18.56	18.17.28	18.23.22	3.24.42	− 9. 9·3	89.52.14·0					
			89.56.50	15	25	89.56.30·0	18.22. 7	18.20.39			− 4.13·0	89.52.17·0					
			89.53.85	45	52	89.54. 0·7	18.23.44	18.22.16			− 1.42·4	89.52.18·2					
			89.50.95	55	63	89.51.11·0	18.25.32	18.24. 4			+ 1. 5·2	89.52.16·2	89.52.16·7	+0·6	+ 0·9	89.52.17·6	D
			89.48.37	0	5	89.48.14·0	18.27.28	18.26. 0			+ 4. 5·2	89.52.19·2					
			89.45.35	0	5	89.45.13·3	18.29.22	18.27.54			+ 7. 2·1	89.52.15·4					

Observations with the Magnetic Theodolite at the Royal Observatory, Greenwich, for ascertaining the Reading of its Horizontal Circle, corresponding to the Astronomical Meridian—*continued.*

Day, 1842.	Object.	Reading of Micrometer Wire.	Reading of Circle Verniers. A	B	C	Mean.	Clock Time.	Sidereal Time.	R.A. of Object.	N. P. D. of Object.	Correction to Meridian in Azimuth	Resulting Reading for North Meridian.	Mean.	W. end of Level High.	Corresponding Correction.	Corrected Reading for North Meridian.	Observer.
		r	° ′ ″	″	″	° ′ ″	h m s	h m s	h m s	° ′ ″	° ′ ″	° ′ ″	° ′ ″	″	″	° ′ ″	
May 19	Polaris S.P....	100·198	90. 0.75	45	50	90. 0.56·7	13.17.37	13.15.54	1. 2.12	1.32. 0	− 8.32.4	89.52.24·3					
			90. 1.85	53	60	90. 2. 6·0	13.19.31	13.17.48			− 9.43.4	89.52.22·6					
			90. 2.90	57	62	90. 3. 9·7	13.21.26	13.19.43			−10 54.9	89.52.13·7	89.52.21·3	+3·8	+ 4·7	89.52.26·1	JH
			90. 4.55	24	30	90. 4.36·3	13.23.28	13.21.45			−12.10.8	89.52.25·5					
			90. 5.50	18	25	90. 5.31·0	13.25. 4	13.23.21			−13.10.5	89.52.20·5					
May 31	Polaris S.P....	100·198	89.57.68	35	43	89.57.48·7	13.13.30	13.11. 7	1. 2.20	1.32. 2	− 5.28.8	89.52.19·9					
			89.58.98	55	65	89.59.12·7	13.15.26	13.13. 3			− 6.41.1	89.52.31 6					
			90. 0.52	15	23	90. 0.30·0	13.17.42	13.15.19			− 8. 5.8	89.52.24·2					
			90. 1.68	30	37	90. 1.45·0	13.19.38	13.17.15			− 9.18.1	89.52.26·9	89.52.24·4	+5·5	+ 6·9	89.52.31·3	D
			90. 2.62	22	32	90. 2.38·7	13.21.14	13.18.51			−10.17.8	89.52.20·8					
			90. 3.72	30	42	90. 3.48·0	13.23. 6	13.20.43			−11.27·5	89.52.20·5					
			90. 4.82	50	60	90. 5. 4·0	13.24.58	13.22.35			−12.37·2	89.52.26·8					
June 6	δ Ursæ Minoris	100·198	90.28.27	0	10	90.28.12·3	18. 3.17	18. 0.18	18.23.25	3.24.35	−35.46.8	89.52.25·6					
			90.25.42	5	12	90.25.19·7	18. 5.10	18. 2.11			−32.52.5	89.52.27·2					
			90.22.60	22	27	90.22.36·3	18. 6.58	18. 3.59			−30. 5.8	89.52.30·6	89.52.27·3	+4·3	+ 6·4	89.52.33·7	D
			90.19.60	35	45	90.19.46·7	18. 8.45	18. 5.46			−27.20.5	89.52.26·1					
			90.17.45	5	12	90.17.20·7	18.10.20	18. 7.21			−24.53.7	89.52.27·0					
June 7	δ Ursæ Minoris	100·198	89.36.75	40	45	89.36.53·3	18.36.31	18.33.24	18.23.25	3.24.30	+15.28.7	89.52.22·0					
			89.32.77	40	45	89.32.54·0	18.39. 9	18.36. 2			+19.33.4	89.52.27·4					
			89.29.40	8	15	89.29.21·0	18.41.15	18.38. 8			+22.48.4	89.52. 9·4	89.52.14·5	+1·4	+ 2·6	89.52.17·1	JH
			89.26.55	20	25	89.26.33·3	18.43. 7	18.40. 0			+25.41.6	89.52.14·9					
			89.22.90	57	60	89.23. 9·0	18.45. 9	18.42. 2			+28.50.0	89.51.59·0					
June 21	δ Ursæ Minoris	100·198	90.15.50	10	15	90.15.25·0	18. 9.27	18. 8.43	18.23.25	3.24.30	−22.46.2	89.52.38·8					
			90.11.75	37	43	90.11.51·7	18.11.41	18.10.57			−19.19.0	89.52.32·7					
			90. 8.47	15	20	90. 8.27·3	18.13.34	18.12.50			−16.24.0	89.52. 3·3	89.52.25·7	−2·2	− 2·6	89.52.23·1	JH
			90. 5.55	17	23	90. 5.31·7	18.15.35	18.14.51			−13.16.6	89.52.15·0					
			90. 2.60	23	28	90. 2.37·0	18.17.43	18.16.59			− 9.58.4	89.52.38·7					
June 28	δ Ursæ Minoris	100·198	90.22.55	20	25	90.22.33·3	18. 5. 4	18. 3.55	18.23.25	3.24.28	−30.10.9	89.52.22·5					
			90.18.70	30	35	90.18.45·0	18. 7.34	18. 6.25			−26.19.3	89.52.25·7					
			90.15.40	3	10	90.15.17·7	18. 9.49	18. 8.40			−22.50.6	89.52.27·1	89.52.24·6	−0·8	− 1·3	89.52.23·3	JH
			90.12.47	12	16	90.12.25·0	18.11.38	18.10.29			−20. 2.1	89.52.23·0					
July 5	δ Ursæ Minoris	100·198	89.55.90	55	60	89.56. 8·3	18.22.37	18.20.50	18.23.24	3.24.26	− 3.58.7	89.52. 9·7					
			89.52.45	12	20	89.52.25·7	18.25.11	18.23.24			0. 0 0	89.52.25·7					
			89.48.85	53	58	89.49. 5·3	18.27.32	18.25.45			+ 3.38.5	89.52.43·9	89.52.29·0		− 1·1	89.52.27·9	JH
			89.45.45	8	13	89.45.22·0	18.29.38	18.27.51			+ 6.53.8	89.52.15·8					
			89.42.43	5	10	89.42.19·3	18.31.58	18.30.11			+10.30.7	89.52.50·0					
July 15	δ Ursæ Minoris	100·198	90. 7.72	25	35	90. 7.44·0	18.15.59	18.13.34	18.23.23	3.24.23	−15.12.3	89.52.31·7					D
			90. 4.68	35	42	90. 4.48·3	18.17.42	18.15.17			−12.32.8	89.52.15·5					JH
			90. 2.65	20	30	90. 2.38·3	18.19.13	18.16.48			−10.11.9	89.52.26·4					D
			89.59.80	43	52	89.59.58·3	18.20.55	18.18.30			− 7.33.9	89.52.24·4					JH
			89.57.65	20	28	89.57.37·7	18.22.33	18.20. 8			− 5. 2.1	89.52.35·6	89.52.30·7	−0·6	− 0·9	89.52.29·8	D

July 5. The application of the level was omitted: the correction for error of level applied is the mean of the corrections applied on June 28 and July 15.

Observations with the Magnetic Theodolite at the Royal Observatory, Greenwich, for ascertaining the Reading of its Horizontal Circle corresponding to the Astronomical Meridian—*continued.*

Day, 1842.	Object.	Reading of Micrometer Wire.	Reading of Circle Verniers. A	B	C	Mean.	Clock Time.	Sidereal Time.	R.A. of Object.	N. P. D. of Object.	Correction to Meridian in Azimuth.	Resulting Reading for North Meridian.	Mean.	W. end of Level High.	Corresponding Correction.	Corrected Reading for North Meridian.	Observer.
		r	° ′ ″	″	″	° ′ ″	h m s	h m s	h m s	° ′ ″	′ ″	° ′ ″	° ′ ″	″	″	° ′ ″	
July 15	δ Ursæ Minoris	100·198	89.54.75	43	50	89.54.56·0	18.24.17	18.21.52	18.23.23	3.24.23	− 2.21·0	89.52.35·0					JH
			89.51.80	40	50	89.51.56·7	18.26.15	18.23.50			+ 0.41·8	89.52.38·5					D
			89.46.85	47	55	89.47. 2·3	18.29.21	18.26.56			+ 5.30·0	89.52.32·3					JH
			89.43.52	8	15	89.43.25·0	18.31.47	18.29.22			+ 9.16·2	89.52.41·2					D
			89.39.97	58	63	89.40.12·7	18.33.42	18.31.17			+12.14·2	89.52.26·9					JH
July 21	δ Ursæ Minoris	100·198	90.28.50	0	10	90.28.20·0	18. 3. 6	18. 0. 5	18.23.21	3.24.21	−35.57·9	89.52.22·1					
			90.24.90	52	60	90.25. 7·3	18. 5.14	18. 2.13			−32.40·8	89.52.26·6					
			90.21.65	25	35	90.21.41·7	18. 7.25	18. 4.24			−29.18·8	89.52.22·9					
			90.18.60	12	20	90.18.30·7	18. 9.30	18. 6.29			−26. 5·9	89.52.24·7	89.52.24·3	−3·1	− 4·6	89.52.19·7	D
			90.15.58	10	17	90.15.28·3	18.11.28	18. 8.27			−23. 3·7	89.52.24·6					
			90.12.47	5	12	90.12.21·3	18.13.30	18.10.29			−19.55·2	89.52.26·2					
			90. 9.58	15	25	90. 9.32·7	18.15.17	18.12.16			−17. 9·7	89.52.23·0					
Aug. 1	δ Ursæ Minoris	100·198	90.15.75	42	47	90.15.54·7	18.11.54	18. 8. 8	18.23.19	3.24.18	−23.29·6	89.52.25·1					
			90.12.65	22	32	90.12.39·7	18.14. 3	18.10.17			−20.10·3	89.52.29·4					
			90. 9.60	20	30	90. 9.36·7	18.15.58	18.12.12			−17.12·5	89.52.24·2	89.52.24·8	−3·7	− 5·5	89.52.19·3	D
			90. 6.70	25	32	90. 6.42·3	18.17.54	18.14. 8			−14.13·1	89.52.29·3					
			90. 2.97	47	53	90. 3. 5·7	18.20. 3	18.16.17			−10.53·4	89.52.12·2					
			90. 0.35	0	5	90. 0.13·3	18.22. 5	18.18.19			− 7.44·6	89.52.28·8					
Aug. 8	δ Ursæ Minoris	100·198	90.34.55	10	17	90.34.27·3	18. 0.16	17.56. 6	18.23.17	3.24.16	−41.58·0	89.52.29·3					
			90.30.68	23	30	90.30.40·3	18. 2.39	17.58.29			−38.18·4	89.52.21·9					
			90.27.65	22	30	90.27.39·0	18. 4.39	18. 0.29			−35.13·9	89.52.25·1	89.52.26·0	−4·5	− 6·7	89.52.19·2	D
			90.24.55	10	20	90.24.28·3	18. 6.44	18. 2.34			−32. 1·4	89.52.27·0					
			90.21.45	5	12	90.21.20·7	18. 8.44	18. 4.34			−28.56·4	89.52.24·2					
			90.17.78	30	38	90.17.48·7	18.11. 4	18. 6.54			−25.20·4	89.52.28·2					
Sep. 27	Polaris.....	100·198	89.36.65	30	20	89.36.38·3	1.26.59	1.27. 5	1. 3.40	1.31.20	+15.32·1	89.52.10·4					
			89.34.75	35	40	89.34.50·0	1.29.55	1.30. 1			+17.28·4	89.52.18·4					
			89.32 90	50	55	89.33. 5·0	1.32.20	1.32.26			+19. 4·0	89.52. 9·0	89.52.10·8	−4·3	− 6·0	89.52. 4·8	G
			89.31.60	10	15	89.31.28·3	1.34.50	1.34.56			+20.42·8	89.52.11·1					
			89.29.95	50	55	89.30. 6·7	1.36.45	1.36.51			+21.58·4	89.52. 5·1					
Oct. 2	Polaris.....	100·198	89.52.72	30	40	89.52.47·3	1. 2.15	1. 2.20	1. 3.41	1.31.39	− 0.53·8	89.51.53·5					
			89.50.52	12	17	89.50.27·0	1. 5.30	1. 5.35			+ 1.15·5	89.51.42·4					
			89.48.60	22	30	89.48.37·3	1. 8.25	1. 8.30			+ 3.12·0	89.51.49·4	89.51.52·8	−2·5	− 3·7	89.51.49·1	D
			89.46.75	40	47	89.46.54·0	1.11.10	1.11.15			+ 5. 1·6	89.51.55·6					
			89.44.90	55	60	89.45. 8·3	1.14. 0	1.14. 5			+ 6.54·5	89.52. 2·8					
Oct. 4	Polaris.....	100·198	90. 4.65	55	60	90. 5.20·0	0.43.58	0.44. 2	1. 3.41	1.31.38	−13. 2·4	89.52.17·6					
			90. 2.90	40	40	90. 2.56·7	0.47.23	0.47.27			−10.46·6	89.52.10·1					
			90. 1.40	0	0	90. 1.13·3	0.49.58	0.50. 2			− 9. 3·9	89.52. 9·5	89.52.13·2	−2·0	− 2·7	89.52.10·5	G
			89.59.65	30	40	89.59.45·0	0.52. 7	0.52.11			− 7.38·3	89.52. 6·7					
			89.57.40	5	5	89.57.16·7	0.56.14	0.56.18			− 4.54·3	89.52.22·4					
Oct. 5	Polaris.....	100·198	89.55.88	47	57	89.56. 4·0	0.57.35	0.57.39	1. 3.41	1.31.38	− 4. 0·5	89.52. 3·5					
			89.53.75	35	45	89.53.51·7	1. 1.10	1. 1.14			− 1.37·7	89.52.14·0					
			89.51.87	50	60	89.52. 5·7	1. 3.40	1. 3.44			+ 0. 2·0	89.52. 7·7	89.52. 8·7	−2·0	− 2·8	89.52. 5·9	D

Observations with the Magnetic Theodolite at the Royal Observatory, Greenwich, for ascertaining the Reading of its Horizontal Circle corresponding to the Astronomical Meridian—*concluded.*

Day, 1842.	Object.	Reading of Micrometer Wire.	Reading of Circle Verniers. A	B	C	Mean.	Clock Time.	Sidereal Time.	R.A. of Object.	N. P. D. of Object.	Correction to Meridian in Azimuth.	Resulting Reading for North Meridian.	Mean.	W. end of Level High.	Corresponding Correction.	Corrected Reading for North Meridian.	Observer.
		r	° ′ ″	″	″	° ′ ″	h m s	h m s	h m s	° ′ ″	′ ″	° ′ ″	° ′ ″	″	″	° ′ ″	
Oct. 5	Polaris.....	100·198	89. 50. 42	10	17	89. 50. 23·0	1. 6. 20	1. 6. 24	1. 3. 41	1. 31. 38	+ 1. 48·3	89. 52. 11·3					D
			89. 48. 75	37	45	89. 48. 52·3	1. 8. 30	1. 8. 34			+ 3. 14·7	89. 52. 7·0					
Nov. 18	Polaris.....	100·198	89. 44. 65	30	35	89. 44. 43·3	1. 14. 8	1. 14. 49	1. 3. 35	1. 31. 23	+ 7. 26·3	89. 52. 9·6					
			89. 43. 45	10	15	89. 43. 23·3	1. 16. 3	1. 16. 44			+ 8. 42·4	89. 52. 5·7					
			89. 41. 92	57	60	89. 42. 9·7	1. 18. 5	1. 18. 46			+ 10. 3·0	89. 52. 12·7	89. 52. 9·7	−0·7	− 0·9	89. 52. 8·8	JH
			89. 40. 72	37	43	89. 40. 50·7	1. 20. 13	1. 20. 54			+ 11. 27·6	89. 52. 18·3					
			89. 38. 84	45	50	89. 38. 59·7	1. 22. 37	1. 23. 18			+ 13. 2·6	89. 52. 2·3					
Nov. 28	Polaris.....	100·198	90. 8. 95	50	60	90. 9. 8·3	0. 37. 30	0. 38. 22	1. 3. 31	1. 31. 19	− 16. 36·7	89. 52. 31·6					
			90. 6. 75	40	52	90. 6. 55·7	0. 40. 40	0. 41. 32			− 14. 31·7	89. 52. 24·0					
			90. 4. 80	45	52	90. 4. 59·0	0. 43. 42	0. 44. 34			− 12. 31·7	89. 52. 27·3					
			90. 2. 70	20	30	90. 2. 40·0	0. 47. 10	0. 48. 2			− 10. 14·8	89. 52. 25·2	89. 52. 24·7	−6·8	− 9·6	89. 52. 15·1	D
			90. 0. 70	20	30	90. 0. 40·0	0. 50. 10	0. 51. 2			− 8. 15·6	89. 52. 24·4					
			89. 58. 55	10	20	89. 58. 28·3	0. 53. 30	0. 54. 22			− 6. 3·3	89. 52. 25·0					
			89. 55. 70	15	25	89. 55. 36·7	0. 57. 35	0. 58. 27			− 3. 21·2	89. 52. 15·5					
Dec. 13	Polaris.....	100·198	89. 58. 35	0	5	89. 58. 13·3	0. 52. 38	0. 54. 10	1. 3. 22	1. 31. 16	− 6. 5·1	89. 52. 8·2					
			89. 56. 57	15	20	89. 56. 30·7	0. 55. 7	0. 56. 39			− 4. 26·6	89. 52. 4·1					
			89. 54. 77	45	48	89. 54. 56·7	0. 57. 36	0. 59. 8			− 2. 48·0	89. 52. 8·6					
			89. 53. 75	40	45	89. 53. 53·3	0. 59. 16	1. 0. 48			− 1. 41·9	89. 52. 11·5	89. 52. 8·7	−2·7	− 3·8	89. 52. 4·9	JH
			89. 52. 65	32	37	89. 52. 44·7	1. 1. 3	1. 2. 35			− 0. 31·1	89. 52. 13·6					
			89. 51. 52	20	23	89. 51. 31·7	1. 2. 42	1. 4. 14			+ 0. 34·4	89. 52. 6·1					
			89. 49. 77	40	47	89. 49. 54·7	1. 5. 2	1. 6. 34			+ 2. 7·0	89. 52. 1·7					
			89. 48. 50	15	22	89. 48. 29·0	1. 7. 33	1. 9. 5			+ 3. 46·9	89. 52. 15·9					

A monthly reading of the theodolite for the astronomical meridian was obtained, by combining all the results in the month, according to the number of observations by which they were deduced: and thus the following are formed:

Adopted Mean Readings for Astronomical South Meridian.

	° ′ ″
1842, January.....	269. 51. 58·0
February	269. 52. 5·9
March.....	269. 52. 14·7
April.....	269. 52. 18·0
May.....	269. 52. 25·3
June.....	269. 52. 27·0

	° ′ ″
1842, July.....	269. 52. 25·9
August.....	269. 52. 19·3
September.....	269. 52. 4·8
October.....	269. 52. 1·8
November.....	269. 52. 12·5
December.....	269. 52. 4·9

The following is a description of the method of making and reducing the observations:—

The mean-time clock is kept very nearly to Göttingen mean time (its error being ascertained each day), and the clock time for each determination is arranged beforehand. From this time 45^s is subtracted for the first observation; then 30^s, 60^s, and 90^s, are added to this time for the succeeding observations. The intervals of these four observations are therefore the same as the time of vibration of the magnet; and the mean of all the times is the same as the Göttingen mean time, which is recorded in the printed tables of observations.

The observation is made by turning the micrometer till its wire bisects the image of the cross of the magnetometer at the pre-arranged time, and reading the micrometer. The verniers of the horizontal circle of the theodolite are also read for every observation in the regular daily observations, and occasionally in the term observations, and in extra observations.

The mean of each pair of adjacent readings of the micrometer is taken (giving three means); and the mean of these three is adopted as the result. In practice, this is done by adding the first and fourth readings to the double of the second and third, and dividing the sum by six.

The above process was followed till June 16, at which time the drum within which the magnet was swung, whose covering was of glass, was removed, and a double rectangular box (one being completely inclosed within the other, and both covered with gilt paper on their exterior and interior sides,) was substituted in its place. The effect of these boxes was very striking; the magnet, which had been previously always in a state of vibration, almost immediately became stationary; and after this time, all its changes from one position of rest to another position of rest were either performed without vibration, or the vibration continued but a very short time. The method of observation was therefore much simplified, and is as follows:—the times are pre-arranged as before in the case of vibration; if there be no vibration, which is nearly always the case, the observation is made by turning the micrometer till its wire bisects the image of the cross of the magnetometer at 15^s before the time recorded in the printed tables of observation, and then looking at the bisection at 30^s afterwards; then, if the cross be still bisected, the observation is complete, and that reading of the micrometer is adopted as the result. The adopted result is converted into arc, supposing $1^r = 1'.34''\cdot07$, and the quantity thus deduced is added to the mean of the vernier-readings, from which is subtracted the constant given in Article 11 of the permanent adjustments; and thus the number printed in the tabular observations is deduced. The difference between this number and that for the theodolite-reading for the astronomical meridian, printed on each page, is the magnetic declination.

In the Extraordinary Observations, the observations have always been pairs of readings

of the micrometer, separated from each other by a time equal to the time of vibration of the magnet.

§ 2. *Horizontal Force Magnet, and Apparatus for Observing it.*

The horizontal force magnet is of the same dimensions as the declination magnet. For its support, a tripod stand is planted in the eastern arm of the magnetic observatory, resting immediately on the ground, and not touching the floor. This tripod supports an upright plank, to the top of which a brass frame is attached, carrying two brass pulleys in front of the plank and two at the back of the plank. A small windlass is attached to the back of the plank at a convenient height. The suspension-frame of the magnet is supported by the two halves of a skein of silk, which, rising from the magnet, pass over the two front pulleys, then over the two back pulleys, and then under a single large pulley, whose axis is attached to a string that passes down to the windlass. The magnet is inserted in a suspension-piece, of which the upper part is a vertical plate, having five pairs of small pulleys (those which are nearest together being highest), and the lower part of the silk skein is passed under the two pulleys of one pair: only the upper pair, however, has been used in 1842. This vertical plate is connected with the torsion circle; it turns with reference to the magnet-cell (being held by stiff friction), and the readings of the circle graduations are indicated by a pointer carried by the magnet-cell. On the lower side of the magnet-cell is a mirror, whose frame turns with reference to the magnet-cell, (being held by stiff friction) but has no graduated circle. The magnet, &c., swings freely in a box, one of whose sides is partly of glass: the vertical plate of the suspension-piece passes through a hole in the top of the box. The height of the upper brass pulleys above the floor is $11^{ft}.5^{in}$; that of the highest pair of the lower pulleys is $3^{ft}.8^{in}$; and that of the center of the mirror is about $2^{ft}.11^{in}$. The distance between the upper portions of the half skeins of silk, where they pass over the upper pulleys, is $1^{in}.48$; at the lower part, for the first pair of rollers, the distance between them is $0^{in}.92$.

The scale which is observed by means of this mirror, is fixed to the south wall of the East arm of the magnetic observatory. The numbers of the scale increase from East to West, so that, when the magnet is inserted in the magnet-cell with its marked end towards the West, increasing readings of the scale (as seen with a fixed telescope directed to the mirror which the magnet carries) denote an increasing horizontal force. A normal from the magnet-mirror to the scale meets it at the division 40 nearly.

The telescope is fixed to a wooden tripod stand, whose feet pass through the floor without touching it, and are firmly connected with piles driven into the ground. Its

position is such that an observer, sitting in a chair at a convenient place for observing the declination-magnet with the theodolite, can, by turning his head, look into the telescope which is directed to the mirror of this instrument. The angle between the normal to the scale (which usually coincides nearly with the normal to the magnet) and the axis of the telescope, is about 54°, and the plane of the mirror is therefore inclined to the axis of the magnet about 27°.

Observations relating to the permanent Adjustments of the Horizontal Force Magnet.

1842, Jan. 1d. Observer, Mr. Glaisher.

Every part of the suspension apparatus was cleaned and examined; the state of the magnet was also examined and found to be in perfectly good order.

1. Determination of the angle of torsion when the magnet is suspended by the first pair of rollers.

1842, Jan. 1d. Observer, Mr. Glaisher.

	°
With the marked end of the magnet to the East, the torsion-circle read	41
With the marked end of the magnet to the West, the torsion-circle read	317

The half difference is 42°. 0′ for the angle of torsion.

1842, Jan. 2d. Observer, Mr. Glaisher.

The brass bar was inserted in the stirrup, and placed at right angles to the magnetic meridian by means of the mark on the East wall.

	d		° ′
The division of the scale bisected by the vertical wire of the telescope was	62·2	Torsion-circle reading	0. 10

The magnet was inserted with marked end to the West.

	d		° ′
The division bisected by the wire was	59·5	Torsion-circle reading	317. 0

The magnet was inserted with marked end to the East.

	d		° ′
The division bisected by the wire was	63·0	Torsion-circle reading	41. 0

From this set of experiments the angle of torsion is 41°. 3′.

1842, April 6. Observer, Mr. Glaisher.

The brass bar was inserted, and placed at right angles to the magnetic meridian by the mark on the East wall.

The division of the scale bisected by the vertical wire of the telescope was	d 54·2	Torsion-circle reading	o ′ 359. 40

The magnet was inserted, with marked end to the West.

The division bisected by the wire was	d 54·2	Torsion-circle reading	o ′ 40. 25

The magnet was inserted, with marked end to the East.

The division bisected by the wire was.....	d 55·6	Torsion-circle reading	o ′ 317. 5

From this set of experiments the angle of torsion is 41°. 43′.

2. Determination of the times of vibration and of the different readings of the scale for different readings of the torsion-circle, and deduction of the readings of the torsion-circle when the magnet was transverse to the magnetic meridian.

Observers, Messrs. Glaisher and Hind.

Day, 1842.	Magnet Suspended from First Pair of Rollers.							
	Its marked end West.				Its marked end East.			
	Torsion-circle Reading.	Scale Reading.	Difference of Scale Readings for 1° of Torsion-circle.	Mean Times of Vibration.	Torsion-circle Reading.	Scale Reading.	Difference of Scale Readings for 1° of Torsion-circle.	Mean Times of Vibration.
	o	d	d	s	o	d	d	s
Jan. 2	310—	— 6·53		22·12	34—	— 1·01		19·44
			+12·24				+13·50	
	311+	+ 5·71		21·90	35+	+12·49		19·45
			9·72				3·50	
	312+	15·43		21·45	36—	15·99		19·62
			7·07				9·07	
	313—	22·50		21·95	37—	25·06		19·75
			11·52				8·65	
	314+	34·02		21·38	38	33·71		20·10
			8·88				9·52	
	315	42·90		21·12	39	43·23		20·15
			8·73				6·77	
	316	51·63		21·07	40	50·00		20·20
			9·73				11·28	
	317	61·36		20·70	41	61·28		20·40
			7·22				11·73	
	318	68·58		20·56	42+	73·01		20·50
			8·40				5·54	
	319	76·98		20·60	43—	78·55		20·85
			8·57				12·81	
	320	85·55		20·40	44+	91·36		20·70

From this set of experiments it appeared that, with a reading of 317° of the torsion-circle when the marked end was West, and of 41° when the marked end was East, the

readings of the scale were nearly the same: and it appears that the time of vibration was nearly the same with those readings. Throughout the year 1842 the marked end of the magnet has been to the West, and the torsion-circle reading has been 317°. With this reading the following observations were taken to determine the time of vibration of the horizontal force magnet, when suspended from the first pair of rollers.

Observer, Mr. Dunkin.

Day, 1842.	Position of marked end.	Clock Times of Extremes of Vibration.	Intervals in Mean Time.	Mean.
		s	s	s
Jan. 1d. 5h	West	51·5		
		12·3	20·8	
		33·0	20·7	
		53·8	20·8	
		15·0	21·2	
		36·0	21·0	
		56·8	20·8	
		18·0	21·2	
		38·5	20·5	
		59·5	21·0	
		20·0	20·5	
		41·3	21·3	
		2·0	20·7	
		23·3	21·3	20·86
		43·8	20·5	
		4·5	20·7	
		25·5	20·0	
		46·6	21·1	
		7·5	20·9	
		30·0	22·5	
		49·0	19·0	
		10·5	21·5	
		31·0	20·5	
		52·3	21·3	
		13·0	20·7	
		34·0	21·0	
		53·6	19·6	
		16·0	22·4	
		36·8	20·8	
		57·5	20·7	

The time of vibration throughout the year has been considered to be $20^{s}\cdot 8$. In the course of the year, observations of the time of vibration were taken many times, and no reason appeared for departing from the above determination except at periods of very hot weather, when the time of vibration appeared to be a little longer, as will be seen from the following observations.

Day, 1842.	Clock Times of Extremes of Vibration.	Intervals in Mean Time.	Mean.	Temp.
d h	s	s	s	°
June 12. 14	29·5			
	50·5	21·0		
	11·8	21·3	21·5	55·6
	33·3	21·5		
	55·0	21·7		
	17·0	22·0		
12. 16	33·6			
	56·8	23·2		
	18·5	21·7		
	40·0	21·5	21·8	53·0
	2·0	22·0		
	23·0	21·0		
	44·5	21·5		
12. 18	53·0			
	14·5	21·5		
	35·0	20·5		
	56·5	21·5		
	17·5	21·0	21·25	55·3
	38·8	21·3		
	0·0	21·2		
	21·5	21·5		
	43·0	21·5		
12. 20	46·0			
	7·2	21·2		
	28·5	21·3		
	49·3	20·8		
	10·8	21·5		
	31·8	21·0	21·1	62·2
	52·6	20·8		
	14·0	21·4		
	35·0	21·0		
	56·0	21·0		
12. 22	39·8			
	1·0	21·2		
	23·0	22·0		
	45·0	22·0		
	5·3	21·3	21·6	68·0
	27·0	21·7		
	48·5	21·5		
	10·0	21·5		
13. 0	21·8			
	43·0	21·2		
	4·5	21·5		
	26·0	21·5	21·1	74·7
	46·5	20·5		
		20·5		

Day, 1842.	Clock Times of Extremes of Vibration.	Intervals in Mean Time.	Mean.	Temp.
d h	s	s	s	°
June 13. 0 *continued.*	7·0			
	28·0	21·0		
	50·0	22·0		
13. 2	53·0			
	13·5	20·5		
	35·0	21·5		
	56·0	21·0	20·83	81·0
	26·0	20·0		
	57·5	21·5		
	18·0	20·5		
13. 4	29·3			
	50·0	20·7		
	11·5	21·5		
	33·0	21·5		
	54·0	21·0	21·10	82·1
	15·0	21·0		
	36·0	21·0		
	57·0	21·0		
13. 6	53·0			
	14·5	21·5		
	35·3	20·8		
	56·6	21·3		
	17·0	20·4		
	38·5	21·5	21·17	76·8
	0·5	22·0		
	21·3	20·8		
	42·5	21·2		
	3·5	21·0		
13. 8	15·5			
	37·0	21·5		
	58·0	21·0		
	19·3	21·3		
	40·5	21·2	21·14	68·0
	1·5	21·0		
	22·5	20·5		
	44·0	21·5		
13. 10	50·0			
	11·0	21·0		
	32·0	21·0		
	53·0	21·0		
	14·0	21·0	21·12	64·0
	35·0	21·0		
	56·5	21·5		
	17·5	21·0		
	39·0	21·5		

The slightly increased time of vibration in hot weather was of no importance, as the magnet was seldom in a state of vibration at the time of observation.

The mean difference of the readings of the scale for a difference of 1° in the readings of the torsion-circle, when the marked end was West, was $9^d \cdot 21$, and when the marked end was East, was $9^d \cdot 24$.

3. Determination of the compound effect of the declination magnet and of the vertical force magnet on the horizontal force magnet, when suspended from the first pair of rollers, with its marked end towards the West.

In the Introduction to the volume for 1841 are exhibited several series of experiments, shewing the separate effect of the declination magnet and of the vertical force magnet upon the horizontal force magnet in different positions. The compound effect of these two magnets is also there shewn; by which it appears, that with the marked end of the vertical force magnet towards the East, that of the declination magnet towards the North, and that of the horizontal force magnet towards the West, the latter being suspended from the first pair of rollers, the marked end of the horizontal force magnet is drawn towards the North by $0^d \cdot 487$ divisions of its scale. In the year 1841 the scale was moved, so that all its readings are less by $0^d \cdot 5$ than they would have been if it had remained unmoved.

Throughout the year 1842 the magnets were in the above-mentioned positions, and the scale was unmoved throughout the year.

4. Determination of the effect of the iron windlass affixed to the electrometer pole.

The windlass was alternately placed at the foot of the pole and then far from it; the scale reading was taken for every successive position of the windlass. The following tables contain the results.

Observer Mr. Glaisher.

Day, 1842.	Windlass away, or in its place.	Mean Reading of the Scale of the Horizontal Force Magnet.	Mean of Readings, the one preceding and the other following that for the Windlass in its place.	Reading with the Windlass away —Reading with the Windlass in its place.	Mean.
		d	d	d	d
Jan. 31	Away	58 ·250			
	In its place	58 ·370	58 ·225	— 0 ·145	
	Away	58 ·200			
	In its place	58 ·305	58 ·193	— 0 ·112	
	Away	58 ·185			— 0 ·212
	In its place	58 ·340	58 ·092	— 0 ·248	
	Away	58 ·000			
	In its place	58 ·450	58 ·108	— 0 ·342	
	Away	58 ·215			

Day, 1842.	Windlass away, or in its place.	Mean Reading of the Scale of the Horizontal Force Magnet.	Mean of Readings, the one preceding and the other following that for the Windlass in its place.	Reading with the Windlass away —Reading with the Windlass in its place.	Mean.
		d	d	d	d
Feb. 4	Away	57·660			
	In its place	57·815	57·680	— 0·135	
	Away	57·700			
	In its place	57·785	57·702	— 0·083	
	Away	57·705			
	In its place	57·840	57·692	— 0·148	
	Away	57·680			
	In its place	57·700	57·635	— 0·065	
	Away	57·590			
	In its place	57·630	57·570	— 0·060	— 0·106
	Away	57·550			
	In its place	57·710	57·595	— 0·115	
	Away	57·640			
	In its place	57·710	57·628	— 0·082	
	Away	57·615			
	In its place	57·730	57·617	— 0·113	
	Away	57·620			
	In its place	57·740	57·630	— 0·110	
	Away	57·640			
	In its place	57·790	57·643	— 0·147	
	Away	57·645			

In both sets of experiments it appears, that the marked end of the magnet was drawn towards the North; the mean of the two results (giving weights proportional to the number of observations by which each is deduced) is $0^d \cdot 136$; and this number has been subtracted from all scale-readings beginning with February $4^d.0^h$.

On February 28^d an iron break was added to the electrometer windlass, and the following observations were made to determine the whole effect on the Magnetometer.

Observer Mr. Hind.

Day, 1842.	Windlass and Break, away or or in their place.	Mean Reading of the Scale of the Horizontal Force Magnet.	Mean of Readings, the one preceding and the other following that for the Windlass & Break in their place.	Reading with the Windlass, &c. away —Reading with the Windlass, &c. in its place.	Mean.
		d	d	d	d
Feb. 28	Away	56·920			
	In their place	56·860	56·893	+ 0·033	
	Away	56·865			
	In their place	56·800	56·873	+ 0·073	
	Away	56·880			
	In their place	57·050	56·925	— 0·125	
	Away	56·970			
	In their place	56·940	56·945	+ 0·005	

Day, 1842.	Windlass and Break, away or in their place.	Mean Reading of the Scale of the Horizontal Force Magnet.	Mean of Readings, the one preceding and the other following that for the Windlass & Break in their place.	Reading with the Windlass, &c. away —Reading with the Windlass, &c. in its place.	Mean.
		d	d	d	d
Feb. 28	Away	56·920			
continued.	In their place	56·820	56·878	+ 0·058	
	Away	56·835			
	In their place	56·830	56·868	+ 0·038	— 0·018
	Away	56·900			
	In their place	56·945	56·830	— 0·115	
	Away	56·760			
	In their place	56·840	56·755	— 0·085	
	Away	56·750			
	In their place	56·935	56·788	— 0·147	
	Away	56. 825			
	In their place	56·850	56·865	+ 0·015	
	Away	56·905			
	In their place	56·925	56·973	+ 0·048	
	Away	57·040			

This result is, that the marked end of the magnet is drawn towards the North by a small quantity. The use of the previous determination was not interfered with on account of this new value.

5. Computation of the angle corresponding to one division of the scale, and of the variation of horizontal force (in terms of the whole horizontal force) which moves the magnet through a space corresponding to one division of the scale.

The distance from 40^{d} on the scale to the center of the face of the mirror is $8^{ft}.5^{in}.1$.

Each division of the scale $= \frac{12}{30.9}$ inch, and consequently, the angle at the mirror subtended by one division of the scale is $13'.12''.32$, or, for one division of the scale, the mirror is turned through an arc of $6'.36''.16$.

With the first pair of rollers, which was used throughout the year 1842, the adopted angle of torsion was $41°.2'.50''$, being the same as that in the year 1841; the experiments in Article 1 of this Section, shewing that no change was necessary: consequently, the variation of horizontal force in terms of the whole horizontal force for a disturbance through one division of the scale, computed by the formula "Cotan. angle of torsion × value of one division in terms of radius," is 0·002206. The number actually used throughout the year 1842 was 0·002214.

6. Correction for the effect of temperature on the horizontal force magnet.

In the Introduction to the volume for 1841 are exhibited experiments, by which it appeared that for an increase of temperature of 1° there was a decrease of horizontal

force amounting to 0·0001686 parts of the whole horizontal force. This is not applied in the various sections of observation, but the corresponding corrections are applied to the means of the results used in the Abstracts, &c.

The method of observing with the horizontal force magnet is the following:—

A fine vertical wire is fixed in the field of view of the telescope, which is directed to the mirror carried by the magnet. On looking into the telescope, the graduations of the fixed scale are seen; and, during the oscillations of the magnet, the divisions of the scale are seen to pass alternately right and left across the wire. The clock-time, for which the position of the magnet is to be determined (usually $2^m.30^s$ after the time for the determination with the declination magnet), having been calculated, the first observation is made by the observer applying his eye to the telescope 40^s before that time, and then observing the next four extreme points of vibration of the scale: the mean of these is adopted in the same manner as for the declination observations. This process was adopted till 1842, November 14^d. At that time the box, in which the magnet had been inclosed, was removed, and a double rectangular box, covered with gilt paper, similar to that used for the declination magnet, was substituted in its place; and after this time the magnet at the time of observation has been very seldom in a state of vibration. The method of observation after November $14^d.0^h$ was as follows:—The observer applied his eye to the telescope at the same time as before, and if the magnet was in a state of vibration he observed in the manner explained above; but if it was at rest, then at $2^m.20^s$ after the time recorded in the printed tables of observation, he noted the division of the scale bisected by the wire; and 20^s afterwards he noted whether the same division continued bisected, and if it was, that reading was adopted as the result.

From the result the constant $50^d{\cdot}000$ was subtracted, from January 1^d till February $3^d.22^h$; from February $4^d.0^h$ till June $3^d.22^h$, the constant $50^d{\cdot}136$ was subtracted (for the reason given in Article 4 of this Section); and from June $4^d.0^h$ to the end of the year, $58^d{\cdot}136$ was subtracted; as it appeared that on raising the magnet between June $3^d.22^h$ and June $4^d.0^h$, for the purpose of cleaning its box, &c., the difference between the readings, immediately before and after, was 8^d exactly; the time occupied by cleaning the magnet, the box, &c., not having been more than five minutes. The remainder is converted into a number, expressing the proportion of the variable force to the mean horizontal force, by means of the numbers obtained in Article 5.

§ 3. *Vertical Force Magnet, and Apparatus for Observing it.*

The vertical force magnet is of the same dimensions as the other two magnets. It is supported upon a block, connected with a tripod stand which passes through the floor and rests immediately on the ground in the western arm of the Magnetic Observatory. Its

position is as nearly as possible symmetrical with that of the horizontal force magnet in the eastern arm. The magnet is inserted in a brass frame, to which two steel knife-edges are attached, similar to the knife-edges of a balance or pendulum, by which it vibrates upon agate plates. A proper apparatus is provided for raising it a small height above the agate supports. On the upper part of the brass frame is a mirror, whose plane makes with the axis of the magnet an angle of 54° nearly. The height of this mirror above the floor is the same as that of the horizontal force magnet. The axis of the magnet is as nearly as possible transverse to the magnetic meridian. Near the ends of the magnet are two holes, in which are inserted brass pieces carrying screws, by which the elevation of the center of the gravity and the inclination of the magnet in its position of rest can be altered. The whole is inclosed in a box, based upon the block of wood above mentioned. In this box the magnet can vibrate freely in the vertical plane. One side of the box is partly of glass.

The telescope is fixed to a wooden tripod stand, whose feet pass through the floor without touching it, and are firmly connected with piles driven into the ground. Its position is symmetrical with that of the telescope by which the horizontal force magnet is observed; so that a person seated in a position proper for observing the declination magnet can, by an easy motion of the head right and left, observe the vertical force and horizontal force magnets.

The scale is vertical: it is fixed to the stand which carries the telescope, and is at a very small distance from the object-glass of the telescope. The wire in the field of view of the telescope is horizontal. The telescope being directed towards the mirror, the observer sees in the telescope the divisions of the scale passing upwards and downwards over the fixed wire, as the magnet vibrates. The numbers of the scale increase from top to bottom; so that, when the magnet is placed with its marked end towards the East, increasing readings (as seen with the fixed telescope) denote an increasing vertical force.

Observations relating to the permanent Adjustments of the Vertical Force Magnet.

1. The compound effect of the declination magnet and of the horizontal force magnet on the vertical force magnet.

In the Introduction to the volume for 1841 are exhibited the separate effects of the declination magnet and of the horizontal force magnet on the vertical force magnet. Their compound effect on the vertical force magnet (when the marked end of the declination magnet was towards the North, that of the horizontal force magnet towards the West, and that of the vertical force magnet towards the East) is also there shewn; being, that the marked end of the vertical force magnet is drawn downwards by 0·148 divisions of the scale: the result was

considered to be unsatisfactory, and to prove merely that the effect was small; by experiments to be presently described, it was found that the effect of the windlass of the electrometer-pole was to cause the marked end of the magnet to be drawn upwards by nearly the same amount as above, and, consequently, no corrections have been applied to any of the observations on account of these disturbing effects.

2. Determination of the effect of the iron windlass affixed to the electrometer-pole.

The windlass was alternately placed at the foot of the pole, and then removed to a distance from it. The scale reading was taken for every successive position of the windlass. The following are the results.

Observer, Mr. Glaisher.

Day, 1842.	Windlass away, or in its place.	Mean Reading of the Scale of the Vertical Force Magnet.	Mean of Readings, the one preceding and the other following that for the Windlass in its place.	Reading with the Windlass away —Reading with the Windlass in its place.	Mean.
		d	d	d	d
Jan. 31	Away	42·55			
	In its place	42·42	42·525	+ 0·105	
	Away	42·50			
	In its place	42·41	42·525	+ 0·115	
	Away	42·55			+ 0·106
	In its place	42·42	42·525	+ 0·105	
	Away	42·50			
	In its place	42·41	42·510	+ 0·100	
	Away	42·52			
Feb. 3	Away	31·41			
	In its place	31·28	31·395	+ 0·115	
	Away	31·38			
	In its place	31·28	31·380	+ 0·100	
	Away	31·38			
	In its place	31·27	31·380	+ 0·110	
	Away	31·38			
	In its place	31·27	31·375	+ 0·100	
	Away	31·37			
	In its place	31·22	31·385	+ 0·165	
	Away	31·40			+ 0·150
	In its place	31·20	31·390	+ 0·190	
	Away	31·38			
	In its place	31·20	31·375	+ 0·175	
	Away	31·37			
	In its place	31·20	31·360	+ 0·160	
	Away	31·35			
	In its place	31·18	31·375	+ 0·195	
	Away	31·40			
	In its place	31·20	31·390	+ 0·190	
	Away	31·38			

On February 28[d] the following experiments were made, on account of an addition of an iron break to the iron windlass.

Observer, Mr. Hind.

Day, 1842.	Windlass away, or in its place.	Mean Reading of the Scale of the Vertical Force Magnet.	Mean of Readings, the one preceding and the other following that for the Windlass in its place.	Reading with the Windlass away —Reading with the Windlass in its place.	Mean.
		d	d	d	d
Feb. 28	Away	31·41			
	In its place	31·43	31·425	(— 0·005)	
	Away	31·44			
	In its place	31·24	31·440	+ 0·200	
	Away	31·44			
	In its place	31·17	31·400	+ 0·230	
	Away	31·36			
	In its place	31·16	31·395	+ 0·235	
	Away	31·43			
	In its place	31·06	31·365	+ 0·305	
	Away	31·30			
	In its place	30·96	31·295	+ 0·335	+ 0·258
	Away	31·29			
	In its place	31·02	31·235	+ 0·215	
	Away	31·18			
	In its place	30·90	31·180	+ 0·280	
	Away	31·18			
	In its place	31·00	31·180	+ 0·180	
	Away	31·18			
	In its place	30·89	31·155	+ 0·265	
	Away	31·13			
	In its place	30·81	31·145	+ 0·335	
	Away	31·06			

The mean of the three results, giving weights proportional to the number of individual results by which each is deduced, is 0[d]·190; and this number has not been applied for the reasons assigned in the previous article.

3. Determination of the time of vibration of the magnet in the vertical plane.

Between January 1[d] and April 26[d], the magnet had been nearly in all positions for the scale to read between 17[d] and 47[d], and the times of vibration, which were determined several times in every week, had been taken at every division between these: each result is the mean of about 10 vibrations. The results are contained in the following table :—

Division of Scale.	Mean of Times of Vibration in Solar Time.	Number of Mean Results.	Division of Scale.	Mean of Times of Vibration in Solar Time.	Number of Mean Results.
d	s		d	s	
17	33·17	4	33	29·43	7
18	32·90	4	34	27·50	2
19	32·78	3	35	27·40	1
20	32·21	8	36	30·17	1
21	31·86	5	37	.....	
22	29·35	8	38	30·76	4
23	30·57	12	39	31·13	4
24	30·73	25	40	30·66	2
25	28·91	16	41	31·18	8
26	29·92	17	42	30·93	10
27	31·22	11	43	30·35	12
28	29·67	6	44	30·28	7
29	30·25	12	45	30·26	5
30	28·70	2	46	30·67	5
31	29·78	31	47	30·22	2
32	26·40	1			

As the magnet is horizontal when the scale reads 50^{d}, the number 30^{s} was adopted from the above table as the mean time of vibration between January 1 and April 26.

Between May 3^{d} and November 14^{d} the magnet had been in all positions for the scale to read between 34^{d} and 64^{d}, and the times of vibration had been taken at every division between these. The results are as follows:—

Division of Scale.	Mean of Times of Vibration in Solar Time.	Number of Mean Results.	Division of Scale.	Mean of Times of Vibration in Solar Time.	Number of Mean Results.
d	s		d	s	
34	25·90	1	50	27·28	4
35	26·53	4	51	27·45	11
36	26·00	5	52	27·45	12
37	25·87	3	53	27·01	7
38	25·75	4	54	27·38	8
39	26·43	4	55	27·87	6
40	25·88	15	56	28·03	8
41	25·75	21	57	28·49	11
42	26·03	25	58	28·95	12
43	26·19	22	59	29·10	10
44	26·46	35	60	29·36	7
45	26·59	25	61	29·77	7
46	26·75	35	62	30·10	2
47	26·87	13	63	30·90	1
48	26·89	13	64	30·10	3
49	27·56	13			

And 27^{s}·5 was adopted as the mean time of vibration between May 2^{d} and the end of

the year, although from the following table it would appear that the time of vibration had become somewhat larger in the month of December.

Division of Scale.	Mean of Times of Vibration in Solar Time.	Number of Mean Results.	Division of Scale.	Mean of Times of Vibration in Solar Time.	Number of Mean Results.
d	s		d	s	
40	26·15	2	47	27·83	7
41	26·10	1	48	28·00	4
42	26·20	2	49	28·53	4
43	26·90	1	50	29·16	7
44	27·27	10	51	29·43	3
45	27·33	6	52	29·67	3
46	27·66	9			

The observations upon which these depend being but few, it was not thought necessary to construct new tables, and as before stated $27^{s}\cdot5$ was the adopted vibration till December 31.

4. Computation of the angle through which the magnet moves for a change of one division of the scale; and calculation of the disturbing force producing a movement through one division, in terms of the whole vertical force.

The distance from the scale to the mirror is 151·2 inches, and each division of the scale $= \frac{12}{30\cdot9}$ inches. Hence the angle which one division subtends, as seen from the mirror, is $8'.49''\cdot79$; and therefore the angular movement of the normal to the mirror, corresponding to a change of one division of the scale, is half this quantity, or $4'.24''\cdot90$.

But the angular movement of the normal to the mirror is not the same as the angular movement of the magnet; but is less, in the proportion of unity to the cosine of the angle which the normal to the mirror makes with the magnet, or in the proportion of unity to the sine of the angle which the plane of the mirror makes with the magnet. This angle has been found to be 54°: therefore, dividing the result just obtained by sine 54°, we have, for the angular motion of the magnet corresponding to a change of one division of the scale, $5'.27''\cdot43$.

From this, the value, in terms of the whole vertical force, of the disturbing force producing a change of one division, is to be computed by the formula, "Value of Division in terms of radius × cotan. dip × $\frac{T'^2}{T^2}$," where T′ is the time of vibration in the horizontal plane, and T the time of vibration in the vertical plane.

The dip is assumed to be $69°.12'$; this value was obtained by a very imperfect instru-

ment, and later observations with a very fine dipping needle give for the mean value of the dip an angle differing little from 69°.0′.

To 1842, April 26, T′ is assumed..... 24·3, T = 30·0
May 2 to December 31, T′ is assumed 24·3, T = 27·5

consequently the value of the change of vertical force (in terms of the whole vertical force), corresponding to a change of one division, is,

To April 26..... 0·000471
From May 2 to the end of December .. 0·000398

And these are the numbers that have been used in the reductions.

5. Correction for the effect of temperature on the vertical force magnet.

In the Introduction to the volume for 1841 are exhibited experiments, from which it appeared that for an increase of temperature of 1° the decrease of the vertical force was 0·000264 parts of the whole vertical force. This is *not* applied in the various sections of the observations, but it is applied in the Abstracts.

The method of observing with the vertical force magnet was precisely similar to the first described method for the horizontal force magnet (except that the adopted clock time is $2^m.30^s$ before that for the declination magnet, and that the eye was first directed to the telescope 55^s before that time) till Dec. $20^d.2^h.10^m$. After that time the box in which the magnet had been inclosed was removed, and a double box, similar to those used for the other magnets, was substituted in its place, and after that time the magnet was very seldom in a state of vibration. The method of observation after Dec. $20^d.2^h.10^m$ was as follows:—The observer applied his eye to the telescope at 55^s before the adopted clock-time, and if he found the magnet vibrating, he took the observation in the usual way; but if it was at rest, then at $2^m.45^s$ before the time recorded in the printed observations he noted the division of the scale bisected by the wire in the telescope, and at 30^s afterwards he noted whether the wire bisected the same division, and, if it was still bisected, that reading was adopted as the result. From this result the constant $40^d{\cdot}000$ was subtracted till April 26, and between that time and May 2 the adjusting-screws of the magnet were so altered that the readings of the scale were made larger by about $50^d{\cdot}000$ than they were before, and from May 2 to the end of the year $90^d{\cdot}000$ were subtracted from the adopted result. The remainder is converted into numbers expressing the proportion of the variable force to the mean vertical force, by the numbers obtained in Article 4 of this section.

§ 4. *Meteorological Instruments.*

BAROMETER.

The barometer is a standard, by Newman, and is fixed on the South wall of the West cross of the Magnetic Observatory. The graduated scale, which measures the height of the mercury, is made of brass, and to it is affixed a brass rod, passing down the inside of one of the upright supports, and terminating in a conical point of ivory; this point in observation is made just to touch the surface of the mercury in the cistern, and the contact is easily seen by the reflected and the actual point appearing *just* to meet each other. The rod and scale are made to slide up and down by means of a slow-motion screw. The scale is divided to $0^{in}{\cdot}05$.

The vernier sub-divides the scale divisions to $0^{in}{\cdot}002$; it is moved by a slow-motion screw, and in observation is adjusted so that the ray of light passing under the back and front of the semi-cylindrical plate carried by the vernier, is a tangent to the highest part of the convex surface of the mercury in the tube.

The tube is $0^{in}{\cdot}565$ of an inch in diameter; the correction for the effect of capillary attraction is therefore only $+\ 0^{in}{\cdot}002$.

The cistern is of glass; below the cistern are three screws, turning in the fixed part of the support, and acting on the piece in which the lower pivot of the barometer-frame turns, for adjustment to verticality: this adjustment is examined weekly. The height of the cistern above the mean level of the sea is 159 feet. This element is founded upon the determination of Mr. Lloyd, in the Phil. Trans., 1831; the elevation of the cistern above the brass piece inserted in a stone in the transit-room (to which Mr. Lloyd refers) being $5^{ft}.2^{in}$.

The readings of this barometer are considered to be coincident with those of the Royal Society's flint-glass standard barometer.

All observations of this barometer have been corrected for the difference of temperature of the mercury in the tube at the time of the observation from 32°, by the application of the corrections contained in the table for barometers, whose scales are engraved upon a rod of brass reaching from the level of the mercury to the vernier. (See the Report of the Committee of Physics and Meteorology approved by the Royal Society.)

No correction is required for difference of capacities of the tube and of the cistern; for as the mercury rises or falls in the cistern by the falling or rising of the mercury in the tube, so the termination of the scale is adjusted to the surface of the mercury in the cistern, and the distance between the two surfaces is at once measured.

DRY-BULB THERMOMETER.

The dry-bulb thermometer, used in conjunction with the wet-bulb thermometer, is mercurial; its scale is divided to 0°·5. The following are comparisons of the dry-bulb thermometer with the Royal Observatory's standard thermometer :—

Day, 1842.	Dry Thermometer reads less than the Greenwich Standard.	Range of Temperature.	Number of Comparisons.	Mean Temperature.	Day, 1842.	Dry Thermometer reads less than the Greenwich Standard.	Range of Temperature.	Number of Comparisons.	Mean Temperature.
	°	° °		°		°	° °		°
Jan. 3	0·1	25 to 34	12	31	July 4	0·5	56 to 74	7	65
10	0·2	27 to 30	11	29	11	0·4	53 to 76	12	66
17	0·1	31 to 41	12	36	18	0·6	55 to 76	12	66
24	0·1	24 to 33	10	28	25	0·4	53 to 72	12	62
31	0·1	39 to 46	5	41					
					Aug. 1	0·5	52 to 69	12	60
Feb. 7	0·3	31 to 41	12	35	8	0·5	53 to 77	12	65
14	0·0	35 to 50	12	42	15	0·3	55 to 86	12	70
21	0·1	34 to 46	12	39	22	0·4	54 to 80	12	67
28	0·1	38 to 49	12	43	29	0·5	58 to 74	12	64
Mar. 7	0·2	31 to 50	12	43	Sep. 5	0·4	53 to 70	12	61
14	0·4	40 to 50	12	45	12	0·2	52 to 64	12	58
21	0·1	38 to 47	12	40	19	0·3	50 to 65	12	55
28	0·3	43 to 58	12	50	26	0·2	50 to 61	12	55
Apr. 4	0·1	35 to 44	12	39	Oct. 3	0·4	40 to 58	12	49
11	0·3	33 to 45	12	40	10	0·5	49 to 58	11	53
18	0·2	40 to 47	11	44	17	0·4	48 to 54	12	50
25	0·3	44 to 69	12	55	24	0·1	33 to 44	12	39
					31	0·1	43 to 51	12	47
May 2	0·2	43 to 63	12	53					
9	0·3	43 to 53	12	47	Nov. 7	0·2	39 to 47	12	42
16	0·3	45 to 67	12	56	14	0·2	44 to 49	12	46
23	0·6	47 to 63	12	55	21	0·3	35 to 43	12	39
30	0·5	49 to 71	12	60	28	0·1	43 to 54	12	48
June 6	0·7	52 to 79	12	64					
13	0·6	53 to 82	12	67	Dec. 5	0·2	39 to 49	12	44
20	0·4	52 to 71	8	63	12	0·1	44 to 56	12	52
27	0·2	51 to 70	12	61	19	0·0	37 to 43	12	40

The next table is formed by collecting and arranging the results in the order of temperature.

Day, 1842.	Dry Therm. reads less than Greenwich Standard below 32°.	Mean.	Day, 1842.	Dry Therm. reads less than Greenwich Standard between 32° and 50°.	Mean.	Day, 1842.	Dry Therm. reads less than Greenwich Standard between 50° and 60°.	Mean.	Day, 1842.	Dry Therm. reads less than Greenwich Standard above 60°.	Mean.
	°	°		°	°		°	°		°	°
Jan. 3	0·1		Jan. 17	0·1		Mar. 28	0·3		June 6	0·7	
10	0·2	0·1	31	0·1					13	0·6	
24	0·1					Apr. 25	0·3		20	0·4	
			Feb. 7	0·3					27	0·2	
			14	0·0		May 2	0·2				
			21	0·1		16	0·3		July 4	0·5	
			28	0·1		23	0·6		11	0·4	
						30	0·5	0·3	18	0·6	0·5
			Mar. 7	0·2					25	0·4	
			14	0·4		Sep. 12	0·2				
			21	0·1		19	0·3		Aug. 1	0·5	
						26	0·2		8	0·5	
			Apr. 4	0·1					15	0·3	
			11	0·3	0·2	Oct. 10	0·5		22	0·4	
			18	0·2		17	0·4		29	0·5	
			May 9	0·3		Dec. 12	0·1		Sep. 5	0·4	
			Oct. 3	0·4							
			24	0·1							
			31	0·1							
			Nov. 7	0·2							
			14	0·2							
			21	0·3							
			28	0·1							
			Dec. 5	0·2							
			19	0·0							

Therefore, the dry-bulb thermometer reads less than the Royal Observatory standard—

Below 32° by.....0°·1
Between 32 and 50 by.....0·2
Between 50 and 60 by.....0·3
Above 60 by.....0·5

Also, the correction to be applied to the Royal Observatory standard is 0°·2 subtractive for all readings below 60°, and 0°·3 subtractive above 60°. (See the volume for 1841.)

Applying these, therefore, to the above differences, the corrections necessary to be applied to the dry thermometer readings are—

Below 32°.....0°·1 subtractive
Between 32 and 50 .....0·0
Between 50 and 60 .....0·1 additive
Above 60.....0·2 additive

to reduce its readings to the readings which would have been given by Mr. Simms's standard thermometer. These have *not* been applied either in the various sections of observations or in the Abstracts.

WET-BULB THERMOMETER.

The wet-bulb thermometer is mercurial; its scale is divided to 0°·5. The readings of this thermometer when under the same circumstances as the dry thermometer, are considered to be 0°·2 lower than those of the dry thermometer. (See the Introduction to the volume for 1841.)

The bulb is covered with a piece of fine muslin; immediately under it is placed a small cistern of rain-water (the water to which is supplied by a fountain-cistern). A piece of cotton lamp-wick is connected with the muslin, and its end dips into the cistern of water; the water ascends up the wick by capillary action, and keeps the muslin on the thermometer-bulb constantly wet.

In frosty weather the muslin is moistened about a quarter of an hour before each observation, and the water has then become frozen, and the evaporation from the surface of the ice has commenced at the time of making the observation.

DEW-POINT APPARATUS.

The dew-point apparatus is that commonly known as Daniell's hygrometer, consisting of a bent tube with two bulbs, in one of which ether is inclosed, with a small thermometer plunged in it; on the other a piece of muslin is wrapped, by dropping ether on which, the vapour of the inclosed ether passing from the first bulb is condensed, and the ether is cooled until dew is deposited on the bulb, when the reading of the inclosed thermometer is taken. This is generally done at the appearance of the moisture only, but if there be any suspicion on the mind of the observer as to its correctness, it is also done at its disappearance; and if any discordance appears between the results, the observation is repeated. It is found that no certain discordance exists between the results as obtained from the appearance and from the disappearance of the dew.

The following is a comparison of the dew-point thermometer with the Royal Observatory standard thermometer.

The thermometer used in determining the dew-point reads—

On Jan.	3,	from	12	comparisons	between	25°	and	34°,	lower by 0°·5
,,	10,	,,	11	,,	,,	27	and	30,	,, 0·6
,,	17,	,,	12	,,	,,	31	and	41,	,, 0·1
,,	24,	,,	10	,,	,,	21	and	33,	,, 0·7
,,	31,	,,	5	,,	,,	39	and	46,	,, 0·0
Feb.	7,	,,	12	,,	,,	31	and	41,	,, 0·2
,,	14,	,,	12	,,	,,	35	and	50,	,, 0·0

						°		°		°
On Feb.	21,	from	12	comparisons	between	34	and	46,	lower by	0·0
,,	28,	,,	3	,,	,,	42	and	48,	higher by	0·1
Mar.	7,	,,	12	,,	,,	31	and	50,	lower by	0·1
,,	14,	,,	12	,,	,,	40	and	50,	higher by	0·1
,,	21,	,,	12	,,	,,	38	and	47,	,,	0·1
,,	28,	,,	12	,,	,,	43	and	58,	,,	0·2
April	4,	,,	12	,,	,,	35	and	44,	,,	0·1
,,	11,	,,	12	,,	,,	33	and	45,	,,	0·3
,,	18,	,,	11	,,	,,	40	and	47,	,,	0·0
,,	25,	,,	12	,,	,,	44	and	69,	,,	0·3
May	2,	,,	12	,,	,,	43	and	63,	,,	0·7
,,	9,	,,	12	,,	,,	43	and	53,	,,	0·1
,,	16,	,,	12	,,	,,	45	and	67,	,,	0·7
,,	23,	,,	12	,,	,,	47	and	63,	,,	0·5
,,	30,	,,	12	,,	,,	49	and	71,	,,	0·3
June	6,	,,	12	,,	,,	52	and	79,	,,	0·5
,,	13,	,,	12	,,	,,	53	and	82,	,,	0·6
,,	20,	,,	8	,,	,,	52	and	71,	,,	0·6
,,	27,	,,	12	,,	,,	51	and	70,	,,	0·6
July	4,	,,	7	,,	,,	56	and	74,	,,	0·5
,,	11,	,,	12	,,	,,	53	and	76,	,,	0·6
,,	18,	,,	12	,,	,,	55	and	76,	,,	0·5
,,	25,	,,	12	,,	,,	53	and	72,	,,	0·3
Aug.	1,	,,	12	,,	,,	52	and	69,	,,	0·3
,,	8,	,,	12	,,	,,	53	and	77,	,,	0·5
,,	15,	,,	12	,,	,,	55	and	86,	,,	1·0
,,	22,	,,	12	,,	,,	54	and	80,	,,	0·6
,,	29,	,,	12	,,	,,	58	and	74,	,,	0·1
Sep.	5,	,,	12	,,	,,	53	and	70,	,,	0·2
,,	12,	,,	12	,,	,,	52	and	64,	,,	0·3
,,	19,	,,	12	,,	,,	50	and	65,	,,	0·2
,,	26,	,,	12	,,	,,	50	and	61,	,,	0·1
Oct.	3,	,,	12	,,	,,	40	and	58,	,,	0·1
,,	10,	,,	11	,,	,,	49	and	58,	lower by	0·2
,,	17,	,,	12	,,	,,	48	and	54,	,,	0·1
,,	24,	,,	12	,,	,,	33	and	44,	,,	0·3
,,	31,	,,	12	,,	,,	43	and	51,	,,	0·0
Nov.	7,	,,	12	,,	,,	39	and	47,	,,	0·1
,,	14,	,,	12	,,	,,	44	and	49,	,,	0·1
,,	21,	,,	12	,,	,,	35	and	43,	,,	0·1
,,	28,	,,	12	,,	,,	43	and	54,	,,	0·0
Dec.	5,	,,	12	,,	,,	39	and	49,	,,	0·1
,,	12,	,,	12	,,	,,	44	and	56,	,,	0·0
,,	19,	,,	12	,,	,,	37	and	43,	,,	0·0

From these observations it appears, that when the temperature is below 32°, the thermometer reads 0°·4 less than the standard; that between 32° and 50° it reads the same as the standard; that between 50° and 60° it reads more than the standard by 0°·3; that above 60° it reads more than the standard by 0°·5.

No correction has been applied on account of these differences, as a determination of the temperature of the dew-point is considered to be doubtful to a quarter of a degree.

The dew-point observation was made at 4^h, 10^h, 16^h, and 22^h, Göttingen mean time, every day except Sundays, Good Friday, and the twenty-sixth day of December.

The relation existing between the temperature of the air, of evaporation, and of the dew-point, has been investigated, as explained in the Abstracts; and the following are the tables, &c. which have been used in the formation of the tables in the Abstracts, depending on the temperature of the dew-point:—

A Table shewing the Elastic Force of Vapour, in Inches of Mercury, for every Tenth of a Degree, from 0° to 90°, calculated from the Experiments of Dalton (Manchester Memoirs, vol. V.) and Ure (Philosophical Transactions, 1818.)

Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.
°	in.	°	in.	°	in.	°	in.	°	in.	°	in.	°	in.
0·0	0·061	3·0	0·069	6·0	0·077	9·0	0·086	12·0	0·096	15·0	0·108	18·0	0·120
0·1	·061	·1	·069	·1	·077	·1	·086	·1	·097	·1	·108	·1	·121
·2	·062	·2	·069	·2	·077	·2	·087	·2	·097	·2	·108	·2	·121
·3	·062	·3	·069	·3	·078	·3	·087	·3	·097	·3	·109	·3	·121
·4	·062	·4	·070	·4	·078	·4	·087	·4	·098	·4	·109	·4	·122
·5	·062	·5	·070	·5	·078	·5	·088	·5	·098	·5	·110	·5	·122
·6	·063	·6	·070	·6	·079	·6	·088	·6	·098	·6	·110	·6	·123
·7	·063	·7	·071	·7	·079	·7	·088	·7	·099	·7	·110	·7	·123
·8	·063	·8	·071	·8	·079	·8	·089	·8	·099	·8	·111	·8	·124
0·9	·063	3·9	·071	6·9	·080	9·9	·089	12·9	·099	15·9	·111	18·9	·124
1·0	·064	4·0	·071	7·0	·080	10·0	·089	13·0	·100	16·0	·112	19·0	·125
·1	·064	·1	·072	·1	·080	·1	·090	·1	·100	·1	·112	·1	·125
·2	·064	·2	·072	·2	·080	·2	·090	·2	·101	·2	·112	·2	·126
·3	·064	·3	·072	·3	·081	·3	·090	·3	·101	·3	·113	·3	·126
·4	·065	·4	·072	·4	·081	·4	·091	·4	·101	·4	·113	·4	·126
·5	·065	·5	·073	·5	·081	·5	·091	·5	·102	·5	·114	·5	·127
·6	·065	·6	·073	·6	·082	·6	·091	·6	·102	·6	·114	·6	·127
·7	·065	·7	·073	·7	·082	·7	·092	·7	·102	·7	·115	·7	·128
·8	·066	·8	·073	·8	·082	·8	·092	·8	·103	·8	·115	·8	·128
1·9	·066	4·9	·074	7·9	·083	10·9	·092	13·9	·103	16·9	·115	19·9	·129
2·0	·066	5·0	·074	8·0	·083	11·0	·093	14·0	·104	17·0	·116	20·0	·129
·1	·066	·1	·074	·1	·083	·1	·093	·1	·104	·1	·116	·1	·130
·2	·067	·2	·075	·2	·083	·2	·093	·2	·104	·2	·117	·2	·130
·3	·067	·3	·075	·3	·084	·3	·094	·3	·105	·3	·117	·3	·131
·4	·067	·4	·075	·4	·084	·4	·094	·4	·105	·4	·118	·4	·131
·5	·067	·5	·075	·5	·084	·5	·094	·5	·106	·5	·118	·5	·132
·6	·068	·6	·076	·6	·085	·6	·095	·6	·106	·6	·118	·6	·132
·7	·068	·7	·076	·7	·085	·7	·095	·7	·106	·7	·119	·7	·133
·8	·068	·8	·076	·8	·085	·8	·096	·8	·107	·8	·119	·8	·133
2·9	·068	5·9	·077	8·9	·086	11·9	·096	14·9	·107	17·9	·120	20·9	·134

Table shewing the Elastic Force of Vapour, in Inches of Mercury, &c.—*continued.*

Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.
°	in.	°	in.	°	in.	°	in.	°	in.	°	in.	°	in.
21·0	0·134	26·2	0·162	31·4	0·195	36·6	0·235	41·8	0·282	47·0	0·337	52·2	0·402
·1	·135	·3	·163	·5	·196	·7	·235	41·9	·282	·1	·338	·3	·404
·2	·135	·4	·163	·6	·197	·8	·236	42·0	·283	·2	·339	·4	·405
·3	·136	·5	·164	·7	·197	36·9	·237	·1	·284	·3	·340	·5	·407
·4	·136	·6	·164	·8	·198	37·0	·238	·2	·285	·4	·342	·6	·408
·5	·137	·7	·165	31·9	·198	·1	·239	·3	·286	·5	·343	·7	·409
·6	·137	·8	·165	32·0	·199	·2	·240	·4	·287	·6	·344	·8	·411
·7	·138	26·9	·166	·1	·200	·3	·240	·5	·288	·7	·345	52·9	·412
·8	·138	27·0	·167	·2	·201	·4	·241	·6	·289	·8	·346	53·0	·414
21·9	·139	·1	·167	·3	·201	·5	·242	·7	·290	47·9	·348	·1	·415
22·0	·139	·2	·168	·4	·202	·6	·243	·8	·291	48·0	·349	·2	·416
·1	·140	·3	·168	·5	·203	·7	·244	42·9	·292	·1	·350	·3	·418
·2	·140	·4	·169	·6	·204	·8	·245	43·0	·293	·2	·351	·4	·419
·3	·141	·5	·170	·7	·204	37·9	·246	·1	·295	·3	·352	·5	·421
·4	·141	·6	·170	·8	·205	38·0	·246	·2	·296	·4	·354	·6	·422
·5	·142	·7	·171	32·9	·206	·1	·247	·3	·297	·5	·355	·7	·423
·6	·142	·8	·172	33·0	·207	·2	·248	·4	·298	·6	·356	·8	·425
·7	·143	27·9	·172	·1	·207	·3	·249	·5	·299	·7	·357	53·9	·426
·8	·143	28·0	·173	·2	·208	·4	·250	·6	·300	·8	·358	54·0	·428
22·9	·144	·1	·173	·3	·209	·5	·251	·7	·301	48·9	·360	·1	·429
23·0	·144	·2	·174	·4	·210	·6	·252	·8	·302	49·0	·361	·2	·431
·1	·145	·3	·175	·5	·210	·7	·253	43·9	·303	·1	·362	·3	·432
·2	·145	·4	·175	·6	·211	·8	·253	44·0	·304	·2	·363	·4	·434
·3	·146	·5	·176	·7	·212	38·9	·254	·1	·305	·3	·365	·5	·435
·4	·146	·6	·177	·8	·213	39·0	·255	·2	·306	·4	·366	·6	·437
·5	·147	·7	·177	33·9	·213	·1	·256	·3	·307	·5	·367	·7	·438
·6	·147	·8	·178	34·0	·214	·2	·257	·4	·308	·6	·368	·8	·440
·7	·148	28·9	·178	·1	·215	·3	·258	·5	·309	·7	·370	54·9	·441
·8	·148	29·0	·179	·2	·216	·4	·259	·6	·310	·8	·371	55·0	·442
23·9	·149	·1	·180	·3	·216	·5	·260	·7	·311	49·9	·372	·1	·444
24·0	·150	·2	·180	·4	·217	·6	·261	·8	·312	50·0	·373	·2	·445
·1	·150	·3	·181	·5	·218	·7	·262	44·9	·313	·1	·375	·3	·447
·2	·151	·4	·182	·6	·219	·8	·263	45·0	·315	·2	·376	·4	·449
·3	·152	·5	·182	·7	·219	39·9	·263	·1	·316	·3	·377	·5	·450
·4	·152	·6	·183	·8	·220	40·0	·264	·2	·317	·4	·379	·6	·452
·5	·152	·7	·184	34·9	·221	·1	·265	·3	·318	·5	·380	·7	·453
·6	·153	·8	·184	35·0	·222	·2	·266	·4	·319	·6	·381	·8	·455
·7	·153	29·9	·185	·1	·223	·3	·267	·5	·320	·7	·382	55·9	·456
·8	·154	30·0	·186	·2	·223	·4	·268	·6	·321	·8	·383	56·0	·458
24·9	·155	·1	·186	·3	·224	·5	·269	·7	·322	50·9	·385	·1	·459
25·0	·155	·2	·187	·4	·225	·6	·270	·8	·323	51·0	·386	·2	·461
·1	·156	·3	·188	·5	·226	·7	·271	45·9	·324	·1	·388	·3	·462
·2	·156	·4	·188	·6	·227	·8	·272	46·0	·326	·2	·389	·4	·464
·3	·157	·5	·189	·7	·227	40·9	·273	·1	·327	·3	·390	·5	·465
·4	·157	·6	·190	·8	·228	41·0	·274	·2	·328	·4	·392	·6	·467
·5	·158	·7	·190	35·9	·229	·1	·275	·3	·329	·5	·393	·7	·469
·6	·158	·8	·191	36·0	·230	·2	·276	·4	·330	·6	·394	·8	·470
·7	·159	30·9	·192	·1	·231	·3	·277	·5	·331	·7	·396	56·9	·472
·8	·160	31·0	·192	·2	·231	·4	·278	·6	·332	·8	·397	57·0	·473
25·9	·160	·1	·193	·3	·232	·5	·279	·7	·333	51·9	·398	·1	·475
26·0	·161	·2	·194	·4	·233	·6	·280	·8	·335	52·0	·400	·2	·476
·1	·161	·3	·194	·5	·234	·7	·281	46·9	·336	·1	·401	·3	·478

Table shewing the Elastic Force of Vapour, in Inches of Mercury, &c.—*concluded.*

Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.
°	in.	°	in.	°	in.	°	in.	°	in.	°	in.	°	in.
57·4	0·480	62·1	0·561	66·8	0·655	71·5	0·763	76·2	0·887	80·9	1·030	84·5	1·190
·5	·481	·2	·563	66·9	·657	·6	·766	·3	·890	81·0	·034	·6	·193
·6	·483	·3	·565	67·0	·659	·7	·768	·4	·893	·1	·037	·7	·197
·7	·485	·4	·567	·1	·661	·8	·771	·5	·896	·2	·040	·8	·201
·8	·486	·5	·568	·2	·664	71·9	·773	·6	·899	·3	·043	85·9	·205
57·9	·488	·6	·570	·3	·666	72·0	·776	·7	·902	·4	·047	86·0	·209
58·0	·489	·7	·572	·4	·668	·1	·778	·8	·905	·5	·050	·1	·212
·1	·491	·8	·574	·5	·670	·2	·781	76·9	·908	·6	·053	·2	·216
·2	·493	62·9	·576	·6	·672	·3	·783	77·0	·910	·7	·057	·3	·220
·3	·494	63·0	·578	·7	·674	·4	·785	·1	·913	·8	·060	·4	·224
·4	·496	·1	·580	·8	·677	·5	·787	·2	·916	81·9	·063	·5	·228
·5	·498	·2	·582	67·9	·679	·6	·790	·3	·919	82·0	·067	·6	·232
·6	·499	·3	·584	68·0	·681	·7	·792	·4	·922	·1	·069	·7	·235
·7	·501	·4	·586	·1	·684	·8	·795	·5	·925	·2	·073	·8	·239
·8	·503	·5	·588	·2	·686	72·9	·797	·6	·928	·3	·077	86·9	·243
58·9	·504	·6	·590	·3	·688	73·0	·801	·7	·931	·4	·080	87·0	·247
59·0	·506	·7	·591	·4	·690	·1	·803	·8	·934	·5	·083	·1	·251
·1	·508	·8	·593	·5	·692	·2	·806	77·9	·937	·6	·087	·2	·255
·2	·509	63·9	·595	·6	·695	·3	·809	78·0	·940	·7	·090	·3	·258
·3	·511	64·0	·597	·7	·697	·4	·811	·1	·943	·8	·094	·4	·262
·4	·513	·1	·599	·8	·699	·5	·814	·2	·946	82·9	·097	·5	·266
·5	·515	·2	·601	68·9	·701	·6	·817	·3	·949	83·0	·101	·6	·270
·6	·516	·3	·603	69·0	·704	·7	·819	·4	·952	·1	·104	·7	·274
·7	·518	·4	·605	·1	·706	·8	·822	·5	·955	·2	·108	·8	·278
·8	·520	·5	·607	·2	·708	73·9	·824	·6	·958	·3	·111	87·9	·282
59·9	·521	·6	·609	·3	·711	74·0	·827	·7	·961	·4	·114	88·0	·286
60·0	·523	·7	·611	·4	·713	·1	·830	·8	·964	·5	·118	·1	·290
·1	·525	·8	·613	·5	·715	·2	·832	78·9	·967	·6	·121	·2	·294
·2	·527	64·9	·615	·6	·717	·3	·835	79·0	·970	·7	·125	·3	·298
·3	·528	65·0	·617	·7	·720	·4	·838	·1	·973	·8	·129	·4	·302
·4	·530	·1	·619	·8	·722	·5	·840	·2	·976	83·9	·132	·5	·306
·5	·532	·2	·621	69·9	·725	·6	·843	·3	·979	84·0	·136	·6	·310
·6	·534	·3	·623	70·0	·727	·7	·846	·4	·983	·1	·139	·7	·314
·7	·536	·4	·626	·1	·729	·8	·849	·5	·986	·2	·143	·8	·318
·8	·537	·5	·628	·2	·732	74·9	·851	·6	·989	·3	·146	88·9	·322
60·9	·539	·6	·630	·3	·734	75·0	·854	·7	·992	·4	·150	89·0	·326
61·0	·541	·7	·632	·4	·736	·1	·857	·8	·995	·5	·153	·1	·330
·1	·543	·8	·634	·5	·739	·2	·860	79·9	0·998	·6	·157	·2	·335
·2	·544	65·9	·636	·6	·741	·3	·862	80·0	1·001	·7	·160	·3	·339
·3	·546	66·0	·638	·7	·744	·4	·865	·1	·005	·8	·164	·4	·343
·4	·548	·1	·640	·8	·746	·5	·868	·2	·008	84·9	·167	·5	·347
·5	·550	·2	·642	70·9	·748	·6	·871	·3	·011	85·0	·171	·6	·351
·6	·552	·3	·644	71·0	·751	·7	·873	·4	·014	·1	·175	·7	·355
·7	·554	·4	·646	·1	·753	·8	·876	·5	·017	·2	·178	·8	·359
·8	·555	·5	·648	·2	·756	75·9	·879	·6	·021	·3	·182	89·9	·364
61·9	·557	·6	·651	·3	·758	76·0	·882	·7	·024	·4	·186	90·0	1·368
62·0	·559	·7	·653	·4	·761	·1	·885	·8	·027				

Previously to deciding upon using the above table, many comparisons were made between the observed dew-point and that deduced from the formula of Dr. Apjohn,

using the values of the elastic force of vapour as given in the Report of the Committee of Physics and Meteorology of the Royal Society, which are calculated by Mr. Lubbock from a formula of his own, and also between it and those values of the elastic force of vapour given by Professor Kämtz: the errors of the inferred dew-points were considerable with both sets of tables. Similar comparisons were made, using the above tables, and the errors were found to be nearly always small; and, in consequence, the above tables have been used. In the Abstracts it will be seen that Dr. Apjohn's formulæ give results in close accordance with direct observation of the dew-point; we may therefore infer that the above table represents, with considerable accuracy, the relation between the tension and the temperature of steam; and the table has been always used in this volume where such values have been required.

Dr. Apjohn's formula for deducing the dew-point for all values of the temperature of evaporation above 32° is,

$$f''=f'-\frac{d}{88}\times\frac{h}{30}.$$ (Proceedings of the Royal Irish Academy, 1840.)

Where f'' represents the force of vapour at the temperature of the dew-point,

f' represents the force of vapour at the temperature of evaporation,

d represents the difference between the readings of the dry and wet thermometers,

h the height of the barometer.

The following table, representing $\frac{d}{88}\times\frac{1}{30}$, has been formed to facilitate the calculations:—

Values of d.	$\frac{d}{88}\times\frac{1}{30}$	Values of d.	$\frac{d}{88}\times\frac{1}{30}$	Values of d.	$\frac{d}{88}\times\frac{1}{30}$	Values of d.	$\frac{d}{88}\times\frac{1}{30}$	Values of d.	$\frac{d}{88}\times\frac{1}{30}$
°		°		°		°		°	
0·1	0·00004	2·2	0·00083	4·3	0·00163	6·4	0·00242	8·5	0·00322
0·2	·00008	2·3	·00087	4·4	·00167	6·5	·00246	8·6	·00326
0·3	·00011	2·4	·00091	4·5	·00171	6·6	·00250	8·7	·00330
0·4	·00015	2·5	·00095	4·6	·00174	6·7	·00254	8·8	·00333
0·5	·00019	2·6	·00098	4·7	·00178	6·8	·00258	8·9	·00337
0·6	·00023	2·7	·00102	4·8	·00182	6·9	·00261	9·0	·00341
0·7	·00027	2·8	·00106	4·9	·00186	7·0	·00265	9·1	·00345
0·8	·00030	2·9	·00110	5·0	·00189	7·1	·00269	9·2	·00349
0·9	·00034	3·0	·00114	5·1	·00193	7·2	·00273	9·3	·00352
1·0	·00038	3·1	·00118	5·2	·00197	7·3	·00277	9·4	·00356
1·1	·00042	3·2	·00121	5·3	·00201	7·4	·00280	9·5	·00360
1·2	·00046	3·3	·00125	5·4	·00205	7·5	·00284	9·6	·00364
1·3	·00049	3·4	·00129	5·5	·00209	7·6	·00288	9·7	·00368
1·4	·00053	3·5	·00132	5·6	·00212	7·7	·00292	9·8	·00371
1·5	·00057	3·6	·00137	5·7	·00216	7·8	·00295	9·9	·00375
1·6	·00061	3·7	·00140	5·8	·00220	7·9	·00299	10·0	·00379
1·7	·00064	3·8	·00144	5·9	·00224	8·0	·00303	10·1	·00383
1·8	·00068	3·9	·00148	6·0	·00228	8·1	·00307	10·2	·00386
1·9	·00072	4·0	·00151	6·1	·00231	8·2	·00311	10·3	·00390
2·0	·00076	4·1	·00155	6·2	·00235	8·3	·00315	10·4	·00394
2·1	·00080	4·2	·00159	6·3	·00239	8·4	·00318	10·5	·00398

Values of d.	$\frac{d}{88} \times \frac{1}{30}$	Values of d.	$\frac{d}{88} \times \frac{1}{30}$	Values of d.	$\frac{d}{88} \times \frac{1}{30}$	Values of d.	$\frac{d}{88} \times \frac{1}{30}$	Values of d.	$\frac{d}{88} \times \frac{1}{30}$
°		°		°		°		°	
10·6	0·00401	12·6	0·00477	14·6	0·00553	16·5	0·00625	18·4	0·00697
10·7	·00405	12·7	·00481	14·7	·00556	16·6	·00629	18·5	·00701
10·8	·00409	12·8	·00485	14·8	·00560	16·7	·00633	18·6	·00704
10·9	·00412	12·9	·00489	14·9	·00564	16·8	·00636	18·7	·00708
11·0	·00416	13·0	·00493	15·0	·00568	16·9	·00640	18·8	·00712
11·1	·00420	13·1	·00496	15·1	·00572	17·0	·00644	19·9	·00716
11·2	·00424	13·2	·00500	15·2	·00576	17·1	·00648	19·0	·00720
11·3	·00428	13·3	·00504	15·3	·00580	17·2	·00652	19·1	·00724
11·4	·00432	13·4	·00508	15·4	·00584	17·3	·00655	19·2	·00728
11·5	·00436	13·5	·00511	15·5	·00587	17·4	·00659	19·3	·00731
11·6	·00439	13·6	·00515	15·6	·00591	17·5	·00663	19·4	·00735
11·7	·00443	13·7	·00519	15·7	·00595	17·6	·00666	19·5	·00739
11·8	·00447	13·8	·00522	15·8	·00598	17·7	·00670	19·6	·00742
11·9	·00451	13·9	·00524	15·9	·00602	17·8	·00674	19·7	·00746
12·0	·00454	14·0	·00530	16·0	·00606	17·9	·00678	19·8	·00750
12·1	·00458	14·1	·00534	16·1	·00610	18·0	·00682	19·9	·00754
12·2	·00462	14·2	·00538	16·2	·00614	18·1	·00686	20·0	·00758
12·3	·00466	14·3	·00541	16·3	·00618	18·2	·00690	20·1	·00761
12.4	·00470	14·4	·00545	16·4	·00622	18·3	·00693	20·2	·00765
12·5	·00474	14·5	·00549						

When the reading of the wet thermometer is lower than 32°, the formula becomes—

$$f'' = f' - \frac{d}{96} \times \frac{h}{30}$$ (Proceedings of the Royal Irish Academy for 1840);

and the following table has been formed to facilitate the calculation for such cases :—

Values of d.	$\frac{d}{96} \times \frac{1}{30}$	Values of d.	$\frac{d}{96} \times \frac{1}{30}$	Values of d.	$\frac{d}{96} \times \frac{1}{30}$	Values of d.	$\frac{d}{96} \times \frac{1}{30}$	Values of d.	$\frac{d}{96} \times \frac{1}{30}$
°		°		°		°		°	
0·1	0·00003	2·1	0·00071	4·1	0·00139	6·1	0·00207	8·1	0·00275
0·2	·00007	2·2	·00075	4·2	·00143	6·2	·00211	8·2	·00279
0·3	·00010	2·3	·00078	4·3	·00146	6·3	·00214	8·3	·00282
0·4	·00014	2·4	·00081	4·4	·00150	6·4	·00218	8·4	·00285
0·5	·00017	2·5	·00085	4·5	·00153	6·5	·00221	8·5	·00289
0·6	·00020	2·6	·00088	4·6	·00156	6·6	·00224	8·6	·00292
0·7	·00024	2·7	·00092	4·7	·00160	6·7	·00228	8·7	·00296
0·8	·00027	2·8	·00095	4·8	·00163	6·8	·00231	8·8	·00299
0·9	·00030	2·9	·00099	4·9	·00167	6·9	·00235	8·9	·00302
1·0	·00034	3·0	·00102	5·0	·00170	7·0	·00238	9·0	·00306
1·1	·00037	3·1	·00105	5·1	·00173	7·1	·00241	9·1	·00309
1·2	·00041	3·2	·00109	5·2	·00177	7·2	·00245	9·2	·00313
1·3	·00044	3·3	·00112	5·3	·00180	7·3	·00248	9·3	·00316
1·4	·00047	3·4	·00116	5·4	·00184	7·4	·00252	9·4	·00319
1·5	·00051	3·5	·00119	5·5	·00187	7·5	·00255	9·5	·00323
1·6	·00054	3·6	·00122	5·6	·00190	7·6	·00258	9·6	·00326
1·7	·00058	3·7	·00126	5·7	·00194	7·7	·00262	9·7	·00330
1·8	·00061	3·8	·00129	5·8	·00198	7·8	·00265	9·8	·00333
1·9	·00064	3·9	·00133	5·9	·00201	7·9	·00269	9·9	·00337
2·0	·00068	4·0	·00136	6·0	·00204	8·0	·00272	10·0	0·00340

Using this table or that preceding, accordingly as the reading of the wet thermometer is lower or higher than 32°, the inferred dew-points have been found as follows. The number in the tables ranging with the difference of the readings of the dry and wet thermometers has been multiplied into the height of the barometer at the time of the observation, and the difference between this product and the elastic force of vapour at the temperature of evaporation is the elastic force of vapour at the temperature of the dew-point, and then from the table in page xl the dew-point is found.

M. Gay Lussac has determined by experiments that air expands $\frac{1}{480}$ part for every addition of 1° of heat, or that it expands three-eighths of its bulk from the freezing point to the boiling point, and that the expansion is uniform between these points as referred to the temperature indicated by a mercurial thermometer of uniform expansion (Annales de Chimie, vol. 43). The following table has been calculated upon this assumption, considering a volume of air under the pressure of 30 inches of mercury and at the temperature of 32° to be the unit of comparison.

A Table shewing the Volume of a mass of Dry Air after Expansion from Heat, for every Degree of Fahrenheit's Scale from 0° to 90°.

Temp.	The Volume after Expansion from Heat.	Temp.	The Volume after Expansion from Heat.	Temp.	The Volume after Expansion from Heat.	Temp.	The Volume after Expansion from Heat.	Temp.	The Volume after Expansion from Heat.
°		°		°		°		°	
0	0·93334	19	0·97292	37	1·01041	55	1·04791	73	1·08541
1	·93542	20	·97500	38	·01249	56	·04999	74	·08749
2	·93751	21	·97709	39	·01458	57	·05208	75	·08957
3	·93959	22	·97917	40	·01666	58	·05416	76	·09166
4	·94167	23	·98126	41	·01874	59	·05624	77	·09374
5	·94376	24	·98334	42	·02083	60	·05833	78	·09583
6	·94584	25	·98542	43	·02291	61	·06041	79	·09791
7	·94792	26	·98751	44	·02500	62	·06249	80	·09999
8	·95001	27	·98959	45	·02708	63	·06458	81	·10208
9	·95209	28	·99167	46	·02916	64	·06666	82	·10416
10	·95417	29	·99376	47	·03124	65	·06874	83	·10624
11	·95626	30	·99584	48	·03333	66	·07083	84	·10833
12	·95834	31	0·99792	49	·03541	67	·07291	85	·11041
13	·96042	32	1·00000	50	·03749	68	·07499	86	·11249
14	·96251	33	·00208	51	·03958	69	·07708	87	·11458
15	·96459	34	·00416	52	·04166	70	·07916	88	·11666
16	·96667	35	·00624	53	·04374	71	·08124	89	·11874
17	·96876	36	·00833	54	·04583	72	·08333	90	·12083
18	·97084								

Sir George Shuckburgh determined that a bulk of 1000 cubic inches of dry air under the pressure of 30 inches of mercury and at the temperature of 60°, weighs 305 grains. Biot and Thénard determined the weight of the same volume under the same circumstances to be 311 grains (Penny Cyclopædia, article Air). Using Shuckburgh's value we have,

Cubic Inches Grains Inches Grains
As 1000 : 305 : : 1728 : 527·040; being the weight of a cubic foot of dry air at temperature 60°.

Now, from the table page xlv it appears, that the volume of a mass of dry air at 60°, whose volume at 32° is represented by unity, is 1·05833.

Therefore, the weight of a cubic foot of dry air at 32° is equal to the weight at 60° × 1·05833, or to 557·7295 grains.

Using Biot and Thénard's determination, the value is 568·7013 grains.

The mean of these two values is 563·2154 grains.

In calculating the following table, 563 grains has been adopted as the weight of a cubic foot of dry air at 32°. This number has been divided by the number expressing the volume of dry air after expansion from heat, as contained in the Table page xlv, and thus the following table has been formed:—

A Table shewing the Weight in Grains of a Cubic Foot of Dry Air at all Temperatures, between 0° and 90°, under the Pressure of 30 Inches of Mercury.

Temp.	Weight of a Cubic Foot of Dry Air.	Temp.	Weight of a Cubic Foot of Dry Air.	Temp.	Weight of a Cubic Foot of Dry Air.	Temp.	Weight of a Cubic Foot of Dry Air.	Temp.	Weight of a Cubic Foot of Dry Air.
°	gr.	°	gr.	°	gr.	°	gr.	°	gr.
0	603·21	19	578·67	37	557·21	55	537·27	73	518·70
1	601·87	20	577·44	38	556·05	56	536·19	74	517·70
2	600·52	21	576·21	39	554·91	57	535·12	75	516·71
3	599·20	22	574·98	40	553·77	58	534·07	76	515·73
4	597·87	23	573·76	41	552·65	59	533·03	77	514·74
5	596·55	24	572·55	42	551·52	60	531·97	78	513·77
6	595·24	25	571·33	43	550·39	61	530·93	79	512·80
7	593·94	26	570·13	44	549·27	62	529·88	80	511·82
8	592·63	27	568·92	45	548·16	63	528·84	81	510·87
9	591·33	28	567·73	46	547·05	64	527·81	82	509·89
10	590·04	29	566·54	47	545·97	65	526·78	83	508·93
11	588·75	30	565·35	48	544·85	66	525·76	84	507·97
12	587·48	31	564·17	49	543·75	67	524·75	85	507·03
13	586·21	32	563·00	50	542·65	68	523·72	86	506·07
14	584·93	33	561·84	51	541·55	69	522·70	87	505·11
15	583·67	34	560·67	52	540·48	70	521·70	88	504·19
16	582·41	35	559·51	53	539·41	71	520·70	89	503·25
17	581·15	36	558·35	54	538·33	72	519·69	90	502·32
18	579·91								

A volume of air of given elasticity being mixed with vapour, also of known elasticity, will have its volume increased in proportion to the elasticity of the mixture. Therefore, as a cubic foot of dry air and one of vapour of the temperature 212° will each support a column of mercury of 30 inches, these being mixed together would occupy a space of two cubic feet; that is, the increase of volume is doubled when the elastic force of vapour is 30 inches. (Daniell on the Correction of Barometrical Mensuration, Journal of Science, Literature, and the Arts, No. XXV.) Now we know the elastic force of vapour for every degree of temperature (see Table on page xl),

let also p = the atmospheric pressure as measured by the inches of mercury in the barometer.

E_t = the elasticity of vapour at temperature t (measured in the same way).

n = the bulk of a certain quantity of air, when dry, at the temperature t, and under the pressure p.

n' = the bulk of the same quantity of air when saturated with vapour at the same temperature t, and under the same pressure p.

Then, since the elasticity varies inversely as the volume, the temperature remaining the same, that portion of the elastic force p which depends on the air only which occupies the space n' is $p \times \frac{n}{n'}$.

And this, together with E_t, must make up the atmospheric pressure,

$$\text{or } p = p \times \frac{n}{n'} + E_t$$

$$\text{or } \frac{n}{n'} = \frac{p - E_t}{p} = (1 - \frac{E_t}{p})$$

$$\text{or } n' = \frac{n}{1 - \frac{E_t}{p}}$$

And from this formula the following table has been computed :—

A Table shewing the Enlargement which a Volume of Dry Air receives when saturated with Vapour, at all Temperatures between 0° and 90°, under a Pressure of 30 Inches of Mercury.

Temp.	Increased Volume owing to the presence of Vapour, the original bulk being considered as unity.	Temp.	Increased Volume owing to the presence of Vapour, the original bulk being considered as unity.	Temp.	Increased Volume owing to the presence of Vapour, the original bulk being considered as unity.	Temp.	Increased Volume owing to the presence of Vapour, the original bulk being considered as unity.	Temp.	Increased Volume owing to the presence of Vapour, the original bulk being considered as unity.
°		°		°		°		°	
0	1·0021	19	1·0042	37	1·0080	55	1·0148	73	1·0268
1	1·0022	20	1·0043	38	1·0081	56	1·0154	74	1·0277
2	1·0022	21	1·0045	39	1·0086	57	1·0159	75	1·0286
3	1·0023	22	1·0046	40	1·0089	58	1·0164	76	1·0295
4	1·0024	23	1·0048	41	1·0092	59	1·0170	77	1·0304
5	1·0025	24	1·0050	42	1·0095	60	1·0175	78	1·0314
6	1·0026	25	1·0052	43	1·0099	61	1·0186	79	1·0324
7	1·0027	26	1·0054	44	1·0102	62	1·0187	80	1·0335
8	1·0028	27	1·0056	45	1·0106	63	1·0194	81	1·0346
9	1·0029	28	1·0058	46	1·0110	64	1·0200	82	1·0357
10	1·0030	29	1·0060	47	1·0113	65	1·0207	83	1·0368
11	1·0031	30	1·0062	48	1·0117	66	1·0214	84	1·0380
12	1·0032	31	1·0064	49	1·0121	67	1·0221	85	1·0392
13	1·0033	32	1·0066	50	1·0125	68	1·0228	86	1·0405
14	1·0035	33	1·0070	51	1·0130	69	1·0236	87	1·0418
15	1·0036	34	1·0072	52	1·0134	70	1·0243	88	1·0431
16	1·0037	35	1·0074	53	1·0139	71	1·0251	89	1·0444
17	1·0039	36	1·0078	54	1·0144	72	1·0260	90	1·0458
18	1·0040								

Gay Lussac has determined by experiment, that vapours, so long as they remain in an aëriform state, expand by the increase of temperature, precisely as permanently elastic fluids, and that they suffer changes of volume proportional to the changes of pressure; and he has, as previously stated, determined that air expands three-eighths of its bulk from 32° to 212°, and that its expansion is uniform between these points. (Annales de Chimie, vol. 43.)

Therefore, if the weight of a cubic foot of vapour, under the pressure of 30 inches of mercury, and at the temperature of 212°, be called W; and the weight expressed in the same denomination, of an equal volume of vapour, at the temperature t, and under the same pressure of 30 inches, be called W′; and if E_t be the elasticity of vapour at the temperature t; then (the expansion of dry air from 32° to 212° being 0·375, or $\frac{1}{480}$ part, = 0·002083 for each degree of temperature),

$$W' = \frac{1{\cdot}375 \times W \times E_t}{30\,(1 + {\cdot}002083.\overline{t^\circ - 32^\circ})}$$

Gay Lussac has also determined, that a cubic inch of vapour at 212° weighs 0·149176 grains troy, under the pressure of 29·92196 inches of mercury (Edinburgh Encyclopædia, article Hygrometry); and, consequently, a cubic foot of vapour, under the same circumstances, weighs 0·149176 × 1728 = 257·776 grains, and under a pressure of 30 inches

$$= \frac{30}{29{\cdot}92196} \times \overset{\text{gr.}}{257{\cdot}776} = \overset{\text{gr.}}{258{\cdot}448}$$

Therefore, substituting this value of a cubic foot of vapour at 212°, and under a pressure of 30 inches, the formula above becomes

$$W' = \frac{1{\cdot}375 \times \overset{\text{gr.}}{258{\cdot}448} \times E_t}{30\,(1 + {\cdot}002083 \times \overline{t^\circ - 32^\circ})}$$

And from this formula the next table is formed, shewing

The Weight in Grains Troy of a Cubic Foot of Vapour, at all Temperatures between 0° and 90°.

Temp. Fahr.	Weight in Grains Troy of a Cubic Foot of Vapour.	Temp. Fahr.	Weight in Grains Troy of a Cubic Foot of Vapour.	Temp. Fahr.	Weight in Grains Troy of a Cubic Foot of Vapour.	Temp. Fahr.	Weight in Grains Troy of a Cubic Foot of Vapour.	Temp. Fahr.	Weight in Grains Troy of a Cubic Foot of Vapour.
°	gr.	°	gr.	°	gr.	°	gr.	°	gr.
0	0·78	9	1·07	18	1·47	27	2·00	36	2·71
1	0·81	10	1·11	19	1·52	28	2·07	37	2·80
2	0·84	11	1·15	20	1·58	29	2·14	38	2·89
3	0·87	12	1·19	21	1·63	30	2·21	39	2·99
4	0·90	13	1·24	22	1·69	31	2·29	40	3·09
5	0·93	14	1·28	23	1·75	32	2·37	41	3·19
6	0·97	15	1·32	24	1·81	33	2·45	42	3·30
7	1·00	16	1·37	25	1·87	34	2·53	43	3·41
8	1·04	17	1·41	26	1·93	35	2·62	44	3·52

Weight in Grains Troy of a Cubic Foot of Vapour—*concluded.*

Temp. Fahr.	Weight in Grains Troy of a Cubic Foot of Vapour.	Temp. Fahr.	Weight in Grains Troy of a Cubic Foot of Vapour.	Temp. Fahr.	Weight in Grains Troy of a Cubic Foot of Vapour.	Temp. Fahr.	Weight in Grains Troy of a Cubic Foot of Vapour.	Temp. Fahr.	Weight in Grains Troy of a Cubic Foot of Vapour.
°	gr.	°	gr.	°	gr.	°	gr.	°	gr.
45	3·64	55	5·02	64	6·65	73	8·76	82	11·47
46	3·76	56	5·18	65	6·87	74	9·04	83	11·82
47	3·88	57	5·34	66	7·08	75	9·31	84	12·17
48	4·01	58	5·51	67	7·30	76	9·60	85	12·53
49	4·14	59	5·69	68	7·53	77	9·89	86	12·91
50	4·28	60	5·87	69	7·76	78	10·19	87	13·29
51	4·42	61	6·06	70	8·00	79	10·50	88	13·68
52	4·56	62	6·25	71	8·25	80	10·81	89	14·08
53	4·71	63	6·45	72	8·50	81	11·14	90	14·50
54	4·86								

This table is to be used as follows: if the temperatures of the air and of the dew-point be the same, then the air is quite saturated with moisture, and the number ranging with the temperature will be the weight required; but if the temperature of the air should be higher than the temperature of the dew-point, then the quantity of vapour at the temperature of the dew-point will be expanded in the same proportion as the air is expanded; therefore from the table on page xlv take out the volume after expansion at both temperatures, and then say,

As volume at temp. of air : volume at temp. of dew-point : : {weight of a cubic foot of vapour at temp. of dew-point} : {weight of a cubic foot required.}

As, for instance, suppose that the temperature of the air was 70°, and that of the dew-point 50°:

Then, the expansion of dry air at 70° is 1·079, and at 50° it is 1·037; also, the weight of a cubic foot of aqueous vapour at 50° is 4·28 grains from the above table.

Then 1·079 : 1·037 : : $\overset{gr.}{4·28}$: $\overset{gr.}{4·12}$ the weight of a cubic foot of vapour.

Now the state of the atmosphere is such in the assumed state of the example, that one of two things, or a modification of both must happen, before any of the moisture in the air can be precipitated. First, either the temperature of the air must fall below 50°, or the quantity of aqueous vapour must increase to $8^{gr.}·00$ +, that being the greatest quantity of moisture that can be held in solution at 70°; or the dew-point must rise, and the temperature of the air must fall at the same time. The following table is formed to facilitate the calculations for finding the weight of a cubic foot of vapour for any observed difference between the dry and the dew-point thermometers.

Difference between the Readings of the Dry and Dew-point Thermometers.	Factor.	Difference between the Readings of the Dry and Dew-point Thermometers.	Factor.	Difference between the Readings of the Dry and Dew-point Thermometers.	Factor.	Difference between the Readings of the Dry and Dew-point Thermometers.	Factor.
°		°		°		°	
1	0·999	11	0·978	21	0·958	31	0·939
2	·996	12	·976	22	·956	32	·937
3	·994	13	·974	23	·954	33	·935
4	·992	14	·972	24	·952	34	·934
5	·990	15	·970	25	·951	35	·932
6	·988	16	·968	26	·949	36	·930
7	·986	17	·966	27	·947	37	·929
8	·984	18	·964	28	·945	38	·927
9	·982	19	·962	29	·943	39	·925
10	0·980	20	0·960	30	0·942	40	0·923

This table is to be used as follows: taking the same example as above, the difference between the temperatures of the air and of the dew-point is 20°; the factor ranging with 20° is 0·960, which multiplied into 4^{gr}·28 gives 4·11 grains. In this way the respective tables in the Abstracts were formed, exhibiting the weight of a cubic foot of vapour. And as the weight of moisture in the assumed example was 4^{gr}·11, and at 70° complete saturation takes place, when 8^{gr}·00 of moisture are held in solution, the difference between these numbers, 3^{gr}·89, represents the weight required for complete saturation; and in this way the tables in the Abstracts, representing the quantities required for complete saturation, were formed. The tables shewing the degree of humidity, were formed by dividing the actual weight of a cubic foot of vapour at the time, by the greatest weight that could be held in solution at the temperature of the air, complete saturation being represented by unity.

From the table on page xlviii it would appear, that air has its capacity for moisture doubled at each rise of 21° nearly. By comparing the weight of a cubic foot of vapour for the various temperatures at which the quantity is doubled, the intervals increase slowly with the temperatures. It will be seen from the following table, that if the quantities of water held in solution be taken in a geometrical progression, the temperatures increase in a quicker ratio than the terms of an arithmetical progression.

Quantity of Water in Solution.	Successive Temperatures at which the Solving Power is doubled.	Difference between the successive Temperatures.
gr.	°	°
0·78	0·0	
		19·8
1·56	19·8	
		20·5
3·12	40·3	
		21·7
6·24	62·0	
		22·8
12·48	84·8	

A Table shewing the Weight of a Cubic Foot of Dry Air added to the Weight of a Cubic Foot of Vapour, at all Temperatures between 0° and 90°, the pressure as shewn by the Barometer being 30 Inches.

Temperature.	Sum of the Weights of a Cubic Foot of Dry Air and of a Cubic Foot of Vapour.	Temperature.	Sum of the Weights of a Cubic Foot of Dry Air and of a Cubic Foot of Vapour.	Temperature.	Sum of the Weights of a Cubic Foot of Dry Air and of a Cubic Foot of Vapour.
°	gr.	°	gr.	°	gr.
0	603·99	31	566·46	61	536·99
1	602·68	32	565·37	62	536·13
2	601·36	33	564·29	63	535·29
3	600·07	34	563·20	64	534·46
4	598·77	35	562·13	65	533·65
5	597·48	36	561·06	66	532·84
6	596·21	37	560·01	67	532·05
7	594·94	38	558 94	68	531·25
8	593·67	39	557·90	69	530·46
9	592·40	40	556·87	70	529·70
10	591·15	41	555·84	71	528·95
11	589·90	42	554·82	72	528·19
12	588·67	43	553·80	73	527·46
13	587·45	44	552·79	74	526·74
14	586·21	45	551·80	75	526·02
15	584·99	46	550·81	76	525·33
16	583·78	47	549·85	77	524·63
17	582·56	48	548·86	78	523·96
18	581·38	49	547·89	79	523·30
19	580·19	50	546·93	80	522·63
20	579·02	51	545·97	81	522·01
21	577·84	52	545·04	82	521·36
22	576·67	53	544·12	83	520·75
23	575·51	54	543·19	84	520·14
24	574·36	55	542·29	85	519·56
25	573·20	56	541·37	86	518·98
26	572·06	57	540·46	87	518·40
27	570·92	58	539·58	88	517·87
28	569·80	59	538·72	89	517·33
29	568·68	60	537·84	90	516·82
30	567·56				

Having the weight of a cubic foot of air added to the weight of a cubic foot of vapour, from the above table, and having the increase of volume of a cubic foot of dry air in consequence of its saturation with moisture, from the table on page xlvii, the weight of a cubic foot of air saturated with moisture has been computed from the following proportion:

As the whole volume : the whole weight : : one cubic foot of the mixture : the weight of a cubic foot of saturated air.

A Table shewing the Weight in Grains Troy of a Cubic Foot of Air saturated with Moisture, at all Temperatures, between 0° and 90°, under the Pressure of 30 Inches of Mercury; and the Difference between the Weight of a Cubic Foot of Dry Air, under the Pressure of 30 Inches of Mercury, and a Cubic Foot of saturated Air under the same Pressure, for every Degree of Temperature between 0° and 90°.

Temperature.	Weight in Grains Troy of a Cubic Foot of Air saturated with Moisture.	Excess of the Weight of a Cubic Foot of Dry Air above a Cubic Foot of Air saturated with Moisture.	Temperature.	Weight in Grains Troy of a Cubic Foot of Air saturated with Moisture.	Excess of the Weight of a Cubic Foot of Dry Air above a Cubic Foot of Air saturated with Moisture.	Temperature.	Weight in Grains Troy of a Cubic Foot of Air saturated with Moisture.	Excess of the Weight of a Cubic Foot of Dry Air above a Cubic Foot of Air saturated with Moisture.
°	gr.	gr.	°	gr.	gr.	°	gr.	gr.
0	602·77	0·45	31	562·86	1·31	61	527·48	3·45
1	601·40	0·47	32	561·64	1·36	62	526·32	3·56
2	600·03	0·49	33	560·42	1·42	63	525·17	3·67
3	598·69	0·51	34	559·20	1·47	64	524·03	3·78
4	597·34	0·53	35	558·01	1·50	65	522·90	3·88
5	596·01	0·54	36	556·79	1·56	66	521·75	4·01
6	594·69	0·55	37	555·61	1·60	67	520·61	4·14
7	593·36	0·58	38	554·40	1·65	68	519·46	4·26
8	592·04	0·59	39	553·20	1·71	69	518·29	4·41
9	590·72	0·61	40	552·00	1·77	70	517·17	4·53
10	589·40	0·64	41	550·81	1·84	71	516·02	4·68
11	588·07	0·68	42	549·63	1·89	72	514·87	4·82
12	586·78	0·70	43	548·44	1·95	73	513·75	4·95
13	585·49	0·72	44	547·26	2·01	74	512·61	5·09
14	584·18	0·75	45	546·06	2·10	75	511·46	5·25
15	582·89	0·78	46	544·88	2·17	76	510·32	5·41
16	581·61	0·80	47	543·75	2·22	77	509·18	5·56
17	580·33	0·82	48	542·55	2·30	78	508·04	5·73
18	579·06	0·85	49	541·36	2·39	79	506·91	5·89
19	577·79	0·88	50	540·21	2·44	80	505·74	6·08
20	576·54	0·90	51	539·04	2·51	81	504·61	6·26
21	575·27	0·94	52	537·87	2·61	82	503·45	6·44
22	574·01	0·97	53	536·71	2·70	83	502·32	6·61
23	572·76	1·00	54	535·55	2·78	84	501·16	6·81
24	571·50	1·05	55	534·39	2·88	85	500·05	6·98
25	570·26	1·07	56	533·22	2·97	86	498·87	7·20
26	569·01	1·12	57	532·06	3·06	87	497·71	7·40
27	567·77	1·15	58	530·92	3·15	88	496·58	7·61
28	566·53	1·20	59	529·77	3·26	89	495·44	7·81
29	565·31	1·23	60	528·62	3·35	90	494·28	8·04
30	564·08	1·27						

Then to find the weight of a cubic foot of air in its existing state, we must proceed as follows: if the temperatures of the air and of the dew-point be alike, the quantity ranging with the temperature will be the quantity required; but if the temperature of the air be the higher of the two, take out the excess of the weight of a cubic foot of dry air above the weight of a cubic foot of air saturated with moisture from the above table, at the temperature of the air; the degree of humidity will have been previously determined,

and this, multiplied into the difference of the weight of a cubic foot of dry and wet air, will give the part due to the moisture in the air; and this product, taken from the weight of a cubic foot of dry air, will give the weight of a cubic foot of air, of the given temperature and humidity, under a pressure of 30 inches of mercury. The true weight of a cubic foot of air in its then existing state is found by multiplying the last found value by $\frac{\text{Height of the Barometer}}{30}$; and in this way the tables in the Abstracts have been formed, shewing the weights of a cubic foot of air under different circumstances of temperature, humidity, and pressure.

It is usually understood that a cubic inch of water, of the temperature 39°·4, produces 1625 cubic inches of vapour under the pressure of 29·922 inches of mercury, and that at the same temperature the weight of the water is 253 grains.

Therefore, 268 grains of water would produce 1728 cubic inches, or a cubic foot of vapour whose elastic force is 30 inches; and the weight of vapour in a cubic foot of space has been computed as follows:

As 30 inches. : 268 grains. : : elastic force of vapour : : the weight of a cubic foot of vapour.

A Table shewing the Weight of Vapour in a Cubic Foot of Space (upon the supposition of a Cubic Inch of Water producing 1625 Inches of Vapour), for every Degree between 0° and 90°.

Temperature.	Weight of Vapour in a Cubic Foot of Space.	Temperature.	Weight of Vapour in a Cubic Foot of Space.	Temperature.	Weight of Vapour in a Cubic Foot of Space.	Temperature.	Weight of Vapour in a Cubic Foot of Space.
°	gr.	°	gr.	°	gr.	°	gr.
0	0·55	23	1·29	46	2·91	69	6·28
1	0·57	24	1·34	47	3·01	70	6·49
2	0·59	25	1·39	48	3·12	71	6·71
3	0·61	26	1·44	49	3·22	72	6·92
4	0·64	27	1·49	50	3·34	73	7·15
5	0·66	28	1·55	51	3·45	74	7·39
6	0·69	29	1·60	52	3·57	75	7·63
7	0·71	30	1·66	53	3·69	76	7·88
8	0·74	31	1·72	54	3·82	77	8·13
9	0·77	32	1·78	55	3·95	78	8·40
10	0·80	33	1·85	56	4·09	79	8·67
11	0·83	34	1·91	57	4·23	80	8·95
12	0·86	35	1·98	58	4·37	81	9·23
13	0·89	36	2·05	59	4·52	82	9·53
14	0·93	37	2·13	60	4·67	83	9·83
15	0·96	38	2·20	61	4·83	84	10·14
16	1·00	39	2·28	62	4·99	85	10·46
17	1·03	40	2·36	63	5·27	86	10·80
18	1·07	41	2·45	64	5·34	87	11·14
19	1·11	42	2·53	65	5·52	88	11·49
20	1·15	43	2·62	66	5·70	89	11·85
21	1·20	44	2·72	67	5·89	90	12·23
22	1·24	45	2·81	68	6·08		

MAXIMUM AND MINIMUM SELF-REGISTERING THERMOMETER.

The maximum and minimum thermometer is one of Six's construction, the fluid being spirits of wine, and the indexes being of blue steel with knobs at each end.

The following is an investigation of the index-errors of the maximum and minimum thermometer.

The thermometer is usually compared twice on every day with the Royal Observatory standard thermometer: once at about the time of the maximum temperature, and once at about the time of the minimum temperature. At the end of each month the differences between the comparisons are taken, and divided into groups according to different temperatures, distinguished by the different amount of the error; the mean of each group is taken; and in this way the following quantities have been obtained. The temperatures, as inserted in the Tabular Observations, at 22^h on every day, are the readings of the instrument corrected by them, and are such as would have been given by the Royal Observatory standard thermometer:—

		°		°
January.	Add	0·2 to	all maximum readings below	40.
	Subtract	0·2 from	all maximum readings above	40.
	Add	0·4 to	all minimum readings below	32.
	Subtract	0·3 from	all minimum readings above	32.
February.	Add	0·3 to	all maximum readings below	40.
	Subtract	0·4 from	all maximum readings above	40.
	Add	0·3 to	all minimum readings below	32.
	Subtract	0·3 from	all minimum readings above	32.
March.	Subtract	0·5 from	all maximum readings.	
		0·5 from	all minimum readings.	
April.	Subtract	1·3 from	all maximum readings below	70.
		2·3 from	all maximum readings above	70.
		0·4 from	all minimum readings.	
May.	Subtract	1·6 from	all maximum readings below	70.
		3·3 from	all maximum readings above	70.
		0·9 from	all minimum readings.	
June.	Subtract	0·7 from	all maximum readings below	70.
		2·8 from	all maximum readings between	70 and 75.
		3·8 from	all maximum readings between	75 and 80.
		4·4 from	all maximum readings above	80.
		1·4 from	all minimum readings.	

July.	Subtract 1·1 from all maximum readings below	70°.
	2·6 from all maximum readings between	70° and 75°.
	3·2 from all maximum readings above	75°.
	1·2 from all minimum readings.	
August.	Subtract 1·3 from all maximum readings below	70°.
	2·1 from all maximum readings between	70° and 80°.
	2·9 from all maximum readings above	80°.
	1·4 from all minimum readings.	
September.	Subtract 1·2 from all maximum readings below	70°.
	2·4 from all maximum readings above	70°.
	0·9 from all minimum readings.	
October.	Subtract 0·7 from all maximum readings.	
	Add 0·1 to all minimum readings below	32°.
	Subtract 0·6 from all minimum readings above	32°.
November.	Subtract 0·3 from all maximum readings.	
	0·3 from all minimum readings.	
December.	Add 0·6 to the maximum reading on Dec. $10^d.22^h$.	
	Subtract 0·6 from all other maximum readings.	
	Add 0·2 to all minimum readings below	37°.
	Subtract 0·5 from all minimum readings between	37° and 50°.
	Subtract 0·8 from all minimum readings above	50°.

RADIATION THERMOMETERS.

The self-registering thermometer for solar radiation is a mercurial thermometer with a blackened bulb; its index is a piece of blue steel wire. It is read every day at 21^h.

The self-registering thermometer for radiation to the sky is of alcohol, with blackened bulb placed in the focus of a parabolic metallic reflector: its index is glass with a knob at each end. It is read every day at 21^h.

POSITION OF THE THERMOMETERS.

A post is planted in the north-east re-entering angle of the Magnetic Observatory, about six feet from the walls of the building, and upon this a revolving frame is placed for carrying the thermometers. The frame consists of a horizontal board as base, of a vertical board projecting upwards from it connected with one edge of the horizontal board, and of two parallel inclined boards (separated about two inches) connected at the top with the vertical board, and at the bottom with the other edge of the horizontal board.

The air passes freely between all these boards. The standard thermometer, the dry and wet-bulb thermometers, the dew-point instrument, and the maximum and minimum thermometer, are attached to the outside of the vertical board with a small projecting roof above them; their bulbs being about four feet above the ground, and those of the three first projecting below the wood; and the frame is always turned with its inclined side towards the sun. It is presumed that the thermometers are thus sufficiently protected.

The radiation thermometers are placed in open boxes upon the ground, the sides of the boxes being sufficiently high to prevent lateral wind striking the bulbs. That for sky radiation (giving the minimum temperature) is placed in a horizontal position, its bulb and reflector being fully exposed to the sky; that for solar radiation is inclined as need requires to receive the full rays of the sun.

ANEMOMETER.

The anemometer is self-registering, on Osler's construction; it was made by Newman. A large vane, which is turned by the wind, and from which a vertical spindle proceeds down nearly to the table in the north-western turret of the ancient part of the Observatory, gives motion by a pinion upon the spindle to a rackwork carrying a pencil. This pencil makes marks upon a paper which is affixed to a board that is carried (by a chain connected with the barrel of a clock) in a direction transverse to the direction of the rack-motion. The paper has lines printed upon it corresponding to the positions which the pencil must take when the direction of the vane is N, E, S, or W: and also has transversal lines corresponding to the positions of the pencil at every hour. The first adjustment for azimuth was obtained by observing from a certain point the time of passage of a star behind the vane-shaft, and computing from that observation the azimuth; then on a calm day drawing the vane by a cord to that position, and adjusting the rack, &c., so that the pencil position on the sheet corresponded to that azimuth.

For the pressure of the wind, the shaft of the vane carries a plate one foot square, which is supported by horizontal rods sliding in grooves, and is urged in opposition to the wind by three springs, so arranged that only one comes into play when the wind is light, and the others act necessarily in conjunction with the first as the plate is driven further and further by the force of the wind. A cord from this plate passes over a pulley, and communicates with a copper wire passing through the center of the spindle, which at the bottom communicates with another cord passing under a pulley and held tight by a slight spring; and by this a pencil is moved transversely to the direction in which the paper fixed to the board is carried by the clock. Lines are printed upon the paper corresponding to different values of the pressure; the intervals of these lines were adjusted

by applying weights of 1lb., 2lbs., &c., to move the pressure-plate in the same manner as if the wind pressed it.

A fresh sheet of paper was applied to this instrument every day at 23^h mean solar time (11 in the morning, civil reckoning), until June 27; after that day the sheet was changed at 22^h on each day.

RAIN-GAUGES.

The rain-gauge No. 1 (Osler's) is connected with the anemometer. It is 205 feet 6 inches above the mean level of the sea. It exposes to the rain an area of 200 square inches (its horizontal dimensions being 10 by 20 inches).

The collected water passes through a tube into a vessel suspended in a frame by spiral springs, which lengthen as the water increases, until 0·24 of an inch is collected in the receiver; it then discharges itself by means of the following modification of the syphon. A glass tube, open at both ends, is fixed in the receiver, in a vertical position, with its end projecting below the bottom. Over the top of this tube a larger tube closed at the top is placed loosely. The smaller tube thus forms the longer leg, and the larger tube the shorter leg of a syphon. The water, having risen to the top of the inner tube, gradually falls through into the uppermost portion of a tumbling bucket, fixed in a globe under the receiver. When full, the bucket falls over, throwing the water into the pipe at the lower part of the globe: this action causes an imperfect vacuum in the globe, sufficient to cause a draught into the longer leg of the syphon, and the whole contents run off. After leaving the globe, the water is received in a pipe attached to the building, which carries it away. Then the springs shorten and raise the receiver. The ascent and descent of the water-vessel move a radius-bar which carries a pencil; this pencil makes a trace upon the paper carried by the sliding-board of the self-registering anemometer.

The scale of the printed paper was adjusted by repeatedly filling the water-vessel until it emptied itself, then weighing the water, and thus ascertaining its bulk, and dividing this bulk by the area of the surface of the rain receiver. The quantity of water registered by this gauge, between 22^h of one day and 22^h of the next, is added every day to the whole quantity previously registered from the beginning of the year, and the sum is inserted in the column whose heading is "Stand of Rain-gauge No. 1." The quantities in this column represent the amount of rain in inches collected from January 1.

The rain-gauge No. 2, on the top of the library, is a funnel, whose diameter is 6 inches; its exposed area consequently is 28·3 square inches. The water passes into a cylinder

from which it is poured into a circular vessel, the diameter of which is 3·25 inches, and therefore 3·4 inches in this corresponds to 1 inch of rain. This gauge is 177 feet 2 inches above the mean level of the sea. The quantity of water collected in this gauge is measured every day at 22^h, and the amount in inches is inserted in the column whose heading is "Reading of Rain-gauge No. 2."

The rain-gauge No. 3 is a self-registering rain-gauge on Crosley's construction, made by Watkins and Hill. The surface exposed to the rain is 100 square inches. The collected water falls into a vibrating bucket, whose receiving concavity is entirely above the center of motion, and which is divided into two equal parts by a partition whose plane passes through the axis of motion. The pipe from the rain-receiver terminates immediately above the axis. Thus that part of the concavity which is highest is always in the position for receiving water from the pipe. When a certain quantity of water has fallen into it, it preponderates, and falling, discharges its water into a cistern below; then the other part of the concavity receives the rain, and after a time preponderates. Thus the bucket is kept in a state of vibration. To its axis is attached an anchor with pallets, which acts upon a toothed wheel by a process exactly the reverse of that of a clock-escapement. This wheel communicates motion to a train of wheels, each of which carries a hand upon a dial-plate; and thus inches, tenths, and hundredths are registered. Sometimes, when the escapement has obviously failed, the water which has descended to the lower cistern has again been passed through the gauge, in order to enable an assistant to observe the indication of the dial-plates without fear of an imperfection in the machinery escaping notice. This gauge is placed on the ground, 21 feet south of the Magnetic Observatory, 156 feet 6 inches above the mean level of the sea. It is read every day at 22^h, and its readings are inserted in the column whose heading is "Stand of Rain-gauge No. 3." The numbers in this column represent the amount of rain fallen from January 1.

The rain-gauge No. 4 is a simple cylinder gauge, 8 inches in diameter, and therefore having an exposed area of 50·3 square inches. The height of the cylinder is $13\frac{1}{2}$ inches; one inch from the top within the cylinder is fixed a funnel (an inverted cone), of 6 inches perpendicular height; with the point of this funnel is connected a tube, one-fifth of an inch in diameter, and $1\frac{1}{4}$ inch in length; three quarters of an inch of this tube is straight, and the remaining half inch is bent upwards, terminating in an aperture of one-eighth of an inch. By this arrangement, the last drop of water remains in the bent part of the tube, and is some hours evaporating; it is usually found that the dew at night fills it, and evening comes before it is again free from water. The upper part of the funnel, or base of the cone, is made to touch the internal part of the cylinder all round. The cylinder is sunk 8 inches in the ground, leaving $5\frac{1}{2}$ inches above the ground; and it is believed

that evaporation is almost totally prevented. The height above the mean level of the sea is 155 feet 3 inches; the place of the gauge is 6 feet West of the gauge No. 3. The quantity of water collected is read at the end of every month: its readings are inserted in the marginal notes to the Observations.

ACTINOMETER.

The actinometer consists of a hollow cylinder of glass, 7 inches in length, and 1·22 inches in diameter, fixed at one end to a tube similar to a thermometer tube, 7 inches in length, terminating at the upper end by a ball 1·1 inch in diameter, and at its upper part drawn out to a fine tube, which is stopped by wax: a scale divided into 100 equal parts is attached to the thermometer-tube. The other end of the cylinder is closed by a silver plated cap, cemented on it, and furnished with a screw of silver with 23 threads to an inch, passing through a collar of waxed leather. The cylinder is filled with ammonio-sulphate of copper; it is enclosed in a chamber blackened on three sides, and on the fourth by a greenish plate glass, 0·1 inch in thickness, which is removeable at pleasure. The action of the screw is to increase or diminish the capacity of the cylinder, and thus to draw back from, or to drive into the ball, a portion of liquid; and by this means the cylinder is just filled, leaving no bubble of air in it. For using the instrument a stand or table is prepared, with a part moveable, on which the instrument is placed, and on which it can be very readily exposed perpendicularly to the direct rays of the Sun: a screen is also attached, which can in an instant be so placed as to cut off all the rays of the Sun from the chamber of the instrument, and can be as quickly withdrawn, so as fully to expose the chamber. The method of observation is as follows: When the cylinder is just full, and no bubble of air in it, the tube also being clear of all broken portions of liquid, the liquid is drawn down by the screw to the zero of the scale; then, at the beginning of a minute by the chronometer, the scale is read, the instrument having been a few minutes exposed to the Sun, and at the end of the minute it is read again, and the screen is again placed before the instrument: at the following 30^s the scale is read for the first shade observation, and at one minute afterwards is again read for the second shade observation; the instrument is then again exposed to the Sun, and read as before, and so on successively.

The following observations have been made for the purpose of ascertaining the effect of the glass. Alternate triplets of observations were made, with the glass on and off successively.

Day, 1844.	Glass On or Off.	Mean Reading of the Instrument.	Mean of Readings, the one preceding and the other following that with the Glass Off.	Reading with the Glass On—Reading with the Glass Off.	Fraction representing the Proportion of the Incident Rays cut off by the Glass.	
d						
April 3	On	32·5				
	Off	39·1	33·2	− 5·9	$\frac{1}{5·6}$	0·178
	On	33·9				
	Off	39·4	34·4	− 5·0	$\frac{1}{6·9}$	0·144
	On	34·8				
	Off	41·4	34·4	− 7·0	$\frac{1}{4·9}$	0·204
	On	33·9				
	Off	41·7	33·9	− 8·8	$\frac{1}{3·9}$	0·257
	On	33·8				
April 9	On	24·8				
	Off	29·5	25·2	− 4·3	$\frac{1}{5·9}$	0·169
	On	25·5				
Apr. 9 & 10	On	26·7				
	Off	33·6	27·7	− 5·9	$\frac{1}{4·7}$	0·213
	On	28·6				
	Off	35·8	30·4	− 5·4	$\frac{1}{5·6}$	0·179
	On	32·2				
	Off	34·6	32·2	− 2·4	$\frac{1}{13·4}$	0·074
	On	32·1				
	Off	38·2	31·8	− 6·4	$\frac{1}{5·0}$	0·200
	On	31·5				
	Off	36·0	32·2	− 3·8	$\frac{1}{8·5}$	0·118
	On	32·9				
	Off	39·8	32·9	− 6·9	$\frac{1}{4·8}$	0·208
	On	32·8				
	Off	34·6	33·1	− 1·5	$\frac{1}{22·1}$	0·045
	On	33·4				
	Off	38·1	32·5	− 5·6	$\frac{1}{5·8}$	0·171
	On	31·5				
	Off	36·8	32·2	− 4·6	$\frac{1}{7·0}$	0·143
	On	32·8				
	Off	34·2	29·8	− 4·4	$\frac{1}{6·8}$	0·147
	On	26·8				
April 10	On	34·2				
	Off	45·1	33·4	−11·7	$\frac{1}{2·9}$	0·345
	On	32·5				

The mean of the numbers in the last column is 0·175, or one-sixth nearly, and it approximately represents the proportion of the incident rays of the sun which is stopped by the glass. Therefore, one-sixth of the observed radiation ought to be added in order to obtain the true radiation. This correction has not been applied either in the section of observations or in that of the Abstracts.

ELECTRICAL APPARATUS.

The electrical apparatus was connected with a pole 80 feet high, planted a few feet north of the Magnetic Observatory. On the top of the pole was fixed a piece of glass 2 feet 6 inches in length and about 2 inches in diameter, carrying a copper cap with 30 spikes of 3 inches in length; from this cap a copper wire, 0·1 inch in thickness, was led to and passed round a rod of glass, fixed a little below the under part of the projecting window in the ante-room of the Magnetic Observatory, and from thence it was conducted to a ball half an inch in diameter immediately under the window; a vertical brass rod of 1 foot in length was fixed in this ball, supporting at the top a brass ball 2 inches in diameter. At the distance of 4 inches west from the center of this ball, was placed the center of a bell, whose diameter was 4 inches, and to which a copper wire was attached leading to the earth. At the distance of 6 inches above the ball was fixed a horizontal rod of glass, from which a brass ball, 0·3 inch in diameter, was suspended by a single thread of silk; so that this ball, when in a quiescent state, was midway between the larger ball and the bell, or at about half an inch distance from the ball. The electrometer consisted of two pith-balls inclosed in a glass case with the usual suspension, and was placed in connexion with the large ball. During a series of observations, it was frequently removed, and the kind of electricity ascertained by bringing near to the suspension of the pith-balls an excited glass tube. When the electricity was abundant, the small ball vibrated between the large ball and the bell, and thus gave warning to the observer, and carried off the redundant electricity by means of the wire before mentioned.

PERSONAL ESTABLISHMENT.

The number of persons regularly employed in the Magnetic and Meteorological Observations during the year 1842 was three, namely—

Mr. James Glaisher, Superintendant,
Mr. Edwin Dunkin,
Mr. John Russell Hind.

In cases of illness or of absence of one of these persons, or of unusual pressure of work, it was necessary to detach an assistant from the Astronomical establishment.

The order of observations is arranged every week, and usually proceeds on the following

principle. Denoting the three assistants by A, B, C, the work of three complete days will be thus disposed—

A from	12^h (midnight)	to 20^h
B from	22^h	to 2^h
A from	4^h	to 10^h
B from	12^h (midnight)	to 20^h
C from	22^h	to 2^h
B from	4^h	to 10^h
C from	12^h (midnight)	to 20^h
A from	22^h	to 2^h
C from	4^h	to 10^h

In order to give reasonable security to myself and to the superintendant, that the assistants have really been present at the time at which their observations profess to have been made, there is provided an instrument frequently used in large manufactories, and usually denominated "the watchman's clock." It consists of a pendulum-clock which has no hands, but of which the dial-plate turns round; this dial-plate has a number of radial pins fixed in its circumference, each of which can be pressed downwards (being held by the friction of a spring only) without disturbing the others. A lever is attached to the clock-frame, in such a position that by means of a cord, which passes from the lever through a hole in the clock-case to its outside, the lever can be made to press down that pin which happens to be uppermost, and no other. The clock-case and clock-face are securely locked up. Thus the only power which an assistant possesses over the clock, is that of pulling the cord, and thereby depressing one pin; the dial-plate then turns away, carrying that pin in its depressed state, and thus retains, for about eleven hours, the register of every time at which the assistant has pulled the cord. About one hour before returning to the same time (semi-diurnal reckoning), the bases of the pins begin to run upon a spiral inclined plane, by which they are forced up to their normal position before coming to that point at which the lever can act on them.

It is the duty of each assistant, on making the prescribed observations, to pull the cord of the watchman's clock; and it is the duty of the first assistant (Mr. Main) to examine the face of the clock every morning, and to enter in a book an account of the pins which he finds depressed. It is presumed that great security is thus given against irregularity, as regards the time of the observations.

ROYAL OBSERVATORY, GREENWICH.

DAILY OBSERVATIONS

OF

MAGNETOMETERS.

1842.

Daily Observations from January 0 to 1.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
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......	....	...	..	...	..	..	1. 50	32. 37	021457		009993		
......	....	...	..	...	..	..	2. 0	35. 28	022122	42 ·8	009937	42 ·3	
......	....	...	..	...	..	..	2. 10	36. 29	022977		009937		J H
......	....	...	..	...	..	..	4. 0	54. 9	021912	44 ·6	009961	44 ·0	D
......	....	...	..	...	..	..	6. 0	48. 47	022944	44 ·0	009927	43 ·5	
......	....	...	..	...	..	..	8. 0	246. 58. 16	021453	43 ·0	010219	42 ·5	
......	....	...	..	...	..	..	10. 0	247. 3. 48	024981	42 ·8	009650	42 ·5	D
......	....	...	..	...	..	..	12. 0	246. 40. 32	026125	41 ·0	009674	41 ·0	J H

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m. 30^s$ before, and $2^m. 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 51′. 59″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 210°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·3$; in Vertical Plane, $29^s·9$.
Decrease of Horizontal Force for 1° increase of temperature = 0 ·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0 ·000264 parts of the whole Vertical Force.

Jan. 1^d and 2^d. The condition of every part of each magnet was minutely examined, and observations were made for their adjustments.

Jan $1^d. 0^h$. The western declination as deduced from this observation was 23°. 21′. 48″, and it is the greatest in the month; at 10^h the declination was 22°. 48′. 11″, but a smaller than this occurred in the extra observations at $9^h. 43^m$, when the declination was 22°. 43′. 23″, and it is the smallest in the month; the monthly range of the magnet was therefore 38′. 25″, and the times at which the magnet was in these positions were separated by $9^h. 43^m$. (See the Section of Extraordinary Observations.)

Jan. $1^d. 12^h$. The marked end of the Horizontal Force Magnet was more drawn towards the North at this observation than at any other in the year, the reading being, when corrected for temperature, 0 ·033095 parts of the whole horizontal force.

Jan. 1^d, civil reckoning. The mean reading of the Horizontal Force Magnet, corrected for temperature, as deduced from the two-hourly observations, was greater on this day than on any other day in the month, being 0 ·030990 parts of the whole horizontal force.

Daily Observations from January 2 to 8.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Jan. 2. 14. 0	246. 33. 9	0·018679	38·8	0·010446	38·0	JH	Jan. 5. 14. 0	246. 36. 40	0·018394	40·4	0·010769	40·0	JH
16. 0	30. 45	017372	38·6	010434	38·0		16. 0	39. 5	018591	39·8	011159	39·4	
18. 0	33. 6	018450	38·4	010494	37·8		18. 0	41. 14	019565	39·4	011237	39·3	
20. 0	32. 12	018424	38·4	010542	37·6		20. 0	38. 38	018372	39·0	011480	38·4	JH
22. 0	30. 28	019446	38·0	010656	37·5	D	22. 0	36. 45	018409	41·0	011584	39·5	D
Jan. 3. 0. 0	246. 38. 53	0·018613	39·0	0·011551	38·5	D	Jan. 6. 0. 0	246. 32. 47	0·018195	43·2	0·011225	41·2	D
1. 50	36. 41	017723		011432			1. 50	33. 40	017564		010550		
2. 0	36. 28	017878		011381			2. 0	34. 34	017944	43·5	010518	43·0	
2. 10	36. 44	018081	43·0	011305	43·0	D	2. 10	35. 4	017860		010506		D
4. 0	38. 56	018000	45·0	010494	44·8	JH	4. 0	36. 41	018181	44·2	010112	44·0	JH
6. 0	36. 49	018543	43·6	010398	43·0		6. 0	36. 34	017309	43·0	010323	43·0	
8. 0	38. 33	018620	41·2	010884	41·0		8. 0	37. 40	017977	41·4	010558	42. 2	
10. 0	39. 44	017070	39·7	011381	39·6		10. 0	39. 30	017948	41·8	010701	41·4	JH
12. 0	33. 42	018184	39·0	011759	38·0	G	12. 0	41. 7	017502	42·0	010960	40·0	G
14. 0	38. 36	017085	39·0	011954	37·2		14. 0	39. 19	017273	43·5	010617	42·0	
16. 0	36. 28	018405	38·0	012232	37·8		16. 0	35. 55	017602	42·0	010486	42·0	
18. 0	36. 9	019151	38·0	012356	37·4		18. 0	34. 16	019395	42·0	010757	41·0	
20. 0	37. 42	019073	38·0	012511	37·0	G	20. 0	35. 6	019380	40·0	011127	39·0	G
22. 0	36. 2	019362	38·5	012487	37·2	D	22. 0	36. 11	018826	38·5	011651	38·2	D
Jan. 4. 0. 0	246. 32. 32	0·019310	38·8	0·012372	37·5	D	Jan. 7. 0. 0	246. 31. 15	0·018826	41·5	0·012419	40·0	D
1. 50	37. 11	018217	42·0	011950	40·5		1. 50	32. 40	017756		011075		
2. 0	37. 16	018221		011950			2. 0	33. 7	017528		011067		
2. 10	37. 18	018247		011930		D	2. 10	33. 30	017918	43·5	011067	42·0	D
4. 0	35. 51	018077	42·0	011325	42·0	G	4. 0	32. 31	018155	43·5	010753	42·0	G
6. 0	37. 26	018402	42·0	011003	42·0		6. 0	37. 15	016977	42·6	010757	42·0	JH
8. 0	37. 45	017807	42·0	011079	42·0		8. 0	37. 45	017988	42·5	010880	42·0	D
10. 0	39. 16	018547	42·0	011313	42·0		10. 0	40. 3	018837	41·6	011035	41·3	JH
12. 0	39. 24	018472	41·0	011492	40·5	G	12. 0	39. 29	017929	40·5	011159	40·0	D
14. 0	38. 28	018336	40·3	011484	39·5	D	14. 0	37. 48	018148	40·0	011396	39·8	
16. 0	41. 36	018394	39·0	011599	38·5		16. 0	37. 30	018115	40·0	011321	40·0	
18. 0	38. 52	019047	38·8	011783	38·0		18. 0	38. 6	018734	40·0	011353	39·2	
20. 0	37. 41	019410	38·8	011914	38·0	D	20. 0	38. 45	019040	39·0	011524	38·0	D
22. 0	35. 35	018719	38·4	011926	38·0	JH	22. 0	37. 44	018228	39·0	011647	38·0	JH
Jan. 5. 0. 0	246. 32. 16	0·018037	40·0	0·011643	39·0	JH	Jan. 8. 0. 0	246. 34. 33	0·017683	40·5	0·011643	39·2	JH
1. 50	35. 20	018848		011396			1. 50	33. 29	018516		011516		
2. 0	35. 48	018937	42·6	011361	41·0		2. 0	33. 43	018243	41·3	011472	40·0	
2. 10	36. 9	019069		011345		JH	2. 10	33. 48	018561		011456		JH
4. 0	38. 6	018532	43·0	010880	42·0	D	4. 0	36. 3	018624	41·0	011392	40·0	D
6. 0	37. 51	018923	43·0	010876	41·5	D	6. 0	37. 26	018723	40·3	011472	39·5	
8. 0	37. 53	018812	42·8	010721	41·8	JH	8. 0	38. 4	018358	39·8	011679	38·5	
10. 0	38. 48	017590	41·0	010928	40·0	G	10. 0	39. 24	018236	38·0	011862	37·8	D
12. 0	32. 49	016553	41·8	010685	41·0	JH	12. 0	38. 33	018660	39·3	011759	38·2	JH

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.30^s$ before, and $2^m.30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 51′. 59″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 210°; Jan. 3d, 225°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $29^s.9$.
Decrease of Horizontal Force for 1° increase of temperature =0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature =0·000264 parts of the whole Vertical Force.

Jan. 3d. 0h. The western declination was 8′. 25″ less than it was at the previous observation.

Jan. 3d, civil reckoning. The mean western declination was greater on this day than on any other day in the month, being 23°. 16′. 45″, as deduced from the two-hourly observations.

Jan. 4d, civil reckoning. The mean reading of the Vertical Force Magnet, corrected for temperature, as deduced from the two-hourly observations, was greater on this day than on any other day in the month, being 0·022240 parts of the whole vertical force.

Jan. 7d, 0h. The marked end of the Vertical Force Magnet was drawn more downwards at this observation than at any other in the month, the reading being, when corrected for temperature, 0·022979 parts of the whole vertical force.

Daily Observations from January 9 to 15.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature,	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature,	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Jan. 9. 14. 0	246. 40. 13	0·020114	31·4	0·013227	31·2	JH	Jan. 12. 14. 0	246. 38. 11	0·018380	40·3	0·010840	39·6	JH
16. 0	38. 11	019756	32·0	013191	31·6		16. 0	39. 31	018310	39·3	011087	38·6	
18. 0	38. 7	018199	32·8	013112	31·8		18. 0	36. 57	018232	37·6	011404	37·0	
20. 0	38. 42	018107	33·3	012953	32·2	JH	20. 0	37. 38	019299	37·6	011492	37·1	JH
22. 0	37. 50	019166	35·0	012706	34·0	D	22. 0	36. 24	019022	38·5	011504	37·3	D
Jan. 10. 0. 0	246. 36. 5	0·018624	37·6	0·012316	36·0	D	Jan. 13. 0. 0	246. 34. 26	0·018299	39·0	0·011544	38·0	D
1. 50	34. 17	019269		011802			1. 50	34. 20	019366		011468		
2. 0	34. 29	018646	40·0	011794	38·0		2. 0	34. 24	019091	38·8	011472	38·0	
2. 10	34. 30	018572		011783		D	2. 10	34. 30	019505		011492		D
4. 0	35. 35	018797	41·0	011464	40·0	G	4. 0	35. 52	018778	40·2	011377	39·0	JH
6. 0	35. 19	018624	38·5	011504	38·0	JH	6. 0	35. 39	018369	38·3	011377	38·0	
8. 0	36. 54	020136	37·2	011639	36·8		8. 0	36. 40	017970	37·5	011552	37·4	
10. 0	37. 29	019151	36·6	011826	36·0	JH	10. 0	38. 43	018870	37·0	011787	36·5	JH
12. 0	40. 28	018697	37·0	012034	35·0	G	12. 0	38. 16	017838	37·0	011822	35·0	G
14. 0	37. 21	018299	39·0	011810	37·0		14. 0	39. 30	017951	41·0	011552	38·0	
16. 0	39. 31	018284	40·0	011305	38·0		16. 0	36. 37	018402	41·0	011107	38·0	
18. 0	44. 22	019501	41·0	010836	40·0		18. 0	36. 31	018881	42·0	010995	39·0	
20. 0	39. 8	019643	41·0	010677	40·0	G	20. 0	38. 7	018867	41·0	010896	39·0	G
22. 0	36. 5	019122	41·0	010836	40·0	D	22. 0	35. 57	018792	41·0	010828	40·2	D
Jan. 11. 0. 0	246. 33. 57	0·018402	42·5	0·010904	41·0	D	Jan. 14. 0. 0	246. 34. 58	0·018365	42·0	0·010737	41·0	D
1. 50	30. 30	019191		010876			1. 50	34. 15	019380	41·5	010725	40·5	
2. 0	31. 4	018892	42·2	010856	41·2		2. 0	34. 23	019324		010729		
2. 10	32. 10	018837		010828		D	2. 10	34. 39	019317		010725		D
4. 0	33. 49	018365	42·0	010757	41·6	JH	4. 0	36. 35	018815	46·0	010566	43·0	G
6. 0	39. 44	017535	42·0	011039	41·0	G	6. 0	35. 36	018288	46·0	010211	43·0	G
8. 0	36. 36	018317	43·0	010721	42·0		8. 0	36. 53	018438	44·0	010112	43·0	D
10. 0	49. 22	017579	43·0	010617	42·0	G	10. 0	39. 5	018472	43·2	010136	42·4	JH
12. 0	42. 59	017683	43·0	010637	42·0	D	12. 0	39. 0	018465	42·0	010359	41·5	D
14. 0	30. 19	018044	41·5	010896	40·5		14. 0	35. 49	017900	44·2	010231	42·8	
16. 0	38. 44	018000	42·0	010804	41·0		16. 0	37. 45	018303	43·2	010168	42·2	
18. 0	35. 31	017657	43·0	010717	42·0		18. 0	37. 45	018908	42·0	010526	41·0	
20. 0	36. 49	018569	42·0	010757	40·8	D	20. 0	39. 5	019084	40·0	010848	39·5	D
22. 0	37. 1	018077	41·8	010749	40·7	JH	22. 0	37. 17	018679	41·5	010757	40·0	JH
Jan. 12. 0. 0	246. 35. 13	0·018066	43·0	0·010701	41·3	JH	Jan. 15. 0. 0	246. 34. 59	0·018199	43·2	0·010359	41·4	JH
1. 50	34. 20	017973		010522			1. 50	32. 56	019255		010112		
2. 0	34. 16	018195	44·0	010546	42·3		2. 0	33. 0	019158		010064		
2. 10	34. 26	018214		010522		JH	2. 10	33. 3	019136	44·5	010048	42·4	JH
4. 0	36. 45	018741	44·5	010391	44·0	D	4. 0	36. 9	018170	45·0	009738	44·0	D
6. 0	37. 10	018985	43·0	010478	42·0		6. 0	36. 57	018804	43·8	009841	43·0	
8. 0	37. 23	018228	44·0	010438	42·2		8. 0	37. 46	019520	43·0	009957	42·5	
10. 0	39. 41	018664	43·0	010434	41·2	D	10. 0	37. 50	018941	42·0	010231	41·5	D
12. 0	40. 7	018620	41·8	010522	40·8	JH	12. 0	57. 55	016188	43·1	010048	42·6	JH

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 51′. 59″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 225°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $29^s \cdot 9$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Jan. $10^d.\ 12^h +$. The Vertical Force Magnet was gently dropped into its Y's by its screw, and then gently raised; the scale was then reflected from the center of the mirror.

Jan. $11^d.\ 8^h$, 10^h, 12^h, 14^h, and 16^h. The western declinations were 23°. 15′. 23″, 23°. 2′. 37″, 23°. 9′. 0″, 23°. 21′. 40″, and 23°. 13′. 15″ respectively. (See the Section of Extraordinary Observations.)

Jan. 13^d, civil reckoning. The range of the Declination Magnet was less on this day than on any other in the month, being 4′. 19″; the range of the magnet was also small on the following days in the month, the 4th, 8th, 10th, 14th, 17th, 20th, and 28th.

Jan. $13^d.\ 14^h$. The extent of the vibration of the Horizontal Force Magnet had much increased since the previous observation without any apparent cause; and at 20^h the extent of vibration was much diminished, but in the observation at the end of the first vibration it was stationary during 7^s; it then turned and moved during 21^s, at which time it continued without motion for 5^s; at the end of the next vibration it was quiet for 5^s, and at the end of the next it was motionless for 6^s; as the magnet, when in motion, was moving the full time of its vibration, the four observations which were taken were separated from each other by $25^s +$.

Jan. $15^d.\ 10^h$. The western declination was 23°. 14′. 9″, and at 12^h it was smaller by 20′. 5″. (See the Section of Extraordinary Observations.)

Daily Observations from January 16 to 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Jan. 16. 14. 0	246. 37. 6	0·017575	38·0	0·011229	37·4	JH	Jan. 19. 14. 0	246. 45. 47	0·017147	46·8	0·009009	45·0	G
16. 0	36. 40	018881	38·3	011245	37·4		16. 0	45. 48	017447	46·6	009069	45·8	JH
18. 0	36. 58	018402	38·3	011265	37·6		18. 0	45. 7	018073	46·2	009181	44·7	D
20. 0	37. 36	018945	38·0	011313	37·5	JH	20. 0	46. 0	018369	44·4	009411	44·0	P
22. 0	36. 28	018502	39·0	011144	38·5	D	22. 0	45. 6	017767	44·0	009662	43·0	G
Jan. 17. 0. 0	246. 43. 6	0·016753	43·0	0·010773	41·5	D	Jan. 20. 0. 0	246. 42. 10	0·017653	44·0	0·009642	43·0	P
1. 50	39. 59	017198	46·0	010072	44·0		1. 50	41. 23	018029		009591		JH
2. 0	40. 0	017465		010032			2. 0	41. 13	017807	44·2	009606	43·0	
2. 10	40. 1	017372		010004		D	2. 10	41. 8	017719		009642		JH
4. 0	42. 49	017368	46·3	009376	46·0	JH	4. 0	42. 47	018881	45·0	009563	43·8	P
6. 0	44. 0	016855	45·0	009328	44·8		6. 0	43. 36	018126	47·0	009483	44·0	G
8. 0	43. 44	016937	43·8	009599	43·4		8. 0	44. 4	017044	49·3	009013	46·5	D
10. 0	46. 3	017918	42·4	009798	42·3	JH	10. 0	44. 26	016760	49·5	008619	47·5	JH
12. 0	45. 36	017827	42·0	010199	41·5	G	12. 0	45. 19	017546	46·0	008814	45·4	P
14. 0	45. 3	018642	42·0	009965	41·5		14. 0	44. 36	017675	44·0	009165	43·8	
16. 0	43. 13	018383	42·5	009961	42·0		16. 0	45. 51	017830	43·0	009563	42·6	
18. 0	45. 41	019650	42·5	010084	41·0		18. 0	43. 47	018273	42·0	009937	41·8	
20. 0	45. 21	020369	42·0	010199	41·0	G	20. 0	43. 43	018952	41·0	010160	40·8	P
22. 0	44. 46	019207	40·0	010590	39·5	D	22. 0	43. 34	017955	41·8	010243	40·6	JH
Jan. 18. 0. 0	246. 41. 27	0·017918	39·0	0·010992	38·6	D	Jan. 21. 0. 0	246. 40. 50	0·018266	41·5	0·010379	40·5	JH
1. 50	42. 3	018051		010637			1. 50	39. 27	017331		010295		
2. 0	41. 24	018569	42·0	010637	41·0		2. 0	39. 21	017198	43·1	010279	41·0	
2. 10	41. 33	018007		010637		D	2. 10	39. 5	017320		010271		JH
4. 0	40. 17	016280	42·0	010498	41·5	G	4. 0	41. 0	018159	42·0	010160	41·0	P
6. 0	45. 13	016366	43·0	010697	42·0		6. 0	42. 40	018037	41·8	010160	41·0	
8. 0	50. 29	016549	44·0	010367	43·0		8. 0	44. 40	017834	41·2	010359	40·5	
10. 0	45. 25	017273	44·0	010192	43·0	G	10. 0	47. 31	018487	41·4	010359	42·4	P
12. 0	43. 31	017834	44·0	009403	43·0	D	12. 0	55. 30	018465	41·0	010478	39·0	G
14. 0	40. 13	017561	43·5	009443	42·8		14. 0	46. 43	017063	43·0	010076	40·0	
16. 0	47. 46	017606	44·5	009224	43·5		16. 0	45. 11	017539	43·0	009766	41·0	
18. 0	46. 27	017948	44·8	009403	43·5		18. 0	44. 58	017911	43·0	009766	41·0	
20. 0	45. 52	018214	45·2	009610	43·6	D	20. 0	45. 31	018217	43·0	009762	41·0	G
22. 0	44. 15	017342	43·0	009686	42·8	JH	22. 0	43. 1	016815	42·0	009961	41·0	D
Jan. 19. 0. 0	246. 41. 34	0·017557	42·0	0·009961	41·5	P	Jan. 22. 0. 0	246. 41. 7	0·017454	43·0	0·010040	42·0	D
1. 50	40. 5	019014		010319			1. 50	40. 36	017778		009722		
2. 0	39. 16	019734	41·0	010359	40·8		2. 0	41. 5	017760	44·0	009674	43·0	
2. 10	39. 38	018978		010398		P	2. 10	41. 4	017730		009662		D
4. 0	41. 55	018664	42·0	010558	41·0	D	4. 0	41. 49	018044	44·0	009726	43·0	G
6. 0	41. 20	018789	41·8	010566	40·6		6. 0	43. 49	017298	44·0	009595	43·0	
8. 0	48. 57	016863	45·0	010283	43·0	D	8. 0	44. 52	017590	45·0	009766	44·0	
10. 0	47. 50	016753	46·0	009942	43·0	G	10. 0	45. 37	018137	44·0	009332	43·0	G
12. 0	45. 40	017502	48·0	009475	45·0		12. 0	47. 50	016911	44·5	009531	43·5	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.30^s$ before, and $2^m.30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 51′. 59″.
Reading of Torsion Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 225°; Jan. 17d, 245°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$: in Vertical Plane, $29^s.9$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Jan. 17d and 18d, civil reckoning. The greatest difference in the mean western declination between any two consecutive civil days during the month took place between these two days, being 3′. 28″, the declination on the first of the two days being the larger.

Jan. 18d. 8h. The Declination Magnet was moving irregularly. (See the Section of Extraordinary Observations.)

Jan. 19d. 10h. Observations at every five minutes were commenced. (See the Section of Term-Day Observations.)

Jan. 21d. 12h. Previously to this observation the Declination Magnet was found in a position 9′ different from its position at 10h. (See the Section of Extraordinary Observations.)

Daily Observations from January 23 to 29.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Jan. 23. 14. 0	246. 44. 42	0·019808	32·8	0·012435	32·0	D	Jan. 26. 14. 0	246. 41. 42	0·018420	44·4	0·009085	44·2	P
16. 0	47. 56	018708	32·3	012515	31·8		16. 0	40. 58	018096	43·2	009380	43·0	
18. 0	46. 56	019955	35·0	012519	32·5		18. 0	40. 16	018812	42·2	009722	42·0	
20. 0	48. 3	018863	33·0	012475	32·0	D	20. 0	41. 39	019501	41·0	010000	40·8	P
22. 0	45. 35	019073	35·6	012407	33·0	J H	22. 0	40. 28	018118	40·2	010323	39·8	J H
Jan. 24. 0. 0	246. 40. 40	0·018642	38·0	0·011763	35·6	J H	Jan. 27. 0. 0	246. 38. 21	0·017143	44·8	0·009929	42·8	J H
1. 50	36. 18	018734		011147			1. 50	37. 26	017763		008775		
2. 0	37. 55	018635	41·5	011111	39·2		2. 0	38. 13	017793	49·0	008691	48·0	
2. 10	38. 13	018631		010960		J H	2. 10	37. 25	017298		008619		J H
4. 0	39. 2	018443	41·4	010518	41·0	P	4. 0	40. 8	017462	50·0	007891	49·0	P
6. 0	42. 7	018668	39·6	010605	39·0	J H	6. 0	38. 39	017424	49·8	007752	48·8	
8. 0	41. 16	019269	40·2	010605	39·4	P	8. 0	37. 51	017823	47·2	008090	47·0	
10. 0	51. 13	015597	39·0	011155	38·5	G	10. 0	51. 9	017557	45·0	008707	45·0	P
12. 0	49. 35	018642	38·6	011552	38·6	J H	12. 0	43. 20	018111	43·8	009316	43·3	J H
14. 0	41. 50	018066	37·6	011285	37·0		14. 0	44. 28	017350	42·6	009555	42·4	
16. 0	40. 25	018133	36·4	011281	36·6		16. 0	41. 0	017287	42·2	009726	41·3	
18. 0	38. 2	017628	37·6	011047	37·0		18. 0	39. 39	018288	41·3	009889	41·7	
20. 0	40. 50	017406	37·6	011107	37·0	J H	20. 0	41. 15	017767	41·0	010124	40·0	J H
22. 0	40. 21	018070	37·0	011225	36·5	G	22. 0	41. 10	017951	42·2	009961	41·0	P
Jan. 25. 0. 0	246. 37. 25	0·018243	42·0	0·010916	39·4	P	Jan. 28. 0. 0	246. 40. 37	0·018339	43·2	0·009742	41·6	P
1. 50	37. 47	017406		010080			1. 50	40. 7	018365		009125		
2. 0	36. 58	017992	42·4	009968	44·8		2. 0	39. 45	018295	46·8	009125	45·0	
2. 10	34. 46	017889		009969		P	2. 10	39. 44	018472		008966		P
4. 0	40. 4	016527	47·0	009519	45·0	J H	4. 0	41. 4	017955	47·3	008607	46·2	J H
6. 0	42. 30	017650	44·6	009360	44·0		6. 0	40. 45	018405	45·6	008619	45·5	
8. 0	52. 24	018299	43·2	009467	43·0		8. 0	40. 46	017948	44·2	008810	44·4	
10. 0	43. 24	018539	42·5	009559	42·4	J H	10. 0	40. 55	019151	42·6	009280	42·6	J H
12. 0	42. 19	018959	40·0	010060	39·0	G	12. 0	46. 12	017520	42·0	009674	41·0	G
14. 0	42. 50	018288	41·0	009889	40·0		14. 0	41. 27	018536	44·5	009407	43·0	
16. 0	43. 29	018295	41·5	009881	40·0		16. 0	42. 33	018956	44·0	009491	43·0	
18. 0	43. 26	018288	41·0	009993	39·0		18. 0	41. 6	018837	43·0	009634	42·0	
20. 0	42. 42	019207	40·0	010391	39·0	G	20. 0	39. 23	019136	43·0	009730	42·0	G
22. 0	41. 34	018321	40·4	010590	39·5	P	22. 0	41. 44	018789	41·0	009921	40·2	P
Jan. 26. 0. 0	246. 40. 22	0·018022	40·6	0·010494	39·5	P	Jan. 29. 0. 0	246. 35. 38	0·016881	41·8	0·010048	40·5	P
1. 50	35. 50	018048		010343			1. 50	34. 33	017342		008727		
2. 0	35. 36	018173	41·0	010343	41·0		2. 0	35. 49	017918	43·0	008727	41·5	
2. 10	35. 8	017995		010359		P	2. 10	37. 6	018044		008727		P
4. 0	39. 19	018258	46·0	009794	44·0	G	4. 0	40. 9	017298	43·0	008691	43·0	G
6. 0	42. 22	017524	47·2	009280	45·0		6. 0	39. 8	017085	48·0	009726	46·0	
8. 0	42. 36	017495	47·0	009065	45·2		8. 0	41. 36	017435	48·0	009368	47·0	
10. 0	42. 40	017734	47·0	008898	45·0	G	10. 0	44. 2	017257	48·0	009252	47·0	G
12. 0	42. 6	017818	46·0	008870	45·4	P	12. 0	43. 49	018203	46·2	009244	47·0	P

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively 2m. 30s before, and 2m. 30s after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 51′. 59″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 245°; Jan. 24d, 237°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·3; in Vertical Plane, 29s·9.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Jan. 24d. 8h. The western declination was 23°. 10′. 43″, and at the next observation it was 23°. 0′. 46″; extra observations were then commenced, during which, at 10h. 23m, the marked end of the Horizontal Force Magnet was less drawn towards the N. than at any other time in the month: the reading corrected for temperature was 0·020755.

Jan. 24d, civil reckoning. The mean western declination was smaller on this day than on any other day in the month, being 23°. 7′. 24″, as deduced from the two-hourly observations.

Jan. 25d. At 4h there was a considerable change in the position of the Declination Magnet from its previous observed position; and also a change of 10′ in its position between 8h and 10h. (See the Section of Extraordinary Observations.)

Jan. 25d, civil reckoning. The mean reading of the Horizontal Force Magnet, corrected for temperature, as deduced from the two-hourly observations, was smaller on this than on any other day in the month, being 0·024861 parts of the whole horizontal force.

Jan. 26d. 6h. A gale of wind, during which the positions of the magnets were frequently examined, but no unusual change took place.

Jan. 27d. 8h. The western declination was 23°. 14′. 8″; by 10h it had decreased to 23°. 0′. 50″, and extra observations were taken. (See the Section of Extraordinary Observations.)

Jan. 27d. Between 0h and 1h. 50m there was an apparent change of 0·001154 parts of the whole vertical force in the positions of the Vertical Force Magnet, and extra observations were taken; but since the correction for temperature of this magnet has been determined, it is found that this correction amounted between the observations to 0·001373, and therefore the magnet was actually moving contrary to its apparent motion, and by a small quantity only.

Jan. 29d. 2h. The marked end of the Vertical Force Magnet was less drawn downwards at this than at any other observation in the month, the reading being 0·019683, when corrected for temperature.

Jan. 29d, civil reckoning. The mean reading of the Vertical Force Magnet, corrected for temperature, was smaller on this day than on any other day in the month, being 0·002392 parts of the whole vertical force, as deduced from the two-hourly observations.

Daily Observations from January 30 to February 5.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Jan. 30. 14. 0	246. 41. 32	0·019162	37·8	0·011392	37·4	P	Feb. 2. 14. 0	246. 40. 35	0·015941	54·0	0·007493	52·0	D
16. 0	40. 18	017642	37·8	011472	37·4		16. 0	38. 45	015937	54·0	007095	53·0	
18. 0	41. 7	018826	38·6	011419	37·8		18. 0	39. 19	016675	53·5	007055	52·5	
20. 0	41. 12	018380	39·0	011293	38·0	P	20. 0	40. 40	016567	53·0	007139	52·0	D
22. 0	42. 47	018759	41·4	011103	39·8	J H	22. 0	40. 13	017143	50·7	007207	50 3	J H
Jan. 31. 0. 0	246. 39. 54	0·016671	43·4	0·010757	41·8	J H	Feb. 3. 0. 0	246. 35. 34	0·016443	51·6	0·007378	51·0	J H
1. 50	38. 36	016117		010048			1. 50	35. 29	015912		007063		
2. 0	38. 33	017287	48·3	010016	45·2		2. 0	33. 52	015756	53·0	007059	52·5	
2. 10	38. 26	016727		009889		J H	2. 10	33. 49	015601		006992		J H
4. 0	40. 12	017675	49·0	009316	47·4	P	4. 0	37. 31	016095	51·5	005642	52·0	D
6. 0	42. 52	017484	49·5	009025	48·0		6. 0	39. 59	017320	48·0	005893	49·0	
8. 0	43. 12	017306	51·0	008607	49·4		8. 0	44. 8	015967	51·0	005861	50·5	
10. 0	49. 0	017882	48·8	008592	48·4	P	10. 0	40. 57	016623	51·3	005849	50·5	D
12. 0	44. 46	017900	48·6	008528	48·2	J H	12. 0	41. 52	017686	51·3	005758	50·3	J H
14. 0	40. 33	016351	48·2	008520	48·6		14. 0	40. 6	016966	49·0	005774	48·8	
16. 0	39. 47	016948	47·6	008615	47·4		16. 0	40. 4	016804	48·6	006017	48·5	
18. 0	38. 30	018059	46·3	008699	46·3		18. 0	40. 18	016620	46·4	006259	45·8	
20. 0	41. 22	018701	45·0	009061	45·0	J H	20. 0	40. 0	017602	47·0	006422	46·2	J H
22. 0	40. 37	018358	45·0	009403	45·0	D	22. 0	39. 41	017070	46·8	006542	46·0	D
Feb. 1. 0. 0	246. 38. 34	0·018358	46·8	0·009364	45·8	D	Feb. 4. 0. 0	246. 36. 4	0·016226	48·0	0·006582	47·0	D
1. 50	35. 28	016355	48·2	009173	47·2		1. 50	34. 11	016463		006442		
2. 0	35. 25	016553		009165			2. 0	33. 58	016658	48·5	006438	47·5	
2. 10	35. 46	016922		009165		D	2. 10	34. 6	016448		006418		D
4. 0	33. 28	016221	49·3	009197	48·1	J H	4. 0	35. 7	017118	47·6	006434	47·0	J H
6. 0	36. 40	017302	47·6	008922	47·4		6. 0	37. 39	017217	45·4	006586	45·8	
8. 0	38. 16	017860	46·6	008858	46·3		8. 0	39. 41	017300	45·2	006793	45·0	
10. 0	43. 42	018941	45·0	009125	45·0	J H	10. 0	40. 45	016995	42·8	007055	43·0	J H
12. 0	42. 3	021339	45·0	009252	44·0	G	12. 0	42. 18	017041	43·0	007167	42·0	G
14. 0	46. 56	017719	46·0	008719	45·0		14. 0	38. 29	016913	43·5	007258	43·0	
16. 0	42. 2	017686	46·0	008982	45·0		16. 0	39. 27	016753	44·0	007067	43·0	
18. 0	42. 12	017309	46·0	008894	45·0		18. 0	39. 5	017237	44·0	007135	43·0	
20. 0	41. 16	017384	46·0	008966	45·0	G	20. 0	41. 22	017611	44·0	007135	43·0	G
22. 0	40. 22	017257	46·3	008950	45·8	D	22. 0	40. 35	017013	42·5	007298	42·5	D
Feb. 2. 0. 0	246. 33. 6	0·014074	47·6	0·008783	47·0	D	Feb. 5. 0. 0	246. 36. 8	0·016297	43·5	0·007497	42·5	D
1. 50	34. 6	015790		008647			1. 50	34. 11	016253		007294		
2. 0	33. 13	016775	50·0	008655	49·5		2. 0	34. 30	016197		007286		
2. 10	33. 2	016915		008584		D	2 10	34. 47	016115	46·0	007274	45·0	D
4. 0	31. 33	016240	52·0	008018	51·5	G	4. 0	36. 44	017189	47·0	007203	45·0	G
6. 0	36. 58	016117	53·0	007537	52·0		6. 0	38. 11	016795	47·0	007008	45·5	
8. 0	39. 5	016789	53·0	007390	52·0	G	8. 0	38. 11	015640	48·0	007083	46·0	
10. 0	41. 53	016881	51·6	007485	50·5	J H	10. 0	38. 25	016786	46·0	007207	44·0	G
12. 0	41. 9	016505	50·8	007660	50·0	D	12. 0	39. 28	016038	43·5	007366	43·3	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively 2^m. 30^s before, and 2^m. 30^s after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 51′. 59″; Feb. 1d, 269°. 52′. 7″.
Reading of Torsion-Circle of Meridiontal Magnet for Brass Bar resting in the Magnetic Meridian, 237°; Feb. 1d, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $29^s \cdot 9$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Jan. 31d. 0h. The Horizontal Force Magnet had apparently changed its position by 0·002088 parts of the whole horizontal force; when corrected for temperature the change was 0·001748; extra observations were taken; between 1h. 52m. 30s and 2h. 2m. 30s there was an apparent change of 0·001170; and, when corrected for change of temperature, this proved to be an unusually large change, amounting to 0·002003 parts of the whole horizontal force.

Feb. 1d. Between 0h and 1h. 50m there was a change in the position of the Horizontal Force Magnet of 0·002003 parts of the whole horizontal force; and between 10h and 12h another change of 0·002398 took place. (See the Section of Extraordinary Observations.)

Feb. 1d. 4h. The marked end of the Vertical Force Magnet was more drawn downwards at this than at any other observation in the month, the reading being 0·021895, corrected for temperature.

Feb. 1d, civil reckoning. The mean reading of the Horizontal Force Magnet corrected for temperature, as deduced from the two-hourly observations, was larger on this day than on any other day in the month, being 0·025855 parts of the whole horizontal force.

Feb. 1d, civil reckoning. The mean reading of the Vertical Force Magnet, corrected for temperature, was larger on this day than on any other day in the month, being 0·021263 of the whole vertical force, as deduced from the two-hourly observations. [ture, 0·029037 parts of the whole vertical force.

Feb. 1d. 13h. 23m. 56s. The marked end of the Horizontal Force Magnet was more drawn towards the North at this time than at any other time in the month, the reading being when corrected for tempera-

Feb. 1d. 20h. The motions of the Declination Magnet and of the Horizontal Force Magnet have been very irregular during the night; the former has had at times a large vibration, though its position of rest has scarcely altered since 14h; the latter has frequently moved by jerks, stopping in the middle of its vibration, and then moving forward again.

Feb. 2d. 0h. Both the Declination Magnet and the Horizontal Force Magnet had changed their positions in the previous two hours; the former to the amount of 7′, and the latter to the amount of 0·002962

Feb. 5d, civil reckoning. The range of the Declination Magnet was less on this than on any other day in the month, being 4′. 58″. [parts of the whole horizontal force. (See the Section of Extra. Obsers.)

Daily Observations from February 6 to 12.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Feb. 6. 14. 0	246. 39. 40	0·016991	36·5	0·009264	36·0	D	Feb. 9. 14. 0	246. 34. 4	0·016602	52·0	0·005049	51·5	D
16. 0	47. 24	016255	41·8	008186	39·0		16. 0	33. 14	016238	51·8	005097	51·5	
18. 0	44. 1	016852	45·2	007804	42·5		18. 0	33. 11	016338	52·2	005018	52·0	
20. 0	36. 3	015865	46·5	007222	44·2	D	20. 0	33. 33	016299	52·0	004946	52·0	D
22. 0	37. 33	016584	43·6	007167	42·0	JH	22. 0	34. 3	016226	51·5	005073	51·5	JH
Feb. 7. 0. 0	246. 32. 13	0·015934	44·6	0·007183	43·0	JH	Feb. 10. 0. 0	246. 30. 47	0·015441	52·6	0·004970	51·8	JH
1. 50	23. 37	016553		007211			1. 50	28. 54	015699		004898		
2. 0	21. 55	014566	46·0	007250	45·0		2. 0	28. 27	015989	53·8	004834	53·0	
2. 10	24. 34	012723		007171		JH	2. 10	27. 46	016077		004830		JH
4. 0	27. 26	014113	47·0	007501	46·0	D	4. 0	29. 49	016452	54·0	004699	53·5	D
6. 0	28. 53	016835	46·5	007187	45·5		6. 0	31. 57	015894	54·0	004536	53·3	
8. 0	33. 55	016553	48·0	006904	46·5		8. 0	36. 25	015644	55·0	004436	53·8	
10. 0	27. 25	016130	48·5	006072	47·0	D	10. 0	33. 25	016130	55·3	004317	54·0	D
12. 0	38. 47	015772	46·6	006048	45·3	JH	12. 0	33. 45	016027	55·5	004305	54·5	JH
14. 0	36. 41	016415	45·3	006403	45·0		14. 0	36. 45	016375	51·8	004492	51·6	
16. 0	33. 5	016863	43·8	006920	43·2		16. 0	35. 26	016000	51·0	004739	50·6	
18. 0	34. 7	017063	42·0	007266	42·0		18. 0	33. 48	016828	50·4	004902	50·1	
20. 0	34. 56	017495	41·3	007513	41·2	JH	20. 0	33. 22	016419	50·0	005081	49·6	JH
22. 0	33. 50	017628	41·5	007620	41·0	D	22. 0	34. 22	015745	51·5	005073	50·0	D
Feb. 8. 0. 0	246. 29. 44	0·016288	45·2	0·007417	43·0	D	Feb. 11. 0. 0	246. 31. 10	0·015319	53·0	0·004858	51·5	D
1. 50	30. 18	015906		006956			1. 50	29. 4	015226		004659		
2. 0	30. 14	016244	48·8	006984	46·0		2. 0	27. 47	015270		004620		
2. 10	30. 10	016053		006976		D	2. 10	28. 30	015347	54·2	004596	53·0	D
4. 0	30. 39	015555	49·0	006641	47·6	JH	4. 0	30. 21	015345	54·8	004620	53·8	JH
6. 0	33. 12	017315	48·0	006403	47·6		6. 0	30. 10	015323	55·0	004492	54·0	
8. 0	38. 19	017747	48·0	006375	47·5		8. 0	35. 5	016071	53·2	004751	53·0	
10. 0	36. 8	016022	47·8	006204	47·4	JH	10. 0	38. 16	014052	52·3	004878	52·2	JH
12. 0	46. 59	015668	48·0	005790	48·0	G	12. 0	48. 12	013773	55·5	004588	54·5	G
14. 0	35. 6	015584	52·0	005694	50·0		14. 0	47. 53	015048	55·5	003521	54·5	
16. 0	33. 0	016000	52·0	005408	51·0		16. 0	47. 19	015518	55·0	003155	54·0	
18. 0	34. 0	016266	52·0	005443	50·0		18. 0	41. 12	016208	54·5	002737	53·0	
20. 0	35. 7	016930	50·0	005702	47·0	G	20. 0	34. 8	014736	54·0	002208	53·0	G
22. 0	34. 29	016780	47·5	006128	47·2	D	22. 0	32. 44	013363	54·0	002908	53·0	D
Feb. 9. 0. 0	246. 29. 3	0·016166	49·5	0·006080	48·2	D	Feb. 12. 0. 0	246. 28. 6	0·014577	54·6	0·003362	53·5	D
1. 50	30. 46	015723		005515			1. 50	25. 15	015522		003465		
2. 0	29. 25	015712		005495			2. 0	25. 32	015385		003433		
2. 10	29. 43	015861	53·5	005416	52·0	D	2. 10	25. 46	015336	56·0	003394	55·0	D
4. 0	31. 21	015801	55·0	004946	54·0	G	4. 0	26. 59	015994	56·0	003477	55·0	G
6. 0	33. 40	015197	55·0	004627	54·0		6. 0	25. 58	016315	54·0	003593	53·0	
8. 0	33. 32	015380	55·0	004468	55·0		8. 0	32. 4	016629	54·0	003640	53·0	
10. 0	34. 48	016060	54·0	004528	54·0	G	10. 0	33. 21	015363	53·5	003680	53·0	G
12. 0	34. 31	016286	53·0	004834	52·2	D	12. 0	32. 21	015734	54·5	003664	53·5	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 7″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 220°; Feb. 7^d, 204°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$: in Vertical Plane, $29^s \cdot 9$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Feb. $6^d.\ 14^h$ to $7^d.\ 12^h$. There are several large changes in the positions of the Declination Magnet and Horizontal Force Magnet between these times. (See the Section of Extraordinary Observations.)

Feb. $8^d.\ 12^h$. The positions of the magnets were all changing, and extra observations were taken.

Feb. 10^d, civil reckoning. The mean western declination was larger on this day than on any other day in the month, being 23°. 19′. 24″, as deduced from the two-hourly observations.

Feb. 11^d. At 10^h the western declination was 23°. 13′. 51″; at 12^h it had decreased to 23°. 3′. 55″; and there were also considerable changes in the positions of both the other magnets. (See the Section of Extraordinary Observations.) At $18^h.\ 46^m$ the Vertical Force Magnet was in a position such as it had not been in since the establishment of the Magnetic Observatory; the marked end of the magnet being above the horizontal plane by a quantity represented by thirty divisions of its scale: the vertical force had been gradually decreasing for several days, the usual diurnal change not taking place; and at this time the marked end was less drawn downwards than at any other time in the month: the reading corrected for temperature was 0·015905.

Feb. 11^d. Between 18^h and 20^h the position of the Declination Magnet changed 7′, and also a change to the same amount took place between 6^h and 8^h on Feb. 12th: as both these changes were in the direction in which the magnet usually moves at these times, no extra observations were taken.

Feb. 12^d, civil reckoning. The mean reading of the Vertical Force Magnet, corrected for temperature, was smaller on this day than on any other day in the month, being 0·017431 parts of the whole vertical force, as deduced from the two-hourly observations.

Daily Observations from February 13 to 19.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°	
Feb. 13. 14. 0	246. 35. 42	0·017716	44·8	0·005244	44·5	D
16. 0	33. 40	017526	45·5	005591	45·4	
18. 0	33. 23	017370	45·0	005670	44·8	
20. 0	32. 53	017528	48·0	005487	46·2	D
22. 0	32. 18	017244	46·3	005495	45·0	J H
Feb. 14. 0. 0	246. 37. 40	0·016629	48·8	0·005348	46·6	J H
1. 50	31. 29	015945		004950		
2. 0	31. 3	015611	53·2	004894	51·4	
2. 10	30. 38	016360		004858		J H
4. 0	33. 53	016104	56·0	004070	55·0	D
6. 0	35. 36	016569	57·5	003565	56·1	
8. 0	35. 28	015092	57·0	003485	56·0	
10. 0	41. 2	013636	56·8	003636	56·0	D
12. 0	41. 11	015270	54·0	003680	53·5	J H
14. 0	38. 56	015967	50·6	003975	50·7	
16. 0	38. 45	015721	49·2	004261	49·2	
18. 0	38. 45	015806	48·7	004496	48·7	
20. 0	37. 8	016957	49·0	004663	48·0	J H
22. 0	36. 58	016415	49·5	004651	48·5	D
Feb. 15. 0. 0	246. 35. 32	0·015253	52·0	0·004548	50·5	D
1. 50	32. 18	014843		004198		
2. 0	32. 1	014448		004178		
2. 10	31. 29	015037	54·5	004146	53·0	D
4. 0	33. 25	015778	55·1	003672	55·0	J H
6. 0	36. 58	015015	54·3	003776	54·0	
8. 0	36. 15	016166	55·0	003632	54·3	
10. 0	37. 41	016049	52·4	003756	52·2	J H
12. 0	42. 40	016255	51·5	004070	50·0	G
14. 0	38. 5	015743	53·0	004130	52·0	
16. 0	37. 51	015839	53·0	004727	51·0	
18. 0	37. 39	016159	53·0	004787	51·0	
20. 0	37. 42	016573	52·0	004886	50·5	G
22. 0	36. 6	016642	51·0	005045	50·0	D
Feb. 16. 0. 0	246. 33. 59	0·015657	53·0	0·004890	51·5	D
1. 50	32. 3	015651		004715		
2. 0	31. 58	015701		004667		
2. 10	31. 26	016071	53·0	004655	51·5	D
4. 0	33. 29	016315	53·0	004767	52·0	G
6. 0	34. 9	016404	52·0	004791	52·0	
8. 0	33. 39	015854	52·0	004858	52·0	
10. 0	37. 49	015270	52·0	004787	52·0	G
12. 0	246. 37. 44	016210	52·5	004719	52·0	D

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force. uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°	
Feb. 16. 14. 0	247. 0. 35	0·017460	52·0	0·004596	52·0	D
16. 0	246. 49. 26	013758	52·8	004337	52·5	
18. 0	46. 39	015208	53·0	004508	52·0	
20. 0	37. 49	015701	52·0	004580	51·2	D
22. 0	35. 34	015912	50·0	004886	49·8	J H
Feb. 17. 0. 0	246. 30. 57	0·014548	50·2	0·004982	50·0	J H
1. 50	26. 35	013200		004882		
2. 0	27. 45	013939	52·0	004910	51·5	
2. 10	28. 8	014312		004922		J H
4. 0	26. 33	016591	52·5	004954	52·0	D
6. 0	26. 39	013558	52·0	005702	52·0	
8. 0	35. 24	015690	52·2	005185	51·8	D
10. 0	36. 59	016027	51·0	005165	51·0	G
12. 0	41. 2	016022	47·6	005547	47·3	J H
14. 0	41. 10	016963	45·0	005949	45·1	
16. 0	39. 48	016393	43·0	006387	43·0	
18. 0	39. 1	016984	42·0	006689	42·0	
20. 0	35. 26	017802	41·6	006888	41·2	JH
22. 0	35. 20	017271	42·3	007047	41·5	D
Feb. 18. 0. 0	246. 33. 57	0·016573	43·8	0·007008	43·0	D
1. 50	26. 49	016542		006657		
2. 0	26. 26	015883		006598		
2. 10	29. 25	014738	47·5	006518	46·5	D
4. 0	30. 42	014937	49·7	006100	49·4	J H
6. 0	32. 37	015101	49·7	006291	49·3	
8. 0	38. 59	015396	48·8	005865	48·7	
10. 0	39. 55	013795	46·6	006088	46·4	J H
12. 0	37. 25	013432	47·0	006120	46·0	G
14. 0	39. 22	015529	46·5	006104	46·0	
16. 0	41. 17	015275	46·5	006196	46·0	
18. 0	39. 50	016320	44·0	006637	43·0	
20. 0	37. 21	016924	42·0	007063	41·0	G
22. 0	33. 18	015489	39·5	007465	39·0	D
Feb. 19. 0. 0	246. 36. 44	0·016673	42·5	0·007453	41·5	D
1. 50	32. 50	014533		006864		
2. 0	31. 48	013994	48·5	006824	46·5	
2. 10	30. 47	013399		006777		D
4. 0	32. 18	013852	48·0	005921	51·0	G
6. 0	45. 25	015297	52·0	005782	53·0	
8. 0	48. 11	016691	51·0	005535	51·0	
10. 0	38. 23	015734	50·0	005503	50·0	G
12. 0	36. 56	016917	46·5	005702	46·2	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m \cdot 30^s$ before, and $2^m \cdot 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 7″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 204°; Feb. 14^d, 211°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $29^s \cdot 9$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Feb. 16^d. 12^h. The western declination was 23°. 14′. 23″; at 14^h it had decreased to 22°. 51′·32″, and extra observations were commenced.

Feb. 17^d. 4^h. The western declination was 23°. 25′. 34″; one hour afterwards it was found to be 23°. 10′. 19″, and extra observations were commenced.

Feb. 18^d. 10^h. The western declination was 23°. 12′. 12″; at 11^h. 29^m it was found to be 23°. 18′. 42″ (the magnet moving contrary to its usual motion at this time of the day), and extra observations were commenced.

Feb. 19^d. 4^h. The western declination was 23°. 19′. 49″; at the next observation it was 23°. 6′. 42″, and extra observations were taken.

Daily Observations from February 20 to 26.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Feb. 20. 14. 0	246. 38. 25	0·018363	38·5	0·007605	38·0	D	Feb. 23. 14. 0	246. 37. 27	0·016047	51·5	0·005416	50·5	D
16. 0	41. 9	016917	41·5	007605	40·0		16. 0	37. 56	017110	51·5	005336	50·5	
18. 0	37. 57	016377	44·2	007306	42·0		18. 0	39. 43	017077	50·0	005272	49·6	
20. 0	36. 14	015923	46·5	006920	44·0	D	20. 0	37. 50	017375	49·0	005284	48·5	D
22. 0	35. 19	016031	46·2	006701	44·0	J H	22. 0	34. 57	017114	48·6	005439	48·0	J H
Feb. 21. 0. 0	246. 33. 40	0·015242	48·2	0·006355	46·3	J H	Feb. 24. 0. 0	246. 29. 11	0·015616	51·0	0·005213	49·2	J H
1. 50	35. 49	015522		006100			1. 50	30. 57	017048		005232		
2. 0	35. 42	015646	49·8	006056	48·0		2. 0	29. 1	017228	52·6	005260	51·0	
2. 10	35. 35	015878		006017		J H	2. 10	28. 0	017364		005256		J H
4. 0	36. 18	016193	50·0	005762	49·2	D	4. 0	23. 3	017085	52·3	005814	51·8	D
6. 0	38. 12	015588	51·2	005802	49·8		6. 0	29. 20	015660	53·0	006064	52·0	
8. 0	37. 44	015772	53·0	005511	51·0		8. 0	31. 43	014070	55·0	006769	53·5	
10. 0	40. 27	015502	51·0	005471	50·2	D	10. 0	246. 38. 21	012664	55·3	007214	53·5	D
12. 0	39. 23	017184	49·5	005778	49·0	J H	12. 0	247. 3. 7	009427	51·7	005177	50·0	J H
14. 0	39. 56	016879	46·2	006048	46·0		14. 0	246. 47. 12	010018	51·0	004222	50·5	
16. 0	36. 24	017039	44·0	006387	44·0		16. 0	41. 15	012790	49·2	006009	48·8	
18. 0	36. 2	017211	43·6	006673	43·6		18. 0	40. 1	014907	47·4	006283	47·3	
20. 0	35. 39	017648	43·0	006828	43·0	J H	20. 0	38. 19	014678	47·0	006434	46·3	J H
22. 0	37. 20	016197	44·8	006900	44·0	G	22. 0	37. 3	014457	47·2	006661	46·0	D
Feb. 22. 0. 0	246. 35. 26	0·016413	46·0	0·006542	45·5	G	Feb. 25. 0. 0	246. 34. 5	0·015432	49·0	0·006530	47·8	D
1. 50	34. 29	016656	49·5	006172	48·0		1. 50	33. 25	016329		006438		
2. 0	34. 37	016723		006100			2. 0	33. 28	016295	48·5	006426	46·5	
2. 10	34. 21	016778		006092		G	2. 10	33. 57	015926		006418		D
4. 0	36. 54	016443	49·4	005786	50·3	J H	4. 0	35. 56	015793	49·2	006351	49·0	J H
6. 0	37. 26	016631	50·0	005595	49·1		6. 0	36. 45	015945	49·7	006092	48·6	
8. 0	38. 4	016523	48·8	005619	48·6		8. 0	34. 38	015870	47·2	006104	47·0	J H
10. 0	39. 3	016977	48·0	005806	47·6	J H	10. 0	45. 40	017841	47·0	006279	45·0	G
12. 0	38. 53	016095	47·4	006028	47·0	P	12. 0	36. 57	015808	48·0	006387	46·0	G
14. 0	38. 4	015978	47·0	006180	46·6		14. 0	36. 17	016251	47·0	006391	46·3	D
16. 0	38. 29	016110	46·6	006219	46·2		16. 0	36. 51	015901	47·4	006379	45·5	P
18. 0	39. 54	016930	46·5	006259	46·0		18. 0	36. 11	016358	46·0	006598	44·8	J H
20. 0	39. 51	016900	46·4	006259	46·0	P	20. 0	35. 34	016723	45·0	006781	44·0	M
22. 0	38. 40	016505	48·0	006104	47·0	D	22. 0	35. 6	015945	45·0	006940	43·0	J H
Feb. 23. 0. 0	246. 35. 54	0·015808	50·5	0·005853	49·0	D	Feb. 26. 0. 0	246. 33. 35	0·015553	47·0	0·006737	45·0	P
1. 50	32. 48	015701		005615			1. 50	31. 24	016036		006311		D
2. 0	33. 1	015804		005587			2. 0	31. 27	015427	50·2	006251	48·5	
2. 10	32. 47	015704	51·8	005575	50·8	D	2. 10	31. 29	015427		006140		D
4. 0	34. 24	016221	52·0	005483	52·0	P	4. 0	34. 30	014502	52·6	005611	51·6	J H
6. 0	35. 42	016516	51·5	005185	51·2		6. 0	35. 57	014667	52·8	005217	52·0	M
8. 0	39. 37	016727	51·0	005153	50·2		8. 0	37. 44	015502	51·1	005272	50·6	P
10. 0	38. 14	016244	52·0	005185	51·4	P	10. 0	37. 19	015649	50·2	005455	49·6	D
12. 0	37. 48	016483	50·5	005344	50·0	D	12. 0	38. 38	015737	48·0	005702	47·5	P

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively 2^m. 30^s before, and 2^m. 30^s after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 7″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 211°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $29^s \cdot 9$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Feb. 24d. The western declination at 8^h was 23°. 20′. 24″; at 10^h it was 23°. 13′. 46″; and at 12^h it had further decreased to 22°. 49′. 0″, and extra observations were commenced: at 12^h. 6^m the western declination was 22°. 48′. 42″, and this was the smallest in the month; at 13^h. 15^m. 0^s it had increased to 23°. 31′. 55″, and this was the largest in the month; and thus the monthly range of the Declination Magnet was 43′. 13″, the observations from which it is deduced being only separated by 1^h. 9^m. At 13^h. 30^m the marked end of the Horizontal Force Magnet was less drawn towards the N. than at any other observation in the month, the reading being, when corrected for temperature, 0·016340 parts of the whole horizontal force.

Feb. 25d. 10^h. Five-minute observations were commenced. (See the Section of Term-day Observations.)

Feb. 25d. civil reckoning. The mean reading of the Horizontal Force Magnet, corrected for temperature, was smaller on this day than on any day in the month, being 0·023214 parts of the whole horizontal force, as deduced from the two-hourly observations; and the range of the Declination Magnet was greater on this day than on any other day in the month, being 42′. 49″.

Feb. 25d and 26d, civil reckoning. The greatest difference in the mean western declination between any two consecutive civil days during the month took place between these two days, being 2′. 41″, the declination on the second of the two days being the larger.

Daily Observations from February 27 to March 5.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Feb. 27. 14. 0	246. 35. 59	0·018007	41·8	0·007254	41·2	P	Mar. 2. 14. 0	246. 45. 36	0·015507	51·2	0·005018	50·6	P
16. 0	37. 23	018391	42·0	007159	41·2		16. 0	45. 4	015772	51·5	004926	51·0	
18. 0	39. 27	017107	42·2	007135	41·4		18. 0	46. 48	016408	51·8	004795	50·2	
20. 0	37. 15	017517	44·5	007095	42·5	P	20. 0	46. 4	015367	51·8	004742	51·4	P
22. 0	34. 12	016184	46·0	006940	44·0	D	22. 0	45. 23	015566	53·0	004667	52·0	D
Feb. 28. 0. 0	246. 31. 34	0·015114	50·0	0·006347	47·2	D	Mar. 3. 0. 0	246. 41. 33	0·014371	56·0	0·004301	54·0	D
1. 50	39. 32	015179		005694			1. 50	39. 15	014555		003871		
2. 0	39. 47	015363	50·5	005622	50·0		2. 0	39. 2	014643		003863		
2. 10	39. 47	015303		005591		D	2. 10	38. 49	014816	57·0	003859	56·0	D
4. 0	42. 26	015723	50·5	005431	50·0	P	4. 0	42. 37	015474	57·2	003859	56·8	P
6. 0	44. 49	016708	50·5	005384	50·0		6. 0	44. 57	015745	57·2	003680	56·2	
8. 0	45. 5	016607	49·7	005423	49·3		8. 0	44. 18	015845	57·4	003632	56·4	
10. 0	46. 29	016186	50·4	005551	49·5	P	10. 0	45. 23	015389	56·4	003672	55·8	P
12. 0	47. 31	016742	51·2	005416	50·2	D	12. 0	46. 21	015928	54·2	003959	54·0	D
14. 0	44. 52	016961	51·5	004970	50·0		14. 0	46. 41	016408	53·4	004082	53·0	
16. 0	47. 27	015934	53·0	005014	51·0		16. 0	47. 12	016564	53·0	004257	53·0	
18. 0	46. 59	016377	52·0	004886	51·0		18. 0	47. 58	016879	51·5	004436	51·0	
20. 0	46. 18	015845	51·5	004902	51·0	D	20. 0	45. 12	015599	54·0	004596	52·5	D
22. 0	45. 15	015635	52·0	004866	51·4	J H	22. 0	42. 42	015281	53·8	004261	52·7	J H
Mar. 1. 0. 0	246. 40. 42	0·014389	54·3	0·004600	53·0	J H	Mar. 4. 0. 0	246. 41. 8	0·014849	54·8	0·004154	53·3	J H
1. 50	37. 32	015701		004413			1. 50	41. 3	015020		004078		
2. 0	38. 24	014671	55·6	004397	53·4		2. 0	41. 0	015137	55·6	004074	54·2	
2. 10	38. 33	015097		004405		J H	2. 10	40. 55	015231		004070		J H
4. 0	40. 32	014754	54·5	004572	54·0	D	4. 0	42. 1	015533	56·0	004468	55·0	D
6. 0	43. 31	015743	54·5	004468	54·0		6. 0	42. 14	015772	55·0	004126	54·5	
8. 0	43. 12	016441	53·0	004540	52·5		8. 0	46. 55	016143	54·2	004210	53·5	
10. 0	54. 39	014450	51·8	004906	51·0	D	10. 0	44. 52	016564	53·5	004381	52·5	D
12. 0	49. 58	015699	49·8	005145	49·0	J H	12. 0	45. 34	016000	52·2	004544	51·4	J H
14. 0	46. 23	016702	47·0	005435	46·9		14. 0	47. 37	017400	49·6	004699	49·0	
16. 0	45. 28	016908	45·0	005953	45·0		16. 0	47. 57	016974	48·5	004994	48·0	
18. 0	44. 10	017050	44·0	006391	43·4		18. 0	44. 49	017858	47·0	005316	46·6	
20. 0	47. 21	017544	43·0	006629	42·4	J H	20. 0	45. 18	016997	46·0	005806	45·5	J H
22. 0	45. 22	017226	43·8	006657	43·0	D	22. 0	39. 59	016531	46·8	006060	46·0	D
Mar. 2. 0. 0	246. 38. 54	0·015396	45·8	0·006379	45·0	D	Mar. 5. 0. 0	246. 38. 15	0·014882	51·6	0·005503	49·2	P
1. 50	37. 15	015347		006212			1. 50	41. 23	014395		004707		
2. 0	36. 36	015363		006227			2. 0	39. 8	014450	56·0	004627	54·0	
2. 10	37. 57	015424	47·0	006239	46·0	D	2. 10	39. 52	014481		004548		P
4. 0	39. 44	016154	48·0	006005	47·6	J H	4. 0	39. 34	015544	56·3	004273	56·0	J H
6. 0	43. 15	016355	49·0	005837	48·3		6. 0	39. 34	014150	56·0	004226	55·3	
8. 0	46. 44	016208	49·3	005571	48·8		8. 0	46. 18	015867	53·6	004281	53·6	
10. 0	46. 37	015887	50·0	005312	49·6	J H	10. 0	57. 32	018208	51·4	004635	51·0	J H
12. 0	46. 9	015345	50·2	005185	50·0	P	12. 0	48. 44	014926	49·0	004826	49·0	

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 7″; March 1d, 269°. 52′. 15″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 211°; Feb. $28^d.\ 1^h.\ 50^m$, 239°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $29^s \cdot 9$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Feb. $28^d.\ 1^h.\ 50^m$. The position of the Declination Magnet was 8′ different from its position at 0^h, and the direction of the change was contrary to the usual motion at this time of the day: most probably this was owing to the change of 28° in the position of the Torsion Circle.

Feb. 28d, civil reckoning. The mean western declination was smaller on this day than on any other day in the month, being 23°. 11′. 57″, as deduced from the two-hourly observations.

Feb. 28d and March 1d, civil reckoning. The difference between the mean western declinations of those days was 4′. 51″; that on the first of the two days being the larger; there are only four other instances in the year in which the difference from one day to the next is so great as this.

March 1d. The western declination was 23°. 9′. 36″ at 8^h; it had decreased to 22°. 57′. 36″ by 10^h, and extra observations were commenced.

March 1d, civil reckoning. The mean reading of the Vertical Force Magnet, corrected for temperature, was larger on this day than on any other day in the month, being 0·018447 parts of the whole vertical force, as deduced from the two-hourly observations.

March 4d, civil reckoning. The mean reading of the Horizontal Force Magnet, corrected for temperature, was larger on this day than on any other day in the month, being, when corrected for temperature, 0·025057 parts of the whole horizontal force, as deduced from the two-hourly observations; and the range of the Declination Magnet was less on this day than on any other day in the month, being 6′. 58″.

March 5d. At 8^h the western declination was 7′ less than it was at 6^h; and the Horizontal Force Magnet was also much affected; extra observations were commenced, during which, at $9^h.\ 48^m.\ 0^s$, the declination was 22°. 51′. 51″, and this is the smallest in the month.

Daily Observations from March 6 to 12.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Mar. 6. 14. 0	246. 49. 36	0·017173	45·0	0·005554	45·4	P	Mar. 9. 14. 0	246. 45. 33	0·016177	47·0	0·004381	46·0	P
16. 0	49. 45	016902	43·8	006002	44·0		16. 0	44. 7	015965	47·2	004381	46·0	
18. 0	46. 33	017107	42·4	006505	42·4		18. 0	45. 33	016509	47·0	004309	46·2	
20. 0	44. 59	017581	43·2	006657	43·0	P	20. 0	47. 28	015861	46·4	004500	45·5	P
22. 0	44. 30	016908	44·0	006578	43·5	D	22. 0	46. 43	015092	46·0	004588	45·8	D
Mar. 7. 0. 0	246. 41. 38	0·014827	46·0	0·006343	45·0	D	Mar. 10. 0. 0	246. 43. 31	0·014982	47·8	0·004369	47·5	D
1. 50	40. 16	015878		005782			1. 50	40. 58	015590	50·3	004094	49·0	
2. 0	40. 13	015264		005695			2. 0	41. 4	015301		004074		
2. 10	40. 37	015213	50·5	005591	49·5	D	2. 10	41. 55	015599		004062		D
4. 0	42. 32	015400	56·0	004906	54·0	P	4. 0	38. 45	015728	49·0	003812	50·0	P
6. 0	45. 0	015378	55·0	004309	54·0		6. 0	39. 37	016360	49·0	003812	49·0	
8. 0	45. 41	015677	54·0	004150	53·4		8. 0	43. 15	015750	48·5	003991	48·2	
10. 0	46. 45	015389	53·2	004229	53·0		10. 0	42. 47	016044	47·4	004070	47·2	P
12. 0	47. 19	015601	52·5	003358	52·0	D	12. 0	43. 0	016204	46·0	004468	45·6	D
14. 0	46. 18	015662	51·5	003485	51·5		14. 0	43. 16	016725	45·0	004671	44·5	
16. 0	48. 9	014963	51·5	003437	51·0		16. 0	42. 46	016022	43·6	004874	43·0	
18. 0	46. 14	014849	53·8	003175	53·0		18. 0	42. 33	016171	46·0	004838	45·0	
20. 0	45. 25	015402	55·5	002976	54·0	D	20. 0	42. 55	015899	47·0	004620	46·0	D
22. 0	41. 51	014278	55·0	002769	54·0	JH	22. 0	42. 58	014643	47·0	004520	46·1	JH
Mar. 8. 0. 0	246. 42. 53	0·014278	56·4	0·002558	54·8	JH	Mar. 11. 0. 0	246. 37. 20	0·014395	48·8	0·004046	48·0	JH
1. 50	39. 1	014106		002283			1. 50	34. 40	014267		003824		
2. 0	39. 36	014030	58·0	002208	57·0		2. 0	35. 3	014522	50·8	003812	50·0	
2. 10	39. 15	015475		002204		JH	2. 10	35. 46	014494		003796		JH
4. 0	41. 28	013707	61·0	001921	62·2	D	4. 0	37. 54	015551	53·8	003433	52·7	D
6. 0	41. 53	014163	60·0	001213	60·0		6. 0	40. 11	014555	55·5	003163	54·0	D
8. 0	44. 0	014924	58·8	001276	58·2		8. 0	41. 35	014583	56·0	002757	55·0	JH
10. 0	46. 41	014669	58·0	001535	57·5	D	10. 0	42. 59	015684	54·8	002578	54·4	P
12. 0	47. 20	014858	55·0	002017	55·0	JH	12. 0	43. 20	014687	56·3	002502	55·0	JH
14. 0	47. 39	014937	52·6	002275	53·0		14. 0	45. 50	015810	54·4	002403	54·0	
16. 0	45. 37	016020	51·0	002781	50·8		16. 0	44. 1	016397	52·0	002709	51·5	
18. 0	45. 43	016564	49·3	003254	49·0		18. 0	45. 25	016935	50·7	002928	50·6	
20. 0	47. 49	016731	47·2	003712	47·0	JH	20. 0	42. 52	015939	48·6	003414	48·4	
22. 0	39. 13	015235	48·2	004030	47·0	P	22. 0	40. 14	015081	49·2	003732	48·2	JH
Mar. 9. 0. 0	246. 43. 27	0·014860	50·0	0·003680	49·0	D	Mar. 12. 0. 0	246. 34. 49	0·013974	52·5	0·003505	50·8	D
1. 50	40. 36	015268		003473			1. 50	36. 56	013817		002988		
2. 0	40. 41	015352	52·2	003481	51·0		2. 0	36. 32	013930		002964		
2. 10	41. 30	015215		003473		D	2. 10	36. 42	014345	56·5	002908	55·2	D
4. 0	42. 56	015723	52·7	003322	52·0	JH	4. 0	40. 7	014616	60·0	002653	58·0	JH
6. 0	45. 52	015303	51·6	003517	50·2		6. 0	50. 36	014947	58·0	001865	57·6	
8. 0	44. 14	015839	50·6	003485	50·0		8. 0	41. 0	014993	55·4	001985	55·7	
10. 0	45. 7	016377	48·4	003903	48·0	JH	10. 0	42. 20	015772	53·0	002427	52·6	JH
12. 0	46. 14	016946	47·2	004269	46·5	P	12. 0	42. 17	015939	52·0	002757	51·5	P

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively 2^m. 30^s before, and 2^m. 30^s after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 15″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 239°; March 10^d. 4^h, 225°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20^s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24^s·3; in Vertical Plane, 29^s·9.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

March 7^d. 4^h. The marked end of the Vertical Force Magnet was more drawn downwards at this than at any other observation in the month, the reading being 0·019162, when corrected for temperature.

March 7^d, civil reckoning. The mean western declination was smaller on this than on any other day in the month, being 23°. 6′. 52″, as deduced from the two-hourly observations.

March 8^d. Between 20^h and 22^h the western declination increased 8′. 36″; on March 10^d, between 22^h and 24^h, the increase was 5′. 38″; on March 11th, between 22^h and 24^h the increase was 5′. 25″; on March 12th, between 4^h and 6^h, the decrease was 10′. 29″; and between 22^h and 24^h, the increase was 6′. 47″: no extra observations were taken, as, at each change, the direction of motion of the magnet was right for the time of the day.

Daily Observations from March 13 to 19.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°	
Mar. 13. 14. 0	246. 47. 0	0·017079	47·2	0·003478	47·2	P
16. 0	42. 56	015601	46·4	003871	46·2	
18. 0	41. 25	016968	46·4	003951	46·2	P
20. 0	44. 2	016487	46·8	004011	46·4	D
22. 0	43. 2	015657	46·5	004066	46·5	
Mar. 14. 0. 0	246. 36. 15	0·015595	49·0	0·003871	48·0	D
1. 50	33. 15	015950		003688		
2. 0	33. 56	015701		003664		
2. 10	33. 27	015901	51·5	003664	50·5	D
4. 0	37. 56	015743	52·2	003481	51·5	P
6. 0	42. 4	015345	53·5	003095	52·5	
8. 0	43. 20	015950	53·0	002797	52·4	
10. 0	44. 3	015887	53·2	002797	52·2	P
12. 0	43. 44	016315	51·5	002844	51·2	D
14. 0	41. 54	016487	51·5	002988	51·0	
16. 0	43. 15	016729	51·5	002960	51·0	
18. 0	45. 10	016919	51·5	003183	51·0	
20. 0	45. 18	016005	52·8	002844	52·0	D
22. 0	45. 37	014533	52·7	002705	52·0	J H
Mar. 15. 0. 0	246. 39. 9	0·013762	55·0	0·002303	53·3	J H
1. 50	34. 31	014404		002092		
2. 0	34. 31	014548	56·6	002088	55·3	
2. 10	34. 31	014805		002080		J H
4. 0	38. 11	015334	56·5	001969	56·0	D
6. 0	41. 4	015750	56·6	001913	56·5	
8. 0	41. 45	016331	56·2	001845	56·0	
10. 0	48. 40	012591	57·2	002192	56·5	D
12. 0	49. 4	013308	57·0	001997	56·3	J H
14. 0	42. 24	013963	56·0	002017	55·4	
16. 0	45. 2	014787	55·0	002072	54·8	
18. 0	44. 18	015458	54·6	002172	54·3	
20. 0	45. 54	015079	53·5	002216	53·3	J H
22. 0	44. 57	014218	54·0	002180	54·0	P
Mar. 16. 0. 0	246. 37. 19	0·014163	56·3	0·001993	55·0	D
1. 50	34. 27	015467		001774		
2. 0	34. 26	015861		001762		
2. 10	33. 56	015989	57·5	001762	56·3	D
4. 0	34. 16	016602	57·6	001885	57·0	J H
6. 0	37. 53	016797	56·3	001953	56·0	
8. 0	43. 56	013529	56·6	002610	56·0	
10. 0	57. 15	011389	55·8	002224	55·0	J H
12. 0	47. 56	012567	55·0	001420	54·4	P

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°	
Mar. 16. 14. 0	246. 41. 31	0·014201	54·0	0·001921	53·5	P
16. 0	49. 26	014570	53·0	001563	52·6	
18. 0	43. 38	014816	51·4	002606	51·0	
20. 0	45. 8	014954	51·4	002836	51·0	P
22. 0	41. 56	013518	51·0	002888	51·0	D
Mar. 17. 0. 0	246. 38. 28	0·013116	53·0	0·002805	52·2	D
1. 50	36. 29	013872		002470		
2. 0	36. 31	013952		002458		
2. 10	37. 48	013797	57·5	002431	56·3	D
4. 0	39. 12	014980	58·0	002160	57·5	P
6. 0	40. 47	014068	57·8	001969	57·0	
8. 0	44. 0	016108	57·5	001881	56·8	
10. 0	45. 27	015248	56·2	001810	55·5	P
12. 0	45. 42	014603	54·0	002239	53·8	D
14. 0	43. 8	014838	53·0	002478	53·0	
16. 0	46. 9	014954	52·0	002606	52·0	
18. 0	43. 52	015535	51·0	003163	50·8	
20. 0	44. 4	015197	51·0	003039	50·5	D
22. 0	37. 17	013531	52·8	002940	51·0	J H
Mar. 18. 0. 0	246. 39. 29	0·013729	55·4	0·002446	53·4	J H
1. 50	38. 6	014019		002204		
2. 0	37. 30	014327	56·8	002196	55·2	
2. 10	38. 31	014267		002192		J H
4. 0	40. 38	014561	57·2	002279	56·2	D
6. 0	40. 47	014561	57·6	002040	56·5	
8. 0	40. 47	015378	54·8	002192	54·5	
10. 0	43. 35	015097	52·5	002566	52·5	D
12. 0	41. 26	015424	52·1	002709	51·2	J H
14. 0	42. 25	015878	49·3	003008	49·0	
16. 0	42. 32	016342	47·4	003386	47·4	
18. 0	43. 53	016459	45·6	003816	45·3	
20. 0	45. 34	016027	44·7	004070	44·0	J H
22. 0	33. 50	015644	47·4	004150	45·4	P
Mar. 19. 0. 0	246. 35. 31	0·013083	51·3	0·003613	48·5	D
1. 50	35. 18	012518		003346		
2. 0	34. 56	012843		003354		
2. 10	34. 4	012872	54·0	003362	51·5	D
4. 0	33. 41	014283	52·8	003354	51·2	J H
6. 0	38. 5	013319	53·0	003648	51·0	
8. 0	40. 2	014030	51·0	003621	50·2	
10. 0	49. 54	013603	49·0	003640	48·6	J H
12. 0	51. 35	014072	48·0	003465	47·5	P

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 15″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 225°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $29^s \cdot 9$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

March 15d. The western declination was 23°. 10′. 30″ at 8h; by 10h it was 23°. 3′. 35″: the position of the Horizontal Force Magnet had changed 0·003570 parts of the whole horizontal force within the same time, and extra observations were commenced.

March 16d. 6h. The western declination was 23°. 14′. 22″; at 10h it was 22°. 55′. 0; and the Horizontal Force Magnet was also much affected: extra observations were commenced.

March 17d, 18d, and 19d. See the Section of Extraordinary Observations.

March 19d. civil reckoning. The mean reading of the Horizontal Force Magnet, corrected for temperature, was smaller on this day than on any other day in the month, being 0·022894 parts of the whole horizontal force, as deduced from the two-hourly observations.

Daily Observations from March 20 to 26.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″				°	
Mar. 20. 14. 0	246. 49. 40	0·016315	43·2	0·004317	43·0	P	Mar. 23. 14. 0	246. 44. 56	0·015723	47·8	0·003306	46·5	D
16. 0	49. 39	016673	43·0	004508	42·5		16. 0	43. 0	014931	49·0	003991	47·0	P
18. 0	48. 29	015861	43·0	004508	42·5		18. 0	40·32	015467	49·0	004030	47·0	P
20. 0	44. 55	015867	43·8	004627	43·0	P	20. 0	41. 51	015325	47·8	004138	46·2	JH
22. 0	41. 23	015385	44·6	004476	44·5	D	22. 0	37. 43	013238	47·0	004190	45·8	M
Mar. 21. 0. 0	246. 33. 55	0·014470	46·3	0·004226	46·0	D	Mar. 24. 0. 0	246. 33. 54	0·013659	48·2	0·004229	47·3	D
1. 50	31. 58	013819		004190			1. 50	31. 53	014329		003847		JH
2. 0	32. 33	014074		004190			2. 0	32. 5	014803	51·0	003875	49·4	
2. 10	33. 30	014583	48·5	004050	48·5	D	2. 10	32. 24	014283		003855		JH
4. 0	35. 31	015458	52·2	003593	52·0	P	4. 0	35. 33	014461	52·8	003625	51·0	D
6. 0	37. 35	015677	52·2	003234	52·0		6. 0	41. 47	014094	54·0	...	52·4	D
8. 0	38. 1	015876	51·8	003274	51·0		8. 0	44. 2	014592	52·8	003314	52·0	P
10. 0	41. 57	018989	51·8	003433	51·6	P	10. 0	44. 17	014448	52·6	002908	51·2	JH
12. 0	39. 28	015839	50·0	003477	49·5	D	12. 0	47. 47	015478	50·5	002988	50·5	D
14. 0	40. 41	015588	48·0	003688	48·0		.....	....	...	..	...	..	..
16. 0	40. 33	015850	47·0	004070	47·0		.....	....	...	..	...	..	..
18. 0	41. 10	015972	46·0	004357	45·8		.....	....	...	..	...	..	..
20. 0	41. 8	016088	46·0	004580	46·0	D	.....	....	...	..	...	..	..
22. 0	36. 3	014715	46·2	004512	45·2	JH	.....	....	...	..	...	..	..
Mar. 22. 0. 0	246. 36. 36	0·014526	49·0	0·004214	48·2	JH	.....	....	...	..	...	..	..
1. 50	34. 17	014572		003746			.....	....	...	..	...	..	..
2. 0	34. 55	014680	52·6	003680	51·0		.....	....	...	..	...	..	..
2. 10	35. 18	014583		003648		JH	.....	....	...	..	...	..	..
4. 0	36. 23	015092	54·0	003593	53·0	D	.....	....	...	..	...	..	..
6. 0	37. 39	015119	53·5	003095	52·5		.....	....	...	..	...	..	..
8. 0	38. 11	016071	51·5	003234	51·0		.....	....	...	..	...	..	..
10. 0	40. 26	016152	49·3	003545	49·0	D	.....	....	...	..	...	..	..
12. 0	41. 21	017085	48·0	003839	47·6	JH	.....	....	...	..	...	..	..
14. 0	42. 34	016686	45·5	004078	45·0		Mar. 25. 14. 0	246. 37. 21	0·016226	47·5	0·003326	47·5	D
16. 0	41. 20	016255	44·7	004333	44·4		16. 0	37. 21	015923	47·5	003553	47·2	
18. 0	43. 33	017942	42·8	004612	42·7		18. 0	40. 29	016362	46·2	003879	46·0	
20. 0	42. 56	017271	42·2	004910	41·8	JH	20. 0	41. 34	016022	46·0	004616	46·0	D
22. 0	30. 13	015564	45·0	004950	43·0	P	22. 0	31. 57	013470	47·2	004345	46·0	JH
Mar. 23. 0. 0	246. 29. 25	0·014028	49·5	0·004309	46·8	P	Mar. 26. 0. 0	246. 35. 20	0·013343	52·7	0·003708	49·8	JH
1. 50	31. 12	015595		003831			1. 50	34. 41	013808		002908		
2. 0	28. 37	016333	51·8	003774	50·1		2. 0	34. 30	013674		002912		
2. 10	29. 26	016408		003761		P	2. 10	34. 37	013861	56·3	002821	54·0	JH
4. 0	31. 40	015723	54·4	003318	52·0	JH	4. 0	36. 31	014150	57·0	002359	56·0	D
6. 0	36. 6	015588	52·4	002884	52·0		6. 0	37. 1	015035	53·5	002160	53·5	
8. 0	39. 3	015778	51·4	003028	50·8	JH	8. 0	38. 37	015480	52·0	002753	51·8	
10. 0	51. 51	014061	48·0	...	48·5	M	10. 0	40. 28	016031	48·5	003378	48·2	D
12. 0	45. 17	016338	47·0	004030	47·0	M	12. 0	40. 26	016166	48·0	003696	47·6	JH

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 15″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 225°; March $21^d.\ 0^h$, 213°. 40′.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$: in Vertical Plane, $29^s \cdot 9$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

March $21^d.\ 10^h$. The marked end of the Horizontal Force Magnet was more drawn towards the North at this than at any other observation in the month, the reading being 0·027795 when corrected for temperature.

March 21^d and 22^d, civil reckoning. The greatest difference in the mean western declination between any two consecutive civil days during the month took place between these two days, being 2′. 32″, the declination on the second of the two days being the larger.

March 22^d. Between 20^h and 22^h the western declination increased from 23°. 9′. 19″ to 23°. 22′ 2″, and extra observations were commenced.

March 23^d. Between 8^h and 10^h the western declination decreased from 23°. 13′. 12″ to 23°. 0′. 24″; at 10^h the Term-Day Observations commenced (see the Section of Term-Day Observations); and at $22^h.\ 20^m$ the marked end of the Horizontal Force Magnet was less drawn towards the N. than at any other time in the month, the reading corrected for temperature being 0·019660.

March 23^d, civil reckoning. The range of the Declination Magnet was greater on this day than on any other day in the month, being 23′. 14″.

March 25^d, Good Friday: no observations were taken.

March 25^d. Between 20^h and 22^h all the magnets were changing their positions quickly, the western declination having increased from 23°. 10′. 41″ to 23°. 20′. 18″; extra observations were commenced.

Daily Observations from March 27 to April 2.

Göttingen Mean Time (Astronomical Reckoning) Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Mar. 27. 14. 0	246. 44. 12	0 ·015081	46 ·2	0 ·003636	45 ·8	JH	Mar. 30. 14. 0	246. 40. 18	0 ·015579	50 ·5	0 ·002200	50 ·2	JH
16. 0	41. 31	015606	46 ·8	003855	46 ·2		16. 0	38. 20	016584	48 ·2	002339	49 ·0	
18. 0	35. 55	014548	47 ·4	003294	46 ·6		18. 0	40. 6	016093	48 ·0	001921	47 ·8	
20. 0	37. 15	014998	47 ·6	003537	47 ·0	JH	20. 0	41. 23	016344	47 ·7	003075	47 ·3	
22. 0	37. 17	014212	50 ·8	003119	49 ·4	P	22. 0	39. 23	015566	48 ·0	003008	47 ·5	JH
Mar. 28. 0. 0	246. 32. 41	0 ·010880	54 ·6	0 ·002518	53 ·2	P	Mar. 31. 0. 0	246. 34. 12	0 ·015418	49 ·8	0 ·003028	49 ·2	P
1. 50	30. 30	013387		001961			1. 50	32. 3	016141		002478		
2. 0	30. 58	013625	56 ·8	001961	56 ·0		2. 0	31. 34	016618	51 ·8	002479	51 ·2	
2. 10				001929		P	2. 10	30. 21	016731		002478		P
4. 0	32. 24	013631	57 ·8	001877	57 ·6	JH	4. 0	33. 29	017035	53 ·7	002184	53 ·2	JH
6. 0	36. 54	013839	59 ·2	001436	58 ·4		6. 0	36. 27	016773	54 ·8	002233	54 ·4	
8. 0	36. 56	013872	58 ·5	001038	58 ·2		8. 0	38. 8	016531	54 ·5	002072	54 ·4	
10. 0	41. 5	013857	56 ·9	001014	56 ·7	JH	10. 0	40. 6	015734	54 ·5	002084	54 ·5	JH
12. 0	39. 24	015226	54 ·5	001205	54 ·5	P	12. 0	40. 0	016099	54 ·3	002040	54 ·3	P
14. 0	41. 17	014583	55 ·4	001384	54 ·8		14. 0	39. 31	016177	53 ·5	002120	53 ·4	
16. 0	39. 55	015345	54 ·5	001384	54 ·4		16. 0	38. 16	016208	53 ·1	002200	53 ·0	
18. 0	39. 59	014526	53 ·8	000807	53 ·8		18. 0	38. 18	016857	52 ·8	002319	52 ·5	
20. 0	40. 41	014621	53 ·4	001802	53 ·2	P	20. 0	40. 32	016885	51 ·0	002685	50 ·8	P
22. 0	40. 59	013685	53 ·8	001451	53 ·5	D	22. 0	39. 32	016193	49 ·0	002856	49 ·0	D
													D
Mar. 29. 0. 0	246. 29. 59	0 ·013056	53 ·8	0 ·001396	53 ·8	D	Apr. 1. 0. 0	246. 35. 5	0 ·016824	48 ·0	0 ·002836	48 ·0	
1. 50	31. 21	014760	55 ·0	001495	55 ·0		1. 50	25. 59	019338		003075		
2. 0	31. 38	014865		001515			2. 0	27. 26	017832		003004		
2. 10	31. 58	014647		001515		D	2. 10	28. 41	017156	48 ·0	002968	48 ·0	D
4. 0	34. 8	015124	56 ·8	001563	56 ·8	P	4. 0	29. 56	015712	48 ·5	003593	48 ·2	P
6. 0	35. 36	014234	57 ·4	001356	57 ·4		6. 0	35. 26	016885	47 ·8	003871	47 ·4	
8. 0	42. 20	012622	57 ·0	001404	56 ·8		8. 0	36. 6	017311	47 ·0	003943	46 ·8	
10. 0	38. 16	014194	56 ·2	001244	56 ·0	P	10. 0	42. 27	016141	45 ·5	004338	45 ·4	P
12. 0	39. 18	014814	55 ·1	001264	55 ·0	D	12. 0	42. 52	016852	44 ·7	004369	44 ·3	D
14. 0	37. 5	014935	54 ·5	001356	54 ·5		14. 0	43. 0	017261	44 ·0	004556	43 ·2	
16. 0	37. 1	014643	54 ·0	001483	54 ·0		16. 0	42. 27	016060	42 ·8	004369	42 ·0	
18. 0	36. 51	015356	54 ·0	001555	54 ·0		18. 0	39. 31	017825	42 ·0	004978	41 ·5	
20. 0	41. 15	014871	53 ·6	001786	53 ·5	D	20 0	39. 16	016573	41 ·5	005105	41 ·0	D
22. 0	40. 39	014194	51 ·6	001834	51 ·6	JH	22. 0	38. 42	016861	41 ·4	005057	40 ·5	JH
Mar. 30. 0. 0	246. 34. 48	0 ·014555	51 ·6	0 ·001665	51 ·4	JH	Apr. 2. 0. 0	246. 35. 1	0 ·016747	41 ·8	0 ·004950	41 ·2	JH
1. 50	28. 17	014594		001869			1. 50	31. 51	016110		004846		
2. 0	28. 49	014439	52 ·6	001865	52 ·6		2. 0	31. 24	016562	43 ·2	004858	42 ·7	
2. 10	29. 22	014693		001929		JH	2. 10	32. 0	016520		004819		JH
4. 0	32. 39	015701	54 ·8	001953	55 ·2	D	4. 0	32. 48	017217	44 ·3	004787	43 ·8	D
6. 0	37. 27	014947	55 ·0	001993	55 ·2		6. 0	37. 0	017533	44 ·6	005018	44 ·0	
8. 0	39. 26	014621	55 ·0	001873	55 ·0		8. 0	39. 36	017809	44 ·1	004795	43 ·8	
10. 0	44. 25	015998	53 ·5	001893	53 ·5	D	10. 0	39. 42	016791	43 ·5	005018	43 ·1	D
12. 0	41. 28	015723	51 ·4	001853	51 ·3	JH	12. 0	45. 6	016197	41 ·7	005228	41 ·5	JH

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 15″; April 1d, 269°. 52′. 18″.
Reading of Torsion Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 213°. 40′.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot 3$; in Vertical Plane, $29^s\cdot 9$.
Decrease of Horizontal Force for 1° increase of temperature = 0 ·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0 ·000264 parts of the whole Vertical Force.

March 28d. 0h. Between this and the previous observations the Horizontal Force and the Vertical Force Magnets had changed their positions considerably: there is no note in the observing book, and there are no extra observations; it would appear that the changes had escaped the Observer's notice.

March 28d. 2h. 10m. The observations of the Declination Magnet and of the Horizontal Force Magnet were omitted by inadvertence.

March 28d, civil reckoning. The mean western declination was larger on this day than on any other day in the month, being 23°. 15′, 2″, as deduced from the two-hourly observations.

March 29d. 0h. The western declination was 23°. 22′. 16″; two hours previously it was 23°. 11′. 16″; and at 0h. 35m. 10s it was 23°. 24′. 33″, being the greatest in the month. (See the Section of Extraordinary Observations.)

March 30d. At 18h the Vertical Force Magnet was less drawn downwards than at any other time during the month, the reading, corrected for temperature, being 0·014540.

March 30d. 0h, April 1d. 1h. 50m and 4h to 10h; 2d. 12h; 3d. 16h; 4d. 6h and 22h. At these times there were considerable changes in the positions of one or other of the magnets; they were generally watched after each time, and no further changes to a large amount taking place, no extra observations were taken.

March 31d, civil reckoning. The mean reading of the Vertical Force Magnet, corrected for temperature, was smaller on this day than on any other day in the month, being 0·015878 parts of the whole vertical force, as deduced from the two-hourly observations.

April 1d. 1h. 50m. The marked end of the Horizontal Force Magnet was more drawn towards the North at this than at any other observation in the month, the reading being 0·027498, when corrected for temperature.

April 1d, civil reckoning. The mean reading of the Horizontal Force Magnet, corrected for temperature, was larger on this day than on any other day in the month, being 0·025003 parts of the whole horizontal force, as deduced from the two-hourly observations.

Daily Observations from April 3 to 9.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Apr. 3. 14. 0	246. 35. 8	0 ·016691	41 ·3	0 ·005284	41 ·2	JH	Apr. 6. 14. 0	246. 47. 23	0 ·013381	49 ·3	0 ·002622	48 ·5	JH
16. 0	41. 9	017035	41 ·0	005420	40 ·2		16. 0	46. 47	013952	48 ·5	003155	48 ·5	
18. 0	41. 1	016454	40 ·0	005463	40 ·0		18. 0	46. 42	014526	46 ·0	003744	46 ·0	
20. 0	42. 51	016908	40 ·0	005670	39 ·4	JH	20. 0	49. 54	013983	45 ·6	004110	45 ·6	JH
22. 0	40. 37	015485	40 ·3	005574	39 ·5	P	22. 0	48. 31	012600	47 ·4	003752	47 ·2	P
Apr. 4. 0. 0	246. 42. 52	0 ·014502	43 ·0	0 ·005281	42 ·0	P	Apr. 7. 0. 0	246. 42. 12	0 ·012451	49 ·0	0 ·003374	48 ·3	P
1. 50	40. 29	015976		004986			1. 50	39. 9	012967		002884		
2. 0	40. 45	016121		004926	44 ·0		2. 0	39. 0	012889	52 ·5	002868	53 ·0	
2. 10	41. 1	016193	44 ·8	004906		P	2. 10	39. 7	012850		002836		P
4. 0	41. 21	017145	46 ·4	004620	46 ·0	JH	4. 0	41. 16	012551	56 ·4	001256	56 ·0	JH
6. 0	48. 7	016662	46 ·3	004723	46 ·2		6. 0	45. 42	012369	57 ·6	000528	58 ·6	
8. 0	47. 1	017127	45 ·7	004500	45 ·4		8. 0	46. 54	012474	58 ·3	000520	58 ·0	
10. 0	47. 34	017013	44 ·6	004639	44 ·2	JH	10. 0	46. 26	012433	57 ·2	000647	57 ·2	JH
12. 0	51. 20	017278	43 ·5	004767	43 ·5	P	12. 0	47. 56	013846	54 ·6	001006	55 ·0	P
14. 0	50. 7	017006	42 ·5	004926	42 ·3		14. 0	47. 47	013598	52 ·1	001713	52 ·7	
16. 0	48. 50	017041	41 ·4	004913	41 ·2		16. 0	46. 46	013618	50 ·2	002160	50 ·5	
18. 0	48. 38	017727	40 ·3	005523	40 ·0		18. 0	47. 29	014271	47 ·2	003087	47 ·4	
20. 0	49. 7	017289	40 ·0	005622	39 ·8	P	20. 0	49. 37	013996	46 ·8	003367	46 ·8	P
22. 0	43. 25	014954	40 ·0	005591	40 ·0	D	22. 0	48. 6	012591	48 ·0	003306	47 ·8	D
Apr. 5. 0. 0	246. 42. 45	0 ·015057	43 ·0	0 ·004910	42 ·5	D	Apr. 8. 0. 0	246. 46. 6	0 ·011876	52 ·0	0 ·002630	51 ·2	D
1. 50	38. 40	016119		004409			1. 50	37. 34	011544		001611		
2. 0	39. 26	015756		004277			2. 0	37. 29	011699	56 ·0	001555	55 ·5	
2. 10	39. 11	016082	46 ·5	004277	46 ·0		2. 10	37. 20	011433		001443		D
4. 0	41. 16	016255	50 ·6	003277	54 ·7		4. 0	39. 38	011969	59 ·8	0 ·000090	64 ·2	P
6. 0	45. 31	015710	52 ·3	002677	52 ·8		6. 0	44. 22	011278	60 ·8	9 ·999609	60 ·0	
8. 0	46. 3	017200	51 ·0	002753	51 ·6		8. 0	45. 7	012418	58 ·4	9 ·999887	59 ·2	
10. 0	48. 18	015413	49 ·1	003278	49 ·4		10. 0	49. 24	011655	55 ·0	0 ·000926	56 ·0	P
12. 0	47. 10	016375	47 ·5	003477	47 ·5		12. 0	49. 19	012069	51 ·5	001773	52 ·5	D
14. 0	45. 52	015629	47 ·0	003660	46 ·5		14. 0	48. 56	012302	48 ·5	002486	49 ·8	
16. 0	46. 23	016115	44 ·3	004118	44 ·3		16. 0	46. 57	013481	46 ·8	002905	47 ·5	
18. 0	42. 57	017348	42 ·0	004516	42 ·0		18. 0	47. 32	014007	45 ·1	003509	45 ·5	
20. 0	49. 20	014931	43 ·2	005085	41 ·5	D	20. 0	48. 39	013222	45 ·0	003879	44 ·5	D
22. 0	40. 25	014152	46 ·5	004811	44 ·0	JH	22. 0	46. 45	011002	48 ·6	003644	47 ·0	JH
Apr. 6. 0. 0	246. 41. 45	0 ·012666	51 ·2	0 ·003975	48 ·0	JH	Apr. 9. 0. 0	246. 43. 13	0 ·010360	51 ·0	0 ·002876	49 ·6	JH
1. 50	39. 42	012258		003179			1. 50	37. 5	011028		002108		
2. 0	39. 18	012518	56 ·0	003079	54 ·0		2. 0	37. 7	011068	54 ·2	002060	54 ·1	
2. 10	39. 24	012422		002940		JH	2. 10	37. 8	010997		002033		JH
4. 0	41. 48	012766	57 ·1	001726	57 ·1		4. 0	41. 5	011515	56 ·5	000846	60 ·5	D
6. 0	46. 0	012640	57 ·1	001085	58 ·3		6. 0	44. 47	011194	56 ·0	000767	57 ·0	
8. 0	47. 18	012629	54 ·4	001436	55 ·8		8. 0	47. 41	012821	53 ·5	001129	55 ·0	
10. 0	47. 33	012646	53 ·0	001770	54 ·1		10. 0	48. 5	012900	50 ·8	001806	52 ·0	D
12. 0	47. 47	014843	50 ·8	002116	51 ·7	JH	12. 0	49. 8	013337	47 ·6	002502	48 ·3	JH

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.30^s$ before, and $2^m.30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 18″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 213°. 40′; April $4^d.0^h$, 226°. 30′.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $29^s.9$.
Decrease of Horizontal Force for 1° increase of temperature = 0 ·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0 ·000264 parts of the whole Vertical Force.

April 4^d, civil reckoning. The mean reading of the Vertical Force Magnet, corrected for temperature, was greater on this day than on any other day during the month, being 0 ·016318, as deduced from the two-hourly observations.

April $5^d.22^h$. The western declination was 23°. 11′. 53″, being 8′. 55″ larger than it was two hours before; the change in the position of the Horizontal Force Magnet was also considerable: extra observations were taken.

April $7^d.4^h$. A great change having taken place in the position of the Vertical Force Magnet, extra observations of it were taken.

April 8^d, civil reckoning. The mean western declination was smaller on this day than on any other day in the year, being 23°. 6′. 22″, as deduced from the two-hourly observations.

Daily Observations from April 10 to 16.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Apr. 10. 14. 0	246. 51. 36	0·016188	44·6	0·003246	44·7	JH	Apr. 13. 14. 0	246. 44. 19	0·011661	45·4	0·003672	45·4	JH
16. 0	56. 39	015164	44·6	002769	44·5		16. 0	44. 31	012013	45·0	004034	44·7	
18. 0	52. 49	014212	43·6	002944	43·6		18. 0	45. 6	012341	44·3	004261	44·0	
20. 0	42. 34	012629	44·0	003561	43·0	JH	20. 0	47. 45	011892	43·6	004273	43·3	JH
22. 0	38. 39	008112	47·0	004190	45·2	P	22. 0	45. 20	010651	44·8	004023	44·2	P
Apr. 11. 0. 0	246. 32. 45	0·008323	49·0	0·003234	48·0	P	Apr. 14. 0. 0	246. 36. 30	0·009090	46·0	0·003493	45·7	P
1. 50	32. 21	010565		002996			1. 50	35. 10	010565	48·5	003354	48·0	
2. 0	32. 51	009795	51·2	002996	50·8		2. 0	35. 18	010880		003354		
2. 10	33. 7	009910		002996		P	2. 10	35. 26	010155		003354		P
4. 0	35. 23	010906	52·8	002582	55·4	JH	4. 0	38. 1	011019	51·2	002705	51·7	JH
6. 0	37. 3	010742	52·8	002502	52·0		6. 0	40. 35	011681	51·2	002673	51·4	
8. 0	45. 37	012751	51·3	002649	52·0		8. 0	42. 48	012126	52·2	002554	52·1	
10. 0	43. 47	012872	49·3	002773	49·0	JH	10. 0	44. 49	012057	49·8	002713	50·1	JH
12. 0	49. 3	013443	47·0	002777	47·3	P	12. 0	40. 37	011539	48·3	002936	48·5	P
14. 0	49. 58	011876	46·2	003004	46·4		14. 0	47. 45	013021	47·4	002964	47·5	
16. 0	48. 4	013011	45·3	003203	45·3		16. 0	41. 54	012950	46·5	0·003035	46·7	
18. 0	45. 22	012755	44·5	003632	44·6		18. 0	18. 59	006153	46·0	9·997662	46·0	
20. 0	46. 5	012411	43·8	004030	43·8		20. 0	41. 25	004974	47·8	9·999899	47·0	P
22. 0	45. 57	010847	44·5	004170	44·3	P	22. 0	35. 41	005101	49·0	0·002048	48·5	D
Apr. 12. 0. 0	246. 38. 39	0·009573	46·5	0·003640	46·0	D	Apr. 15. 0. 0	246. 32. 29	0·005049	49·8	0·002836	49·5	D
1. 50	38. 42	009987		003652			1. 50	32. 6	003679		002884		
2. 0	39. 8	009611		003652			2. 0	31. 36	004066		002916		
2. 10	34. 16	009890	48·5	003652	48·0	D	2. 10	32. 42	004332	51·0	002876	51·0	D
4. 0	39. 51	013116	50·7	003433	51·0	P	4. 0	34. 16	003645	53·1	003127	53·1	P
6. 0	40. 43	012069	49·8	003294	49·9		6. 0	39. 38	008959	52·7	003792	52·7	
8. 0	47. 48	012540	50·8	003354	50·7		8. 0	46. 29	007625	52·7	002916	52·7	
10. 0	45. 44	011041	48·5	003043	48·8	P	10. 0	46. 21	006268	51·1	002319	51·0	P
12. 0	246. 51. 25	014338	48·2	002482	48·5	D	12. 0	56. 39	005610	48·8	002064	49·0	D
14. 0	247. 1. 29	010297	48·5	001563	48·2		14. 0	42. 32	003964	49·0	000978	48·8	
16. 0	246. 48. 26	011256	47·8	002817	47·6		16. 0	52. 15	003208	48·5	000616	48·5	
18. 0	44. 9	012651	46·7	003334	46·3		18. 0	36. 0	004242	47·5	000958	47·5	
20. 0	44. 36	011882	45·8	003426	45·5	D	20. 0	28. 11	005211	48·2	001885	48·0	D
22. 0	28. 50	005062	46·3	003127	45·8	JH	22. 0	37. 58	004628	49·6	002709	48·4	JH
Apr. 13. 0. 0	246. 29. 55	0·006436	48·8	0·003035	48·0		Apr. 16. 0. 0	246. 37. 34	0·002791	52·4	0·002574	51·3	P
1. 50	32. 42	009533		003855			1. 50	35. 59	004496		002128		
2. 0	30. 47	009290	49·8	003879	49·0		2. 0	36. 10	005344	56·2	002112	55·5	
2. 10	27. 4	009695		003951			2. 10	35. 51	004540		002080		P
4. 0	38. 3	009141	51·5	003983	51·0	D	4. 0	38. 13	006170	57·0	001006	60·0	D
6. 0	39. 4	011057	51·6	003195	51·0	D	6. 0	45. 31	006905	57·0	001233	57·5	
8. 0	48. 11	014511	49·6	003684	49·5	JH	8. 0	43. 3	008437	54·8	001571	55·5	
10. 0	50. 8	013415	48·0	003354	48·0	P	10. 0	45. 40	008648	51·6	002152	52·5	D
12. 0	52. 36	011838	47·0	002833	47·0	JH	12. 0	45. 52	008869	50·0	002570	50·0	JH

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 18″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 226°. 30′; April $11^d.\ 0^h$, 212°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $29^s.9$
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

April $10^d.\ 20^h$. The western declination was 23°. 9′. 44″; four hours previously it was 22°. 55′. 39″; between 18^h and 22^h the intensity of the horizontal force decreased 0·005522, and the intensity of the vertical force increased 0·00724 parts of their whole forces respectively: extra observations were commenced. [extra observations were commenced.

April $11^d.\ 8^h$. The western declination was 23°. 6′. 41″; two hours before it was 8′. 31″ greater: between the same times there was a considerable increase in the intensity of the Horizontal Force Magnet, and

April 12^d. Between $2^h.\ 10^m$ and 4^h there was a considerable change in the position of the Horizontal Force Magnet, and after 6^h a rather sudden change of 10′ in the position of the Declination Magnet, and extra observations were commenced. [the mean reading on the preceding day.

April 12^d, civil reckoning. Since March 24th until this day, the mean reading of the Vertical Force Magnet has been less each day than it was the preceding day; on this day the mean reading was greater than

Between April $8^d.\ 0^h$ and $1^h.\ 50^m$; between $9^d.\ 0^h$ and $1^h.\ 50^m$; and between $11^d.\ 22^h$ and $12^d.\ 0^h$, there were rather large changes in the position of the Declination Magnet, but as these changes were all in the usual direction of motion at these times of the day, and were not followed by further large changes, no extra observations were taken.

April $12^d.\ 14^h$. The western declination deduced from this observation is the smallest in the month, being 22°. 50′. 49″; it had increased to 23°. 23′. 28″ by 22^h: during the 12th day and the 13th day there were several changes. (See the Section of Extraordinary Observations.)

April $13^d.\ 4^h$. The marked end of the Vertical Force Magnet was more drawn downwards at this than at any other observation in the month, the reading being 0·017447, when corrected for temperature, and it was less drawn downwards at $14^d.\ 18^h.\ 8^m.\ 30^s$, as observed during extra observations, the reading being, when corrected for temperature, 0·009010 parts of the whole vertical force.

April 14^d. The western declination at 14^h was 23°. 4′. 33″; at 16^h it was 23°. 10′. 24″; and at 18^h it was 23°. 33′. 19″; at the next observation the magnet had moved back 22′ 26″: at $18^h.\ 19^m.\ 30^s$ the declination was 23°. 35′. 38″, being the largest in the month; the difference between its position at $12^d.\ 14^h$ and this is 44′. 49″, and it is the range of the magnet for the month, the interval of time between the magnet being in these extreme positions being $2^d.\ 4^h.\ 19^m.\ 30^s$. During the whole of the 14th day and of the 15th day the magnets were unsteady, and extra observations were taken: at 0^h on the latter day the divisions of the scale of the Horizontal Force Magnet became very indistinct; at 22^h the divisions were so badly seen that the Observer considered the observation doubtful to 0′·05: between 22^h and the next observation, Mr. Glaisher adjusted the mirror so that the divisions were well seen; every screw was left tight: at $12^h.\ 48^m$ the Horizontal Force Magnet was less drawn towards the N. than at any other time in the month, being, when corrected for temperature, 0·009578 parts of the whole horizontal force.

April 15°, civil reckoning. The range of the Declination Magnet was greater on this day than on any other day in the month, being 40′. 53″. [zontal force, as deduced from the two-hourly-observations.

April 16^d, civil reckoning. The mean reading of the Horizontal Force Magnet, corrected for temperature, was smaller on this day than on any other day in the month, being 0·014507 parts of the whole hori-

Daily Observations from April 17 to 23.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature,	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Apr. 17. 14. 0	246. 44. 25	0·009500	45·6	0·003636	45·4	JH	Apr. 20. 14. 0	246. 42. 59	0·007917	56·7	9·999931	56·8	P
16. 0	41. 50	007585	46·5	003732	45·4		16. 0	39. 3	004496	55·2	9·999811	55·0	JH
18. 0	45. 53	008904	46·2	003712	45·7		18. 0	42. 28	008415	54·0	0·000620	53·2	JH
20. 0	45. 36	009325	47·0	003752	46·0	JH	20. 0	36. 30	006203	53·0	001125	52·7	D
22. 0	46. 43	007928	49·0	003354	48·0	P	22. 0	35. 39	006856	52·0	001477	51·7	M
Apr. 18. 0. 0	246. 32. 23	0·006126	51·3	0·002916	49·4	P	Apr. 21. 0. 0	246. 28. 21	0·004381	54·6	0·001260	53·4	P
1. 50	28. 36	006900		002637			1. 50	27. 13	005676		000807		D
2. 0	28. 45	006828	53·4	002637	51·8		2. 0	28. 36	005691	59·2	000771	58·0	
2. 10	28. 56	006976		002558		P	2. 10	28. 15	006386		000687		
4. 0	31. 6	008029	53·1	002415	52·8	JH	4. 0	38. 38	005361	62·8	000369	61·2	P
6. 0	34. 48	008470	53·0	002530	52·2		6. 0	35. 53	006507	64·0	0·000007	62·0	M
8. 0	37. 14	008766	52·5	002331	52·3		8. 0	37. 12	006370	60·2	9·999804	60·6	D
10. 0	36. 58	009402	54·1	002180	53·0	JH	10. 0	38. 54	006522	58·8	9·999736	59·0	JH
12. 0	37. 56	009788	53·4	002104	52·8	P	12. 0	37. 6	007477	56·0	0·000285	56·7	P
14. 0	38. 31	008548	51·1	002375	51·1		14. 0	36. 58	007382	54·0	000886	54·7	
16. 0	37. 59	008849	49·7	002637	49·7		16. 0	36. 6	007592	52·5	001093	53·0	
18. 0	37. 55	008223	48·7	002876	48·7		18. 0	38. 51	007009	51·6	001642	52·0	
20. 0	37. 45	009790	48·0	003035	48·0	P	20. 0	40. 7	007808	51·0	001841	51·2	P
22. 0	38. 18	007753	49·5	002840	49·0	D	22. 0	38. 18	006518	52·5	001806	52·0	D
Apr. 19. 0. 0	246. 28. 41	0·006297	50·0	0·002805	49·0	D	Apr. 22. 0. 0	246. 33. 22	0·006489	52·8	0·001491	52·5	D
1. 50	25. 37	007341		002526			1. 50	31. 9	007286		001217		
2. 0	25. 5	007543		002454			2. 0	30. 40	006408	56·5	001177	56·0	
2. 10	25. 37	006430	52·5	002431	51·5	D	2. 10	31. 0	007061		001105		D
4. 0	31. 22	008046	57.0	001762	58·5	P	4. 0	32. 45	007177	62·9	0·000050	61·0	P
6. 0	36. 5	006845	58·2	001443	58·2		6. 0	33. 56	006319	63·6	9·999318	63·0	
8. 0	35. 47	007641	57·6	001006	58·0		8. 0	38. 9	007596	63·5	998976	63·0	
10. 0	39. 34	007636	57·2	000966	57·2	P	10. 0	36. 36	007377	62·0	998697	62·0	P
12. 0	38. 7	008238	55·4	001348	55·5	D	12. 0	35. 38	007576	59·0	999453	59·2	D
14. 0	36. 19	008218	51·4	001798	51·8		14. 0	36. 12	008150	56·5	9·999935	57·0	
16. 0	36. 51	009042	48·5	002498	48·6		16. 0	36. 30	008373	54·6	0·000441	55·0	
18. 0	37. 35	008979	46·8	003215	47·0		18. 0	35. 10	008218	54·0	000846	54·0	
20. 0	41. 4	009325	46·1	003593	46·2	D	20. 0	39. 27	007797	54·2	001006	53·8	D
22. 0	30. 43	006596	50·1	003278	47·8	JH	22. 0	35. 10	005971	58·0	0·000823	55·7	JH
Apr. 20. 0. 0	246. 38. 26	0·006120	57·0	0·002291	53·4	JH	Apr. 23. 0. 0	246. 33. 16	0·004886	63·0	9·999931	60·0	JH
1. 50	26. 9	004580		001069			1. 50	30. 24	005305		998769		
2. 0	26. 46	004725	61·6	000970	60·0		2. 0	30. 35	005488	68·8	998701	65·7	
2. 10	28. 25	004613		000886		JH	2. 10	30. 32	005339		998594		JH
4. 0	32. 28	006345	65·0	0·000031	65·0	D	4. 0	32. 18	004935	70·8	997495	70·0	D
6. 0	35. 56	005813	64·0	9·999366	64·2		6. 0	36. 37	004742	71·5	996560	71·0	
8. 0	37. 37	006580	62·6	999167	63·2		8. 0	36. 19	005138	71·0	995887	70·8	
10. 0	39. 43	006721	60·5	999303	60·8	D	10. 0	38. 6	005303	69·0	905844	69·2	
12. 0	38. 49	008395	58·0	999800	58·0	M	12. 0	37. 37	006419	65·2	996524	65·7	JH

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 18″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 212°; April $18^d.\ 0^h$, 192°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $29^s \cdot 9$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

April $18^d.\ 0^h$. The theodolite reading was less by 14′ than at the preceding observation. The torsion-circle had been moved through an angle of 20° between the observations.

April 18^d and 19^d, civil reckoning. The greatest difference in the mean western declination between any two consecutive civil days during the month took place between these two days, being 3′. 12″; the declination on the second of the two days being the larger.

April $19^d.\ 0^h$. The position of the Declination Magnet was nearly 10′ different from its position two hours before; extra observations were taken.

April 19^d, civil reckoning. The mean western declination was larger on this day than on any other day in the month, being 23°. 16′. 52″, as deduced from the two-hourly observations.

April $19^d.\ 20^h$. The western declination was 23°. 11′. 14″; at the next observation it was 23°. 21′. 35″, and extra observations were commenced.

April $20^d.\ 10^h$. The Term-Day Observations commenced, during which there were several considerable changes in the intensity of the horizontal force. (See the Section of Term-Day Observations.)

April 25^d, civil reckoning. The range of the Declination Magnet was less on this day than on any other day during the month, being 7′. 24″.

Daily Observations from April 24 to 30.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″				°	
Apr. 24. 14. 0	246. 38. 9	0·008083	58·6	9·998224	59·0	JH	Apr. 27. 14. 0	246. 44. 26	0·007466	55·7	...	56·0	JH
16. 0	36. 17	007884	56·8	998809	57·0		16. 0	42. 24	007839	53·8	...	53·8	
18. 0	38. 40	008511	55·0	999489	55·0		18. 0	43. 36	008041	51·8	...	51·6	
20. 0	40. 5	006434	56·3	999931	54·8	JH	20. 0	43. 4	008128	52·0	...	51·0	JH
22. 0	36. 17	004824	62·0	999382	59·5	P	22. 0	44. 52	005437	55·5	...	54·0	P
Apr. 25. 0. 0	246. 39. 32	0·004713	64·3	9·998259	62·0	P	Apr. 28. 0. 0	246. 42. 14	0·003473	61·0	...	58·2	P
1. 50	38. 11	004808		997364			1. 50	38. 55	003534		...		
2. 0	38. 10	004751	67·7	997276	66·2		2. 0	38. 36	003987	67·0	...	66·2	
2. 10	38. 21	004824		997225		P	2. 10	38. 9	004994		...		P
4. 0	40. 26	005603	69·4	996214	70·3	JH	4. 0	38. 13	004946	70·0	...	70·4	JH
6. 0	42. 23	005544	69·2	995167	70·0		6. 0	42. 15	005978	68·8	...	70·0	
8. 0	42. 44	005559	67·3	995163	68·6		8. 0	45. 9	005603	67·6	...	68·6	
10. 0	43. 34	005096	66·3	995167	65·2	JH	10. 0	45. 0	006762	65·6	...	66·0	JH
12. 0	43. 41	006478	61·2	995817	62·2	P	12. 0	45. 56	006865	62·0	...	62·3	P
14. 0	43. 59	007182	57·3	997145	58·0		14. 0	45. 33	006212	59·2	...	59·2	
16. 0	44. 3	007094	56·1	997363	56·8		16. 0	46. 9	006788	56·4	...	56·7	
18. 0	45. 30	007471	54·0	998545	54·4		18. 0	46. 38	006894	54·2	...	54·4	
20. 0	46. 3	006115	55·0	999064	53·3	P	20. 0	48. 13	007005	53·4	...	53·0	P
22. 0	45. 19	005007	58·8	998538	56·2	D	22. 0	46. 47	004819	57·8	...	56·5	D
Apr. 26. 0. 0	246. 37. 59	0·003883	62·5	9·997487	60·0	D	Apr. 29. 0. 0	246. 40. 52	0·004022	62·0	...	60·6	D
1. 50	37. 26	004238		...			1. 50	38. 2	004747		...		
2. 0	37. 17	004108	64·5	...	65·0		2. 0	37. 58	005018		...		
2. 10	37. 16	004244		...		D	2. 10	37. 19	005544	66·0	...	64·5	D
4. 0	39. 0	004595	67·2	...	68·1	P	4. 0	37. 8	005305	68·2	...	69·8	P
6. 0	42. 9	004525	67·2	...	67·1		6. 0	40. 18	006983	66·6	...	67·6	
8. 0	42. 41	004919	66·5	...	67·0		8. 0	41. 59	006717	65·5	...	66·2	
10. 0	41. 59	005731	60·3	...	61·6	P	10. 0	49. 22	005433	63·5	...	64·0	P
12. 0	43. 1	006347	58·0	...	58·8	D	12. 0	45. 21	006723	61·5	...	61·8	D
14. 0	44. 7	006965	55·5	...	56·1		14. 0	43. 48	006585	58·8	...	59·0	
16. 0	44. 31	007286	53·6	...	54·0		16. 0	43. 35	006203	57·0	...	57·0	
18. 0	44. 46	008249	51·6	...	52·0		18. 0	43. 21	006076	55·0	...	55·0	
20. 0	47. 33	007160	52·0	...	51·0	D	20. 0	45. 26	008227	54·7	...	54·8	D
22. 0	43. 45	005288	55·0	...	53·8	JH	22. 0	46. 7	005969	58·0	...	57·5	JH
Apr. 27. 0. 0	246. 46. 28	0·003773	59·4	...	57·5	JH	Apr. 30. 0. 0	246. 41. 35	0·004238	63·4	...	62·0	JH
1. 50	37. 44	003998		...			1. 50	37. 19	004569		...		
2. 0	37. 52	004319	63·4	...	63·0		2. 0	37. 9	004702	66·7	...	66·5	
2. 10	38. 17	004736		...		JH	2. 10	36. 51	004725		...		JH
4. 0	38. 21	005771	65·2	...	66·0	D	4. 0	38. 1	004396	70·0	...	71·0	D
6. 0	40. 52	005632	65·5	...	66·0		6. 0	40. 3	004858	71·0	...	72·0	
8. 0	47. 51	006279	64·0	...	65·0		8. 0	42. 35	006142	69·5	...	70·5	
10. 0	44. 19	007205	61·0	...	61·8	D	10. 0	43. 20	006518	66·5	...	67·5	D
12. 0	45. 47	007308	58·5	...	58·4	JH	12. 0	43. 24	008052	63·1	...	63·7	JH

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 18″.
Reading of Torsion Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 192°; April $25^d.\ 0^h$, 214°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot3$; in Vertical Plane, $29^s\cdot9$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

April $25^d.\ 8^h$. The scale reading of the Vertical Force Magnet was $2^d\cdot7$: the marked end of the magnet was above the horizontal plane by a quantity represented by 47^d of the scale; and on April 25^d, civil reckoning, the mean reading of this magnet, corrected for temperature, was less than on any other day during the month, being 0·013908 parts of the whole vertical force, as deduced from the two-hourly observations.

April $26^d.\ 0^h$. There was a considerable change in the position of the Declination Magnet and of the Horizontal Force Magnet from the preceding observations. At $1^h.\ 15^m$, the Horizontal Force Magnet was found swinging off the scale, and was checked by hand: there was no apparent cause for its motion. At 0^h, the vibration extended over forty-five divisions of the scale.

April $26^d.\ 0^h$. After this observation the positions of the adjusting-screws of the Vertical Force Magnet were altered, so that the scale reading was 57^d: it was found necessary after this, in consequence of the extreme sensibility of the magnet, to make a further alteration in the position of the adjusting-screws two or three times; hence the cause of no observations between April $26^d.\ 0^h$ and May $2^d.\ 2^h$.

April $27^d.\ 0^h$. After this observation, in order to diminish the extent of the vibration of the Horizontal Force Magnet, a copper bar, about one inch square, bent into a long oval form, was placed in the box of the magnet, the plane of the oval curve being vertical; the bar surrounded the magnet nearly. A bend is made in the upper part of the oval in the horizontal plane, to avoid interference with the torsion-circle and suspension-piece of the magnet, and an oblique bend is made in the lower part of the oval, to avoid interference with the mirror and its counterpoise.

April $27^d.\ 1^h.\ 50^m$. The western declination was 8′. 44″ greater than it was at 0^h. (See the Section of Extraordinary Observations.)

April 27^d. Between 6^h and 8^h the western declination decreased 6′. 59″; and between April $29^d.\ 8^h$ and 10^h it decreased 7′. 23″: between May $1^d.\ 22^h$ and May $2^d.\ 0^h$ it increased 8′. 54″; and between May $2^d.\ 22^h$ and May $3^d.\ 0^h$ it increased 5′. 36″: all these changes, though large, were in the right direction for the times of the day at which they occurred, and, consequently, no extra observations were taken. On April 27^d, 28^d and 29^d, between 20^h and 22^h, and also on May 1^d, between 22^h and 24^h, and also on May 3^d between 4^h and 6^h, there were considerable changes in the positions of the Horizontal Force Magnet.

Daily Observations from May 1 to 7.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
May 1. 14. 0	246. 43. 21	0 ·007023	58 ·5	...	58 ·5	JH	May 4. 14. 0	246. 42. 19	0 ·006987	56 ·7	9 ·994402	56 ·4	JH
16. 0	43. 5	006673	56 ·4	...	56 ·3		16. 0	42. 0	007504	55 ·0	995156	55 ·0	
18. 0	44. 9	006434	56 ·0	...	55 ·0		18. 0	42. 56	007946	54 ·5	995843	53 ·6	
20. 0	46. 23	007884	56 ·3	...	54 ·0	JH	20. 0	46. 1	007559	53 ·7	996389	52 ·8	JH
22. 0	45. 46	006534	59 ·5	...	57 ·5	P	22. 0	44. 48	006364	55 ·3	996159	54 ·0	P
May 2. 0. 0	246. 36. 52	0 ·003701	61 ·9	...	60 ·8	P	May 5. 0. 0	246. 38. 18	0 ·005942	57 ·8	9 ·995114	57 ·0	P
1. 50	33. 42	004806		9 ·989794			1. 50	33. 20	006076		994172		D
2. 0	33. 22	005233	64 ·8	989677	65 ·0		2. 0	33. 22	005948	60 ·0	994078	59 ·0	
2. 10	33. 21	005233		989329		P	2. 10	33. 30	005960		994017		D
4. 0	36. 16	006541	66 ·0	988517	68 ·5	JH	4. 0	36. 1	005233	63 ·0	993502	61 ·6	JH
6. 0	40. 0	005853	64 ·7	988795	66 ·0		6. 0	40. 6	006412	62 ·6	993583	61 ·7	
8. 0	39. 46	005793	64 ·3	988828	65 ·0		8. 0	42. 0	007486	61 ·6	993635	60 ·7	
10. 0	40. 52	006425	61 ·3	989539	62 ·3	JH	10. 0	41. 4	007731	60 ·0	993861	59 ·5	JH
12. 0	41. 14	006755	59 ·2	990765	59 ·4	P	12. 0	41. 34	007652	59 ·2	994275	58 ·8	P
14. 0	40. 51	006524	57 ·2	992014	57 ·2		14. 0	41. 49	007382	59 ·2	994652	58 ·7	
16. 0	41. 47	007452	55 ·0	993419	55 ·0		16. 0	42. 52	005472	58 ·3	994887	57 ·8	
18. 0	42. 42	006739	52 ·4	995221	52 ·2		18. 0	44. 12	007714	57 ·0	995123	56 ·5	
20. 0	44. 36	007670	51 ·2	996858	50 ·8	P	20. 0	46. 58	008034	56 ·7	995593	55 ·8	P
22. 0	43. 7	006812	53 ·5	997240	52 ·5	D	22. 0	43. 28	006563	57 ·3	995363	56 ·5	D
May 3. 0. 0	246. 37. 31	0 ·005034	57 ·0	9 ·995195	56 ·0	D	May 6. 0. 0	246. 39. 14	0 ·005897	59 ·0	9 ·994596	58 ·0	D
1. 50	34. 9	004071		993890			1. 50	37. 58	007404		904012		
2. 0	33. 43	004441		903810			2. 0	37. 11	007153	60 ·0	994017	59 ·5	
2. 10	33. 45	004403	62 ·0	993734	61 ·5	D	2. 10	36. 52	007670		994017		D
4. 0	36. 29	003710	65 ·6	992581	65 ·7	P	4. 0	34. 50	008998	61 ·8	994416	60 ·9	P
6. 0	40. 46	006031	66 ·8	992053	66 ·2		6. 0	36. 28	008604	61 ·4	994369	61 ·0	
8. 0	40. 57	006889	65 ·2	992119	65 ·2		8. 0	37. 23	008130	60 ·2	994699	59 ·2	
10. 0	42. 43	006596	63 ·2	992666	62 ·9	P	10. 0	46. 13	006258	58 ·1	994849	57 ·4	P
12. 0	41. 20	006795	61 ·5	992995	61 ·0	D	12. 0	43. 40	007654	57 ·8	995179	56 ·2	D
14. 0	42. 11	006701	60 ·0	993498	59 ·8		14. 0	43. 40	007332	55 ·2	995513	55 ·0	
16. 0	42. 44	006359	59 ·0	994068	58 ·8		16. 0	43. 38	006728	54 ·0	995970	54 ·0	
18. 0	43. 37	006336	58 ·0	994511	57 ·5		18. 0	45. 18	007343	53 ·0	996441	53 ·0	
20. 0	44. 32	007359	57 ·0	994774	57 ·0	D	20. 0	46. 19	007072	53 ·0	996573	53 ·0	D
22. 0	42. 57	006430	57 ·2	994746	56 ·4	JH	22. 0	42. 16	006297	54 ·3	996262	53 ·6	JH
May 4. 0. 0	246. 37. 30	0 ·005406	59 ·0	9 ·994252	58 ·2	JH	May 7. 0. 0	246. 32. 48	0 ·004260	56 ·0	9 ·995504	55 ·7	JH
1. 50	36. 13	004902		993876			1. 50	31. 22	006275		995217		
2. 0	36. 3	005233	61 ·4	993805	60 ·8		2. 0	31. 19	006031	58 ·5	995137	58 ·2	
2. 10	35. 51	005793		993767		JH	2. 10	31. 25	005897		995085		JH
4. 0	37. 5	005853	64 ·0	993122	63 ·5	D	4. 0	35. 56	006518	59 ·8	994549	59 ·5	D
6. 0	40. 54	006541	64 ·0	992802	63 ·5		6. 0	41. 54	007493	60 ·5	994605	60 ·2	
8. 0	41. 21	007005	63 ·8	992675	63 ·5		8. 0	41. 6	007299	60 ·0	994680	59 ·3	
10. 0	41. 28	006954	62 ·0	992990	61 ·8	D	10. 0	37. 2	009020	58 ·0	995085	57 ·2	D
12. 0	44. 41	007266	58 ·8	993786	59 ·0	JH	12. 0	44. 4	007382	56 ·2	995109	55 ·7	JH

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 25″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 214°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0 ·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0 ·000264 parts of the whole Vertical Force.

May $2^d.\ 10^h$. The marked end of the Vertical Force Magnet was less drawn downwards at this than at any other observation in the month, the reading being 0 ·003986, when corrected for temperature.

May 3^d. Between 22^h and 24^h the western declination increased 5′. 27″; and on May 4^d, between 22^h and 24^h, it increased 6′. 30″: on May 6^d, between 8^h and 10^h, it decreased 8′. 50″; on May 7^d, between 10^h and 12^h, it decreased 7′. 2″; on May 8^h, between 22^h and 24^h, it increased 5′. 53′; on May 9^d, between 10^h and 12^h, it decreased 6′. 55″; and May 10^d, between 4^h and 6^h, the decrease was 7′. 22″; at all these times the direction of motion was the usual one for the times of the day, and no extra observations were taken.

May $7^d.\ 0^h$. The western declination was 23°. 19′. 37″, being 9′. 28″ larger than it was at the preceding observation, and the Horizontal Force Magnet had also changed its position considerably, and extra observations were taken.

Daily Observations from May 8 to 14.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force. uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
May 8. 14. 0	246. 40. 36	0·007720	52·4	9·996587	52·4	JH	May 11. 14. 0	246. 45. 25	0·005610	59·8	9·993427	59·6	JH
16. 0	40. 23	006109	51·5	997259	50·9		16. 0	44. 23	004177	57·6	994139	57·6	
18. 0	43. 20	007138	50·8	997749	50·3		18. 0	45. 31	005078	56·3	994901	56·0	
20. 0	42. 35	007094	51·0	997946	50·6	JH	20. 0	46. 35	005720	55·0	995485	54·6	JH
22. 0	41. 6	006386	54·0	997319	52·5	P	22. 0	44. 32	005178	55·0	995876	54·6	P
May 9. 0. 0	246. 35. 13	0·006717	54·9	9·996418	53·9	P	May 12. 0. 0	246. 36. 44	0·004569	56·0	9·995523	55·5	P
1. 50	35. 23	007337		996064			1. 50	35. 56	006098		995100		
2. 0	35. 30	007670	56·3	996017	55·6		2. 0	36. 4	006341	52·5	995114	57·0	
2. 10	35. 57	007714		996017		P	2. 10	36. 10	006563		995123		P
4. 0	36. 58	008511	57·6	995598	57·0	JH	4. 0	38. 51	007050	57·0	995353	56·0	JH
6. 0	39. 22	007957	57·3	995617	57·0		6. 0	41. 20	007493	56·5	995607	56·0	
8. 0	41. 44	008157	56·5	995679	56·2		8. 0	42. 25	008477	56·0	995650	56·3	
10. 0	43. 55	007448	55·3	995932	55·0	JH	10. 0	43. 5	006894	55·5	995749	55·0	JH
12. 0	50. 50	007319	55·4	995829	54·6	P	12. 0	43. 14	006850	55·7	995876	55·0	P
14. 0	45. 2	007109	54·4	996300	53·8		14. 0	43. 40	006319	55·5	995904	55·0	
16. 0	45. 21	006009	52·5	996786	52·0		16. 0	43. 39	006375	54·0	996300	53·7	
18. 0	43. 39	006950	50·3	997672	50·0		18. 0	44. 45	006967	52·5	096817	52·3	
20. 0	45. 8	005870	52·5	997876	50·2	P	20. 0	45. 58	007552	54·0	996910	52·7	P
22. 0	42. 25	005500	54·3	997381	51·5	D	22. 0	43. 12	005333	55·5	996230	54·4	D
May 10. 0. 0	246. 37. 28	0·005145	56·0	9·996465	54·0	D	May 13. 0. 0	246. 38. 26	0·004231	58·8	9·995076	57·5	D
1. 50	36. 26	005266		995602			1. 50	35. 13	004586		993710		
2. 0	36. 16	005737	58·4	995574	57·1		2. 0	35. 19	004011		993546		
2. 10	36. 29	005737		995546		D	2. 10	35. 21	004227	62·8	993474	62·0	D
4. 0	38. 18	005897	60·4	994887	59·9	P	4. 0	37. 33	005676	67·5	992533	66·0	P
6. 0	45. 40	007227	60·6	994690	60·2		6. 0	41. 44	006563	67·0	992076	66·9	
8. 0	42. 35	006922	61·0	994402	60·4		8. 0	41. 26	006142	67·0	992029	66·7	
10. 0	48. 48	005638	59·7	994464	59·0	P	10. 0	42. 37	006124	64·0	992392	64·0	P
12. 0	46. 59	006252	56·8	995170	56·2	D	12. 0	42. 51	006098	62·2	992840	62·0	D
14. 0	44. 20	005643	53·8	996121	53·8		14. 0	44. 5	005735	59·7	993507	59·5	
16. 0	43. 4	005915	52·0	996342	52·0		16. 0	43. 25	007171	57·6	994416	57·5	
18. 0	46. 29	004780	51·0	997075	51·0		18. 0	43. 25	007116	55·8	994987	55·8	
20. 0	46. 37	005726	51·3	997547	51·6	D	20. 0	46. 37	006788	55·0	995570	54·7	D
22. 0	43. 10	005344	55·0	996544	53·8	JH	22. 0	45. 40	004835	57·4	995382	56·0	JH
May 11. 0. 0	246. 38. 3	0·003024	59·0	9·995151	58·0	JH	May 14. 0. 0	246. 37. 17	0·004016	61·0	9·994162	60·0	JH
1. 50	35. 37	003252		994049			1. 50	35. 44	004503		992896		
2. 0	35. 24	003396	63·4	994049	63·0		2. 0	35. 53	004613		992783		
2. 10	35. 30	003153		993960		JH	2. 10	36. 2	004392	65·4	992633	65·0	JH
4. 0	38. 27	004216	66·3	992680	66·0	D	4. 0	38. 20	005056	68·5	991686	69·0	D
6. 0	41. 4	005049	66·5	992322	66·0		6. 0	40. 41	005720	70·0	991361	70·0	
8. 0	41. 52	005658	65·0	992397	64·5		8. 0	41. 21	005259	69·4	991267	69·7	
10. 0	42. 28	005394	63·5	992542	63·4	D	10. 0	40. 56	006093	66·2	991644	66·0	D
12. 0	43. 16	005698	61·6	993037	61·3	JH	12. 0	43. 50	006386	62·8	992275	62·8	JH

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively 2^m. 30^s before, and 2^m. 30^s after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 25″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 214°; May 9^d. 0^h, 206°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20^s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24^s·3; in Vertical Plane, 27^s·5.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

May 8^d. 8^h. The marked end of the Vertical Force Magnet was more drawn downwards at this than at any other observation in the month, the reading being 0·011304, when corrected for temperature.

May 9^d, civil reckoning. The mean reading of the Vertical Force Magnet, corrected for temperature, was larger on this day than on any other day in the month, being 0·010699 of the whole force, as deduced from the two-hourly observations.

May 10^d. Between the observation at 22^h and the next observation, the western declination increased by 5′. 7″; on May 11th, between the same times, it increased by 7′. 48″; on May 13th, between the same times, it increased by 8′. 23″; and on May 17th, between 4^h and 6^h, there was a decrease of 6′. 17″: at all these times the changes, though large, were in the usual direction, and, consequently, no extra observations were taken. There were considerable changes between the positions of the Horizontal Force Magnet on May 10th, between 22^h and 24^h; on May 12th, between 8^h and 10^h, and between 20^h and 22^h; on May 15th, between 22^h and 24^h; on May 16th, between 2^h. 10^m and 4^h, and between 20^h and 22^h; and on May 17th, between 10^h and 12^h.

Daily Observations from May 15 to 21.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
May 15. 14. 0	246. 53. 8	0·004974	58·0	9·993295	58·3	JH	May 18. 14. 0	246. 46. 47	0·005167	57·0	9·994473	56·6	JH
16. 0	48. 36	006624	56·0	994699	56·0		16. 0	45. 50	005511	55·3	994878	55·0	
18. 0	49. 57	006341	55·3	994963	55·0		18. 0	49. 0	005417	53·8	995744	53·7	
20. 0	47. 25	005211	55·0	995264	55·0	JH	20. 0	49. 36	006142	53·6	996012	53·0	JH
22. 0	42. 22	005581	58·5	995217	57·7	P	22. 0	45. 11	004858	55·4	995593	54·8	P
May 16. 0. 0	246. 38. 58	0·001861	62·3	9. 993681	61·8	P	May 19. 0. 0	246. 39. 49	0·004053	59·4	9·994738	58·8	P
1. 50	32. 38	000805		992957			1. 50	37. 27	005107		993616		
2. 0	32. 29	000917	66·2	992919	66·3		2. 0	37. 50	005123	62·6	993616	62·2	
2. 10	34. 26	001292		992910		P	2. 10	38. 31	004791		993522		P
4. 0	33. 13	003773	68·6	992486	69·6	JH	4. 0	43. 4	004952	63·0	993361	62·5	JH
6. 0	42. 44	004507	70·0	992185	70·5		6. 0	46. 20	005809	62·6	993441	61·4	
8. 0	42. 48	004131	68·4	991898	69·0		8. 0	43. 29	006334	61·0	993560	61·0	
10. 0	44. 37	005406	65·3	991860	65·3	JH	10. 0	45. 4	006529	58·3	997772	58·2	JH
12. 0	45. 51	005140	64·0	992439	63·8	P	12. 0	45. 22	006080	57·2	994594	56·9	P
14. 0	47. 3	005233	61·8	993052	61·1		13. 0	46. 39	005654	55·8	994993	55·4	
16. 0	47. 48	005897	58·8	992973	58·7		15. 0	47. 20	005303	53·6	995665	53·5	
18. 0	51. 27	004791	55·8	994508	55·8		18. 0	48. 50	006932	52·6	996770	52·0	
20. 0	53. 7	004531	54·8	995303	54·3	P	20. 0	48. 55	006341	54·0	996723	52·5	P
22. 0	38. 45	002355	56·0	995641	55·5	D	22. 0	45. 24	005299	56·0	995829	54·7	D
May 17. 0. 0	246. 38. 18	0·000978	58·2	9·994708	58·0	D	May 20. 0. 0	246. 41. 2	0·005038	59·0	9·994699	57·8	D
1. 50	34. 26	002688		993810			1. 50	40. 21	004702		993908		
2. 0	34. 26	002394	63·0	993640	63·0		2. 0	40. 29	004569		993852		
2. 10	35. 35	002245		993427		D	2. 10	40. 24	004503	61·8	994331	60·5	D
4. 0	39. 37	003396	66·5	992652	66·3	P	4. 0	42. 46	005455	62·8	993640	62·0	P
6. 0	45. 54	004149	66·3	992863	66·3	P	6. 0	45. 58	006009	62·5	993522	62·0	
8. 0	42. 23	005676	66·5	992204	66·5	JH	8. 0	44. 2	007034	61·5	993498	60·5	
10. 0	42. 21	005193	64·2	992251	64·2	P	10. 0	44. 35	007244	59·5	993984	59·0	P
12. 0	45. 32	007764	61·5	993004	61·5	D	12. 0	45. 46	006832	58·5	994407	57·8	D
14. 0	48. 41	004569	58·5	992840	58·5		14. 0	46. 29	006596	56·5	994751	57·0	
16. 0	47. 19	003821	56·5	994252	56·5		16. 0	47. 58	006445	56·0	995043	56·0	
18. 0	47. 16	003971	55·8	995090	55·8		18. 0	49. 18	005965	55·3	995358	55·2	
20. 0	48. 0	004635	55·0	995405	55·0	D	20. 0	48. 42	006009	56·5	995217	56·0	D
22. 0	46. 3	003949	56·8	995231	56·2	JH	22. 0	44. 42	005156	58·0	994600	57·2	JH
May 18. 0. 0	246. 42. 8	0·004858	58·0	9·994812	57·3	JH	May 21. 0. 0	246. 38. 53	0·004591	59·8	9·994045	59·0	JH
1. 50	40. 33	004370		994421			1. 50	38. 51	005056		993696		
2. 0	40. 17	003971	59·2	994454	58·2		2. 0	39. 12	005470	61·6	993654	61·0	
2. 10	39. 35	004038		994454		JH	2. 10	39. 21	005971		993691		JH
4. 0	42. 18	006784	60·0	994190	59·7	D	4. 0	43. 38	006098	62·3	993564	61·5	D
6. 0	43. 11	006474	60·5	994026	60·0		6. 0	44. 35	006201	62·2	993483	61·5	
8. 0	44. 21	006297	60·2	994002	59·8		8. 0	43. 42	007009	62·0	993357	61·5	
10. 0	44. 39	005687	59·2	994125	58·8	D	10. 0	43. 26	007242	61·3	993502	60·7	D
12. 0	45. 41	004762	58·6	994082	58·2	JH	12. 0	45. 8	006463	59·8	993833	59·2	JH

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m \cdot 30^s$ before, and $2^m. 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 25″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 206°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

May 15^d. 14^h. The western declination deduced from this observation was 22°. 59′. 17″, being the smallest in the month.
May 16^d. 6^h. The western declination was 23°. 9′. 41″; two hours previously it was 23°. 19′. 12″: extra observations were commenced.
May 16^d. 20^h. The western declination was 22°. 59′. 18″, being only 1″ greater than that at 15^d. 14^h: by 22^h the declination had increased to 23°. 13′. 40″, and extra observations were taken.
May 17^d, civil reckoning. The mean reading of the Horizontal Force Magnet, corrected for temperature, was smaller on this day than on any other day in the month, being 0·014750 of the whole force, as deduced from the two-hourly observations; and the range of the Declination Magnet was greater on this day than on any other day in the month, being 28′. 41″; at 0^h. $2^m. 30^s$ the Horizontal Force Magnet was less drawn towards the N. than at any other time in the month, the reading being 0·010889,
May 18^d, civil reckoning. The range of the Declination Magnet was less on this than on any other day in the month, being 8′. 24″. [when corrected for temperature.
May 19^d, 20^d, 22^d, and 23^d, between 22^h and 24^h, the western declination increased 5′. 22″, 5′. 49″, 10′. 44″, and 7′. 58″ respectively; no extra observations were taken, as the changes were all in the right direction for the time of the day.
May 19^d. 13^h and 15^h. The observations were taken one hour too soon by inadvertence; no use is made of the observations in the Abstracts. [hourly observations.
May 20^d, civil reckoning. The mean western declination was smaller on this day than on any other day in the month, being 23°. 7′. 16″, as deduced from the two-

Daily Observations from May 22 to 28.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
May 22. 14. 0	246. 44. 40	0·006330	59·0	9·993427	59·0	P	May 25. 14. 0	246. 38. 39	0·006230	59·0	9·993522	58·8	P
16. 0	46. 42	006673	57·3	994387	57·0		16. 0	39. 47	005687	58·0	993993	57·5	
18. 0	49. 55	006900	57·0	994770	56·8		18. 0	41. 6	006230	58·0	994346	58·5	
20. 0	50. 33	007419	57·0	995085	56·2	P	20. 0	42. 17	006341	57·8	994369	57·3	P
22. 0	45. 34	004321	59·0	994486	58·0	JH	22. 0	38. 38	004946	59·3	994049	59·0	D
May 23. 0. 0	246. 34. 50	0·005493	63·5	9·993333	62·0	D	May 26. 0. 0	246. 32. 1	0·004260	61·4	9·993079	61·0	D
1. 50	33. 15	004304		992322			1. 50	31. 1	004509		992699		
2. 0	33. 22	004348		992275			2. 0	30. 57	004775		992637		
2. 10	33. 18	004326	67·0	992204	66·0	D	2. 10	31. 21	004950	63·0	992614	62·5	D
4. 0	34. 52	005455	62·8	991780	62·1	P	4. 0	33. 15	005566	65·4	992345	65·0	P
6. 0	36. 14	006784	66·4	992015	66·0		6. 0	37. 39	006607	66·0	992345	65·5	
8. 0	38. 2	006436	65·5	992062	65·5		8. 0	38. 0	006541	65·7	992062	65·5	
10. 0	38. 10	006788	63·5	992275	63·5	P	10. 0	39. 15	006024	64·3	992109	64·0	P
12. 0	40. 36	007565	61·2	992948	61·0	D	12. 0	40. 43	006347	62·7	992246	62·2	D
14. 0	39. 57	005173	58·5	993654	58·5		14. 0	39. 36	005901	60·2	993052	60·0	
16. 0	41. 3	004443	57·3	994158	57·3		16. 0	39. 36	006297	58·5	993719	58·5	
18. 0	43. 55	003949	57·0	994535	57·0		18. 0	41. 41	005837	57·5	994111	57·5	
20. 0	42. 41	005411	58·2	994421	58·0	D	20. 0	42. 43	006135	57·7	994213	57·5	D
22. 0	41. 35	004813	59·3	993937	58·8	JH	22. 0	38. 5	003971	60·4	993701	59·2	JH
May 24. 0. 0	246. 33. 37	0·005621	61·3	9·993342	60·2	JH	May 27. 0. 0	246. 32. 27	0·003750	63·6	9·992741	62·7	JH
1. 50	32. 50	006031		993028			1. 50	27. 18	004171		992076		
2. 0	32. 48	006268	62·4	993028	61·9		2. 0	27. 51	003861	67·4	992015	66·8	
2. 10	32. 57	006009		992957		JH	2. 10	27. 44	004370		991959		JH
4. 0	34. 39	006452	63·6	992816	63·0	D	4. 0	30. 59	004414	68·8	991498	68·0	D
6. 0	37. 19	005787	64·0	992774	63·5		6. 0	35. 6	005123	69·0	991380	68·5	
8. 0	37. 3	006480	64·2	992670	63·5		8. 0	34. 28	005470	68·2	991309	68·0	D
10. 0	38. 26	006190	63·0	992793	62·2	D	10. 0	36. 0	005322	66·2	991489	66·0	M
12. 0	39. 13	006762	61·0	993149	60·5	JH	12. 0	36. 23	005377	65·7	991752	64·8	M
14. 0	40. 17	006408	58·8	993621	58·4		14. 0	36. 46	005344	65·1	991874	64·7	P
16. 0	40. 11	007054	56·4	994469	56·3		16. 0	35. 46	005182	65·0	992048	63·8	JH
18. 0	39. 59	007116	54·3	995156	54·2		18. 0	37. 33	005477	64·8	992199	63·8	JH
20. 0	43. 30	007050	55·5	995570	54·0	JH	20. 0	37. 51	004968	64·8	992383	64·0	D
22. 0	40. 33	005676	57·0	995123	56·2	P	22. 0	37. 33	003861	65·0	992303	64·4	G
May 25. 0. 0	246. 33. 51	0·005942	59·6	9·994181	58·3	P	May 28. 0. 0	246. 30. 0	0·003020	66·0	9·991804	65·0	JH
1. 50	32. 23	005566		993380			1. 50	28. 24	004022		991409		D
2. 0	32. 17	005676	63·2	993239	62·2		2. 0	28. 15	004238	68·0	991380	67·7	
2. 10	32. 18	005676		993168		P	2. 10	28. 29	003927		991323		D
4. 0	33. 58	005897	65·8	092500	64·5	JH	4. 0	30. 0	005145	68·5	991074	68·5	G
6. 0	35. 49	006651	64·8	992557	64·0		6. 0	34. 33	004414	70·0	990980	69·5	P
8. 0	39. 12	005915	64·0	992510	63·8		8. 0	34. 36	005200	68·0	991102	67·5	JH
10. 0	38. 16	006889	61·6	992774	61·4	JH	10. 0	35. 26	005322	67·2	991215	67·0	D
12. 0	40. 21	007238	60·8	993267	60·1	P	12. 0	35. 23	004902	64·5	991733	64·5	P

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.30^s$ before, and $2^m.30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 25″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 206°; May $23^d.0^h$, 193°; May $27^d.0^h$, 185°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $27^s.5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

May 23^d and 24^d, civil reckoning. The greatest difference in the mean western declination between any two consecutive civil days during the month took place between these two days, being 2′. 37″, the declination on the second of the two days being the larger.

May 24^d, 25^d, 26^d, and 30^d. Between 22^h and 24^h the western declination increased 6′. 42″, 6′. 37″, 5′. 38″, and 6′. 19″ respectively; no extra observations were taken, as the magnet was moving at these times in the right direction; and on May 26th, between 20^h and 22^h, and May 30th, between 0^h and $1^h.50^m$, the changes in the position of the Horizontal Force Magnet were rather large.

May $27^d.10^h$. Five-minute observations were commenced. (See the Section of Term-Day Observations.)

Daily Observations from May 29 to June 4.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
May 29. 14. 0	246. 34. 12	0·005676	59·8	9·993036	59·7	P	June 1. 14. 0	246. 37. 44	0·006031	69·0	9·990829	68·2	P
16. 0	35. 48	005348	58·2	993160	58·0		16. 0	38. 29	005787	68·0	991074	67·3	
18. 0	38. 49	004917	58·4	994181	58·0		18. 0	37. 38	006120	66·8	991168	66·2	
20. 0	41. 14	006325	58·3	994322	57·5	P	20. 0	37. 52	006563	65·8	991356	65·2	P
22. 0	37. 21	004841	60·8	993748	60·2	D	22. 0	36. 9	006784	65·3	991356	65·2	D
May 30. 0. 0	246. 35. 9	0·006375	64·8	9·992230	64·5	D	June 2. 0. 0	246. 32. 49	0·005506	67·3	9·991004	66·6	D
1. 50	33. 13	008615		991630			1. 50	27. 56	006120		990706		
2. 0	32. 45	009112		991592			2. 0	27. 27	006541		990725		
2. 10	32. 39	009170	66·8	991526	66·0	D	2. 10	27. 3	006230	70·0	990730	69·5	D
4. 0	33. 20	008068	69·2	991121	69·2	P	4. 0	28. 3	005233	72·0	990396	72·0	P
6. 0	34. 23	007448	70·7	990179	70·5		6. 0	33. 36	006131	72·0	990321	72·0	
8. 0	34. 54	006894	70·4	989991	70·1		8. 0	34. 24	006057	71·3	990179	71·4	
10. 0	33. 37	007388	68·3	990179	68·2	P	10. 0	34. 16	005555	68·0	990697	68·0	P
12. 0	33. 59	008964	65·3	990829	65·2	D	12. 0	34. 55	007032	65·2	991550	65·1	D
14. 0	34. 38	008659	63·0	992401	63·0		14. 0	34. 50	006009	62·2	992062	62·2	
16. 0	35. 19	008849	61·2	993126	61·2		16. 0	36. 48	005765	59·8	992764	59·5	
18. 0	38. 20	008489	58·5	993998	58·5		18. 0	39. 20	005853	59·5	993593	59·5	
20. 0	40. 2	008692	58·6	994378	58·0	D	20. 0	39. 43	006629	58·5	994322	57·5	D
22. 0	33. 21	006972	58·5	994190	58·0	G	22. 0	35. 24	006031	62·2	993937	59·7	JH
May 31. 0. 0	246. 27. 2	0·006850	64·5	9·992915	63·0	G	June 3. 0. 0	246. 31. 11	0·005765	66·2	9·992486	64·2	JH
1. 50	30. 53	007083		991775		JH	1. 50	30. 40	005477		991257		
2. 0	31. 3	007160	68·8	991700	68·0		2. 0	31. 5	005149		991126		
2. 10	31. 0	007404		991630		JH	2. 10	31. 18	005522	69·9	991036	69·2	JH
4. 0	30. 30	007404	70·5	991004	70·2	D	4. 0	30. 43	006076	73·5	990377	73·0	G
6. 0	33. 29	007493	71·3	990706	71·0		6. 0	31. 54	005522	74·5	989953	73·0	
8. 0	34. 7	006651	72·2	990500	72·0		8. 0	35. 11	005195	74·0	989897	72·5	G
10. 0	34. 31	007005	67·5	990927	68·0	D	10. 0	36. 42	005233	71·0	989963	71·0	D
12. 0	35. 28	006821	65·6	991545	65·2	JH	12. 0	33. 15	005506	68·3	990509	68·3	JH
14. 0	35. 46	006364	63·3	992143	63·0		14. 0	34. 49	005123	65·0	991159	65·0	
16. 0	35. 53	007127	61·3	992750	61·1		16. 0	35. 16	006939	61·1	992048	61·0	
18. 0	37. 23	008090	59·9	993616	59·0		18. 0	35. 53	005660	59·4	993177	59·1	
20. 0	37. 24	008703	61·0	993904	58·2	JH	20. 0	37. 17	004858	62·0	993385	58·8	JH
22. 0	35. 12	006909	62·2	993729	60·5	D	22. 0	34. 55	003883	65·2	992825	62·5	P
June 1. 0. 0	246. 33. 18	0·006334	65·7	9·992524	64·5	D	June 4. 0. 0	246. 31. 20	0·004459	68·4	9·991200	68·0	P
1. 50	31. 21	007116		991309		P	1. 50	29. 15	004186		990141		D
2. 0	31. 26	007005		991215			2. 0	29. 7	004260		990047		
2. 10	31. 34	006961	70·0	491121	69·1	P	2. 10	28. 54	004260	73·0	989986	72·5	D
4. 0	32. 30	006607	72·0	990415	72·0	G	4. 0	26. 13	005162	75·8	988847	75·8	JH
6. 0	33. 38	006142	73·0	990179	73·0		6. 0	27. 4	008194	77·0	988442	76·5	
8. 0	32. 37	006485	72·0	990141	72·0	G	8. 0	41. 29	004171	76·3	989403	75·5	
10. 0	36. 28	005470	71·4	990052	71·3	JH	10. 0	33. 18	003389	75·3	989040	75·0	JH
12. 0	34. 15	006334	69·3	990462	69·3	P	12. 0	55. 2	000123	70·2	989332	70·3	P

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 25″; June 1d, 269°. 52′. 27″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 185°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot3$; in Vertical Plane, $27^s\cdot5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

May $30^d.\ 2^h.\ 10^m$. The marked end of the Horizontal Force Magnet was more drawn towards the North at this observation than at any other observation in the month, the reading being, when corrected for temperature 0·020526; and on May 30th, civil reckoning, the mean reading of the Vertical Force Magnet, corrected for temperature, was smaller than on any other day in the month, the reading being May $31^d.\ 0^h$. The western declination deduced from this observation was the largest in the month, being 23°. 25′. 23″. [0·008916.

May 31^d, civil reckoning. The mean western declination was larger on this day than on any other day in the month, being 23°. 18′. 25″, as deduced from the two-hourly observations; and the mean reading of the Horizontal Force Magnet, corrected for temperature, was larger on this day than on any other day in the month, being 0·018637 parts of the whole horizontal force, as deduced from the two-hourly observations.

June 1^d, civil reckoning. The mean reading of the Horizontal Force Magnet, corrected for temperature, was larger on this day than on any other day in the month, being 0·018136, as deduced from the two-hourly observations; and the mean reading of the Vertical Force Magnet, corrected for temperature, was larger on this day than on any other day in the month, being 0·009211, as deduced from the two-hourly observations.

June 2^d. Between 4^h and 6^h the western declination decreased 5′. 33″: no extra observations were taken.

June $2^d.\ 22^h$. The marked end of the Vertical Force Magnet was more drawn downwards at this than at any other observation in the month, the reading being 0·009697, when corrected for temperature.

June $3^d.\ 22^h$. After this observation the Horizontal Force Magnet was raised out of its box by means of its windlass, for the purpose of dusting the box, &c. When it was dropped in its box, the reading of the scale was exactly eight divisions larger than it was before; and from all readings afterwards, the constant 58·136 was subtracted.

June 4^d. At 6^h the western declination was 23°. 25′. 23″; at 8^h it had decreased to 23°. 10′. 58″, and extra observations were commenced; at 12^h the western declination was 22°. 57′. 25″, being the smallest in the month; at 6^h the marked end of the Horizontal Force Magnet was more drawn towards the North than at any other time in the month, the reading corrected for temperature being 0·021284.

June 4^d, civil reckoning. The range of the Declination Magnet was greater on this day than on any other day during the month, being 28′.49″.

Daily Observations from June 5 to 11.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″				°	
June 5. 14. 0	246. 35. 42	0·002472	67·6	9·990251	67·5	P	June 8. 14. 0	246. 42. 54	0·002394	68·0	9·989309	68·0	P
16. 0	36. 37	002776	65·3	990818	65·2		16. 0	43. 14	002948	64·8	990129	64·7	
18. 0	38. 31	003225	63·4	991564	63·0		18. 0	44. 49	003241	62·0	991004	61·5	
20. 0	39. 13	002229	66·0	992015	63·0	P	20. 0	46. 30	001950	64·8	991728	61·3	P
22. 0	36. 20	001448	68·5	991498	66·2	D	22. 0	36. 56	001514	67·0	991220	65·0	G
June 6. 0. 0	246. 33. 29	0·000185	72·5	9·989935	71·5	D	June 9. 0. 0	246. 38. 42	0·001891	70·0	9·990099	68·5	JH
1. 50	36. 11	000739		989002			1. 50	31. 40	001020		989030		
2. 0	36. 42	000562	76·0	988932	75·0		2. 0	32. 23	000053	74·5	988870	74·0	JH
2. 10	36. 49	000917		988870		D	2. 10	32. 4	000406		988711		D
4. 0	39. 10	0·000247	78·0	988211	78·2	P	4. 0	34. 43	001913	77·5	988075	77·0	G
6. 0	42. 38	9·999440	75·7	988249	75·9		6. 0	35. 43	001647	77·5	987642	78·0	
8. 0	40. 36	0·001122	75·5	988296	75·5		8. 0	39. 39	001248	77·0	987661	77·0	G
10. 0	43. 1	002041	72·4	988767	72·8	P	10. 0	44. 12	001164	76·3	987449	76·3	P
12. 0	42. 0	002311	70·0	989379	70·0	D	12. 0	45. 0	001913	73·0	987689	73·0	D
14. 0	37. 15	002887	67·6	989732	67·4		14. 0	44. 35	001470	70·2	988308	70·2	
16. 0	43. 32	002311	65·8	990453	65·3		16. 0	43. 28	001939	68·8	989454	68·5	
18. 0	41. 19	002666	66·0	990796	65·5		18. 0	44. 4	001802	66·7	990085	66·5	
20. 0	45. 15	0·001620	67·2	990847	67·0	D	20. 0	44. 13	000994	66·2	990467	65·7	D
22. 0	39. 39	9·999811	69·0	990509	66·0	G	22. 0	42. 45	000895	69·3	990047	68·0	JH
June 7. 0. 0	246. 33. 8	9·999877	72·0	9·989803	70·0	G	June 10. 0. 0	246. 37. 37	0·001027	72·4	9·989030	71·8	JH
1. 50	32. 51	999877		989021			1. 50	30. 49	002178		987863		
2. 0	32. 59	999877	75·0	988960	73·0		2. 0	30. 20	002820	76·2	987736	76·3	
2. 10	32. 49	9·999943		988894		G	2. 10	30. 5	002227		987609		JH
4. 0	36. 28	0·000827	77·7	988202	77·5	D	4. 0	29. 25	003197	79·5	986922	79·8	D
6. 0	40. 55	000606	78·8	988108	78·5		6. 0	35. 32	001647	81·0	986724	81·0	D
8. 0	40. 39	000761	78·2	987882	78·0		8. 0	41. 40	000695	80·6	986846	80·7	
10. 0	40. 7	001852	74·5	988211	74·5	D	10. 0	39. 49	000872	78·0	986804	78·1	
12. 0	43. 42	001757	71·0	988908	71·0	JH	12. 0	41. 31	001337	74·0	987454	74·3	JH
14. 0	42. 16	002178	68·6	989520	68·7		14. 0	39. 58	001817	71·0	988249	71·0	
16. 0	43. 11	003285	65·6	990137	65·3		16. 0	40. 30	002710	66·0	989450	66·0	
18. 0	39. 32	003662	63·8	990735	63·3		18. 0	40. 37	002532	64·7	990074	64·3	
20. 0	42. 53	002156	65·2	991323	62·6	JH	20. 0	44. 43	001861	67·0	990622	63·1	JH
22. 0	43. 13	000890	68·0	991168	65·2	P	22. 0	43. 43	0·000628	67·0	990227	65·5	G
June 8. 0. 0	246. 39. 5	000458	71·8	9·989944	70·7	P	June 11. 0. 0	246. 37. 53	9·999611	72·0	9·989074	71·0	D
1. 50	35. 12	0·000141		988673			1. 50	35. 5	999722		987920		
2. 0	35. 23	9·999921		988579			2. 0	34. 52	999811	77·2	987839	77·0	
2. 10	34. 43	0·000362	76·7	988531	76·7	P	2. 10	34. 50	9·999766		987773		D
4. 0	36. 25	000540	79·6	987501	79·9	JH	4. 0	34. 51	0·000300	80·0	986790	80·0	G
6. 0	39. 25	001292	81·0	987006	81·4		6. 0	38. 5	000031	82. 0	986422	82·0	
8. 0	43. 11	000783	78·2	987345	78·2		8. 0	40. 43	000805	82. 0	986277	82·0	G
10. 0	42. 28	000961	74·2	987773	75·2	JH	10. 0	40. 22	000606	79. 8	986075	79·9	JH
12. 0	46. 16	001974	71·4	988399	71·6	P	12. 0	44. 1	000899	77·0	986601	77·0	P

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively 2^m. 30^s before, and 2^m. 30^s after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 27″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 185°; June 6d. 0h, 195°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$: in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

June 6d. From 12h to 22h the reading of the theodolite was alternately less and greater at each successive observation; after the latter time a few extra observations were taken.

June 8d. Between 20h and 22h the western declination increased 9′. 34″; on June 10th, between 0h and 1h. 50′, it had increased 6′. 48″; in the two hours previous to 0h it had increased 5′. 8″; and between 4h and 6h it decreased 6′. 7″: on June 10th, between 22h and 24h, it increased 5′. 50″; on June 13th, between 10h and 12h, the decrease was 6′. 55″; and between 14h and 16h it increased 8′. 50″: on June 14th, between 0h and 1h. 50m, the increase was 5′. 26″; and between 4h and 6h the decrease was 7′. 48″: no extra observations were taken at any of these times.

Daily Observations from June 12 to 18.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
June 12. 14. 0	246. 41. 25	0·002616	70·5	9·987766	70·8	D	June 15. 14. 0	246. 45. 17	0·002068	68·4	9·989064	67·8	D
16. 0	43. 32	003046	68·6	988523	69·0		16. 0	44. 26	001049	67·0	989506	66·8	
18. 0	40. 15	003971	65·6	989397	65·6		18. 0	48. 19	002577	66·3	989859	66·0	
20. 0	43. 0	002333	67·2	990179	65·0	D	20. 0	40. 36	001396	64·5	990359	64·0	D
22. 0	43. 45	001337	68·3	990141	66·0	JH	22. 0	47. 53	000474	66·3	990326	65·0	JH
June 13. 0. 0	246. 42. 21	0·000031	71·0	9·989435	69·9	JH	June 16. 0. 0	246. 43. 13	0·000513	68·3	9·989916	66·0	JH
1. 50	36. 38	9·999190		988277			1. 50	26. 57	001868		989511		
2. 0	36. 44	999342		988258			2. 0	24. 22	001802	68·3	989525	67·3	
2. 10	36. 31	9·999256	75·8	988099	75·2	JH	2. 10	24. 49	002295		989562		JH
4. 0	37. 12	0·000163	78·5	987359	79·5	D	4. 0	24. 59	002112	68·0	989247	67·5	G
6. 0	41. 18	000761	81·2	987222	81·5		6. 0	28. 3	001957	68·0	989200	68·0	
8. 0	42. 44	001691	80·1	986437	80·5		8. 0	29. 17	002754	68·0	989026	68·0	
10. 0	45. 40	001470	76·3	986861	76·5	D	10. 0	30. 29	002555	68·0	988964	68·0	G
12. 0	52. 35	004088	73·2	987081	73·5	P	12. 0	30. 46	002577	68·1	989238	68·0	P
14. 0	54. 42	001651	71·0	987241	71·0		14. 0	31. 34	002798	66·4	989520	66·2	
16. 0	45. 52	001662	68·7	988368	68·5		16. 0	31. 58	003020	65·0	990038	64·5	
18. 0	46. 31	002716	67·0	989238	66·5		18. 0	34. 36	003020	64·0	990368	63·4	
20. 0	42. 5	0·001642	66·5	989520	65·9	P	20. 0	36. 30	002782	63·0	990603	62·3	P
22. 0	44. 57	9·999722	69·2	989539	68·0	JH	22. 0	32. 54	001691	63·8	990612	63·0	JH
June 14. 0. 0	246. 42. 29	9·997994	73·2	9. 988522	72·4	JH	June 17. 0. 0	246. 30. 24	0·001270	66·8	9·989722	66·0	JH
1. 50	37. 3	997545		987830			1. 50	29. 42	001802		989323		
2. 0	37. 53	997607	77·0	987722	76·3		2. 0	29. 49	001780	69·0	989341	69·0	
2. 10	38. 48	997861		987637		JH	2. 10	29. 51	001979		989318		JH
4. 0	37. 37	9·998924	79·0	987072	79·0	P	4. 0	29. 7	001292	71·0	988908	70·6	P
6. 0	45. 25	0·001027	79·9	986884	79·2		6. 0	32. 47	001470	69·9	988908	69·7	
8. 0	43. 54	000910	78·2	986978	78·1		8. 0	33. 8	002355	69·2	988955	69·0	
10. 0	46. 6	000357	75·6	986799	75·5	P	10. 0	32. 58	002798	67·0	989393	66·9	P
12. 0	48. 36	001116	73·3	987430	73·4	JH	12. 0	33. 37	003131	65·0	989761	64·7	JH
14. 0	41. 40	002156	70·4	987773	70·6		14. 0	34. 1	003484	63·3	990246	63·0	
16. 0	46. 44	002295	69·6	987834	69·6		16. 0	36. 24	003020	62·0	990617	61·7	
18. 0	41. 1	001695	67·8	988531	67·2		18. 0	38. 42	003109	60·8	991149	61·0	
20. 0	46. 36	001713	67·0	989341	66·0	JH	20. 0	38. 24	002837	60·4	990952	59·9	JH
22. 0	47. 17	0·000827	67·5	989426	67·0	D	22. 0	37. 6	002295	62·1	990999	61·5	D
June 15. 0. 0	246. 43. 14	9·999877	69·2	9·989158	68·6	D	June 18. 0. 0	246. 31. 16	0·001270	63·8	9·990439	63·2	D
1. 50	42. 23	0·001448		988823			1. 50	29. 52	001027		989808		
2. 0	42. 19	002024	71·2	988800	70·5		2. 0	29. 39	001463	67·0	989789	66·1	
2. 10	41. 55	002068		988748		D	2. 10	29. 48	001713		989741		D
4. 0	42. 37	001470	72·6	988367	72·4	JH	4. 0	30. 6	002156	68·0	989388	68·0	G
6. 0	43. 26	001425	73·8	988164	73·2		6. 0	31. 54	003042	68·0	989388	68·0	
8. 0	45. 56	001540	73·4	988136	73·0		8. 0	32. 48	004249	67·6	989464	67·5	G
10. 0	44. 59	001669	72·0	988160	71·6	JH	10. 0	34. 51	004352	66·0	989741	65·6	JH
12. 0	45. 51	001990	70·0	988650	70·0	D	12. 0	35. 52	003684	64·5	990062	64·0	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^{m}\cdot 30^{s}$ before, and $2^{m}.\ 30^{s}$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 27″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 195°; June $13^{d}.\ 0^{h}$, 215°; June $17^{d}.\ 0^{h}$, 238°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^{s}\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^{s}\cdot 3$; in Vertical Plane, $27^{s}\cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature $=0\cdot 000170$ parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature $=0\cdot 000264$ parts of the whole Vertical Force.

June $13^{d}.\ 14^{h}$. The marked end of the Vertical Force Magnet was less drawn downwards at this than at any other observation in the month, the reading being 0·005985, when corrected for temperature.
June 14^{d}, civil reckoning. The mean western declination was smaller on this day than on any other day in the month, being 23°. 7′. 46″, as deduced from the two-hourly observations. [$16^{d}.\ 1^{h}.\ 50^{m}$.
June $14^{d}.\ 14^{h}$ to 20^{h}. The Declination Magnet unsteady, the theodolite reading being alternately less and greater at each reading than it was at the preceding one; also unsteady between June $15^{d}.\ 18^{h}$ to June 15^{d}. At 18^{h} the western declination was 23°. 4′. 8″; it had increased to 23°. 11′. 51″ at 20^{h}, and then decreased to 23°. 4′. 34″ by 22^{h}; the position of the magnet continued variable. Almost directly after $16^{d}.\ 0^{h}$ the leather strap connecting the windlass to the suspension-skein broke, and the magnet fell through about two inches. Two or three of the threads of the suspension-skein were broken, and nearly the whole of the skein was off both of the pulleys at the top of the moveable upright; with great care the skein was placed over the pulleys again by Mr. Glaisher, and it was carefully examined; the divisions of the skein were parallel from the top downwards to within two feet of the bottom, where part of a twist remained. No change was found in the reading of the torsion-circle when the brass bar rested in the magnetic meridian. The magnet was mounted, and all adjusted before the 2^{h} observation, the new boxes with brilliant paper being used; at 2^{h} the western declination was 23°. 28′. 5″, being the largest in the month; the range of the magnet in the month was only 30′. 40″, being less than the range in any other month in 1842. [tion on the second of the two days being the larger.
June 15^{d} and 16^{d}, civil reckoning. The greatest difference in the mean western declination between any two consecutive civil days during the year, took place between these two days, being 7′. 50″, the declina-
June $16^{d}.\ 22^{h}$. After this the piece of leather connecting the windlass with the suspension-skein was taken away, and a much stronger piece was inserted in its place. The image of the cross-wires since the magnet fell yesterday, has been very indistinct. Mr. Glaisher examined the screws of the lens and of the brass frame carrying the cob-web cross; those of the lens were loose; he fastened them, and adjusted all so that the cross was black, and well seen through the telescope; when the skein was cleared of torsion, the two divisions were parallel from the top to within one foot of the bottom, and in this part there was a quarter of a twist, the left division being twisted round the right division: the magnet was mounted, and prepared for observation at 16^{d}, $23^{h}.\ 50^{m}$.
June 17^{d}, civil reckoning. The mean western declination was larger on this day than on any other day in the month, being 23°. 20′. 0″, as deduced from the two-hourly observations: and the range of the Declination Magnet was less on this day than on any other day in the month, being 5′. 29″.

Daily Observations from June 19 to 25.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°	
June 19. 14. 0	246. 39. 46	0 ·003773	63 ·2	9 ·989765	63 ·0	D
16. 0	36. 51	002068	63 ·0	990645	62 ·5	
18. 0	35. 52	001757	64 ·3	990791	63 ·5	
20. 0	35. 36	001691	64 ·3	991027	63 ·6	D
22. 0	36. 18	000650	66 ·2	990749	64 ·7	JH
June 20. 0. 0	246. 32. 44	0 ·000584	69 ·8	9 ·989440	69 ·0	JH
1. 50	32. 21	000513		988908		P
2. 0	32. 6	000584		988889		
2. 10	31. 49	000673	71 ·3	988861	71 ·0	P
4. 0	32. 57	000606	71 ·5	988540	71 ·0	G
6. 0	35. 5	001425	72 ·0	988023	72 ·0	
8. 0	36. 18	001514	73 ·5	987976	73 ·0	
10. 0	37. 34	001197	69 ·8	988258	69 ·5	G
12. 0	36. 50	001443	68 ·1	988955	67 ·9	P
14. 0	36. 55	001629	66 ·2	989426	65 ·7	
16. 0	37. 28	001913	65 ·0	989850	64 ·4	
18. 0	40. 3	001913	63 ·5	990274	63 ·2	
20. 0	41. 32	001514	64 ·2	990462	63 ·0	P
22. 0	38. 50	000584	64 ·8	990246	64 ·0	JH
June 21. 0. 0	246. 30. 13	0 ·000584	68 ·3	9 ·989511	66 ·4	JH
1. 50	29. 0	000917		988899		
2. 0	28. 50	000717	69 ·6	988781	69 ·1	
2. 10	28. 59	000805		988748		JH
4. 0	31. 47	001470	70 ·3	988531	69 ·8	P
6. 0	34. 50	001248	70 ·3	988626	69 ·8	
8. 0	36. 42	001941	69 ·8	988673	69 ·2	
10. 0	36. 39	002260	68 ·2	988861	68 ·1	P
12. 0	37. 8	002688	66 ·2	989224	66 ·0	JH
14. 0	37. 20	003109	64 ·6	989850	64 ·0	
16. 0	38. 21	003606	62 ·3	990359	62 ·0	
18. 0	42. 12	002245	61 ·2	990947	61 ·0	
20. 0	41. 55	001797	64 ·1	991121	60 ·5	JH
22. 0	37. 45	000300	65 ·0	990650	63 ·0	D
June 22. 0. 0	246. 28. 51	0 ·000406	67 ·5	9 ·989864	66 ·0	D
1. 50	27. 20	000961		989055		
2. 0	27. 35	000827	69 ·8	989040	69 ·0	
2. 10	27. 44	001027		989002		D
4. 0	32. 38	001713	71 ·4	988569	71 ·0	JH
6. 0	34. 37	001846	71 ·4	988432	71 ·0	
8. 0	35. 49	001559	70 ·0	988385	69 ·8	JH
10. 0	36. 6	002842	68 ·0	988682	67 ·0	G
12. 0	38. 40	003020	68 ·0	989121	67 ·0	JH

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force. uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°	
June 22. 14. 0	246. 37. 49	0 ·003750	68 ·0	9 ·989309	67 ·0	JH
16. 0	35. 43	002245	66 ·2	989379	65 ·3	P
18. 0	32. 42	0 ·000888	65 ·0	989661	64 ·0	D
20. 0	38. 43	9 ·999949	66 ·0	990062	63 ·0	
22. 0	34. 32	9 ·999622	66 ·0	990251	63 ·0	G
June 23. 0. 0	246. 31. 12	0 ·000805	68 ·0	9 ·989557	66 ·0	P
1. 50	30. 13	000739		989238		JH
2. 0	29. 13	001164	69 ·4	989182	69 ·0	
2. 10	29. 49	000923		989116		JH
4. 0	31. 42	000628	71 ·0	988908	70 ·5	D
6. 0	34. 1	001354	71 ·0	988805	71 ·0	G
8. 0	41. 15	001928	69 ·2	989121	68 ·6	JH
10. 0	37. 12	002577	67 ·8	989238	67 ·1	P
12. 0	40. 58	002853	66 ·5	988964	66 ·1	D
14. 0	39. 22	001647	66 ·5	989327	66 ·0	
16. 0	38. 31	002112	66 ·4	989529	66 ·0	
18. 0	39. 39	0 ·000895	66 ·8	989440	66 ·2	
20. 0	40. 14	9 ·999478	66 ·8	989341	66 ·5	D
22. 0	37. 56	0 ·000429	66 ·6	989379	66 ·0	JH
June 24. 0. 0	246. 29. 0	9 ·998194	67 ·0	9 ·989294	66 ·5	JH
1. 50	27. 49	999561		989285		
2. 0	27. 32	9 ·999800	69 ·0	989210	68 ·6	
2. 10	28. 3	0 ·000002		989205		JH
4. 0	31. 40	000939	70 ·1	988861	69 ·8	D
6. 0	33. 0	001425	70 ·5	988729	70 ·0	
8. 0	36. 11	001713	70 ·2	988569	69 ·8	
10. 0	38. 57	002039	68 ·3	988993	68 ·0	D
12. 0	39. 4	002577	66 ·4	989191	66 ·0	P
14. 0	42. 3	002466	65 ·0	989520	64 ·4	
16. 0	38. 39	002981	63 ·3	990015	62 ·6	
18. 0	38. 17	002355	62 ·6	990321	62 ·0	
20. 0	40. 45	002399	62 ·0	990650	61 ·2	P
22. 0	39. 0	000502	63 ·0	990628	62 ·0	G
June 25. 0. 0	246. 33. 23	0 ·001868	64 ·2	9 ·990340	63 ·5	JH
1. 50	32. 47	002780		989845		
2. 0	32. 19	002666	65 ·4	989845	64 ·8	
2. 10	32. 53	002532		989831		JH
4. 0	32. 27	002577	66 ·2	989756	65 ·6	P
6. 0	33. 57	003020	66 ·0	989670	65 ·2	
8. 0	36. 29	003964	65 ·4	989850	65 ·0	
10. 0	40. 53	003942	65 ·0	989953	64 ·0	P
12. 0	39. 28	003330	63 ·6	990000	63 ·0	JH

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.30^s$ before, and $2^m.30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 27″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 238°; June $20^d.1^h.50^m$, 245°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $27^s.5$.
Decrease of Horizontal Force for 1° increase of temperature = 0 ·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0 ·000264 parts of the whole Vertical Force.

June $22^d.0^h$. In the previous two hours the western declination increased 8′. 54″; and between 18^h and 20^h the decrease was 6′. 1″: June 23rd, between 6^h and 8^h, the decrease was 7′. 14″; and between 22^h and 24^h the increase was 8′. 56″: no extra observations were taken.

June $22^d.10^h$. Five-minute observations were commenced. (See the Section of Term-Day Observations.)

June $24^d.0^h$. The marked end of the Horizontal Force Magnet was less drawn towards the North at this observation than at any other observation in the month, the reading being, when corrected for temperature, 0 ·009584, parts of the whole horizontal force.

Daily Observations from June 26 to July 2.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature,	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
June 26. 14. 0	246. 36. 47	0·002377	62·6	9·989949	62·2	JH	June 29. 14. 0	246. 45. 3	0·000842	70·6	9·987816	70·8	D
16. 0	38. 22	002820	60·6	990490	60·2		16. 0	46. 1	001049	69·0	988385	69·0	
18. 0	40. 29	002842	59·0	991022	59·0		18. 0	46. 41	001082	68·6	988805	68·3	
20. 0	40. 56	001166	62·3	991836	58·8	JH	20. 0	49. 3	0·000213	69·8	989007	67·6	D
22. 0	40. 3	0·000234	63·0	991545	60·8	D	22. 0	45. 40	9·999395	69·8	988805	68·0	JH
June 27. 0. 0	246. 41. 30	9·999744	64·8	9·990815	63·0	D	June 30. 0. 0	246. 40. 11	9·998637	70·3	9·988357	69·2	JH
1. 50	36. 49	0·000163		990188			1. 50	38. 12	999057		988160		
2. 0	36. 11	000362	67·0	990132	66·0		2. 0	37. 45	999709	70·8	988160	70·0	
2. 10	36. 3	000429		990090		D	2. 10	37. 29	999722		988160		JH
4. 0	38. 23	001071	69·3	989407	68·2	JH	4. 0	35. 30	9·999101	72·0	988145	71·0	G
6. 0	41. 7	001868	69·8	988917	69·2		6. 0	40. 5	0·001470	71·0	988146	71·0	G
8. 0	43. 30	001913	70·0	988917	69·5		8. 0	42. 50	002204	69·0	988399	69·0	D
10. 0	43. 13	001536	68·3	988626	68·3	JH	10. 0	43. 31	002068	68·3	988640	68·2	D
12. 0	44. 25	001706	66·7	989144	66·7	P	12. 0	46. 59	002548	67·2	988880	67·0	P
14. 0	45. 2	002134	64·1	989824	64·0		14. 0	44. 31	001913	67·0	989144	66·3	
16. 0	45. 48	002127	62·0	990274	61·8		16. 0	46. 39	003982	66·8	988720	66·2	
18. 0	45. 9	002538	60·2	991074	60·0		18. 0	48. 48	001708	65·8	989097	65·2	
20. 0	46. 57	0·001022	62·3	991616	59·0	P	20. 0	49. 47	000732	63·0	989708	62·3	
22. 0	45. 27	9·999994	65·2	991121	62·0	D	22. 0	44. 35	000805	61·0	990094	60·3	P
June 28. 0. 0	246. 40. 22	9·998707	68·3	9·989803	65·7	D	July 1. 0. 0	246. 37. 8	0·000163	60·7	9·990528	60·0	JH
1. 50	37. 35	999013		988767			1. 50	36. 6	001935		990805		D
2. 0	37. 40	999013	71·3	988725	70·6		2. 0	36. 2	002112	61·2	990805	60·6	
2. 10	37. 42	999013		988635		D	2. 10	36. 1	002200		990805		D
4. 0	38. 9	999478	76·0	987873	74·0	G	4. 0	34. 58	003905	64·0	990298	64·0	P
6. 0	40. 45	9·999954	74·5	987426	75·0		6. 0	38. 36	001913	66·2	990038	65·7	
8. 0	42. 53	0·000256	75·0	987143	76·0		8. 0	41. 48	002494	67·0	989850	67·2	
10. 0	44. 43	000368	74·0	987081	74·0	G	10. 0	46. 20	002134	66·2	989591	66·3	P
12. 0	44. 36	000513	71·6	987745	71·2	JH	12. 0	44. 35	001673	65·1	989506	64·8	JH
14. 0	44. 51	000772	69·0	988305	68·6		14. 0	45. 37	001470	64·0	989257	63·7	
16. 0	45. 21	001287	66·2	989021	65·7		16. 0	50. 42	0·001160	63·0	989515	62·8	
18. 0	47. 29	001935	64·0	989562	63·6		18. 0	3. 14	9·994813	62·0	990043	61·6	
20. 0	47. 0	001077	65·0	990066	62·6	JH	20. 0	45. 44	997186	65·1	989285	61·3	JH
22. 0	45. 31	0·000318	68·0	989982	65·2	D	22. 0	29. 43	995349	66·0	989944	63·0	D
June 29. 0. 0	246. 40. 9	9·999633	70·3	9·989021	69·0	D	July 2. 0. 0	246. 39. 57	9·997419	66·1	9·989482	64·3	D
1. 50	38. 18	0·000500		988287			1. 50	33. 52	0·002705		990401		
2. 0	37. 46	000540	73·2	988258	72·3		2. 0	33. 58	0·000717	67·3	990029	66·0	
2. 10	38. 16	000540		988193		D	2. 10	34. 16	9·998288		989878		D
4. 0	37. 16	000296	75·0	987392	75·0	G	4. 0	36. 44	9·998327	68·0	989487	67·8	JH
6. 0	41. 8	000207	77·8	986945	77·3	D	6. 0	38. 44	0·002079	67·2	990833	66·5	
8. 0	43. 43	000384	78·2	986870	77·8	D	8. 0	246. 48. 27	0·003070	66·5	990952	66·0	
10. 0	43. 50	000362	76·0	986696	76·0	G	10. 0	247. 5. 5	9. 994408	65·0	988941	64·3	JH
12. 0	44. 52	000291	73·8	987265	73·7	D	12. 0	246. 54. 47	0·001536	64·0	987722	63·5	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 27″; July 1d, 269°. 52′. 26″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 245°; June 27d. 0h, 253°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

June 28d, civil reckoning. The mean reading of the Horizontal Force Magnet, corrected for temperature, was smaller on this day than on any other day in the month, being 0·012188 parts of the whole horizontal force, as deduced from the two-hourly observations.

June 30d, civil reckoning. The mean reading of the Vertical Force Magnet, corrected for temperature, was smaller on this day than on any other day in the month, being 0·006704 parts of the whole vertical force, as deduced from the two-hourly observations.

July 1d. 0h. In the previous two hours a change of 7′. 27″ in the position of the Declination Magnet had taken place: on July 4d, between 20h and 22h, there was a change of 7′. 34″; and between July 5d. 0h and the next observation there was a change of 15′; this last was probably owing in a great part to the change in the position of the torsion-circle between those two observations; there were considerable changes in the position of the Horizontal Force Magnet on June 30th, between 14h and 18h; on July 1st, between 4h and 6h; and on July 4d. 20h to 5d. 0h: no extra observations were taken at any of those times, as the changes were not followed by other large changes.

July 1d, civil reckoning. The mean reading of the Horizontal Force Magnet, corrected for temperature, was larger on this day than on any other day in the month, being 0·012926 parts of the whole horizontal force, as deduced from the two-hourly observations. [declination had increased to 24°. 9′. 1″, being the largest in the year.

July 1d. 16h. The western declination was 23°. 1′. 44″; at 18h it had increased to 23°49′. 12″, and extra observations were at once commenced; at 18h. 10m the western

July 2d, civil reckoning. The range of the Declination Magnet was greater on this day than on any other day in the year, being 1°. 23′. 33″; and on this day, at 7h. 11m, the reading of the Horizontal Force Magnet, corrected for temperature, was 0·016734, being the largest in the month.

Daily Observations from July 3 to 9.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
July 3. 14. 0	247. 15. 41	9·990400	64·3	9·985355	63·8	D	July 6. 14. 0	246. 35. 12	0·000097	62·8	9·990302	62·0	D
16. 0	247. 8. 18	995935	64·5	985532	63·8		16. 0	34. 45	000362	60·8	991008	60·0	
18. 0	246. 17. 5	997950	65·4	984907	65·0		18. 0	37. 7	000584	58·3	991601	57·5	
20. 0	43. 6	990792	66·0	987722	65·5	D	20. 0	33. 51	0·000849	58·8	992086	58·0	D
22. 0	34. 56	996227	66·2	988772	65·3	JH	22. 0	34. 19	9·999570	60·9	991375	60·0	JH
July 4. 0. 0	246. 31. 56	9·994541	68·0	9·989007	67·3	JH	July 7. 0. 0	246. 28. 4	9·999899	62·9	9·990753	62·0	JH
1. 50	33. 47	996754		990038			1. 50	24. 5	999789		990467		
2. 0	39. 27	9·999932	70·6	990184	70·3		2. 0	24. 43	999256	64·7	990377	63·9	
2. 10	40. 46	0·002178		990312		JH	2. 10	24. 2	999855		990382		JH
4. 0	39. 24	9·999301	73·0	989497	72·5	G	4. 0	26. 2	9·999633	64·3	990217	64·0	D
6. 0	42. 46	998814	74·0	988555	74·0	G	6. 0	29. 51	0·001359	64·5	990471	64·0	
8. 0	40. 41	996924	74·0	988066	73·8	D	8. 0	30. 17	001204	64·0	990312	63·5	
10. 0	40. 51	997419	72·1	987740	72·2	D	10. 0	31. 19	001075	63·6	990373	63·0	D
12. 0	41. 44	998961	70·0	988320	70·0	P	12. 0	32. 49	001164	63·3	990415	63·0	P
14. 0	42. 3	998792	68·3	988296	68·2		14. 0	32. 9	000890	63·0	990518	62·5	
16. 0	44. 3	998481	67·0	988722	67·0		16. 0	33. 13	001171	62·0	990791	61·2	
18. 0	47. 21	999256	65·5	989371	65·5		18. 0	34. 32	001348	60·4	991145	60·0	
20. 0	48. 46	997419	65·5	989850	65·0	P	20. 0	34. 56	0·000912	59·6	991545	59·1	P
22. 0	41. 12	994972	67·0	989916	65·0	JH	22. 0	33. 14	9·999655	60·5	991248	59·5	D
July 5. 0. 0	246. 38. 41	9·997596	68·6	9·989478	67·3	JH	July 8. 0. 0	246. 28. 20	9·999345	64·8	9·990316	64·0	D
1. 50	23. 41	998222		989007			1. 50	24. 48	999677		989775		JH
2. 0	23. 16	998242	69·4	988993	68·8		2. 0	24. 36	9·999943		989722		
2. 10	24. 2	998016		988993			2. 10	24. 41	0·000141	67·2	989666	66·2	JH
4. 0	25. 1	997729	70·0	988875	69·1	JH	4. 0	25. 34	000406	69·0	989379	68·2	P
6. 0	27. 58	998747	69·8	988861	69·0	D	6. 0	28. 32	001559	67·8	989379	67·0	
8. 0	30. 6	9·999728	67·0	989285	67·0	P	8. 0	29. 47	002145	66·8	989426	66·1	
10. 0	31. 19	0·000706	65·4	989661	65·2	P	10. 0	31. 49	002381	65·1	989756	64·5	P
12. 0	31. 28	000588	63·0	990015	62·6	JH	12. 0	35. 34	003175	63·3	990085	62·6	JH
14. 0	32. 12	001675	61·2	990420	60·5		14. 0	33. 40	0·002710	61·6	989689	61·1	
16. 0	38. 2	001248	59·2	990876	59·0		16. 0	33. 6	9·998286	60·2	990274	59·8	
18. 0	35. 15	0·002643	58·0	991442	57·5		18. 0	31. 35	0·002948	59·0	990627	58·5	
20. 0	31. 43	9·999555	58·0	991785	57·5	JH	20. 0	32. 2	0·003839	61·3	990890	58·6	JH
22. 0	31. 2	999811	63·0	991630	60·2	D	22. 0	29. 48	9·999581	62·0	991079	60·3	D
July 6. 0. 0	246. 27. 31	9·998765	65·0	9·990758	63·0	D	July 9. 0. 0	246. 26. 46	9·999316	64·5	9·990251	63·0	D
1. 50	25. 5	999301		990038			1. 50	22. 12	999301		989855		
2. 0	24. 37	999555	67·0	990029	65·5		2. 0	21. 51	999434	67·3	989798	66·5	
2. 10	25. 3	999345		990000		D	2 10	21. 5	9·999899		989741		D
4. 0	26. 58	999744	68·0	989478	67·3	JH	4. 0	26. 17	0·001828	68·1	989520	67·6	JH
6. 0	28. 37	9·999943	68·7	989304	68·2		6. 0	27. 30	001049	67·0	989902	66·2	
8. 0	29. 35	0·001104	68·2	989149	67·8		8. 0	37. 21	001470	65·0	990227	64·6	
10. 0	32. 54	000849	67·0	989247	66·4	JH	10. 0	40. 5	002068	64·0	990193	63·6	JH
12. 0	37. 16	000584	65·5	989694	64·5	D	12. 0	38. 18	000009	64·3	989930	63·2	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.30^s$ before, and $2^m.30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 26″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 253°; July $5^d.1^h.30^m$, 221°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $27^s.5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

July $3^d.14^h$. The western declination was 22°. 36′. 45″, and all the magnets were under some cause of disturbance, and extra observations were commenced: at $14^h.54^m$ the western declination was 22°. 31′. 36″, being the smallest in the year: the yearly range of this magnet was therefore 1°. 37′. 25″, as deduced from this observation, and that at $1^d.18^h.10^m$ as above: the extra observations were continued till $4^d.8^h$, during which (at $3^d.15^h.27^m$), the reading of the Horizontal Force Magnet, when corrected for temperature, was the smallest in the year, being 9·997114.

July $4^d.2^h.10^m$. The marked end of the Vertical Force Magnet was more drawn downwards at this observation than at any other in the month; when corrected for temperature, the reading was 0·008870 parts of the whole vertical force: it was least drawn downwards at $3^d.14^h.19^m$, as observed in extra observations; the reading, when corrected for temperature, being 9·999587 parts of the whole vertical force.

July 4^d, civil reckoning. The mean western declination was smaller on this day than on any other day in the month, being 23°. 9′. 17″, as deduced from the two-hourly observations; and the mean reading of the Horizontal Force Magnet, corrected for temperature, was smaller on this day than on any other day in the year, being 0·008163 parts of the whole horizontal force, as deduced from the two-hourly observations.

July 4^d and 5^d, civil reckoning. The greatest difference in the mean western declination between any two consecutive civil days during the month took place between these two days, being 7′. 13″, the declination on the second of the two days being the larger.

July $7^d.8^h$ and 11^d. In the two hours preceding 0^h there were considerable changes in the position of the Declination Magnet, and also there were large changes in the positions of the Horizontal Force Magnet on July 5th, between 18^h and 20^h; on July 8th, between 14^h and 16^h and between 20^h and 22^h; on July 9th, between $2^h.10^m$ and 4^h and between 10^h and 12^h, and between July $10^d.22^h$ and the next observation; on July 11th, between $2^h.0^m$ and $2^h.10^m$; and on July 12th, at 0^d; no extra observations were taken at these times. [deduced from the two-hourly observations.

July 7^d, civil reckoning. The mean reading of the Vertical Force Magnet, corrected for temperature, was larger on this day than on any other day in the month, being 0·007062 parts of the whole force, as

July 8^d, civil reckoning. The mean western declination was greater on this day than on any other day in the month, being 23°. 21′. 25″, as deduced from the two-hourly observations.

July 9^d. At 6^h the western declination was 23°. 24′. 56″; at the next observation it was 23°. 15′. 31″, and extra observations were commenced.

Daily Observations from July 10 to 16.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
July 10. 14. 0	246. 29. 24	0·001093	63·2	9·989623	62·8	D	July 13. 14. 0	246. 39. 53	9·999784	68·8	9·988334	68·3	D
16. 0	33. 44	9·999795	61·8	990429	61·3		16. 0	39. 15	0·000252	68·0	988800	67·2	
18. 0	34. 33	0·000180	61·5	990782	61·0		18. 0	39. 38	000202	67·5	989121	66·6	
20. 0	32. 59	9·999692	64·3	990933	61·8	D	20. 0	41. 19	0·000031	68·2	989299	66·0	D
22. 0	32. 52	998924	67·5	989968	66·5	JH	22. 0	37. 52	9·998138	68·3	989337	65·8	JH
July 11. 0. 0	246. 24. 37	9·996511	71·0	9·989040	70·0	JH	July 14. 0. 0	246. 32. 35	9·997663	70·3	9·988579	69·0	P
1. 50	25. 53	997928		988296		P	1. 50	31. 45	998327		988061		
2. 0	26. 17	9·998149		988273			2. 0	31. 45	998371		988014		
2. 10	26. 55	0·001186	73·0	988258	72·5	P	2. 10	32. 0	998333	72·5	987967	72·0	P
4. 0	30. 13	000540	75·5	987830	75·5	D	4. 0	32. 2	998968	74·3	987515	74·0	D
6. 0	34. 31	0·000031	76·0	986931	75·8		6. 0	34. 54	998952	75·1	987312	75·0	
8. 0	35. 38	9·999427	75·5	986757	75·3		8. 0	35. 44	999588	74·8	987227	74·8	
10. 0	37. 19	0·000020	73·5	986893	73·5	D	10. 0	36. 45	9·999777	73·3	987307	73·3	D
12. 0	37. 10	000134	71·4	987581	71·4	P	12. 0	36. 50	0·001396	68·7	987920	68·1	P
14. 0	32. 9	001116	69·4	988061	69·4		14. 0	36. 57	0·000024	68·0	988579	67·4	
16. 0	37. 27	000119	67·2	988343	67·1		16. 0	37. 32	9·999993	67·0	988814	66·3	
18. 0	36. 41	000584	66·2	989191	65·3		18. 0	39. 15	0·000141	64·5	989285	64·2	
20. 0	39. 38	0·000384	67·4	989520	65·7	P	20. 0	40. 36	0·000867	65·0	989756	63·0	P
22. 0	35. 54	9·999039	67·8	989417	65·9	JH	22. 0	35. 20	9·999256	66·6	989581	63·9	JH
July 12. 0. 0	246. 31. 15	9·997042	69·7	9·988964	68·2	JH	July 15. 0. 0	246. 30. 5	9·998061	69·2	9·988866	67·6	JH
1. 50	28. 0	999035		988428			1. 50	30. 40	998105		988183		
2. 0	27. 54	999234	71·7	988395	71·3		2. 0	30. 33	998592	71·8	988160	72·0	
2. 10	28. 0	998968		988296		JH	2. 10	30. 12	998200		988103		JH
4. 0	29. 21	9·999024	74·0	987778	73·8	P	4. 0	31. 36	998592	75·0	987392	75·0	P
6. 0	33. 19	0·000395	74·4	987637	74·2		6. 0	33. 52	998371	76·0	986978	75·0	
8. 0	35. 15	9·999395	74·0	987628	73·8		8. 0	35. 3	998149	76·0	986884	76·0	
10. 0	36. 22	999888	71·8	987684	71·6	P	10. 0	36. 3	998654	73·0	987072	73·2	P
12. 0	37. 34	999936	69·0	988075	69·0	JH	12. 0	36. 55	999400	69·3	987764	69·2	JH
14. 0	38. 10	9·999699	66·6	988489	66·4		14. 0	37. 29	9·999670	67·2	988296	67·0	
16. 0	35. 45	0·000307	64·5	989153	64·2		16. 0	36. 47	0·000185	63·8	989078	63·4	
18. 0	39. 25	000480	62·7	989953	62·0		18. 0	41. 7	000961	62·0	989365	62·0	
20. 0	40. 40	0·000679	63·6	990193	62·1	JH	20. 0	41. 41	0·001935	61·0	990076	61·0	JH
22. 0	38. 45	9·998984	66·1	989902	64·0	D	22. 0	38. 9	9·999079	65·0	990005	63·2	D
July 13. 0. 0	246. 32. 58	9·997773	68·3	9·989238	67·2	D	July 16. 0. 0	246. 30. 57	9·998371	68·5	9·989144	67·0	D
1. 50	31. 11	998659		988334			1. 50	29. 36	998880		988329		
2. 0	31. 5	998770	71·0	988310	70·0		2. 0	29. 27	998968	71·0	988301	70·5	
2. 10	31. 5	998792		988305		D	2. 10	29. 18	998968		988249		D
4. 0	30. 51	9·998437	72·3	987934	72·0	JH	4. 0	32. 35	997861	72·9	987618	73·0	JH
6. 0	33. 45	0·000296	73·1	987670	72·8		6. 0	33. 37	998842	74·0	987321	74·0	
8. 0	35. 26	000384	72·6	987548	72·4		8. 0	36. 5	9·999057	72·1	987444	72·0	
10. 0	37. 47	000189	71·8	987618	71·4	JH	10. 0	40. 30	0·000474	70·0	987689	70·0	JH
12. 0	41. 7	000555	70·2	987887	70·2	D	12. 0	36. 42	000174	68·1	988028	68·2	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 26″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 221°; July $11^d.\ 0^h$, 233°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot3$; in Vertical Plane, $27^s\cdot5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

In the two hours preceding July $13^d.\ 0^h$; $14^d.\ 0^h$; $15^d.\ 0^h$; $16^d.\ 0^h$, and $18^d.\ 0^h$, there was a considerable change in the position of the Declination Magnet; and there was a considerable change in the position of the Horizontal Force Magnet between July $15^d.\ 20^h$ and 22^h: no extra observations were taken at any of these times, the direction of the changes being in accordance with the diurnal changes.

July 14^d, civil reckoning. The range of the Declination Magnet was less on this day than on any other day in the month, being 9′. 34″.

Daily Observations from July 17 to 23.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
July 17. 14. 0	246. 38. 19	0·000584	66·8	9·988579	66·8	D	July 20. 14. 0	246. 35. 11	0·002024	63·2	9·989215	62·6	P
16. 0	38. 16	9·999504	65·5	989055	65·2		16. 0	36. 11	001337	62·3	989670	61·7	D
18. 0	40. 28	9·999965	66·8	989243	66·3		18. 0	36. 16	000112	63·3	989930	62·5	D
20. 0	41. 44	0·000147	66·3	989365	65·8	D	20. 0	38. 15	0·000141	64·2	989609	63·3	JH
22. 0	39. 13	9·998858	67·6	989102	66·0	JH	22. 0	36. 2	9·999855	64·0	989426	62·5	M
July 18. 0. 0	246. 30. 28	9·998260	70·5	9·988155	69·5	P	July 21. 0. 0	246. 30. 58	0·000429	64·2	9·989238	63·3	P
1. 50	27. 12	998592		987543			1. 50	26. 54	000429		989337		D
2. 0	27. 51	998260		987496			2. 0	26. 48	000474	64·0	989370	63·5	
2. 10	28. 10	997832	74·0	987354	73·2	P	2. 10	26. 48	000496		989356		D
4. 0	30. 4	998814	76·3	986743	76·2	D	4. 0	29. 21	001363	64·0	989473	63·2	P
6. 0	32. 21	998836	77·0	986357	76·8		6. 0	31. 24	001913	63·8	989675	63·0	M
8. 0	33. 17	999279	76·5	986324	76·1		8. 0	33. 46	002134	63·3	989741	62·3	JH
10. 0	33. 48	9·999478	73·5	986516	73·5	D	10. 0	34. 45	001846	62·6	989713	61·9	D
12. 0	34. 50	0·000191	71·1	987072	71·0	P	12. 0	35. 36	002295	61·2	989944	60·9	P
14. 0	35. 2	0·000362	70·4	987468	70·2		14. 0	35. 32	001232	59·8	990227	59·4	
16. 0	37. 48	9·999943	70·0	987496	69·2		16. 0	36. 24	000767	59·0	990721	58·0	
18. 0	38. 9	9·999699	69·1	987792	69·0		18. 0	38. 8	002178	58·4	991074	58·0	
20. 0	34. 29	0·000362	67·6	988061	67·0	P	20. 0	38. 11	001109	59·5	991215	58·0	P
22. 0	32. 30	9·999456	67·6	988334	66·4	JH	22. 0	36. 48	000075	60·6	990857	59·0	JH
July 19. 0. 0	246. 30. 51	9·999500	69·0	9·988070	68·6	JH	July 22. 0. 0	246. 30. 50	0·000384	61·6	9·990330	60·0	JH
1. 50	28. 14	998880		987863			1. 50	27. 36	001303		989775		
2. 0	28. 6	998792	70·0	987811	69·8		2. 0	27. 7	001448	64·4	989808	63·0	
2. 10	28. 12	998260		987783		JH	2. 10	27. 18	001226		989703		
4. 0	27. 35	9·999312	70·8	987778	70·2	P	4. 0	28. 26	001226	66·0	989379	65·0	
6. 0	30. 57	0·000584	70·8	987778	70·6		6. 0	31. 55	001396	65·8	989332	65·0	JH
8. 0	33. 29	000783	70·8	987778	70·4		8. 0	33. 13	002162	65·5	989190	64·7	P
10. 0	35. 35	000152	70·0	987882	70·0	P	10. 0	34. 37	002311	64·1	989473	63·4	P
12. 0	34. 37	000429	68·4	987967	68·0	JH	12. 0	35. 51	002289	62·4	989619	62·1	JH
14. 0	35. 45	0·000125	67·1	988216	66·6		14. 0	36. 30	001099	61·4	989794	61·1	
16. 0	35. 30	9·999489	66·0	988465	65·0		16. 0	35. 31	000673	61·0	990090	60·2	
18. 0	37. 25	0·000333	64·3	988814	63·7		18. 0	36. 33	000895	60·0	990179	59·7	
20. 0	38. 55	9·999910	63·5	989243	62·8	JH	20 0	32. 8	0·001492	60·0	990160	59·4	JH
22. 0	33. 22	999389	65·3	989238	64·0	D	22. 0	33. 35	9·999965	61·0	990170	60·2	D
July 20. 0. 0	246. 29. 41	9·997751	67·0	9·988631	66·0	D	July 23. 0. 0	246. 28. 13	9·999327	63·5	9·989708	62·5	D
1. 50	30. 15	999190		988404			1. 50	25. 32	998968		989026		
2. 0	29. 39	999190		988437			2. 0	25. 39	999279	68·0	989026	67·3	
2. 10	29. 44	9·999035	67·6	988461	67·0	D	2. 10	26. 11	9·999965		989021		D
4. 0	29. 21	0·001669	67·3	988598	67·0	JH	4. 0	27. 5	0·000119	70·4	988287	70·3	JH
6. 0	32. 3	001492	67·6	988645	67·0		6. 0	30. 0	9·999057	71·9	988042	71·9	
8. 0	34. 20	001691	66·8	988664	66·2	JH	8. 0	33. 29	0·000901	71·0	987849	71·0	
10. 0	40. 56	000872	65·1	988855	64·0	M	10. 0	41. 19	9·998902	69·3	987302	69·2	JH
12. 0	37. 11	000805	64·0	989172	62·5	M	12. 0	40. 49	998652	67·3	987967	67·3	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.30^s$ before, and $2^m.30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 26″.
Reading of Torsion Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 233°; July $18^d.0^h$, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $27^s.5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

July $20^d.10^h$. Five-minute observations were commenced. (See the Section of Term-Day Observations.)

There were considerable changes in the positions of the Declination Magnet on July 19th, between 20^h and 22^h; on July 20th, between 8^h and 10^h, and between 20^h and 24^h; on July 22nd, between 22^h and 24^h; on July 23rd, between 8^h and 10^h, and between 16^h and 18^h, and between 22^h and 24^h; on July 25th, between 22^h and 24^h; and there was a considerable change in the position of the Vertical Force Magnet between $2^h.10^m$ and 4^h on July 25th: no extra observations were taken at any of these times, as the direction of the change was in accordance with the diurnal change at the time.

Daily Observations from July 24 to 30.

Göttingen Mean Time (Astronomical Reckoning.) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
July 24. 14. 0	246. 34. 50	9·999766	69·1	9·987529	69·1	D	July 27. 14. 0	246. 37. 53	9·999750	68·8	9·988258	67·8	D
16. 0	31. 57	9·999478	66·2	988099	66·2		16. 0	36·53	9·999877	69·4	988160	68·3	
18. 0	38. 58	0·000452	65·0	988584	65·0		18. 0	37·37	0·000075	67·4	988399	66·3	
20. 0	39. 42	0·000185	64·3	989074	64·2	D	20. 0	38·32	0·000097	67·8	988522	66·8	D
22. 0	35. 53	9·998459	66·0	989040	65·0	JH	22. 0	37·16	9·999883	66·0	988579	65·0	P
July 25. 0. 0	246. 29. 59	9·998459	68·5	9·988296	67·5	P	July 28. 0. 0	246. 31. 52	9·999035	68·0	9·988155	67·0	P
1. 50	28. 12	999079		987590			1. 50	27. 7	9·999965		987675		
2. 0	27. 49	999478		987543			2. 0	26. 59	0·000254		987637		
2. 10	28. 35	999478	73·0	988005	73·0	P	2. 10	27. 11	000185	71·3	987567	70·9	P
4. 0	30. 24	999921	75·0	986955	75·2	D	4. 0	28. 18	000827	73·7	986987	74·0	D
6. 0	34. 16	998924	75·6	986724	75·8		6. 0	32. 27	000362	74·6	986752	74·6	
8. 0	35. 13	998924	74·0	986696	74·1		8. 0	34. 14	000362	73·6	986701	73·6	
10. 0	36. 35	9·999739	71·4	987077	71·4	D	10. 0	36. 8	0·000163	71·5	987034	71·5	D
12. 0	38. 14	0·000555	68·7	987677	68·8	P	12. 0	37. 49	9·999750	69·4	987402	69·4	P
14. 0	37. 53	9·999811	65·6	988390	65·7		14. 0	40. 10	0·000838	67·0	987825	67·0	
16. 0	39. 10	0·000119	65·0	988861	64·2		16. 0	38. 17	000435	66·0	988343	65·5	
18. 0	40. 13	0·000723	62·0	989473	61·1		18. 0	40. 7	0·000035	64·5	988800	64·2	
20. 0	41. 7	9·999710	61·4	989897	60·2	P	20. 0	40. 26	9·999921	63·5	988964	63·0	P
22. 0	37. 19	997879	63·3	989949	61·3	JH	22. 0	39. 56	999174	63·0	988960	62·7	JH
July 26. 0. 0	246. 30. 16	9·997740	67·0	9·988875	65·7	JH	July 29. 0. 0	246. 33. 52	9·998836	64·0	9·988875	63·3	JH
1. 50	28. 9	999415		988014			1. 50	27. 58	0·001868		988409		
2. 0	28. 9	999766	70·4	987995	70·0		2. 0	27. 30	002289	66·0	988305	65·5	
2. 10	27. 52	999766		987929		JH	2. 10	26. 54	002820		988352		JH
4. 0	30. 48	999855	73·4	987213	73·4	P	4. 0	25. 29	002798	67·5	988334	67·0	P
6. 0	33. 18	999256	74·0	986837	74·2		6. 0	30. 28	001775	68·0	988249	67·5	
8. 0	34. 43	998930	74·0	986696	74·4		8. 0	33. 0	001884	67·0	988390	66·3	
10. 0	36. 52	998426	72·0	986790	72·0	P	10. 0	38. 20	001341	65·1	988814	65·0	P
12. 0	36. 31	999495	68·6	987463	68·6	JH	12. 0	38. 24	001448	62·5	989153	62·1	JH
14. 0	37. 22	9·999925	65·7	988169	65·6		14. 0	42. 13	001536	61·5	988908	61·0	
16. 0	35. 58	0·000086	63·8	988522	63·6		16. 0	42. 40	000789	59·0	989670	58·8	
18. 0	38. 58	9·999229	61·7	989144	61·6		18. 0	39. 1	001596	57·4	990420	57·3	
20. 0	41. 39	0·000200	61·4	989388	61·0	JH	20. 0	38. 38	0·000346	57·0	990603	56·6	JH
22. 0	36. 57	9·998681	61·8	989647	61·5	D	22. 0	36. 23	9·999744	58·2	990744	57·6	D
July 27. 0. 0	246. 31. 56	9·999345	62·7	9·989534	62·0	D	July 30. 0. 0	246. 30. 6	999655	60·3	9·990415	59·6	D
1. 50	25. 58	999434		989153			1. 50	28. 24	999811		989770		
2. 0	25. 14	9·999943	65·0	989111	64·3		2. 0	28. 13	9·999877	62·3	989761	61·8	
2. 10	25. 6	0·000163		989102		D	2. 10	27. 17	0·000031		989732		D
4. 0	27. 1	9·999279	67·6	988715	67·3	JH	4. 0	29. 40	001292	64·2	989360	63·6	JH
6. 0	31. 51	0·000185	69·2	988254	69·0		6. 0	32. 0	001713	65·4	989196	65·0	
8. 0	35. 8	000954	69·3	988009	69·0		8. 0	34. 55	000688	65·8	989021	65·3	
10. 0	36. 4	000606	68·2	987972	68·0	JH	10. 0	39. 48	000805	64·6	988866	64·0	JH
12. 0	37. 2	000888	66·8	988282	66·2	D	12. 0	40. 31	000917	63·0	989040	63·0	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 26″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot3$; in Vertical Plane, $27^s\cdot5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

July 29^d, civil reckoning. The mean reading of the Vertical Force Magnet, corrected for temperature, was less on this day than on any other in the month, being 0·0005717, as deduced from the two-hourly observations.

In the two hours following July $27^d.\ 0^h$, preceding $28^d.\ 0^h$, $29^d.\ 0^h$, $30^d.\ 0^h$, and Aug. $1^d.\ 0^h$, the change in the position of the Declination Magnet was considerable; and in the two hours following July $29^d.\ 0^h$ and July $31^d.\ 20^h$, the change in the position of the Horizontal Force Magnet was large: no extra observations were taken.

Daily Observations from July 31 to August 6.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force. uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
July 31. 14. 0	246. 38. 33	0·001895	61·2	9·989191	61·3	D	Aug. 3. 14. 0	246. 38. 23	9·999360	71·2	9·986643	71·4	D
16. 0	40. 9	001365	60·2	989332	60·2		16. 0	38. 4	999079	71·7	986987	71·2	
18. 0	40. 40	002381	61·2	989332	60·8		18. 0	38. 23	999035	71·0	987222	70·3	
20. 0	37. 15	0·000584	60·9	989567	60·5	D	20. 0	38. 12	998703	70·7	987340	70·2	D
22. 0	33. 51	9·997508	61·6	989798	60·9	JH	22. 0	36. 33	996931	70·0	987382	69·5	JH
Aug. 1. 0. 0	246. 26. 32	9·998729	65·0	9·989285	64·0	P	Aug. 4. 0. 0	246. 30. 59	9·996931	73·0	9·987002	72·0	P
1. 50	29. 54	999035		988720			1. 50	30. 9	997707		986319		
2. 0	30. 15	9·999588	69·0	988626	69·0		2. 0	30. 18	997707	76·3	986296	76·0	
2. 10	30. 15	0·000568		988588		P	2. 10	30. 25	997817		986272		P
4. 0	29. 46	0·000406	72·3	987637	72·5	D	4. 0	33. 3	998415	78·3	985707	78·2	D
6. 0	29. 47	9·999943	73·0	987284	73·0		6. 0	34. 27	998997	79·3	985291	79·3	
8. 0	33. 52	999544	72·8	987274	72·8		8. 0	34. 27	999138	78·5	985198	78·5	
10. 0	36. 21	9·999733	69·8	987449	69·7	D	10. 0	34. 53	9·999655	76·1	985472	76·1	D
12. 0	39. 14	0·000917	66·0	988202	66·0	P	12. 0	36. 32	0·001354	73·5	985942	74·0	P
14. 0	41. 23	001071	63·0	988579	63·1		14. 0	34. 51	0·000141	72·0	986028	71·7	
16. 0	40. 29	000639	61·0	989379	61·0		16. 0	40. 32	9·999035	71·7	986554	71·2	
18. 0	40. 15	001330	59·0	989944	59·0		18. 0	38. 58	999478	71·2	986469	70·6	
20. 0	38. 28	000761	58·5	990274	58·2	P	20. 0	36. 29	999728	70·7	986696	70·2	P
22. 0	37. 26	0·000384	59·6	990085	59·1	JH	22. 0	35. 44	996666	71·0	986799	70·3	JH
Aug. 2. 0. 0	246. 32. 14	9·999899	63·1	9·989421	62·9	JH	Aug. 5. 0. 0	246. 28. 33	9·997817	71·6	9·986804	71·4	D
1. 50	29. 6	0·000234		988531			1. 50	26. 36	998570		986648		
2. 0	29. 6	9·999899	68·0	988418	67·6		2. 0	27. 28	998659	73·3	986648	73·0	
2. 10	29. 25	999789		988268		JH	2. 10	27. 8	998481		986648		D
4. 0	32. 12	9·999699	71·0	987543	71·5	P	4. 0	30. 56	998194	75·5	986366	75·5	P
6. 0	34. 40	0·000384	72·0	987166	72·1		6. 0	34. 28	997707	76·6	986121	76·2	
8. 0	35. 0	001409	71·0	987213	71·0		8. 0	36. 1	998641	76·6	985894	76·6	
10. 0	35. 20	081498	68·2	987628	69·0	P	10. 0	35. 0	9·999301	74·8	985871	75·0	P
12. 0	36. 51	001398	65·8	988160	65·8	JH	12. 0	36. 1	0·000447	71·8	986352	71·8	JH
14. 0	37. 0	000794	63·8	988442	63·8		14. 0	40. 55	9·998570	69·8	986408	69·8	
16. 0	36. 55	000939	63·0	988964	62·9		16. 0	34. 36	9·999323	68·3	986987	68·3	
18. 0	38. 10	000252	62·8	989304	62·6		18. 0	32. 26	0·001160	67·5	987016	67·3	
20. 0	38. 10	0·000174	62·8	989435	62·3	JH	20. 0	32. 24	9·997707	66·8	987487	66·0	JH
22. 0	36. 44	9·999811	64·0	989294	63·8	D	22. 0	36. 39	997485	67·3	987736	66·8	D
Aug. 3. 0. 0	246. 31. 39	9·998637	67·8	9·988188	67·8	D	Aug. 6. 0. 0	246. 32. 22	9·997861	68·3	9·987708	68·0	D
1. 50	30. 12	998216		987260			1. 50	27. 57	998548		987581		
2. 0	30. 56	998641	72·8	987166	73·0		2. 0	28. 11	998371	69·0	987581	68·7	
2. 10	31. 26	998751		987081		D	2. 10	28. 21	9·998216		987581		D
4. 0	35. 13	998437	76·6	986272	76·4	JH	4. 0	30. 49	0·002577	69·0	987736	68·7	JH
6. 0	35. 30	998120	77·7	985716	78·0		6. 0	36. 44	9·999987	70·0	987972	69·3	
8. 0	35. 49	998554	77·2	985716	77·0		8. 0	36. 37	0·000384	69·6	987567	69·3	
10. 0	36. 59	998408	75·8	985711	75·8	JH	10. 0	38. 4	9·999943	68·0	987689	68·3	JH
12. 0	38. 5	999190	73·6	986225	73·8	D	12. 0	39. 46	0·000274	66·7	987449	66·8	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.30^s$ before, and $2^m.30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 26″; August 1d, 269°. 52′. 19″.
Reading of Torsion Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 227°; August $1^d.0^h$, 232°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $27^s.5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Aug. $1^d.2^h.10^m$. The marked end of the Vertical Force Magnet was more drawn downwards at this than at any other observation in the month, the reading being 0·006804, when corrected for temperature.

Aug. 1d, civil reckoning. The mean reading of the Vertical Force Magnet, corrected for temperature, was larger on this day than on any other day in the month, being 0·005978 parts of the whole vertical force, as deduced from the two-hourly observations.

Aug. 2d, civil reckoning. The mean reading of the Horizontal Force Magnet, corrected for temperature, was larger on this day than on any other day in the month, being 0·011747 parts of the whole horizontal force, as deduced from the two-hourly observations.

Aug. 3d, civil reckoning. The range of the Declination Magnet was less on this day than on any other day in the month, being 7′. 14″.

In the two hours preceding Aug. $4°.0^h$, $5^d.0^h$, $6^d.6^h$, and $8^d.12^h$, the change in the position of the Declination Magnet was considerable. The change in the position of the Vertical Force Magnet was large between $5^d.14^h$ and 16^h, and in the two hours preceding and following Aug. $6^d.4^h$, and between $7^d.20^h$ and 22^h: no extra observations were taken.

Daily Observations from August 7 to 13.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Aug. 7. 14. 0	246. 35. 3	9·999949	67·1	9·987237	67·2	D	Aug. 10. 14. 0	246. 40. 56	9·998681	72·5	9·985790	72·5	D
16. 0	38. 44	0·000450	66·0	987458	65·8		16. 0	42. 53	998831	70·6	986413	70·6	
18. 0	39. 1	9·999744	66·0	988183	65·5		18. 0	36. 41	999127	68·9	986931	69·0	
20. 0	38. 25	0·000207	64·5	988673	64·0	D	20. 0	40. 53	999079	67·3	987002	67·2	D
22. 0	35. 2	9·997419	65·8	988395	64·8	JH	22. 0	38. 6	998149	68·0	987520	67·0	P
Aug. 8. 0. 0	246. 30. 27	9·996157	69·0	9·987967	68·2	P	Aug. 11. 0. 0	246. 31. 49	9·996754	69·2	9·987316	68·1	JH
1. 50	30. 36	997220		987354			1. 50	29. 49	996179		987232		
2. 0	30. 24	997707	72·2	987307	72·0		2. 0	30. 51	996334	69·5	987204	69·0	
2. 10	30. 13	997839		987260		P	2. 10	30. 47	997485		982185		JH
4. 0	32. 53	999013	74·7	986701	74·7	D	4. 0	34. 1	998452	73·0	986696	73·0	D
6. 0	35. 31	998637	75·2	986375	75·3		6. 0	35. 23	998592	73·0	986516	73·0	
8. 0	36. 49	998592	74·3	986225	74·5		8. 0	36. 55	998470	71·5	986606	71·7	D
10. 0	39. 43	998880	71·0	986601	71·1	D	10. 0	38. 15	998216	69·8	986818	69·3	JH
12. 0	44. 57	999340	69·0	986507	69·0	P	12. 0	38. 57	999251	67·5	987208	67·4	P
14. 0	44. 17	998481	67·2	987119	67·2		14. 0	37. 19	998840	65·0	987820	65·0	
16. 0	42. 4	998851	66·0	987378	65·5		16. 0	40. 27	999993	63·3	988321	63·0	
18. 0	38. 22	999035	66·0	988249	65·3		18. 0	41. 8	999993	62·0	988814	61·5	
20. 0	39. 56	999035	65·2	988296	64·2	P	20. 0	44. 9	999628	62·0	989050	61·0	P
22. 0	38. 54	997624	67·1	988226	66·0	JH	22. 0	35. 43	994636	64·1	988725	62·6	JH
Aug. 9. 0. 0	246. 34. 41	997729	71·5	9·987316	70·6	JH	Aug. 12. 0. 0	246. 29. 45	9·996600	68·4	9·987948	67·2	JH
1. 50	31. 8	997197		986446			1. 50	29. 45	997729		987011		
2. 0	31. 6	996710	75·8	986418	75·2		2. 0	30. 13	997729	72·0	986884	72·0	
2. 10	31. 15	996666		986343		JH	2. 10	29. 56	997729		986842		JH
4. 0	32. 39	996865	78·0	985583	78·2	P	4. 0	31. 49	997264	75·0	986131	75·0	P
6. 0	35. 28	997663	78·0	985424	78·0		6. 0	36. 9	997374	75·0	986131	75·0	
8. 0	36. 35	998233	77·0	985376	77·5		8. 0	37. 5	997613	74·0	986178	74·2	
10. 0	38. 3	998149	76·0	985357	76·2	P	10. 0	45. 10	999449	72·3	986225	72·4	P
12. 0	41. 9	998459	73·2	985740	73·2	JH	12. 0	37. 48	998371	70·1	986474	69·8	JH
14. 0	38. 55	998853	71·7	986206	71·2		14. 0	38. 4	998200	68·6	986795	68·5	
16. 0	38. 55	998725	69·5	986748	69·0		16. 0	38. 39	998703	67·0	987246	67·0	
18. 0	38. 49	998991	68·0	987166	68·0		18. 0	40. 1	999035	66·0	987689	64·9	
20. 0	39. 54	998946	68·8	987430	68·0	JH	20. 0	39. 49	999323	64·6	987972	64·3	JH
22. 0	36. 43	996821	71·3	987449	70·7	D	22. 0	36. 49	998747	65·8	987906	66·0	D
Aug. 10. 0. 0	246. 32. 31	9·994762	77·2	9·985837	76·6	D	Aug. 13. 0. 0	246. 33. 18	9·998377	66·3	9·987505	66·5	D
1. 50	30. 55	995935		985025			1. 50	31. 48	998504		987204		
2. 0	31. 4	995913	81·0	985039	80·7		2. 0	31. 57	998282	68·4	987190	68·5	
2. 10	31. 10	996024		985025		D	2. 10	32. 2	998260		987190		D
4. 0	33. 5	996334	82·0	984497	82·0	JH	4. 0	35. 4	998172	71·6	986889	71·3	JH
6. 0	35. 2	996515	82·0	984463	82·0		6. 0	38. 25	999013	72·8	986563	72·7	
8. 0	38. 23	997912	78·5	984534	78·0		8. 0	37. 28	999345	73·0	986206	72·8	
10. 0	43. 18	997220	76·7	984987	76·6	JH	10. 0	38. 27	999611	73·0	986041	72·8	JH
12. 0	42. 39	997854	74·5	985386	74·6	D	12. 0	40. 44	0·000384	72·0	986272	71·8	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 19″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 232°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Aug. $11^d.\ 20^h$. The western declination was 23°. 8′. 10″; at the next observation it was found to be 8′. 26″ greater, and extra observations were commenced, during which, at $22^h.\ 6^m$, the reading of the Horizontal Force Magnet, corrected for temperature, was 0·005136, being the smallest in the month.

Daily Observations from August 14 to 20.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Aug. 14. 14. 0	246. 40. 28	9·999035	71·7	9·985787	72·0	D	Aug. 17. 14. 0	246. 38. 15	0. 000108	70·0	9·985664	69·9	JH
16. 0	41. 27	998637	69·7	986319	69·8		16. 0	40. 44	9. 999699	67·8	985975	67·8	
18. 0	39. 12	998770	68·5	987002	68·5		18. 0	39. 29	0. 000606	66·2	986230	66·0	
20. 0	40. 54	998703	67·2	987496	67·0	D	20. 0	38. 38	9. 998703	66·3	986559	65·8	JH
22. 0	38. 0	997478	68·0	987562	67·0	JH	22. 0	34. 38	996267	69·0	986413	68·1	P
Aug. 15 0. 0	246. 31. 15	9·996705	73·3	9·986776	72·5	JH	Aug. 18. 0. 0	246. 33. 50	9·995784	74·3	9·985283	73·5	P
1. 50	30. 26	996777		985611		P	1. 50	36. 20	997126		984434		
2. 0	30. 52	996493	78·7	985519	78·2		2. 0	36. 40	996821	80·2	984297	79·8	
2. 10	30. 56	996489		985415		P	2. 10	36. 41	996600		984297		P
4. 0	35. 7	996349	82·8	984387	83·2	D	4. 0	32. 15	997220	83·5	983682	83·0	JH
6. 0	38. 4	996556	84·0	984306	84·0		6. 0	34. 48	995869	83·8	983282	83·7	
8. 0	38. 27	996489	82·4	983680	82·7		8. 0	38. 44	995625	82·6	983070	82·4	
10. 0	36. 57	996727	80·4	983719	80·6	D	10. 0	36. 51	995802	81·3	982963	81·2	JH
12. 0	37. 23	997633	76·0	984434	76·1	P	12. 0	36. 15	996234	79·4	983165	79·2	P
14. 0	36. 41	998211	73·0	984905	73·3		14. 0	37. 19	996600	78·0	983730	77·9	
16. 0	37. 8	998331	71·0	985550	71·0		16. 0	37. 33	996931	76·1	984153	76·0	
18. 0	37. 12	998149	69·0	986131	68·8		18. 0	38. 5	997523	74·0	984444	74·2	
20. 0	39. 57	997264	69·0	986696	68·0	P	20. 0	36. 47	995056	72·6	984859	72·5	P
22. 0	36. 6	995493	70·6	986451	69·2	JH	22. 0	31. 56	996473	72·0	984943	71·4	JH
Aug. 16. 0. 0	246. 29. 34	9·995802	75·0	9·985578	73·0	JH	Aug. 19. 0. 0	246. 28. 22	9·995417	73·3	9·985015	72·0	JH
1. 50	29. 5	996290		984494			1. 50	17. 12	999118		985146		
2. 0	29. 42	996378	79·3	984396	79·0		2. 0	18. 32	998304		985039		
2. 10	30. 13	996489		984330		JH	2. 10	18. 7	998083	73·6	985193	73·2	JH
4. 0	33. 36	996416	82·1	983616	82·4	P	4. 0	22. 40	997374	73·5	985707	73·1	P
6. 0	36. 41	995720	81·8	983353	82·0		6. 0	30. 37	997485	72·2	986559	72·2	
8. 0	37. 17	996600	81·2	983353	81·6		8. 0	36. 18	997956	71·4	986178	71·3	
10. 0	38. 4	996650	78·5	983824	78·5	P	10. 0	40. 18	998747	70·2	985048	70·2	P
12. 0	36. 57	998054	75·0	984482	75·0	G	12. 0	37. 37	997751	68·0	985810	69·2	G
14. 0	32. 16	999227	73·0	984953	73·0		14. 0	34. 11	999429	68·0	986210	69·0	
16. 0	38. 19	999030	71·0	985188	71·0		16. 0	37. 16	998858	67·0	986512	68·0	
18. 0	41. 14	997810	69·0	985754	69·0		18. 0	37. 37	997729	67·0	986743	66·5	
20. 0	42. 36	998020	67·0	986131	67·0	G	20. 0	38. 46	997087	66·0	986917	66·0	G
22. 0	35. 29	997574	68·8	986215	68·4	JH	22. 0	32. 53	996777	66·0	986795	66·0	JH
Aug. 17. 0. 0	246. 26. 43	9·997950	72·3	9·985592	71·4	JH	Aug. 20. 0. 0	246. 27. 44	9·998149	67·0	9·986615	66·2	JH
1. 50	26. 13	997729		985121			1. 50	26. 18	998349		986484		
2. 0	26. 27	998172	75·4	985121	75·3		2. 0	26. 31	998459	68·6	986441	68·0	
2. 10	26. 50	998189		985074		JH	2. 10	26. 49	998548		986451		JH
4. 0	31. 52	998840	78·0	984599	78·0	G	4. 0	31. 59	998216	70·0	986296	69·0	G
6. 0	35. 32	997658	78·0	984396	79·0		6. 0	35. 53	998260	70·0	986272	69·0	
8. 0	36. 49	998696	75·0	984596	76·0		8. 0	35. 46	9·999145	69·0	986187	68·0	
10. 0	37. 42	999976	73·0	984953	73·0	G	10. 0	48. 55	0·002893	68·5	986328	68·0	G
12. 0	37. 56	999943	72·0	985288	71·7	JH	12. 0	39. 16	9·999766	66·0	986592	65·7	JH

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.30^s$ before, and $2^m.30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 19″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 232°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $27^s.5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Between Aug. $15^d.22^h$ and $16^d.0^h$ there was a change in the position of the Declination Magnet of 6′. 32″; and between Aug. $9^d.20^h$ and $10^d.0^h$ there was a large change in the position of the Horizontal Force Magnet; and there were considerable changes in the positions of the Vertical Force Magnet between $9^d.22^h$ and $10^d.0^h$; between Aug. $15^d.0^h$ and $1^h.50^m$, and between $2^h.10^m$ and $4^h.0^m$; also between Aug. $16^h.0^h$ and $1^h.50^m$: no extra observations were taken at any of these times.

Between Aug. $16^d.20^h$ and 22^h; between Aug. $19^d.20^h$ and 2^h; between Aug. $20^d.2^h.10^m$ and 4^h; Aug. $21^d.20^h$ and 22^h; Aug. $22^d.4^h$ and 6^h, 20^h and 24^h, there were rather considerable changes in the positions of the Declination Magnet: between Aug. $17^d.20^h$ and 22^h; Aug. $18^d.18^h$ and 20^h, Aug. $21^d.20^h$ and 22^h, the changes in the positions of the Horizontal Force Magnet were large; also between Aug. $17^d.22^h$ and 24^h; Aug. $19^d.8^h$ and 10^h; Aug. $21^d.22^h$ and $22^d.2^h$, the changes in the Vertical Force Magnet were considerable: no extra observations were taken.

Aug. 18^d and 19^d, civil reckoning. The greatest difference in the mean western declination between any two consecutive civil days during the month, took place between these two days, being 3′. 4″, the declination on the second of the two days being the larger.

Aug. $19^d.1^h.50^m$. The western declination was 23°. 35′. 7″, being the largest in the month, and greater by 11′. 10″ than at the previous observation; extra observations were therefore commenced.

Aug. 19^d, civil reckoning. The mean western declination was greater on this day than on any other day in the month, being 23°. 18′. 29″, as deduced from the two-hourly observations; and the range of the Declination Magnet was greater on this day than on any other day in the month, being 23′. 6″.

Aug. $20^d.8^h$. The western declination was 23°. 16′. 33″; and at 10^h, 23°. 3′. 24″, being the smallest in the month; and at 10^h the reading of the Horizontal Force Magnet, corrected for temperature, was 0·014538, being the largest in the month: extra observations were taken.

Daily Observations from August 21 to 27.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Aug. 21. 14. 0	246. 36. 2	9·998371	66·6	9·986174	66·6	JH	Aug. 24. 14. 0	246. 41. 14	9·997525	68·3	9·985664	68·3	JH
16. 0	37. 22	997751	65·4	986851	65·3		16. 0	46. 53	997153	67·5	986211	67·5	
18. 0	39. 16	996976	64·3	987505	64·0		18. 0	45. 13	996976	66·2	986676	66·0	
20. 0	39. 53	997773	63·8	987689	63·6	JH	20. 0	45. 14	996998	65·0	986004	64·6	JH
22. 0	34. 9	995813	64·8	987617	64·6	P	22. 0	40. 48	997281	65·0	987119	64·2	P
Aug. 22. 0. 0	246. 32. 52	9·995692	70·8	9·986484	70·0	P	Aug. 25. 0. 0	246. 33. 45	9·996489	65·7	9·986955	65·2	P
1. 50	30. 7	997485		985353			1. 50	32. 30	998481		986814		
2. 0	30. 41	997596	75·6	985353	75·4		2. 0	32. 55	998637	67·8	986790	67·3	
2. 10	30. 59	997707		985260		P	2. 10	32. 59	998637		986743		P
4. 0	36. 51	997197	78·3	984511	78·6	JH	4. 0	34. 32	998592	69·6	986521	69·8	JH
6. 0	42. 59	997197	79·7	983925	79·7		6. 0	39. 36	998991	71·3	986075	71·3	
8. 0	42. 46	997356	78·0	983918	78·0		8. 0	44. 12	999079	71·2	985721	71·3	
10. 0	42. 38	997046	76·4	984083	76·2	JH	10. 0	41. 12	998615	70·7	985711	70·3	JH
12. 0	44. 36	996947	75·0	984391	75·0	P	12. 0	42. 49	998592	69·6	985823	69·3	P
14. 0	39. 47	998288	72·5	984720	72·9		14. 0	42. 9	998864	70·0	985871	69·5	
16. 0	46. 55	996924	70·8	985191	71·0		16. 0	41. 16	998194	69·4	985990	69·0	
18. 0	43. 50	997707	70·5	985777	70·5		18. 0	44. 25	998630	68·0	986441	67·4	
20. 0	45. 3	996821	70·2	985856	69·4	P	20. 0	46. 15	998149	66·7	986771	66·1	P
22. 0	38. 21	993854	70·6	985860	70·0	JH	22. 0	41. 9	996356	67·8	986752	67·0	JH
Aug. 23. 0. 0	246. 32. 7	9·995316	74·6	9·985062	74·0	JH	Aug. 26. 0. 0	246. 34. 46	9·996909	71·2	9·985936	70·7	JH
1. 50	33. 40	996931		984259		G	1. 50	33. 20	998327		985248		
2. 0	34. 26	997042	78·3	984244	78·0	JH	2. 0	33. 42	998415	74·9	985193	74·7	
2. 10	34. 33	997020		984168		JH	2. 10	33. 58	998637		985165		JH
4. 0	34. 59	997186	78·7	983700	79·2	P	4. 0	37. 54	998592	77·3	984530	78·0	P
6. 0	39. 7	997591	77·4	983966	77·5		6. 0	39. 50	997928	78·0	984187	78·0	
8. 0	42. 6	998189	74·0	984530	74·8		8. 0	41. 1	997757	77·0	984168	77·1	P
10. 0	40. 56	999588	71·5	985357	71·4	P	10. 0	42. 32	998304	73·5	984615	74·0	G
12. 0	41. 53	998924	67·0	986004	67·0	G	12. 0	40. 49	998972	73·0	984631	73·0	G
14. 0	42. 13	998393	65·0	986481	65·0		14. 0	44. 23	999294	70·0	984963	69·7	JH
16. 0	42. 1	998149	66·0	987002	65·0		16. 0	42. 56	998149	69·0	985645	68·6	JH
18. 0	43. 42	998481	65·5	987354	65·0		18. 0	44. 53	998260	68·0	986130	67·4	P
20. 0	44. 42	998886	64·5	987458	64·0	G	20. 0	43. 23	998371	66·8	986507	66·2	P
22. 0	39. 43	996887	63·9	987534	63·0	JH	22. 0	42. 9	996628	67·0	986578	67·0	G
Aug. 24. 0. 0	246. 33. 52	997042	66·8	9·986828	66·0	JH	Aug. 27. 0. 0	246. 37. 35	9·996334	68·9	9·986135	68·1	JH
1. 50	29. 0	997773		986296			1. 50	32. 54	997264		985707		G
2. 0	29. 23	997264	70·3	986319	70·0		2. 0	32. 55	997082	72·0	985659	72·0	
2. 10	29. 29	996799		986145		JH	2. 10	33. 3	997190		985621		G
4. 0	32. 5	996556	73·5	985386	74·0	G	4. 0	35. 44	997928	75·0	985034	75·0	P
6. 0	40. 23	997270	75·5	985245	76·0		6. 0	39. 31	998216	76·7	984769	76·5	JH
8. 0	39. 52	997441	75·0	984882	75·5		8. 0	41. 2	998327	75·5	984694	74·5	G
10. 0	41. 14	997485	75·0	984953	74·5	G	10. 0	41. 23	998592	73·2	984953	73·2	P
12. 0	42. 39	999057	70·2	985481	70·2	JH	12. 0	43. 5	998437	71·4	985240	71·2	JH

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively 2^m. 30^s before, and 2^m. 30^s after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 19″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 232°; August 22^d. 0^h, 250°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Aug. 22^d, civil reckoning. The mean reading of the Horizontal Force Magnet, corrected for temperature, was smaller on this day than on any other day in the month, being 0·009315 parts of the whole horizontal force, as deduced from the two-hourly observations.

Aug. 25^d. 0^h and 1^h. 50^m, 20^h and 22^h, the changes in the positions of the Horizontal Force Magnet were considerable; as were also those of the Vertical Force Magnet between Aug. 24^d. 20^h and 22^h, and Aug. 30^d. 6^h and 8^h: no extra observations were taken.

Between Aug. 24^d. 4^h and 6^h; 22^h and 24^h; Aug. 25^d. 22^h and 24^h; Aug. 28^d. 22^h and 24^h; Aug. 29^d. 22^h and 24^h, the changes in the positions of the Declination Magnet were rather large; no extra observations were taken, the changes being in the right direction for the times of the day.

Aug. 26^d. 10^h. Five-minute observations were commenced. (See the Section of Term-Day Observations.) At 14^h the marked end of the Vertical Force Magnet was less drawn downwards than at any other time in the month, the reading, corrected for temperature, being 0·003363.

Daily Observations from August 28 to September 3.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Aug. 28. 14. 0	246. 42. 33	9. 999478	68 ·0	9 ·985975	68 ·0	JH	Aug. 31. 14. 0	246. 36. 9	0 ·000274	62 ·6	9 ·987675	62 ·0	JH
16. 0	42. 38	998581	66 ·5	986371	66 ·2		16. 0	37. 11	9 ·999434	60 ·5	988089	60 ·0	
18. 0	44. 56	998083	65 ·4	986898	65 ·2		18. 0	37. 20	9 ·999877	59 ·4	988334	59 ·0	
20. 0	45. 21	998172	65 ·3	987039	65 ·0	JH	20. 0	36. 57	0 ·000141	59 ·0	988493	58 ·3	JH
22. 0	41. 35	997663	65 ·0	987166	65 ·0	G	22. 0	34. 38	9 ·998814	58 ·6	988531	58 ·1	P
Aug. 29. 0. 0	246. 35. 14	9 ·996821	68 ·2	9 ·986296	67 ·9	P	Sep. 1. 0. 0	246. 31. 30	9 ·999057	60 ·0	9 ·988108	59 ·3	P
1. 50	33. 7	998149		985716			1. 50	29. 40	999528		987873		
2. 0	33. 10	998149	71 ·5	985669	71 ·2		2. 0	29. 40	999537	62 ·9	987873	62 ·0	
2. 10	33. 25	998371		985662		P	2. 10	30. 2	9 ·999384		987830		P
4. 0	37. 49	998172	74 ·0	985034	73 ·5	JH	4. 0	33. 41	0 ·000318	64 ·1	987552	63 ·2	JH
6. 0	40. 54	997773	73 ·8	984655	73 ·5		6. 0	35. 51	000739	65 ·0	987227	64 ·2	
8. 0	41. 40	998847	73 ·7	984684	73 ·7		8. 0	37. 8	0 ·000805	66 ·0	986837	65 ·8	
10. 0	41. 52	998814	72 ·0	984891	72 ·0	JH	10. 0	36. 38	9 ·999622	66 ·0	986799	65 ·4	JH
12. 0	42. 28	998924	70 ·0	985353	70 ·0	P	12. 0	39. 19	999637	68 ·0	986601	67 ·2	P
14. 0	42. 45	998492	68 ·1	985659	68 ·0		14. 0	37. 42	999323	69 ·2	986272	68 ·7	
16. 0	43. 22	999096	67 ·5	986131	67 ·1		16. 0	38. 19	9 ·999899	68 ·8	986160	68 ·5	
18. 0	44. 21	998986	67 ·2	986413	66 ·9		18. 0	39. 47	0 ·000888	68 ·0	986225	67 ·7	
20. 0	45. 11	998703	66 ·3	986578	66 ·0	P	20. 0	38. 40	9 ·998592	67 ·3	986319	67 ·0	P
22. 0	40. 42	997972	66 ·0	986653	65 ·0	JH	22. 0	33. 8	9 ·996600	67 ·4	986192	67 ·0	JH
Aug. 30. 0. 0	246. 29. 32	9 ·998172	67 ·0	9 ·986371	66 ·3	JH	Sep. 2. 0. 0	246. 26. 41	9 ·997972	68 ·5	9 ·986281	68 ·0	JH
1. 50	26. 38	998725		986215			1. 50	26. 55	997552		985951		
2. 0	27. 6	998570	68 ·6	986182	68 ·0		2. 0	27. 45	997441	71 ·0	985933	71 ·0	
2. 10	27. 43	998327		986169		JH	2. 10	26. 50	997441		985904		JH
4. 0	32. 23	998814	70 ·1	986037	70 ·0	P	4. 0	33. 20	996821	74 ·0	985801	74 ·4	P
6. 0	35. 23	998371	71 ·0	986754	71 ·0		6. 0	31. 52	997264	75 ·0	985150	75 ·0	
8. 0	38. 53	999035	71 ·0	985754	70 ·4		8. 0	50. 28	996194	75 ·0	985094	75 ·0	
10. 0	38. 43	999301	69 ·3	985842	69 ·0	P	10. 0	39. 7	998000	73 ·2	984860	73 ·2	P
12. 0	37. 13	998924	68 ·0	986225	68 ·0	G	12. 0	35. 54	998674	73 ·0	984586	73 ·0	G
14. 0	36. 56	999283	66 ·0	986568	67 ·1		14. 0	38. 32	997972	71 ·5	984577	69 ·0	
16. 0	37. 44	999548	64 ·0	986978	65 ·0		16. 0	40. 6	997596	71 ·0	985386	68 ·5	
18. 0	38. 12	9 ·999744	61 ·5	987520	62 ·0		18. 0	35. 42	997220	70 ·0	985588	68 ·5	
20. 0	38. 29	0 ·000842	62 ·0	987929	62 ·0	G	20. 0	36. 30	997197	68 ·0	985808	68 ·0	G
22. 0	34. 4	9 ·998275	60 ·0	988146	59 ·3	JH	22. 0	32. 20	996821	67 ·2	985984	67 ·0	JH
Aug. 31. 0. 0	246. 30. 42	9 ·997220	61 ·5	9 ·987911	60 ·9	JH	Sep. 3. 0. 0	246. 29. 5	9 ·997264	67 ·0	9 ·986220	66 ·8	JH
1. 50	30. 20	998397		987312			1. 50	28. 18	997729		986408		
2. 0	30. 21	998608	65 ·0	987293	63 ·8		2. 0	28. 16	997972	68 ·0	986408	68 ·2	
2. 10	30. 49	998570		987227		JH	2. 10	29. 9	998149		986404		JH
4. 0	32. 59	999367	65 ·0	987166	64 ·5	G	4. 0	35. 8	999035	70 ·0	986296	70 ·0	G
6. 0	34. 49	999434	66 ·0	987049	64 ·8		6. 0	36. 15	997817	72. 0	985707	72 ·0	
8. 0	35. 15	999744	65 ·5	987143	64 ·5		8. 0	39. 12	998172	72. 0	985588	71 ·5	
10. 0	36. 1	999256	65 ·0	987260	63 ·2	G	10. 0	36. 55	998355	71 ·5	985496	71 ·0	G
12. 0	36. 5	999655	63 ·8	987430	63 ·0	JH	12. 0	37. 27	997131	69 ·0	985754	68 ·9	JH

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 19″; September 1d, 269°. 52′. 5″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 250°; August 30d. 0h, 230°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot 3$; in Vertical Plane, $27^s\cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0 ·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0 ·000264 parts of the whole Vertical Force.

Aug. 29d, civil reckoning. The mean western declination was smaller on this day than on any other day in the month, being 23°. 11′. 28″, as deduced from the two-hourly observations.

Aug. 31d, civil reckoning. The mean reading of the Vertical Force Magnet, corrected for temperature, was less on this day than on any other day in the month, being 0 ·004077 parts of the whole vertical force, as deduced from the two-hourly observations.

Between Sep. 1d. 22h and Sep. 2d. 0h, and between Sep. 3d. 2h. 10m and 4h, considerable changes took place in the positions of the Declination Magnet; and also in those of the Horizontal Force Magnet between Aug. 30d. 20h and 22h, Sep. 1d. 18h and 20h, and between Sep. 5d. 20h and 22h: no extra observations were taken.

Sep. 2d. 4h. The marked end of the Vertical Force Magnet was more drawn downwards at this than at any other observation in the month, the reading being 0 ·005443, when corrected for temperature.

Sep. 2d. 6h, the western declination was 23°. 20′. 13″; at 8h it was 23°. 1′. 37″, and extra observations were commenced, during which, at 8h. 25m, the western declination was 22°. 50′. 48″, being the smallest in the month.

Sep. 2d, civil reckoning. The range of the Declination Magnet was greater on this day than on any other day in the month, being 34′. 36″.

Daily Observations from September 4 to 10.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Sep. 4. 14. 0	246. 36. 14	9·998725	62·0	9·987345	62·0	JH	Sep. 7. 14. 0	246. 40. 54	9·999079	66·0	9·986596	65·8	JH
16. 0	38. 6	998592	61·5	987806	61·2		16. 0	41. 18	998038	65·8	986785	65·2	
18. 0	37. 54	998652	61·5	988005	61·0		18. 0	42. 3	999256	65·0	986992	64·9	
20. 0	37. 19	998836	61·4	987816	61·0	JH	20. 0	42. 45	999279	64·0	987039	64·0	JH
22. 0	33. 35	998924	63·0	987825	62·0	P	22. 0	39. 9	997928	64·8	987119	64·0	P
Sep. 5. 0. 0	246. 32. 24	9·997680	64·9	9·987307	64·0	P	Sep. 8. 0. 0	246. 32. 14	9·997667	66·0	9·986846	65·1	P
1. 50	31. 30	998703		986837			1. 50	31. 52	997707		986931		
2. 0	31. 47	998703	67·8	986837	67·3		2. 0	32. 43	998814	65·0	986931	64·2	
2. 10	31. 47	998637		986837		P	2. 10	33. 18	999008		986978		P
4. 0	36. 24	998880	69·4	986535	69·2	JH	4. 0	37. 11	999670	63·2	987534	62·6	JH
6. 0	38. 11	998548	70·2	986310	70·0		6. 0	40. 2	9·999301	61·7	987839	61·1	
8. 0	41. 13	998809	68·6	986220	68·6		8. 0	40. 2	0·000163	60·6	988070	60·2	
10. 0	40. 34	999234	67·2	986422	67·0	JH	10. 0	41. 32	0·000009	60·2	988249	59·6	JH
12. 0	49. 50	999183	65·2	986225	65·2	P	12. 0	42. 1	9·999670	61·2	988202	60·4	P
14. 0	41. 16	998973	63·3	986991	63·1		14. 0	44. 42	999581	60·3	988061	60·0	
16. 0	40. 34	998242	62·9	987402	62·1		16. 0	42. 38	998474	59·7	988484	59·0	
18. 0	41. 42	999367	61·2	987778	61·0		18. 0	42. 33	998487	59·4	988711	58·9	
20. 0	41. 16	999035	60·4	987920	60·0	P	20. 0	43. 16	999127	59·2	988767	58·9	P
22. 0	37. 24	997087	60·3	988305	60·0	JH	22. 0	41. 12	997795	61·0	988310	60·0	JH
Sep. 6. 0. 0	246. 31. 54	9·997042	63·8	9·987693	63·0	JH	Sep. 9. 0. 0	246. 33. 26	9·996747	63·9	9·987665	63·0	JH
1. 50	32. 8	999035		987147			1. 50	31. 24	998327		987039		
2. 0	32. 30	998696	67·0	987110	66·4		2. 0	31. 44	998327	66·9	987006	66·0	
2. 10	32. 36	998858		987081		JH	2. 10	31. 41	998327		987006		JH
4. 0	37. 51	998327	69·2	986696	69·7	P	4. 0	32. 34	998820	67·7	986931	67·1	P
6. 0	40. 3	998371	70·0	986272	70·1		6. 0	38. 21	998592	68·0	987105	67·4	
8. 0	41. 44	998371	70·0	986084	69·8		8. 0	45. 25	998470	68·0	987190	67·1	
10. 0	41. 36	998397	68·1	986310	68·0	P	10. 0	42. 18	998371	67·1	986931	66·4	P
12. 0	44. 32	999039	66·1	986563	65·0	G	12. 0	41. 15	999360	67·0	987072	64·0	G
14. 0	41. 25	998770	65·5	987030	64·0		14. 0	40. 5	999434	65·0	987251	63·5	
16. 0	38. 49	999345	64·8	987321	63·5		16. 0	39. 56	999434	65·0	987487	63·0	
18. 0	42. 47	999090	63·0	987637	62·0		18. 0	41. 22	999588	64·5	987661	62·5	
20. 0	41. 58	999256	61·5	988099	60·0	G	20. 0	41. 41	999395	64·0	987849	62·0	G
22. 0	38. 26	996732	60·9	988329	60·0	JH	22. 0	37. 52	998327	63·1	987882	62·0	JH
Sep. 7. 0. 0	246. 33. 56	9·997220	64·0	0·987595	63·2	JH	Sep. 10. 0. 0	246. 32. 52	9·998327	65·2	9·987496	64·3	JH
1. 50	32. 39	998681		986842			1. 50	32. 28	998968		987269		
2. 0	32. 58	999068	67·8	986846	67·6		2. 0	32. 37	998603	66·4	987269	65·4	
2. 10	33. 13	999123		986799		JH	2. 10	32. 57	998603		987269		
4. 0	37. 28	998753	68·0	986390	69·0	G	4. 0	35. 21	999256	66·3	987166	65·8	JH
6. 0	39. 41	998432	69·0	986225	69·5		6. 0	38. 27	9·999859	66·0	987218	65·3	P
8. 0	39. 57	999145	68·0	986155	68·5		8. 0	38. 57	0·000346	65·0	987452	63·5	G
10. 0	40. 41	999057	68·0	986296	68·0	G	10. 0	41. 24	000130	64·5	987755	63·0	G
12. 0	41. 5	999212	67·0	986432	66·6	JH	12. 0	42. 26	0·000761	61·4	987882	61·0	JH

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 5″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 230°; September $5^d.\ 0^h$, 247°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Between Sep. $8^d.\ 22^h$ and Sep. $9^d.\ 0^h$; Sep. $9^d.\ 6^h$ and 8^h; $11^d.\ 18^h$ and 20^h; $12^d.\ 16^h$ and 18^h; 22^h and 24^h; and between Sep. $13^d.\ 2^h.\ 10^m$ and 4^h, the changes in the positions of the Declination Magnet were great; as was also that of the Horizontal Force Magnet between Sep. $6^d.\ 20^h$ and 22^h: no extra observations were taken.

Daily Observations from September 11 to 17.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Sep. 11. 14. 0	246. 44. 22	9·999307	59·8	9·988258	59·4	JH	Sep. 14. 14. 0	246. 39. 32	9·999179	65·6	9·986479	65·2	JH
16. 0	42. 3	998997	59·6	988258	59·4		16. 0	36. 45	997574	64·0	986992	63·8	
18. 0	42. 19	999500	59·6	988371	59·2		18. 0	39. 3	998205	64·3	987194	64·0	
20. 0	35. 35	999478	59·6	988805	59·2	JH	20. 0	37. 40	998155	63·0	987373	63·0	JH
22. 0	33. 39	997596	59·5	988428	59·0	G	22. 0	34. 58	998355	63·5	987213	63·2	P
Sep. 12. 0. 0	246. 34. 33	9·998481	62·2	9·988249	61·3	P	Sep. 15. 0. 0	246. 28. 39	9·997735	66·1	9·986884	65. 4	P
1. 50	31. 57	997447		987873			1. 50	29. 29	997928		986366		
2. 0	31. 57	997530	64·8	987834	63·6		2. 0	29. 26	997928	68·2	986328	68·5	
2. 10	32. 51	997270		987778		P	2. 10	29. 25	997817		986272		P
4. 0	37. 3	998814	66·2	987359	65·4	JH	4. 0	33. 33	997906	71·3	985711	72·0	JH
6. 0	40. 22	999301	66·6	987110	66·0		6. 0	37. 54	998127	71·0	985759	70·6	
8. 0	42. 11	999744	66·0	987081	65·6		8. 0	36. 17	998570	69·3	985904	69·1	
10. 0	44. 11	997839	64·8	987180	64·2	JH	10. 0	37. 37	999817	67·4	986380	67·2	JH
12. 0	52. 17	998131	65·0	987119	64·0	P	12. 0	39. 42	999294	65·3	986743	65·3	P
14. 0	47. 4	998807	64·4	987397	63·7		14. 0	40. 8	9·998946	65·3	987002	64·8	
16. 0	48. 4	999172	62·0	987402	61·4		16. 0	39. 33	9·998481	63·2	987260	63·0	
18. 0	41. 59	998687	58·6	988249	58·4		18. 0	37. 42	0·000141	61·1	987731	61·0	
20. 0	42. 5	998814	58·3	988626	58·0	P	20. 0	32. 46	9·997928	59·8	988108	59·4	P
22. 0	36. 2	997707	58·8	988964	58·4	JH	22. 0	30. 31	998592	60·8	988202	60·5	D
Sep. 13. 0. 0	246. 28. 21	9·998216	62·0	9·988277	61·0	JH	Sep. 16. 0. 0	246. 29. 23	9·998880	62·0	9·988047	61·8	D
1. 50	25. 43	0·000026		987858			1. 50	29. 48	996743		987755		
2. 0	25. 20	9·999987	64·7	987816	64·0		2. 0	29. 40	997020	65·0	987745	64·3	
2. 10	25. 47	998968		987787		JH	2. 10	29. 44	997192		987731		D
4. 0	34. 2	999035	66·3	987402	66·0	P	4. 0	34. 56	997447	69·0	986903	69·0	P
6. 0	37. 48	999256	66·4	987213	66·0		6. 0	37. 23	998149	69·3	986460	69·2	
8. 0	39. 34	9·999925	65·5	987119	65·5		8. 0	37. 53	998725	68·3	986422	68·3	
10. 0	40. 35	0·000026	64·2	987354	64·0	P	10. 0	38. 11	999039	66·3	986757	66·0	P
12. 0	42. 0	9·999965	64·0	987143	63·0	G	12. 0	40. 7	999588	64·5	987072	63·5	G
14. 0	37. 3	9·999105	63·0	987599	62·0		14. 0	43. 8	998858	63·5	987307	62·5	
16. 0	34. 17	0·001448	62·0	987354	62·0		16. 0	34. 54	9·999196	63·5	987458	62·0	
18. 0	38. 24	0·000252	63·0	987402	63·0		18. 0	37. 8	0·000557	63·5	987363	63·0	
20. 0	39. 44	9·999145	63·0	987703	62·0	G	20. 0	33. 39	9·999811	63·0	987284	62·5	G
22. 0	35. 10	997485	63·9	987693	63·1	JH	22. 0	29. 48	997839	63·6	987458	63·0	D
Sep. 14. 0. 0	246. 29. 29	9·997042	67·2	9·987016	66·6	JH	Sep. 17. 0. 0	246. 25. 28	9·997192	66·5	9·987072	65·5	D
1. 50	29. 41	998238		986277			1. 50	28. 41	998415		986615		
2. 0	30. 3	998282	70·7	986277	70·6		2. 0	29. 21	998105	70·1	986554	69·3	
2. 10	30. 31	998282		986178		JH	2 10	29. 42	997751		986535		D
4. 0	34. 19	998703	72·0	985669	73·0	G	4. 0	32. 13	997928	70·5	986028	71·0	G
6. 0	35. 33	998393	73·0	984821	74·0		6. 0	37. 1	997237	71·5	985942	71·0	
8. 0	39. 50	998526	73·0	984859	74·0		8. 0	36. 56	998172	69·0	986096	68·5	
10. 0	38. 31	9·999030	71·0	985669	69·5	G	10. 0	36. 56	998924	69·0	986178	68·5	G
12. 0	38. 23	0·000141	67·8	985980	67·6	JH	12. 0	41. 32	9·999411	67·2	986390	67·0	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 5″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 247°; September $13^d.\ 0^h$, 239°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot3$; in Vertical Plane, $27^s\cdot5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Sep. 12^d. Between 10^h and 12^h the western declination decreased from 23°. 7′. 54″ to 22°. 59′. 48″, and extra observations were commenced.
Sep. $13^d.\ 2^h$. The western declination deduced from this observation was 23°. 26′, 45″, being the largest in the month.
Sep. 13^d and 14^d, civil reckoning. The greatest difference in the mean western declination between any two consecutive civil days during the month, took place between these two days, being 2′. 41″, the declination on the second of the two days being the larger.
Between Sep. $13^d.\ 22^h$ and Sep. $14^d.\ 0^h$; $14^d.\ 22^h$ and $15^d.\ 0^h$; $16^d.\ 2^h.\ 10^m$ and 4^h; 14^h and 16^h; $19^d.\ 2^h.\ 10^m$ and 4^h; 14^h and 18^h, considerable changes occurred in the positions of the Declination Magnet; as also in those of the Horizontal Force Magnet between Sep. $13^d.\ 14^h$ and 16^h; $15^d.\ 18^h$ and 20^h; $16^d.\ 0^h$ and $1^h.\ 50^m$; 20^h and 22^h; and Sep. $19^d.\ 14^h$ and 18^h: no extra observations were taken. In the position of the Vertical Force Magnet a rather large change took place on Sep. 14th, between 4^h and 6^h: no extra observations were taken.
Sep. 17^d, civil reckoning. The mean western declination was greater on this day than on any other day in the month, being 23°. 17′. 15″, as deduced from the two-hourly observations.

Daily Observations from September 18 to 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Sep. 18. 14. 0	246. 42. 58	0·000026	59·5	9·988334	59·2	D	Sep. 21. 14. 0	246. 39. 50	9·998978	61·8	9·987444	61·0	M
16. 0	42. 28	9·999493	60·5	988334	60·0		16. 0	40. 40	999156	60·7	988367	59·5	D
18. 0	41. 24	999035	61·0	988305	60·5		18. 0	39. 24	998809	60·0	988720	59·0	D
20. 0	37. 24	998587	60·5	988555	60·0	D	20. 0	39. 26	999572	59·0	989002	58·0	P
22. 0	32. 43	998000	61·8	988414	61·5	G	22. 0	34. 58	997458	57·5	989285	55·5	G
Sep. 19. 0. 0	246. 32. 16	9·998149	64·0	9·987920	63·0	P	Sep. 22. 0. 0	246. 29. 22	9·998065	58·5	9·989153	57·5	D
1. 50	31. 1	999555		987426			1. 50	29. 29	999692		988588		D
2. 0	31. 5	999429	66·0	987378	66·0		2. 0	29. 21	999916	61·0	988612	60·0	P
2. 10	31. 28	999367		987349		P	2. 10	28. 58	9·999644		988612		P
4. 0	36. 28	999035	67·8	986846	68·0	D	4. 0	33. 1	0·000163	61·8	988489	61·0	M
6. 0	37. 21	9·999367	65·4	987096	65·5		6. 0	36. 17	9·999606	63·0	988296	61·5	G
8. 0	39. 27	0·000474	64·0	987411	63·6		8. 0	39. 11	9·997257	63·0	988014	62·0	D
10. 0	39. 23	9·999256	63·8	987642	63·1	D	10. 0	40. 5	0·000628	63·6	987967	62·6	P
12. 0	39. 58	9·999770	63·0	988014	62·9	P	12. 0	40. 34	9·999921	63·3	987897	62·3	
14. 0	37. 16	0·000278	60·8	987967	60·6		14. 0	35. 25	998687	61·0	987920	60·5	
16. 0	45. 39	9·998153	58·8	988390	58·4		16. 0	40. 25	998410	59·0	988493	58·6	
18. 0	39. 58	0·000743	56·7	989265	56·3		18. 0	38. 25	9·998796	57·3	989121	57·0	
20. 0	40. 44	9·999728	55·3	989661	55·2	P	20. 0	36. 54	0·000917	55·5	989379	56·2	P
22. 0	36. 6	998149	57·2	989511	56·8	D	22. 0	32. 49	9·994851	56·8	989642	56·0	D
Sep. 20. 0. 0	246. 30. 33	9·998172	61·0	9. 988612	60·2	D	Sep. 23. 0. 0	246. 31. 0	9·997658	58·8	9·989294	58·0	D
1. 50	28. 53	0·000318		988061			1. 50	32. 23	999035		988852		
2. 0	28. 48	000252	64·0	988023	63·0		2. 0	32. 47	999127	61·0	988870	60·0	
2. 10	28. 48	0·000185		988023		D	2. 10	33. 17	999156		988861		D
4. 0	29. 26	9·999035	63·8	988061	63·2	P	4. 0	37. 19	999478	61·2	988814	60·2	P
6. 0	35. 23	9·999588	62·2	988249	61·5		6. 0	40. 8	9·999883	60·5		60·0	
8. 0	49. 48	0·003115	61·2	988249	60·7		8. 0	41. 11	0·002948	59·5	988955	58·6	
10. 0	43. 0	9·999351	59·3	988540	58·7	P	10. 0	39. 29	9·999484	58·2	988955	58·0	P
12. 0	38. 20	9·999699	59·0	988993	58·5	G	12. 0	39. 14	0·000489	60·0	988828	58·0	G
14. 0	43. 3	0·000584	59·2	988343	58·2		14. 0	39. 14	000009	60·0	988772	58·0	
16. 0	40. 47	000086	57·5	989149	57·0		16. 0	39. 38	000141	60·9	988673	58·5	
18. 0	40. 8	0·000163	57·0	989558	55·5		18. 0	39. 39	0·000141	61·5	988579	60·0	
20. 0	33. 15	9·999351	57·0	989661	55·5	G	20. 0	38. 49	9·999699	61·5	988508	60·5	G
22. 0	35. 57	998481	59·0	989243	58·0	D	22. 0	38. 17	998718	61·0	988428	60·2	D
Sep. 21. 0. 0	246. 28. 21	9·999279	61·3	9·988579	60·5	D	Sep. 24. 0. 0	246. 33. 14	9·999256	62·0	9·988179	61·5	D
1. 50	28. 57	998371		987825			1. 50	31. 29	999190		987972		
2. 0	28. 56	998393	64·5	987797	63·5		2. 0	31. 36	999434	62·8	987967	62·0	
2. 10	28. 58	998548		987778			2. 10	31. 43	999544		987967		D
4. 0	33. 43	998592	66·3	987543	66·0		4. 0	33. 13	999478	63·0	987991	62·0	G
6. 0	36. 54	9·999478	65·6	987454	65·2		6. 0	34. 54	999145	63·0	988132	62·0	
8. 0	41. 40	0·001425	63·8	987614	63·5	D	8. 0	38. 48	9·999899	63·5	988014	62·0	
10. 0	44. 41	9·999493	64·0	987746	62·0	G	10. 0	42. 21	0·000401	62·5	987991	60·8	G
12. 0	40. 45	997341	63·5	987897	62·0	M	12. 0	39. 35	000761	61·3	988122	60·8	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m \cdot 30^s$ before, and $2^m. 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 5″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 239°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Sep. 19^d, civil reckoning. The mean reading of the Vertical Force Magnet, corrected for temperature, was larger on this day than on any other day in the month, being 0·004433 parts of the whole vertical force, as deduced from the two-hourly observations.

Sep. 20^d. Between 4^h and 6^h the western declination decreased from 23°. 22′. 39″ to 23°. 16′. 42″; and in the next two hours it further decreased to 23°. 2′. 17″; and at the latter time the reading of the Horizontal Force Magnet, corrected for temperature, was 0·013519, being the largest in the month.

Between Sep. $20^d. 18^h$ and 20^h; $21^d. 22^h$ and $22^d. 0^h$; $22^d. 14^h$ and 16^h; $23^d. 22^h$ and $24^d. 0^h$; $26^d. 22^h$ and $27^d. 0^h$, the usual large changes took place in the positions of the Declination Magnet: those of the Horizontal Force Magnet occurred on Sep. 21st, between 6^h and 10^h, and 20^h to 22^h; Sep. 22nd, between 6^h and 10^h; 18^h and 24^h; and on Sep. 23rd, between 6^h and 10^h: no extra observations were taken.

Sep. $21^d. 10^h$. Five-minute observations were commenced. (See the Section of Term-Day Observations.)

Sep. $23^d. 6^h$. The reading of the Vertical Force Magnet was inadvertently omitted.

Sep. $25^d. 26^h$. The reading of the Horizontal Force Magnet was inadvertently omitted.

Sep. 23^d, civil reckoning. The mean reading of the Horizontal Force Magnet, corrected for temperature, was smaller on this day than on any other day in the month, being 0·009274 parts of the whole horizontal force, as deduced from the two-hourly observations.

Daily Observations from September 25 to October 1.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Sep. 25. 14. 0	246. 39. 6	0·001122	58·0	9·988823	58·0	D	Sep. 28. 14. 0	246. 41. 8	9·999910	61·0	9·987693	60·1	D
16. 0	39. 45	000867	58·0	989050	57·7		16. 0	41. 23	0·000533	60·2	988000	59·3	
18. 0	40. 5	0·000252	57·4	989262	57·2		18. 0	32. 22	000690	60·0	988150	59·1	
20. 0	41. 18	.....	57·3	989379	57·0	D	20. 0	41. 10	0·001886	58·8	988155	58·2	D
22. 0	40. 6	9·998692	59·5	989141	58·0	G	22. 0	39. 21	9·999035	58·2	988437	57·5	P
Sep. 26. 0. 0	246. 37. 27	9·998681	63·6	9·988155	61·7	P	Sep. 29. 0. 0	246. 33. 26	9·995758	60·0	9·988296	59·2	P
1. 50	35. 15	999035		987567			1. 50	33. 46	997042		988014		
2. 0	35. 15	999035	65·0	987473	64·1		2. 0	33. 55	998899	62·0	988061	61·4	
2. 10	34. 59	9·998038		987401		P	2. 10	33. 17	998665		988108		P
4. 0	36. 40	0·000745	64·8	987025	64·3	D	4. 0	40. 4	997707	62·0	987929	61·5	D
6. 0	38. 59	000518	64·0	987171	63·6		6. 0	38. 25	999722	61·2	988061	61·2	
8. 0	40. 8	001075	63·0	987359	62·6		8. 0	39. 38	9·999789	61·0	988014	60·5	
10. 0	40. 45	001463	61·2	987637	61·2	D	10. 0	40. 23	0·000053	61·7	987887	61·2	D
12. 0	41. 0	0·001337	60·0	987825	59·9	P	12. 0	41. 24	0·000435	60·2	987967	60·0	P
14. 0	41. 25	9·999784	58·3	988202	58·1		14. 0	39. 41	9·999692	58·1	988155	58·0	
16. 0	41. 30	999921	57·4	988579	57·0		16. 0	40. 56	0·000053	58·2	988367	58·0	
18. 0	41. 55	999345	56·5	988870	56·4		18. 0	41. 0	000252	56·9	988720	56·4	
20. 0	43. 36	999848	56·0	989121	56·0	P	20. 0	39. 18	0·000452	55·8	989088	55·3	P
22. 0	42. 6	998426	56·3	989219	56·0	D	22. 0	40. 16	9·999987	56·2	989238	55·8	D
Sep. 27. 0. 0	246. 35. 37	9·999168	58·0	9·988682	57·5	D	Sep. 30. 0. 0	246. 36. 30	9·998044	59·0	9·988682	58·5	D
1. 50	32. 40	9·999877		988442			1. 50	34. 35	997700		988014		
2. 0	32. 45	0·000141	59·0	988446	58·8		2. 0	34. 59	997596	62·4	987944	62·2	
2. 10	32. 48	000489		988446		D	2. 10	34. 43	997508		987901		D
4. 0	35. 49	000695	59·1	988531	58·2	P	4. 0	36. 5	998592	63·0	987651	64·0	P
6. 0	40. 55	000723	59·4	988531	59·0		6. 0	42. 31	998541	61·6	987825	61·5	
8. 0	40. 4	000368	60·0	988390	59·3		8. 0	37. 57	999449	61·6	987825	61·1	
10. 0	42. 20	000333	61·0	988202	60·1	P	10. 0	39. 3	9·999987	60·6	987920	61·3	P
12. 0	41. 27	000628	62·0	988061	59·8	G	12. 0	42. 1	0·000031	60·5	988023	59·0	G
14. 0	39. 36	001138	60·5	988117	58·5		14. 0	37. 47	000445	60·5	988122	58·5	
16. 0	40. 19	001270	60·0	988343	58·0		16. 0	41. 42	0·000362	60·0	988132	58·2	
18. 0	40. 53	001536	59·5	988540	58·0		18. 0	37. 11	9·999943	59·5	988334	57·5	
20. 0	41. 43	0·001441	59·0	988776	57·0	G	20. 0	40. 50	0·000831	58·0	988588	57·0	G
22. 0	41. 10	9·999592	57·7	988823	57·0	D	22. 0	39. 13	9·999415	57·2	988894	56·5	D
Sep. 28. 0. 0	246. 36. 22	9·999035	59·8	9·988428	59·0	D	Oct. 1. 0. 0	246. 36. 26	9·998366	60·7	9·988404	59·8	D
1. 50	34. 35	999256		987825			1. 50	35. 56	998393		987581		
2. 0	34. 27	999323	62·5	987792	62·0		2. 0	35. 56	998187	64·8	987468	64·0	
2. 10	34. 29	9·999212		987778		D	2. 10	35. 57	998138		987392		D
4. 0	37. 37	0·000805	63·5	987520	62·0	G	4. 0	36. 17	998924	66·0	986851	65·0	G
6. 0	38. 46	000399	63·5	987402	62·0		6. 0	38. 57	999057	65·0	986814	64·0	
8. 0	47. 35	000533	64·0	987614	62·5		8. 0	41. 5	999367	64·0	987049	63·0	
10. 0	41. 28	000429	64·0	987637	62·5	G	10. 0	46. 30	9·998371	61·3	987426	62·0	G
12. 0	42. 49	0·000831	61·5	987548	61·0	D	12. 0	43. 31	0·000595	60·0	987830	60·2	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 5″; October 1d, 269°. 52′. 2″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 239°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot 3$; in Vertical Plane, $27^s\cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Sep. 26d, civil reckoning. The range of the Declination Magnet was less on this day than on any other day in the month, being 6′. 3″.

Sep. 28d. At $7^h.\ 43^m$, the western declination was 23°. 2′. 37″; at the previous observation it was 23°. 13′. 16″, and extra observations were commenced: at $18^h.\ 11^m$, the western declination was 23°. 20′. 11″, and at $18^h.\ 51^m$, the marked end of the Vertical Force Magnet was less drawn downwards than at any other time in the month, the reading being, when corrected for temperature, 0·003402: and at Sep. 29d. 0h, the marked end of the Horizontal Force Magnet was less drawn towards the North than at any other time in the month, the reading being, when corrected for temperature, 0·005958.

Sep. 28d, civil reckoning. The mean western declination was smaller on this day than on any other day in the month, being 23°. 11′. 51″, as deduced from the two-hourly observations; and the mean reading of the Horizontal Force Magnet, corrected for temperature, was larger on this day than on any other day in the month, being 0·010949, as deduced from the two-hourly observations.

Sep. 29d, civil reckoning. The mean reading of the Vertical Force Magnet corrected for temperature, was less on this day than on any other day in the month, being 0·003867, as deduced from the two-hourly observations.

Considerable changes in the Declination Magnet, and also of the Horizontal Force Magnet, took place, the former on Sep. 28th, between 16h and 24h; on Sep. 29th, between 2h. 10m and 4h; on Sep. 30th, between 4h and 6h; on Oct. 2nd, between 22h and 24h; and on Oct. 3rd, between 22h and 24h: the latter on Sep. 27th, between 20h and 22h; on Sep. 28th, between 20h and 24h; on Sep. 29th, between 4h and 6h; on Oct. 1st, between 10h and 12h; and on Oct. 3rd, between 20h and 22h: no extra observations were taken.

Oct. 1d, civil reckoning. The mean western declination was smaller on this day than on any other day in the month, being 23°. 12′. 24″, as deduced from the two-hourly observations.

Daily Observations from October 2 to 8.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Oct. 2. 14. 0	246. 41. 49	0·001791	53·3	9·989365	53·3	D	Oct. 5. 14. 0	246. 29. 12	0·000690	51·2	9·990217	51·0	D
16. 0	41. 13	001868	53·5	989850	53·2		16. 0	29. 40	000734	50·2	990678	50·0	
18. 0	41. 56	001381	52·3	990047	52·2		18. 0	29. 34	001618	49·5	991112	49·2	
20. 0	41. 30	001314	50·9	990392	50·8	D	20. 0	29. 42	0·001835	50·5	991154	49·5	D
22. 0	41. 31	0·000917	53·0	990377	51·0	G	22. 0	28. 45	9·999559	51·2	990885	50·1	P
Oct. 3. 0. 0	246. 26. 40	9·999107	55. 2	9·989897	54·3	P	Oct. 6. 0. 0	246. 24. 12	9·998371	55·2	9·990047	54·0	P
1. 50	24. 10	999622		989144			1. 50	21. 43	998541		988979		
2. 0	24. 16	999748	59. 0	989097	58·1		2. 0	21. 26	998674	60·2	988908	59·2	
2. 10	24. 16	9·999916		989050		P	2. 10	21. 26	998596		988814		P
4. 0	24. 48	0·000296	60. 2	988381	60·0	D	4. 0	22. 16	999699	62·0	988320	61·0	G
6. 0	28. 49	000296	60. 5	987972	60·5		6. 0	27. 6	9·999958	62·0	988099	61·1	P
8. 0	29. 20	000783	60. 0	988023	59·6		8. 0	30. 25	0·000185	62·5	987873	62·0	D
10. 0	30. 30	000340	59·2	988197	58·8	D	10. 0	30. 48	000362	62·5	987745	61·8	D
12. 0	28. 47	0·000422	59·2	988390	58·4	P	12. 0	30. 9	0·000422	61·3	987825	60·4	P
14. 0	29. 52	9·999588	58·0	988531	57·4		14. 0	29. 55	9·999626	59·0	988193	58·5	
16. 0	29. 52	0·000621	56·3	988805	56·0		16. 0	30. 9	0·000878	56·8	988650	56·6	
18. 0	30. 54	000776	54. 5	989106	54·2		18. 0	30. 4	000031	55·0	989121	55·0	
20. 0	32. 43	0·002621	53. 0	989191	53·1	P	20. 0	32. 0	0·001285	53·2	989708	53·2	P
22. 0	30. 31	9·999703	54. 2	989727	53·8	D	22. 0	31. 10	9·998355	54·8	989751	54·0	D
Oct. 4. 0. 0	246. 24. 27	9·998275	58. 0	9·988942	57·2	D	Oct. 7. 0. 0	246. 24. 55	9·997729	57·5	9·988960	57·0	D
1. 50	24. 7	998681		988014			1. 50	20. 21	998718		988211		
2. 0	24. 9	998880	62·0	987976	61·5		2. 0	20. 10	998763	61·0	988202	60·5	
2. 10	24. 11	999013		987944		D	2. 10	20. 8	998696		988202		D
4. 0	26. 41	9·999256	62·0	987834	61·5	P	4. 0	22. 18	999478	63·0	987802	62·5	P
6. 0	27. 10	0·000474	63·0	987693	61·0	G	6. 0	28. 44	999965	64·0	987543	63·2	
8. 0	29. 56	000650	61·0	987820	60·8	D	8. 0	29. 36	999256	64·1	987392	63·3	
10. 0	30. 51	000732	59·0	988202	58·5	P	10. 0	30. 53	999737	63·5	987298	63·0	P
12. 0	30. 30	001618	57·0	988635	55·0	G	12. 0	29. 57	9·999965	63·5	987345	62·0	G
14. 0	29. 27	000923	55·5	989182	53·0		14. 0	29. 57	0·000695	62·5	987496	61·5	
16. 0	29. 27	001525	54·5	989591	53·0		16. 0	30. 26	000584	61·5	987816	60·0	
18. 0	29. 26	001735	53·0	989944	52·0		18. 0	30. 28	001027	60·0	988108	58·0	
20. 0	29. 8	001226	53·0	990283	51·0	G	20. 0	30. 58	0·000346	60·0	988367	58·0	G
22. 0	29. 19	0·000318	50·3	990753	49·6	D	22. 0	28. 16	9·996626	58·5	988531	58·0	D
Oct. 5. 0. 0	246. 24. 7	9·999223	52·8	9·990326	52·0	D	Oct. 8. 0. 0	246. 21. 34	9·996445	60·1	9·988164	59·3	D
1. 50	22. 38	999936		989572			1. 50	19. 35	997928		987816		
2. 0	22. 41	9·999987	55·8	989529	55·0		2. 0	18. 52	998105	63·8	987778	63·0	
2. 10	22. 49	0·000031		989497		D	2. 10	19. 25	998105		987722		D
4. 0	24. 13	9·999965	58·2	989050	58·2	P	4. 0	25. 1	998864	65·0	987520	64·0	G
6. 0	28. 22	9·999661	59·4	988540	59·4	P	6. 0	27. 0	999035	65·0	987307	63·5	
8. 0	29. 25	0·001204	58·0	988767	57·8	D	8. 0	36. 14	9·998851	65·0	987354	63·5	
10. 0	29. 52	001680	57·0	989074	55·5	G	10. 0	40. 50	0·002090	65·0	987213	63·5	G
12. 0	30. 1	002394	53·8	989544	53·5	D	12. 0	30. 14	000031	61·5	987543	61·3	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.30^s$ before, and $2^m.30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 2″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 239°; October $3^d.0^h$, 203°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$: in Vertical Plane, $27^s.5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Oct. 3^d and 4^d, civil reckoning. The greatest difference in the mean western declination between any two consecutive civil days during the month, took place between these two days, being 4′. 28″, the declination on the second of the two days being the larger.

Considerable changes took place in the positions of the Declination Magnet (no extra observations were taken), on Oct. 4th, between 22^h and 24^h; on Oct. 6th, between 22^h and 24^h; on Oct. 7th, between 4^h and 6^h, 22^h and 24^h; and in those of the Horizontal Force Magnet on Oct. 5th, between 20^h and 22^h, and on Oct. 7th, between 20^h and 22^h: a larger change than usual occurred also in the position of the Vertical Force Magnet on Oct. 6th, between 0^h and $1^h.50^m$.

Oct. 5^d. The range of the Declination Magnet was less on this than on any other day in the month, being 5′. 20″; the range of the Magnet was also small on the following days in the month, the 4th, 10th, 11th, 12th, 28th, and 31st.

Oct, 6^d, civil reckoning. The mean western declination was greater on this day than on any other day in the year, being 23°. 24′. 16″; and the mean reading of the Vertical Force Magnet, corrected for temperature, was larger on this day than on any other day in the month, being 0·004136, as deduced from the two-hourly observations.

Oct. $7^d.22^h$. The marked end of the Horizontal Force Magnet was less drawn towards the North at this observation than at any other observation in the month, the reading being, when corrected for temperature, 0·006571.

Oct. $8^d.2^h$. The western declination was 23°. 33′. 10″, being the largest in the month; at $7^h.45^m$, it was 23°. 14′. 43″, being less by 10′. 19″ than it was at the previous observation, and extra observations were commenced: at $9^h.30^m$, the western declination was 23°. 1′. 11″, being the smallest in the month; the range of this magnet in this month was therefore 31′. 59″; and the interval of time between the magnet being in these extreme positions was $7^h.30^m$: and at 4^h, the marked end of the Vertical Force Magnet was more drawn downwards than at any other time in the month, the reading being, when corrected for temperature, 0·004416; and at $9^h.39^m$, the marked end of the Horizontal Force Magnet was more drawn towards the North than at any other time in the month, the reading, when corrected for temperature, being 0·014136.

Daily Observations from October 9 to 15.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Oct. 9. 14. 0	246. 28. 40	0·001314	56·8	9·988579	56·5	D	Oct. 12. 14. 0	246. 35. 39	0·000761	57·5	9·988334	57·5	D
16. 0	29. 0	001038	56·3	988805	56·0		16. 0	41. 0	9·999478	56·5	988640	56·3	
18. 0	29. 0	000485	55·5	989016	55·5		18. 0	34. 31	0·000429	56·3	988772	56·0	
20. 0	30. 14	001031	55·5	989205	55·3	D	20. 0	34. 32	0·001226	56·0	989002	56·0	D
22. 0	29. 0	0·000362	57·0	989114	56·0	G	22. 0	34. 44	9·999617	55·6	989050	55·2	P
Oct. 10. 0. 0	246. 29. 16	9·999478	58·2	9·988744	57·4	P	Oct. 13. 0. 0	246. 26. 59	9·999699	57·5	9·988654	57·0	P
1. 50	28. 12	999478		988249			1. 50	24. 27	999145		988249		
2. 0	28. 9	999699	61·0	988202	60·2		2. 0	26. 0	998864	60·8	988164	60·0	
2. 10	28. 31	9·999384		988155		P	2. 10	27. 12	998548		988108		P
4. 0	32. 31	0·000384	62·0	987769	61·8	D	4. 0	26. 41	999789	61·8	988019	61·3	D
6. 0	33. 24	000429	62·1	987567	61·5		6. 0	33. 25	998592	60·8	988414	60·5	
8. 0	33. 8	000695	61·2	987614	60·8		8. 0	35. 45	997762	60·2	988569	60·0	
10. 0	35. 5	000584	60·5	987802	60·0	D	10. 0	36. 3	998814	60·4	988508	59·7	D
12. 0	34. 0	0·000433	60·1	987873	59·4	P	12. 0	35. 42	999811	58·3	988456	58·0	P
14. 0	34. 0	9·999877	59·0	988070	58·4		14. 0	35. 36	9·999870	56·2	988682	56·0	
16. 0	34. 14	999294	57·7	988296	57·6		16. 0	30. 35	0·000362	54·0	989074	54·0	
18. 0	35. 43	9·999737	56·3	988579	56·0		18. 0	37. 37	9·999644	53·0	989238	52·9	
20. 0	36. 8	0·001314	53·7	989097	53·2	P	20. 0	35. 26	0·001044	52·3	989850	52·0	P
22. 0	33. 40	0·000496	54·3	989473	54·0	D	22. 0	34. 9	0·000263	52·3	990029	52·0	D
Oct. 11. 0. 0	246. 29. 7	9·999013	57·0	9·989149	56·0	D	Oct. 14. 0. 0	246. 29. 42	9·999766	53·8	9·989741	53·3	D
1. 50	28. 15	999096		988357			1. 50	28. 11	999943		989337		
2. 0	28. 15	999116	60·7	988352	60·0		2. 0	27. 42	999888	55·3	989323	55·0	
2. 10	28. 15	999096		988352		D	2. 10	27. 53	999921		989323		D
4. 0	32. 2	9·999699	63·0	987590	63·0	P	4. 0	25. 47	999035	56·4	989379	56·1	P
6. 0	33. 0	0·000031	63·0	987260	62·3		6. 0	30. 34	9·997888	57·3	989661	57·0	
8. 0	35. 54	000362	62·0	987411	61·5		8. 0	33. 27	0·000245	57·6	989144	57·0	
10. 0	34. 53	000134	61·0	987581	60·5	P	10. 0	34. 42	0·000103	56·8	989106	56·2	P
12. 0	34. 44	000474	62·0	987590	60·0	G	12. 0	36. 9	9·999921	58·0	989026	56·0	G
14. 0	34. 44	000384	62·0	987599	60·0		14. 0	35. 27	999561	58·5	988885	56·5	
16. 0	35. 3	000406	62·0	987651	59·5		16. 0	34. 39	9·999982	58·5	988814	56·5	
18. 0	35. 12	001226	60·0	987944	57·5		18. 0	34. 5	0·000185	57·0	988852	56·0	
20. 0	35. 24	0·001651	59·0	988287	57·0	G	20. 0	35. 3	0·000252	56·0	989059	55·0	G
22. 0	35. 11	9·999185	57·0	988579	56·8	D	22. 0	33. 3	9·999212	55·0	989299	54·8	D
Oct. 12. 0. 0	246. 28. 53	9·998371	58·2	9·988428	58·0	D	Oct. 15. 0. 0	246. 27. 59	9·998659	56·0	9·989144	55·6	
1. 50	27. 29	998327		988287			1. 50	28. 37	998991		988767		D
2. 0	27. 28	998758	59·2	988273	58·8		2. 0	28. 8	999168	58·4	988711	58·0	G
2. 10	27. 46	9·999101		988273		D	2. 10	28. 15	999094		988626		
4. 0	31. 6	0·000417	60·5	988108	59·5	G	4. 0	32. 8	999566	61·0	988211	60·0	G
6. 0	33. 2	000650	60·0	988070	58·5		6. 0	35. 42	999212	61·0	988070	60·0	
8. 0	34. 5	000584	60·0	988085	58·5		8. 0	35. 31	999345	61·0	988099	60·0	
10. 0	34. 24	001049	58·8	988099	58·0	G	10. 0	36. 0	998563	60·0	988179	59·0	G
12. 0	34. 33	000983	58·0	988169	58·3	D	12. 0	39. 26	998974	59·3	988160	58·5	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 2″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 203°; October $10^d.\ 0^h$, 218°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Oct. 10^d, civil reckoning. The mean reading of the Horizontal Force Magnet, corrected for temperature, was larger on this day than on any day in the month, being 0·010507, as deduced from the two-hourly observations.

Considerable changes took place in the positions of the Declination and Horizontal Force Magnets; in the former on Oct. 11th, between 22^h and 24^h; on Oct. 12th, between 14^h and 16^h, 22^h and 24^h; on Oct. 13th, between 14^h and 16^h, 16^h and 18^h, and 22^h and 24^h; on Oct. 17th, between 4^h and 6^h, 10^h and 12^h; and on Oct. 18th, between 8^h and 10^h: the latter on Oct. 11th, between 20^h and 22^h, and on Oct. 14th, between 6^h and 8^h: no extra observations were taken.

Daily Observations from October 16 to 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Oct. 16. 14. 0	246. 29. 34	9 ·999965	54 ·0	9 ·989243	54 ·0	D	Oct. 19. 14. 0	246. 37. 23	0 ·000502	50 ·0	9 ·990547	48 ·0	JH
16. 0	32. 56	999262	54 ·0	989379	53 ·8		16. 0	39. 25	001093	49 ·8	990989	48 ·3	D
18. 0	34. 53	9 ·999267	53 ·8	989511	53 ·5		18. 0	39. 31	001027	48 ·3	991356	47 ·0	P
20. 0	33. 25	0 ·000202	54 ·2	989614	53 ·8	D	20. 0	40. 52	001839	47 ·0	991639	46 ·3	M
22. 0	33. 39	9 ·999493	54. 8	989337	54 ·0	JH	22. 0	40. 2	0 ·000252	47 ·0	991794	45 ·0	JH
Oct. 17. 0. 0	246. 36. 15	9 ·997854	55 ·5	9 ·989064	55 ·0	JH	Oct. 20. 0. 0	246. 31. 13	9 ·999090	49 ·5	9 ·991168	48 ·0	G
1. 50	33. 45	999050		988856			1. 50	29. 32	999373		990335		D
2. 0	34. 0	999101	57 ·0	988847	56 ·6		2. 0	29. 35	999715	54 ·2	990251	52 ·8	
2. 10	35. 52	998637		988800		JH	2. 10	30. 19	9 ·999500		990188		D
4. 0	34. 14	999256	57 ·5	988005	57 ·5	D	4. 0	34. 19	0 ·000163	55 ·0	989642	54 ·0	JH
6. 0	41. 51	999566	57 ·2	988202	57 ·0		6. 0	38. 1	000252	56 ·0	989520	54 ·0	G
8. 0	43. 36	9 ·999307	56 ·8	988108	56 ·3		8. 0	39. 38	001027	54 ·0	989567	53 ·6	P
10. 0	45. 36	0 ·000329	55 ·5	988019	55 ·5	D	10. 0	41. 0	0 ·000540	52 ·5	990000	51 ·5	D
12. 0	38. 51	0 ·000296	54 ·0	988254	54 ·0	JH	12. 0	41. 3	9 ·999766	50 ·0	990316	49 ·2	JH
14. 0	39. 25	9 ·999844	53 ·2	988442	53 ·0		14. 0	41. 34	0 ·000989	47 ·6	990786	47 ·0	
16. 0	39. 27	999965	52 ·8	988612	52 ·4		16. 0	38. 48	000728	45 ·3	991370	45 ·0	
18. 0	41. 25	999493	53 ·0	988870	52 ·2		18. 0	38. 40	000789	43 ·0	992166	43 ·0	
20. 0	38. 58	999500	52 ·8	988899	52 ·0	JH	20. 0	41. 31	001359	41 ·4	992303	41 ·0	JH
22. 0	37. 35	998288	54 ·2	988734	53 ·8	D	22. 0	40. 20	000081	43 ·0	992816	42 ·5	D
Oct. 18. 0. 0	246. 34. 39	9 ·998814	58 ·3	9 ·988023	57 ·5	D	Oct. 21. 0. 0	246. 33. 34	0 ·000833	45 ·0	9 ·992354	44 ·2	D
1. 50	33. 14	999227		987505			1. 50	31. 43	9 ·999395		991648		
2. 0	33. 50	999301	60 ·3	987416	59 ·5		2. 0	31. 33	0 ·000491	48 ·8	991550	48 ·1	
2. 10	33. 49	9 ·999389		987378		D	2. 10	31. 48	9 ·999958		991507		D
4. 0	34. 51	0 ·000544	60 ·4	987416	60 ·0	JH	4. 0	36. 38	0 ·000207	51 ·6	990655	51 ·2	JH
6. 0	38. 37	9 ·999500	59 ·3	987538	58 ·8		6. 0	38. 27	000844	51 ·0	990368	51 ·0	
8. 0	38. 18	999655	57 ·4	987642	57 ·2		8. 0	38. 12	001314	49 ·6	990565	49 ·2	
10. 0	46. 41	998729	57 ·0	987906	56 ·5	JH	10. 0	41. 15	000529	47 ·6	990938	47 ·2	JH
12. 0	44. 49	9 ·998930	57 ·0	988061	54 ·5	G	12. 0	39. 34	001392	47 ·0	991356	46 ·0	G
14. 0	47. 24	0 ·001359	56 ·5	988249	54 ·0		14. 0	39. 34	001120	46 ·0	991921	45 ·0	
16. 0	42. 37	001359	54 ·5	988249	53 ·0		16. 0	40. 1	000335	44 ·0	992510	42 ·0	
18. 0	38. 32	000252	54 ·5	988414	53 ·0		18. 0	39. 55	000783	42 ·0	992910	40 ·5	
20. 0	41. 51	0 ·000899	53 ·5	988791	52 ·0	G	20. 0	40. 42	002399	41 ·5	993263	40 ·5	G
22. 0	39. 6	9 ·999389	51 ·0	989356	50 ·5	D	22. 0	40. 58	0 ·000634	42 ·5	993192	41 ·0	D
Oct. 19. 0. 0	246. 31. 55	9 ·999434	51 ·2	989520	50 ·5	D	Oct. 22. 0. 0	246. 34. 24	9 ·999789	43 ·5	9 ·992642	43 ·0	D
1. 50	30. 41	998884		989276			1. 50	32. 53	0 ·000895		992071		
2. 0	30. 42	999094	53 ·5	989276	53 ·0		2. 0	32. 57	000805	47 ·0	892062	46 ·0	
2. 10	30. 32	9 ·999218		989243		D	2. 10	33. 39	001000		992006		
4. 0	34. 39	0 ·000584	53 ·2	989247	53 ·0	JH	4. 0	37. 22	001908	48 ·5	991498	47 ·0	D
6. 0	43. 2	9 ·999581	53 ·0	989229	51 ·0	G	6. 0	39. 42	001824	49 ·0	991036	47 ·7	G
8. 0	38. 57	0 ·001387	52 ·0	990062	51 ·0	D	8. 0	40. 9	001891	50 ·5	990674	49 ·0	
10. 0	44. 4	002410	51 ·5	990580	49 ·5	G	10. 0	40. 58	001735	50 ·5	990603	49 ·0	G
12. 0	42. 26	000783	51 ·5	990598	49 ·0	JH	12. 0	44. 21	002039	49 ·2	990674	48 ·5	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 2″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 218°; October $17^d.\ 0^h$, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot 3$; in Vertical Plane, $27^s\cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature =0 ·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature =0 ·000264 parts of the whole Vertical Force.

Oct. 18^d, civil reckoning. The mean reading of the Vertical Force Magnet, corrected for temperature, was less on this day than on any other day in the month, being 0 ·002808, as deduced from the two-hourly observations.

Oct. $18^d.\ 16^h$. The marked end of the Vertical Force Magnet was less drawn downwards at this than at any other observation in the month, the reading being 0 ·002241, when corrected for temperature.

Large changes in the positions of the Declination Magnet occurred, on Oct. 18th, between 22^h and 24^h; on Oct. 19th, between 4^h and 6^h, 8^h and 10^h, 12^h and 14^h; on Oct 20th, between 22^h and 24^h; on Oct. 21st, between 22^h and 24^h; on Oct. 23rd, between 22^h and 24^h; and on Oct. 25th, between 6^h and 8^h: and in the positions of the Horizontal Force Magnet on Oct. 24th, between $2^h.\ 10^m$ and 4^h, and on Oct. 25th, between 4^h and 6^h: no extra observations were taken.

Oct. $19^d.\ 10^h$. Five-minute observations were commenced. (See the Section of Term-Day Observations.)

Oct. 21^d, civil reckoning. The mean reading of the Horizontal Force Magnet, corrected for temperature, was smaller on this day than on any other day in the month, being 0 ·008735, as deduced from the two-hourly observations.

Daily Observations from October 23 to 29.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Oct. 23. 14. 0	246. 43. 57	0·001307	46·7	9·990612	46·5	D	Oct. 26. 14. 0	246. 38. 6	0·001414	48·0	9·990321	47·5	D
16. 0	40. 49	001241	46·0	991159	45·6		16. 0	35. 7	000783	46·8	990885	46·0	
18. 0	40. 2	001979	46·6	991399	46·0		18. 0	34. 20	001596	45·3	991309	45·0	
20. 0	41. 52	001607	45·2	991827	44·5	D	20. 0	33. 58	003197	44·8	991215	44·0	D
22. 0	38. 42	0·000245	44·6	991865	44·0	JH	22. 0	33. 43	0·001802	44·3	991747	43·8	JH
Oct. 24. 0. 0	246. 33. 35	9·999478	46·6	9·991601	45·8	JH	Oct. 27. 0. 0	246. 26. 57	9·999655	46·6	9·991323	46·0	JH
1. 50	27. 43	0·000377		990832			1. 50	24. 16	9·999991		990565		
2. 0	27. 50	0·000125	48·0	990867	47·4		2. 0	24. 53	0·000123	51·2	990335	50·5	
2. 10	27. 47	9·999921		990788		JH	2. 10	25. 16	0·000435		990312		JH
4. 0	31. 51	0·001841	48·0	990980	47·8	D	4. 0	27. 59	9·999185	53·5	989859	53·2	D
6. 0	34. 10	001957	48·0	990933	47·2		6. 0	33. 0	0·000634	53·2	989497	53·0	
8. 0	35. 15	002317	47·0	990942	46·5		8. 0	36. 57	9·999500	53·0	989487	52·5	
10. 0	39. 47	002555	46·0	991286	45·5	D	10. 0	37. 38	0·000717	53·1	989553	52·8	D
12. 0	35. 38	002377	45·3	991630	44·4	JH	12. 0	35. 15	001071	51·6	989529	50·8	JH
14. 0	34. 52	001647	43·6	992001	42·8		14. 0	38. 33	000853	49·8	989501	49·8	
16. 0	32. 51	001237	42·2	992448	41·2		16. 0	37. 43	000717	48·0	989930	48·0	
18. 0	35. 29	000805	41·6	992863	41·3		18. 0	36. 22	000114	47·6	990420	47·2	
20. 0	36. 9	001795	41·0	993107	40·3	JH	20. 0	33. 11	000805	46·7	990847	46·4	JH
22. 0	34. 53	001171	41·8	993060	41·0	D	22. 0	34. 39	001022	46·6	991022	46·2	D
Oct. 25. 0. 0	246. 31. 23	0·001939	44·0	9·992595	43·0	D	Oct. 28. 0. 0	246. 29. 43	0·000163	49·8	9·990612	48·8	D
1. 50	30. 24	001448		991930			1. 50	31. 0	9·999118		989473		
2. 0	30. 25	001270	45·2	991912	44·5		2. 0	29. 38	999804	53·3	989515	52·5	
2. 10	30. 43	001381		991865		D	2. 10	30. 33	9·999260		989473		
4. 0	31. 2	000849	47·2	991361	46·4	JH	4. 0	30. 48	0·000267	55·0	989002	55·0	D
6. 0	34. 30	002072	48·6	991074	47·8		6. 0	32. 10	0·000463	54·1	988894	54·0	JH
8. 0	40. 5	002178	48·3	990942	48·0		8. 0	35. 45	9·999013	52·3	989238	52·1	
10. 0	35. 9	002024	49·0	990730	48·1	JH	10. 0	34. 51	0·001730	50·8	989666	50·0	JH
12. 0	36. 48	001724	49·2	990321	48·5	G	12. 0	34. 6	001204	49·5	990010	48·7	G
14. 0	37. 25	000588	49·0	990424	48·8	G	14. 0	31. 33	004120	47·5	990335	47·0	
16. 0	33. 58	000263	48·0	990753	47·0		16. 0	33. 51	001686	46·5	990796	45·0	
18. 0	35. 55	002525	44·5	991271	47·0		18. 0	35. 51	001485	45·0	991456	43·0	
20. 0	34. 48	002946	44·0	991883	43·0	G	20. 0	34. 30	001780	45·0	992015	43·0	G
22. 0	33. 47	001750	43·3	992533	43·0	D	22. 0	34. 54	001819	43·6	992204	43·0	D
Oct. 26. 0. 0	246. 27. 32	0·001276	46·5	9·991780	45·8	D	Oct. 29. 0. 0	246. 28. 34	0·001215	45·2	9·991827	44·5	D
1. 50	28. 28	000035		990923			1. 50	28. 34	000377		991126		
2. 0	28. 14	000458	49·8	990838	49·0		2. 0	28. 32	000123	48·0	991098	47·5	
2. 10	29. 12	000557		990753		D	2. 10	28. 45	000158		991027		D
4. 0	30. 27	001917	52·0	990123	51·0	G	4. 0	31. 58	001314	52·0	990029	51·5	G
6. 0	33. 39	001403	52·0	990085	49·5		6. 0	32. 0	000983	52·0	989794	51·5	
8. 0	34. 35	001448	53·0	990015	49·0		8. 0	34. 41	001133	52·5	989638	51·0	
10. 0	40. 42	000147	51·0	990156	49·0		10. 0	42. 26	001481	52·8	989756	51·2	G
12. 0	44. 7	000844	49·8	990198	48·6	G	12. 0	35. 44	001868	50·8	989850	50·0	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.30^s$ before, and $2^m.30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 2″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 228°; October $24^d.1^h.50^m$, 210°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $27^s.5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

A considerable change took place in the position of the Declination Magnet on Oct. 25th, between 22^h and 24^h; Oct. 26th, between 22^h and 24^h; Oct. 27th, between 4^h and 6^h; Oct. 28th, between 22^h and 24^h; and on Oct. 29th, between 8^h and 10^h, and 10^h and 12^h: and three changes, greater than ordinary, occurred also in the position of the Horizontal Force Magnet on Oct. 25th, between 16^h and 18^h; on Oct. 28th, between 8^h and 10^h, and 14^h and 16^h: no extra observations were taken.

Oct. 26^d, at 8^h, the western declination was 23°. 17′. 27″: at $9^h.24^m$ the magnet was found to have altered its position, so that the western declination was 23°. 3′. 49″, and extra observations were commenced.

Oct. 26^d, civil reckoning. The range of the Declination Magnet was greater on this day than on any other day in the month, being 20′. 41″.

Daily Observations from October 30 to November 5.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Oct. 30. 14. 0	246. 37. 46	0 ·000950	47 ·0	9 ·990518	47 ·0	D	Nov. 2. 14. 0	246. 36. 31	0 ·000395	54 ·0	9 ·988861	54 ·0	D
16. 0	34. 30	000998	47 ·2	990655	47 ·0		16. 0	35. 46	000743	49 ·8	988540	49 ·6	
18. 0	34. 28	001359	48 ·0	990659	47 ·3		18. 0	36. 38	000932	48 ·5	989897	48 ·0	
20. 0	35. 58	001570	48 ·6	990584	48 ·1	D	20. 0	32. 30	001031	48 ·0	990377	47 ·2	D
22. 0	35. 58	001817	49 ·0	990448	49 ·0	JH	22. 0	32. 16	001780	47 ·8	990467	47 ·0	JH
Oct. 31. 0. 0	246. 32. 38	0 ·000092	50 ·6	9 ·990005	49 ·8	JH	Nov. 3. 0. 0	246. 28. 12	0 ·001099	49 ·3	9 ·990406	48 ·6	JH
1. 50	31. 28	001104		989623			1. 50	26. 41	001509		989623		
2. 0	31. 23	001463	52 ·2	989619	52 ·0		2. 0	26. 16	001675	53 ·5	989567	52 ·0	
2. 10	30. 55	001581		989600		JH	2. 10	27. 5	001038		989464		JH
4. 0	32. 45	000639	53 ·0	989332	53 ·1	D	4. 0	26. 46	0 ·000518	55 ·0	988955	54 ·5	D
6. 0	33. 30	001182	53 ·2	989191	53 ·2		6. 0	30. 40	9 ·999916	54 ·5	989059	54 ·5	
8. 0	34. 2	001204	53 ·5	989002	53 ·0		8. 0	36. 13	9 ·999035	54 ·3	989426	54 ·0	
10. 0	34. 24	001254	54 ·0	988880	53 ·5	D	10. 0	41. 12	0 ·000141	52 ·8	989313	52 ·3	D
12. 0	34. 26	001385	52 ·6	988969	52 ·6	JH	12. 0	35. 13	001651	51 ·0	989370	50 ·6	JH
14. 0	34. 14	000838	51 ·0	989191	51 ·0		14. 0	34. 51	000888	49 ·0	989803	48 ·6	
16. 0	34. 41	001409	50 ·3	989384	49 ·8		16. 0	34. 19	001492	47 ·8	990217	47 ·6	
18. 0	35. 9	001219	49 ·0	989761	49 ·0		18. 0	34. 52	001403	47 ·0	990753	46 ·4	
20. 0	34. 23	001276	48 ·4	989986	48 ·3	JH	20. 0	35. 38	000590	46 ·2	990876	45 ·4	JH
22. 0	35. 17	001116	49 ·5	990123	49 ·0	D	22. 0	35. 2	001387	46 ·3	991018	46 ·0	D
Nov. 1. 0. 0	246. 30. 7	0 ·000568	52 ·2	9 ·989623	51 ·2	D	Nov. 4. 0. 0	246. 30. 18	0 ·001957	46 ·0	9 ·991107	45 ·5	D
1. 50	29. 58	000853		988880			1. 50	29. 7	001961		991149		
2. 0	29. 50	000917	55 ·0	988861	54 ·3		2. 0	29. 22	002096	46 ·7	991149	46 ·0	
2. 10	29. 54	000872		988781		D	2. 10	29. 18	002249		991140		D
4. 0	32. 6	000827	56 ·8	988277	56 ·6	JH	4. 0	32. 14	002245	48 ·0	990942	47 6	JH
6. 0	33. 53	000872	56 ·6	988061	56 ·4		6. 0	33. 13	001741	47 ·0	990702	46 ·8	
8. 0	34. 31	000318	55 ·0	988103	55 ·0		8. 0	33. 55	001204	46 ·0	990923	45 ·6	
10. 0	35. 38	001481	54 ·0	988498	53 ·0	JH	10. 0	34. 34	001629	44 ·0	991318	44 ·8	JH
12. 0	34. 59	001983	52 ·0	988946	51 ·0	G	12. 0	35. 3	002813	44 ·5	991757	42 ·5	G
14. 0	34. 6	001027	51 ·0	989276	50 ·0		14. 0	34. 5	001542	44 ·0	991804	42 ·5	
16. 0	35. 24	002019	51 ·5	989576	49 ·5		16. 0	33. 38	002986	46 ·0	991639	43 ·5	
18. 0	34. 42	002355	51 ·5	989529	49 ·0		18. 0	32. 4	001985	45 ·0	991639	44 ·5	
20. 0	34. 15	001359	52 ·5	989191	50 ·0	G	20. 0	33. 24	001891	46 ·0	991399	45 ·0	G
22. 0	34. 26	001182	51 ·5	989139	51 ·2	D	22. 0	34. 41	001565	46 ·0	991365	45 ·2	D
Nov. 2. 0. 0	246. 28. 37	0 ·000833	52 ·8	9 ·989002	52 ·2	D	Nov. 5. 0. 0	246. 29. 11	0 ·000798	47 ·5	9 ·990932	47 ·0	D
1. 50	27. 46	000577		988800			1. 50	28. 18	001071		990392		
2. 0	27. 46	000601	57 ·0	988776	55 ·0		2. 0	28. 16	001000	49 ·8	990321	48 ·0	
2. 10	27. 47	000540		988758		D	2. 10	28. 16	001066		990316		D
4. 0	29. 14	000474	57 ·0	988650	54 ·5	G	4. 0	31. 17	001470	51 ·5	990094	50 ·0	G
6. 0	33. 4	000584	56 ·5	988484	54 ·5		6. 0	33. 43	001906	51 ·0	990005	49 ·0	
8. 0	34. 33	0 ·001248	56 ·5	988249	54 ·5		8. 0	34. 14	002134	51 ·0	989968	49 ·0	
10. 0	47. 48	9 ·998654	56 ·5	988588	54 ·5	G	10. 0	34. 56	001248	49 ·2	990132	47 ·5	G
12. 0	40. 22	0 ·000196	54 ·8	988484	54 ·2	D	12. 0	35. 44	002251	48 ·5	990251	48 ·0	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively 2^m. 30^s before, and 2^m. 30^s after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 2″; November 1d, 269°. 52′. 12″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 210°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20^s ·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24^s ·3; in Vertical Plane, 27^s ·5.
Decrease of Horizontal Force for 1° increase of temperature = 0 ·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0 ·000264 parts of the whole Vertical Force.

A considerable change occurred in the position of the Declination Magnet on Nov. 1st, between 22^h and 24^h; Nov. 3rd, between 10^h and 12^h; on Nov. 4th, between 22^h and 24^h; and also in the position of the Horizontal Force Magnet on Nov. 2nd, between 8^h and 10^h; and in the position of the Vertical Force Magnet on Nov. 2nd, between 16^h and 18^h; and on Nov. 6th, between 22^h and 24^h; no extra observations were taken.

Nov. 2^d. 8^h. The western declination was 23°. 17′. 39″: in the following two hours the magnet changed its position so that the western declination was 23°. 4′. 24″; and in the same time the Horizontal Force Magnet had changed its position, so as to decrease the force by 0 ·002594: extra observations were commenced.

Daily Observations from November 6 to 12.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force. uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Nov. 6. 14. 0	246. 35. 40	0·002256	42·0	9·992209	41·7	D	Nov. 9. 14. 0	246. 43. 30	0·001359	51·3	9·988758	51·2	D
16. 0	34. 48	002096	42·2	992336	42·2		16. 0	42. 42	002002	50·2	989059	50·0	
18. 0	34. 51	002193	44·0	992053	43·3		18. 0	44. 13	001182	50·2	989121	50·0	
20. 0	33. 52	003799	45·2	991630	44·1	D	20. 0	39. 52	0·002002	52·0	989040	51·5	D
22. 0	36. 28	002046	46·0	991304	45·6	JH	22. 0	37. 24	9·999755	52·2	988772	52·0	JH
Nov. 7. 0. 0	246. 36. 46	0·000333	50·1	9·990241	49·0	JH	Nov. 10. 0. 0	246. 30. 47	9·997618	52·8	9·988758	52·8	JH
1. 50	35. 35	000805		989323			1. 50	26. 54	993965		988856		
2. 0	35. 20	000943	53·0	989309	52·8		2. 0	27. 18	995072	54·2	988842	54·2	
2. 10	35. 42	000939		989257		JH	2. 10	26. 4	995515		989007		JH
4. 0	37. 23	001314	53·0	989059	52·8	D	4. 0	49. 40	992437	55·5	989097	55·0	D
6. 0	39. 18	001248	52·3	989247	52·0		6. 0	36. 4	994829	54·5	989011	54·5	
8. 0	39. 50	001248	54·0	989035	53·2		8. 0	38. 57	995471	54·6	988964	54·2	
10. 0	41. 11	001603	52·8	989055	52·3	D	10. 0	42. 59	996046	55·0	988617	54·5	D
12. 0	40. 21	001855	51·6	989294	50·7	JH	12. 0	48. 16	995980	54·0	988019	53·2	JH
14. 0	40. 27	002105	49·8	989534	49·1		14. 0	43. 18	997596	51·7	988348	51·4	
16. 0	39. 45	000595	48·8	989888	48·0		16. 0	38. 49	997042	50·6	989055	50·0	
18. 0	39. 24	001924	46·8	990137	46·8		18. 0	36. 20	998548	49·0	989666	48·5	
20. 0	39. 47	001868	47·0	990443	47·0	JH	20. 0	34. 51	997751	48·0	989746	48·0	JH
22. 0	39. 34	001891	48·5	990415	47·5	D	22. 0	37. 56	995714	50·5	989567	50·2	D
Nov. 8. 0. 0	246. 35. 50	0·002178	48·0	9·990316	47·5	D	Nov. 11. 0. 0	246. 33. 0	9·995869	53·0	9·989026	52·5	D
1. 50	35. 18	001314		989953			1. 50	33. 1	995160		988838		G
2. 0	35. 17	001314	50·2	989982	49·3		2. 0	33. 31	995116	54·5	988776	54·5	D
2. 10	35. 18	001292		989968		D	2. 10	34. 4	995183		988767		D
4. 0	37. 10	001492	50·6	989708	50·0	JH	4. 0	37. 15	995670	55·4	988593	55·0	JH
6. 0	38. 5	002311	49·6	989770	49·0		6. 0	37. 38	996600	54·3	988631	54·2	
8. 0	40. 0	001824	49·8	989770	49·0		8. 0	37 54	996688	54·7	988475	54·3	
10. 0	40. 0	001891	48·3	989958	48·0	JH	10. 0	39. 27	996511	54·6	988536	54·0	JH
12. 0	39. 32	002466	48·0	990283	47·0	G	12. 0	40. 27	996622	54·0	988470	53·5	G
14. 0	39. 12	003197	47·0	990424	46·0		14. 0	39. 7	996267	54·0	988343	53·5	
16. 0	38. 35	003285	47·0	990345	46·0		16. 0	38. 56	996267	50·0	988211	53·5	
18. 0	38. 52	003285	47·0	990415	46·0		18. 0	37. 37	996378	56·5	988179	55·0	
20. 0	38. 37	003573	46·5	990415	45·5	G	20. 0	38. 40	996267	55·5	988343	54·0	G
22. 0	38. 29	002134	47·0	990448	46·5	D	22. 0	37. 54	996777	54·5	988352	54·5	D
Nov. 9. 0. 0	246. 35. 38	0·000983	48·6	9·990123	48·0	D	Nov. 12. 0. 0	246. 34. 24	9·995913	55·0	9·988249	54·6	D
1. 50	35. 22	000673		989892			1. 50	35. 14	996622		987972		JH
2. 0	35. 17	000717	49·5	989888	49·5		2. 0	35. 15	996157	57·5	987976	56·5	D
2. 10	35. 13	000739		989888		D	2. 10	35. 15	996002		987967		D
4. 0	37. 21	000584	51·0	989798	50·0	G	4. 0	37. 1	995493	58·5	987778	57·5	G
6. 0	39. 52	001071	51·0	989746	50·0		6. 0	38. 34	996113	58·0	987684	57·0	
8. 0	39. 42	001071	51·5	989591	50·5		8. 0	39. 21	996046	58·0	987731	57 0	
10. 0	43. 17	000031	52·0	989515	51·0	G	10. 0	39. 50	996046	57·0	987967	56·0	G
12. 0	40. 3	000783	51·8	989092	51·2	D	12. 0	39. 30	996378	54·8	988334	54·5	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m \cdot 30^s$ before, and $2^m. 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 12″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 210°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

On Nov. 9d. between 22^h and 24^h, a somewhat large change in the position of the Declination Magnet took place; also large changes in that of the Horizontal Force Magnet, on Nov. 9th, between 20^h and 24^h; on Nov. 10th, between 20^h and 22^h; and on Nov. 14th, between 0^h and $2^h. 10^m$: no extra observations were taken.

Nov. 10d. There were frequent changes in the position both of the Declination Magnet and of the Horizontal Force Magnet, and extra observations were commenced after 4^h: in the previous two hours, the western declination had changed from 23°. 26′. 8″ to 23°. 2′. 32″; and at $8^h. 50^m$, the western declination was 22°. 53′. 29″, being the smallest in the month: at 4^h, the reading of the Horizontal Force Magnet, when corrected for temperature, was 0·001872, being the smallest in the month.

Nov. 10d, civil reckoning. The mean western declination was smaller on this day than on any other day in the month, being 23°. 12′. 4″, as deduced from the two-hourly observations.

Nov. 11d, civil reckoning. The mean reading of the Horizontal Force Magnet, corrected for temperature, was smaller on this day than on any other in the month, the reading being 0·005569.

Nov. $12^d. 8^h$. Since $10^d. 22^h$ to the present time, the Horizontal Force Magnet has scarcely changed its position: immediately after 22^h Mr. Glaisher examined every part of its suspension, &c., to see that its free motion was not impeded, and he communicated motion to the magnet; every thing was in good order.

Daily Observations from November 13 to 19.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Nov. 13. 14. 0	246. 40. 11	9·997950	51·2	9·989050	50·8	D	Nov. 16. 14. 0	246. 37. 40	0·003197	48·2	9·991130	46·5	D
16. 0	39. 27	998216	51·5	989229	51·0		16. 0	37. 32	003506	47·0	991569	45·2	
18. 0	39. 35	998570	52·0	989130	51·7		18. 0	38. 10	003795	46·0	991977	44·2	
20. 0	38. 27	998592	53·0	988531	52·0	D	20. 0	38. 20	003817	45·7	992062	44·0	D
22. 0	39. 11	999035	52·6	988852	52·2	JH	22. 0	36. 5	003109	45·8	991869	45·0	JH
Nov. 14. 0. 0	246. 35. 31	9·998415	53·2	9·988792	53·0	JH	Nov. 17. 0. 0	246. 32. 20	0·003462	45·6	9·991818	45·0	JH
1. 50	34. 14	0·001116		988498			1. 50	32. 4	003905		991526		
2. 0	34. 10	9·998972	54·8	988423	54·3		2. 0	32. 39	003905	46·2	991498	46·6	
2. 10	34. 5	0·001027		988470		JH	2. 10	33. 1	003861		991475		JH
4. 0	35. 9	001226	55·0	988258	54·6	D	4. 0	34. 49	003175	48·2	991159	48·0	D
6. 0	37. 3	000496	54·5	988399	54·2		6. 0	37. 14	003418	48·2	990918	48·6	
8. 0	37. 7	001005	54·5	988310	54·2		8. 0	37. 14	003020	49·0	990476	50·2	
10. 0	37. 7	000695	54·5	988352	54·0	D	10. 0	37. 39	002311	49·4	990377	50·0	D
12. 0	37. 7	001359	54·0	988418	53·6	JH	12. 0	36. 47	002577	49·0	990608	48·5	JH
14. 0	37. 18	001957	53·0	988673	52·0		14. 0	37. 40	002842	47·5	991036	47·0	
16. 0	37. 18	002377	51·8	988889	51·1		16. 0	37. 8	003307	47·0	991569	46·0	
18. 0	37. 33	002510	51·0	989088	50·6		18. 0	37. 32	003440	46·2	991841	44·8	
20. 0	37. 0	002046	50·4	989243	50·0	JH	20. 0	35. 58	003528	45·6	991879	44·0	JH
22. 0	36. 23	001359	51·0	989327	50·3	D	22. 0	36. 9	003064	46·0	991752	45·3	D
Nov. 15. 0. 0	246. 33. 56	0·001647	51·0	9·989323	50·5	D	Nov. 18. 0. 0	246. 33. 13	0·002842	46·0	9·991498	45·8	D
1. 50	34. 34	002333		989421			1. 50	32. 57	003175		931394		
2. 0	34. 34	002267	51·3	989388	50·5		2. 0	32. 58	003175	46·5	991394	47·0	
2. 10	34. 39	002178		989384		D	2. 10	33. 17	003285		991394		D
4. 0	35. 58	003440	50·8	989379	50·7	JH	4. 0	34. 52	003440	46·7	991253	47·2	JH
6. 0	35. 42	003706	51·0	989351	50·8		6. 0	36. 5	003817	47·0	991177	47·0	
8. 0	36. 7	003528	51·0	989224	51·0		8. 0	37. 0	003905	46·8	991361	46·0	
10. 0	36. 26	003684	50·8	989337	50·1	JH	10. 0	36. 37	004348	45·4	991733	44·0	JH
12. 0	36. 17	003927	50·5	989478	50·0	G	12. 0	36. 34	004392	45·5	992345	43·0	G
14. 0	36. 27	003484	51·5	989262	51·5		14. 0	36. 9	004569	44·5	992717	41·5	
16. 0	36. 27	003617	51·5	989944	51·0		16. 0	35. 49	004459	45·0	992605	42·0	
18. 0	37. 5	003418	51·5	989812	51·0		18. 0	36. 47	004304	43·5	991926	45·0	
20. 0	35. 52	003197	51·5	989812	51·0	G	20. 0	37. 8	004216	43·5	991757	45·0	G
22. 0	35. 37	002998	51·5	989935	51·0	D	22. 0	36. 35	003285	45·0	991710	45·0	D
Nov. 16. 0. 0	246. 32. 24	0·002178	51·5	0·989921	51·5	D	Nov. 19. 0. 0	246. 33. 0	0·003020	45·5	9·991442	46·5	D
1. 50	31. 37	001780		989982			1. 50	32. 13	003662		991460		
2. 0	31. 36	001625	52·0	989982	52·0		2. 0	32. 9	003728	46·0	991465	46·2	
2. 10	31. 29	001669		989982		D	2. 10	32. 11	003817		991475		D
4. 0	32. 16	002245	52·0	990462	51·0	G	4. 0	34. 26	003639	47·0	991224	47·0	G
6. 0	34. 8	002399	52·5	990429	51·0		6. 0	35. 27	003795	47·0	990957	47·0	
8. 0	39. 11	001492	52·0	990415	51·0		8. 0	36. 51	003971	49·0	990533	48·0	
10. 0	35. 25	000584	51·0	990486	49·0	G	10. 0	37. 11	004392	49·0	990377	48·0	G
12. 0	37. 50	002864	49·6	990800	48·0	D	12. 0	37. 22	003506	48·8	990312	48·8	JH

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m. 30^s$ before, and $2^m. 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 12″.
Reading of Torsion Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 210°; November $14^d. 0^h$, 198°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·3$; in Vertical Plane, $27^s·5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Nov. $14^d. 0^h$. After this, two boxes, one within the other, each being covered with brilliant paper, both internally and externally, were used for inclosing the Horizontal Force Magnet.

Nov. $14^d. 2^h$. The changes in the position of the Horizontal Force Magnet at the triple observations were large, and they took place suddenly.

Nov. 15^d, civil reckoning. The range of the Declination Magnet was less on this day than on any other day in the month, being 3′. 37″: the range of the magnet was likewise very small on the 28th, being only 15″ more than on the 15th.

Nov. $16^d. 10^h$ to 12^h. There was a large change in the position of the Horizontal Force Magnet; and also in that of the Declination Magnet on Nov. 16th, between 6^h and 8^h: no extra observations were taken.

Nov. 17^d, civil reckoning. The mean reading of the Vertical Force Magnet, corrected for temperature, was larger on this day than on any other day in the month, being 0·003643, as deduced from the two-hourly observations.

Nov. $18^d. 2^h$. The marked end of the Vertical Force Magnet was more drawn downwards at this than at any other observation in the month, the reading being 0·003802, when corrected for temperature; and on Nov. 21st, at $16^h. 9^m. 43^s$, it was less drawn downwards, the reading being, when corrected for temperature, 9·999809.

Daily Observations from November 20 to 26.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Nov. 20. 14. 0	246. 36. 34	0·004613	47·2	9·991018	46·2	D	Nov. 23. 14. 0	246. 32. 11	0·003971	47·8	9·990179	47·8	D
16. 0	34. 50	004171	46·5	991126	45·5		16. 0	32. 42	003396	47·5	990448	47·0	
18. 0	36. 3	004591	46·2	991347	45·3		18. 0	32. 28	003861	47·2	990659	46·5	
20. 0	35. 33	004813	46·1	991493	45·2	D	20. 0	32. 23	003927	47·0	990688	46·2	D
22. 0	35. 35	003617	45·6	991220	45·2	JH	22. 0	32. 21	003484	46·8	990612	46·3	JH
Nov. 21. 0. 0	246. 31. 8	0·002732	46·4	9·990655	48·2	JH	Nov. 24. 0. 0	246. 30. 4	0·003639	47·4	9·990283	47·8	JH
1. 50	31. 59	002355		989746			1. 50	29. 39	002953		989949		
2. 0	31. 43	002891	49·8	989652	53·0		2. 0	29. 44	003057	48·7	989949	49·8	
2. 10	32. 8	002798		989525		JH	2. 10	30. 11	003181		989939		JH
4. 0	31. 2	003175	51·5	989144	53·3	D	4. 0	29. 40	003064	50·0	989717	51·2	D
6. 0	35. 31	002776	52·0	989276	52·6		6. 0	30. 20	002090	50·0	990038	49·6	
8. 0	37. 12	0·001248	52·3	989379	52·6		8. 0	31. 50	002754	49·5	990368	48·0	
10. 0	44. 25	9·999478	53·0	989102	53·2	D	10. 0	36. 42	003042	49·3	990212	48·7	D
12. 0	53. 41	9·998149	53·3	988498	53·0	JH	12. 0	33. 32	002643	47·8	990241	48·8	JH
14. 0	54. 3	0·000761	52·8	987972	52·5		14. 0	33. 26	003285	48·0	990283	46·8	
16. 0	23. 49	0·005897	51·6	987260	51·0		16. 0	32. 52	003462	47·6	990565	47·0	
18. 0	26. 11	9·999035	47·7	988019	46·5		18. 0	33. 10	003684	46·8	990847	45·4	
20. 0	29. 7	9·999079	49·0	989440	47·3	JH	20. 0	32. 42	004370	46·3	990942	45·2	JH
22. 0	27. 59	0·000252	48·2	990556	46·1	P	22. 0	32. 42	003905	46·2	990980	45·6	P
Nov. 22. 0. 0	246. 28. 34	0·001470	47·0	9·991318	45·8	P	Nov. 25. 0. 0	246. 30. 28	0·002577	48·0	9·990462	48·0	P
1. 50	25. 43	000783		991827			1. 50	27. 57	003241		990321		
2. 0	25. 58	000695	46·0	991921	44·2		2. 0	28. 18	003131		990321		
2. 10	26. 26	001204		992015		P	2. 10	28. 35	003462	48·0	990368	48·0	P
4. 0	30. 8	001027	44·4	992769	44·0	JH	4. 0	30. 54	003528	48·8	990283	48·8	JH
6. 0	31. 38	002798	44·8	992138	43·7		6. 0	32. 49	003662	48·6	990217	48·0	
8. 0	31. 41	003728	43·0	991977	43·6		8. 0	32. 58	003330	48·0	990453	47·2	JH
10. 0	33. 9	003528	44·0	991968	42·8	JH	10. 0	33. 37	003684	48·0	990650	46·5	G
12. 0	32. 3	004282	43·5	992086	42·2	P	12. 0	33. 36	003241	48·0	990387	46·5	G
14. 0	32. 10	004171	43·3	992109	42·0		14. 0	33. 28	003263	48·6	990132	48·6	JH
16. 0	35. 7	004348	43·0	992157	41·9		16. 0	33. 23	003241	49·1	989944	48·5	P
18. 0	30. 18	005034	42·2	992251	40·8		18. 0	33. 54	003197	49·4	989897	49·0	P
20. 0	32. 1	005339	41·8	992557	41·5	P	20. 0	32. 39	003197	49·2	989902	48·5	D
22. 0	27. 43	003064	42·0	992148	41·5	D	22. 0	31. 45	002333	49·0	990071	48·3	G
Nov. 23. 0. 0	246. 28. 31	0·003706	42·2	9·992336	42·2	D	Nov. 26. 0. 0	246. 28. 42	0·002842	50·0	9·989855	49·6	D
1. 50	28. 37	003905		992062			1. 50	28. 4	002732		989318		D
2. 0	28. 26	003971	43·0	992029	44·0		2. 0	28. 10	002555	51·0	989238	51·7	JH
2. 10	28. 25	004104		991977		D	2. 10	28. 24	002666		989168		
4. 0	32. 35	002798	45·0	991356	46·2	P	4. 0	29. 43	002355	53·0	988814	54·0	JH
6. 0	32. 8	003020	45·8	991121	46·5		6. 0	32. 45	002621	53·0	988885	53·5	P
8. 0	35. 7	004791	46·0	990989	46·2		8. 0	33. 12	002245	52·8	989135	53·0	JH
10. 0	33. 15	003684	46·2	990857	46·3	P	10. 0	33. 39	002156	42·5	989374	51·0	D
12. 0	32. 59	002931	48·2	990453	48·0	D	12. 0	32. 54	002267	51·5	989614	49·8	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.30^s$ before, and $2^m.30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 12″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 185°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $27^s.5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Nov. 21d. Between 8h and 10h the western declination decreased from 23°. 15′. 0″ to 23°. 7′. 47″; and at 12h it was 22°. 58′. 31″: extra observations were taken, during which, at 18h. 42m, the western declination was 23°. 30′. 42″, being the largest in the month; and at 15h. 53m, the reading of the Horizontal Force Magnet, corrected for temperature, was 0·017350, being the largest in the month.

Nov. 21d and 22d, civil reckoning. The greatest difference in the mean western declination between any two consecutive civil days during the month took place between these two days, being 5′. 45″, the declination on the second of the two days being the larger.

Nov. 22d, civil reckoning. The range of the Declination Magnet was greater on this day than on any other day in the month, being 36′. 13″.

Between Nov. 22d, 20h and 22h, the change in the positions of the Horizontal Force Magnet was large, as was that also of the Declination Magnet on Nov. 29th, between 2h. 10m and 4h: no extra observations were taken.

Nov. 25d. 10h. Five-minute observations were commenced. (See the Section of Term-Day Observations.)

Daily Observations from November 27 to December 3.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Nov. 27. 14. 0	246. 32. 37	0 ·004260	46 ·8	9 ·990462	46 ·5	D	Nov. 30. 14. 0	246. 33. 38	0 ·003684	50 ·0	9 ·989323	48 ·0	D
16. 0	32. 57	004503	47 ·0	990424	47 ·0		16. 0	31. 35	004260	49 ·0	989708	47 ·3	
18. 0	32. 57	004591	47 ·0	990283	47 ·5		18. 0	32. 11	004569	48 ·0	989841	47 ·2	
20. 0	33. 59	004569	48 ·0	989996	48 ·2	D	20. 0	32. 11	004437	48 ·0	989794	47 ·6	D
22. 0	32. 2	004127	48 ·3	989581	49 ·8	JH	22. 0	32. 10	003750	48 ·6	989351	49 ·3	JH
Nov. 28. 0. 0	246. 30. 7	0 ·003684	54 ·3	9 ·989158	54 ·5	JH	Dec. 1. 0. 0	246. 27. 44	0 ·003905	50 ·2	9 ·988701	52 ·0	JH
1. 50	31. 14	003949		988866			1. 50	27. 30	005056		988598		
2. 0	31. 35	003905	53 ·0	988852	51 ·8		2. 0	27. 30	005189	52 ·8	988593	53 ·0	
2. 10	31. 26	003927		988847		JH	2. 10	27. 15	004725		988540		JH
4. 0	31. 41	003949	53 ·0	988626	54 ·2	D	4. 0	29. 29	003684	52 ·0	988296	53 ·8	D
6. 0	32. 58	003817	53 ·5	988446	54 ·0		6. 0	32. 12	003484	53 ·5	988211	54 ·5	
8. 0	33. 6	003418	54 ·0	988489	54 ·0		8. 0	33. 24	003086	54 ·5	987911	55 ·5	
10. 0	33. 47	003440	53 ·5	988908	52 ·0	D	10. 0	33. 24	003042	55 ·2	987684	56 ·0	D
12. 0	32. 52	002887	52 ·8	989050	51 ·0	JH	12. 0	32. 26	002798	56 ·0	987590	56 ·0	JH
14. 0	32. 17	003750	52 ·0	989252	50 ·0		14. 0	31. 29	003042	55 ·5	987599	55 ·5	
16. 0	33. 50	003905	50 ·7	989515	49 ·0		16. 0	31. 32	003219	55 ·2	987340	55 ·0	
18. 0	32. 36	005167	49 ·8	989761	48 ·0		18. 0	32. 0	003462	55 ·0	987787	54 ·2	
20. 0	32. 6	005034	49 ·0	989836	47 ·6	JH	20. 0	32. 25	003662	55 ·0	987806	54 ·7	JH
22. 0	29. 49	004437	49 ·0	989897	48 ·0	D	22. 0	31. 51	003595	55 ·5	987731	55 ·2	D
Nov. 29. 0. 0	246. 27. 43	0 ·003551	50 ·0	9 ·989675	50 ·0	D	Dec. 2. 0. 0	246. 29. 32	0 ·003285	56 ·0	9 ·987487	56 ·2	D
1. 50	23. 45	003285		989097			1. 50	28. 44	003241		987354		
2. 0	24. 13	003197	51 ·5	989026	54 ·0		2. 0	28. 46	003219	56 ·8	987363	57 ·0	
2. 10	25. 41	003307		988955		D	2. 10	28. 51	003153		987363		D
4. 0	30. 52	003949	52 ·4	988249	55 ·0	JH	4. 0	30. 9	002953	56 ·3	987440	56 ·6	JH
6. 0	32. 52	003462	53 ·8	988113	54 ·0		6. 0	31. 27	003307	56 ·5	987505	55 ·2	
8. 0	33. 6	003883	52 ·8	988371	52 ·0		8. 0	32. 25	003219	54 ·4	987684	54 ·0	
10. 0	33. 6	004171	51 ·8	988729	50 ·0	JH	10. 0	32. 45	003595	54 ·3	988028	53 ·0	JH
12. 0	32. 57	004238	52 ·0	989106	48 ·5	G	12. 0	32. 50	004216	54 ·0	988207	52 ·0	G
14. 0	32. 7	003418	52 ·0	989040	50 ·5		14. 0	31. 21	003197	53 ·5	988399	52 ·0	
16. 0	31. 56	003352	52 ·0	988932	50 ·5		16. 0	30. 52	003440	53 ·0	988493	51 ·5	
18. 0	32. 26	003905	52 ·0	988772	50 ·5		18. 0	31. 42	003949	52 ·5	988678	51 ·5	
20. 0	32. 58	003861	52 ·5	988767	51 ·0	G	20. 0	32. 35	004238	52 ·0	988885	52 ·0	G
22. 0	32. 4	003374	51 ·2	989002	50 ·5	D	22. 0	33. 9	003750	50 ·0	989182	49 ·0	D
Nov. 30. 0. 0	246. 29. 8	0 ·003241	51 ·2	9 ·988917	51 ·0	D	Dec. 3. 0. 0	246. 30. 0	0 ·003285	50 ·3	9 ·989078	50 ·0	D
1. 50	26. 24	002532		988908			1. 50	28. 44	003241		988414		
2. 0	26. 20	002488	51 ·7	988932	52 ·0		2. 0	28. 49	003440	53 ·2	988399	54 ·5	
2. 10	26. 26	002532		988941		D	2. 10	29. 4	003396		988437		D
4. 0	27. 42	002377	52 ·5	988791	52 ·0	G	4. 0	30. 32	003551	54 ·0	987929	55 ·0	G
6. 0	29. 16	001647	52 ·5	988885	52 ·0		6. 0	32. 12	003551	54 ·0	987778	55 ·5	
8. 0	32. 1	002355	52 ·5	988805	51 ·5		8. 0	32. 36	002842	54 ·0	987505	54 ·5	
10. 0	37. 4	001581	52 ·0	990392	51 ·0	G	10. 0	32. 52	002798	54 ·5	987505	55 ·0	G
12. 0	29. 32	002577	51 ·0	989262	49 ·2	D	12. 0	32. 16	002864	56 ·0	987637	55 ·5	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively 2^m. 30^s before, and 2^m. 30^s after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 12″; Dec. 1d, 269°. 52′. 5″.
Reading of Torsion Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 185°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0 ·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0 ·000264 parts of the whole Vertical Force.

Nov. 28d, civil reckoning. The range of the Declination Magnet was less on this day than on any other day in the month, being 3′. 52″.

Nov. 29d, civil reckoning. The mean reading of the Vertical Force Magnet, corrected for temperature, was less on this day than on any other day in the month, being 0 ·002459, as deduced from the two-hourly observations.

Nov. 30d. 8h, 10h, and 12h. The western declinations were respectively 23°. 20′. 11″, 23°. 15′. 8″, and 23°. 22′. 40″; and between Dec. 5d. 6h and 8h, there was a large change in the position of the Horizontal Force Magnet: no extra observations were taken.

Nov. 30d, civil reckoning. The mean western declination was greater on this day than on any other day in the month, being 23°. 21′. 9″, as deduced from the two-hourly observations.

Dec. 1d. 2h. The marked end of the Horizontal Force Magnet was more drawn towards the North at this observation than at any other observation in the month, the reading being, when corrected for temperature, 0 ·014165.

Daily Observations from December 4 to 10.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Dec. 4. 14. 0	246. 32. 16	0·004348	49·2	9·989464	48·0	D	Dec. 7. 14. 0	246. 36. 38	0·003639	48·0	9·989803	47·0	D
16. 0	31. 33	004680	49·0	989775	48·0		16. 0	33. 34	004326	47·5	990132	46·0	
18. 0	32. 18	005056	49·0	989765	48·0		18. 0	35. 56	004902	46·5	990509	45·0	
20. 0	32. 3	005167	49·0	989756	48·0	D	20. 0	35. 48	005299	45·8	990711	44·0	D
22. 0	31. 57	004547	48·8	989417	49·0	JH	22. 0	33. 58	004149	44·7	990843	44·0	JH
Dec. 5. 0. 0	246. 29. 0	0·004348	49·2	9·989388	49·2	JH	Dec. 8. 0. 0	246. 32. 24	0·003506	44·8	9·990716	44·6	JH
1. 50	29. 24	004127		988805			1. 50	30. 33	003905		990721		
2. 0	29. 24	004127	50·7	988729	52·8		2. 0	30. 33	004104	44·8	990739	44·8	
2. 10	29. 24	004127		988673		JH	2. 10	30. 14	003927		990735		JH
4. 0	29. 31	004569	52·2	988352	53·2	D	4. 0	33. 40	004171	46·0	990674	45·5	D
6. 0	30. 34	004127	53·0	988211	54·2		6. 0	36. 22	004171	46·0	990659	45·5	
8. 0	31. 18	002178	54·0	988061	54·8		8. 0	41. 7	003905	46·2	990650	45·5	
10. 0	33. 3	002532	54·2	988169	53·8	D	10. 0	38. 44	004348	46·5	990415	46·2	D
12. 0	32. 47	002864	53·7	988437	52·0	JH	12. 0	36. 19	003528	46·8	990321	46·0	JH
14. 0	33. 45	003684	52·8	988635	50·6		14. 0	35. 50	004216	46·6	990424	45·8	
16. 0	33. 11	004127	51·4	989135	50·0		16. 0	34. 20	004747	45·2	990753	43·7	
18. 0	31. 34	005255	49·9	989511	47·3		18. 0	34. 58	005101	44·6	991018	43·0	
20. 0	27. 28	004392	48·8	989623	46·9	JH	20. 0	34. 29	005720	44·0	991145	43·6	JH
22. 0	30. 14	004016	48·0	989897	46·6	D	22. 0	33. 23	005012	44·0	991027	44·5	D
Dec. 6. 0. 0	246. 28. 24	0·003462	48·0	9·989836	47·0	D	Dec. 9. 0. 0	246. 31. 56	0·004171	45·0	9·990518	45·5	D
1. 50	29. 29	003462		989855			1. 50	30. 52	003773		990179		
2. 0	29. 58	003418	48·0	989827	48·0		2. 0	30. 52	003905	46·2	990141	47·0	
2. 10	30. 22	003506		989827		D	2. 10	30. 52	003927		990132		D
4. 0	32. 33	004171	48·0	989892	47·8	JH	4. 0	32. 13	002998	47·0	990184	47·6	JH
6. 0	34. 20	004127	47·0	989986	47·7		6. 0	44. 51	003949	47·2	990556	47·5	
8. 0	34. 38	004060	47·5	990188	46·0		8. 0	42. 58	001027	47·2	990791	47·5	
10. 0	37. 17	004503	47·0	990373	45·4	JH	10. 0	40. 36	002355	47·8	990188	48·0	JH
12. 0	34. 27	004392	47·0	990392	45·5	G	12. 0	42. 0	001979	48·0	989473	48·0	G
14. 0	34. 24	004525	47·0	990227	45·5		14. 0	39. 35	002068	48·0	989708	48·0	
16. 0	35. 40	004968	47·0	990424	45·5		16. 0	36. 18	003020	48·0	989850	48·0	
18. 0	35. 57	005366	47·0	990179	46·0		18. 0	35. 39	003484	47·5	990179	47·0	
20. 0	33. 31	004858	47·0	990330	46·0	G	20. 0	34. 40	004392	47·0	990556	44·0	G
22. 0	32. 33	005233	46·0	990509	44·5	D	22. 0	33. 55	004238	46·0	990932	44·0	D
Dec. 7. 0. 0	246. 32. 28	0·004348	46·0	9·989982	46·0	D	Dec. 10. 0. 0	246. 32. 41	0·003949	45·0	9·991112	44·0	D
1. 50	31. 5	004348		990236			1. 50	31. 39	004149		991107		
2. 0	30. 16	004348	46·8	990241	46·8		2. 0	31. 40	004193	45·0	991107	44·5	
2. 10	30. 33	004392		990236		D	2. 10	31. 34	004193		991093		D
4. 0	32. 11	003551	47·0	990377	46·0	G	4. 0	33. 0	004282	46·0	990791	45·0	G
6. 0	32. 35	003020	47·0	990260	46·0		6. 0	34. 15	004437	47·0	990580	45·5	
8. 0	40. 39	002444	47·0	990094	46·0		8. 0	33. 0	003949	47·0	990457	46·0	
10. 0	43. 32	003462	47·0	989944	46·5	G	10. 0	34. 33	002909	47·0	990462	46·0	G
12. 0	38. 59	004990	48·5	989276	47·5	D	12. 0	34. 33	004082	47·5	990179	47·5	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.30^s$ before, and $2^m.30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 5″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 185°; Dec. $6^d.1^h.50^m$, 204°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $27^s.5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Dec. 7^d. Between 6^h and 8^h the decrease of the western declination was 8′. 4″; and at $8^h.14^m$ it had still further decreased 6′. 19″, and extra observations were commenced.

Dec. $9^d.4^h$. The western declination was 23°. 19′. 52″; and at 6^h it was 23′. 7′. 14″, and extra observations were commenced: at $9^h.31^m$, the western declination was 22°. 45′. 29″, being the smallest in the month: at $8^h.52^m$, the reading of the Vertical Force Magnet, corrected for temperature, was 0·003628, being the largest during the month: and at $10^h.23^m$, the reading of the Horizontal Force Magnet, corrected for temperature, was 0·007537, being the smallest in the month.

Dec. 9^d, civil reckoning. The range of the Declination Magnet was greater on this day than on any other day during the month, being 35′. 44″.

Daily Observations from December 11 to 17.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Dec. 11. 14. 0	246. 35. 20	0 ·005233	43 ·5	9 ·991074	43 ·0	D	Dec. 14. 14. 0	246. 43. 49	0 ·002599	57 ·0	9 ·986767	54 ·5	D
16. 0	35. 20	005233	43 ·8	991074	44 ·0		16. 0	44. 31	002975	56 ·0	987157	53 ·8	
18. 0	35. 23	005299	44 ·2	990791	45 ·0		18. 0	42. 58	003153	54 ·5	987426	52 ·5	
20. 0	35. 43	005455	45 ·5	990420	46 ·5	D	20. 0	44. 39	003706	53 ·0	987944	51 ·0	D
22. 0	35. 6	005012	46 ·6	989902	48 ·2	JH	22. 0	43. 7	002931	52 ·6	988089	51 ·2	JH
Dec. 12. 0. 0	246. 33. 29	0 ·004370	48 ·0	9 ·989266	51 ·3	JH	Dec. 15. 0. 0	246. 41. 31	0 ·003020	53 ·8	9 ·987632	53 ·6	JH
1. 50	32. 43	004104		988626			1. 50	40. 3	002134		987876		
2. 0	33. 3	004038	50 ·8	988564	53 ·8		2. 0	40. 15	002134	54 ·4	987884	57 ·3	
2. 10	32. 57	003971		988475		JH	2. 10	40. 27	002754		987808		JH
4. 0	33. 9	004392	53 ·0	987557	55 ·0	D	4. 0	41. 19	002599	56 ·5	987213	59 ·0	D
6. 0	34. 29	004216	54 ·0	987298	56 ·0		6. 0	42. 42	002621	57 ·0	987166	58 ·0	
8. 0	35. 10	003728	56 ·0	986861	58 ·0		8. 0	43. 58	002421	57 ·2	987543	57 ·0	
10. 0	35. 10	003684	57 ·0	986601	58 ·0	D	10. 0	44. 3	002200	57 ·0	987920	56 ·0	D
12. 0	35. 10	003462	57 ·0	986563	58 ·6	JH	12. 0	44. 37	002002	56 ·5	988023	55 ·2	JH
14. 0	33. 38	003706	57 ·0	986446	57 ·0		14. 0	45. 23	002444	55 ·2	988249	53 ·8	
16. 0	33. 24	004082	57 ·0	986535	57 ·2		16. 0	43. 52	002975	53 ·8	988540	52 ·6	
18. 0	33. 42	004260	56 ·6	986653	56 ·4		18. 0	43. 52	003374	53 ·0	988870	51 ·8	
20. 0	34. 28	004370	56 ·0	986771	56 ·0	JH	20. 0	44. 37	003728	52 ·8	989097	51 ·0	JH
22. 0	33. 35	003506	56 ·0	986983	56 ·0	D	22. 0	42. 42	002820	52 ·8	989050	52 ·5	D
Dec. 13. 0. 0	246. 29. 55	0 ·003462	57 ·0	9 ·986715	57 ·0	D	Dec. 16. 0. 0	246. 41. 15	0 ·002864	53 ·0	9 ·988781	53 ·8	D
1. 50	41. 45	003506		986092			1. 50	40. 59	003086		988531		
2. 0	41. 26	003307	58 ·0	986092	60 ·0		2. 0	40. 59	003020	54 ·0	988437	54 ·0	
2. 10	41. 18	003352		986014		D	2. 10	41. 2	003064		988381		D
4. 0	42. 48	003352	59 ·6	985415	62 ·0	JH	4. 0	42. 56	002842	56 ·2	988075	55 ·0	JH
6. 0	43. 44	003861	59 ·7	985338	60 ·0		6. 0	44. 8	003042	55 ·3	988023	55 ·4	
8. 0	44. 14	002754	59 ·0	985693	58 ·0		8. 0	44. 5	002510	55 ·6	988113	55 ·0	
10. 0	47. 35	001824	57 ·6	986333	56 ·8	JH	10. 0	44. 15	002599	55 ·8	987972	56 ·0	JH
12. 0	48. 3	002688	57 ·5	986554	56 ·5	G	12. 0	44. 42	002466	57 ·0	987802	56 ·0	G
14. 0	44. 19	002688	57 ·5	986667	56 ·5		14. 0	44. 20	002466	57 ·0	987590	56 ·0	
16. 0	47. 5	002798	57 ·5	986516	56 ·5		16. 0	44. 3	002377	57 ·0	987567	56 ·0	
18. 0	44. 45	003285	57 ·5	986696	56 ·5		18. 0	43. 50	002377	57 ·0	987614	56 ·0	
20. 0	42. 53	003020	57 ·5	986757	56 ·5	G	20. 0	44. 6	002510	57 ·0	987590	56 ·0	G
22. 0	43. 2	002798	55 ·5	987119	54 ·0	D	22. 0	42. 42	002399	57 ·0	987628	56 ·2	D
Dec. 14. 0. 0	246. 40. 59	0 ·002798	55 ·5	9 ·987175	55 ·5	D	Dec. 17. 0. 0	246. 40. 49	0 ·002776	57 ·0	9 ·987792	56 ·0	D
1. 50	39. 49	002621		986380			1. 50	40. 44	002953		987614		
2. 0	39. 45	002599	57 ·0	986338	60 ·0		2. 0	40. 43	002842	57 ·8	987614	57 ·5	
2. 10	39 ·48	002599		986281		D	2. 10	41. 10	002798		987604		D
4. 0	42. 42	002355	61 ·0	985636	61 ·0	G	4. 0	42. 27	002577	58 ·0	987505	57 ·5	G
6. 0	44. 25	002178	61 ·0	985306	61 ·0		6. 0	43. 56	002621	57 ·0	987637	56 ·0	
8. 0	43. 47	001891	60 ·5	985449	60 ·5		8. 0	44. 58	002688	57 ·0	987967	56 ·0	
10. 0	44. 24	001713	60 ·0	985754	58 ·5	G	10. 0	45. 44	003064	55 ·0	988484	52 ·0	G
12. 0	45. 21	002112	59 ·0	986178	57 ·0	D	12. 0	46. 6	003263	53 ·0	988814	51 ·0	D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively 2^m. 30^s before, and 2^m. 30^s after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 5″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 234°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20^s ·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24^s ·3; in Vertical Plane, 27^s ·5.
Decrease of Horizontal Force for 1° increase of temperature = 0 ·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0 ·000264 parts of the whole Vertical Force.

Dec. 12^d, civil reckoning. The range of the Declination Magnet was less on this day than on any other day in the year, being 2′. 40″; the range of the magnet was likewise small on the 2nd, 3rd, 5th, 15th, 16th, 20th, and 27th days of the month.

On Dec. 13^d. 0^h, the western declination was 23°. 22′. 10″; and at 1^h. 50^m it had decreased to 23°. 10′. 20″: no extra observations were taken.

Dec. 13^d, civil reckoning. The mean reading of the Horizontal Force Magnet, corrected for temperature, was larger on this day than on any other day in the month, being 0 ·013223, as deduced from the two-hourly observations.

Dec. 17^d, civil reckoning. The mean western declination was smaller on this day than on any other day in the month, being 23°. 8′. 27″, as deduced from the two-hourly observations.

Daily Observations from December 18 to 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Dec. 18. 14. 0	246. 44. 57	0·004835	45·0	9·991380	44·0	D	Dec. 21. 14. 0	246. 32. 38	0·000097	58·0	9·987590	57·0	D
16. 0	43. 59	004835	44·8	991780	43·5		16. 0	32. 53	000185	58·0	987538	58·0	D
18. 0	43. 6	005344	44·5	991973	43·2		18. 0	31. 43	000384	57·5	987590	57·8	JH
20. 0	44. 22	005742	44. 5	992119	43·0	D	20. 0	31. 44	000440	57·8	987623	58·0	P
22. 0	42. 50	005189	43·6	991921	43·0	JH	22. 0	28. 35	000584	57·7	987590	58·0	P
Dec. 19. 0. 0	246. 30. 18	0·004924	44. 2	9·991583	44·8	JH	Dec. 22. 0. 0	246. 27. 53	0·000429	57·3	9·987557	57·6	JH
1. 50	28. 46	005078		990989			1. 50	28. 20	000406		987590		
2. 0	28. 57	005034	46. 0	990918	48·0		2. 0	28. 27	000340	57·8	987590	57·6	
2. 10	29. 4	005211		990894		JH	2. 10	28. 50	000362		987599		JH
4. 0	30. 18	004569	48. 0	988791	49·2	D	4. 0	30. 3	000141	59·5	987407	60·0	D
6. 0	32. 8	003258	48·5	988805	49·0		6. 0	31. 24	0·000141	60·0	987180	60·0	G
8. 0	33. 41	003684	49·6	988540	50·0		8. 0	32. 4	9·999921	59·8	987166	60·0	P
10. 0	36. 54	004171	50·0	988301	50·0	D	10. 0	33. 5	999943	58·8	987119	59·3	JH
12. 0	32. 55	003595	49·8	988348	48·1	JH	12. 0	33. 51	9·999921	58·0	987316	58·0	D
14. 0	33. 16	003905	49·2	988540	47·6		14. 0	34. 24	0·000230	57·2	987496	57·5	
16. 0	32. 41	004725	47·8	989040	46·6		16. 0	33. 35	000739	57·0	987802	57·5	
18. 0	32. 41	004569	47·6	989106	46·0		18. 0	35. 22	001071	57·0	987778	57·0	
20. 0	33. 36	005056	46·4	989144	46·8	JH	20. 0	34. 18	0·000384	56·2	987778	56·5	D
22. 0	31. 25	004149	47·4	988908	47·3	P	22. 0	31. 12	9·999833	55·2	988014	57·3	JH
Dec. 20. 0. 0	246. 30. 7	0·004459	48·9	9·990092	49·3	P	Dec. 23. 0. 0	246. 29. 11	9·999722	54·3	9·988127	55·0	JH
1. 50	28. 39	004348		989982			1. 50	28. 20	0·000474		988249		
2. 0	29. 27	004127	49·3	989968	50·0		2. 0	28. 20	000452	54·4	988254	55·0	
2. 10	30. 1	004127		989968		P	2. 10	28. 21	0·000362		988249		JH
4. 0	31. 27	004038	50·3	989299	53·1	JH	4. 0	30. 31	9·999921	54·5	988484	55·0	D
6. 0	32. 20	004525	51·0	989417	52·0		6. 0	32. 31	0·000097	54·3	988584	54·5	
8. 0	32. 38	004127	51·0	989384	52·2		8. 0	33. 52	000185	54·5	988635	54·5	
10. 0	32. 59	003971	51·2	989417	52·0	JH	10. 0	33. 1	0·000340	54·5	988531	55·0	D
12. 0	33. 4	002909	52·0	989379	52·5	P	12. 0	33. 18	9·999965	53·8	988512	53·6	JH
14. 0	32. 18	003795	52·5	989285	53·2		14. 0	33. 37	0·000496	52·3	988838	52·0	
16. 0	32. 14	004127	52·5	989238	53·0		16. 0	33. 0	001093	50·0	989435	50·0	
18. 0	31. 55	004569	52·5	989238	52·8		18. 0	33. 33	001935	46·8	989944	47·2	
20. 0	32. 20	004613	52·5	989191	52·8	P	20. 0	33. 16	002355	45·8	990561	46·0	JH
22. 0	32. 16	003462	52·0	989069	53·0	JH	22. 0	30. 27	002134	45·0	991121	45·0	D
Dec. 21. 0. 0	246. 30. 52	0·004348	53·5	9·988823	54·0	D	Dec. 24. 0. 0	246. 28. 49	0·001957	45·0	9·991370	45·0	D
1. 50	30. 3	002024		988569		JH	1. 50	29. 33	002754		991451		
2. 0	30. 0	002134	54·8	988545	55·0		2. 0	29. 36	002666	45·2	991437	46·0	
2. 10	30. 29	001514		988475		JH	2. 10	29. 42	002688		991404		D
4. 0	31. 11	001204	55. 5	988315	56·0	P	4. 0	31. 38	002355	46·0	991065	46·4	JH
6. 0	31. 30	000584	56·0	988202	56·2		6. 0	32. 17	002156	46·8	990810	47·0	
8. 0	31. 26	000546	57·0	988061	57·0		8. 0	31. 57	002399	46·0	990791	46·4	
10. 0	35. 21	000584	58·0	987991	57·0	P	10. 0	33. 6	002466	46·0	990947	45·2	JH
12. 0	33. 10	000141	58·0	987787	57·0	G	12. 0	34. 27	002532	46·0	990885	45·0	G

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m \cdot 30^s$ before, and $2^m. 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 5″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 234°; Dec. $19^d. 0^h$, 198°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Dec. $19^d. 0^h$. In the previous two hours there was a change in the position of the Declination Magnet of nearly 12′; and there was a large change in the position of the Vertical Force Magnet between $2^h. 10^m$ and 4^h: at both times the magnets were watched for some time, and no further changes to a large amount taking place, no extra observations were taken.

Dec. 19^d and 20^d, civil reckoning. The greatest difference in the mean western declination between any two consecutive civil days during the month took place between these two days, being 4′. 54″, the declination on the second of the two days being the larger.

Dec. $20^d. 2^h. 10^m$. After this time the Vertical Force Magnet was inclosed in a double box with brilliant paper, similar to that used for the Horizontal Force Magnet: see Nov. $14^d. 0^h$.

There was a considerable change in the position of the Horizontal Force Magnet between Dec, $21^d. 0^h$ and $1^h. 50^m$; and in the position of the Vertical Force Magnet between Dec. $26^d. 14^h$ and 16^h; and between Dec. $27^d. 2^h. 10^m$ and 4^h: no extra observations were taken.

Dec. $21^d. 10^h$. Five-minute observations were commenced. (See the Section of Term-Day Observations.)

Dec. 21^d, civil reckoning. The mean reading of the Vertical Force Magnet, corrected for temperature, was larger on this day than on any other day in the month, being 0·003085, as deduced from the two-hourly observations.

Dec, 23^d. civil reckoning. The mean reading of the Horizontal Force Magnet corrected for temperature, was smaller on this day than on any other day in the month, being 0·009629, as deduced from the two-hourly observations.

Daily Observations from December 26 to 31.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force uncorrected for Temperature.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force uncorrected for Temperature.	Thermometer of Vertical Force.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
.....	....	...	..	...	..	..	Dec. 28. 14. 0	246. 33. 33	0·003020	45·7	9·988852	46·0	JH
.....	....	...	..	...	..	..	16. 0	32. 37	003020	44·3	989135	44·8	
.....	....	...	..	...	..	..	18. 0	33. 4	003462	43·0	989337	44·0	
.....	....	...	..	...	..	..	20. 0	33. 4	003462	43·2	989417	44·0	JH
.....	....	...	..	...	..	..	22. 0	32. 6	002466	45·0	989370	46·0	D
.....	....	...	..	...	..	..	Dec. 29. 0. 0	246. 29. 39	0·002599	46·0	9·989040	46·5	D
.....	....	...	..	...	..	..	1. 50	29. 4	002555		988852		G
.....	....	...	..	...	..	..	2. 0	29. 16	002577	48·5	988833	48·0	
.....	....	...	..	...	..	..	2. 10	29. 33	002577		988805		G
.....	....	...	..	...	..	..	4. 0	31. 31	002577	48·8	988531	49·3	JH
.....	....	...	..	...	..	..	6. 0	31. 31	001935	49·4	988221	50·0	
.....	....	...	..	...	..	..	8. 0	31. 12	001049	50·2	988117	50·1	
.....	....	...	..	...	..	..	10. 0	33. 40	001425	50·8	988061	50·8	JH
							12. 0	36. 34	000983	52·2	987858	51·5	G
Dec. 26. 14. 0	246. 32. 15	0·002754	49·0	9·987222	48·0	G	14. 0	30. 56	001559	52·0	987590	51·5	
16. 0	31. 59	002975	49·0	990099	48·0		16. 0	32. 8	001669	52·5	987505	52·0	
18. 0	31. 59	003352	49·5	990085	48·5		18. 0	33. 47	002156	52·0	987392	52·0	
20. 0	32. 32	003020	50·0	989944	50·0	G	20. 0	32. 31	002068	53·0	987284	52·5	G
22. 0	30. 31	002532	50·0	989661	50·0	D	22. 0	30. 31	001381	53·8	987213	54·0	D
Dec. 27. 0. 0	246. 30. 14	0·003197	51·0	9·989699	51·0	D	Dec. 30. 0. 0	246. 29. 7	0·001204	54·2	9·987110	54·5	D
1. 50	29. 20	002532		989473			1. 50	25. 40	9·999544		986955		
2. 0	29. 14	002532	51·6	989450	52·0		2. 0	24. 59	999899	56·0	986955	56·0	
2. 10	29. 17	002510		989450		D	2. 10	25. 12	9·999921		986955		D
4. 0	30. 30	002399	52·0	987567	52·0	G	4. 0	28. 53	0·001093	57·0	986638	57·0	G
6. 0	30. 50	002887	53·0	987473	52·5		6. 0	31. 2	001204	57·0	986498	58·0	
8. 0	32. 3	003263	53·0	987599	52·5		8. 0	32. 28	000872	57·0	986281	58·0	
10. 0	33. 19	002532	52·5	987581	52·0	G	10. 0	33. 29	000983	58·5	986140	58·5	G
12. 0	33. 38	002245	51·5	987637	52·0	D	12. 0	34. 13	000628	57·5	986084	58·0	D
14. 0	32. 41	002068	50·5	987792	50·5		14. 0	31. 53	001049	57·5	986106	57·5	
16. 0	32. 41	002621	48·0	988155	48·5		16. 0	30. 22	001292	56·7	986178	57·0	
18. 0	33. 49	003462	46·0	988626	46·0		18. 0	32. 26	001913	56·0	986366	56·5	
20. 0	33. 10	004238	44·0	989002	44·5	D	20. 0	30. 28	001957	55·5	986507	56·0	D
22. 0	32. 0	003506	42·6	989482	43·2	JH	22. 0	31. 36	001049	54·3	986606	55·0	JH
Dec. 28. 0. 0	246. 28. 44	0·003706	42·3	9·989850	43·0	JH	Dec. 31. 0. 0	246. 27. 43	0·000827	54·6	9·986738	54·6	JH
1. 50	28. 49	003861		989670			1. 50	27. 59	001381		986705		
2. 0	28. 45	003905	44·0	989670	45·0		2. 0	27. 56	001403	55·0	886734	55·2	
2. 10	28. 47	003883		989623		JH	2. 10	28. 14	001381		986757		JH
4. 0	30. 31	002798	47·0	989002	48·0	D	4. 0	30. 27	001027	56·0	986672	56·0	D
6. 0	33. 7	002842	48·0	988626	49·0		6. 0	33. 33	001027	56·2	986469	56·5	
8. 0	37. 34	001425	48·2	988673	49·0		8. 0	33. 51	001204	56·2	986319	56·5	
10. 0	34. 3	002466	48·0	988650	48 5	D	10. 0	35. 1	000849	56·5	986234	56·5	D
12. 0	32. 51	002223	47·0	988734	46·3	JH	12. 0	34. 0	001314	55·7	986182	56·0	JH

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 5″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 198°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot 3$; in Vertical Plane, $27^s\cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Dec. 26^d. 14^h and 16^h. There were some heavy gusts of wind, and the magnets were examined at these times, and they were found almost without motion.
Dec. 27^d. 20^h. The marked end of the Vertical Force Magnet was less drawn downwards at this than at any other observation in the month, the reading being 0·000750, when corrected for temperature.
Dec. 28^d, civil reckoning. The mean reading of the Vertical Force Magnet, corrected for temperature, was less on this day than on any other day in the month, being 0·001210, as deduced from the two-hourly observations.
Dec. 29^d. 12^h and 14^h. A large change occurred in the position of the Declination Magnet: no extra observations were taken.
Dec. 30^d. 2^h. The western declination was 23°. 27′. 6″, being the largest in the month.
Dec. 30^d, civil reckoning. The mean western declination was greater on this day than on any other day in the month, being 23°. 20′. 55″, as deduced from the two-hourly observations.
Dec. 31^d. 0^h. The Declination Magnet had an up-and-down motion.

ROYAL OBSERVATORY, GREENWICH.

TERM-DAY OBSERVATIONS

OF

MAGNETOMETERS.

1842.

Term-Day Observations of January 19.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Jan. 19. 10. 0	246. 47. 50	0·016753	46·0	0·009942	43·0	G	Jan. 19. 14. 0	246. 45. 47	0·017147	46·8	0·009009	45·0	M
5	48. 14						5	45. 12					
10	48. 30	016930		009872			10	45. 3	017165		009043		
15	48. 48						15	45. 12					
20	48. 45	017110		009821			20	45. 31	017184		009041		
25	48. 29						25	45. 21					M
30	48. 21	017220		009829			30	45. 7	017151		009025		JH
35	48. 53						35	45. 4					
40	49. 8	016837		009805			40	44. 54	017143		009029		
45	48. 48						45	45. 6					
50	48. 17	016989		009794			50	45. 16	017187		009033		
55	47. 26						55	45. 20					
Jan. 19. 11. 0	246. 47. 9	0·016966	47·0	0·009770	43·0	G	Jan. 19. 15. 0	246. 45. 3	0·017631	47·0	0·009029	46·0	JH
5	47. 10						5	45. 7					
10	47. 39	016760		009694			10	45. 12	017454		009033		
15	47. 46						15	45. 14					
20	47. 12	016793		099673			20	45. 53	017052		009037		
25	47. 9						25	46. 19					
30	47. 22	016642		009638			30	46. 38	017568		009041		
35	48. 8						35	46. 56					
40	47. 17	017276		009634			40	46. 57	017513		009049		
45	46. 46						45	47. 2					
50	47. 10	018007		009527			50	46. 47	017502		009057		
55	45. 49						55	46. 25					
Jan. 19. 12. 0	246. 45. 40	0·017502	48·0	0·009475	45·0	G	Jan. 19. 16. 0	246. 45. 48	0·017447	46·6	0·009069	45·8	JH
5	44. 8					M	5	45. 14					
10	42. 2	017331		009400			10	44. 41	017361		009080		
15	40. 44						15	44. 29					
20	40. 23	017213		009298			20	44. 24	017417		009117		
25	40. 48						25	43. 52					
30	41. 43	018144		009173			30	43. 3	017550		009101		
35	42. 33						35	42. 57					
40	43. 8	018343		009073			40	42. 50	017834		009081		
45	43. 40						45	43. 22					
50	44. 18	018051		008966			50	44. 5	017520		009057		
55	44. 20						55	45. 6					
Jan. 19. 13. 0	246. 44. 1	0·017738	47·2	0·008915	45·0	M	Jan. 19. 17. 0	246. 45. 26	0·017583	46·1	0·009037	44·5	JH
5	44. 20						5	45. 35					
10	45. 4	017487		008907			10	45. 31	017542		009057		
15	45. 45						15	45. 47					
20	47. 47	017328		008898			20	45. 29	017782		009089		
25	46. 29						25	45. 23					
30	46. 30	017048		008926			30	45. 12	017708		009105		
35	46. 33						35	44. 43					
40	46. 32	017184		008954			40	44. 22	017871		009145		
45	46. 35						45	44. 13					
50	46. 21	017026		008966			50	44. 25	017962		009169		
55	46. 1						55	44. 51					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 51′. 59″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in the Magnetic Meridian, 245°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$: in Vertical Plane, $29^s \cdot 9$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Jan. 19^d. 10^h. 40^m. The western declination was 23°. 2′. 51″, being the smallest during this term.
Jan. 19^d. 11^h. 30^m and 12^h. 40^m. The readings of the Horizontal Force Magnet, corrected for temperature, were 0·024717 and 0·026418, being respectively the smallest and largest in the term.
Jan. 19^d. 11^h. 55^m. The reading of the Vertical Force Magnet, when corrected for temperature, was 0·021355, being larger than that deduced from any other observation during the term.
Jan. 19^d. 13^h. The reading of the Vertical Force Magnet, when corrected for temperature, was 0·020778, being the smallest during the term.

Term-Day Observations of January 19 and 20.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Jan. 19. 18. 0	246. 45. 7	0 ·018073	46 ·2	0 ·009181	44 ·7	D	Jan. 19. 22. 0	246. 45. 6	0 ·017767	44 ·0	0 ·009662	43 ·0	G
5	45. 9						5	44. 39					
10	45. 13	018048		009193			10	44. 43	017705		009642		
15	45. 14						15	44. 39					
20	45. 28	018037		009212			20	44. 32	018107		009650		
25	45. 50						25	44. 32					
30	45. 40	018070		009228			30	44. 20	017841		009662		
35	44. 46						35	44. 14					
40	44. 56	017878		009264			40	44. 5	017760		009674		
45	46. 44						45	43. 56					
50	46. 41	018317		009260			50	43. 34	017705		009662		
55	46. 45						55	43. 23					G
Jan. 19. 19. 0	246. 46. 52	0 ·018516	46 ·0	0 ·009272	44 ·5	D	Jan. 19. 23. 0	246. 43. 36	0 ·017738	44 ·5	0 ·009650	43 ·2	D
5	46. 44						5	43. 7					
10	46. 46	018325		009288			10	42. 55	017719		009639		
15	46. 20						15	42. 55					
20	45. 50	018591		009332			20	42. 46	017564		009622		
25	45. 48						25	42. 41					
30	47. 3	018369		009332			30	42. 38	017646		009622		
35	46. 17						35	42. 37					
40	46. 16	018247		009372			40	42. 33	017771		009622		
45	46. 18						45	42. 28					
50	46. 15	018416		009403			50	42. 21	017694		009642		
55	46. 7					D	55	42. 18					D
Jan. 19. 20. 0	246. 46. 0	0 ·018369	44 ·4	0 ·009411	44 ·0	P	Jan. 20. 0. 0	246. 42. 10	0 ·017653	44 ·0	0 ·009642	43 ·0	P
5	46. 20						5	42. 20					
10	46. 6	018277		009427			10	42. 16	017528		009642		
15	45. 57						15	42. 18					
20	46. 8	018350		009435			20	42. 23	017646		009662		
25	46. 11						25	42. 14					
30	46. 25	017933		009435			30	41. 56	017602		009662		
35	46. 24						35	41. 40					
40	44. 41	017951		009523			40	41. 26	017738		009662		
45	44. 52						45	42. 8					
50	45. 44	017838		009547			50	41. 19	017586		009642		
55	45. 36						55	41. 8					
Jan. 19. 21. 0	246. 45. 32	0 ·017800	43 ·5	0 ·009563	43 ·0	P	Jan. 20. 1. 0	246. 41. 1	0 ·018224	44 ·5	0 ·009634	43 ·0	P
5	45. 48						5	41. 1					
10	45. 29	017575		009563			10	40. 21	017774		009714		JH
15	45. 29						15	40. 41					
20	45. 53	017719		009563			20	40. 41	017564		009626		
25	45. 37						25	40. 58					
30	45. 45	017639		009595			30	41. 6	018111		009583		
35	45. 36						35	41. 0					
40	45. 40	017705		009674			40	41. 23	018273		009567		
45	45. 33						45	41. 23					
50	45. 25	017727		009650			50	41. 33	018029		009591		
55	45. 12						55	41. 16					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 51′. 59″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 245°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot 3$; in Vertical Plane, $29^s\cdot 9$.
Decrease of Horizontal Force for 1° increase of temperature = 0 ·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0 ·000264 parts of the whole Vertical Force.

Jan. $20^d.\ 1^h.\ 10^m$. The western declination was 23°. 11′. 38″, being the largest during the term.

Term-Day Observations of January 20.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Jan. 20. 2. 0	246. 41. 13	0·017807	44·2	0·009606	43·0	JH	Jan. 20. 6. 0	246. 43. 36	0·018126	47·0	0·009483	44·0	G
5	41. 8						5	43. 30					
10	41. 8	017719		009642			10	43. 30	017984		009447		
15	41. 3						15	43. 45					
20	41. 13	017796		009654			20	43. 28	018133		009435		
25	41. 15						25	43. 29					
30	41. 19	018007		009654			30	43. 2	017335		009403		
35	41. 25						35	43. 29					
40	41. 30	017962		009646			40	43. 32	017261		009364		
45	41. 34						45	43. 46					
50	41. 33	018022		009642			50	43. 53	017495		009328		
55	41. 43					JH	55	43. 53					G
Jan. 20. 3. 0	246. 41. 56	0·017933	45·0	0·009642	43·6	P	Jan. 20. 7. 0	246. 43. 48	0·017295	48·0	0·009292	45·5	D
5	41. 55						5	43. 50					
10	41. 59	017911		009642			10	43. 56	017384		009244		
15	41. 57						15	43. 54					
20	42. 8	017955		009642			20	44. 8	017583		009201		
25	42. 10						25	44. 3					
30	42. 24	017269		009642			30	43. 55	017180		009169		
35	42. 30						35	44. 1					
40	42. 30	018115		009563			40	43. 55	017085		009125		
45	42. 37						45	44. 0					
50	42. 43	018011		009563			50	43. 53	017239		009077		
55	42. 51					P	55	44. 2					
Jan. 20. 4. 0	246. 42. 47	0·018881	45·0	0·009563	43·8	P	Jan. 20. 8. 0	246. 44. 4	0·017044	49·3	0·009013	46·5	D
5	42. 52						5	44. 11					
10	44. 35	018089		009562			10	44. 13	016844		008966		
15	43. 2						15	44. 14					
20	43. 3	018062		009563			20	44. 8	017132		008934		
25	43. 3						25	44. 1					D
30	42. 50	018354		009563			30	44. 24	016734		008910		JH
35	42. 53						35	45. 5					
40	43. 11	018015		009567			40	45. 21	016578		008818		
45	43. 11						45	45. 29					
50	43. 30	018254		009527			50	45. 33	016516		008818		
55	43. 30					P	55	45. 41					
Jan. 20. 5. 0	246. 43. 28	0·018210	46·0	0·009527	43·0	G	Jan. 20. 9. 0	246. 45. 37	0·016756	49·4	0·008810	47·0	JH
5	43. 30						5	45. 18					
10	43. 40	017882		009527			10	45. 1	016476		008783		
15	43. 30						15	45. 0					
20	43. 46	018096		009527			20	44. 37	016771		008759		
25	43. 46						25	44. 25					
30	43. 44	018494		009523			30	44. 21	016855		008719		
35	43. 39						35	44. 17					
40	43. 39	018258		009523			40	44. 17	016645		008679		
45	43. 30						45	44. 20					
50	43. 41	017962		009507			50	44. 13	016671		008647		
55	43. 39						55	44. 17					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 51′. 59″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 245°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $29^s \cdot 9$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Term-day Observations of February 25.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Feb. 25. 10. 0	246. 45. 40	0·017841	47·0	0·006279	45·0	G	Feb. 25. 14. 0	246. 36. 17	0·016251	47·0	0·006391	46·3	D
5	43. 3						5	35. 51					
10	40. 52	016476		006259			10	35. 35	016402		006403		
15	38. 51						15	35. 4					
20	37. 42	016143		006279			20	34. 53	016373		006407		
25	37. 23						25	34. 53					
30	37. 23	015885		006339			30	34. 31	016553		006399		
35	36. 41						35	35. 2					
40	36. 27	016135		006339			40	34. 43	016634		006411		
45	36. 22						45	34. 8					
50	36. 8	016162		006347			50	34. 32	016117		006415		
55	35. 52						55	34. 24					
Feb. 25. 11. 0	246. 35. 45	0·016340	48·0	0·006371	46·0	G	Feb. 25. 15. 0	246. 33. 40	0·016439	47·0	0·006418	46·0	D
5	35. 49						5	33. 51					
10	35. 56	016143		006371			10	34. 8	016457		006411		
15	35. 56						15	33. 57					
20	35. 55	016273		006371			20	33. 59	016391		006418		D
25	35. 56						25	34. 24					P
30	37. 2	015808		006379			30	35. 16	016623		006411		
35	37. 10						35	35. 53					
40	36. 48	016128		006387			40	36. 30	016428		006379		
45	36. 46						45	36. 37					
50	36. 55	016642		006379			50	36. 42	016299		006379		
55	36. 55						55	36. 47					
Feb. 25. 12. 0	246. 36. 57	0·015808	48 0	0·006387	46·0	G	Feb. 25. 16. 0	246. 36. 51	0·015901	47·4	0·006379	45·5	P
5	36. 58						5	36. 30					
10	37. 55	015923		006379			10	36. 18	015823		006379		
15	38. 1						15	36. 24					
20	38. 27	015892		006371			20	36. 27	015963		006379		
25	38. 53						25	36. 37					
30	38. 52	016162		006371			30	36. 32	015867		006418		
35	38. 52						35	36. 28					
40	38. 26	015901		006379			40	36. 11	015967		006498		
45	38. 16						45	36. 8					
50	38. 29	015823		006375			50	36. 6	015989		006498		
55	38. 20					G	55	36. 7					
Feb. 25. 13. 0	246. 38. 19	0·015970	48·0	0·006379	46·0	D	Feb. 25. 17. 0	246. 36. 14	0·016007	46·5	0·006498	45·0	P
5	37. 38						5	36. 9					
10	37. 4	016180		006387			10	36. 15	015904		006498		
15	36. 21						15	36. 12					
20	36. 9	016177		006399			20	36. 6	016113		006558		
25	36. 24						25	35. 55					
30	36. 4	016191		006391			30	36. 2	016313		006578		
35	36. 4						35	36. 10					
40	35. 59	016318		006383			40	36. 19	016299		006578		
45	34. 20						45	36. 6					
50	35. 32	016051		006387			50	36. 20	015498		006598		
55	36. 7						55	36. 13					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.30^s$ before, and $2^m.30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 7″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 211°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $29^s.9$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Feb. $25^d.10^h$. The western declination was 23°. 6′. 27″, being the smallest during the term; and the reading of the Horizontal and Vertical Force Magnets, when corrected for temperature, were, respectively, 0·025831 and 0·018039 parts of their respective whole forces, being larger and smaller, respectively, than any other observations during the term.

Term-Day Observations of February 25 and 26.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Feb. 25. 18. 0	246. 36. 11	0·016358	46·0	0·006598	44·8	JH	Feb. 25. 22. 0	246. 35. 6	0·015945	45·0	0·006940	43·0	JH
5	35. 58						5	35. 6					
10	34. 18	016273		006617			10	34. 49	015704		006944		
15	34. 13						15	35. 32					
20	35. 52	016244		006617			20	35. 29	015266		006952		
25	35. 54						25	35. 32					
30	36. 8	016454		006625			30	35. 51	015601		006944		
35	36. 6						35	34. 44					
40	36. 10	016446		006657			40	35. 34	015690		006952		
45	36. 14						45	36. 13					
50	36. 18	016523		006657			50	37. 23	015848		006944		
55	36. 23						55	36. 12					
Feb. 25. 19. 0	246. 36. 52	0·016578	45·4	0·006685	44·0	JH	Feb. 25. 23. 0	246. 35. 17	0·015781	46·0	0·006948	44·0	JH
5	36. 53						5	35. 19					P
10	36. 53	016911		006701			10	35. 30	015941		006936		
15	36. 36						15	35. 15					
20	37. 15	016982		006713			20	34. 42	015978		006896		
25	37. 15						25	34. 29					
30	37. 10	016844		006729			30	35. 5	015793		006856		
35	37. 2						35	34. 29					
40	36. 52	016767		006729		J H	40	34. 23	015912		006816		
45	36. 50					M	45	33. 54					
50	36. 50	017011		006777			50	33. 53	015653		006816		
55	37. 13						55	33. 24					
Feb. 25. 20. 0	246. 35. 34	0·016723	45·0	0·006781	44·0	M	Feb. 26. 0. 0	246. 33. 35	0·015553	47·0	0·006737	45·0	P
5	36. 58						5	32. 43					
10	36. 35	016778		006757			10	32. 31	015129		006737		
15	35. 56						15	32. 29					P
20	35. 50	016863		006791			20	32. 20	015033		006713		D
25	35. 37						25	32. 12					
30	35. 31	017092		006876			30	32. 21	015026		006665		
35	35. 57						35	32. 3					
40	36. 13	016919		006888			40	32. 5	015026		006653		
45	36. 27						45	31. 49					
50	36. 30	016837		006932			50	31. 42	015259		006617		
55	36. 4						55	31. 35					
Feb. 25. 21. 0	246. 35. 44	0·017114	43·5	0·006936	43·0	M	Feb. 26. 1. 0	246. 31. 26	0·015255	48·5	0·006590	47·0	D
5	35. 35						5	31. 28					D
10	35. 32	016874		006936			10	31. 9	015177		006530		JH
15	34. 38						15	31. 17					
20	34. 36	016697		006936			20	31. 7	015299		006482		
25	34. 45						25	31. 5					
30	34. 47	016329		006940			30	31. 22	014812		006450		
35	34. 58					M	35	31. 23					
40	34. 46	016318		006928		JH	40	31. 24	014860		006371		
45	34. 53						45	31. 25					JH
50	34. 35	016077		006928			50	31. 24	016036		006311		D
55	34. 35						55	31. 20					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 7″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 211°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $29^s \cdot 9$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Feb. $26^d.\ 1^h.\ 25^m$ and at $2^h.\ 25^m$. The western declination was 23°. 21′. 2″, being the largest during the term.

Term-Day Observations of February 26.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Feb. 26. 2. 0	246. 31. 27	0·015427	50·2	0·006251	48·5	D	Feb. 26. 6. 0	246. 35. 57	0·014667	52·8	0·005217	52·0	M
5	31. 32						5	36. 3					M
10	31. 29	015427		006140			10	36. 18	014812		005190		P
15	31. 29						15	36. 18					
20	31. 13	015273		006140			20	36. 48	014656		005185		
25	31. 5						25	37. 0					
30	31. 18	015513		006084		D	30	37. 11	014790		005177		
35	31. 27					JH	35	37. 16					
40	31. 42	015447		006036			40	37. 9	014805		005145		
45	31. 49						45	37. 13					
50	32. 12	015402		005949			50	38. 18	014685		005145		
55	32. 22						55	39. 3					
Feb. 26. 3. 0	246. 32. 45	0·015137	51·6	0·005905	50·0	JH	Feb. 26. 7. 0	246. 40. 7	0·014568	52·2	0·005145	51·6	P
5	33. 4						5	41. 31					
10	33. 21	015328		006005			10	41. 45	.....		005145		
15	33. 39						15	41. 32					
20	33. 27	015277		005941			20	40. 18	015233		005224		
25	33. 38						25	39. 21					
30	33. 49	015211		005821			30	38. 56	015273		005264		
35	33. 45						35	38. 16					
40	33. 41	015129		005742			40	37. 56	015402		005264		
45	33. 52						45	37. 15					
50	34. 9	015494		005670			50	37. 19	015450		005272		
55	34. 5						55	37. 34					
Feb. 26. 4. 0	246. 34. 30	0·014502	52·6	0·005611	51·6	JH	Feb. 26. 8. 0	246. 37. 44	0·015502	51·2	0·005272	50·6	P
5	34. 38						5	37. 25					P
10	34. 27	015126		005555			10	36. 53	015723		005272		D
15	34. 37						15	36. 29					
20	34. 29	015048		005487			20	36. 36	015704		005300		
25	34. 38						25	36. 42					
30	34. 43	015332		005435			30	36. 51	015723		005312		
35	34. 46						35	36. 53					
40	34. 56	015759		005384		JH	40	37. 4	015748		005324		
45	35. 6					M	45	37. 4					
50	35. 4	015159		005344			50	37. 4	015834		005344		
55	35. 4						55	37. 4					
Feb. 26. 5. 0	246. 35. 1	0·015354	52·0	0·005348	52·0	M	Feb. 26. 9. 0	246. 37. 8	0·015856	51·0	0·005356	50·5	D
5	35. 10						5	37. 8					
10	35. 23	015137		005292			10	37. 12	015759		005384		
15	35. 32						15	37. 16					
20	35. 35	015967		005276			20	37. 5	015682		005384		
25	35. 39						25	37. 6					
30	35. 39	015095		005272			30	36. 59	016003		005384		
35	35. 43						35	37. 32					
40	35. 41	014860		005224			40	37. 26	015601		005404		
45	35. 46						45	37. 29					
50	35. 58	014634		005224			50	37. 16	015571		005423		
55	35. 55						55	37. 17					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.30^s$ before, and $2^m.30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 7″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 211°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $29^s.9$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Feb. $26^d.4^h.0^m$. The reading of the Horizontal Force Magnet, when corrected for temperature, was 0·023444 parts of the whole horizontal force, being the smallest result during the term.
Feb. $26^d.5^h.0^m$. The reading of the Vertical Force Magnet, when corrected for temperature, was 0·019076 parts of the whole vertical force, being the largest result during the term.
Feb. $26^d.7^h.10^m$. The observation of the Horizontal Force Magnet was inadvertently omitted.

Term-Day Observations of March 23.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°			
Mar. 23. 10. 0	246. 51. 51	0·014061	48·0	.....	48·5	M	Mar. 23. 14. 0	246. 44. 56	0·015723	47·8	0·003306	46·5	D
5	51. 26						5	45. 0					
10	51. 12	015518		0·004136			10	44. 49	015275		003426		
15	51. 22						15	44. 46					
20	49. 34	015434		004070			20	44. 36	014902		003525		
25	49. 20						25	44. 33					
30	48. 51	015688		004130			30	44. 17	014522		003561		
35	48. 23						35	44. 22					
40	47. 42	016297		004138			40	44. 36	014216		003644		
45	47. 46						45	43. 52					
50	46. 48	015618		004106			50	43. 11	014046		003724		
55	47. 11						55	43. 18					
Mar. 23. 11. 0	246. 46. 39	0·015507	48·0	0·004074	47·5	M	Mar. 23. 15. 0	246. 43. 1	0·014592	48·8	0·003800	46·7	D
5	45. 54						5	42. 23					
10	45. 29	015533		004113			10	41. 56	014433		003875		
15	45. 14						15	41. 55					
20	44. 26	015554		004158			20	41. 52	014338		003903		
25	43. 12						25	41. 48					
30	44. 8	015529		004100			30	41. 50	014610		003955		
35	44. 41						35	41. 41					D
40	44. 47	015772		004098			40	42. 18	014566		003963		P
45	45. 29						45	42. 7					
50	45. 18	015939		004110			50	42. 44	014632		003991		
55	44. 57						55	42. 26					
Mar. 23. 12. 0	246. 45. 17	0·016338	47·0	0·004030	47·0	M	Mar. 23. 16. 0	246. 43. 0	0·014931	49·0	0·003991	47·0	P
5	43. 47						5	41. 52					
10	42. 35	016529		003999			10	41. 27	015013		004050		
15	41. 58						15	41. 39					
20	38. 37	017500		003967			20	41. 31	014825		004050		
25	36. 45					M	25	41. 36					
30	36. 20	017006		003730		D	30	41. 26	014769		004055		
35	38. 28						35	41. 32					
40	42. 53	017782		003362			40	41. 4	014893		004070		
45	44. 21						45	40. 33					
50	42. 55	016725		003163			50	40. 21	014821		004070		
55	42. 40						55	40. 27					
Mar. 23. 13. 0	246. 39. 30	0·014702	47·5	0·002840	46·5	D	Mar. 23. 17. 0	246. 39. 58	0·014517	49·0	0·004062	47·2	P
5	36. 57						5	39. 37					
10	32. 32	015956		002989			10	39. 25	015159		004030		
15	34. 9						15	38. 20					
20	36. 58	016885		003067			20	39. 24	014924		004030		
25	40. 15						25	39. 16					
30	42. 36	016177		002884			30	39. 31	015290		004030		
35	43. 26						35	39. 31					
40	43. 57	015721		002948			40	40. 40	015268		004050		
45	44. 19						45	40. 17					
50	44. 28	015899		003147			50	40. 40	015529		004030		
55	44. 47						55	40. 4					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 15″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 213°. 40′.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $29^s \cdot 9$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

March $23^d.\ 10^h$. The reading of the Vertical Force Magnet was inadvertently omitted.
March $23^d.\ 12^h.\ 5^m$. The reading of the Vertical Force Magnet, when corrected for temperature, was 0·015116 parts of the whole vertical force being the smallest result during the term.

Term-Day Observations of March 23 and 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Mar. 23. 18. 0	246. 40. 32	0·015467	49·0	0·004030	47·0	P	Mar. 23. 22. 0	246. 37. 43	0·013238	47·0	0·004190	45·8	M
5	40. 24						5	36. 30					
10	40. 53	015469		004030			10	36. 19	012574		004222		
15	40. 30						15	37. 8					
20	41. 0	015389		004030			20	37. 7	011670		004226		
25	41. 12						25	36. 52					
30	41. 9	015529		004070			30	35. 53	012098		004210		
35	40. 52					P	35	34. 36					
40	40. 19	015599		004070		JH	40	34. 55	011905		004277		
45	40. 54						45	36. 14					
50	40. 28	016075		004094			50	36. 24	011791		004249		
55	40. 50						55	36. 21					
Mar. 23. 19. 0	246. 40. 47	0·015998	48·6	0·004102	47·2	JH	Mar. 23. 23. 0	246. 36. 24	0·012181	47·5	0·004237	46·5	D
5	41. 46						5	35. 21					
10	42. 19	016366		004142			10	35. 16	012496		004313		
15	40. 37						15	34. 31					
20	40. 39	015910		004114			20	34. 19	012591		004301		
25	40. 35						25	33. 57					
30	39. 51	015839		004106			30	33. 38	013194		004313		
35	40. 56						35	33. 26					
40	42. 29	015544		004066			40	33. 35	012894		004309		
45	41. 21						45	33. 47					
50	41. 14	015242		004142			50	33. 50	013326		004269		
55	41. 0						55	33. 52					
Mar. 23. 20. 0	246. 41. 51	0·015325	47·8	0·004138	46·2	JH	Mar. 24. 0. 0	246. 33. 54	0·013659	48·2	0·004229	47·3	D
5	42. 26						5	34. 50					D
10	42. 18	014594		004106			10	33. 16	014163		004357		P
15	40. 54						15	32. 49					
20	40. 38	014958		004186			20	32. 15	014108		004150		
25	41. 2						25	32. 13					
30	40. 41	014548		004194			30	32. 12	014249		004110		
35	40. 11						35	32. 10					
40	39. 58	014654		004222			40	32. 3	013919		004030		
45	40. 47						45	32. 16					
50	40. 33	014488		004261			50	31. 47	014150		003991		
55	41. 56						55	31. 41					
Mar. 23. 21. 0	246. 39. 48	0·014976	46·6	0·004333	45·0	JH	Mar. 24. 1. 0	246. 31. 45	0·014090	49·8	0·003951	48·2	P
5	42. 15						5	31. 53					
10	40. 42	014838		004313			10	31. 42	014271		003911		
15	41. 40						15	31. 44					
20	39. 45	014749		004277			20	31. 52	014083		003891		
25	39. 32						25	31. 50					P
30	40. 12	014411		004273			30	31. 41	014260		003871		JH
35	40. 3					JH	35	31. 47					
40	41. 8	014227		004301		M	40	31. 51	013742		003863		
45	40. 20						45	31. 51					
50	39. 30	013861		004261			50	31. 53	014329		003847		
55	38. 41						55	31. 49					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 15″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 213°. 40′.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $29^s \cdot 9$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force of 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

March $23^d.\ 22^h.\ 20^m$. The reading of the Horizontal Force Magnet, when corrected for temperature, was 0·019660 parts of the whole horizontal force, being the smallest result during the month.

March $24^d.\ 0^h.\ 55^m$ and $1^h.\ 30^m$. The western declination was 23°. 20′. 34″, being the largest during the term.

Term-Day Observations of March 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Mar. 24. 2. 0	246. 32. 5	0·014803	51·0	0·003875	49·4	JH	Mar. 24. 6. 0	246. 41. 47	0·014094	54·0	.....	52·4	P
5	32. 6						5	42. 15					
10	32. 24	014283		003855			10	42. 31	014572		0·003473		
15	32. 24						15	42. 52					
20	32. 13	014389		003843			20	42. 40	014340		003425		
25	32. 26						25	41. 57					
30	32. 35	014278		003843			30	41. 37	013924		003372		
35	32. 44					JH	35	42. 38					
40	32. 55	014649		003820		D	40	42. 22	013985		003366		
45	32. 59						45	42. 8					
50	33. 20	013950		003796			50	42. 35	014012		003334		
55	33. 29						55	43. 30					
Mar. 24. 3. 0	246. 33. 41	0·014063	52·2	0·003792	50·0	D	Mar. 24. 7. 0	246. 43. 31	0·014307	53·0	0·003322	52·0	P
5	33. 48						5	40. 8					
10	33. 57	013764		003752			10	43. 14	014262		003322		
15	34. 31						15	42. 57					
20	34. 34	014085		003716			20	42. 48	014515		003314		
25	34. 44						25	42. 58					
30	34. 42	014046		003692			30	43. 7	014987		003314		
35	35. 3						35	43. 8					
40	35. 15	014290		003688			40	43. 2	015059		003314		
45	35. 26						45	43. 20					
50	35. 34	014174		003640			50	43. 27	014702		003314		
55	35. 52						55	43. 43					
Mar. 24. 4. 0	246. 35. 33	0·014461	52. 8	0·003625	51·0	D	Mar. 24. 8. 0	246. 44. 2	0·014592	52·8	0·003314	52·0	P
5	36. 32						5	44. 16					
10	36. 7	014349		003565			10	46. 5	014074		003314		
15	36. 15						15	46. 53					
20	36. 33	014017		003585			20	49. 25	013946		003314		
25	36. 32						25	50. 22					
30	36. 43	013872		003561			30	51. 49	016525		003362		
35	36. 46					D	35	55. 22					P
40	37. 1	014450		003593		M	40	52. 47	018201		003394		JH
45	36. 44						45	52. 11					
50	36. 52	013913		003561			50	49. 16	018115		003223		
55	36. 34						55	46. 28					
Mar. 24. 5. 0	246. 36. 17	0·014085	53·0	0·003473	51·3	M	Mar. 24. 9. 0	246. 45. 25	0·016408	52·3	0·003091	51·5	JH
5	36. 34						5	45. 43					
10	37. 40	012602		003469			10	46. 0	016075		002984		
15	37. 45						15	45. 27					
20	38. 26	012124		003498			20	44. 24	016584		002964		
25	39. 36						25	43. 49					
30	40. 26	012624		003453			30	44. 5	015500		002940		
35	40. 27						35	45. 1					
40	41. 1	013437		003509			40	45. 49	015358		002872		
45	40. 43						45	46. 20					
50	40. 34	013861		003497			50	45. 12	015396		002908		
55	40. 55						55	44. 13					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 15″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 213°. 40′.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $29^s \cdot 9$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

March $24^d.\ 6^h.$ The reading of the Vertical Force Magnet was omitted. [the term.
March $24^d.\ 6^h.\ 5^m.$ The reading of the Vertical Force Magnet, when corrected for temperature, was 0·017306 parts of the whole vertical force, being the largest during
March $24^d.\ 8^h.\ 35^m.$ The western declination was 22°. 56′. 53″, being the smallest during the term. [during the term.
March $24^d.\ 8^h.\ 40^m.$ The reading of the Horizontal Force Magnet, when corrected for temperature, was 0·027126 parts of the whole horizontal force, being the largest

Term-Day Observations of April 20.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Apr. 20. 10. 0	246. 39. 43	0·006721	60·5	.....	60·8	M	Apr. 20. 14. 0	246. 42. 59	0·007917	56·7	9·999931	56·8	P
5	40. 1						5	42. 14					
10	39. 53	006799		9·999118			10	40. 24	008666		0·000044		
15	39. 35						15	42. 47					
20	39. 27	007330		999442			20	45. 47	008150		9·999974		
25	39. 34						25	46. 15					
30	39. 1	007930		999458			30	46. 27	007751		0·000031		
35	38. 52						35	46. 0					
40	38. 48	007321		999434			40	44. 34	008428		000197		
45	39. 22						45	43. 12					
50	39. 33	006909		999430			50	43. 12	008307		000210		
55	39. 33						55	43. 52					
Apr. 20. 11. 0	246. 39. 41	0·006662	60·0	9·999485	59·8	M	Apr. 20. 15. 0	246. 44. 48	0·008090	56·0	0·000143	56·0	P
5	39. 39						5	45. 6					
10	39. 36	006920		999639			10	44. 29	007963		000096		
15	39. 24						15	44. 51					
20	39. 28	006905		999755			20	46. 1	007032		000030		
25	38. 18						25	45. 52					
30	37. 20	007592		999808			30	45. 33	006474		0·000070		
35	37. 1						35	44. 3					P
40	37. 3	007906		999899			40	43. 34	006113		9·999929		JH
45	37. 40						45	43. 22					
50	38. 2	008227		999840			50	43. 17	005599		999898		
55	38. 13						55	41. 55					
Apr. 20. 12. 0	246. 38. 49	0·008395	58·0	9·999800	58·0	M	Apr. 20. 16. 0	246. 39. 3	0·004496	55·2	9·999811	55·0	JH
5	38. 48						5	34. 40					
10	39. 27	008617		999767			10	30. 45	005107		9·999883		
15	39. 32						15	30. 7					
20	39. 54	008849		999766			20	30. 21	006478		0·000077		
25	40. 29						25	30. 39					
30	41. 7	008626		999737			30	32. 25	006352		9·999953		
35	41. 27					M	35	31. 24					
40	42. 1	007775		999695		P	40	32. 31	006801		999931		
45	42. 47						45	33. 10					
50	43. 18	007304		999729			50	34. 23	007166		999991		
55	42. 6						55	35. 41					
Apr. 20. 13. 0	246. 41. 32	0·006911	56·9	9·999837	57·0	P	Apr. 20. 17. 0	246. 36. 51	0·007011	55·4	9·999970	54·5	JH
5	41. 7						5	38. 18					
10	40. 12	006987		9·999923			10	39. 22	006987		0·000037		
15	39. 21						15	40. 2					
20	34. 32	008439		0·000058			20	40. 25	007375		000191		
25	35. 32						25	40. 0					
30	36. 8	008422		9·999964			30	40. 17	007791		000311		
35	37. 4						35	40. 37					
40	38. 58	008068		999829			40	41. 4	007519		000369		
45	40. 20						45	41. 36					
50	41. 20	007824		999801			50	42. 1	007773		000480		
55	42. 40						55	42. 4					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 18″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 192°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $29^s \cdot 9$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

April $20^d.\ 12^h.\ 20^m$. The reading of the Horizontal Force Magnet, when corrected for temperature, was 0·018658, being the largest during the term.
April $20^d.\ 14^h.\ 30^m$. The western declination was 23°. 5′. 51″, being the smallest during the term.
April $20^d.\ 16^h.\ 0^m$. The reading of the Vertical Force Magnet, when corrected for temperature, was 0·014331, being the smallest during the term.

Term-Day Observations of April 20 and 21.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		l m	° ′ ″		°		°	
Apr. 20. 18. 0	246. 42. 28	0·008415	54·0	0·000620	53·2	JH	Apr. 20. 22. 0	246. 35. 39	0·006856	52·0	0·001477	51·7	M
5	42. 34						5	34. 40					
10	42. 34	008437		000671			10	35. 2	006646		001461		
15	42. 47						15	34. 39					
20	43. 5	008373		000739			20	34. 12	006401		001412		
25	43. 22						25	34. 2					
30	40. 40	007698		000771			30	32. 52	006007		001429		M
35	40. 36						35	33. 6					
40	40. 44	007620		000882			40	32. 32	005892		001425		JH
45	40. 38						45	32. 29					
50	40. 17	067286		000946			50	32. 4	004171		001422		
55	40. 25						55	31. 44					
Apr. 20. 19. 0	246. 40. 54	0·007895	54·0	0·001014	53·5	D	Apr. 20. 23. 0	246. 31. 52	0·005118	53·6	0·001391	52·3	JH
5	40. 40						5	31. 46					
10	41. 17	008278		001038			10	31. 47	004602		001351		
15	40. 19						15	31. 38					
20	39. 4	007924		001133			20	31. 33	004851		001356		
25	38. 26						25	30. 47					
30	36. 47	007839		001149			30	31. 42	004613		001424		
35	36. 16						35	31. 2					
40	36. 39	007482		001145			40	30. 6	004481		001368		
45	34. 35						45	30. 20					
50	35. 7	006591		001145			50	30. 20	004120		001292		JH
55	35. 19						55	29. 35					
Apr. 20. 20. 0	246. 36. 30	0·006203	53·0	0·001125	52·7	D	Apr. 21. 0. 0	246. 28. 21	0·004381	54·6	0·001260	53·4	P
5	37. 45						5	28. 10					
10	40. 19	005526		001049			10	26. 9	004403		001205		
15	39. 58						15	24. 32					
20	38. 36	006053		001197			20	22. 45	004000		001125		
25	36. 12						25	25. 41					
30	36. 11	006500		001284			30	27. 31	004093		001045		
35	33. 58						35	24. 58					
40	37. 56	005638		001248			40	26. 20	004606		001077		
45	36. 37						45	27. 7					
50	37. 28	005339		001229			50	27. 28	004795		001093		
55	36. 47						55	26. 52					
Apr. 20. 21. 0	246. 37. 26	0·005824	52·1	0·001344	51·6	D	Apr. 21. 1. 0	246. 27. 10	0·005315	57·3	0·001085	55·4	P
5	36. 57						5	27. 13					
10	36. 55	006120		001364			10	26. 51	005782		001045		
15	37. 23						15	26. 35					
20	37. 53	006314		001408			20	26. 57	005886		001003		
25	37. 17						25	26. 21					
30	37. 25	006401		001412		D	30	27. 28	005742		000920		P
35	37. 35						35	27. 21					
40	37. 9	006458		001436		M	40	27. 2	005824		000850		D
45	36. 25						45	27. 28					
50	36. 5	006624		001463			50	27. 13	005676		000807		
55	35. 37						55	28. 8					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively 2m. 30s before, and 2m. 30s after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 18″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 192°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·3; in Vertical Plane, 29s·9.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

April 21d. 0h. 20m. The western declination was 23°. 29′. 33″, being the largest during the term; and the reading of the Horizontal Force Magnet, when corrected for temperature, was 0·013350, being the smallest during the term.

Term-Day Observations of April 21.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Apr. 21. 2. 0	246. 28. 36	0·005691	59·2	0·000771	58·0	D	Apr. 21. 6. 0	246. 35. 53	0·006507	64·0	0·000007	62·0	M
5	28. 35						5	36. 2					D
10	28. 15	006386		000687			10	36. 20	006236		9·999899		
15	28. 34						15	36. 49					
20	29. 16	006093		000600			20	36. 52	005879		999851		
25	29. 4						25	37. 21					
30	28. 23	006739		000600			30	37. 57	005189		999891		
35	27. 51					D	35	37. 45					
40	28. 7	007043		000628		P	40	37. 31	005813		999903		
45	28. 26						45	37. 22					
50	28. 21	006596		000568			50	36. 41	005515		999891		
55	28. 3						55	36. 28					
Apr. 21. 3. 0	246. 28. 29	0·006452	60·8	0·000488	60·0	P	Apr. 21. 7. 0	246. 36. 49	0·005483	62·2	9·999836	62·0	D
5	28. 50						5	35. 59					
10	29. 30	005250		000361			10	35. 52	005348		999923		
15	29. 38						15	36. 5					
20	28. 47	005782		000210			20	35. 47	005669		999931		
25	27. 57						25	35. 50					
30	27. 54	005632		000249			30	35. 44	005669		999883		
35	29. 39						35	35. 10					
40	30. 53	005680		000249			40	34. 52	006673		999859		
45	34. 43						45	35. 1					
50	37. 53	005522		000170			50	36. 8	006721		999832		
55	39. 10						55	36. 43					
Apr. 21. 4. 0	246. 38. 38	0·005361	62·8	0·000369	61·2	P	Apr. 21. 8. 0	246. 37. 12	0·006370	60·2	9·999804	60·6	D
5	37. 13					P	5	37. 49					D
10	38. 10	006214		000369		M	10	38. 3	006352		999796		JH
15	38. 36						15	39. 0					
20	38. 53	006909		000396			20	38. 56	006679		999875		
25	38. 2						25	39. 25					
30	36. 59	007089		000448			30	40. 11	006463		999828		
35	35. 33						35	41. 35					
40	34. 28	007249		000373			40	42. 36	007828		999844		
45	33. 24						45	40. 17					
50	33. 16	006146		000285			50	38. 29	007271		999863		
55	33. 34						55	38. 13					
Apr. 21. 5. 0	246. 33. 51	0·004873	63·5	0·000082	61·5	M	Apr. 21. 9. 0	246. 37. 46	0·006878	59·3	9·999792	59·8	JH
•5	34. 16						5	38. 23					
10	36. 12	004994		9·999991			10	38. 36	006909		999728		
15	38. 29						15	38. 31					
20	39. 9	006412		0·000166			20	38. 11	007032		999740		
25	38. 36						25	38. 11					
30	39. 3	006839		000249			30	37. 59	007105		999736		
35	38. 59						35	37. 31					
40	38. 39	007166		000202			40	37. 25	007122		999756		
45	38. 57						45	37. 32					
50	37. 15	006812		000043			50	37. 56	006721		999764		
55	36. 35						55	38. 29					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m. 30^s$ before, and $2^m. 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 18″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 192°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $29^s \cdot 9$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

April $21^d. 4^h. 25^m$. The reading of the Vertical Force Magnet, when corrected for temperature, was 0·016604, being the largest during the term.

Term-Day Observations of May 27.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
May 27. 10. 0	246. 36. 0	0·005322	66·2	.....	66·0	M	May 27. 14. 0	246. 36. 46	0·005344	65·1	9·991874	64·7	P
5	36. 3						5	36. 47					
10	35. 45	005288		9·991536			10	36. 38	005233		991883		
15	35. 46						15	36. 20					
20	35. 41	005610		991557			20	36. 7	005277		991946		
25	35. 54						25	36. 1					
30	35. 58	005433		991590			30	35. 58	005189		991958		
35	36. 15						35	36. 5					
40	35. 58	005355		991595			40	36. 6	004950		991970		
45	36. 0						45	36. 9					
50	35. 49	005897		991620			50	35. 38	004902		991992		
55	36. 27						55	35. 37					
May 27. 11. 0	246. 36. 8	0·005709	66·5	9·991625	65·0	M	May 27. 15. 0	246. 35. 30	0·005123	65·2	9·992015	64·4	P
5	36. 2						5	35. 4					
10	36. 10	005555		991662			10	35. 8	004979		992054		
15	36. 9						15	34. 55					
20	36. 13	005455		991670			20	34. 48	005012		992065		
25	36. 16						25	34. 48					
30	36. 20	005366		991690			30	34·50	005204		992062		P
35	36. 27						35	35. 3					
40	36. 17	005500		991708			40	35. 9	005337		992067		JH
45	36. 28						45	35. 9					
50	36. 25	005477		991722			50	35. 9	005237		992053		
55	36. 16						55	35. 8					
May 27. 12. 0	246. 36. 23	0·005377	65·7	9·991752	64·8	M	May 27. 16. 0	246. 35. 46	0·005182	65·0	9·992048	63·8	JH
5	36. 13						5	36. 2					
10	35. 25	005665		991792			10	36. 13	005012		992057		
15	35. 27						15	36. 22					
20	35. 42	005676		991784		M	20	36. 40	004968		992062		
25	36. 8						25	36. 37					
30	35. 31	005831		991766		P	30	36. 36	005078		992100		
35	34. 50						35	36. 36					
40	34. 56	005897		991804			40	36. 36	005211		992115		
45	35. 27						45	36. 36					
50	35. 23	005897		991804			50	36. 48	005233		992115		
55	35. 47						55	36. 48					
May 27. 13. 0	246. 36. 16	0·006009	65·3	9·991780	65·0	P	May 27. 17. 0	246. 37. 12	0·005189	65·0	9·992143	64·4	JH
5	36. 8						5	37. 8					
10	36. 8	006009		991780			10	37. 7	005211		992162		
15	36. 2						15	37. 14					
20	35. 54	005965		991804			20	37. 16	005344		992171		
25	36. 16						25	36. 41					
30	35. 59	005897		991827			30	38. 0	005303		992204		
35	36. 3						35	37. 2					
40	36. 48	005676		991827			40	38. 16	005366		992190		
45	36. 34						45	38. 25					
50	36. 45	005466		991836			50	37. 56	005455		992195		
55	36. 46						55	37. 32					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.30^s$ before, and $2^m.30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 25″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 185°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $27^s.5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

May $27^d.13^h.10^m$. The reading of the Horizontal Force Magnet, when corrected for temperature, was 0·017110, being the largest during the term.

Term-Day Observations of May 27 and 28.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
May 27. 18. 0	246. 37. 33	0 ·005477	64 ·8	9 ·992199	63 ·8	JH	May 27. 22. 0	246. 37. 33	0 ·003861	65 ·0	9 ·992303	64 ·4	G
5	38. 16						5	37. 25					
10	38. 46	005277		992209			10	37. 6	003750		992266		
15	39. 7						15	37. 16					
20	39. 2	005366		992242			20	37. 0	003723		992204		
25	38. 27						25	36. 59					
30	38. 54	005366		992280			30	37. 0	003599		992152		
35	38. 25					JH	35	36. 39					
40	38. 31	005056		992312		D	40	36. 47	003330		992129		
45	38. 10						45	36. 21					
50	38. 37	004880		992312			50	35. 13	003546		992071		
55	38. 19						55	34. 40					G
May 27. 19. 0	246. 38. 7	0 ·004917	64 ·8	9 ·992307	64 ·0	D	May 27. 23. 0	246. 34. 12	0 ·003440	65 ·4	9 ·992039	64 ·4	P
5	38. 38						5	35. 12					
10	38. 13	004985		992331			10	33. 42	003118		991968		
15	37. 28						15	33. 21					
20	37. 33	004941		992354			20	32. 52	003352		991896		
25	37. 30						25	31. 33					
30	37. 12	004913		992397			30	31. 24	003197		991874		
35	36. 57						35	31. 20					
40	37. 1	004924		992392			40	30. 51	003225		991874		
45	37. 10						45	30. 45					
50	37. 28	004924		992387			50	30. 37	003201		991851		
55	37. 32						55	30. 16					
May 27. 20. 0	246. 37. 51	0 ·004968	64 ·8	9 ·992383	64 ·0	D	May 28. 0. 0	246. 30. 0	0 ·003020	66 ·0	9 ·991804	65 ·0	JH
5	37. 31						5	29. 57					
10	37. 30	005123		992383			10	30. 1	003307		991752		
15	37. 45						15	29. 23					
20	38. 13	005071		992359			20	28. 59	003490		991714		
25	38. 14						25	29. 17					
30	38. 19	005073		992364			30	29. 10	003367		991658		
35	38. 34						35	29. 6					
40	38. 53	004950		992373			40	28. 58	003418		991597		
45	38. 52						45	29. 10					
50	38. 55	004841		992364			50	29. 3	003568		991597		
55	39. 1						55	29. 6					
May 27. 21. 0	246. 38. 59	0 ·004651	64 ·5	9 ·992359	63 ·8	D	May 28. 1. 0	246. 29. 9	0 ·003878	66 ·8	9 ·991559	65 ·8	JH
·5	38. 53						5	29. 7					
10	38. 51	004573		992369			10	29. 27	003551		991517		
15	39. 0						15	29. 22					JH
20	38. 59	004487		992364			20	29. 22	003484		991498		D
25	38. 49						25	29. 22					
30	38. 49	004348		992364			30	29. 22	003551		991479		
35	38. 43					D	35	28. 47					
40	38. 38	004171		992354		G	40	28. 59	003668		991460		
45	38. 24						45	28. 44					
50	37. 59	003971		992345			50	28. 24	004022		991409		
55	38. 2						55	28. 15					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 25″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 185°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0 ·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force of 1° increase of temperature = 0 ·000264 parts of the whole Vertical Force.

May $27^d.\ 18^h.\ 15^m$. The western declination deduced from this observation was 23°. 13′. 18″, and it is the smallest during the term.
May $28^d.\ 0^h.\ 0^m$. The reading of the Horizontal Force Magnet, when corrected for temperature, was 0 ·011540, being the smallest during the term.
May $28^d.\ 0^h.\ 50^m$. The reading of the Vertical Force Magnet, when corrected for temperature, was 0 ·008757, being the smallest during the term.
May $28^d.\ 1^h.\ 55^m$ and at $2^h.\ 0^m$. The western declination was 23°. 24′. 10″, being the largest during the term.

Term-Day Observations of May 28.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
May 28. 2. 0	246. 28. 15	0·004238	68·0	9·991380	67·7	D	May 28. 6. 0	246. 34. 33	0·004414	70·0	9·990980	69·5	P
5	28. 24						5	34. 16					P
10	28. 29	003927		991323			10	34. 22	004658		991018		JH
15	28. 34						15	34. 34					
20	28. 41	003971		991318			20	34. 28	004835		991018		
25	29. 5						25	34. 33					
30	29. 8	003728		991248			30	34. 22	004747		991022		
35	29. 9					D	35	34. 36					
40	28. 51	004304		991224		G	40	34. 36	004862		991032		
45	28. 54						45	34. 35					
50	29. 8	003623		991224			50	34. 35	004839		991027		
55	29. 13						55	34. 40					
May 28. 3. 0	246. 29. 10	0·003411	68·0	9·991215	67·5	G	May 28. 7. 0	246. 34. 37	0·005167	68·8	9·991027	68·2	JH
5	29. 10						5	34. 37					
10	29. 6	003712		991201			10	34. 53	004858		991032		
15	29. 1						15	34. 44					
20	28. 59	003828		991177			20	34. 39	004996		991074		
25	29. 1						25	34. 39					
30	29. 1	004216		991159			30	34. 36	004924		991074		
35	29. 9						35	34. 39					
40	29. 38	004304		991130			40	34. 44	005027		991079		
45	29. 41						45	34. 28					
50	30. 3	004463		991126			50	34. 52	005237		991079		
55	30. 24						55	34. 36					
May 28. 4. 0	246. 30. 0	0·005145	68·5	9·991074	68·5	G	May 28. 8. 0	246. 34. 36	0·005200	68·0	9·991102	67·5	JH
5	30. 44					G	5	34. 24					JH
10	31. 18	004791		991093		P	10	34. 43	005288		991116		D
15	31. 33						15	34. 31					
20	31. 17	004791		991027			20	34. 25	005283		991121		
25	31. 26						25	34. 15					
30	31. 52	004459		991027			30	34. 12	004919		991121		
35	32. 21						35	34. 28					
40	32. 30	004238		991008			40	34. 54	005233		991116		
45	32. 52						45	34. 55					
50	32. 58	004016		990989			50	35. 11	005299		991135		
55	33. 12						55	35. 41					
May 28. 5. 0	246. 33. 1	0·004348	70·0	9·990989	69·4	P	May 28. 9. 0	246. 35. 47	0·005255	67·6	9·991159	67·5	D
5	33. 13						5	35. 45					
10	33. 27	004791		991027			10	35. 22	005277		991168		
15	33. 42						15	35. 35					
20	33. 57	004791		991027			20	35. 38	005189		991177		
25	34. 6						25	35. 36					
30	34. 6	004791		991027			30	35. 24	005189		991177		
35	34. 6						35	35. 34					
40	34. 23	004282		990989			40	35. 33	005299		991196		
45	34. 22						45	35. 29					
50	34. 23	004396		990980			50	35. 15	005388		991210		
55	34. 32						55	35. 16					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 18″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 185°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

May $28^d.\ 6^h.\ 10^m$. The reading of the Vertical Force Magnet, when corrected for temperature, was 0·009446, being the largest during the term.

Term-day Observations of June 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
June 22. 10. 0	246. 36. 6	0·002842	68·0	.....	67·0	G	June 22. 14. 0	246. 37. 49	0·003750	68·0	9·989309	67·0	JH
5	35. 58						5	37. 26					
10	35. 54	003175		9·988784			10	39. 58	003396		989299		
15	35. 47						15	40. 30					
20	35. 47	003307		988781			20	41. 22	003153		989252		
25	35. 55						25	39. 24					
30	36. 1	003330		988791			30	38. 51	003551		989346		
35	36. 7						35	39. 46					
40	36. 30	003352		988856			40	39. 1	003131		989280		
45	36. 38						45	37. 21					
50	37. 32	002931		988870			50	36. 30	003241		989360		
55	37. 47						55	36. 17					JH
June 22. 11. 0	246. 37. 32	0·003020	68·0	9·988908	67·5	G	June 22. 15. 0	246. 36. 59	0·002577	66·4	9·989276	66·0	P
5	37. 33						5	35. 59					
10	37. 40	003020		988932			10	34. 41	002688		989332		
15	37. 39						15	35. 34					
20	37. 39	003020		988964			20	37. 22	003153		989285		
25	37. 40						25	36. 37					
30	37. 40	003020		989021			30	36. 24	003020		989332		
35	38. 6						35	36. 53					
40	37. 48	003927		989059			40	37. 32	002666		989309		
45	37. 53						45	37. 54					
50	38. 24	003418		989102		G	50	37. 50	002815		989379		
55	38. 48					JH	55	37. 22					
June 22. 12. 0	246. 38. 40	0·003020	68 0	9·989121	67·0	JH	June 22. 16. 0	246. 35. 43	0·002245	66·2	9·989379	65·3	P
5	38. 44						5	37. 19					
10	39. 27	003639		989182			10	39. 15	002267		989379		
15	38. 30						15	40. 6					
20	38. 24	003684		989196			20	38. 33	002024		989379		
25	38. 0						25	38. 12					
30	37. 58	003861		989238			30	38. 31	001359		989426		
35	37. 14						35	38. 8					
40	37. 13	003927		989238			40	37. 22	002112		989426		
45	37. 1						45	37. 13					
50	34. 3	004658		989271			50	38. 9	001950		989440		
55	33. 47						55	38. 7					
June 22. 13. 0	246. 32. 2	0·004186	68·0	9·989285	67·0	JH	June 22. 17. 0	246. 37. 25	0·002024	65·9	9·989520	65·0	P
5	31. 54						5	38. 3					
10	35. 15	002798		989196			10	36. 53	002006		989520		
15	38. 14						15	38. 57					
20	39. 52	003109		989191			20	38. 24	001565		989520		
25	40. 9						25	38. 0					
30	39. 51	003307		989219			30	36. 51	001531		989576		
35	39. 35						35	37. 9					
40	40. 38	003352		989238			40	35. 54	001598		989614		
45	38. 12						45	35. 9					
50	38. 4	004060		989337			50	35. 1	001248		989661		
55	37. 24						55	34. 7					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 27″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 245°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

June $22^d.\ 12^h.\ 50^m$. The reading of the Horizontal Force Magnet, when corrected for temperature, was 0·016218, being the largest during the term.

Term-Day Observations of June 22 and 23.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
June 22. 18. 0	246. 32. 42	0 ·000888	65 ·0	9 ·989661	64 ·0	D	June 22. 22. 0	246. 34. 32	9 ·999622	66 ·0	9 ·990251	63 ·0	G
5	31. 40						5	34. 55					
10	31. 50	001252		989798			10	34. 33	999522		990255		
15	29. 47						15	35. 16					
20	30. 38	000939		989732			20	35. 17	9 ·999899		990203		
25	31. 10						25	35. 16					
30	31. 27	000628		989717			30	34. 52	0 ·000399		990123		
35	31. 10						35	35. 5					G
40	31. 21	0 ·000695		989732			40	34. 21	000130		990046		D
45	31. 23						45	36. 6					
50	34. 15	9 ·999422		989732			50	35. 17	000406		989986		
55	34. 34						55	35. 5					
June 22. 19. 0	246. 34. 4	0 ·000004	65 ·2	9 ·989803	63 ·5	D	June 22. 23. 0	246. 34. 48	0 ·000654	66 ·8	9 ·989943	64 ·8	D
5	34. 5						5	34. 36					
10	34. 19	9 ·999688		989864			10	34. 12	000540		989902		
15	33. 42						15	34. 14					
20	33. 44	9 ·999960		989906			20	34. 24	000384		989817		
25	33. 25						25	34. 10					
30	34. 22	0 ·000123		989982			30	33. 31	000540		989761		
35	37. 36						35	32. 49					
40	36. 11	001077		990005			40	32. 46	000761		989619		
45	35. 30						45	32. 3					D
50	36. 0	0 ·000776		990090			50	31. 32	9 ·999980		989614		P
55	37. 2						55	31. 3					
June 22. 20. 0	246. 38. 43	9 ·999949	66 ·0	9 ·990062	63 ·0	D	June 23. 0. 0	246. 31. 12	0 ·000805	68 ·0	9 ·989557	66 ·0	P
5	36. 1						5	30. 17					
10	37. 54	0 ·000373		990109			10	30. 45	0 ·000185		989520		
15	37. 17						15	30. 30					
20	36. 59	000202		990165			20	30. 45	9 ·999351		989473		
25	37. 23						25	29. 16					
30	37. 24	000452		990193			30	29. 28	999406		989473		
35	37. 24						35	28. 49					
40	37. 17	000004		990193			40	28. 59	999201		989450		
45	36. 28						45	29. 16					
50	35. 26	0 ·000035		990193			50	28. 53	999079		989450		
55	34. 56						55	28. 38					
June 22. 21. 0	246. 34. 50	9 ·999925	66 ·5	9 ·990265	63 ·0	D	June 23. 1. 0	246. 27. 45	9 ·999544	68 ·8	9 ·989379	67 ·0	P
5	34. 30					G	5	27. 59					P
10	34. 53	999561		990236			10	28. 50	999290		989379		JH
15	35. 15						15	28. 18					
20	37. 12	999123		990217			20	28. 59	9 ·999588		989318		
25	37. 33						25	28. 55					
30	37. 59	999156		990188			30	29. 27	0 ·000097		989299		
35	38. 45						35	29. 35					
40	38. 13	999112		990188			40	29. 51	9 ·999899		989271		
45	37. 21						45	30. 3					
50	36. 15	999245		990203			50	30. 13	0 ·000739		989238		
55	35. 34						55	29. 51					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 27″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 245°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0 ·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0 ·000264 parts of the whole Vertical Force.

June $22^d.\ 18^h.\ 50^m$. The reading of the Vertical Force Magnet when corrected for temperature, was 0 ·006557, being the smallest during the term.
June $22^d.\ 21^h.\ 40^m$. The reading of the Horizontal Force Magnet, when corrected for temperature, was 0 ·010349, being the smallest during the term.
June $23^d.\ 1^h$. The western declination was 23°. 24′. 42″, being the largest during the term.

Term-Day Observations of June 23.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
June 23. 2. 0	246. 29. 13	0·001164	69·4	9·989182	69·0	JH	June 23. 6. 0	246. 34. 1	0·001354	71·0	9·988805	71·0	G
5	29. 56					JH	5	33. 58					G
10	29. 49	000923		989116		P	10	34. 22	001204		988767		JH
15	29. 49						15	34. 35					
20	30. 45	000584		989002			20	34. 32	000983		988781		
25	30. 18					P	25	34. 24					
30	30. 21	000739		989002		JH	30	33. 59	001795		988795		
35	30. 1					JH	35	34. 10					
40	30. 30	000739		988983		D	40	34. 14	002359		988828		
45	31. 2						45	34. 40					
50	30. 17	000695		988983			50	34. 47	002355		988856		
55	30. 57						55	35. 2					
June 23. 3. 0	246. 30. 45	0·000827	70·5	9·988955	69·8	D	June 23. 7. 0	246. 34. 57	0·002643	70·0	9·988870	70·0	JH
5	31. 3						5	35. 25					
10	31. 4	000628		988964			10	35. 40	001924		988856		
15	31. 2						15	35. 34					
20	31. 0	001055		989007			20	35. 59	002083		988903		
25	31. 17						25	36. 13					
30	31. 58	000535		988993			30	36. 32	002063		988955		
35	31. 44						35	37. 17					
40	31. 38	000540		988946			40	37. 59	002173		989002		
45	31. 50						45	38. 57					
50	31. 33	000761		988922			50	39. 42	001850		989102		
55	31. 34						55	41. 0					
June 23. 4. 0	246. 31. 42	0·000628	71·0	9·988908	70·5	D	June 23. 8. 0	246. 41. 15	0·001928	69·2	9·989121	68·6	JH
5	32. 0						5	43. 45					JH
10	32. 10	000511		988861			10	42. 50	003795		989040		P
15	32. 10						15	41. 43					
20	32. 5	000223		988866			20	41. 30	003369		989097		
25	32. 8						25	41. 10					
30	32. 15	000318		988861		D	30	40. 39	003269		989097		
35	32. 49					G	35	40. 40					
40	32. 54	000584		988852			40	40. 40	002798		989097		
45	32. 58						45	39. 22					
50	33. 1	000695		988852			50	39. 13	002306		989097		
55	33. 6						55	38. 47					
June 23. 5. 0	246. 33. 1	0·000800	70·5	9·988805	70·0	G	June 23. 9. 0	246. 39. 5	0·001950	68·5	9·989097	68·2	P
5	33. 18						5	38. 45					
10	33. 12	000917		988814			10	38. 16	001752		989097		
15	33. 36						15	37. 53					
20	33. 35	001248		988814			20	37. 14	002024		989144		
25	33. 17						25	37. 2					
30	33. 25	000961		988791			30	36. 35	001913		989144		
35	32. 53						35	36. 35					
40	34. 6	001138		988781			40	36. 20	002046		989191		
45	34. 37						45	36. 56					
50	33. 38	001995		988776			50	37. 27	002245		989191		
55	33. 37						55	37. 23					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively 2^m. 30^s before, and 2^m. 30^s after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 27″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 245°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

June 23^d. 6^h. 0^m. The reading of the Vertical Force Magnet, when corrected for temperature, was 0·007549, being the largest during the term.
June 23^d. 8^h. 5^m. The western declination was 23°. 8′. 42″, being the smallest during the term.

Term-Day Observations of July 20.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
July 20. 10. 0	246. 40. 56	0 ·000872	65 ·1	.....	64 ·0	M	July 20. 14. 0	246. 35. 11	0 ·002024	63 ·2	9 ·989215	62 ·6	P
5	40. 32						5	35. 18					
10	40. 17	001138		9 ·988891			10	34. 58	002134		989312		
15	39. 9						15	35. 0					
20	38. 52	001160		988957			20	34. 47	002024		989334		
25	38. 53						25	34. 43					
30	38. 22	001481		988941			30	35. 2	001913		989341		
35	38. 8						35	35. 44					
40	37. 14	001525		988934			40	35. 54	001913		989379		
45	36. 43						45	36. 3					
50	36. 6	001292		988974			50	36. 5	001913		989426		
55	35. 47						55	36. 8					
July 20. 11. 0	246. 35. 37	0 ·001138	65 ·0	9 ·988974	64 ·0	M	July 20. 15. 0	246. 36. 38	0 ·001691	63 ·0	9 ·989426	62 ·2	P
5	36. 9						5	37. 9					
10	36. 57	000860		988974			10	37. 22	001691		989461		
15	37. 37						15	37. 30					
20	38. 1	000750		988980			20	37. 43	001691		989510		
25	38. 20						25	37. 50					
30	38. 32	000939		989033			30	37. 50	001472		989567		P
35	38. 32						35	37. 53					
40	38. 22	000728		989116			40	37. 43	001359		989567		D
45	38. 6						45	36. 54					
50	37. 49	000805		989121			50	36. 42	001337		989605		
55	37. 34						55	36. 26					
July 20. 12. 0	246. 37. 11	0 ·000805	64 ·0	9 ·989172	62 ·5	M	July 20. 16. 0	246. 36. 11	0 ·001337	62 ·3	9 ·989670	61 ·7	D
5	37. 12						5	36. 2					
10	36. 56	001027		989019			10	35. 57	001075		989729		
15	36. 55						15	35. 54					
20	36. 41	000816		989287			20	35. 52	001097		989774		
25	36. 22						25	35. 57					
30	35. 41	001470		989312			30	35. 36	000934		989797		
35	34. 20					M	35	35. 48					
40	33. 2	002459		989381		P	40	35. 16	000401		989841		
45	32. 39						45	35. 42					
50	32. 59	002577		989320			50	35. 19	0 ·000136		989850		
55	33. 16						55	35. 26					
July 20. 13. 0	246. 33. 31	0 ·002577	63 ·6	9 ·989262	63 ·0	P	July 20. 17. 0	246. 35. 32	9 ·999872	62 ·5	9 ·989897	61 ·7	D
5	33. 30						5	35. 51					
10	33. 33	002466		989238			10	36. 10	999877		989911		
15	33. 30						15	36. 15					
20	33. 51	002134		989238			20	36. 18	9 ·999699		989921		
25	34. 12						25	36. 10					
30	34. 39	002134		989191			30	35. 36	0 ·000057		989930		
35	35. 2						35	35. 13					
40	35. 24	002134		989191			40	35. 28	000031		989930		
45	35. 15						45	35. 28					
50	35. 18	002134		989215			50	36. 11	000225		989930		
55	35. 6						55	36. 7					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 26″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot 3$; in Vertical Plane, $27^s\cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0 ·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0 ·000264 parts of the whole Vertical Force.

July $20^d.\ 10^h$. The western declination was 23°. 11′. 30″, being the smallest during the term.
July $20^d.\ 12^h.\ 5^m$. The reading of the Vertical Force Magnet, when corrected for temperature, was 0 ·0005519, being the smallest during the term.
July $20^d.\ 12^h.\ 50^m$ and $13^h.\ 0^m$. The reading of the Horizontal Force Magnet, when corrected for temperature, was 0 ·013389, being the largest during the term.

Term-Day Observations of July 20 and 21.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
July 20. 18. 0	246. 36. 16	0 ·000112	63 ·3	9 ·989930	62 ·5	D	July 20. 22. 0	246. 36. 2	9 ·999855	64 ·0	9 ·989426	62 ·5	M
5	36. 45						5	35. 37					
10	37. 4	9 ·999733		989911			10	35. 28	999921		989435		
15	36. 58						15	35. 16					
20	37. 18	999637		989864			20	35. 17	999722		989403		
25	36. 38						25	35. 2					
30	36. 45	9 ·999666		989850			30	34. 48	999675		989360		M
35	37. 11						35	34. 41					JH
40	37. 30	0 ·000020		989841			40	34. 38	999855		989327		
45	37. 13						45	34. 27					
50	37. 20	9 ·999637		989822			50	34. 21	999855		989318		
55	37. 17					D	55	34. 9					
July 20. 19. 0	246. 37. 34	0 ·000218	64 ·2	9 ·989812	63 ·5	JH	July 20. 23. 0	246. 33. 51	9 ·999899	64 ·0	9 ·989285	63 ·0	JH
5	37. 30						5	33. 57					
10	37. 42	000185		989746			10	34. 0	9 ·999699		989252		
15	37. 51						15	33. 42					
20	37. 57	000340		989699			20	33. 21	0 ·000031		989276		
25	38. 0						25	33. 8					
30	37. 58	000463		989675			30	32. 55	000119		989200		
35	37. 57						35	32. 32					
40	37. 53	000362		989638			40	32. 15	000362		989219		
45	37. 58						45	32. 4					
50	37. 55	000274		989642			50	31. 40	000362		989243		
55	38. 2						55	31. 17					
July 20. 20. 0	246. 38. 15	0 ·000141	64 ·2	9 ·989609	63 ·3	JH	July 21. 0. 0	246. 30. 58	0 ·000429	64 ·2	9 ·989238	63 ·3	P
5	38. 21						5	30. 34					
10	38. 18	0 ·000097		989572			10	30. 12	000362		989238		
15	38. 5						15	29. 52					
20	37. 58	9 ·999899		989501			20	29. 35	000362		989285		
25	38. 2						25	29. 24					
30	37. 58	9. 999811		989562			30	28. 57	000252		989285		
35	38. 51						35	29. 1					
40	38. 35	0 ·000185		989544			40	28. 38	000362		989323		
45	38. 11						45	28. 25					
50	37. 55	9 ·999859		989544			50	28. 11	000362		989332		
55	37. 49						55	28. 1					
July 20. 21. 0	246. 37. 53	0 ·000024	64 ·0	9 ·989534	62 ·9	JH	July 21. 1. 0	246. 28. 4	0 ·000362	64 ·0	9 ·989332	63 ·3	P
5	37. 53						5	27. 52					
10	37. 38	000009		989511			10	27. 57	000362		989332		
15	37. 34						15	27. 31					P
20	37. 28	000141		989525			20	27. 47	000318		989332		D
25	37. 13						25	27. 46					
30	36. 56	0 ·000075		989487			30	27. 21	000252		989337		
35	36. 35					JH	35	27. 6					
40	36. 27	9 ·999943		989487		M	40	26. 51	000474		989341		
45	36. 19						45	26. 47					
50	36. 9	999899		989426			50	26. 54	000429		989337		
55	36. 6						55	26. 51					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 26″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot 3$; in Vertical Plane, $27^s\cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0 ·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0 ·000264 parts of the whole Vertical Force.

July $20^d.\ 17^h.\ 20^m$. The reading of the Horizontal Force Magnet, when corrected for temperature, was 0 ·010375, being the smallest during the term.

July $20^d.\ 19^h.\ 0^m$. The reading of the Vertical Force Magnet, when corrected for temperature, was 0 ·006576, being the largest during the term.

Term-Day Observations of July 21.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
July 21. 2. 0	246. 26. 48	0·000474	64·0	9·989370	63·5	D	July 21. 6. 0	246. 31. 24	0·001913	63·8	9·989675	63·0	M
5	26. 49						5	31. 26					
10	26. 48	000496		989356			10	31. 34	001913		989685		
15	27. 3						15	31. 44					
20	26. 52	000252		989341			20	31. 59	001913		989670		
25	26. 56						25	32. 14					
30	27. 0	000163		989351			30	32. 25	001913		989703		
35	26. 55						35	32. 34					M
40	26. 53	000362		989356			40	32. 36	001957		989717		JH
45	26. 44						45	32. 38					
50	26. 57	000474		989365		D	50	32. 45	002112		939717		
55	27. 17					P	55	32. 54					
July 21. 3. 0	246. 27. 25	0·000584	64·0	9·989356	63·3	P	July 21. 7. 0	246. 33. 8	0·002156	63·8	9·989703	62·8	JH
5	27. 47						5	33. 20					
10	28. 4	000805		989356			10	33. 31	001979		989722		
15	28. 21						15	33. 34					
20	28. 56	001027		989379			20	33. 38	001935		989722		
25	29. 18						25	33. 53					
30	29. 22	001470		989379			30	33. 55	001957		989741		
35	28. 34						35	33. 57					
40	29. 10	001691		989473			40	34. 2	002289		989717		
45	29. 10						45	33. 59					
50	29. 10	001691		989473			50	34. 1	002112		989717		
55	29. 10						55	33. 57					
July 21. 4. 0	246. 29. 21	0·001363	64·0	9·989473	63·2	P	July 21. 8. 0	246. 33. 46	0·002134	63·3	9·989741	62·3	JH
5	29. 27						5	33. 52					
10	29. 36	001359		989482			10	34. 19	001952		989708		
15	29. 36						15	34. 41					
20	29. 25	001248		989520			20	34. 54	002035		989708		
25	29. 16						25	34. 53					
30	29. 16	001913		989567			30	34. 37	001979		989736		
35	29. 21					P	35	34. 25					JH
40	29. 32	001547		989591		M	40	34. 16	001957		989717		D
45	29. 29						45	34. 9					
50	29. 38	001292		989600			50	34. 4	001757		989713		
55	29. 41						55	34. 6					
July 21. 5. 0	246. 29. 33	0·001757	64·0	9·989623	62·5	M	July 21. 9. 0	246. 34. 43	0·001735	63·1	9·989713	62·3	D
5	29. 32						5	34. 51					
10	29. 48	001669		989652			10	34. 42	001713		989713		
15	30. 7						15	34. 45					
20	30. 21	001669		989638			20	34. 36	001780		989713		
25	30. 28						25	34. 35					
30	30. 37	001913		989656			30	34. 35	001780		989713		
35	30. 36						35	34. 36					
40	30. 45	002112		989675			40	34. 36	001757		989713		
45	30. 44						45	34. 40					
50	31. 0	001979		989685			50	34. 33	001802		989713		
55	31. 14						55	34. 37					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 26″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

July $21^d.\ 2^h.\ 45^m$. The western declination was 23°. 25′. 42″, being the largest during the term.

Term-day Observations of August 26.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Aug. 26. 10. 0	246. 42. 32	9·998304	73·5	9·984615	74·0	G	Aug. 26. 14. 0	246. 44. 23	9·999294	70·0	9·984963	69·7	JH
5	42. 18						5	44. 18					
10	42. 8	998178		984608			10	44. 3	998067		985001		
15	41. 39						15	44. 8					
20	41. 15	998770		984679			20	44. 13	997508		985070		
25	41. 38						25	44. 7					
30	42. 7	998072		984599			30	44. 2	997508		985070		
35	42. 44						35	43. 22					
40	42. 42	998038		984615			40	41. 59	997441		985155		
45	42. 34						45	40. 51					
50	42. 53	997817		984647			50	40. 38	997109		985250		
55	43. 26						55	41. 1					
Aug. 26. 11. 0	246. 43. 33	9·997884	73·0	9·984662	73·0	G	Aug. 26. 15. 0	246. 39. 54	9·997817	69·2	9·985415	69·0	JH
5	42. 47						5	39. 22					
10	43. 41	998320		984694			10	39. 41	997884		985386		
15	43. 5						15	38. 44					
20	41. 42	998928		984765			20	37. 4	997884		985521		
25	41. 3						25	38. 49					
30	38. 37	999417		984807			30	39. 23	997817		985449		
35	36. 46						35	40. 14					
40	35. 33	999260		984812			40	40. 23	997884		985510		
45	36. 10						45	41. 16					
50	37. 39	998946		984730			50	41. 19	998016		985602		
55	39. 2						55	42. 10					
Aug. 26. 12. 0	246. 40. 49	9·998972	73·0	9·984631	73·0	G	Aug. 26. 16. 0	246. 42. 56	9·998149	69·0	9·985645	68·6	JH
5	42. 26						5	42. 45					
10	43. 12	999422		984631			10	43. 5	998149		985711		
15	43. 44						15	43. 25					
20	45. 2	999105		984646			20	43. 26	998131		985756		
25	45. 37						25	43. 34					
30	46. 18	998581		984660			30	43. 37	998105		985756		
35	46. 32						35	43. 51					
40	46. 32	998497		984717			40	43. 53	998038		985832		
45	46. 46						45	43. 53					
50	46. 23	997989		984789			50	43. 37	998038		985846		
55	45. 41					G	55	44. 6					JH
Aug. 26. 13. 0	246. 45. 16	9·997799	71·5	9·984849	71·0	JH	Aug. 26. 17. 0	246. 43. 35	9·998149	68·3	9·985919	68·0	P
5	43. 52						5	43. 36					
10	42. 36	997680		984934			10	43. 44	998371		985966		
15	42. 35						15	43. 52					
20	40. 51	998282		984953			20	44. 5	998282		985966		
25	40. 0						25	44. 5					
30	39. 38	998615		985053			30	44. 15	998371		985989		
35	39. 41						35	44. 20					
40	40. 6	998946		984963			40	44. 31	998371		986035		
45	41. 13						45	44. 38					
50	42. 21	999811		984973			50	44. 41	998260		986087		
55	43. 27						55	44. 45					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 19″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 250°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Aug. $26^d.\ 12^h.\ 10^m$. The reading of the Horizontal Force Magnet, when corrected for temperature, was 0·011832, being the largest during the term.

Aug. $26^d.\ 12^h.\ 45^m$. The western declination was 23°. 5′. 33″, being the smallest during the term.

Aug. $26^d.\ 14^h.\ 0^m$. The reading of the Vertical Force Magnet, when corrected for temperature, was 0·003363, being the smallest in the month.

Term-Day Observations of August 26 and 27.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Aug. 26. 18. 0	246. 44. 53	9·998260	68·0	9·986130	67·4	P	Aug. 26. 22. 0	246. 42. 9	9·996628	67·0	9·986578	67·0	G
5	44. 44						5	41. 39					
10	44. 44	998038		986159			10	41. 47	996648		986554		
15	44. 50						15	41. 32					
20	44. 57	998038		986178			20	41. 47	996958		986545		
25	45. 3						25	41. 30					
30	45. 4	998038		986225			30	41. 28	997087		986512		
35	45. 16						35	41. 16					
40	45. 23	998038		986253			40	41. 3	997060		986460		
45	45. 34						45	40. 44					
50	45. 19	997817		986281			50	40. 43	997042		986366		
55	44. 46						55	40. 43					
Aug. 26. 19. 0	246. 44. 21	9·997596	67·1	9·986413	66·8	P	Aug. 26. 23. 0	246. 40. 39	9·997042	68·0	9·986343	67·5	G
5	43. 36						5	40. 31					JH
10	43. 15	997485		986413			10	40. 7	996954		986333		
15	42. 30						15	39. 52					
20	42. 35	997374		986460			20	39. 28	996732		986277		
25	41. 44						25	38. 50					
30	41. 57	997530		986460			30	38. 48	996600		986249		
35	42. 25						35	38. 45					
40	42. 31	997928		986460			40	38. 9	996578		986220		
45	42. 29						45	37. 38					
50	42. 54	998165		986484			50	37. 33	998792		986182		
55	43. 8						55	37. 34					
Aug. 26. 20. 0	246. 43. 23	9·998371	66·8	9·986507	66·2	P	Aug. 27. 0. 0	246. 37. 35	9·996334	68·9	9·986135	68·1	JH
5	43. 15						5	37. 35					
10	43. 19	998592		986507			10	36. 46	996356		986092		
15	43. 0						15	36. 3					
20	43. 7	998592		986507			20	37. 36	996644		986097		
25	43. 15						25	35. 34					
30	43. 13	998637		986521			30	35. 24	996799		986044		
35	43. 31						35	35. 25					
40	43. 35	998592		986535			40	35. 42	996821		985984		
45	43. 38						45	35. 19					
50	43. 38	998592		986554			50	34. 54	996931		985946		
55	43. 43					P	55	33. 48					
Aug. 26. 21. 0	246. 43. 43	9·998481	66·0	9·986578	66·0	G	Aug. 27. 1. 0	246. 33. 6	9·997352	70·3	9·985904	69·2	JH
5	43. 43						5	32. 55					
10	43. 43	997580		986554			10	32. 40	997397		985851		
15	43. 43						15	32. 40					
20	43. 43	997358		986554			20	32. 40	997530		985785		
25	43. 41						25	32. 44					
30	43. 30	997264		.....			30	32. 42	997441		985749		
35	43. 14						35	32. 52					
40	42. 46	997264		986578			40	32. 38	997220		985711		
45	42. 40						45	32. 53					JH
50	42. 36	996765		986578			50	32. 54	997264		985707		G
55	42. 23						55	32. 55					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.30^s$ before, and $2^m.30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 19″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 250°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $27^s.5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Aug. $26^d.21^h.30^m$. The observation of the Vertical Force Magnet was inadvertently omitted.
Aug. $26^d.22^h.0^m$. The reading of the Horizontal Force Magnet, when corrected for temperature, was 0·008018, being the smallest during the term.
Aug. $27^d.1^h.40^m$. The western declination was 23°. 19′. 41″, being the largest in the term.

Term-Day Observations of August 27.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Aug. 27. 2. 0	246. 32. 55	9·997082	72·0	9·985659	72·0	G	Aug. 27. 6. 0	246. 39. 31	9·998216	76·7	9·984769	76·5	JH
5	33. 3						5	39. 36					
10	33. 3	997190		985621			10	39. 56	.....		984727		
15	33. 8						15	40. 5					
20	33. 30	997153		985611			20	40. 7	998260		984727		
25	34. 5						25	40. 12					
30	34. 13	997109		985555			30	40. 14	998419		984722		
35	34. 24						35	40. 17					
40	34. 46	997403		985415			40	41. 10	998492		984722		
45	34. 7						45	40. 55					JH
50	34. 11	998149		995424			50	40. 53	998652		984703		G
55	34. 20						55	40. 53					
Aug. 27. 3. 0	246. 35. 3	9·997879	73·5	9·985424	74·0	G	Aug. 27. 7. 0	246. 40. 53	9·998659	76·5	9·984694	76·5	G
5	35. 8						5	40. 53					
10	34. 49	997839		985353			10	40. 47	998703		984694		
15	34. 42						15	40. 47					
20	35. 2	997817		985306			20	40. 47	998592		984694		
25	34. 56						25	40. 47					
30	34. 56	997817		985283			30	40. 40	998592		984684		
35	35. 1						35	40. 39					
40	35. 33	997356		985054		G	40	40. 39	998637		984669		
45	35. 47					P	45	40. 39					
50	35. 47	997541		985054			50	41. 3	998581		984694		
55	34. 26						55	41. 11					
Aug. 27. 4. 0	246. 35. 44	9·997928	75·0	9·985034	75·0	P	Aug. 27. 8. 0	246. 41. 2	9·998327	75·5	9·984694	74·5	G
5	36. 8						5	40. 59					
10	36. 27	997972		985025			10	40. 53	998393		984694		
15	36. 30						15	40. 50					G
20	36. 35	998327		984995			20	40. 51	998194		984742		P
25	36. 34						25	40. 57					
30	36. 48	998371		984922			30	41. 3	998327		984765		
35	36. 53						35	41. 3					
40	37. 13	998592		984899			40	40. 53	998260		984789		
45	37. 21						45	40. 49					
50	37. 21	998592		984872			50	40. 56	998371		984812		
55	37. 27						55	40. 56					
Aug. 27. 5. 0	246. 37. 36	9·998637	75·8	9·984853	75·5	P	Aug. 27. 9. 0	246. 40. 44	9·998149	74·3	9·984849	74·2	P
5	37. 51					P	5	40. 44					
10	38. 7	998415		984812		JH	10	40. 52	998149		984905		
15	38. 25						15	40. 48					
20	38. 32	998149		984769			20	40. 48	998149		984905		
25	38. 36						25	40. 59					
30	38. 45	998194		984812			30	40. 59	998554		984858		
35	38. 52						35	41. 5					
40	38. 52	998393		984769			40	40. 33	998703		984905		
45	39. 2						45	40. 52					
50	39. 3	998349		984756			50	40. 52	998703		984953		
55	39. 17						55	41. 13					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 19″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 250°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Aug. $27^d.\ 6^h.\ 0^m.$ The reading of the Vertical Force Magnet, when corrected for temperature, was 0·004965, being the largest in the term.

Aug. $27^d.\ 6^h.\ 10^m.$ The reading of the Horizontal Force Magnet was inadvertently omitted.

Term-Day Observations of September 21.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Sep. 21. 10. 0	246. 44. 41	9 ·999493	64 ·0	9 ·987746	62 ·0	G	Sep. 21. 14. 0	246. 39. 50	9 ·998978	61 ·8	9 ·987444	61 ·0	M
5	44. 56						5	41. 8					
10	44. 50	998476		987744			10	42. 20	998967		987547		
15	45. 53						15	42. 37					
20	45. 41	998875		987773			20	42. 10	999123		987646		
25	46. 15						25	42. 10					
30	46. 54	999245		987802			30	42. 46	999123		987726		
35	46. 35						35	42. 41					
40	45. 34	999694		987834			40	42. 36	999290		987802		
45	45. 35						45	42. 22					
50	45. 57	999384		987834			50	42. 12	999057		987873		
55	44. 59						55	41. 57					
Sep. 21. 11. 0	246. 44. 55	9 ·999356	64 ·0	9 ·987802	62 ·0	G	Sep. 21. 15. 0	246. 41. 55	9 ·998924	61 ·2	9 ·987962	59 ·3	D
5	44. 55						5	41. 54					
10	44. 59	998515		987814			10	42. 2	998991		988085		
15	44. 28						15	41. 52					
20	44. 27	998751		987824			20	41. 32	999035		988132		
25	44. 27						25	41. 15					
30	44. 46	998109		987816			30	40. 29	998968		988207		
35	44. 46						35	40. 32					
40	42 55	997983		987802			40	40. 15	998729		988244		
45	41. 23						45	40. 11					
50	41. 41	997773		987882			50	40. 27	998884		988310		
55	41. 17					G	55	40. 27					
Sep. 21. 12. 0	246. 40. 45	9 ·997341	63 ·5	9 ·987897	62 ·0	M	Sep. 21. 16. 0	246. 40. 40	9 ·999156	60 ·7	9 ·988367	59 ·5	D
5	40. 18						5	40. 45					
10	40. 45	998160		988028			10	41. 7	999013		988423		
15	41. 4						15	41. 9					
20	41. 43	998814		988023			20	41. 0	999161		988442		
25	41. 41						25	40. 27					
30	42. 0	999057		988009			30	40. 48	998908		988512		
35	42. 6						35	40. 52					
40	42. 5	9 ·998935		987967			40	40. 41	999035		988555		
45	41. 9						45	39. 31					
50	40. 24	0 ·000207		988056			50	39. 42	998763		988588		
55	40. 57						55	39. 26					
Sep. 21. 13. 0	246. 41. 58	0 ·000551	62 ·5	9 ·987929	61 ·0	M	Sep. 21. 17. 0	246. 40. 18	9 ·998957	60 ·2	9 ·988640	59 ·0	D
5	40. 54						5	40. 23					
10	36. 58	002399		987984			10	40. 31	999648		988664		
15	34. 20						15	40. 1					
20	33. 25	001735		987844			20	39. 31	998880		988673		
25	33. 34						25	39. 58					
30	34. 24	0 ·000650		987609			30	40. 1	999112		988687		
35	34. 51						35	39. 45					
40	36. 7	9 ·999888		987444			40	39. 56	998803		988720		
45	37. 6						45	39. 47					
50	38. 25	999256		987402			50	39. 24	998559		988725		
55	38. 58						55	39. 36					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.30^s$ before, and $2^m.30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 5″.
Reading of Torsion-Circle of Meridional Maguet for Brass Bar resting in Magnetic Meridian, 239°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $27^s.5$.
Decrease of Horizontal Force for 1° increase of temperature = 0 ·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0 ·000264 parts of the whole Vertical Force.

Sep. $21^d.13^h.10^m$. This observation of the Horizontal Force Magnet, corrected for temperature, was 0 ·013024, being the largest during the term.
Sep. $21^d.13^h.25^m$. The reading of the Vertical Force Magnet, corrected for temperature, was 0 ·003506, being the smallest during the term.

Term-day Observations of September 21 and 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Sep. 21. 18. 0	246. 39. 24	9·998809	60·0	9·988720	59·0	D	Sep. 21. 22. 0	246. 34. 58	9·997458	57·5	9·989285	55·5	G
5	39. 33						5	34. 52					
10	39. 12	998448		988729			10	35. 14	997035		989309		
15	38. 47						15	35. 14					
20	38. 44	998508		988782			20	33. 52	996902		989332		
25	38. 24						25	34. 11					
30	38. 29	998681		988814			30	34. 4	996765		989323		
35	38. 48						35	33. 36					
40	38. 48	998685		988819			40	33. 36	997192		989332		
45	38. 55						45	32. 29					
50	39. 9	998770		988847			50	31. 6	997259		989332		
55	39. 19						55	32. 1					
Sep. 21. 19. 0	246. 39. 27	9·998736	60·1	9·988828	59·0	D	Sep. 21. 23. 0	246. 32. 22	9·997773	57·5	9·989341	55·5	G
5	39. 19						5	32. 22					
10	39. 30	998659		988833			10	32. 11	997700		989356		
15	39. 8						15	31. 15					
20	38. 54	998847		988847			20	31. 31	997678		989321		
25	38. 54						25	31. 13					
30	38. 28	999285		988814			30	30. 35	997607		989294		
35	38. 57						35	30. 19					
40	38. 32	999566		988885			40	30. 3	997795		989276		
45	38. 29						45	29. 49					
50	39. 2	999793		988932			50	29. 46	997928		989215		
55	38. 41					D	55	29. 21					G
Sep. 21. 20. 0	246. 39. 26	9·999572	59·0	9·989002	58·0	P	Sep. 22. 0. 0	246. 29. 22	9·998065	58·5	9·989153	57·5	D
5	38. 28						5	29. 14					
10	38. 29	999872		988979			10	28. 43	998044		989149		
15	38. 7						15	29. 27					
20	37. 29	999648		989049			20	29. 29	998172		989050		
25	37. 29						25	29. 14					
30	36. 59	999218		989097			30	29. 8	998665		989007		
35	36. 32						35	29. 4					
40	36. 28	998654		989097			40	29. 13	998818		988955		
45	36. 22						45	29. 12					
50	36. 27	998598		989097			50	29. 17	998781		988861		
55	36. 34						55	28. 55					
Sep. 21. 21. 0	246. 36. 45	9·998178	57·0	9·989121	56·4	P	Sep. 22. 1. 0	246. 29. 6	9·998908	60·2	9·988964	59·1	D
5	36. 25						5	28. 51					
10	37. 11	997674		989144			10	28. 29	998991		988814		
15	37. 47						15	28. 39					
20	37. 23	997541		989215			20	28. 23	999218		988758		
25	37. 40						25	28. 27					
30	37. 13	997508		989238			30	28. 37	999517		988682		
35	36. 33						35	28. 26					
40	35. 59	997403		989271			40	29. 5	999471		988678		
45	35. 53						45	28. 49					
50	35. 43	997192		989276			50	29. 29	999692		988588		
55	34. 51					P	55	29. 13					D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.30^s$ before, and $2^m.30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 5″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 239°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $27^s.5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Sep. $21^d.22^h.30^m$. The reading of the Horizontal Force Magnet, corrected for temperature, was 0·006540, being the smallest during the term.

Sep. $22^d.1^h.20^m$. The western declination was 23°. 23′. 42″, being the largest during the term.

Term-Day Observations of September 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Sep. 22. 2. 0	246. 29. 21	9·999916	61·0	9·988612	60·0	P	Sep. 22. 6. 0	246. 36. 17	9·999606	63·0	9·988296	61·5	G
5	29. 4						5	36. 0					
10	28. 58	999644		988612			10	36. 14	0·000064		988296		
15	29. 52						15	36. 59					
20	30. 24	999511		988626			20	37. 8	9·999533		988258		
25	31. 6						25	36. 56					
30	31. 43	999205		988626			30	36. 26	0·000097		988258		
35	32. 33						35	35. 48					
40	32. 28	999561		988642			40	36. 2	9·999611		988249		
45	32. 56						45	35. 52					
50	32. 44	9·999914		988603			50	36. 14	999500		988226		
55	32. 40						55	36. 8					
Sep. 22. 3. 0	246. 32. 21	0·000445	61·6	9·988603	60·5	P	Sep. 22. 7. 0	246. 36. 53	9·998098	63·0	9·988193	62·0	G
5	31. 58						5	37. 12					
10	31. 53	000634		988626			10	37. 30	998260		988211		
15	31. 51						15	37. 30					
20	32. 51	000068		988626			20	38. 54	9·998371		988202		
25	32. 54	000031					25	43. 11					
30	33. 2	000141		988626			30	51. 45	0·000362		988296		
35	33. 6						35	50. 25					
40	32. 46	000562		988568			40	46. 34	0·001570		988258		
45	32. 32						45	42. 5					
50	32. 57	000318		988484			50	38. 56	9·999061		988193		
55	32. 50					P	55	37. 52					G
Sep. 22. 4. 0	246. 33. 1	0·000163	61·8	9·988489	61·0	M	Sep. 22. 8. 0	246. 39. 11	9·997257	63·0	9·988014	62·0	D
5	33. 35						5	41. 41					
10	33. 38	0·000053		988461			10	41. 39	998072		987967		
15	33. 19						15	41. 47					
20	33. 55	9·999943		988446			20	42. 30	998271		987972		
25	34. 8						25	41. 26					
30	34. 17	9·999766		988414			30	40. 20	998415		988005		
35	34. 23						35	40. 3					
40	33. 57	0·000340		988461			40	40. 25	998255		988005		
45	34. 59						45	40. 51					
50	35. 24	9·999855		988414			50	40. 32	998404		988005		
55	35. 7						55	40. 19					
Sep. 22. 5. 0	246. 35. 11	9·999611	62·0	9·988381	61·8	M	Sep. 22. 9. 0	246. 40. 3	9·998443	63·7	9·988009	62·8	D
5	35. 5						5	40. 3					
10	35. 22	999633		988367			10	40. 1	998499		988008		
15	35. 37						15	40. 9					
20	35. 45	999855		988348			20	40. 9	998792		987997		
25	35. 46						25	40. 21					
30	35. 53	999699		988334			30	40. 16	998044		987985		
35	36. 5						35	40. 19					
40	36. 10	999811		988305			40	40. 15	998441		988014		
45	36. 14						45	39. 56					
50	36. 28	999345		988296			50	40. 28	999094		987991		
55	36. 14						55	40. 57					D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 5″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 239°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Sep. $22^d.\ 7^h.\ 30^m$. The western declination was 23°. 0′. 20″, being the smallest during the term, and the reading of the Vertical Force Magnet, corrected for temperature, was 0·004664, being the largest during the term.

Term-Day Observations of October 19.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Oct. 19. 10. 0	246. 44. 4	0·002410	51·5	9·990580	49·5	G	Oct. 19. 14. 0	246. 37. 23	0·000502	50·0	9·990547	48·0	JH
5	41. 2						5	37. 50					
10	39. 2	003455		990781			10	37. 54	000805		990598		
15	38. 44						15	38. 34					
20	39. 40	000932		990462			20	38. 53	000739		990641		
25	41. 19						25	39. 9					
30	43. 30	000236		990345			30	39. 35	001077		990659		
35	45. 18						35	38. 45					
40	46. 10	000805		990368			40	38. 39	000867		990683		
45	46. 58						45	38. 12					
50	47. 38	001232		990439			50	38. 10	000628		990735		
55	47. 18						55	38. 10					JH
Oct. 19. 11. 0	246. 46. 24	0·001680	51·5	9·990509	49·2	G	Oct. 19. 15. 0	246. 38. 6	0·000798	50·5	9·990753	49·0	D
5	45. 49						5	38. 33					
10	44. 49	000872		990486			10	39. 15	000943		990835		
15	44. 44						15	39. 6					
20	44. 3	000772		990500			20	38. 48	000939		990843		
25	43. 5						25	38. 39					
30	42. 16	000761		990556			30	38. 24	000976		990885		
35	42. 2						35	38. 37					
40	41. 54	000410		990556			40	38. 27	000943		990927		
45	41. 52						45	38. 38					
50	41. 27	000656		990556			50	38. 39	001033		990971		
55	42. 1					G	55	38. 58					
Oct. 19. 12. 0	246. 42. 26	0·000783	51·5	9·990598	49·0	JH	Oct. 19. 16. 0	246. 39. 25	0·001093	49·8	9·990989	48·3	D
5	42. 32						5	39. 52					
10	42. 46	000296		990594			10	40. 3	000983		991022		
15	43. 12						15	40. 15					
20	43. 19	000783		990608			20	40. 18	000961		991055		
25	43. 19						25	40. 47					
30	42. 29	000207		990645			30	40. 35	000842		991074		
35	42. 25						35	40. 14					
40	41. 48	000452		990659			40	39. 26	001075		991126		
45	39. 20						45	39. 10					
50	37. 14	000435		990777			50	39. 34	001292		991159		
55	37. 1						55	39. 32					
Oct. 19. 13. 0	246. 37. 12	0·000789	50·6	9·990730	48·5	JH	Oct. 19. 17. 0	246. 39. 54	0·001559	49·0	9·991168	47·8	D
5	37. 11						5	39. 53					
10	34. 39	001208		990706			10	39. 31	000743		991215		
15	33. 27						15	39. 21					
20	32. 16	001441		990711			20	39. 34	000610		991257		
25	32. 42						25	39. 32					
30	34. 0	001481		990603			30	39. 36	001248		991276		
35	35. 21						35	39. 31					
40	36. 1	001204		990514			40	39. 33	001027		991318		
45	36. 11						45	39. 33					
50	37. 2	000717		990514			50	39. 33	001027		991356		
55	37. 26						55	39. 33					D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 2″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Oct. $19^d.\ 10^h.\ 10^m$. The reading of the Horizontal Force Magnet, corrected for temperature, was 0·012210, being the largest in the month.
Oct. $19^d.\ 10^h.\ 50^m$. The western declination was 23°. 4′. 24″, being the smallest during the term.
Oct. $19^d.\ 13^h.\ 50^m$. The reading of the Vertical Force Magnet, when corrected for temperature, was 0·003186, being the smallest during the term.

Term-Day Observations of October 19 and 20.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Oct. 19. 18. 0	246. 39. 31	0 ·001027	48 ·3	9 ·991356	47 ·0	P	Oct. 19. 22. 0	246. 40. 2	0 ·000252	47 ·0	9 ·991794	45 ·0	JH
5	40. 17						5	39. 38					
10	39. 39	000645		991404			10	39. 16	0 ·000252		991780		
15	39. 38						15	38. 38					
20	39. 35	000794		991404			20	38. 0	9 ·999406		991738		
25	39. 26						25	37. 33					
30	39. 59	000917		991451			30	37. 56	999256		991700		
35	40. 8						35	36. 48					
40	40. 5	000883		991460			40	36. 54	999417		991616		
45	39. 31						45	36. 18					
50	39. 31	000878		991460			50	36. 4	999223		991522		
55	39. 43						55	35. 47					JH
Oct. 19. 19. 0	246. 39. 46	0 ·001182	48 ·2	9 ·991498	47 ·0	P	Oct. 19. 23. 0	246. 35. 27	9 ·999272	48 ·0	9 ·991522	46 ·0	G
5	39. 53						5	34. 57					
10	40. 15	000739		991498			10	34. 56	998946		991545		
15	40. 15						15	34. 51					
20	40. 2	000695		991498			20	34. 35	998592		991404		
25	40. 2						25	34. 9					
30	39. 39	000584		991498			30	33. 49	998696		991404		
35	39. 48						35	33. 24					
40	40. 11	001314		991545			40	32. 54	999079		991286		
45	40. 28						45	32. 31					
50	40. 40	001343		991639			50	32. 31	999008		991239		
55	40. 40					P	55	31. 37					
Oct. 19. 20. 0	246. 40. 52	0 ·001839	47 ·0	9 ·991639	46 ·3	M	Oct. 20. 0. 0	246. 31. 13	9 ·999090	49 ·5	9 ·991168	48 ·0	G
5	40. 53						5	31. 0					
10	41. 8	001359		991642			10	30. 14	999223		991121		
15	41. 12						15	29. 42					
20	41. 36	001651		991639			20	29. 14	999129		991051		
25	42. 0						25	30. 6					
30	42. 7	001027		991686			30	30. 21	998729		990957		G
35	42. 16						35	30. 18					
40	42. 30	000849		991742			40	30. 29	998371		990885		P
45	42. 28						45	30. 19					
50	42. 22	000739		991785			50	30. 19	997989		990838		
55	42. 15						55	30. 55					
Oct. 19. 21. 0	246. 42. 6	0 ·001049	46 ·1	9 ·991860	45 ·0	M	Oct. 20. 1. 0	246. 31. 38	9 ·998610	52 ·2	9 ·990697	50 ·5	P
5	42. 0						5	31. 43					
10	42. 2	000606		991874			10	31. 43	998776		990641		
15	41. 33						15	31. 55					
20	41. 55	0. 000130		991945			20	31. 27	998820		990556		
25	41. 27						25	31. 31					
30	41. 55	9 ·999822		991916			30	31. 24	998997		990509		
35	41. 35						35	31. 24					
40	41. 11	9 ·999611		991898			40	29. 50	999329		990368		P
45	40. 44						45	29. 47					
50	40. 34	0 ·000247		991785			50	29. 32	999373		990335		D
55	39. 59					M	55	29. 26					

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m. 30^s$ before, and $2^m. 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 2″.
Reading of Torsion-Circle of Meridional Maguet for Brass Bar resting in Magnetic Meridian, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0 ·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0 ·000264 parts of the whole Vertical Force.

Oct. $20^d. 0^h. 20^m$. The western declination was 23°. 22′. 48″, being the largest during the term.

Oct. $20^d. 0^h. 50^m$. The reading of the Horizontal Force Magnet, corrected for temperature, was 0 ·006795, being the smallest during the term.

Term-Day Observations of October 20.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Oct. 20. 2. 0	246. 29. 35	9·999715	54·2	9·990251	52·8	D	Oct. 20. 6. 0	246. 38. 1	0·000252	56·0	9·989520	54·0	G
5	29. 32						5	38. 16					
10	30. 19	999500		990188			10	38. 11	000362		989497		
15	30. 8						15	38. 10					
20	30. 29	999406		990052			20	37. 59	000362		989544		
25	30. 46						25	38. 2					
30	30. 54	999367		989996			30	38. 2	000544		989520		
35	31. 5					D	35	37. 57					
40	31. 10	999555		989906		JH	40	37. 57	000362		989492		G
45	31. 21						45	38. 12					P
50	31. 22	9·999965		989855			50	38. 23	000474		989520		
55	31. 22						55	38. 9					
Oct. 20. 3. 0	246. 31. 30	0·000163	55·7	9·989765	54·0	JH	Oct. 20. 7. 0	246. 37. 59	0·000474	55·2	9·989520	54·2	P
5	31. 30						5	38. 5					
10	31. 45	000296		989713			10	40. 28	9·999478		989497		
15	31. 50						15	43. 5					
20	32. 6	000452		989746			20	43. 12	0·000114		989473		
25	32. 13						25	42. 50					
30	32. 34	000452		989713			30	42. 26	000761		989520		
35	33. 1						35	41. 52					
40	33. 8	000772		989633			40	41. 43	000761		989520		
45	33. 35						45	40. 30					
50	33. 52	000163		989647			50	40. 9	001027		989567		
55	34. 15						55	40. 13					
Oct. 20. 4. 0	246. 34. 19	0·000163	55·0	9·989642	54·0	JH	Oct. 20. 8. 0	246. 39. 38	0·001027	54·0	9·989567	53·6	P
5	34. 19						5	39. 44					
10	34. 31	000502		989670			10	39. 37	000917		989567		
15	34. 43						15	39. 43					
20	34. 43	000827		989647			20	40. 21	000252		989567		
25	35. 23						25	40. 37					
30	35. 27	000540		989633			30	40. 34	000805		989614		P
35	35. 52					JH	35	40. 15					
40	36. 3	000185		989619		G	40	40. 15	000650		989614		D
45	36. 11						45	40. 16					
50	36. 11	000344		989638			50	40. 24	000258		989623		
55	36. 11						55	40. 34					
Oct. 20. 5. 0	246. 36. 27	0·000701	55·5	9·989614	53·5	G	Oct. 20. 9. 0	246. 41. 21	0·000324	53·2	9·989699	53·0	D
5	36. 35						5	41. 55					
10	37. 1	000456		989614			10	41. 55	000551		989685		
15	37. 5						15	41. 30					
20	37. 10	000712		989591			20	41. 11	000496		989756		
25	37. 17						25	41. 6					
30	37. 6	000822		989605			30	40. 59	000518		989812		
35	37. 5						35	40. 48					
40	37. 19	000529		989576			40	40. 45	000496		989956		
45	37. 18						45	40. 23					
50	37. 21	000406		989520			50	40. 35	000518		989982		
55	37. 48						55	40. 57					D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 2″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Oct. $20^d.\ 2^h$. The reading of the Vertical Force Magnet, when corrected for temperature, was 0·004190, being the largest during the term.

Term-Day Observations of November 25.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Nov. 25. 10. 0	246. 33. 37	0·003684	48·0	9·990650	46·5	G	Nov. 25. 14. 0	246. 33. 28	0·003263	48·6	9·990132	48·6	JH
5	33. 37	003927		990645			5	33. 26	003263		990132		
10	33. 22	003994		990645			10	33. 26	003263		990132		
15	33. 11	003949		990650			15	33. 26	003263		990132		
20	32. 59	003861		990641			20	33. 30	003241		990132		
25	32. 52	003639		990627			25	33. 30	003241		990132		
30	32. 56	003573		990617			30	33. 30	003241		990132		
35	32. 56	003462		990608			35	33. 33	003241		990132		
40	32. 45	003462		990594			40	33. 29	003263		990132		
45	32. 34	003484		990556			45	33. 28	003263		990132		
50	32. 34	003484		990547			50	33. 22	003263		990132		
55	32. 34	003462		990547			55	33. 22	003263		990132		
Nov. 25. 11. 0	246. 32. 30	0·003440	48·0	9·990523	46·5	G	Nov. 25. 15. 0	246. 33. 16	0·003407	48·8	9·990132	48·5	JH
5	32. 37	003418		990518			5	32. 19	003263		990132		
10	32. 37	003374		990495			10	31. 50	003263		990132		
15	32. 37	003374		990486			15	31. 52	003263		990132		
20	32. 43	003374		990462			20	31. 55	003241		990132		
25	32. 47	003374		990453			25	32. 10	003263		990132		JH
30	32. 46	003396		990453			30	32. 16	003462		990123		P
35	32. 46	003396		990448			35	32. 36	003462		990113		
40	32. 43	003330		990448			40	33. 1	003462		990113		
45	32. 42	003285		990434			45	33. 19	003462		989944		
50	31. 49	003263		990434			50	33. 28	003462		989944		
55	33. 34	003263		990387			55	33. 28	003396		989944		
Nov. 25. 12. 0	246. 33. 36	0·003241	48·0	9·990387	46·5	G	Nov. 25. 16. 0	246. 33. 23	0·003241	49·1	9·989944	48·5	P
5	33. 37	003241		990377			5	33. 23	003241		989944		
10	33. 35	003241		990377			10	33. 20	003241		989944		
15	33. 30	003263		990368			15	33. 16	003241		989953		
20	33. 32	003241		990368			20	33. 6	003241		989953		
25	33. 32	003241		990368			25	32. 57	003263		989953		
30	33. 31	003241		990326			30	32. 57	003374		989953		
35	33. 31	003241		990316			35	33. 8	003462		989953		
40	33. 31	003241		990283			40	33. 28	003462		989953		
45	33. 38	003219		990274			45	33. 53	003462		989953		
50	33. 36	003219		990269			50	34. 2	003462		989944		
55	33. 39	003219		990269		G	55	34. 10	003462		989944		
Nov. 25. 13. 0	246. 33. 37	0·003241	48·5	9·990241	48·5	JH	Nov. 25. 17. 0	246. 34. 15	0·003440	49·0	9·989911	48·6	P
5	33. 36	003219		990236			5	34. 19	003462		989906		
10	33. 36	003219		990232			10	34. 9	003462		989906		
15	33. 34	003241		990232			15	33. 56	003352		989906		
20	33. 32	003241		990212			20	33. 56	003352		989897		
25	33. 32	003241		990207			25	33. 56	003352		989897		
30	33. 33	003241		990193			30	33. 44	003241		989897		
35	33. 33	003219		990184			35	33. 44	003241		989897		
40	33. 33	003241		990179			40	33. 48	003241		989897		
45	33. 27	003241		990179			45	33. 48	003241		989897		
50	33. 27	003241		990160			50	33. 48	003241		989897		
55	33. 30	003241		990141			55	33. 48	003241		989897		

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 12″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 185°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Nov. $25^d.\ 10^h.\ 10^m$. The reading of the Horizontal Force Magnet, when corrected for temperature, was 0·012154, being the largest in the term.
Nov. $25^d.\ 12^h$. The reading of the Vertical Force Magnet, when corrected for temperature, was 0·002663, being the smallest during the term.
Nov. $25^d.\ 17^h.\ 5^m$. The western declination was 23°. 17′. 54″, being the smallest in the term.

Term-Day Observations of November 25 and 26.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Nov. 25. 18. 0	246. 33. 54	0·003197	49·4	9·989897	49·0	P	Nov. 25. 22. 0	246. 31. 45	0·002333	49·0	9·990071	48·3	G
5	33. 44	003131		989897		D	5	30. 56	002178		990085		
10	33. 33	003020		989906			10	30. 43	002156		990085		
15	33. 33	003064		989906			15	30. 40	002134		990057		
20	33. 32	003175		989902			20	30. 40	002156		990047		
25	33. 26	003263		989902			25	30. 31	002156		990043		
30	32. 34	003263		989902			30	30. 23	002156		990043		
35	32. 32	003263		989897			35	30. 19	002178		990043		
40	32. 32	003263		989897			40	30. 2	002311		990038		
45	32. 34	003241		989897			45	30. 4	002355		990043		
50	32. 36	003241		989897			50	29. 50	002377		990038		G
55	32. 41	003153		989897			55	29. 34	002555		990033		D
Nov. 25. 19. 0	246. 32. 41	0·003109	49·5	9·989897	48·8	D	Nov. 25. 23. 0	246. 29. 34	0·002532	50·0	9·990015	49·0	D
5	32. 41	003086		989897			5	29. 55	002577		990000		P
10	32. 41	003109		989897			10	29. 55	002577		990000		
15	32. 41	003197		989897			15	30. 23	002577		989944		
20	32. 32	003219		989897			20	30. 11	002577		989944		
25	32. 32	003241		989897			25	30. 11	002577		989944		P
30	32. 25	003241		989897			30	30. 0	002643		989944		D
35	32. 32	003219		989897			35	29. 50	002759		989944		
40	32. 32	003241		989897			40	29. 50	002776		989921		
45	32. 32	003197		989897			45	29. 33	002776		989906		
50	32. 21	003131		989897			50	29. 11	002820		989888		
55	32. 18	003153		989902			55	28. 59	002820		989864		
Nov. 25. 20. 0	246. 32. 39	0·003197	49·2	9·989902	48·5	D	Nov. 26. 0. 0	246. 28. 42	0·002842	50·0	9·989855	49·6	D
5	32. 38	003086		989906		M	5	28. 26	002887		989827		
10	32. 31	003097		989906			10	28. 8	002953		989808		
15	32. 35	003109		989981			15	27. 53	003020		989780		
20	32. 30	003064		989984			20	27. 38	002931		989761		
25	32. 29	003241		989991			25	29. 40	002842		989741		
30	32. 31	003285		989982			30	27. 33	002864		989713		D
35	32. 27	003197		990015			35	27. 32	002820		989670		P
40	32. 23	003020		990038			40	27. 20	002820		989638		
45	32. 25	003086		990015			45	27. 20	002842		989661		
50	32. 22	003142		989991			50	27. 43	002798		989661		
55	32. 16	003042		990027			55	27. 49	002798		989623		
Nov. 25. 21. 0	246. 32. 14	0·003020	49·0	9·990062	48·0	M	Nov. 26. 1. 0	246. 27. 49	0·002798	50·4	9·989567	51·2	P
5	32. 18	002986		990062			5	27. 49	002798		989567		
10	32. 21	002942		990071			10	27. 49	002798		989520		
15	32. 9	002820		990047			15	27. 39	003020		989520		
20	32. 4	002699		990052			20	27. 39	003020		989511		
25	32. 10	002688		990052			25	27. 32	002842		989473		
30	32. 7	002588		990085			30	27. 44	002798		989435		
35	32. 15	002555		990085			35	27. 56	002798		989379		
40	31. 54	002399		990062			40	27. 38	002798		989379		P
45	31. 46	002311		990047			45	27. 43	002798		989332		JH
50	31. 50	002178		990052			50	28. 4	002732		989318		
55	31. 52	002333		990062		M	55	28. 13	002732		989243		

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.30^s$ before, and $2^m.30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 12″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 185°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $27^s.5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Nov. $25^d.22^h.15^m$. The reading of the Horizontal Force Magnet, when corrected for temperature, was 0·010464, being the smallest during the term.

Nov. $26^d.0^h.40^m$ and $0^h.45^m$. The western declination was 23°. 24′. 53″, being the largest during the term.

Term-Day Observations of November 26.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Nov. 26. 2. 0	246. 28. 10	0·002555	51·0	9·989238	51·7	JH	Nov. 26. 6. 0	246. 32. 45	0·002621	53·0	9·988885	53·5	P
5	28. 18	002555		989191			5	32. 36	002621		988885		
10	28. 24	002666		989168			10	32. 37	002599		988861		
15	28. 19	002666		989135			15	32. 37	002577		988861		
20	28. 19	002776		989135			20	29. 26	002577		988861		
25	28. 28	002621		989111			25	29. 26	002555		988861		
30	28. 38	002621		989050			30	29. 21	002555		988861		
35	28. 38	002643		989040			35	32. 38	002532		988870		P
40	28. 43	002688		989055			40	32. 37	002421		988922		JH
45	28. 43	002776		989050			45	32. 44	002399		988889		
50	28. 40	002820		989050			50	32. 46	002377		988908		
55	28. 40	002820		989045		JH	55	33. 2	002377		988917		
Nov. 26. 3. 0	246. 28. 55	0·002820	52·0	9·989040	53·0	G	Nov. 26. 7. 0	246. 33. 2	0·002555	53·0	9·988927	53·5	JH
5	28. 55	002842		989002			5	32. 44	002488		988917		
10	28. 55	002776		988997			10	32. 44	002377		988946		
15	28. 39	002776		988932			15	32. 57	002355		989002		
20	28. 34	002754		988932			20	32. 55	002355		989002		
25	28. 34	002754		988932			25	32. 55	002333		989021		
30	29. 7	002688		988917			30	32. 55	002289		989040		
35	29. 16	002577		988913			35	32. 55	002289		989045		
40	29. 23	002599		988899			40	32. 47	002289		989055		
45	29. 43	002599		988899			45	32. 47	002267		989078		
50	29. 43	002399		988889			50	33. 9	002267		989097		
55	29. 43	002333		988823			55	33. 12	002311		989125		
Nov. 26. 4. 0	246. 29. 43	0·002355	53·0	9·988814	54·0	G	Nov. 26. 8. 0	246. 33. 12	0·002245	52·8	9·989135	53·0	JH
5	29. 45	002466		988819			5	33. 31	002267		989144		
10	29. 59	002466		988819			10	33. 30	002333		989158		
15	30. 10	002421		988814			15	33. 29	002311		989172		
20	30. 28	002399		988814			20	33. 29	002289		989200		
25	30. 30	002510		988814			25	33. 29	002333		989191		
30	31. 36	002488		988814			30	33. 38	002289		989191		
35	31. 42	002466		988814		G	35	33. 56	002289		989243		JH
40	31. 48	002555		988814		P	40	34. 3	002355		989238		D
45	31. 54	002466		988814			45	33. 59	002355		989243		
50	31. 53	002555		988814			50	33. 37	002333		989243		
55	28. 49	002555		988814			55	33. 32	002267		989243		
Nov. 26. 5. 0	246. 32. 23	0·002577	53·0	9·988814	54·0	P	Nov. 26. 9. 0	246. 33. 39	0·002200	52·5	9·989257	51·2	D
5	32. 7	002577		988814			5	33. 39	002200		989276		
10	32. 34	002134		988814			10	33. 48	002267		989294		
15	33. 17	002035		988814			15	33. 51	002200		989294		
20	33. 33	002024		988814			20	33. 54	002200		989309		
25	33. 45	002134		988814			25	33. 56	002223		989332		
30	33. 50	002134		988814			30	33. 55	002267		989337		
35	33. 41	002355		988861			35	33. 52	002267		989341		
40	33. 36	002399		988861			40	33. 53	002289		989341		
45	33. 21	002466		988861			45	33. 51	002267		989341		
50	33. 18	002577		988903			50	33. 43	002223		989356		
55	32. 53	002688		988870			55	33. 43	002178		989370		D

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 12″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 185°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Nov. $26^d.\ 8^h$. The reading of the Vertical Force Magnet, when corrected for temperature, was 0·003127, being the largest during the term.

Term-Day Observations of December 21.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Dec. 21. 10. 0	246. 35. 21	0·000584	58·0	9·987991	57·0	G	Dec. 21. 14. 0	246. 32. 38	0·000097	58·0	9·987590	57·0	D
5	35. 17	000584		987976			5	32. 40	000097		987590		
10	34. 46	000406		987967			10	32. 40	000075		987590		
15	34. 35	000384		987929			15	32. 40	000075		987590		
20	34. 15	000406		987929			20	32. 24	000075		987585		
25	34. 13	000318		987925			25	32. 22	000075		987590		
30	34. 2	000318		987925			30	32. 3	000053		987590		
35	34. 1	000274		987925			35	31. 46	000053		987590		
40	34. 1	000252		987925			40	31. 12	000097		987590		
45	34. 1	000252		987925			45	30. 49	000075		987585		
50	34. 1	000185		987925			50	30. 58	000075		987585		
55	34. 1	000252		987915			55	31. 14	000097		987581		
Dec. 21. 11. 0	246. 34. 11	0·000318	58·0	9·987911	57·0	G	Dec. 21. 15. 0	246. 31. 44	0·000097	58·0	9·987581	58·0	D
5	34. 20	000340		987882			5	31. 53	000163		987581		
10	34. 12	000318		987873			10	32. 0	000207		987571		
15	34. 15	000340		987873			15	32. 4	000185		987552		
20	33. 58	000362		987863			20	32. 5	000163		987543		
25	33. 48	000362		987863			25	32. 6	000163		987543		
30	33. 48	000141		987863			30	32. 14	000141		987538		
35	33. 30	000141		987863			35	32. 33	000163		987538		
40	33. 29	000141		987863			40	32. 34	000163		987534		
45	32. 41	000185		987834			45	32. 38	000185		987534		
50	32. 41	000185		987792			50	32. 49	000185		987534		
55	32. 41	000185		987792			55	32. 58	000185		987534		
Dec. 21. 12. 0	246. 33. 10	0·000141	58·0	9·987787	57·0	G	Dec. 21. 16. 0	246. 32. 53	0·000185	58·0	9·987538	58·0	D
5	33. 10	000141		987778			5	32. 40	000340		987543		
10	33. 10	000141		987778			10	32. 40	000318		987543		
15	32. 41	000318		987787			15	32. 39	000274		987543		
20	32. 23	000384		987787			20	32. 44	000230		987543		
25	32. 24	000474		987787			25	32. 44	000252		987543		
30	32. 22	000518		987787			30	31. 43	000362		987543		
35	32. 55	000318		987769			35	31. 35	000362		987548		
40	32. 55	000185		987740			40	31. 24	000384		987557		
45	32. 55	000185		987740			45	31. 9	000362		987557		
50	32. 46	000163		987740			50	31. 5	000362		987571		
55	32. 34	000163		987731			55	31. 4	000362		987585		D
Dec. 21. 13. 0	246. 32. 32	0·000163	58·0	9·987731	57·0	G	Dec. 21. 17. 0	246. 31. 9	0·000384	57·8	9·987590	58·0	JH
5	32. 24	000141		987731			5	31. 24	000429		987590		
10	32. 17	000141		987708			10	31. 41	000384		987590		
15	32. 24	000185		987661			15	31. 39	000362		987590		
20	32. 24	000296		987646			20	31. 30	000362		987590		
25	32. 24	000340		987646			25	31. 24	000362		987500		
30	32. 24	000362		987646			30	31. 32	000362		987590		
35	32. 18	000384		987646			35	31. 46	000384		987590		
40	32. 18	000362		987637			40	31. 38	000384		987590		
45	32. 35	000141		987637			45	31. 33	000362		987590		
50	32. 35	000141		987628			50	31. 20	000384		987590		
55	32. 38	000119		987614		G	55	31. 25	000384		987590		

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 5″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 198°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Dec. $21^d.\ 10^h.\ 0^m$. The western declination was 23°. 16′. 44″, being the smallest during the term.

Dec. $21^d.\ 14^h$. The reading of the Vertical Force Magnet, when corrected for temperature, was 0·002638, being the smallest during the term.

Term-Day Observations of December 21 and 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Dec. 21. 18. 0	246. 31. 43	0 ·000384	57 ·5	9 ·987590	57 ·8	JH	Dec. 21. 22. 0	246. 28. 35	0 ·000584	57 ·7	9 ·987590	58 ·0	P
5	31. 52	000518		987590			5	28. 45	000606		987613		P
10	31. 54	000540		987590			10	28. 57	000540		987582		G
15	32. 0	000584		987590			15	29. 1	000540		987593		
20	32. 1	000584		987590			20	29. 0	000562		987580		
25	32. 14	000584		987590			25	29. 0	000562		987580		
30	32. 15	000584		987590			30	28. 57	000562		987581		
35	31. 48	000562		987590			35	28. 53	000518		987567		G
40	32. 2	000562		987590			40	28. 53	000474		987603		D
45	31. 58	000584		987590			45	28. 57	000406		987594		
50	32. 2	000650		987590			50	28. 58	000474		987587		
55	32. 4	000673		987590			55	28. 43	000562		987590		
Dec. 21. 19. 0	246. 31. 53	0 ·000805	57 ·5	9 ·987590	57 ·8	JH	Dec. 21. 23. 0	246. 28. 33	0 ·000584	57 ·6	9 ·987590	58 ·0	D
5	31. 50	000805		987590			5	28. 15	000540		987599		
10	31. 59	000827		987590			10	28. 8	000474		987595		
15	31. 50	000805		987590			15	27. 55	000406		987590		
20	31. 50	000739		987590			20	27. 52	000406		987590		
25	31. 45	000717		987637			25	27. 52	000452		987581		
30	31. 38	000695		987637			30	27. 55	000540		987567		
35	31. 34	000606		987646			35	28. 6	000584		987567		D
40	31. 35	000584		987637			40	28. 2	000540		987552		JH
45	31. 35	000584		987637			45	28. 2	000452		987552		
50	31. 39	000584		987637			50	27. 57	000452		987552		
55	31. 39	000463		987637		JH	55	27. 58	000452		987548		
Dec. 21. 20. 0	246. 31. 44	0 ·000440	57 ·8	9 ·987623	58 ·0	P	Dec. 22. 0. 0	246. 27. 53	0 ·000429	57 ·3	9 ·987557	57 ·6	JH
5	31. 35	000362		987637			5	27. 33	000474		987552		JH
10	32. 4	000362		987520			10	27. 25	000362		987571		P
15	32. 0	000318		987614			15	27. 20	000406		987571		
20	31. 40	000296		987614			20	26. 58	000540		987571		
25	31. 27	000230		987628			25	26. 33	000496		987571		
30	31. 5	000141		987637			30	26. 2	000584		987562		
35	30. 57	000031		987637			35	25. 38	000584		987543		
40	30. 46	000097		987637			40	25. 22	000584		987543		
45	30. 34	000097		987637			45	25. 22	000540		987543		
50	30. 20	000097		987637			50	25. 43	000452		987543		
55	30. 10	000031		987637			55	26. 4	000474		987543		
Dec. 21. 21. 0	246. 30. 5	0 ·000112	58 ·0	9 ·987637	58 ·6	P	Dec. 22. 1. 0	246. 26. 43	0 ·000540	58 ·0	9 ·987543	58 ·4	P
5	29. 50	000097		987637			5	26. 47	000362		987543		P
10	28. 54	000141		987637			10	26. 56	000362		987543		JH
15	28. 52	000141		987637			15	27. 21	000496		987581		
20	28. 57	000163		987614			20	27. 42	000406		987581		
25	28. 59	000252		987609			25	27. 56	000362		987590		
30	29. 5	000362		987590			30	27. 56	000362		987590		
35	29. 5	000584		987590			35	27. 56	000362		987581		
40	29. 2	000584		987628			40	27. 56	000406		987590		
45	28. 57	000584		987614			45	27. 59	000362		987581		
50	28. 40	000584		987599			50	28. 20	000406		987590		
55	28. 33	000584		987590			55	28. 20	000384		987590		

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m.\ 30^s$ before, and $2^m.\ 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 5″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 198°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot 3$; in Vertical Plane, $27^s\cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0 ·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0 ·000264 parts of the whole Vertical Force.

Dec. $21^d.\ 19^h.\ 10^m$. The reading of the Horizontal Force Magnet, when corrected for temperature, was 0 ·010602, being the largest during the term.

Dec. $22^d.\ 0^h.\ 40^m$ and 45^m. The western declination was 23°. 26′. 43″, being the largest during the term.

Term-Day Observations of December 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force Magnetometer.	Observer.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Dec. 22. 2. 0	246. 28. 27	0·000340	57·8	9·987590	57·6	JH	Dec. 22. 6. 0	246. 31. 24	0·000141	60·0	9·987180	60·0	G
5	28. 28	000362		987590			5	31. 24	000141		987180		
10	28. 50	000362		987599			10	31. 18	000141		987180		
15	28. 54	000362		987590			15	31. 18	000141		987133		
20	29. 23	000362		987595			20	31. 18	000141		987175		
25	29. 23	000362		987595		JH	25	31. 28	0·000141		987166		G
30	29. 31	000252		987590		P	30	31. 36	9·999921		987171		P
35	29. 45	000252		987590		P	35	31. 36	999921		987171		
40	29. 56	000584		987590		D	40	31. 35	999899		987171		
45	30. 4	000628		987590			45	31. 54	999921		987175		
50	30. 8	000628		987590			50	31. 58	999921		987180		
55	30. 12	000650		987590			55	31. 55	999921		987180		
Dec. 22. 3. 0	246. 30. 20	0·000650	59·0	9·987567	60·0	D	Dec. 22. 7. 0	246. 31. 54	9·999943	59·6	9·987180	60·0	P
5	30. 27	000628		987538			5	31. 54	999943		987180		
10	30. 28	000252		987529			10	31. 54	999987		987133		
15	30. 28	000274		987510			15	32. 7	999921		987128		
20	30. 22	000362		987496			20	32. 8	999899		987166		
25	30. 22	000296		987496			25	32. 8	999877		987166		
30	30. 22	000252		987487			30	32. 1	999899		987166		
35	30. 22	000274		987458			35	32. 13	999811		987166		
40	30. 22	000230		987454			40	32. 13	999744		987166		
45	30. 15	000185		987440			45	32. 9	999766		987166		
50	30. 13	000185		987440			50	31. 56	999789		987166		
55	30. 9	000185		987435			55	31. 56	999811		987166		
Dec. 22. 4. 0	246. 30. 3	0·000141	59·5	9·987407	60·0	D	Dec. 22. 8. 0	246. 32. 4	9·999921	59·8	9·987166	60·0	P
5	30. 2	000141		987387			5	32. 2	999965		987166		
10	30. 8	000119		987363			10	31. 58	9·999987		987166		
15	30. 11	000141		987354			15	32. 42	0·000053		987166		
20	30. 14	000163		987345			20	33. 19	9·999921		987166		
25	30. 18	000163		987345			25	33. 11	999921		987166		
30	31. 12	000230		987335			30	33. 4	999921		987166		
35	31. 18	000318		987331			35	32. 58	999921		987166		P
40	31. 18	000340		987307			40	33. 16	999766		987166		JH
45	31. 16	000296		987307			45	33. 26	999766		987166		
50	31. 15	000185		987307			50	33. 30	999833		987119		
55	31. 3	000097		987260		D	55	33. 58	999833		987119		
Dec. 22. 5. 0	246. 30. 52	0·000141	60·0	9·987260	60·0	G	Dec. 22. 9. 0	246. 33. 50	9·999943	59·5	9·987119	59·7	JH
5	30. 52	000119		987260			5	33. 21	0·000097		987119		
10	30. 49	000119		987251			10	33. 14	000185		987119		
15	30. 49	000141		987227			15	33. 8	0·000163		987119		
20	30. 49	000141		987222			20	33. 6	9·999965		987119		
25	31. 1	000141		987213			25	33. 12	9·999921		987119		
30	31. 16	000584		987213			30	33. 12	0·000053		987119		
35	31. 37	000650		987213			35	33. 5	0·000053		987119		
40	31. 36	000584		987213			40	32. 53	9·999987		987119		
45	31. 36	000584		987213			45	32. 53	999943		987119		
50	31. 36	000452		987190			50	32. 53	999943		987119		
55	31. 36	000362		987185			55	33. 5	999965		987119		

The Times of Observation of the Vertical Force and Horizontal Force Magnetometers are respectively $2^m. 30^s$ before, and $2^m. 30^s$ after the time of Observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 5″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 198°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 3$; in Vertical Plane, $27^s \cdot 5$.
Decrease of Horizontal Force for 1° increase of temperature = 0·000170 parts of the whole Horizontal Force.
Decrease of Vertical Force for 1° increase of temperature = 0·000264 parts of the whole Vertical Force.

Dec. $22^d. 3^h$. The reading of the Vertical Force Magnet, when corrected for temperature, was 0·003407, being the largest during the term.
Dec. $22^d. 7^h. 40^m$. The reading of the Horizontal Force Magnet, when corrected for temperature, was 0·009893, which is the smallest during the term.

ROYAL OBSERVATORY, GREENWICH.

EXTRAORDINARY OBSERVATIONS

OF

MAGNETOMETERS.

1842.

Extraordinary Observations of January 1 and 11.

Göttingen Mean Time, (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Jan. 1. 5. 57. 30						0 ·009927	43 ·5	D
6. 0. 0	246. 48. 47	D						
6. 2. 30			0 ·022944	44 ·0	D			
7. 57. 30						010219	42 ·5	
8. 0. 0	58. 16							
2. 30			021453	43 ·0				
3. 0						010168		
4. 0	53. 24							
5. 0			020535					
6. 0						010144		
7. 0	54. 42							
8. 0			020535					
9. 0						010199		
10. 0	55. 11							
11. 0			021354					
15. 0						010207		
16. 0	52. 54							
17. 0			021952					
20. 0						010199		
21. 0	52. 6							
22. 0			022251					
26. 0						010132		
27. 0	53. 38							
28. 0			021897					
33. 0						010128		
34. 0	53. 44							
35. 0			022428					
50. 0						009905		
51. 0	49. 40							
52. 0			023557					
58. 0						009805		
8. 59. 0	246. 50. 5							
9. 0. 0			022904					
38. 0						009614		
39. 0	247. 7. 37							
40. 0			023059					
42. 0						009646		
43. 0	8. 35							
44. 0			024055					
45. 0						009690		
46. 0	8. 34							
47. 0			024431					
48. 0						009662		
49. 0	8. 10							
50. 0			024797					
52. 0						009662		
53. 0	6. 53							
54. 0			025096					
55. 0						009674		
56. 0	5. 29							
57. 0			025251					

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Jan. 1. 9. 57. 30						0 ·009650	42 ·5	D
10. 0. 0	247. 3. 48	D						
2. 30			0 ·024981	42 ·8	D			
6. 0						009595		
7. 0	2. 45							
8. 0			025140					
21. 0						009451		D
22. 0	247. 2. 3	D						
10. 23. 0			024819		D			
11. 40. 0	246. 47. 47	JH						
11. 57. 30						009674	41 ·0	JH
12. 0. 0	40. 32							
2. 30			026125	41 ·0	JH			
4. 0						009821		
5. 0	40. 38							
6. 0			026070					
13. 0						009356		
14. 0	41. 32							
15. 0			025284					
22. 0						009316		
23. 0	42. 36							
24. 0			024409					
25. 0						009288		
26. 0	42. 54							
27. 0			024365					
40. 0						009411		
41. 0	42. 43							
42. 0			024044					
Jan. 11. 3. 57. 30						0 ·010757	41 ·6	JH
4. 0. 0	246. 33. 49	JH						
4. 2. 30			0 ·018365	42 ·0	JH			
5. 54. 0	41. 0	G						
5. 57. 30						011039	41 ·0	G
6. 0. 0	39. 44							
6. 2. 30			017535	42 ·0	G			
7. 57. 30						010721	42 ·0	
8. 0. 0	36. 36							
8. 2. 30			018317	43 ·0				
9. 57. 30						010617	42 ·0	
10. 0. 0	49. 22							
10. 2. 30			017579	43 ·0				
8. 0	50. 9							
12. 0	48. 54							
16. 0						010721		G
17. 0	48. 25	G						
10. 18. 0			018487		G			
11. 57. 30						010637	42 ·0	D
12. 0. 0	42. 59	D						
2. 30			017683	43 ·0	D			
44. 0						010737		

Decrease of horizontal force for 1° increase of temperature = 0 ·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0 ·000264 parts of the whole vertical force.

Jan. 1d. A change of 10′ nearly having taken place in the position of the Declination Magnet between 6h and 8h, extra observations were commenced.
Jan. 1d. 9h. 43m. The western declination deduced from this observation is 22°. 43′. 23″, and it is the smallest in the month.
Jan. 1d. 12h. 4m. The observer thought that he had read the scale of the vertical force magnet one division too great; if so, the corresponding value in parts of the whole vertical force would be 0 ·009423.
Jan. 1d. 12h. 14m. The Declination Magnet has an up and down motion.
Jan. 1d. 12h. 42m. The magnets being nearly in a quiescent state, the observations were discontinued.
Jan. 11d. 6h. The Declination Magnet appeared somewhat disturbed; it was watched for a considerable time, during which no great changes took place.
Jan. 11d. 10h. A change of 13′ having taken place in the position of the Declination Magnet since 8h, it was again watched: no further changes of any amount worth recording took place. At 11h. 30m, the magnet appeared to be slowly returning towards its previous position.

Extraordinary Observations of January 11, 15, and 18.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Jan. 11. 12. 45. 0	246. 41. 32	D						
12. 46. 0			0 ·017579		D			
13. 16. 0						0 ·010836		D
17. 0	44. 8							
18. 0			017624					
13. 57. 30						010896	40 ·5	
14. 0. 0	30. 19							
2. 30			018044	41 ·5				
4. 0						010884		
5. 0	31. 46							
6. 0			017579					
11. 0						010836		
12. 0	33. 51							
13. 0			017657					
18. 0						010884		
19. 0	35. 52							
20. 0			018365					
30. 0						010908		
31. 0	35. 38							
32. 0			018409					
47. 0						010840		
48. 0	35. 56							
14. 49. 0			018454					
15. 30. 0						010765		
31. 0	40. 5							
32. 0			018520					
15. 57. 30						010804	41 ·0	
16. 0. 0	38. 44							
2. 30			018000	42 ·0				
56. 0						010745		
57. 0	40. 22							
16. 58. 0			018228					
17. 57. 30						010717	42 ·0	
18. 0. 0	35. 31							
18. 2. 30			017657	43 ·0				
Jan. 15. 9. 57. 30						0 ·010231	41 ·5	D
10. 0. 0	246. 37. 50	D						
10. 2. 30			0 ·018941	42 ·0	D			
11. 30. 0						010084		JH
31. 0	49. 33	JH						
32. 0			016826		JH			
35. 0						010100		
36. 0	51. 21							
37. 0			016959					
40. 0						010112		
41. 0	51. 40							
42. 0			017158					
45. 0						010184		
46. 0	51. 43							
47. 0			017324					

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Jan. 15. 11. 48. 0						0 ·010156		H
49. 0	246. 52. 8	JH						
50. 0			0 ·017447		JH			
51. 0						010112		
52. 0	52. 55							
53. 0			017092					
54. 0						010068		
55. 0	54. 52							
56. 0			016970					
11. 57. 30						010048	42 ·6	
12. 0. 0	57. 55							
2. 30			016188	43 ·1				
3. 0						010028		
4. 0	57. 42							
5. 0			016029					
15. 0						010096		
16. 0	57. 37							
17. 0			016139					
28. 0						010048		
29. 0	57. 2							
30. 0			015786					
42. 0						010032		JH
43. 0	56. 3	JH						
12. 44. 0			015487		JH			
Jan. 18. 5. 57. 30						0 ·010697	42 ·0	G
6. 0. 0	246. 45. 13							
6. 2. 30		G	0 ·016366	43 ·0	G			
7. 57. 30						010367	43 ·0	
8. 0. 0	50. 29							
2. 30			016549	44 ·0				
8. 0						010339		
9. 0	53. 58							
10. 0			016627					
24. 0						010379		
25. 0	51. 24							
26. 0			017380					
8. 59. 0						010168		
9. 0. 0	50. 9							
1. 0			016284					
9. 57. 30						010192	43 ·0	G
10. 0. 0	45. 25	G						
10. 2. 30			017273	44 ·0	G			
11. 57. 30						009403	43 ·0	D
12. 0. 0	43. 31	D						
12. 2. 30			017834	44 ·0	D			
13. 57. 30						009443	42 ·8	
14. 0. 0	40. 13							
2. 30			017561	43 ·5				
26. 0						009007		
27. 0	37. 23							

Decrease of horizontal force for 1° increase of temperature = 0 ·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0 ·000264 parts of the whole vertical force.

Jan. 11^{d}. 14^{h}. This change of 14′ in the position of the Declination Magnet from its previously recorded position, must have taken place shortly before 14^{h}, as the observer, about half an hour before, had examined its position and found the magnet stationary, being in a position requiring the theodolite to read 246°. 42′.

Jan. 11^{d}. 14^{h} to 16^{h}. The positions of the magnets were frequently examined.

Jan. 15^{d}. At 11^{h}. 30^{m} extra observations were commenced, in consequence of finding the Declination Magnet in a position differing 12′ nearly from what it was at 10^{h}, and the Horizontal Force Magnet in a position one division of the scale different from what it was at 10^{h}. During the evening, at intervals, a bright light was seen in the North for about three hours: meteors were also numerous during the evening.

Jan. 15^{d}. 11^{h}. 45^{m}. There is now no more light in the North than in the other parts of the sky.

Jan. 18^{d}. 8^{h}. The Declination Magnet was in a disturbed state: no great changes were, however, going forward: it was watched some time after 10^{h}, during which all its motions were irregular.

Jan. 18^{d}. 14^{h}. The motions of the magnets were very irregular: between every two recorded positions they were frequently watched: at 18^{h} the motions were as usual.

Extraordinary Observations of January 18 and 21.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Jan. 18. 14. 28. 0			0·017114		D			
58. 0						0·009007		D
14. 59. 0	246. 44. 46	D						
15. 0. 0			018631					
3. 0						008998		
4. 0	47. 28							
5. 0			019062					
8. 0						009037		
9. 0	47. 15							
10. 0			019095					
13. 0						009045		
14. 0	47. 30							
15. 0			018111					
18. 0						009077		
19. 0	47. 6							
20. 0			017966					
44. 0						009193		
45. 0	46. 13							
46. 0			017015					
15. 57. 30						009224	43·5	
16. 0. 0	47. 46							
2. 30			017606	44·5				
24. 0						009260		
25. 0	50. 10							
16. 26. 0			018066					
17. 15. 0						009403		
16. 0	46. 16							
17. 0			017346					
17. 57. 30						009403	43·5	D
18. 0. 0	46. 27	D						
18. 2. 30			017948	44·8	D			
Jan. 21. 9. 57. 30						0·010359	42·4	P
10. 0. 0	246. 47. 31	P						
10. 2. 30			0·018487	41·4	P			
11. 55. 0						010478		G
56. 0	56. 8	G						
57. 0			018819		G			
11. 57. 30						010478	39·0	
12. 0. 0	55. 30							
2. 30			018465	41·0				
3. 0						009961		
4. 0	53. 40							
5. 0			018144					
13. 0						009792		
14. 0	51. 53							
15. 0			017933					
19. 0	51. 37							
31. 0						009929		
32. 0	55. 4							
34. 0	55. 40							

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Jan. 21. 12. 35. 0			0·016582		G			
38. 0						0·009937		G
39. 0	246. 56. 30	G						
40. 0			016804					
43. 0						009965		
44. 0	54. 49							
45. 0			017302					
48. 0						009969		
49. 0	54. 32							
12. 50. 0			016826					
13. 8. 0						010048		
9. 0	53. 9							
10. 0			016150					
24. 0	50. 25							
28. 0						010084		
29. 0	49. 27							
30. 0			016395					
43. 0						010080		
44. 0	47. 50							
45. 0			016716					
13. 57. 30						010076	40·0	
14. 0. 0	46. 43							
2. 30			017063	43·0				
13. 0						010040		
14. 0	47. 59							
15. 0			016826					
28. 0						009993		
29. 0	48. 45							
30. 0			016826					
43. 0						009969		
44. 0	48. 16							
14. 45. 0			015930					
15. 8. 0						009961		
9. 0	42. 0							
10. 0			015122					
18. 0						009913		
19. 0	42. 27							
20. 0			015708					
33. 0						009873		
34. 0	44. 13							
35. 0			017280					
44. 0	44. 23							
15. 57. 30						009766	41·0	
16. 0. 0	45. 11							
2. 30			017539	43·0				
10. 0						009694		
11. 0	47. 15							
12. 0			017368					
23. 0						009734		
24. 0	47. 16							
25. 0			017246					

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

Jan. 21d. At 11h. 56m the Declination Magnet was found in a position which was 9′ different from its previously recorded position: its motion at 11h. 56m + was towards the former position, from which circumstance it is suspected that it had changed its position by more than 9′.

Jan. 21d. Between the observations at 12h. 50m and 13h. 9m, the positions of the magnets were frequently examined. The position of the Declination Magnet, at each inspection, was such that the theodolite reading was always a little less than at the preceding inspection.

Jan. 21d. 13h. 11m. The extent of the vibration of the Horizontal Force Magnet rather suddenly decreased from 8d to 1d.

Jan. 21d. 15h. 9m. The change of 6′ in the position of the Declination Magnet, since the observation at 14h. 44m, must have been sudden: at 15h its position was examined, and its change from its previously recorded place was so inconsiderable, that it was not thought worth recording.

Jan. 21d. At 16h. 30m, and also at 16h. 45m, the magnets were in the same positions as at the previous observations.

Jan. 21d. No extra observations were taken after 17h. 30m, but the instruments were examined every fifteen minutes to 20h. There was no vibration either of the Declination Magnet or of the Vertical Force Magnet. The Horizontal Force Magnet kept the same extent of vibration, and none of them varied much in their positions of rest.

Extraordinary Observations of January 21, 24, 25, 26, and 27.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Obs.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Obs.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Obs.
d h m s	° ′ ″			°			°	
Jan. 21. 16. 58. 0						0·009766		G
16. 59. 0	246. 47. 3	G						
17. 0. 0			0·017458		G			
28. 0						009726		
29. 0	45. 48							
30. 0			017257					
17. 57. 30						009766	41·0	G
18. 0. 0	44. 58	G						
18. 2. 30			017911	43·0	G			
Jan. 24. 7. 57. 30						0·010605	39·4	P
8. 0. 0	246. 41. 16	P						
8. 2. 30			0·019269	40·2	P			
9. 57. 30						011155	38·5	G
10. 0. 0	51. 13	G						
2. 30			015597	39·0	G			
6. 0						011193		
7. 0	54. 38							
8. 0			015996					
9. 0	55. 18							
10. 0			014956			011229		
12. 0	54. 39							
13. 0			014790			011273		
14. 0	54. 40							
15. 0			014391			011357		
16. 0	54·53							
17. 0			014347			011369		
22. 0	55. 5							
23. 0			014159			011476		
26. 0	55. 57							
27. 0			014159			011512		
31. 0	58. 3							
32. 0			014623			011556		
35. 0	58. 24							
36. 0			015697			011635		
39. 0	56. 37							
40. 0			016040			011639		
43. 0						011711		
44. 0	53. 44							
45. 0			016693					
48. 0						011719		
49. 0	50. 47							
50. 0			016716					
53. 0						011667		G
54. 0	49. 56	G						
10. 55. 0			016406		G			
11. 39. 0						011655		JH
40. 0	46. 6	JH						
41. 0			017158		JH			
11. 57. 30						011552	38·6	
12. 0. 0	49. 35							

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Obs.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Obs.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Obs.
d h m s	° ′ ″			°			°	
Jan. 24. 12. 2. 30			0·018642	38·6	JH			
33. 0						0·011249		JH
34. 0	246. 50. 4	JH						
12. 35. 0			019950					
Jan. 25. 5. 57. 30						0·009360	44·0	
6. 0. 0	246. 42. 30	JH						
6. 2. 30			0·017650	44·6	JH			
7. 57. 30						009467	43·0	
8. 0. 0	52. 24							
2. 30			018299	43·2				
4. 0						009579		
5. 0	51. 24							
6. 0			017269					
7. 0						009591		
8. 0	51. 4							
9. 0			017202					
22. 0						009579		
23. 0	52. 20							
24. 0			018376					
34. 0						009595		
35. 0	50. 42							
8. 36. 0			019084					
9. 33. 0						009507		
34. 0	44. 14							
35. 0			019062					
9. 57. 30						009559	42·4	JH
10. 0. 0	43. 24	JH						
10. 2. 30			018539	42·5	JH			
11. 43. 0						010048		G
44. 0	43. 17	G						
45. 0			018376		G			
53. 0						010084		
54. 0	43. 20							
55. 0			018332					
11. 57. 30						010060	39·0	
12. 0. 0	42. 19							
2. 30			018959	40·0				
16. 0						010112		
17. 0	44. 22							
12. 18. 0			018111					
13. 23. 0						010000		
24. 0	41. 1							
25. 0			018144					
13. 57. 30						009889	40·0	G
14. 0. 0	42. 50	G						
14. 2. 30			018288	41·0	G			
Jan. 26. 23. 57. 30						0·009929	42·8	JH
27. 0. 0. 0	246. 38. 21	JH						

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

Jan. 24d. 10h. The position of the Declination Magnet had changed 10′ since the observation at 8h. Extra observations were commenced, during which the Declination Magnet and the Horizontal Force Magnet were slowly returning to their previous state. During the night, the Declination Magnet had a large vibration, with a very irregular motion. At 15h it blew a strong gale, but there did not appear any connexion with the gusts of wind and the irregular motions, or sudden jerks, of the magnets.

Jan. 24d. 10h. 23m and 27m. The marked end of the Horizontal Force Magnet was less drawn towards the North at these than at any other times during the month, the reading being 0·020755 parts of the whole horizontal force, as corrected for temperature.

Jan. 25d. At 8h, extra observations were commenced, in consequence of a change of 10′ in the position of the Declination Magnet since the observation at 6h.

Jan. 25d. At 8h. 36m, no changes to any large amount going forward, the observations were discontinued, but they were again resumed at 11h. 45m, and discontinued at 13h. 25m. The magnets were frequently inspected for a considerable time after this, but no further changes took place worth recording.

Jan. 27d. Between 0h and 2h a change of three divisions in the scale readings of the Vertical Force Magnet took place, and extra observations were commenced.

Extraordinary Observations of January 27, 30, 31, and February 1.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Jan. 27. 0. 2. 30			0·017143	44·8	JH			
1. 47. 30						0·008775		JH
50. 0	246. 37. 26	JH						
52. 30			017763					
1. 57. 30						008691	48·0	
2. 0. 0	38. 13							
2. 30			017793	49·0				
7. 30						008619		
10. 0	37. 25							
12. 30			017298					
13. 43						008568		
18. 0						008516		JH
19. 0	38. 1	JH						
20. 0			017158		JH			
23. 0						008456		G
24. 0	38. 8	G						
25. 0			015631		G			
36. 0						008213		
37. 0	37. 16							
38. 0			017302					
51. 0						008190		G
52. 0	39. 16	G						
2. 53. 0			017280		G			
3. 29. 0						007935		JH
30. 0	40. 8	JH						
31. 0			014922		JH			
3. 57. 30						007891	49·0	P
4. 0. 0	40. 8	P						
4. 2. 30			017462	50·0	P			
5. 57. 30						007752	48·8	
6. 0. 0	38. 39							
6. 2. 30			017424	49·8				
7. 57. 30						008090	47·0	
8. 0. 0	37. 51							
8. 2. 30			017823	47·2				
9. 57. 30						008707	45·0	
10. 0. 0	51. 9							
2. 30			017557	45·0				
5. 30						008707		
6. 30	49. 36							
7. 30			017280					
9. 30	48. 28							
10. 30			017269					
12. 30	47. 8							
13. 30			017413					
14. 30	46. 2							
15. 30			017213					
17. 30	45. 33							
18. 30			016881					
19. 30	44. 37							
20. 30			016848					

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Jan. 27. 10. 21. 30	246. 44. 52	P						P
22. 30			0·016937		P			
23. 30	43. 48							
24. 30			016937					
25. 30	43. 2							
26. 30			017136					
28. 30	42. 14							
29. 30			017081					
30. 30	41. 36							
31. 30			017147		P			
32. 30	41. 15							
33. 30						0·009105		P
34. 30	40. 36							
10. 36. 30	40. 57	P						
11. 57. 30						009316	43·3	JH
12. 0. 0	43. 20	JH						
12. 2. 30			018111	43·8	JH			
Jan. 30. 22. 2. 30			0·018759	41·4	JH			
31. 0. 2. 30			016671	43·4				
11. 13			016804					
15. 47			016516					
22. 58			016472					
0. 34. 58			016693					
1. 30. 0			017070					
1. 52. 30			016117					
2. 2. 30			017287	48·3				
2. 12. 30			017627					
Feb. 1. 9. 57. 30						0·009125	45·0	JH
10. 0. 0	246. 43. 42	JH						
10. 2. 30			0·018941	45·0	JH			
11. 57. 30						009252	44·0	G
12. 0. 0	42. 3	G						
2. 30			021339	45·0	G			
12. 23. 56			021387					
13. 22. 57			018055					
24. 0	45. 32							
25. 0			018133			008803		
26. 0	45. 38							
27. 0			017933			008775		
34. 0	47. 8							
35. 0			017966			008707		
44. 0	48. 3							
45. 0			017602			008731		
13. 57. 30						008719	45·0	
14. 0. 0	46. 56							
2. 30			017719	46·0				
10. 0	47. 54							
11. 0			017701			008607		

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

Jan. 27d. 10h. A change of more than 13′ had taken place in the preceding two hours.

Jan. 27d. The observations, at 10h. 14m. 30s and 10h. 15m. 30s, were recorded as having been observed one minute earlier than these times; but this could not have been the case, as there was an observation at 10h. 13m. 30s. The interval of time between the preceding observations and those observations, as the times now stand, is two minutes, and the next interval three minutes; but the latter interval may have been two minutes, and the former interval three minutes; and if such had been the case, the times would have been 15m. 30s and 16m. 30s: the times are therefore doubtful.

Jan. 31d. 0h. The extra observations were taken in consequence of a change of 1d in the reading of the scale of the Horizontal Force Magnet, since the previous observation.

Feb. 1d. 12h. A change of one division in the reading of the scale of the Horizontal Force Magnet having taken place in the preceding two hours, all the magnets were watched for more than half an hour, and no change of any amount worthy of notice took place. At 13h the Horizontal Force Magnet had suddenly a large vibration, and its position of rest was altered by another division of its scale, and extra observations were commenced. During the observations, the Vertical Force Magnet was without vibration, and its place was recorded between the observations of the Horizontal Force Magnet, so that the observations of them were simultaneous.

Feb. 1d. 12h. 23m. 56s. The marked end of the Horizontal Force Magnet was more drawn towards the North at this than at any other time in the month, the reading being 0·029037 when corrected for temperature.

Extraordinary Observations of February 1, 2, 6, and 7.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Feb. 1. 14. 24. 0	246. 45. 58	G						
25. 0			0 ·017613		G	0 ·008771		G
40. 0	43. 4							
14. 41. 0			017048			008846		
15. 57. 30						008982	45 ·0	
16. 0. 0	42. 3							
16. 2. 30			017686	46 ·0				
17. 57. 30						008894	45 ·0	
18. 0. 0	42. 12							
18. 2. 30			017309	46 ·0				
19. 57. 30						008966	45 ·0	G
20. 0. 0	41. 16	G						
20. 2. 30			017384	46 ·0	G			
21. 57. 30						008950	45 ·8	D
22. 0. 0	40. 22	D						
22. 2. 30			017257	46 ·3	D			
23. 57. 30						008783	47 ·0	
Feb. 2. 0. 0. 0	33. 6							
2. 30			014074	47 ·6				
7. 0						008767		
8. 0	32. 52							
9. 0			014435					
26. 0						008719		
27. 0	31. 15							
28. 0			015099					
42. 0						008647		
43. 0	30. 3							
44. 0			014634					
45. 0						008647		
46. 0	28. 0							
47. 0			015222					
49. 0						008639		
50. 0	27. 47							
51. 0			015077					
56. 0						008576		
57. 0	26. 51							
0. 58. 0			014834					
1. 12. 0						008496		
13. 0	27. 23							
14. 0			013516					
21. 0						008528		
22. 0	32. 44							
23. 0			013650					
26. 0						008560		
27. 0	34. 51							
28. 0			015166					
34. 0						008719		
35. 0	33. 10							
36. 0			015498					
47. 30						008647		

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Feb. 2. 1. 50. 0	246. 34. 6	D						
52. 30			0 ·015790		D			
1. 57. 30						0 ·008655	49 ·5	D
2. 0. 0	33. 13							
2. 30			016775	50 ·0				
7. 30						008584		
10. 0	33. 2							
2. 12. 30			016915					
Feb. 6. 13. 57. 30						0 ·009264	36 ·0	D
14. 0. 0	246. 39. 40	D						
14. 2. 30			0 ·016991	36 ·5	D			
15. 57. 30						008186	39 ·0	
16. 0. 0	47. 24							
2. 30			016255	41 ·8				
14. 0						008206		
15. 0	44. 35							
16. 0			016503					
46. 0						008170		
47. 0	40. 45							
16. 48. 0			018086					
17. 6. 0						008058		
7. 0	42. 57							
8. 0			017002					
20. 0						007971		
21. 0	44. 44							
22. 0			016393					
43. 0						007851		
44. 0	44. 28							
45. 0			017300					
17. 57. 30						007804	42 ·5	
18. 0. 0	44. 1							
2. 30			016852	45 ·2				
15. 0						007664		
16. 0	42. 55							
17. 0			016171					
44. 0						007565		
45. 0	40. 28							
18. 46. 0			015739					
19. 28. 0						007326		
29. 0	36. 49							
30. 0			016459					
19. 57. 30						007222	44 ·2	D
20. 0. 0	36. 3							
20. 2. 30			015865	46 ·5				
Feb. 7. 1. 47. 30						0 ·007211		JH
50. 0	246. 23. 37	JH						
52. 30			0 ·016553		JH			
1. 57. 30						007250	45 ·0	
2. 0. 0	21. 55							

Decrease of horizontal force for 1° increase of temperature = 0 ·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0 ·000264 parts of the whole vertical force.

Feb. 2^d. 0^h. A change of $1^d \cdot 5$ in the position of the Horizontal Force Magnet took place between this and the previous observation.

Feb. 6^d. 16^h. A change of $8'$ in the position of the Declination Magnet, and a change of 2^d in the scale readings of the Vertical Force Maguet, having taken place in the previous two hours, extra observations were commenced. During the time of observation the Horizontal Force Magnet vibrated sometimes over 16^d and sometimes over 8^d, and at all times it had a large vibration.

Extraordinary Observations of February 7 and 8.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Feb. 7. 2. 2. 30			0·014566	46·0	JH			
7. 30						0·007171		JH
10. 0	246. 24. 34	JH						
12. 30			012723					
14. 0						007199		
15. 0	25. 39							
16. 0			012972					
23. 0						007183		
24. 0	30. 30							
25. 0			012507					
26. 0						007294		
27. 0	31. 48							
28. 0			012983					
29. 0						007338		
30. 0	32. 6							
31. 0			013227					
36. 0						007501		JH
37. 0	33. 7	JH						
38. 0			013614		JH			
39. 0						007565		G
40. 0	33. 15	G						
41. 0			013404		G			
46. 0						007581		JH
47. 0	36. 5	JH						
48. 0			013536		JH			
49. 10			013536		G			
52. 0	33. 55	G						
2. 53. 0			013758		G	007648		G
3. 57. 30						007501	46·0	D
4. 0. 0	27. 26	D						
4. 2. 30			014113	47·0	D			
5. 57. 30						007187	45·5	
6. 0. 0	28. 53							
6. 2. 30			016835	46·5				
7. 57. 30						006904	46·5	
8. 0. 0	33. 55							
8. 2. 30			016553	48·0				
9. 57. 30						006072	47·0	D
10. 0. 0	27. 25	D						
10. 2. 30			016130	48·5	D			
11. 44. 0	37. 36	JH						
45. 0			015706		JH	005989		JH
48. 0	38. 12							
49. 0			015972			006005		
11. 57. 30						006048	45·3	
12. 0. 0	38. 47							
2. 30			015772	46·6				
5. 0	40. 27							
6. 0			015407			006068		
41. 0	34. 32							
42. 0			019858			006192		

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Feb. 7. 12. 43. 0	246. 34. 3	JH						
44. 0			0·020245		JH	0·006184		JH
45. 0	34. 1							
46. 0			019758			006164		
47. 0	33. 30							
48. 0			019581			006156		
49. 0	33. 7							
50. 0			019371			006132		
51. 0	32. 53							
52. 0			018994			006112		
53. 0	32. 37							
54. 0			018950			006092		
55. 0	32. 32							
56. 0			017942			006068		
57. 0	32. 39							
58. 0			017655			006068		
12. 59. 0	32. 52							
13. 0. 0			017467			006040		
1. 0	33. 18							
2. 0			017112			006052		
3. 0	33. 54							
4. 0			017411			006052		
9. 0	35. 12							
10. 0			016702			006060		
23. 0	38. 56							
24. 0			016725			006164		
25. 0	38. 54							
26. 0			016879			006172		
54. 0	37. 20							
55. 0			016260			006391		
13. 57. 30						006403	45·0	
14. 0. 0	36. 41							
14. 2. 30			016415	45. 3				
15. 57. 30						006920	43·2	
16. 0. 0	33. 5							
16. 2. 30			016863	43·8				
Feb. 8. 9. 57. 30						0·006204	47·4	JH
10. 0. 0	246. 36. 8	JH						
10. 2. 30			0·016022	47·8	JH			
11. 57. 30						005790	48·0	G
12. 0. 0	46. 59	G						
2. 30			015668	48·0	G			
15. 0	45. 48							
16. 0			014389			005782		
22. 0	45. 31							
23. 0			015053			005833		
44. 0	41. 0							
45. 0			014832			005893		
55. 0	39. 26							
56. 0			015629			005881		

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

Feb. 7d. 2h. 10m. A change of 1d·5 in the scale reading of the Horizontal Force Magnet having taken place in the previous twenty minutes, extra observations were commenced,

Feb. 7d. 11h. 44m. The position of the Declination Magnet is 10′ different from its position at the previous observation at 10h. At 11h. 40m the northern part of the heavens appeared as if generally illuminated with a bright, steady, yellow light, notwithstanding that the sky was completely overcast. The center of the light was in the magnetic meridian, and, near the horizon, it much resembled the strong glare of moonlight. There was no flickering, but a pale, steady light, which was undoubtedly auroral. The contrast, between the appearance of the sky North of the zenith and the sky in other directions, was remarkable. After 12h the light gradually became fainter, and at 13h. 15m it had entirely disappeared,

Feb. 7d. 16h. The magnets had been frequently examined in the previous two hours, but no change of sufficient amount to be worth recording had taken place.

Feb. 8d. Between 10h and 12h the Declination Magnet had changed its position 10′, and extra observations were commenced after 12h. 15m. Between 12h and 12h. 15m the Declination Magnet was frequently inspected: at each time it was found in such a position that the micrometer reading was rather less than at the preceding inspection.

Feb. 8d. 12h. 44m. The extent of vibration of the Horizontal Force Magnet was much increased without any apparent cause; the motion, however, was without any checks, being smooth and continuous throughout.

Extraordinary Observations of Feb. 8, 11, and 16.

Göttingen Mean Time (Astronomical Reckoning.)	Theodolite Reading.	Obs.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Obs.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Obs.
d h m s	° ′ ″			°			°	
Feb. 8. 13. 0. 0	246. 39. 2	G						
1. 0			0·014765		G	0·005861		G
15. 0	36. 41							
16. 0			015850			005853		
30. 0	36. 24							
31. 0			015119			005774		
45. 0	35. 47							
46. 0			015064			005754		
13. 57. 30						005694	50·0	
14. 0. 0	35. 6							
2. 30			015584	52·0				
45. 0	35. 1							
14. 46. 0			015606			005535		
15. 57. 30						005408	51·0	G
16. 0. 0	33. 0	G						
16. 2. 30			016000	52·0	G			
Feb. 11. 9. 57. 30						0·004878	52·2	JH
10. 0. 0	246. 38. 16	JH						
10. 2. 30			0·014052	52·3	JH			
11. 55. 0	49. 1	G						
56. 0			013581		G	004588		G
11. 57. 30						004588	54·5	
12. 0. 0	48. 12							
2. 30			013773	55·5				
7. 0	47. 54							
8. 0			013835			004476		
30. 0	47. 21							
31. 0			013791			004349		
45. 0	48. 11							
46. 0			014400			004301		
13. 0. 0	45. 42							
1. 0			013891			003497		
15. 0	44. 34							
16. 0			013558			003768		
30. 0	42. 6							
31. 0			015175			003835		
45. 0	44. 14							
46. 0			015164			003623		
13. 57. 30						003521	54·5	
14. 0. 0	47. 53							
2. 30			015048	55·5				
15. 0	47. 35							
14. 16. 0			014665			003473		
15. 57. 30						003155	54·0	
16. 0. 0	47. 19							
16. 2. 30			015518	55·0				
17. 57. 30						002737	53·0	
18. 0. 0	41. 12							
2. 30			016208	54·5				
15. 0	39. 4							

Göttingen Mean Time (Astronomical Reckoning.)	Theodolite Reading.	Obs.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Obs.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Obs.
d h m s	° ′ ″			°			°	
Feb. 11. 18. 16. 0		G	0·016437		G	0·001961		G
30. 0	246. 36. 56							
31. 0			016747			001977		
45. 0	37. 17							
18. 46. 0			016946			001913		
19. 57. 30						002208	53·0	G
20. 0. 0	34. 8	G						
20. 2. 30			014736	54·0	G			
Feb. 16. 11. 57. 30						0·004719	52·0	D
12. 0. 0	246. 37. 44	D						
12. 2. 30			0·016210	52·5	D			
13. 57. 30						004596	52·0	
14. 0. 0	247. 0. 36							
2. 30			017460	52·0				
8. 0	246. 57. 24							
9. 0			017035			004500		
10. 0	57. 30							
11. 0			016890			004460		
12. 0	57. 10							
13. 0			016393			004397		
14. 0	56. 50							
15. 0			015994			004357		
16. 0	56. 21							
17. 0			015983			004313		
18. 0	55. 58							
19. 0			015153			004261		
20. 0	55. 38							
21. 0			014865			004222		
22. 0	55. 39							
23. 0			014865			004190		
24. 0	55. 46							
25. 0			014234			004182		
26. 0	55. 44							
27. 0			013525			004110		
28. 0	55. 44							
29. 0			013149			004102		
30. 0	55. 25							
31. 0			012950			004070		
32. 0	55. 4							
33. 0			012928			004078		
34. 0	54. 56							
35. 0			012695			004110		
36. 0	54. 42							
37. 0			012762			004150		
38. 0	54. 13							
39. 0			012784			004170		
40. 0	54. 5							
41. 0			012861			004182		
42. 0	53. 49							
43. 0			012706			004190		

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

Feb. 8d. 16h. After this time the positions of the magnets were frequently examined, but no change to a large amount took place.

Feb. 11d. At 11h. 50m, the Declination Magnet was in a position 11′ different from its position at 10h, and extra observations were at once commenced.

Feb. 11d. 18h. 46m. The position of the Vertical Force Magnet is now different from any position in which it has been since the establishment of the Observatory: the marked end of the magnet is above the horizontal plane by a quantity represented by thirty divisions of its scale.

Feb. 11d. 18h. 46m. 0s. The marked end of the Vertical Force Magnet was less drawn downwards at this than at any other observation in the month, the reading being 0·015905 when corrected for temperature.

Feb. 16d. At the observation at 14h the cross carried by the Declination Magnet was out of the field, the magnet having changed its position 23′ since the observation at 12h.

Extraordinary Observations of February 16.

Göttingen Mean Time, (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Feb. 16. 14. 44. 0	246. 53. 29	D						
45. 0			0·012883		D	0·004194		D
46. 0	53. 8							
47. 0			013183			004210		
48. 0	53. 2							
49. 0			012983			004222		
50. 0	52. 40							
51. 0			013016			004229		
52. 0	52. 12							
53. 0			013094			004237		
55. 0	51. 40							
56. 0			013326			004269		
57. 0	51. 37							
58. 0			012883			004261		
14. 59. 0	51. 26							
15. 0. 0			012994			004261		
1. 0	51. 19							
2. 0			013304			004261		
3. 0	50. 59							
4. 0			013614			004269		
5. 0	50. 37							
6. 0			013426			004269		
7. 0	50. 16							
8. 0			013293			004269		
9. 0	50. 5							
10. 0			013016			004269		
11. 0	49. 54							
12. 0			012662			004269		
13. 0	49. 36							
14. 0			013149			004273		
15. 0	49. 51							
16. 0			012850			004277		
17. 0	49. 55							
18. 0			012917			004281		
19. 0	49. 43							
20. 0			013039			004281		
21. 0	49. 33							
22. 0			013116			004285		
23. 0	49. 13							
24. 0			013238			004285		
25. 0	49. 5							
26. 0			013039			004289		
27. 0	48. 58							
28. 0			012751			004281		
29. 0	49. 16							
30. 0			012850			004281		
31. 0	49. 23							
32. 0			012618			004269		
33. 0	49. 7							
34. 0			012374			004261		
35. 0	48. 41							

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Feb. 16. 15. 36. 0			0·012319		D	0·004269		D
37. 0	246. 48. 35	D						
38. 0			012496			004269		
39. 0	48. 33							
40. 0			012695			004269		
41. 0	48. 43							
42. 0			012740			004269		
43. 0	48. 25							
44. 0			012607			004301		
45. 0	48. 33							
46. 0			012861			004317		
47. 0	48. 33							
48. 0			012983			004317		
49. 0	48. 44							
50. 0			013459			004329		
51. 0	49. 17							
52. 0			013581			004333		
53. 0	49. 31							
54. 0			013736			004341		
55. 0	49. 29							
56. 0			013769			004337		
57. 0	49. 29							
57. 30						004337	52·5	
15. 58. 0			013780			004333		
16. 0. 0	49. 26							
2. 30			013758	52·8				
7. 0	49. 46							
8. 0			013636			004309		
26. 0	50. 34							
27. 0			013736			004357		
47. 0	51. 11							
16. 48. 0			014400			004393		
17. 6. 0	51. 40							
7. 0			014954			004460		
28. 0	47. 0							
29. 0			013703			004500		
43. 0	46. 17							
44. 0			014267			004508		
17. 57. 30						004508	52·0	
18. 0. 0	46. 39							
2. 30			015208	53·0				
57. 0	43. 6							
18. 58. 0			014776			004548		
19. 44. 0	38. 32							
45. 0			015385			004568		
19. 57. 30						004580	51·2	
20. 0. 0	37. 49							
2. 30			015701	52·0				
29. 0	39. 0	D						
20. 30. 0			015673		D	004576		D
21. 57. 30						004886	49·8	JH

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

Feb. 16d. About 16h, a faint auroral light was visible for about a quarter of an hour, when the sky became again densely overcast: at 17h. 30m, the light was seen again: at 18h, again quite cloudy.

Extraordinary Observations of February 16, 17, 18, and 19.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Feb. 16. 22. 0. 0	246. 35. 34	JH						
22. 2. 30			0·015912	50·0	JH			
23. 57. 30						0·004982	50·0	JH
17. 0. 0. 0	30. 57							
0. 2. 30			014548	50·2				
1. 47. 30						004882		
50. 0	26. 35							
52. 30			013200					
1. 57. 30						004910	51·5	
2. 0. 0	27. 45							
2. 30			013939	52·0				
7. 30						004922		JH
10. 0	28. 8	JH						
2. 12. 30			014312		JH			
3. 57. 30						004954	52·0	D
4. 0. 0	26. 33	D						
4. 2. 30			016591	52·5	D			
5. 4. 0	41. 48							
5. 0			015839			005563		
12. 0	45. 11							
13. 0			015750			005615		
18. 0	44. 59							
19. 0			015983			005742		
24. 0	42. 8							
25. 0			015950			005722		
29. 0	39. 44							
30. 0			016448			005714		
34. 0	38. 25							
35. 0			016193			005670		
39. 0	37. 18							
40. 0			016437			005702		
44. 0	34. 4							
45. 0			016636			005706		
49. 0	31. 49							
50. 0			016204			005678		
54. 0	28. 38							
55. 0			015485			005702		
5. 57. 30						005702	52·0	
6. 0. 0	26. 39							
2. 30			013558	52·0				
5. 0	28. 35							
6. 0			014068			005746		
10. 0	28. 0							
11. 0			013979			005754		
15. 0	28. 26							
16. 0			013072			005702		
20. 0	28. 9							
21. 0			013946			005702		
25. 0	27. 38							
26. 0			013470			005662		

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Feb. 17. 6. 30. 0	246. 28. 33	D						
31. 0			0·013183		D	0·005634		D
37. 0	30. 22							
38. 0			013714			005611		
47. 0	32. 6							
48. 0			014643			005571		
56. 0	32. 38							
6. 57. 0			014832			005503		
7. 8. 0	33. 13							
9. 0			015108			005443		
18. 0	34. 21							
19. 0			015618			005336		
42. 0	35. 6							
43. 0			015551			005232		
7. 57. 30						005185	51·8	D
8. 0. 0	35. 24	D						
8. 2. 30			015690	52·2	D			
Feb. 18. 9. 57. 30						0·006088	46·4	JH
10. 0. 0	246. 39. 55	JH						
10. 2. 30			0·013795	46·6	JH			
11. 29. 0	33. 25	G						
30. 0			013879		G	005933		G
39. 0	35. 55							
40. 0			013359			005861		
54. 0	39. 25							
55. 0			013648			006100		
11. 57. 30						006120	46·0	
12. 0. 0	37. 25							
2. 30			013432	47·0				
9. 0	39. 47							
10. 0			014201			006064		
20. 0	38. 47		014612			006100		
30. 0	38. 47		014612			006100		
12. 50. 0	38. 47		015055			006100		
13. 0. 0	38. 47		015055			006100		
20. 0	38. 47		015055			006100		
40. 0	38. 47		015055			006100		
13. 57. 30						006104	46·0	G
14. 0. 0	39. 22	G						
14. 2. 30			015529	46·5	G			
23. 57. 30						007453	41·5	D
19. 0. 0. 0	36. 44	D						
0. 2. 30			016673	42·5	D			
1. 47. 30						006864		
50. 0	32. 50							
52. 30			014533					
1. 57. 30						006824	46·5	
2. 0. 0	31. 48							

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

Feb. 17d. 5h. 4m. A change of 15′ in the position of the Declination Magnet from its position one hour before.

Feb. 18d. At 11h. 29m, the Declination Magnet was moving in a direction contrary to its usual motion at this time, and it had changed its position 6′ since 10h, in consequence of which extra observations were commenced: it however soon changed the direction of its motion, and, after 12h, was almost without motion; observations were therefore discontinued.

Feb. 19d. Between 0h and 1h. 50m, the readings of the scale of the Horizontal Force Magnet had altered by one division, and extra observations were commenced.

Extraordinary Observations of February 19 and 24.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Feb. 19. 2. 2. 30			0·013994	48·5	D			
7. 30						0·006777		D
10. 0	246. 30. 47	D						
12. 30			013399		D			
38. 0	32. 31	JH						
2. 39. 0			013348		JH	006403		JH
3. 16. 0	29. 33	G						
17. 0			014135		G	006251		G
3. 57. 30						005921	51·0	
4. 0. 0	32. 18							
4. 2. 30			013852	48·0				
5. 43. 0	45. 45							
44. 0			015197			005694		
45. 0	46. 57							
46. 0			015075			005682		
47. 0	47. 16							
48. 0			015220			005750		
49. 0	46. 36							
50. 0			016060			005782		
51. 0	46. 13							
52. 0			015573			005782		
54. 0	45. 49							
55. 0			015485			005782		
5. 57. 30						005782	53·0	
6. 0. 0	45. 25							
2. 30			015297	52·0				
8. 0	44. 18							
6. 9. 0			014887			005694		
7. 23. 0	42. 42							
24. 0			014090			005384		
28. 0	47. 40							
29. 0			014522			005308		
30. 0	52. 52							
31. 0			014998			005324		
32. 0	56. 16							
33. 0			015485			005300		
34. 0	57. 27							
35. 0			015817			005312		
36. 0	57. 33							
37. 0			016360			005328		
38. 0	56. 59							
39. 0			016591			005376		
40. 0	55. 55							
41. 0			017057			005786		
42. 0	54. 38							
43. 0			017145			005400		
44. 0	53. 24							
45. 0			017344			005416		
46. 0	52. 25							
47. 0			017101			005412		
48. 0	51. 11							

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Feb. 19. 7. 49. 0			0·017101		G	0·005392		G
50. 0	246. 50. 20	G						
51. 0			016957			005384		
52. 0	49. 30							
53. 0			016902			005380		
54. 0	48. 20							
55. 0			016935			005404		
56. 0	48. 11							
57. 0			017079			005392		
7. 57. 30						005535	51·0	
8. 0. 0	48. 11							
2. 30			016691	51·0				
39. 0	37. 46							
40. 0			015308			005384		
49. 0	38. 17							
50. 0			014954			005344		
8. 59. 0	37. 52							
9. 0. 0			014754			005364		
14. 0	37. 52							
15. 0			015020			005392		
9. 57. 30						005503	50·0	G
10. 0. 0	38. 23	G						
10. 2. 30			015734	50·0	G			
Feb. 24. 9. 57. 30						0·007214	53·5	D
10. 0. 0	246. 38. 21	D						
10. 2. 30			0·012664	55·3	D			
11. 57. 30						005177	50·0	JH
12. 0. 0	247. 3. 7	JH						
2. 30			009427	51·7	JH			
6. 0	3. 24							
7. 0			008721			004958		
10. 0	247. 0. 26							
11. 0			008920			004938		
12. 0	246. 59. 27							
13. 0			008964			004930		
14. 0	57. 30							
15. 0			008865			004890		
16. 0	56. 20							
17. 0			008522			004878		
21. 0	53. 59							
22. 0			008411			004990		
23. 0	53. 2							
24. 0			008555			005029		
27. 0	53. 36							
28. 0			012307			005109		
29. 0	55. 26							
30. 0			012762			005213		
31. 0	54. 46							
32. 0			013648			005236		
33. 0	52. 47							

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

Feb. 19d. 5h. 43m. A change of 13′ in the position of the Declination Magnet had taken place since 4h.

Feb. 19d. For some time after 8h the theodolite reading for the position of the magnet was 246°. 48′; it then gradually decreased, so that at 8h. 39m it was 246°. 37′.

Feb. 19d. 10h. The magnets were frequently examined after this until 11h; no change to any large amount took place, and the observations were discontinued.

Feb. 24d. 12h. In the previous two hours, the Declination Magnet had changed its position nearly 25′. The Horizontal Force Magnet had changed its position by a quantity corresponding to 1½d, and the Vertical Force Magnet by a quantity represented by 5d of its scale. Extra observations were commenced.

Feb. 24d. 12h. 6m. The western declination deduced from this observation was 22°. 48′. 42″, and it is the smallest in the month.

Feb. 24d. From 12h. 17m to 12h. 32m the Horizontal Force Magnet moved smoothly and evenly; after 12h. 32m it moved by jerks, but they were not so great as have been seen before.

Extraordinary Observations of February 24, and March 1.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Obs.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Obs.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Obs.
d h m s	° ′ ″			°			°	
Feb. 24. 12. 34. 0			0 ·014832		JH	0 ·005268		JH
35. 0	246. 51. 34	JH						
36. 0			016027			005308		
37. 0	50. 15							
38. 0			016193			005197		
39. 0	46. 43							
40. 0			016459			005081		
41. 0	43. 0							
42. 0			016060			004994		
43. 0	39. 38							
44. 0			015418			004958		
45. 0	35. 6							
46. 0			014632			004958		
47. 0	31. 1							
48. 0			013547			004830		
49. 0	28. 24							
50. 0			012263			004874		
52. 0	26. 0							
12. 53. 0			010725			004850		
13. 1. 0	20. 37							
2. 0			010160			004834		
3. 0	20. 35							
4. 0			009562			004699		
7. 0	23. 40							
8. 0			011333			004679		
9. 0	24. 16							
10. 0			011987			004492		
13. 0	21. 47							
14. 0			012385			004134		
15. 0	20. 11							
16. 0			012120			003963		
24. 0	21. 17							
25. 0			008589			003043		
26. 0	23. 36							
27. 0			008101			003043		
29. 0	28. 7							
30. 0			007636			003147		
31. 0	31. 39							
32. 0			007846			003274		
33. 0	34. 30							
34. 0			008323			003346		
44. 0	43. 26							
45. 0			010980			003625		
46. 0	44. 17							
47. 0			010349			003784		
48. 0	45. 43							
49. 0			010514			003824		
13. 57. 30						004222	50 ·5	
14. 0. 0	47. 12							
2. 30			010018	51 ·0				
7. 0	49. 54							

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Obs.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Obs.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Obs.
d h m s	° ′ ″			°			°	
Feb. 24. 14. 8. 0			0 ·009994		JH	0 ·004627		JH
10. 0	246. 50. 13	JH						
11. 0			010448			004890		
17. 0	48. 36							
18. 0			011212			005097		
34. 0	49. 50							
35. 0			011621			005272		
55. 0	45. 22							
14. 56. 0			012751			005758		
15. 29. 0	43. 26							
30. 0			012429			005989		
15. 57. 30						006009	48 ·8	
16. 0. 0	41. 15							
16. 2. 30			012790	49 ·2				
17. 57. 30						006283	47 ·3	JH
18. 0. 0	40. 1	JH						
18. 2. 30			014907	47 ·4	JH			
Mar. 1. 7. 57. 30						0 ·004540	52 ·5	D
8. 0. 0	246. 43. 12	D						
8. 2. 30			0 ·016441	53 ·0	D			
9. 57. 30						004906	51 ·0	
10. 0. 0	54. 39							
2. 30			014450	51 ·8				
10. 0	57. 10							
11. 0			014422			005069		
15. 0	56. 33							
16. 0			014223			005077		
20. 0	54. 54							
21. 0			014290			005193		
25. 0	52. 49							
26. 0			014312			005248		
34. 0	51. 15							
35. 0			015662			005308		
47. 0	50. 4							
48. 0			017456			005193		
54. 0	47. 34							
10. 55. 0			017189			005113		
11. 2. 0	45. 7	D						
3. 0			016658		D	005018		D
38. 0	54. 14	JH						
39. 0			016293		JH	005033		H
43. 0	53. 21							
44. 0			015861			005033		
11. 57. 30						005145	49 ·0	
12. 0. 0	49. 58							
12. 2. 30			015699	49 ·8				
13. 57. 30						005435	46 ·9	
14. 0. 0	46. 23							
14. 2. 30			016702	47 ·0				

Decrease of horizontal force for 1° increase of temperature = 0 ·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0 ·000264 parts of the whole vertical force.

Feb. 24d. 12h. 55m. The sky is quite covered with thin cirro-stratus and light scud. There is a bright streak of light extending from N. W. to N. E. or N. N. E, at an altitude of 10°, undoubtedly auroral.

Feb. 24d. 13h. 7m. The Declination Magnet and the Horizontal Force Magnet began simultaneously to move in directions opposite to those in which they had been previously moving: the Vertical Force Magnet continued moving in the same way as before.

Feb. 24d. 13h. 15m. The western declination deduced from this observation was 23°. 31′. 55″, and it is the largest in the month.

Feb. 24d. 13h. 20m. The streak of light is not visible: after this time, the sky became so densely clouded that the Moon's place could not be seen.

Feb. 24d. 13h. 30m. The marked end of the Horizontal Force Magnet was less drawn towards the North at this than at any other time in the month, the reading being 0 ·016340 when corrected for temperature.

Mar. 1d. At 10h, the Declination Magnet was in a position 11′ different from its position at 8h, and extra observations were commenced.

Extraordinary Observations of March 5, 15, and 16.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Mar. 5. 5. 57. 30						0·004226	55·3	JH
6. 0. 0	246. 39. 34	JH						
6. 2. 30			0·014150	56·0	JH			
7. 57. 30						004281	53·6	
8. 0. 0	46. 18							
2. 30			015867	53·6				
10. 0	46. 25							
8. 11. 0			016371			004353		
9. 40. 0	51. 41							
41. 0			015806			004675		
44. 0	55. 50							
45. 0			016890			004691		
46. 0	246. 58. 36							
47. 0			017355			004707		
48. 0	247. 0. 24							
49. 0			018175			004719		
50. 0	247. 0. 7							
51. 0			018872			004711		
53. 0	246. 57. 57							
54. 0			019005			004679		
9. 57. 30						004635	51·0	
10. 0. 0	57. 32							
2. 30			018208	51·4				
11. 0	57. 59	JH						
10. 12. 0			016824		JH	004460		JH
11. 57. 30						004826	49·0	P
12. 0. 0	48. 44	P						
12. 2. 30			014926	49·0	P			
Mar. 15. 5. 57. 30						0·001913	56·5	D
6. 0. 0	246. 41. 4	D						
6. 2. 30			0·015750	56·6	D			
7. 57. 30						001845	56·0	
8. 0. 0	41. 45							
2. 30			016331	56·2				
43. 0	48. 27							
44. 0			013813			002044		
56. 0	50. 7							
8. 57. 0			012928			002080		
9. 4. 0	51. 14							
5. 0			012485			002124		
18. 0	51. 41							
19. 0			011821			002208		
29. 0	50. 29							
30. 0			011588			002263		
39. 0	50. 39							
40. 0			012474			002243		
49. 0	49. 16							
50. 0			012651			002208		
9. 57. 30						002192	56·5	
10. 0. 0	48. 40							

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Mar. 15. 10. 2. 30			0·012591	57·2	D			
9. 0	246. 48. 51	D						
10. 0			011910			0·002140		D
19. 0	48. 29	D						
10. 20. 0			012407		D	002112		D
11. 57. 30						001997	56·3	JH
12. 0. 0	49. 4	JH						
12. 2. 30			013308	57·0	JH			
Mar. 16. 5. 57. 30						0·001953	56·0	JH
6. 0. 0	246. 37. 53	JH			JH			
6. 2. 30			0·016797	56·3				
7. 57. 30						002610	56·0	
8. 0. 0	43. 56							
2. 30			013529	56·6				
10. 0	45. 10							
11. 0			012850			002590		
13. 0	45. 28							
14. 0			012828			002582		
24. 0	46. 2							
25. 0			012098			002562		
36. 0	46. 19							
8. 37. 0			012109			002586		
9. 33. 0	54. 12							
34. 0			011333			002236		
37. 0	54. 50							
38. 0			011344			002239		
42. 0	55. 12							
43. 0			011444			002251		
47. 0	54. 42							
48. 0			011500			002255		
52. 0	55. 21							
53. 0			011666			002224		
9. 57. 30						002224	55·0	
10. 0. 0	57. 15							
2. 30			011389	55·8				
11. 0	49. 18							
12. 0			012274			001826		
13. 0	47. 54							
14. 0			011910			001718		
17. 0	46. 17							
18. 0			011046			001515		
19. 0	46. 17							
20. 0			010658			001459		
24. 0	48. 29							
25. 0			010902			001412		
39. 0	45. 15							
40. 0			013714			001368		
42. 0	42. 11							
43. 0			013194			001237		
45. 0	41. 51	JH						

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

March 5d. At 8h, the Declination Magnet had altered its position by 7′ since 6h, and the position of the Horizontal Force Magnet was different from its previous position by 1d of its scale, and extra observations were commenced; at 9h. 40m, auroral light was visible in the North; there were no streamers.

March 5d. 9h. 48m. The western declination deduced from this observation was 22°. 51′. 51″, and it is the smallest in the month.

March 15d. At 8h. 43m, the Declination Magnet was in a position 7′ different from its position at 8h; the Horizontal Force Magnet was also in a position different from its previous position by 1d of its scale: extra observations were commenced.

March 16d. 8h. The reading of the scale of the Horizontal Force Magnet was 1d·4 different from its reading at 6h: extra observations were commenced. No auroral light was visible at this time.

March 16d. 9h. 30m. There is a band of light near the N. N. W. horizon extending 10° or 15° on each side of the magnetic meridian; it is probably auroral, but it is not possible to distinguish it from the London reflected lights: at 9h. 51m, the light was not visible.

March 16d. 10h. 30m. There is a fine aurora. At the altitude of 10° is a long, narrow, densely black cloud, the center of which is in the N.W., and which extends about 35° on each side of the N.W. This cloud appears frequently and rapidly to change in density. The auroral light is of a very brilliant yellow, inclining to copper: the center of the light is coincident with the center of the cloud. Above the cloud, at an altitude of about 40°, is much diffused auroral light. At 10h. 42m, the light became more diffused; the cloud had nearly disappeared. At 11h. 10m, the aurora was easily distinguishable from the light of the moon; there was an agitated wavering motion in it. The sky was but partially clear.

Extraordinary Observations of March 16, 17, 18, 19, 22, and 23.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Mar. 16. 10. 46. 0			0·012585		JH	0·001173		JH
11. 57. 30						001420	54·4	P
12. 0. 0	246. 47. 56	P						
2. 30			012567	55·0	P			
15. 30	47. 2							
16. 30			014201			001826		
29. 30	44. 36							
30. 30			014522			001841		
44. 30	44. 15							
45. 30			012728			001961		
54. 30	44. 53							
12. 55. 30			013813			002001		
13. 4. 30	43. 36							
5. 30			014101			002120		
13. 57. 30						001921	53·5	P
14. 0. 0	41. 31	P						
14. 2. 30			014201	54·0	P			
Mar. 17. 19. 57. 30						0·003039	50·5	D
20. 0. 0	246. 44. 4	D						
20. 2. 30			0·015197	51·0	D			
21. 57. 30						002940	51·0	JH
22. 0. 0	37. 17	JH						
2. 30			013531	52·8	JH			
21. 0	39. 33							
22. 22. 0			013326			002948		
23. 1. 0	44. 34							
2. 0			013149			002725		
23. 57. 30						002446	53·4	JH
18. 0. 0. 0	39. 29	JH						
0. 2. 30			013729	55·4	JH			
Mar. 18. 19. 57. 30						0·004070	44·0	JH
20. 0. 0	246. 45. 34	JH						
20. 2. 30			0·016027	44·7	JH			
21. 57. 30						004150	45·4	P
22. 0. 0	33. 50	P						
2. 30			015644	47·4	P			
23. 0	34. 41	D						
24. 0			014068		D	004078		D
44. 0	37. 7							
22. 45. 0			013846			004070		
23. 1. 0	40. 18							
2. 0			013614			003951		
15. 0	39. 14							
16. 0			013205			003839		
39. 0	34. 4							
40. 0			013581			003752		
23. 57. 30						003613	48·5	D
Mar. 19. 0. 0. 0	246. 35. 31	D						
0. 2. 30			0·013083	51·3	D			
7. 57. 30						0·003621	50·2	JH
8. 0. 0	40. 2	JH						
8. 2. 30			014030	51·0	JH			
9. 57. 30						003640	48·6	
10. 0. 0	49. 54							
10. 2. 30			013603	49·0				
10. 0	52. 56							
11. 0			013791			003625		
14. 0	52. 59							
15. 0			014312			003605		
16. 0	52. 58							
17. 0			013846			003617		
24. 0	51. 59	JH						
10. 25. 0			013227		JH	003593		JH
11. 57. 30						003465	47·5	P
12. 0. 0	51. 35	P						
12. 2. 30			014072	48·0	P			
Mar. 22. 19. 57. 30						0·004910	41·8	JH
20. 0. 0	246. 42. 56	JH						
20. 2. 30			0·017271	42·2	JH			
21. 57. 30						004950	43·0	P
22. 0. 0	30. 13	P						
2. 30			015564	45·0	P			
14. 30	29. 56							
15. 30			014643			004874		
21. 30	31. 46							
22. 30			014732			004874		
29. 30	35. 5							
30. 30			014654			004819		
39. 30	34. 8							
40. 30			014643			004767		
49. 30	35. 3							
50. 30			014976			004675		
22. 59. 30	34. 48							
23. 0. 30			014499			004627		
10. 30	34. 55							
11. 30			013183			004548		
23. 57. 30						004309	46·8	
23. 0. 0. 0	29. 25							
2. 30			014028	49·5				
49. 30	29. 22							
50. 30			015253		P	003999		
1. 47. 30						003831		
50. 0	31. 12							
52. 30			015595		B			
1. 57. 30		P				003774	50·1	P

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

March 16d. 12h. 20m. There is a very strong light in the North, just above a dense line of cirro-stratus, but the Observer felt doubtful whether to refer it to the presence of the Moon or to an auroral phenomenon: it was uniform and unchangeable in its appearance. At 12h. 40m it is cloudless in every part of the sky except in the North, where the same dense cirro-stratus remains, and the light has the same appearance, with perhaps a slight increase towards the zenith. At 12h. 45m the light is evidently auroral, stars of the 3rd and 4th magnitudes being plainly visible in the midst of the light, which is now much brighter, and slightly extended towards the zenith. At 12h. 55m clouds came up from the N. W., and no further light was visible. At 13h. 5m the sky was totally overcast, with cirro-stratus and scud.

March 17d. Between 20h and 22h a change of 7′ in the position of the Declination Magnet having occurred, extra observations were commenced.

March 18d. Between 20h and 22h a change of 12′ in the position of the Declination Magnet having occurred, extra observations were commenced.

March 19d. Between 8h and 10h a change of 10′ in the position of the Declination Magnet having occurred, extra observations were commenced.

March 22d. Between 20h and 22h a change of 12′ in the position of the Declination Magnet having occurred, extra observations were commenced.

Extraordinary Observations of March 23, 25, 26, 28, 29, April 5, 6, and 7.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Mar. 23. 2. 0. 0	246. 28. 37	P						
2. 2. 30			0·016333	51·8	P			
Mar. 25. 19. 57. 30						0·004616	46·0	D
20. 0. 0	246. 41. 34	D						
20. 2. 30			0·016022	46·0	D			
21. 57. 30						004345	46·0	JH
22. 0. 0	31. 57	JH						
2. 30			013470	47·2	JH			
8. 0	33. 49							
9. 0			013016			004333		
15. 0	32. 32							
16. 0			013337			004309		
40. 0	38. 18							
22. 41. 0			013648			004170		
23. 9. 0	43. 46							
10. 0			013514			004015		
23. 57. 30						003708	49·8	
26. 0. 0. 0	35. 20							
2. 30			013343	52·7				
19. 0	32. 51							
20. 0			013536			003525		
50. 0	33. 18							
0. 51. 0			013249			003258		
1. 47. 30						002908		
50. 0	34. 41							
52. 30			013808					
1. 57. 30						002912	54·0	
2. 0. 0	34. 30							
2. 30			013674	56·3				
7. 30						002821		JH
10. 0	34. 37	JH						
2. 12. 30			013861		JH			
Mar. 28. 21. 57. 30						0·001451	53·5	D
22. 0. 0	246. 40. 59	D						
22. 2. 30			0·013685	53·8	D			
23. 57. 30						001396	53·8	
29. 0. 0. 0	29. 59							
2. 30			013056	53·8				
13. 0	31. 25							
14. 0			012872			001356		
32. 0	29. 10							
33. 0			013592			001424		
35. 10	27. 42							
36. 0			013448			001443		
45. 0	27. 58							
0. 46. 0			013359			001451		
1. 6. 0	31. 31							

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Mar. 29. 1. 7. 0			0·013448		D	0·001487		D
47. 30						001495		
50. 0	246. 31. 21	D						
52. 30			014760					
1. 57. 30						001515	55·0	D
2. 0. 0	31. 38	D						
2. 30			014865	55·0	D			
Apr. 5. 19. 57. 30						0·005085	41·5	D
20. 0. 0	246. 49. 20	D						
20. 2. 30			0·014931	43·2	D			
21. 57. 30						004811	44·0	JH
22. 0. 0	40. 25	JH						
2. 30			014152	46·5	JH			
26. 40	42. 34	P						
22. 46. 40	46. 45							
23. 5. 40	44. 36							
33. 40	50. 25	P						
23. 57. 30						003975	48·0	
6. 0. 0. 0	41. 45	JH						
2. 30			012666	51·2				
16. 0	38. 54							
0. 17. 0			012872			003816		
1. 47. 30						003179		
50. 0	39. 42							
52. 30			012258					
1. 57. 30						003079	54·0	
2. 0. 0	39. 18							
2. 30			012518	56·0				
7. 30						002940		
10. 0	39. 24							
12. 30			012422					
24. 0	39. 29	JH						
25. 0			012352			002860		
2. 39. 40	39. 15	P						
3. 57. 30						001726	57·1	JH
4. 0. 0	41. 48	P						
4. 2. 30			012766	57·1	JH			
Apr. 7. 1. 57. 30						0·002868	53·0	P
2. 7. 30						002836		P
3. 57. 30						001256	56·0	JH
4. 7. 45						001018		
17. 45						000858		
25. 45						000767		
4. 31. 45						000659		
5. 16. 46						000528		
26. 46						000528		
5. 57. 30						000528	58·6	JH

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

March 25d. Between 20h and 22h a change of 10′ in the position of the Declination Magnet having occurred, extra observations were commenced.

March 29d. 0h. In the previous two hours the Declination Magnet had changed its position by 11′: extra observations were commenced.

April 5d. 22h. A change of 9′ in the position of the Declination Magnet having taken place between the previous observation and this, extra observations were commenced.

April 7d. 4h. The Vertical Force Magnet changed its position between 2h and 4h to the amount of 4d of the scale: there was no change in the positions of the other magnets.

Extraordinary Observations of April 10, 11, and 12.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Apr. 10. 17. 57. 30						0·002944	43·6	JH
18. 0. 0	246. 52. 49	JH						
18. 2. 30			0·014212	43·6	JH			
19. 57. 30						003561	43·0	
20. 0. 0	42. 34							
2. 30			012629	44·0				
25. 0	23. 30	JH						
20. 26. 0			012142		JH	003481		JH
21. 57. 30						004190	45·2	P
22. 0. 0	38. 39	P						
22. 2. 30			008112	47·0	P			
Apr. 11. 5. 57. 30						0·002502	52·0	JH
6. 0. 0	246. 37. 3	JH						
6. 2. 30			0·010742	52·8	JH			
7. 57. 30						002649	52·0	
8. 0. 0	45. 37							
2. 30			012751	51·3				
15. 0	43. 16							
8. 16. 0			012684			002562		
9. 57. 30						002773	49·0	JH
10. 0. 0	43. 47	JH						
10. 2. 30			012872	49·3	JH			
Apr. 12. 3. 57. 30						0·003433	51·0	P
4. 0. 0	246. 39. 51	P						
4. 2. 30			0·013116	50·7	P			
5. 57. 30						003294	49·9	
6. 0. 0	40. 43							
2. 30			012069	49·8				
14. 28	50. 43							
15. 28			012795			003195		
31. 29	51. 0							
32. 29			011655			003083		
6. 59. 29	47. 36							
7. 0. 29			010658			002996		
7. 57. 30						003354	50·7	
8. 0. 0	47. 48							
8. 2. 30			012540	50·8				
9. 57. 30						003043	48·8	P
10. 0. 0	45. 44	P						
10. 2. 30			011041	48·5	P			
11. 57. 30						002482	48·5	D
12. 0. 0	51. 25	D						
2. 30			014338	48·2	D			
8. 30	47. 10							
9. 30			011101			002001		
11. 30	49. 56							
12. 30			010680			002033		
15. 30	52. 27							
16. 30			011013			002072		

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Apr. 12. 12. 19. 30	246. 53. 32	D						
20. 30			0·010902		D	0·002092		D
24. 30	53. 17							
25. 30			011322			002192		
29. 30	51. 10							
30. 30			011190			002232		
37. 30	50. 8							
38. 30			010946			002200		
48. 30	48. 22							
49. 30			010725			002112		
12. 59. 30	50. 25							
13. 0. 30			010636			001941		
16. 0	51. 54							
17. 0			010991			001925		
37. 0	246. 56. 59							
38. 0			012762			001571		
47. 0	247. 0. 42							
48. 0			011267			001483		
13. 57. 30						001563	48·2	
14. 0. 0	247. 1. 29							
2. 30			010297	48·5				
11. 0	246. 58. 12							
12. 0			010116			001889		
24. 0	53. 45							
25. 0			010083			002124		
37. 0	49. 2							
38. 0			010382			002291		
52. 0	47. 44							
14. 53. 0			010847			002446		
15. 9. 0	44. 51							
10. 0			011721			002602		
23. 0	45. 25							
24. 0			011787			002618		
36. 0	47. 31							
37. 0			012186			002709		
50. 0	48. 31							
51. 0			012440			002789		
15. 57. 30						002817	47·6	
16. 0. 0	48. 26							
2. 30			011256	47·8				
13. 0	45. 13							
16. 14. 0			011333			002988		
17. 57. 30						003334	46·3	
18. 0. 0	44. 9							
18. 2. 30			012651	46·7				
19. 57. 30						003426	45·5	D
20. 0. 0	44. 36	D						
20. 2. 30			011882	45·8	D			
21. 57. 30						003127	45·8	JH
22. 0. 0	28. 50	JH						
2. 30			005062	46·3	JH			

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

April 10d. 20h. The position of the Declination Magnet differed by 10′ from its position at 18h: extra observations were commenced.

April 11d. 8h. A change of 8′ in the position of the Declination Magnet having occurred since the 6h observation, extra observations were commenced.

April 12d. Within fifteen minutes after the regular observation at 6h, the Declination Magnet being in a position differing 10′ from its position at 6h, extra observations were commenced, but they were discontinued after 7h, as no further changes were going forward. After 10h the magnets became disturbed, and extra observations were resumed after 12h, and continued until 16h. 15m. After this time they were frequently inspected, until 20h, and no changes of any large amount having taken place, the observations were discontinued again; but at 22h the Declination Magnet was in a position differing by 16′ from its position at 20h, and a considerable change had also taken place in the position of the Horizontal Force Magnet, and the extra observations were again resumed.

Extraordinary Observations of April 12, 13, and 14.

Göttingen Mean Time, (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Apr. 12. 22. 7. 0	246. 29. 1	JH						
8. 0			0 ·004902		JH	0 ·003095		JH
13. 0	30. 55							
14. 0	.		004624			003059		
17. 0	30. 0							
18. 0			004791			003099		
26. 0	31. 1							
27. 0			004924			003075		
35. 0	31. 43							
36. 0			005211			003119		
54. 0	29. 37							
22. 55. 0			006131			003107		
23. 9. 0	28. 37							
10. 0			007415			003115		
33. 0	28. 23							
34. 0			007094			003032		
50. 0	28. 24							
51. 0			006983			003039		
23. 57. 30						003035	48 ·0	
13. 0. 0. 0	29. 55							
2. 30			006436	48 ·8				
30. 0	28. 48							
31. 0			006806			003083		
1. 47. 30						003855		
50. 0	32. 42							
52. 30			009533					
1. 57. 30						003879	49 ·0	
2. 0. 0	30. 47							
2. 30			009290	49 ·8				
7. 30						003951		
10. 0	27. 4							
12. 30			009695					
20. 0	26. 44							
21. 0			008865			003875		
29. 0	27. 49	JH						
2. 30. 0			009684		JH	004102		JH
3. 57. 30						003983	51 ·0	D
4. 0. 0	38. 3	D						
2. 30			009141	51 ·5	D			
19. 0	37. 58							
4. 20. 0			009330			003704		
5. 5. 0	37. 33							
6. 0			010470			003473		
5. 57. 30						003195	51 ·0	
6. 0. 0	39. 4	D						
6. 2. 30			011057	51 ·6	D			
7. 57. 30						003684	49 ·5	JH
8. 0. 0	48. 11	JH						
2. 30			014511	49 ·6	JH			
10. 0	46. 11							

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Apr. 13. 8. 11. 0			0 ·012651		JH	0 ·003352		JH
21. 0	246. 48. 48	JH						
22. 0			013348			003306		
37. 0	49. 19	JH						
8. 38. 0			013127		JH	003242		JH
9. 57. 30						003354	48 ·0	P
10. 0. 0	50. 8	P						
10. 2. 30			013415	48 ·0	P			
11. 57. 30						002833	47 ·0	JH
12. 0. 0	52. 36	JH						
12. 2. 30			011838	47 ·0	JH			
13. 57. 30						003672	45 ·4	
14. 0. 0	44. 19							
2. 30			011661	45 ·4				
18. 30	44. 42							
14. 19. 30			011954			003684		
15. 5. 30	44. 36							
6. 30			012031			003895		
15. 57. 30						004034	44 ·7	JH
16. 0. 0	44. 31	JH						
16. 2. 30			012013	45 ·0	JH			
Apr. 14. 15. 57. 30						0 ·003035	46 ·7	P
16. 0. 0	246. 41. 54	P						
16. 2. 30			0 ·012950	46 ·5	P			
17. 57. 30						9 ·997662	46 ·0	
18. 0. 0	18. 59							
2. 30			006153	46 ·0				
8. 30						996866		
9. 30	20. 41							
10. 30			008633					
13. 30						997961		
14. 30	16. 54							
15. 30			011389					
18. 30						997901		
19. 30	16. 40							
20. 30			011212					
23. 30						997430		
24. 30	18. 8							
25. 30			010060					
28. 30						997125		
29. 30	19. 5							
30. 30			008666					
33. 30						997290		
34. 30	24. 0							
35. 30			007359					
38. 30						997360		
39. 30	26. 36							
40. 30			006098					
43. 30						997181		
44. 30	29. 30							

Decrease of horizontal force for 1° increase of temperature = 0 ·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0 ·000264 parts of the whole vertical force.

April 13d. 5h. 5m. No change to any large amount occurred between this time and 6h: the magnets were frequently examined.

April 14d. At 18h, the Declination Magnet was in a position 23′ different from its position at 16h. The Horizontal Force Magnet was also much affected, and extra observations were commenced. During their continuance, the Horizontal Force and the Vertical Force Magnets moved by jerks and uneven vibrations: nothing unusual was observed in the motion of the Declination Magnet.

April 14d. 18h. 8m. 30s. The marked end of the Vertical Force Magnet was less drawn downwards at this than at any other observation in the month, the reading being 0 ·009010, when corrected for temperature.

April 14d. 18h. 19m. 30s. The western declination, deduced from this observation, was 23°. 35′. 38″, and it is the largest in the month.

Extraordinary Observations of April 14 and 15.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts o whole Vert. Force.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°		d h m s	° ′ ″			°			°	
Apr. 14. 18. 45. 30			0·003795		P				Apr. 14. 20. 15. 30			0·005101		P			
48. 30						9·997175		P	18. 30						0·000675		P
49. 30	246. 42. 11	P							19. 30	246. 22. 40	P						
50. 30			002377						20. 30			005920					
54. 30						997384			23. 30						000608		
55. 30	44. 19								24. 30	22. 39							
56. 30			003219						25. 30			005897					
18. 59. 30						997981			28. 30						000588		
19. 0. 30	41. 23								29. 30	24. 39							
1. 30			002466						30. 30			005366					
4. 30						998317			33. 30						000552		
5. 30	42. 19								34. 30	27. 37							
6. 30			002820						35. 30			005953					
8. 30						998494			38. 30						000647		
9. 30	41. 47								39. 30	28. 52							
10. 30			004481						40. 30			006120					
14. 30						998916			43. 30						000727		
15. 30	33. 34								44. 30	29. 39							
16. 30			006197						45. 30			006640					
18. 30						999225			48. 30						000906		
19. 30	31. 26								49. 30	29. 34							
20. 30			007249						50. 30			006784					
23. 30						999394			53. 30						000910		P
24. 30	30. 47								54. 30	32. 46	P						
25. 30			008300						20. 55. 30			006507		P			
28. 30						999463			21. 57. 30						002048	48·5	D
29. 30	31. 6								22. 0. 0	35. 41	D						
30. 30			008522						2. 30			005101	49·0	D			
33. 30						999414			20. 0	40. 15							
34. 30	31. 45								21. 0			003650			002084		
35. 30			006828						37. 0	42. 59							
38. 30						999398			38. 0			003462			002339		
39. 30	28. 29								56. 0	36. 17							
40. 30			006009						22. 57. 0			002621			002868		
43. 30						999543			23. 11. 0	36. 11							
44. 30	33. 49								12. 0			003274			002856		
45. 30			004658						26. 0	32. 1							
48. 30						999656			27. 0			003650			003004		
49. 30	37. 13								38. 0	32. 2							
50. 30			004315						39. 0			003617			002876		
53. 30						999772			23. 57. 30						002836	49·5	
54. 30	36. 51																
55. 30			004005						15. 0. 0. 0	32. 29							
19. 57. 30						9·999899	47·0		0. 2. 30			005049	49·8				
20. 0. 0	41. 25								1. 47. 30						002884		
2. 30			004974	47·8					50. 0	32. 6							
8. 30						0·000297			52. 30			003679					
9. 30	29. 35								1. 57. 30						002916	51·0	
10. 30			004149						2. 0. 0	31. 36							
13. 30						000574			2. 30			004066	51·0				
14. 30	25. 44								7. 30						002876		

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

Extraordinary Observations of April 15.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°		d h m s	° ′ ″			°			°	
Apr. 15. 2. 10. 0	246. 32. 42	D							Apr. 15. 9. 43. 30	246. 48. 46	P						
2. 12. 30			0 ·004332		D				44. 30			0 ·005742		P			
3. 57. 30						0 ·003127	53 ·1	P	47. 30						0 ·002200		P
4. 0. 0	34. 16	P							48. 30	50. 31							
4. 2. 30			003645	53 ·1	P				49. 30			006518					
5. 57. 30						003792	52 ·7		9. 57. 30						002319	51 ·0	P
6. 0. 0	39. 38								10. 0. 0	46. 21	P						
6. 2. 30			008959	52 ·7					10. 2. 30			006268	51 ·1	P			
7. 57. 30						002916	52 ·7		11. 39. 0	57. 33	D						
8. 0. 0	46. 29								40. 0			005233		D	002076		D
2. 30			007625	52 ·7					11. 57. 30								
19. 30						002962			12. 0. 0	56. 39					002064	49 ·0	
20. 30	53. 4								2. 30			005610	48 ·8				
21. 30			008068						17. 0	54. 13							
28. 30						002833			18. 0			004580			001722		
29. 30	41. 42								22. 0	52. 20							
30. 30			008560						23. 0			004171			001686		
32. 30						002653			27. 0	49. 49							
33. 30	39. 10								28. 0			003263			001623		
34. 30			008112						32. 0	47. 5							
37. 30						002707			33. 0			002842			001244		
38. 30	33. 35								37. 0	46. 30							
39. 30			007094						38. 0			001581			000894		
43. 30						002210			39. 0	47. 17							
44. 30	34. 51								40. 0			001614			000926		
45. 30			004403						41. 0	47. 19							
48. 30						002160			42. 0			001448			000815		
49. 30	43. 27								43. 0	47. 39							
50. 30			003517						44. 0			001536			000731		
54. 30						002289			45. 0	47. 43							
55. 30	47. 19								46. 0			001536			000711		
8. 56. 30			004791						47. 0	48. 4							
9. 0. 30						002458			48. 0			001248			000580		
1. 30	52. 7								50. 0	49. 59							
2. 30			008477						51. 0			001281			000528		
7. 30						001762			53. 0	52. 6							
8. 30	46. 52								54. 0			001724			000628		
9. 30			004702						56. 0	55. 3							
12. 30						001845			57. 0			002311			000775		
13. 30	53. 36								12. 59. 0	58. 14							
14. 30			004835						13. 0. 0			003517			001038		
17. 30						002003			2. 0	58. 25							
18. 30	55. 35								3. 0			004459			001356		
19. 30			006673						5. 0	58. 3							
34. 30						002200			6. 0			005178			001543		
35. 30	44. 49								8. 0	55. 53							
36. 30			007094						9. 0			005654			001646		
38. 30						002190			11. 0	54. 20							
39. 30	45. 56								12. 0			005654			001615		
40. 30			006208						14. 0	52. 40							
42. 30						002160			15. 0			005344			001563		

Decrease of horizontal force for 1° increase of temperature = 0 ·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0 ·000264 parts of the whole vertical force.

April 15d. 8h. The Declination Magnet was very strangely affected: it took long and rapid sweeps, and then became nearly motionless; it then moved again in jerks, and rushed off to a new position. The changes in the position of the Horizontal Force Magnet were at times very rapid. At 8h. 47m, rapid changes were going forward, affecting all the magnets.

April 15d. 9h. A strong light in the N. W.: at 9h. 10m, the light was somewhat stronger; but that of the Moon was too powerful to determine with certainty the existence of an aurora.

April 15d. 12h. 10m. The sky has become overcast: it had been nearly cloudless for the last two hours, but there has been no appearance of an aurora.

April 15d. 13h. The Horizontal Force Magnet constantly moved by jerks. At times the magnet became motionless at once in the middle of its vibration, and then suddenly moved onward. In some vibrations it was checked in its motion three times: at 12h. 48m, its marked end was less drawn towards the North than at any other time in the month, the reading being 0 ·009578, when corrected for temperature.

Extraordinary Observations of April 15.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°		d h m s	° ′ ″			°			°	
Apr. 15. 13. 17. 0	246. 50. 41	D							Apr. 15. 15. 0. 0	246. 49. 23	D						
18. 0			0 ·006230		D	0 ·001690		D	1. 0			0 ·004880		D	0 ·000441		D
20. 0	46. 41								34. 0	51. 30							
21. 0			006098			001603			35. 0			006230			000926		
23. 0	43. 13								15. 57. 30						000616	48 ·5	
24. 0			005742			001396			16. 0. 0	52. 15							
26. 0	42. 50								2. 30			003208	48 ·5				
27. 0			006563			001388			57. 0	46. 28							
29. 0	42. 42								16. 58. 0			004569			001045		
30. 0			007869			001443			17. 57. 30						000958	47 ·5	
32. 0	40. 55								18. 0. 0	36. 0							
33. 0			008223			001451			2. 30			004242	47 ·5				
35. 0	39. 13								19. 0	40. 11							
36. 0			007990			001344			20. 0			001713			000767		
38. 0	38. 32								24. 0	37. 58							
39. 0			007559			001320			25. 0			001780			000846		
41. 0	39. 7								29. 0	32. 1							
42. 0			007370			001364			30. 0			003352			000886		
44. 0	38. 56								34. 0	29. 21							
45. 0			007039			001328			35. 0			003462			000787		
47. 0	38. 39								39. 0	31. 30							
48. 0			006341			001221			40. 0			003075			000687		
50. 0	39. 2								44. 0	33. 29							
51. 0			005920			001117			45. 0			003042			000707		
54. 0	39. 53								49. 0	33. 21							
55. 0			005222			001022			50. 0			002986			000846		
13. 57. 30						000978	48 ·8		54. 0	31. 11							
14. 0. 0	42. 32								55. 0			002267			000827		
2. 30			003964	49 ·0					18. 59. 0	31. 40							
6. 0	43. 48								19. 0. 0			002355			000966		
7. 0			003828			000894			9. 0	32. 27							
10. 0	43. 54								10. 0			003429			001237		
11. 0			003352			000687			19. 0	33. 58							
14. 0	44. 29								20. 0			004470			001372		
15. 0			003175			000596			29. 0	32. 57							
18. 0	46. 23								30. 0			002245			001443		
19. 0			003219			000484			44. 0	32. 25							
22. 0	47. 44								45. 0			004514			001635		
23. 0			003153			000409			19. 57. 30						001885	48 ·0	
26. 0	49. 43								20. 0. 0	28. 11							
27. 0			003407			000401			2. 30			005211	48 ·2				
30. 0	50. 25								9. 0	23. 56							
31. 0			003773			000488			10. 0			005012			001961		
34. 0	50. 53								19. 0	29. 52							
35. 0			003817			000520			20. 0			006308			002160		
39. 0	51. 4								24. 0	33. 37							
40. 0			004038			000560			25. 0			006031			002124		
44. 0	51. 38								34. 0	35. 55							
45. 0			004525			000413			35. 0			005897			002192		
51. 0	49. 22								44. 0	35. 49	D						
14. 52. 0			005078			000496			20. 45. 0			005675		D	002243		D

Decrease of horizontal force for 1° increase of temperature = 0 ·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0 ·000264 parts of the whole vertical force.

Extraordinary Observations of April 15, 16, 18, 19, 20, 26, 27, and May 6.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Apr. 15. 21. 57. 30						0 ·002709	48 ·4	JH
22. 0. 0	246. 37. 58	JH						
2. 30			0 ·004628	49 ·6	JH			
19. 0	38. 13							
20. 0			004448			002769		
29. 0	39. 51							
22. 30. 0			004658			002844		
23. 5. 0	39. 57	JH						
6. 0			004736		JH	002848		JH
15. 23. 57. 30						002574	51 ·3	P
16. 0. 0. 0	37. 34	P						
0. 2. 30			002791	52 ·4	P			
Apr. 18. 21. 57. 30						0 ·002840	49 ·0	D
22. 0. 0	246. 38. 18	D						
22. 2. 30			007753	49 ·5	D			
18. 23. 57. 30						002805	49 ·0	
19. 0. 0. 0	28. 41							
2. 30			006297	50 ·0				
13. 0	27. 42							
14. 0			006197			002777		
42. 0	25. 56							
0. 43. 0			006806			002757		
1. 7. 0	25. 7							
8. 0			007326			002677		
47. 30						002526		
50. 0	25. 37							
52. 30			007341					
1. 57. 30						002454	51 ·5	
2. 0. 0	25. 5							
2. 30			007543	52 ·5				
7. 30						002431		
10. 0	25. 37							
2. 12. 30			006430					
19. 57. 30						003593	46 ·2	D
20. 0. 0	41. 4	D						
20. 2. 30			009325	46 ·1	D			
21. 57. 30						003278	47 ·8	JH
22. 0. 0	30. 43	JH						
2. 30			006596	50 ·1	JH			
22. 0	29. 24							
23. 0			005742			003167		
40. 0	36. 35							
22. 41. 0			006109			003063		
23. 13. 0	28. 39							
14. 0			005976			002781		
19. 23. 57. 30						002291	53 ·4	
20. 0. 0. 0	38. 26							

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Apr. 20. 0. 2. 30			0 ·006120	57 ·0	JH			
34. 0	246. 26. 21	JH						
35. 0			006341			0 ·001810		JH
43. 0	26. 30							
0. 44. 0			005599			001686		
1. 0. 0	27. 54							
1. 0			005555			001555		
26. 0	24. 51							
27. 0			004216			001284		
47. 30						001069		
50. 0	26. 9							
52. 30			004580					
1. 57. 30						000970	60 ·0	
2. 0. 0	26. 46							
2. 30			004725	61 ·6				
7. 30						0 ·000886		JH
10. 0	28. 25	JH						
2. 12. 30			004613		JH			
Apr. 26. 22. 0. 0	246. 43. 45	JH						
2. 30			0 ·005288	55 ·0	JH			
22. 51. 4	39. 16	P						
23. 19. 4	46. 47							
27. 0	53. 51							
28. 0			003861		P			
32. 0	45. 45							
33. 0			005444		P			
35. 4	47. 18	P						
52. 0	43. 34	JH						
53. 0			003695		JH			
27. 0. 0. 0	46. 28							
2. 30			003773	59 ·4				
10. 4	46. 52							
35. 4	38. 42							
49. 0	38. 25							
0. 50. 0			004437					
1. 8. 4	37. 26							
50. 0	37. 44							
52. 30			003998					
2. 0. 0	37. 52							
2. 30			004319	63 ·4				
10. 0	38. 17	JH						
2. 12. 30			004736		JH			
May 6. 21. 57. 30						9 ·996262	53 ·6	JH
22. 0. 0	246. 42. 16	JH						
22. 2. 30			0 ·006297	54 ·3	JH			
23. 57. 30						995504	55 ·7	
7. 0. 0. 0	32. 48							

Decrease of horizontal force for 1° increase of temperature = 0 ·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0 ·000264 parts of the whole vertical force.

April 19d. 0h. The Declination Magnet was in a position differing 10′ from its position at the previous observation, and extra observations were commenced.

April 19d. 22h. Between the observation at 20h and this observation, the Declination Magnet had changed its position 10′. The Horizontal Force Magnet had also changed its position by a quantity corresponding to more than 1div. of its scale, or 0 ·002214.

April 26d. The observations were taken in consequence of the magnets being apparently disturbed.

May 7d. 0h. The Declination Magnet was in a position differing 9′ from its position two hours before. A few extra observations were taken, but no furthe change of any amount requiring a continuance of them took place.

Extraordinary Observations of May 6, 7, 16, 17, June 4, 6, 7, and July 1.

Göttingen Mean Time (Astronomical Reckoning.)	Theodolite Reading.	Obs.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Obs.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertica Force.	Obs.
d h m s	° ′ ″			°			°	
May 7. 0. 2. 30		JH	0·004260	56·0	JH			JH
6. 0	246. 32. 36							
7. 0			004260			9·995480		
47. 0	32. 41							
0. 48. 0			004946			995377		
1. 47. 30						995217		
50. 0	31. 22							
52. 30			006275					
1. 57. 30						995137	58·2	
2. 0. 0	31. 19							
2. 30			006031	58·5				
7. 30						995085		JH
10. 0	31. 25	JH						
2. 12. 30			005897		JH			
May 16. 3. 57. 30						9. 992486	69·6	JH
4. 0. 0	246. 33. 13	JH						
4. 2. 30			0·003773	68·6	JH			
5. 57. 30						992185	70·5	
6. 0. 0	42. 44							
2. 30			004507	70·0				
10. 0	41. 38							
11. 0			005067					
23. 0	40. 32							
6. 44. 0			004370			992086		
7. 26. 0	40. 50							
27. 0			004569			991996		
7. 57. 30						991898	69·0	JH
8. 0. 0	42. 48	JH						
8. 2. 30			004131	68·4	JH			
May 16. 19. 57. 30						9·995303	54·3	P
20. 0. 0	246. 53. 7	P						
20. 2. 30			0·004531	54·8	P			
21. 57. 30						995641	55·5	D
22. 0. 0	38. 45	D						
2. 30			002355	56·0	D			
19. 0	40. 43							
20. 0			002189			995508		
41. 0	40. 49							
22. 42. 0			002964			995217		
23. 12. 0	38. 58							
13. 0			002688			994925		
38. 0	36. 2							
39. 0			001414			994887		
23. 57. 30						994708	58·0	
May 17. 0. 0. 0	38. 18							
0. 2. 30			000978	58·2				

Göttingen Mean Time (Astronomical Reckoning.)	Theodolite Reading.	Obs.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Obs.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Obs.
d h m s	° ′ ″			°			°	
May 17. 1. 47. 30					D	9·993810		D
50. 0	246. 34. 26	D						
52. 30			0·002688					
1. 57. 30						993640	63·0	
2. 0. 0	34. 26							
2. 30			002394	63·0				
7. 30						993427		D
10. 0	35. 35	D						
12. 30			002245		D			
June 4. 5. 57. 30						9·988442	76·5	JH
6. 0. 0	246. 27. 4	JH						
6. 2. 30			0·008194	77·0	JH			
7. 57. 30						989403	75·5	
8. 0. 0	41. 29							
2. 30			004171	76·3				
5. 0	39. 35							
6. 0			003927			989243		
29. 0	42. 6							
8. 30. 0			003164			989153		
9. 57. 30						989040	75·0	JH
10. 0. 0	33. 18	JH						
10. 2. 30			003389	75·3	JH			
11. 39. 30	47. 4	P						
40. 30			0·000252		P	989614		P
44. 30	46. 42							
45. 30			9·999615			989520		
49. 30	50. 12							
50. 30			0·000340			989403		
11. 57. 30						989332	70·3	P
12. 0. 0	55. 2	P						
12. 2. 30			000123	70·2	P			
June 6. 19. 57. 30						9·990847	67·0	D
20. 0. 0	246. 45. 15	D						
20. 2. 30			0·001620	67·2	D			
21. 57. 30						990509	66·0	G
22. 0. 0	39. 39	G						
2. 30			9·999811	69·0	G			
15. 0	38. 20							
16. 0			999378			990368		
45. 0	38. 16							
22. 46. 0			998924			990203		
23. 57. 30						989803	70·0	G
7. 0. 0. 0	33. 8	G						
0. 2. 30			989877	72·0	G			
July 1. 15. 57. 30						9·989515	62·8	JH

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

May 16d. 6h. A change of 9′ in the position of the Declination Magnet having taken place, extra observations were commenced; but no further change took place afterwards, and they were discontinued.

May 16d. 22h. A change of 14′ having taken place in the position of the Declination Magnet, extra observations were commenced: no further changes took place.

May 17d. 2h. 30m. The marked end of the Horizontal Force Magnet was less drawn towards the North at this than at any other time in the month, the reading being 0·010889, when corrected for temperature.

June 4d. 6h. 2m. 30s. At this observation, the marked end of the Horizontal Force Magnet was more drawn towards the North than at any other during the month, the reading being 0·021284, when corrected for temperature.

June 4d. 8h. A change of 14′ in the position of the Declination Magnet having taken place, extra observations were commenced.

June 6d. 22h. The magnets appeared disturbed, and extra observations were commenced; but no change to any great amount took place.

Extraordinary Observations of July 1 and 2.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
July 1. 16. 0. 0	246. 50. 42	JH						
16. 2. 30			0 ·001160	63 ·0	JH			
17. 57. 30						9 ·990043	61 ·6	JH
18. 0. 0	246. 3. 14							
2. 30			9 ·994813	62 ·0				
10. 0	245. 43. 25							
11. 0			984732			988725		
13. 0	50. 49							
14. 0			983183			988258		
16. 0	245. 59. 31							
17. 0			984401			988103		
19. 0	246. 3. 12							
20. 0			985043			987925		
22. 0	8. 43							
23. 0			988507			988019		
26. 0	12. 56							
27. 0			989116			988334		
29. 0	11. 4							
30. 0			992747			988531		
32. 0	15. 27							
33. 0			993644			988536		
35. 0	18. 24							
36. 0			993867			988456		
41. 0	19. 50							
42. 0			994961			988451		
45. 0	23. 45							
46. 0			997430			988809		
48. 0	29. 56							
49. 0			996876			988654		
51. 0	32. 33							
18. 52. 0			9 ·998481			988774		
19. 3. 0	38. 53							
4. 0			0 ·001403			988856		
6. 0	39. 59							
7. 0			001337			988802		
15. 0	39. 45							
16. 0			0 ·001614			988903		
19. 57. 30						989285	61 ·3	
20. 0. 0	45. 44							
2. 30			9 ·997186	65 ·1				
6. 0	51. 12							
7. 0			997098			989388		
9. 0	48. 1							
10. 0			998792			989534		
14. 0	47. 0							
15. 0			999223			989388		
29. 0	49. 56							
30. 0			995603			989388		
40. 0	52. 40	JH						
20. 41. 0			998615		JH	989337		JH
21. 44. 0	39. 19	D						

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
July 1. 21. 45. 0			9 ·994851		D	9 ·989850		D
50. 0	246. 35. 36	D						
51. 0			996002			989902		
54. 0	31. 41							
55. 0			996611			989939		
56. 0	31. 37							
57. 0			996135			989949		
21. 57. 30						989944	63 ·0	
22. 0. 0	29. 43							
2. 30			995349	66 ·0				
4. 0	35. 13	D						
5. 0			995581		D	989732		D
9. 0	34. 21	G						
10. 0			996942		G	987764		G
15. 0	40. 0	D						
16. 0			995991		D	989659		D
20. 0	40. 22							
21. 0			995171			989621		
25. 0	40. 49							
26. 0			995935			989661		
30. 0	38. 41							
31. 0			996732			989770		
35. 0	38. 48	D						
36. 0			998116		D	989717		D
39. 0	37. 26	G						
40. 0			998592		G	989708		G
49. 0	37. 17	D						
50. 0			997109		D	989628		D
55. 0	35. 51	G						
22. 57. 0			997707		G	989638		G
23. 8. 0	40. 11							
9. 0			995382			989464		
14. 0	37. 19							
15. 0			995802			989614		
20. 0	35. 13							
21. 0			996777			989699		
29. 0	35. 20							
30. 0			998935			989756		
44. 0	37. 44	G						
45. 0			999223		G	989567		G
23. 57. 30						989482	64 ·3	D
2. 0. 0. 0	39. 57	D						
2. 30			997419	66 ·1	D			
11. 0	43. 39							
12. 0			9 ·999223			989576		
17. 0	45. 31							
18. 0			0 ·000020			989591		
27. 0	34. 26							
28. 0			001946		D	990038		D
30. 0	29. 17	D						

Decrease of horizontal force for 1° increase of temperature = 0 ·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0 ·000264 parts of the whole vertical force.

July 1d. 18h. Since 16h, a great change of 47′ had taken place in the position of the Declination Magnet, and extra observations were at once commenced.

July 1d. 18h. 10m. The western declination deduced from this observation was 24°. 9′. 1″, and it is the largest in the year.

Extraordinary Observations of July 2.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Obs.	Reading for Hor. Force in parts of whole Hor. Force.	Therm. of Horizontal Force.	Obs.	Reading for Vert. Force in parts of whole Vert. Force.	Therm. of Vertical Force.	Obs.	Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Obs.	Reading for Hor. Force in parts of whole Hor. Force.	Therm. of Horizontal Force.	Obs.	Reading for Vert. Force in parts of whole Vert. Force.	Therm. of Vertical Force.	Obs.
d h m s	° ′ ″			°			°		d h m s	° ′ ″			°			°	
July 2. 0. 31. 0			0·002721		G	9·990179		D	July 2. 1. 32. 0	246. 38. 6	D						
32. 0	246. 26. 55	D							33. 0			0·001592		G	9·990592		G
33. 0			002477			990179		G	35. 0	37. 53							
34. 0	23. 50								36. 0			001027			990486		
35. 0	23. 39	D	001027			990174			38. 0	37. 16							
36. 0			0·000628			990217			39. 0			002421		G	990523		G
37. 0	22. 30	G							47. 30						990401		D
38. 0			9·998592			990274			50. 0	33. 52							
39. 0	26. 21	D							52. 30			002705		D			
40. 0			996765			990179			1. 57. 30						990029	66·0	
41. 0	28. 35								2. 0. 0	33. 58							
42. 0	29. 32		996267			990265			2. 30			0·000717	67·3				
43. 0			996024			990368			7. 30						989878		D
44. 0	31. 39								10. 0	34. 16	D						
45. 0	32. 32		996467			990368			12. 30			9·998288		D			
46. 0	34. 36		996600			990497			18. 0	33. 30	G						
47. 0			996600			990509			19. 0			9·999234		G	989897		G
48. 0	34. 39								28. 0	34. 34	G						
49. 0			997098			990580			29. 0			999256		G	989708		G
50. 0	34. 33								37. 0	35. 44	D						
51. 0			997264			990674			38. 0			0·000318		D	989803		D
53. 0	35. 21								47. 0	35. 47							
54. 0			995714			990721			2. 48. 0			0·000053			989794		
55. 0	37. 5								3. 0. 0	34. 44							
56. 0			995980		G	990768		G	1. 0			9·999212			989708		
57. 0	38. 30								10. 0	33. 51	D						
58. 0			996688		D	990829		D	11. 0			0·000119		D	989708		D
0. 59. 0	39. 50								3. 57. 30						989487	67·8	JH
1. 0. 0			996821		G	990829		G	4. 0. 0	36. 44	JH						
1. 0	40. 48								2. 30			9·998327	68·0	JH			
2. 0			997153			990862			34. 0	37. 35	G						
3. 0	41. 49								35. 0			0·001891		G	989708		G
4. 0			997596			990838			43. 0	36. 57	JH						
6. 0	42. 20								4. 44. 0			001691		JH	989722		JH
7. 0			998504			990838			5. 0. 0	36. 25							
10. 0	42. 7								1. 0			002333			989775		
11. 0			9·999422			990838			35. 0	40. 4							
13. 0	40. 47								36. 0			003773			990424		
14. 0			0·000296			990862			5. 57. 30						990833	66·5	JH
16. 0	40. 46								6. 0. 0	38. 44	JH						
17. 0			000895			990800			2. 30			002079	67. 2	JH			
20. 0	39. 52								11. 0	38. 42	G						
21. 0			001913			990772			12. 0			000562		G	990885		G
24. 0	38. 34								53. 0	57. 43	JH						
25. 0	38. 7		000417			990702			54. 0			002566		JH	991229		JH
26. 0	39. 10		002688			990702			57. 0	58. 12							
27. 0			001303			990796			6. 58. 0			004193			991220		
28. 0	38. 33								7. 10. 0	56. 5	JH						
29. 0			000252			990537			11. 0			005310		JH	991074		JH
30. 0	38. 32								19. 0	59. 49	D						
31. 0			001780			990662			20. 0			004791		D	991215		D

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

July 2d. 0h. 54m. Just before this observation the Horizontal Force Magnet was in the same position as it was at the preceding observation; it then moved at once to its new position, and remained there without motion for more than 30s, during which time it was watched.

July 2d. 1h. 21m. Immediately after this time the Horizontal Force Magnet changed its direction of motion from increasing readings to decreasing readings: there was no vibration. After 25m, it again moved, so as to increase the reading; and after 26m, to decrease the readings: in none of those changes was there any tendency to a backward motion.

July 2d. 7h. 11m. The marked end of the Horizontal Force Magnet was more drawn towards the North at this than at any other time in the month, the reading being 0·016734, when corrected for temperature.

Extraordinary Observations of July 2.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
July 2. 7. 34. 0	246. 52. 17	D						
35. 0			0·003883		D	9·991182		D
43. 0	50. 56							
44. 0			002344			991074		
52. 0	50. 46	D						
53. 0			002643		D	991036		D
7. 57. 30						990952	66·0	JH
8. 0. 0	48. 27	JH						
2. 30			003070	66·5	JH			
12. 0	46. 45							
13. 0			0·001292			990702		
33. 0	45. 56							
34. 0			9·999800			990490		
8. 59. 0	246. 48. 38							
9. 0. 0			999644			990132		
9. 57. 30						988941	64·3	
10. 0. 0	247. 5. 5							
2. 30			994408	65·0				
4. 0	6. 58							
5. 0			994696			988803		
9. 0	247. 4. 21							
10. 0			995149			988838		
13. 0	246. 57. 5							
14. 0			995149			988628		
16. 0	48. 54							
17. 0			994630			988409		
19. 0	44. 34							
20. 0			993500			988148		
23. 0	42. 10							
24. 0			993566			987787		
25. 0	42. 19							
26. 0			992337			987496		
29. 0	44. 5							
30. 0			991750			987072		
34. 0	47. 19							
35. 0			992570			987147		
39. 0	47. 50	JH						
40. 0			993146		JH	987307		JH
46. 0	52. 22	D						
47. 0			993500		D	987534		D
50. 0	56. 47							
51. 0			993843			987543		
53. 0	246. 59. 58							
54. 0			994751			987929		
58. 0	247. 2. 0							
10. 59. 0			995958			988211		
11. 1. 0	247. 1. 0							
2. 0			996489			988310		
5. 0	246. 57. 44							
6. 0			996445			988324		
9. 0	54. 45							

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
July 2. 11. 10. 0			9·995692		D	9·988310		D
13. 0	246. 52. 49	D						
14. 0			995935			988404		
17. 0	52. 12							
18. 0			996644			988531		
21. 0	50. 17							
22. 0			997574			988673		
25. 0	51. 29							
26. 0			996821			988498		
29. 0	52. 18							
30. 0			995405			988305		
33. 0	54. 27							
34. 0			994829			988207		
37. 0	51. 10							
38. 0			996954			988428		
41. 0	45. 45							
42. 0			998592			988334		
45. 0	41. 50							
46. 0			997618			988061		
49. 0	40. 55							
50. 0			995227			987473		
51. 0	44. 54							
52. 0			994275			987251		
53. 0	52. 8							
54. 0			995449			987265		
55. 0	57. 25							
56. 0			9·997751			987599		
57. 0	57. 23							
57. 30						987722		
11. 58. 0			0·000097			987731	63·5	
12. 0. 0	54. 47							
2. 30			001536	64·0				
3. 0	51. 10							
4. 0			001935			988146		
5. 0	48. 23							
6. 0			001270			988099		
7. 0	47. 27							
8. 0			0·000009			988094		
10. 0	48. 27							
11. 0			9·999389			988202		
12. 0	49. 44							
13. 0			999101			988254		
14. 0	50. 57							
15. 0			998548			988301		
16. 0	53. 36							
17. 0			998836			988343		
18. 0	56. 20							
19. 0			999301			988446		
20. 0	58. 0							
21. 0			9·999566			988607		
22. 0	59. 54							

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

July 2d. 10h. 4m. The Declination Magnet continued to move, so as to increase its readings, until 10h. 4m. 31s, when it began to move rapidly in the opposite direction: the extreme position was not noted.

July 2d. 10h. 30m. There is a diffused, brilliant, yellow light in the N. N. W., certainly auroral, and the whole North horizon is occupied by a bright light, of a [yellowish tint.

July 2d. 11h. The light in the North horizon is still visible, and without change.

July 2d. 11h. 15m. The light is much fainter, but it is undoubtedly auroral.

July 2d. 11h. 45m. The auroral light is not visible.

July 2d. 22h and July 3d. 1h. At both these times the positions of the magnets were examined by Mr. Glaisher, and were found to be steady: the Declination Magnet at both times was in a position requiring the theodolite to read 246°. 41′.

Extraordinary Observations of July 2 and 3.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
July 2. 12. 23. 0			0·000606		D	9·988725		D
25. 0	246. 59. 32	D						
26. 0			001735			988955		
28. 0	57. 24							
29. 0			001270			988899		
31. 0	56. 43							
32. 0			001292			988875		
35. 0	54. 21							
36. 0			0·000695			988819		
40. 0	52. 50							
41. 0			9·999821			988767		
46. 0	52. 25							
47. 0			999212			988781		
54. 0	56. 22							
12. 55. 0			9·998991			988767		
13. 3. 0	57. 23							
4. 0			0·000827			988861		
10. 0	53. 12							
11. 0			001425			988960		
15. 0	51. 38							
16. 0			001514			988988		
23. 0	50. 22							
24. 0			0·001027			988974		
July 3. 13. 57. 30						9·985355	63·8	D
14. 0. 0	247. 15. 41	D						
2. 30			9·990400	64·3	D			
9. 0	247. 5. 55							
10. 0			988718			983179		
12. 0	246. 51. 47							
13. 0			989759			983440		
15. 0	41. 30							
16. 0			990998			983412		
18. 0	40. 3							
19. 0			989471			982744		
20. 0	41. 16							
21. 0			989471			983013		
22. 0	45. 23							
23. 0			990068			983833		
24. 0	46. 26							
25. 0			989360			983997		
26. 0	48. 27							
27. 0			988009			984292		
28. 0	246. 55. 15							
29. 0			986659			984507		
30. 0	247. 1. 54							
31. 0			988142			984765		
32. 0	9. 28							
33. 0			989116			984859		
35. 0	13. 20							
36. 0			991109			984812		

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
July 3. 14. 37. 0	247. 13. 41	D						
38. 0			9·992371		D	9·984850		D
39. 0	11. 2							
40. 0			993190			985010		
41. 0	8. 50							
42. 0			994496			985255		
43. 0	4. 50							
44. 0			994785			985371		
45. 0	3. 32							
46. 0			994452			985392		
47. 0	6. 43							
48. 0			994452			985260		
50. 0	13. 8							
51. 0			993943			985297		
52. 0	20. 26							
53. 0			995050			985140		
54. 0	20. 50							
55. 0			992526			984920		
58. 0	19. 13							
14. 59. 0			991795			984684		
15. 0. 0	19. 4							
1. 0			991463			984669		
2. 0	19. 15							
3. 0			990400			984722		
6. 0	19. 12							
7. 0			991772			985481		
10. 0	15. 5							
11. 0			991662			985339		
12. 0	11. 44							
13. 0			991596			985321		
14. 0	7. 17							
15. 0			990489			985283		
16. 0	5. 40							
17. 0			989249			985118		
18. 0	4. 15							
19. 0			988917			985039		
20. 0	1. 14							
21. 0			987909			984939		
22. 0	247. 0. 38							
23. 0			986703			984798		
24. 0	246. 59. 43							
25. 0			986747			984722		
26. 0	57. 57							
27. 0			986149			984629		
28. 0	59. 10							
29. 0			986559			984939		
30. 0	58. 51							
31. 0			986304			984858		
32. 0	59. 41							
33. 0			986802			984930		
34. 0	246. 59. 11							

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

July 3d. 14h. The magnets were all changing their positions quickly, and extra observations were commenced.

July 3d. 14h. 19m. The marked end of the Vertical Force Magnet was less drawn downwards at this than at any other observation in the month, the reading being 9·999587, when corrected for temperature.

July 3d. 14h. 52m. The cross carried by the Declination Magnet was almost invisible in this and the five following observations: by 15h. 10m the magnet had moved in the contrary direction, so that the image was clear without having occasion to shift the suspension.

July 3d. 14h. 54m. The western declination deduced from this observation was 22°. 31′. 36″, and it is the smallest in the year.

July 3d. 15h. 27m. The marked end of the Horizontal Force Magnet was less drawn towards the North at this than at any other time in the year, the reading being 9·997114, when corrected for temperature.

Extraordinary Observations of July 3.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
July 3. 15. 35. 0			9 ·988220		D	9 ·985198		D
36. 0	247. 2. 15	D						
37. 0			988518			985151		
39. 0	3. 18							
40. 0			990489			985283		
42. 0	2. 54							
43. 0			990622			985472		
45. 0	3. 8							
46. 0			991884			985872		
49. 0	5. 8							
50. 0			992526			985801		
54. 0	7. 41							
55. 0			992260			985514		
15. 57. 30						985532	63 ·8	
16. 0. 0	8. 18							
2. 30			995935	64 ·5				
5. 0	247. 2. 50							
6. 0			998481			986068		
8. 0	246. 56. 31							
9. 0			998393			985813		
11. 0	52. 51							
12. 0			9 ·999843			985909		
14. 0	50. 20							
15. 0			0 ·000097			986017		
17. 0	48. 55							
18. 0			0 ·000540			986050		
20. 0	48. 59							
21. 0			9 ·999323			985914		
25. 0	47. 41							
26. 0			998481			985894		
30. 0	48. 31							
31. 0			997574			985927		
35. 0	41. 8							
36. 0			997663			985937		
40. 0	37. 8							
41. 0			996998			985759		
44. 0	31. 35							
45. 0			995824			985510		
48. 0	28. 40							
49. 0			994563			985283		
52. 0	29. 1							
53. 0			994707			984765		
56. 0	27. 33							
16. 57. 0			995050			984191		
17. 0. 0	31. 44							
1. 0			994209			984106		
4. 0	33. 19							
5. 0			993810			984297		
6. 0	38. 1							
7. 0			994496			984425		
10. 0	37. 45							

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
July 3. 17. 11. 0			9 ·993500		D	9 ·984563		D
15. 0	246. 39. 1	D						
16. 0			994851			984868		
20. 0	28. 39							
21. 0			994076			984905		
25. 0	34. 1							
26. 0			993699			984638		
30. 0	38. 1							
31. 0			995382			984760		
35. 0	40. 3							
36. 0			994873			984789		
40 0	38. 51							
41. 0			995294			985001		
45. 0	36. 52							
46. 0			996223			985048		
50. 0	27. 23							
51. 0			997895			985250		
52. 0	21. 40							
53. 0			998238			984907		
55. 0	22. 13							
56. 0			998183			984963		
17. 57. 30						984907	65 ·0	
18. 0. 0	17. 5							
2. 30			997950	65 ·4				
5. 0	17. 6							
6. 0			996954			984765		
10. 0	18. 12							
11. 0			996201			984944		
15. 0	15. 11							
16. 0			996600			985179		
20. 0	16. 54							
21. 0			996345			985227		
25. 0	18. 44							
26. 0			995581			985283		
30. 0	23. 27							
31. 0			995714			985505		
42. 0	27. 46							
43. 0			994939			985837		
53. 0	30. 55							
18. 54. 0			994275			986320		
19. 7. 0	33. 45							
8. 0			990843			986380		
15. 0	38. 55							
16. 0			988075			986545		
27. 0	39. 41							
28. 0			986935			986790		
38. 0	40. 56							
39. 0			988518			987077		
48. 0	39. 10							
49. 0			987655			978354		
19. 57. 30						987722	65 ·5	

Decrease of horizontal force for 1° increase of temperature = 0 ·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0 ·000264 parts of the whole vertical force.

Extraordinary Observations of July 3, 4, and 9.

Göttingen Mean Time (Astronomical Reckoning.)	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
July 3. 20. 0. 0	246. 43. 6	D						
2. 30			9·990792	66·0	D			
13. 0	35. 2							
14. 0			990799			9·987915		D
26. 0	33. 57							
27. 0			991706			987972		
40. 0	35. 54							
41. 0			990423			987778		
52. 0	35. 24	D						
20. 53. 0			991340		D	987825		D
21. 43. 0	33. 32	JH						
44. 0			994972		JH	988631		JH
46. 0	32. 3							
47. 0			995515			988631		
52. 0	34. 57							
53. 0			993788			988603		
21. 57. 30						988772	65·3	
22. 0. 0	34. 56							
2. 30			996227	66·2				
7. 0	32. 50							
8. 0			996998			988828		
13. 0	30. 25							
14. 0			996389			988711		
20. 0	33. 58							
21. 0			996378			988795		
26. 0	30. 28							
27. 0			996644			988889		
33. 0	31. 45							
34. 0			995725			988809		
43. 0	33. 28							
44. 0			997109			988903		
53. 0	33. 54	JH						
54. 0			996655		JH	988866		JH
22. 59. 0	37. 17	G						
23. 0. 0			994696		G	988682		G
19. 0	35. 38	JH						
20. 0			994364		JH	989050		JH
31. 45	33. 3	G						
32. 45			993998		G	989294		G
40. 45	32. 3	G						
41. 45			995581		G	989144		G
3. 23. 57. 30						989007	67·3	JH
4. 0. 0. 0	31. 56	JH						
2. 30			994541	68·0	JH			
12. 45	33. 25	G						
13. 45			995935		G	989252		G
27. 0	33. 41	JH						
28. 0			995028		JH	989219		JH
29. 0	33. 42	G						
44. 0	35. 4							

Göttingen Mean Time (Astronomical Reckoning.)	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
July 4. 0. 45. 0			9·996157		G	9·989247		G
1. 19. 0	246. 35. 0	G						
20. 0			997530		G	989384		G
47. 30						990038		JH
50. 0	33. 47	JH						
52. 30			996754		JH			
1. 57. 30						990184	70·3	
2. 0. 0	39. 27							
2. 30			9·999932	70·6				
7. 30						990312		
10. 0	40. 46							
12. 30			0·002178					
19. 0	42. 0							
20. 0			9·999145			990052		
30. 0	39. 26							
31. 0			9·999101			990038		
38. 0	37. 39	JH						
2. 39. 0			0·000540		JH	990005		JH
3. 57. 30						989497	72·5	G
4. 0. 0	39. 24	G						
2. 30			9·999301	73·0	G			
9. 0	34. 55							
4. 10. 0			0·001713			989638		
5. 40. 0	41. 16							
41. 0			9·999201			988540		
50. 0	42. 30							
51. 0			999478			988579		
57. 30						988555	74·0	
6. 0. 0	42. 46							
2. 30			998814	74·0				
11. 0	45. 56							
12. 0			998105			988442		
17. 0	46. 44							
18. 0			998924			988437		
31. 0	41. 34	G						
6. 32. 0			999478		G	988381		G
7. 57. 30						988066	73·8	D
8. 0. 0	40. 41	D						
8. 2. 30			9·996924	74·0	D			
July 9. 5. 57. 30						9·989902	66·2	JH
6. 0. 0	246. 27. 30	JH						
6. 2. 30			0·001049	67·0	JH			
7. 57. 30						990227	64·6	
8. 0. 0	37. 21							
2. 30			001470	65·0				
7. 0	36. 22		003031			990410		
8. 0								
19. 0	33. 30		002399			990236		
20. 0								
35. 0	31. 50		001768			990184		

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

July 9d. 8h. A change of 10′ in the position of the Declination Magnet having occurred, a few extra observations were taken, and the magnets were frequently watched. After 10h, the magnets remained steady.

Extraordinary Observations of July 9, August 11, 12, 18, 19, and 20, and September 2.

Göttingen Mean Time, (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
July 9. 8. 36. 0						9·990184		
54. 0	246. 31. 17	JH	0·001879		JH			
8. 55. 0								
9. 57. 30						990193	63·6	JH
10. 0. 0	40. 5	JH						
9. 10. 2. 30			002068	64·0	JH			
Aug. 11. 19. 57. 30						9·989050	61·0	P
20. 0. 0	246. 44. 9	P						
20. 2. 30			9·999628	62·0	P			
21. 57. 30						988725	62·6	JH
22. 0. 0	35. 43	JH						
2. 30			994636	64·1	JH			
6. 0	34. 11		994596			988725		
7. 0								
27. 0	29. 52		995171			988664		
28. 0								
45. 0	28. 6		996024			988579		
22. 46. 0								
23. 20. 0	26. 57		996389			988277		
21. 0								
11. 23. 57. 30						987948	67·2	
12. 0. 0. 0	29. 45							
2. 30			996600	68·4				
1. 47. 30						987011		
50. 0	29. 45							
52. 30			997729					
1. 57. 30						986884	72·0	
2. 0. 0	30. 13							
2. 30			997729	72·0				
7. 30						986842		JH
10. 0	29. 56	JH						
12. 30			997729		JH			
Aug. 18. 23. 57. 30						9·985015	72·0	JH
19. 0. 0. 0	246. 28. 22	JH						
0. 2. 30			9·995417	73·3	JH			
1. 47. 30						985146		
50. 0	17. 12							
52. 30			999118					
1. 57. 30						985039	73·2	
2. 0. 0	18. 32							
2. 30			998304	73·6				
6. 0	17. 46							
7. 0			998393			985193		
7. 30						985193		
10. 0	18. 7							
12. 30			998083					
20. 0	20. 27	JH						

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Aug. 19. 2. 21. 0			9·996013		JH	9·985071		JH
3. 57. 30						985707	73·1	P
4. 0. 0	246. 22. 40	P						
19. 4. 2. 30			997374	73·5	P			
Aug. 20. 7. 57. 30						9·986187	68·0	G
8. 0. 0	246. 35. 46	G						
8. 2. 30			9·999145	69·0	G			
9. 57. 30						986328	68·0	
10. 0. 0	48. 55							
2. 30			0·002893	68·5		986366		
5. 0	45. 3		002688			986366		
10. 0	44. 14		002090			986366		
15. 0	43. 30		0·001625					
11. 57. 30						9·986592	65·7	G
12. 0. 0	39. 16	G						
12. 2. 30			9·999766	66·0	G			
Sep. 2. 5. 57. 30						9·985150	75·0	P
6. 0. 0	246. 31. 52	P						
6. 2. 30			9·997264	75·0	P			
7. 57. 30						985094	75·0	
8. 0. 0	50. 28							
2. 30			996194	75·0				
4. 30						985001		
5. 30	53. 14							
6. 30			995958					
9. 30						985050		
10. 30	55. 55							
11. 30			996002					
14. 30						985050		
15. 30	246. 58. 22							
16. 30			996157					
19. 30						985052		
20. 30	247. 0. 37							
21. 30			996743					
24. 30						985093		
25. 30	247. 1. 17							
26. 30			998016					
29. 30						985093		
30. 30	246. 58. 56							
31. 30			998814					
34. 30						985093		
35. 30	52. 55							
36. 30			998592					
39. 30						985023		
40. 30	50. 29							
41. 30			998371					
44. 30						985013		
45. 30	48. 25							
46. 30			998371					

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

Aug. $11^d.22^h.\ 6^m$. The marked end of the Horizontal Force Magnet was less drawn towards the North at this than at any other time in the month, the reading being 0·005136, when corrected for temperature.

Aug. $11^d.22^h$. A change of 9′ having taken place in the position of the Declination Magnet since 20^h, extra observations were commenced.

Aug. $19^d.\ 1^h.50^m$. A change of 11′ having taken place since 0^h in the position of the Declination Magnet, extra observations were commenced.

Aug. $20^d.10^h$. The change of 13′.9″ in the position of the Declination Magnet took place but a very short time before 10^h. After $10^h.15^m$, the magnets were watched for some time, and were found to be slowly approaching their former positions.

Sep. $2^d.\ 8^h.\ 0^m$. A change of 19′ having taken place since 6^h in the position of the Declination Magnet, extra observations were immediately commenced.

Sep. $2^d.\ 8^h.25^m$. The western declination deduced from this observation was 22°.50′.48″, and it is the smallest in the month.

Extraordinary Observations of September 2, 12, 20, and 28.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Sep. 2. 8. 49. 30						9·984978		P
50. 30	246. 46. 8	P						
51. 30			9·998249		P			
54. 30						984961		
55. 30	45. 3							
56. 30			998260					
8. 59. 30						984925		
9. 0. 30	43. 30							
1. 30			997663					
4. 30						984905		
5. 30	42. 59							
6. 30			997264					
9. 30						984905		
10. 30	42. 5							
11. 30			997020					
14. 30						984905		
15. 30	41. 59							
16. 30			997264					
9. 57. 30						984860	73·2	P
10. 0. 0	39. 7	P						
10. 2. 30			998000	73·2	P			
Sep. 12. 9. 57. 30						9·987180	64·2	JH
10. 0. 0	246. 44. 11	JH						
10. 2. 30			9·997839	64·8	JH			
11. 57. 30						987119	64·0	P
12. 0. 0	52. 17	P						
2. 30			998131	65·0	P			
13. 30						987208		
14. 30	53. 31							
15. 30			996611					
23. 30						987284		
24. 30	49. 47							
25. 30			997219					
33. 30						987335		
34. 30	47. 13							
35. 30			998061					
43. 30						987316		
44. 30	45. 37							
45. 30			998382					
53. 30						987347		
54. 30	44. 14							
12. 55. 30			998592					
13. 13. 30						987402		
14. 30	43. 56							
15. 30			999345					
13. 57. 30						987397	63·7	P
14. 0. 0	47. 4	P						
14. 2. 30			998807	64·4	P			
Sep. 20. 5. 57. 30						9·988249	61·5	P

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Sep. 20. 6. 0. 0	246. 35. 23	P						
6. 2. 30			9·999588	62·2	P			
7. 57. 30						9·988249	60·7	P
8. 0. 0	49. 48							
2. 30			0·003115	61·2				
8. 30						988296		
9. 30	47. 14							
10. 30			002555					
18. 30						988230		
19. 30	46. 32							
20. 30			002245					
33. 30						988249		
34. 30	49. 41							
35. 30			001459					
53. 30						988296		
54. 30	51. 4							
55. 30			001536					
58. 30						988385		
8. 59. 30	49. 10							
9. 0. 30			001038					
8. 30						988390		
9. 30	47. 21							
10. 30			000584					
13. 30						988437		
14. 30	46. 40							
15. 30			000362					
18. 30						988446		
19. 30	46. 56							
20. 30			000584					
23. 30						988484		
24. 30	46. 56							
25. 30			0·001038					
9. 57. 30						988540	58·7	P
10. 0. 0	43. 0	P						
10. 2. 30			9·999351	59·3	P			
11. 40. 30	41. 29	G						
41. 30			999811		G	988979		
11. 57. 30						988993	58·5	G
12. 0. 0	38. 20							
12. 2. 30			999699	59·0	G			
Sep. 28. 5. 57. 30						9·987402	62·0	G
6. 0. 0	246. 38. 46	G						
6. 2. 30			0·000399	63·5	G			
7. 43. 0	49. 25		000551			987520		
46. 0	49. 41		000573			987543		
47. 0	49. 17		000395			987552		
48. 0	49. 6		000263			987557		
49. 0	48. 42		000031			987576		
52. 0	48. 24		000429			987585		
55. 0	47. 57		000529			987609		

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

Sep. 12d. 12h. A change of 8′ having taken place in the position of the Declination Magnet between this and the preceding observation, extra observations were commenced.

Sep. 20d. 8h. A change of 14′ having taken place in the position of the Declination Magnet between this and the previous observation, extra observations were commenced.

Sep. 28d. At 7h. 43m, the position of the Declination Magnet was found to differ by 11′ from its position at 6h. extra observations were commenced, and they were so taken that the observations of the magnets were simultaneous: the Vertical Force Magnet being without vibration, and the Horizontal Force Magnet having one of small extent, the observer was, in consequence, able to take the observations of the two force magnets between the two observations of the Declination Magnet.

Extraordinary Observations of September 28, October 8, and 26.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Sep. 28. 7. 57. 30						9·987614	62·5	G
8. 0. 0	246. 47. 35	G						
2. 30			0·000533	64·0	G			
8. 12. 0	47. 39		0·000472			987590		
9. 23. 0	41. 31		9·999644			987628		
29. 0	41. 34		9·999699			987628		
9. 57. 30						987637	62·5	G
10. 0. 0	41. 28	G						
10. 2. 30			0·000429	64·0	G			
11. 57. 30						987548	61·0	D
12. 0. 0	42. 49	D						
12. 2. 30			0·000831	61·5	D			
13. 57. 30						987693	60·1	
14. 0. 0	41. 8							
14. 2. 30			9·999910	61·0				
15. 57. 30						988000	59·3	
16. 0. 0	41. 23							
16. 2. 30			0·000533	60·2				
17. 57. 30						988150	59·1	
18. 0. 0	32. 22							
2. 30			000690	60·0				
11. 0	31. 51		001746			988122		
19. 0	34. 57		002267			988061		
38. 0	38. 12		002798			987958		
18. 51. 0	40. 26		001968			987958		
19. 6. 0	41. 45		001603			987972		
33. 0	41. 25		001691			988061		
19. 57. 30						988155	58·2	D
20. 0. 0	41. 10	D						
20. 2. 30			001886	58·8	D			
Oct. 8. 5. 57. 30						9·987307	63·5	G
6. 0. 0	246. 27. 0	G						
6. 2. 30			9·999035	65·0	G			
7. 45. 0	37. 19		998814			987354		
50. 0	36. 14		998814			987354		
7. 57. 30						987354	63·5	
8. 0. 0	36. 14							
2. 30			998851	65·0				
8. 45. 0	32. 59		999035			987363		
9. 0. 0	32. 59		9·999035			987363		
30. 0	50. 51		0·002853			987402		
34. 0	47. 6		003352			987426		
37. 0	48. 0		003131			987402		
38. 0	45. 29		003020			987402		
39. 0	45. 9		003086			987373		
40. 0	44. 44		002909			987363		
42. 0	42. 17		002577			987354		
44. 0	43. 6		002555			987331		
46. 0	42. 48		002444			987316		
47. 0	42. 19		002101			987298		

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Oct. 8. 9. 49. 0	246. 42. 6	G	0·001802		G	9·987288		G
52. 0	41. 48		001857			987284		
54. 0	41. 44		001913			987251		
57. 0	41. 24		002068			987166		
9. 57. 30						987213	63·5	
10. 0. 0	40. 50							
2. 0	40. 3		001957	65·0		987166		
2. 30			002090					
4. 0	39. 33		001735			987166		
6. 0	39. 14		001470			987166		
8. 0	38. 40		001138			987157		
10. 0	38. 5		000805			987143		
12. 0	37. 34		000474			987143		
14. 0	37. 15		0·000031			987128		
16. 0	37. 15		9·999522			987119		
20. 0	37. 34		998858			987110		
22. 0	38. 0		998592			987110		
23. 0	38. 21		998592			987110		
29. 0	39. 34		998592			987157		
33. 0	39. 20		998703			987166		
35. 0	38. 23		998858			987194		
38. 0	37. 27		998924			987222		
42. 0	36. 14		998814			987260		
47. 0	34. 44		998814			987255		
54. 0	34. 24		998637			987260		
10. 59. 0	33. 53	G	9·998637		G	987260		G
11. 57. 30						987543	61·3	D
12. 0. 0	30. 14	D						
12. 2. 30			0·000031	61·5	D			
Oct. 26. 7. 57. 30						9·990015	49·0	G
8. 0. 0	246. 34. 35	G						
8. 2. 30			0·001448	53·0	G			
9. 24. 0	48. 13		000174			990015		
29. 0	47. 52		000463			990038		
31. 0	47. 38		000285			990038		
33. 0	47. 23		000274			990038		
35. 0	46. 46		000463			990062		
38. 0	45. 59		000263			990085		
40. 0	45. 12		000196			990085		
44. 0	44. 30		0·000252			990085		
47. 0	44. 1		9·999843			990132		
50. 0	43. 16		0·000152			990132		
53. 0	42. 12		000196			990132		
9. 57. 30						990156	49·0	
10. 0. 0	40. 42							
2. 30			000147	51·0				
3. 0	40. 29		000252			990156		
4. 0	40. 37		000252			990156		
16. 0	42. 30		000207			990109		
20. 0	43. 26		000141			990109		

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

Sep. 28d. At 8h. 13m, no changes of any large amount were going forward, and at 8h. 17m everything was in the same state as at the previous observation. After 8h. 17m, the magnets changed the direction of their motions; at 9h, they were still returning: at 9h. 24m, the Declination Magnet appeared to have arrived at its limit, and after this time the magnets were nearly stationary.

Sep. 28d. 19h. 6m. The marked end of the Vertical Force Magnet was less drawn downwards at this time than at any other time in the month, the reading being, when corrected for temperature, 0·003442 parts of the whole force.

Oct. 8d, At 7h. 45m, the position of the Declination Magnet was 10′ different from its previous position at 6h, and extra observations were commenced. From 8h. 0m to 8h. 15m, no change took place. Between 9h and 9h. 30m, there was a great change of 18′ in the Declination Magnet, and a large increase of force in the Horizontal Magnet; at the same time, the Vertical Force Magnet was scarcely affected.

Oct. 8d. 9h. 30m. The western declination deduced from this observation was 23°. 1′. 11″, and it is the smallest in the month.

Oct. 8d. 9d. 39m. The marked end of the Horizontal Force Magnet was more drawn towards the North at this than at any other time in the month, the reading being 0·014136, when corrected for temperature,

Oct. 8d. 10h. 30m. No signs of an aurora: it has become quite cloudy.

Oct. 26d. Between 8h and 9h. 24m, a change occurred of 14′ in the position of the Declination Magnet, and extra observations were commenced, but no further large change took place. After 10h. 30m, the magnets were watched; the Declination Magnet very slowly but continuously moved so as to increase the theodolite readings: the other magnets were nearly stationary. There was no aurora visible.

Extraordinary Observations of Oct. 26, Nov. 2, and 10.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Oct. 26. 10. 22. 0	246. 43. 48	G	0 ·000097		G	9 ·990109		G
11. 57. 30						990198	48 ·6	
12. 0. 0	44. 7							
12. 2. 30			000844	49 ·8				
Nov. 2. 7. 57. 30						9 ·988249	54 ·5	G
8. 0. 0	246. 34. 33	G						
8. 2. 30			0 ·001248	56 ·5	G			
9. 29. 0	47. 47		9 ·999057			988399		
34. 0	48. 27		999079			988399		
37. 0	48. 27		999002			988399		
38. 0	49. 1		998792			988414		
39. 0	49. 21		998703			988428		
41. 0	49. 58		998548			988432		
42. 0	50. 18		998559			988446		
43. 0	50. 18		998548			988470		
44. 0	50. 24		998415			988484		
45. 0	50. 38		998349			988484		
46. 0	51. 4		998116			988484		
47. 0	50. 40		998592			988531		
49. 0	50. 39		998913			988579		
51. 0	50. 16		998902			988588		
52. 0	49. 44		998902			988588		
53. 0	49. 34		999245			988588		
54. 0	49. 16		998978			988588		
55. 0	48. 59		998924			988588		
56. 0	48. 37		998758			988588		
57. 0	48. 20		998703			988579		
9. 57. 30						988588	54 ·5	
10. 0. 0	47. 48							
2. 0	47. 27		998581	56 ·5		988579		
2. 30			998654					
6. 0	46. 37		998725			988617		
8. 0	45. 58		998836			988617		
11. 0	45. 58		998814			988744		
14. 0	45. 49		998770			988603		
19. 0	44. 39		998814			988593		
34. 0	41. 13		999145			988564		
10. 44. 0	40. 23	G	9 ·999145		G	988555		G
11. 57. 30						988484	54 ·2	D
12. 0. 0	40. 22	D						
12. 2. 30			0 ·000196	54 ·8	D			
Nov. 10. 1. 47. 30						9 ·988856		JH
50. 0	246. 26. 54	JH						
52. 30			9 ·993965		JH			
1. 57. 30						988842	54 ·2	
2. 0. 0	27. 18							
2. 30			995072	54 ·2				
7. 30						989007		JH
10. 0	26. 4	JH						

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Nov. 10. 2. 12. 30			9 ·995515		JH			
3. 57. 30						9 ·989097	55 ·0	D
4. 0. 0	246. 49. 40	D						
2. 0	50. 25		992614	55 ·5	D			
2. 30			992437					
2. 45						989121		
4. 0	52. 27		993102					
4. 45						989191		
6. 0	52. 5		993411					
6. 45						989224		
8. 0	51. 25		993832					
8. 45						989238		
10. 0	50. 30		994076					
10. 45						989243		
12. 0	50. 6		994674					
12. 45						989262		
14. 0	48. 48		995138					
14. 45						989294		
16. 0	47. 50		995316					
16. 45						989294		
18. 0	46. 49		995316					
18. 45						989271		
20. 0	46. 24		995316					
20. 45						989252		
22. 0	46. 6		995249					
22. 45						989247		
24. 0	45. 15		995515					
24. 45						989238		
26. 0	44. 56		995493					
26. 45						989229		
28. 0	44. 47		995515					
28. 45						989229		
30. 0	44. 26		995559					
30. 45						989229		
32. 0	43. 1		995935					
32. 45						989224		
34. 0	42. 37		996113					
34. 45						989205		
36. 0	41. 42		996157					
36. 45						989191		
38. 0	41. 4		996157					
38. 45						989182		
40. 0	40. 43		996113					
40. 45						989144		
42. 0	40. 4		996113					
42. 45						989130		
44. 0	39. 32		996113					
44. 45						989111		
46. 0	39. 2		996113					
46. 45						989097		
48. 0	38. 28		996046					

Decrease of horizontal force for 1° increase of temperature = 0 ·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0 ·000264 parts of the whole vertical force.

Nov. 2d. Between 8h and 9h. 29m, a change of 13′ in the position of the Declination Magnet, and a diminution of 0 ·002191 in the reading of the Horizontal Force Magnet, having taken place, extra observations were commenced. The Vertical Force Magnet was without vibration; the other magnets vibrated through small arcs, and the observations were taken as follows:—1st, the 1st observation of the Declination Magnet; 2nd, the 1st observation of the Horizontal Force Magnet; 3rd, the observation of the Vertical Force Magnet; 4th, the 2nd observation of the Horizontal Force Magnet; 5th, the 2nd observation of the Declination Magnet: so that the observations were very nearly simultaneous. During the observations the sky about the North was well examined, and there were no indications of an aurora.

Nov. 10d. Between 2h. 10m and 4h, a great change, amounting to 23′, took place in the position of the Declination Magnet, and extra observations were immediately commenced. After 6h they were discontinued, as in the previous hour no great changes had taken place. At 8h the magnets were still in the same state, but at 50m afterwards the position of the Declination Magnet was found to differ 20′ from its position at 8h, and extra observations were resumed.

Extraordinary Observations of November 10.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Nov.10. 4. 48. 45						9·989078		D
50. 0	246. 38. 24	D	9·995935		D			
50. 45						989045		
52. 0	38. 28		995758					
52. 45						989035		
54. 0	38. 14		995824					
54. 45						989030		
56. 0	38. 14		995935					
56. 45						989011		
58. 0	38. 18		995935					
4. 58. 45						989002		
5. 0. 0	38. 17		996024					
0. 45						989002		
5. 0	38. 17		996267					
5. 45						989002		
14. 0	37. 26		996024					
14. 45						988969		
28. 0	36. 47		996090					
28. 45						988964		
5. 57. 30						989011	54·5	
6. 0. 0	36. 4							
6. 2. 30			994829	54·5				
7. 57. 30						988964	54·2	
8. 0. 0	38. 57							
2. 30			995471	54·6				
50. 0	58. 44		998570					
50. 45						988917		
52. 0	57. 25		998548					
52. 45						988828		
54. 0	55. 6		998991					
54. 45						988861		
56. 0	53. 20		998858					
56. 45						988838		
58. 0	51. 40		998659					
8. 58. 45						988828		
9. 0. 0	50. 27		998304					
0. 45						988823		
2. 0	49. 34		997972					
2. 45						988767		
4. 0	49. 5		997707					
4. 45						988767		
6. 0	48. 21		997618					
6. 45						988758		
8. 0	47. 19		997508					
8. 45						988748		
10. 0	46. 43		997352					
10. 45						988744		
12. 0	46. 11		997065					
12. 45						988725		
14. 0	45. 46		996821					
14. 45						988673		

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Nov.10. 9. 16. 0	246. 45. 48		9·996644		D			
16. 45		D				9·988664		D
18. 0	45. 40		996600					
18. 45						988664		
20. 0	45. 2		996445					
20. 45						988640		
22. 0	44. 21		996201					
22. 45						988621		
24. 0	43. 51		995824					
24. 45						988593		
26. 0	43. 43		995316					
26. 45						988579		
28. 0	43. 58		995227					
28. 45						988569		
30. 0	44. 46		995028					
30. 45						988545		
32. 0	45. 39		994807					
32. 45						988540		
34. 0	46. 27		994873					
34. 45						988536		
36. 0	46. 48		995050					
36. 45						988559		
41. 0	46. 18		995559					
41. 45						988603		
44. 0	45. 30		995670					
44. 45						988612		
47. 0	44. 45		995714					
47. 45						988626		
50. 0	44. 11		995891					
50. 45						988617		
53. 0	43. 50		995847					
53. 45						988617		
55. 0	43. 43		995935					
55. 45						988617		
9. 57. 30						988617	54·5	
10. 0. 0	42. 59							
2. 30			996046	55·0				
5. 0	42. 38		995891					
5. 45						988603		
11. 0	42. 56		995405					
11. 45						988540		
21. 0	44. 9		995294					
21. 45						988517		
31. 0	45. 25		994873					
31. 45						988517		
40. 0	46. 22		994785					
40. 45						988531		
46. 0	46. 9	D	994718		D			
10. 46. 45						988540		D
11. 29. 0	40. 12	JH	996179		JH			
29. 45						988066		JH

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

Nov. $10^d.\ 8^h.\ 50^m$. The western declination deduced from this observation is $22°.\ 53'.\ 29''$; it is the smallest in the month.

Extraordinary Observations of Nov. 10 and 21.

Göttingen Mean Time (Astronomical Reckoning.)	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Nov.10. 11. 31. 0	246. 40. 54	JH	9·996179		JH			
31. 45						9·988052		JH
39. 0	43. 12		996821					
39. 45						988061		
45. 0	44. 5		996821					
45. 45						988056		
52. 0	46. 41		996644					
52. 45						988023		
11. 57. 30						988019	53·2	
12. 0. 0	48. 16							
2. 30			995980	54·0				
10. 0	51. 25		996334					
10. 45						988023		
20. 0	51. 35		996600					
20. 45						988108		
34. 0	49. 49		996135					
34. 45						988240		
49. 0	45. 51		996068					
12. 49. 45						988348		
13. 1. 0	43. 56		995603					
1. 45						988362		
14. 0	40. 21		995625					
14. 45						988456		
29. 0	35. 47		997264					
29. 45						988493		
36. 0	35. 59		997618	51·7				
36. 45						988493		
44. 0	36. 42		998149					
44. 45						988348		
53. 0	41. 25		998149					
53. 45						988362		
13. 57. 30						988348	51·4	
14. 0. 0	43. 18							
2. 30			997596					
11. 0	46. 14		997109					
11. 45						988310		
21. 0	45. 58		997208					
21. 45						988475		
34. 0	45. 22		996600					
34. 45						988598		
49. 0	42. 0		996378					
14. 49. 45						988758		
15. 2. 0	41. 12		996378					
2. 45						988814		
31. 0	39. 50		996423					
31. 45						988964		
15. 57. 30						989055	50·0	JH
16. 0. 0	38. 49	JH						
16. 2. 30			997042	50·6	JH			
Nov.21. 9. 57. 30						9·989102	53·2	D

Göttingen Mean Time (Astronomical Reckoning.)	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Nov.21. 10. 0. 0	246. 44. 25	D						
10. 2. 30			9·999478	53·0	D			
11. 57. 30						9·988498	53·0	JH
12. 0. 0	53. 41	JH						
2. 30			998149	53·3	JH			
15. 0	55. 47		997208					
15. 45						988484		
17. 0	55. 43		997286					
17. 45						988484		
37. 0	55. 0		996954					
12. 37. 45						988428		
13. 14. 0	54. 55		996046					
14. 45						988282		
51. 0	53. 3		9·998105					
51. 45						988240		
13. 57. 30						987972	52·5	
14. 0. 0	54. 3							
2. 30			0·000761	52·8				
8. 0	54. 52		000805					
8. 45						987825		
10. 0	55. 32		001403					
10. 45						987736		
12. 0	56. 8		001647					
12. 45						987684		
16. 0	57. 44		001492					
16. 45						987557		
18. 0	57. 40		001425					
18. 45						987487		
24. 0	56. 20		0·001071					
24. 45						987463		
29. 0	54. 36		9·999722					
29. 45						987463		
32. 0	50. 11		999057					
32. 45						987463		
34. 0	49. 27		998858					
34. 45						987463		
36. 0	48. 51		998393					
36. 45						987496		
40. 0	49. 8		997707					
40. 45						987458		
48. 0	48. 35		9·998105					
48. 45						987487		
59. 0	42. 37		0·000163					
14. 59. 45						987298		
15. 1. 0	42. 34		9·999843					
1. 45						987222		
3. 0	42. 30		0·000097					
3. 45						987213		
7. 0	41. 35		9·999256					
7. 45						987063		
12. 0	41. 48		9·998814					

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

Nov. 10d. 12h. No appearance of aurora.

Nov. 10d. Between 16h and 18h, the positions of the magnets were frequently examined, but no change worthy of record took place.

Nov. 21d. Between 10h and 12h, a change of 9′ took place, and extra observations were commenced.

Extraordinary Observations of November 21 and December 7.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Nov. 21. 15. 12. 45						9·987072		JH
20. 0	246. 40. 41	JH	0·000141		JH			
20. 45						987496		
22. 0	40. 19		001027					
22. 45						987496		
26. 0	41. 21		002577					
26. 45						987496		
28. 0	41. 3		003020					
28. 45						987534		
30. 0	40. 28		003639					
30. 45						987590		
32. 0	39. 13		004149					
32. 45						987628		
34. 0	38. 20		004591					
34. 45						987689		
36. 0	37. 34		005012					
36. 45						987726		
38. 0	37. 6		055588					
38. 45						987783		
40. 0	35. 36		005588					
40. 45						987731		
42. 0	35. 22		006518					
42. 45						987769		
44. 0	32. 21		006651					
44. 45						987778		
47. 0	27. 29		007648					
47. 45						987595		
49. 0	26. 17		007603					
49. 45						987581		
53. 0	22. 13		008578					
53. 45						987548		
55. 0	21. 57		008046					
55. 45						987402		
57. 0	22. 19		007471					
57. 30						987260		
15. 57. 45						987260	51·0	
16. 0. 0	23. 49							
2. 30			005897	51·6				
3. 0	26. 50		005897					
3. 45						986955		
5. 0	27. 16		005632					
5. 45						986931		
9. 0	28. 50		005500					
9. 45						986451		
20. 0	30. 47		003462					
20. 45						986922		
23. 0	31. 4		003484					
23. 45						986940		
30. 0	31. 54		003949					
30. 45						987081		
40. 0	29. 31		005920					

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Nov. 21. 16. 40. 45						9·987269		JH
42. 0	246. 28. 55	JH	0·006031		JH			
42. 45						987298		
44. 0	26. 58		006297					
16. 44. 45						987307		
17. 6. 0	28. 48		004813					
6. 45						987534		
9. 0	33. 34		004791					
9. 45						987534		
12. 0	33. 41		004924					
12. 45						987534		
20. 0	30. 20		0·003861					
20. 45						987543		
17. 57. 30						988019	46·5	
18. 0. 0	26. 11							
2. 30			9·999035	47·7				
3. 0	27. 37		999456					
33. 45						988348		
35. 0	26. 16		9·999877					
35. 45						988493		
40. 0	22. 23		0·000097					
40. 45						988598		
42. 0	21. 31		0·000252					
42. 45						988635		
50. 0	22. 6		9·999843					
18. 50. 45						988635		
19. 1. 0	26. 36		999821					
1. 45						988626		
19. 57. 30						989440	47·3	
20. 0. 0	29. 7							
2. 30			999079	49·0				
3. 0	29. 11		999035					
3. 45						989478		
8. 0	28. 51		999212					
8. 45						989567		
15. 0	27. 51		9·999212					
15. 45						989544		
40. 0	24. 10		0·000406					
40. 45						989888		
55. 0	25. 43	JH	000540		JH			
20. 55. 45						989944		JH
21. 57. 30						990556	46·1	P
22. 0. 0	27. 59	P						
2. 30			000252	48·2	P			
Dec. 7. 5. 57. 30						9·990260	46·0	G
6. 0. 0	246. 32. 35	G						
6. 2. 30			0·003020	47·0	G			
7. 57. 30						990094	46·0	
8. 0. 0	40. 39							
2. 30			002444	47·0				

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

Nov. 21d. 16h. 9m. 43s. This reading of the Vertical Force Magnet, when corrected for temperature, is the smallest in the month, being 9·999809.

Nov. 21d. 17h. No light resembling auroral has been seen during the observations. The motion of the Horizontal Force Magnet has been remarkable; it has not had any vibration, but its changes are sudden, and it has passed from one position of rest to another position of rest at once. During the observations, the observer was frequently perplexed; within a very few seconds after he had recorded the position of the magnet, on looking through the telescope it was seen in *a different position, and he was doubtful as to whether the instrument had a checked* vibration or not, but he was ultimately fully satisfied that the instrument was absolutely without vibration, and that every new position was owing to a change of force, which from the circumstance of its frequent increasing and decreasing without continuing any great length of time either in one direction or the other, had caused the suspicion to arise in his mind of wrongly recording its positions.

Nov. 21d. 15h. 53m. The marked end of the Horizontal Force Magnet was more drawn towards the North at this than at any other time in the month, the reading being 0·017350 when corrected for temperature.

Nov. 21d. 18h. 42m. The western declination deduced from this observation is 23°. 30′. 42″, and it is the largest in the month.

Dec. 7d. At 6h., the theodolite reading for the position of the Declination Magnet was 246°. 32′. 35″, and at 8h., it was 246°. 40′. 39″. Within 15 minutes after 6h., the magnet was in such a position as to require the theodolite to read 246°. 46′. 58″, and extra observations were then commenced. Throughout the time of observation, there was no vibration with any of the magnets, and the method of observation till 8h. 27m. was as follows:—To read the position of the Declination Magnet at 15 seconds before the time recorded, then about the recorded time to read the positions of the two other magnets, and then at 15 seconds after the recorded time again to read the then position of the Declination Magnet. After 8h. 27m. the observations were taken as follows:—To bisect the magnet-cross of the Declination Magnet a few seconds before the recorded time; to read the positions of the other two magnets about the time, and then to look at the magnet-cross of the Declination Magnet, which in every instance was found bisected, and thus the positions of the magnets were all read within a very few seconds, and the observations may, therefore, be considered simultaneous. The changes of each instrument were sudden; they passed from one position to another, and remained there. There was an up-and-down motion with the Declination Magnet, but nothing remarkable with the others.

Extraordinary Observations of December 7 and 9.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Dec. 7. 8. 14. 0	246. 46. 58	G	0·002688		G	9·990109		G
19. 0	48. 24		002754			990094		
20. 0	48. 19		002798			990118		
22. 0	48. 19		002975			990132		
24. 0	48. 19		003020			990132		
26. 0	48. 27		003197			990132		
27. 0	48. 10		003263			990156		
29. 0	47. 25		003440			990207		
30. 0	47. 0		003484			990217		
32. 0	46. 29		003484			990222		
34. 0	45. 48		003639			990227		
36. 0	45. 18		003662			990227		
38. 0	44. 46		003839			990246		
40. 0	44. 11		003883			990246		
42. 0	43. 43		003905			990236		
44. 0	43. 3		003949			990227		
46. 0	42. 6		004038			990217		
48. 0	42. 4		004238			990217		
50. 0	41. 43		004260			990207		
52. 0	41. 11		004304			990198		
54. 0	40 30		004238			990179		
55. 0	40. 22		004127			990179		
56. 0	40. 33		004082			990165		
57. 0	40. 49		004127			990151		
58. 0	40. 53		004127			990132		
8. 59. 0	40. 35		004193			990132		
9. 1. 0	40. 13		004193			990123		
3. 0	40. 13		004171			990109		
5. 0	40. 4		004149			990080		
7. 0	39. 57		004127			990076		
9. 0	39. 50		003949			990066		
11. 0	39. 46		003684			990957		
13. 0	39. 42		003506			990038		
15. 0	39. 46		003330			990000		
17. 0	40. 4		003219			989986		
19. 0	40. 24		003042			989982		
21. 0	40. 55		002998			989986		
23. 0	41. 15		003020			989986		
25. 0	41. 50		003086			989986		
27. 0	42. 36		003263			989986		
29. 0	42. 40		003440			989982		
31. 0	42. 41		003462			989963		
36. 0	43. 27		003506			989944		
41. 0	43. 27		003506			989944		
9. 57. 30						989944	46·5	G
10. 0. 0	43. 32	G						
10. 2. 30			003462	47·0	G			
Dec. 9. 3. 57. 30						9·990184	47·6	JH
4. 0. 0	246. 32. 13	JH						
4. 2. 30			0·002998	47·0	JH			

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Dec. 9. 5. 57. 30						9·990556	47·5	JH
6. 0. 0	246. 44. 51	JH						
2. 30			0·003949	47·2	JH			
5. 0	41. 36		003861			990551		
7. 0	40. 51		003861			990523		
9. 0	39. 23		003684			990509		
11. 0	38. 4		003595			990500		
13. 0	37. 23		003352			990500		
15. 0	36. 32		003241			990500		
17. 0	35. 29		003241			990500		
20. 0	33. 58		002643			900509		
22. 0	34. 41		002245			990509		
24. 0	35. 36		002223			990509		
26. 0	35. 47		002355			990528		
28. 0	35. 47		002555			990556		
30. 0	35. 24		002621			990556		
32. 0	35. 12		002666			990565		
6. 37. 0	35. 13		....			....		
7. 25. 0	42. 37		002355			990744		
31. 0	42. 3		002090			990744		
33. 0	41. 59		001846			990725		
35. 0	41. 42		001780			990716		
38. 0	41. 54		001492			990711		
41. 0	42. 12		001492			990744		
44. 0	42. 12		001647			990782		
52. 0	41. 49		001071			990791		
57. 30						990791	47·5	
8. 0. 0	42. 58							
2. 30			001027	47·2				
6. 0	38. 26		001669			990824		
8. 0	37. 5		001514			990815		
10. 0	36. 31		001381			990815		
13. 0	35. 17		000650			990805		
15. 0	35. 32		000584			990847		
20. 0	33. 28		000584			990838		
24. 0	31. 58		000496			990838		
26. 0	32. 21		0·000097			990800		
28. 0	34. 2		9·999877			990824		
30. 0	34. 39		999833			990876		
32. 0	40. 6		999699			990843		
34. 0	41. 7		9·999921			990847		
35. 0	41. 44		0·000141			990880		
36. 0	41. 55		000141			990847		
37. 0	41. 58		000296			990796		
38. 0	41. 52		000496			990796		
43. 0	38. 36		001603			990871		
44. 0	38. 13		001713			990890		
45. 0	38. 5		001891			990847		
46. 0	35. 41		001846			990838		
47. 0	35. 18		001757			990866		
48. 0	35. 4		001559			990847		

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

Dec. 7d. Between 9h. 41m and 9h. 57m, the positions of the magnets were frequently examined, and at each inspection they were the same as at 9h. 41m. After 10h, the extra observations were discontinued.

Dec. 9d. A change of 12′. 38″ having taken place in the position of the Declination Magnet between the observations at 4h and 6h, extra observations were commenced, and they were taken in the following manner:—Two positions of the Declination Magnet were recorded, at an interval of 30s, and midway between these observations the positions of the other magnets were recorded; the observations therefore were nearly simultaneous. During the observations the sky was frequently examined; it was generally covered with black clouds, of a cirro-stratus character: at 10h, the North part of the sky, near the horizon, appeared brighter than any other, but it was impossible to decide as to its auroral character.

Extraordinary Observations of December 9.

Göttingen Mean Time, (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Dec. 9. 8. 49. 0	246. 35. 2	JH	0 ·001470		JH	9 ·990829		JH
50. 0	35. 6		001359			990782		
51. 0	35. 7		001248			990800		
52. 0	35. 20		001182			991036		
53. 0	35. 45		000849			990711		
54. 0	36. 5		000805			990711		
55. 0	36. 49		000075			990749		
56. 0	37. 23		000739			990697		
57. 0	38. 45		000518			990744		
58. 0	40. 9		000141			990697		
8. 59. 0	41. 48		000562			990697		
9. 0. 0	42. 49		000296			990659		
1. 0	44. 0		000296			990650		
2. 0	44. 41		0 ·000075			990650		
3. 0	44. 53		9 ·999677			990641		
4. 0	45. 39		999921			990641		
5. 0	47. 12		999899			990561		
6. 0	48. 31		999522			990565		
7. 0	49. 20		999588			990659		
8. 0	49. 58		999744			990688		
9. 0	50. 19		999987			990650		
10. 0	50. 28		9 ·999921			990655		
11. 0	51. 10		0 ·000474			990603		
12. 0	51. 43		000097			990565		
13. 0	51. 28		000097			990565		
14. 0	51. 28		000362			990612		
15. 0	51. 49		000274			990603		
16. 0	52. 4		000384			990518		
17. 0	52. 8		000097			990556		
18. 0	52. 8		000185			990518		
19. 0	53. 19		0 ·000141			990462		
20. 0	53. 39		9 ·999655			990462		
21. 0	55. 18		999566			990453		
22. 0	54. 40		999434			990387		
23. 0	57. 40		999655			990377		
24. 0	246. 59. 56		999655			990377		
25. 0	247. 1. 41		999877			990429		
26. 0	3. 6		9 ·999921			990462		
27. 0	4. 45		0 ·000362			990424		
28. 0	6. 35		000362			990424		
29. 0	6. 35		001314			990424		
31. 0	6. 36		001913			990424		
32. 0	6. 5		002510			990377		
33. 0	5. 2		002599			990330		
34. 0	4. 23		002732			990330		
35. 0	3. 41		002577			990321		
36. 0	3. 24		002510			990274		
37. 0	2. 10		002134			990236		
38. 0	1. 22		001979			990227		
39. 0	247. 0. 15		001691			990217		
40. 0	246. 58. 50		001691			990241		

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°	
Dec. 9. 9. 41. 0	246. 57. 50	JH	0 ·001514		JH	9 ·990227		JH
42. 0	57. 17		001470			990227		
43. 0	56. 23		001735			990227		
44. 0	54. 44		001691			990265		
45. 0	53. 36		001735			990241		
46. 0	52. 58		001713			990241		
47. 0	52. 4		002002			990203		
48. 0	50. 8		002200			990321		
49. 0	49. 4		002444			990274		
50. 0	48. 6		002134			990330		
51. 0	47. 17		002178			990279		
52. 0	46. 45		002355			990274		
53. 0	45. 16		001935			990330		
54. 0	44. 37		001913			990217		
55. 0	43. 53		001979			990217		
9. 57. 30						990188	48 ·0	
10. 0. 0	40. 36							
2. 30			002355	47 ·8				
4. 0	38. 13		002399			990080		
5. 0	37. 37		002355			990047		
6. 0	37. 16		002178			990038		
7. 0	36. 52		002134			989953		
8. 0	36. 37		001913			989968		
9. 0	36. 21		001757			989949		
10. 0	35. 57		001691			989906		
11. 0	35. 8		001425			989864		
12. 0	34. 39		001470			989897		
13. 0	34. 22		001248			989897		
14. 0	34. 8		001204			989888		
15. 0	33. 59		000939			989841		
16. 0	33. 43		000717			989859		
17. 0	33. 34		000496			989831		
18. 0	33. 34		0 ·000274			989803		
19. 0	33. 51		9 ·999965			989827		
20. 0	34. 22		999766			989775		
21. 0	34. 48		999655			989765		
22. 0	35. 23		999500			989770		
23. 0	36. 12		999411			989770		
24. 0	37. 17		999478			989770		
25. 0	38. 36		999522			989794		
26. 0	39. 45		999478			989803		
27. 0	40. 41		999655			989803		
28. 0	41. 44		9 ·999965			989850		
29. 0	42. 42		0 ·000163			989850		
30. 0	43. 19		000384			989888		
31. 0	44. 1		000783			989888		
32. 0	45. 1		001093			989906		
33. 0	45. 45		001492			989897		
34. 0	47. 11		001735			989906		
35. 0	48. 7		001957			989897		
36. 0	49. 3		002577			989888		

Decrease of horizontal force for 1° increase of temperature = 0 ·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0 ·000264 parts of the whole vertical force.

Dec. 9d. 9h. 31m. The western declination deduced from this observation was 22°. 45′. 29″, and it is the smallest in the month.

Dec. 9d. 10h. 23m. The marked end of the Horizontal Force Magnet was less drawn towards the North at this than at any other time in the month, its reading being 0 ·007537, when corrected for temperature.

Extraordinary Observations of December 9.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.	Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observer.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observer.	Reading for Vert. force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observer.
d h m s	° ′ ″			°			°		d h m s	° ′ ″			°			°	
Dec. 9. 10. 37. 0	246. 49. 31	JH	0·002577		JH	9·989874		JH	Dec. 9. 11. 39. 0	246. 43. 22	G	0·002178		G	9·989450		G
38. 0	49. 4		003219			989897			42. 0	42. 47		002355			989464		
39. 0	48. 27		003263			989906			44. 0	42. 22		002355			989473		
40. 0	47. 40		003418			989906			46. 0	42. 9		002112			989440		
41. 0	47. 1		003684			989855			48. 0	42. 3		002156			989468		
42. 0	46. 30		003662			989841			50. 0	42. 1		002178			989468		
43. 0	46. 26		003484			989803			52. 0	42. 0		002178			989468		
44. 0	47. 12		003374			989770			54. 0	42. 0		002090			989473		
45. 0	48. 4		003440			989751			11. 57. 30	42. 0		001913			989473	48·0	
46. 0	48. 41		003484			989736			12. 0. 0	42. 0		001913	48·0		989473		
47. 0	48. 48		003861			989736			2. 30	41. 46		001979			989478		
48. 0	48. 45		004304			989746			6. 0	41. 42		002024			989482		
50. 0	49. 1		004747			989708			12. 59. 0	38. 47		001913			989638		
51. 0	48. 58		004747			989689			13. 57. 30						980708		
52. 0	49. 4		004725			989623			14. 0. 0	39. 35					989708	48·0	G
10. 56. 0	49. 58								14. 2. 30			002068	48·0				

Decrease of horizontal force for 1° increase of temperature = 0·000170 parts of the whole horizontal force.
Decrease of vertical force for 1° increase of temperature = 0·000264 parts of the whole vertical force.

ROYAL OBSERVATORY, GREENWICH.

ORDINARY METEOROLOGICAL OBSERVATIONS.

1842.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Jan. 0. 14	30·108	33·7	32·8	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·114	34·0	32·9	1·1	33·0	1·0	..	..	Calm	Calm	..	..	..	..	..	10	Transit
18	30·097	33·7	32·6	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·096	33·2	32·2	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
22	30·118	34·3	33·0	1·3	30·0	4·3	39·4 32·3	54·8 27·3	Calm	Calm	..	..	0·00	0·00	0·000	9	..
Jan. 1. 0	30·156	37·0	35·4	1·6	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
2	30·099	37·4	35·7	1·7	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
4	30·103	36·7	35·2	1·5	34·0	2·7	..	..	Calm	Calm	..	..	..	..	..	9	..
6	30·106	33·3	32·4	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
8	30·112	31·1	30·6	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
10	30·109	30·4	29·6	0·8	29·5	0·9	..	..	Calm	Calm	..	..	..	..	..	6	..
12	30·104	30·0	29·2	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	In Equator
22	30·075	32·7	31·8	0·9	..	..	39·1 29·6	41·0 22·0	Calm	Calm	..	..	0·00	0·00	0·000	10	..
Jan. 2. 0	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	N by W	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	N by E	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	N by E	...	..	..	..	..	..	..	..
8	29·997	35·3	34·8	0·5	..	..	..	..	N	Calm	..	..	..	..	..	10	..
10	..	..	..	..	..	..	..	..	N by W	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	N by E	...	..	..	..	..	..	..	..
14	29·938	33·7	33·3	0·4	..	..	..	..	N by E	Calm	..	..	..	..	..	10	..
16	29·931	31·0	30·7	0·3	28·5	2·5	..	..	N	Calm	..	..	..	..	..	½	..
18	29·916	30·7	30·5	0·2	..	..	..	..	N by W	Calm	..	..	..	..	..	8½	Transit
20	29·911	31·5	31·1	0·4	..	..	..	..	N by W	NE	..	¼	..	..	..	9½	..
22	29·917	32·3	31·5	0·8	31·5	0·8	39·2 29·5	39·0 26·8	N by E	NE	..	¼	0·00	0·00	0·000	6	..
Jan. 3. 0	29·923	32·0	30·8	1·2	..	..	..	..	NE	NE	..	¼	..	..	..	0	..
2	29·907	32·6	30·1	2·5	..	..	..	..	NNE	NE	..	¼	..	..	..	½	..
4	29·907	30·7	29·0	1·7	25·5	5·2	..	..	NNE	NE	..	¼	..	..	..	¼	..
6	29·882	30·4	29·0	1·4	..	..	..	..	NE	NE	..	¼	..	..	..	9½	..
8	29·872	30·0	28·7	1·3	..	..	..	..	NNE	NE	..	¼	..	..	..	9½	..
10	29·848	29·3	28·2	1·1	22·5	6·8	..	..	NE	Calm	..	..	..	..	..	8	3rd Qr.
12	29·822	25·6	29·5	–3·9	..	..	..	..	NNE	Calm	..	..	..	..	..	2	..
14	29·818	26·4	25·5	0·9	..	..	..	..	N by E	Calm	..	..	..	..	..	9	..
16	29·809	27·5	26·5	1·0	23·0	4·5	..	..	N	Calm	..	..	..	..	..	8	..
18	29·808	27·5	26·5	1·0	..	..	..	..	N by W	Calm	..	..	..	..	..	9	Transit
20	29·822	27·9	26·8	1·1	..	..	..	..	N by W	Calm	..	..	..	..	..	9	..
22	29·857	29·0	28·0	1·0	27·5	1·5	32·5 24·5	46·0 15·8	N by W	Calm	..	..	0·00	0·00	0·000	9	..
Jan. 4. 0	29·861	30·9	29·8	1·1	..	..	..	..	N	N	..	¼	..	..	..	9	..
2	29·867	31·5	29·9	1·6	..	..	..	..	N by E	N	½ to 1	¼	..	..	..	8	..

The barometer is by Newman; the diameter of its tube is 0in·565; the height of its cistern above the mean level of the sea is 159 feet. The dry-bulb thermometer and the wet-bulb thermometer are by Newman; they are both mercurial; their scales are divided to 0°·5, and their bulbs are about four feet above the ground. A Daniell's hygrometer by Newman is used for the determination of the Dew Point. The self-registering maximum and minimum thermometer is by Newman, and it is one of Six's construction. The thermometer for solar radiation is mercurial, with blackened bulb and self-registering: that for sky radiation is of alcohol, with blackened bulb and self-registering: both these thermometers are by Newman. The anemometer is one on Osler's construction by Newman: it is self-registering. The direction of the wind by estimation is ascertained by the motion of the clouds, the direction of smoke, or by its effect on the person: during the night by all the means of which the observer can avail himself, the direction being at all times determined independently of the position of the vane of the anemometer. In deciding on the strength of the wind, he is influenced by the velocity with which the clouds move; the force with which he feels the wind to press himself; the effects of the wind, as the breaking off of small or large branches of trees, the tearing up of trees, &c.; a calm being represented by 0, and the most violent hurricanes by 6. By the expression "wind in gusts to 2+," in the General Remark corresponding to Jan. 23d. 2h, and in other places, is meant that the pressure of the wind by estimation sometimes amounted to 2+, although its general value for that time, as set down in the proper column, was only 1½. A similar expression occurs frequently in the General Remarks, and is always to be interpreted in the same way. Rain-

GENERAL REMARKS.	Observer.
Overcast: the Moon at times visible.	D
,, the Moon's place just visible.	
,, cirro-stratus.	
The clouds commenced clearing off about an hour since; the eastern part of the sky is quite clear; the remaining portion is mostly covered with cirro-stratus.	D
Cirro-stratus and scud.	J H
The same.	
The same: hazy.	J H
The same.	D
Cirro-stratus and vapour.	
The same: stars occasionally seen.	
The same: stars shining S. of the zenith.	D
The same.	J H
Overcast: cirro-stratus.	
The same.	
The same: drops of rain at times.	
Light clouds South of the zenith.	
The sky generally covered with fleecy clouds.	
The same.	J H
Cirro-stratus and fleecy clouds.	D
Cloudless.	
Light cumuli in the S.W. horizon; otherwise clear.	D
A few light clouds scattered in various directions.	J H
Cirro-stratus and scud.	
The same: heavy vapour.	
Scud in various directions.	J H
Generally clear: the reading of the thermometer in the parabolic reflector is 17°. 2: a few dark clouds in the North.	G
About 20^m since, the few black patches of cloud, which had remained in the N. nearly motionless, began to spread, and now cover nearly the whole sky: the temperature of the air has been as low as 24° since the last observation.	
Very similar to the last observation; the sky generally covered; stars seen here and there.	
The clouds a little broken.	
About $18^h.\ 25^m$ the clouds became broken about the Moon, and the sky was alternately free from, and covered with, clouds for the space of half an hour: at present the sky is wholly covered, except a small portion near the S. horizon.	G
Quite cloudy: a little snow has fallen since the last observation.	D
Nearly overcast: small quantities of snow have been falling since $3^d.\ 22^h.\ 40^m$: at $23^h.\ 10^m$ it fell rather heavily for a few minutes.	
Clear breaks in different parts of the sky.	D

gauge No. 1 is 205 feet 6 inches; No. 2, 177 feet 2 inches; No. 3, 156 feet 6 inches; and No. 4 (placed on the ground), is 155 feet 3 inches above the mean level of the sea. The numbers inserted under No. 1 and No. 3, represent the amount of rain in inches from Jan. 1; those under No. 2 the amount of rain collected in it during the previous twenty-four hours. The quantity of water collected in No. 4 is read at the end of every month: its readings are inserted in the foot-notes at the end of each month. The amount of clouds is estimated, considering a clear sky represented by 0, a cloudy sky by 10; and, when partially cloudy, by judging of the tenths of the whole sky covered with cloud.

Jan. $3^d.\ 0^h$. Examined the perpendicularity of the barometer. [being correct.

Jan. $3^d.\ 10^h$. This observation of the Dew Point appears strange as compared with the difference of the Wet and Dry Thermometers: the observations were marked as

Jan. $3^d.\ 12^h$. The Wet Thermometer reads much higher than the Dry Thermometer; about a quarter of an hour before the observation, the muslin encircling the wet-bulb was moistened, and the evaporation from the ice had commenced at the time of the observation: the observations were marked as being correct.

Jan. $3^d.\ 14^h$. In the General Remark to this observation, it is mentioned that the temperature of the air had been as low as 24°; this is 0°·5 lower than that shewn by the minimum thermometer.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Raingauge No 1, (Osler's)	RAIN. Reading of Raingauge No. 2.	RAIN. Stand of Raingauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Jan. 4. 4	29·894	31·4	30·0	1·4	27·0	4·4	..	..	N by E	N	..	¼	..	..	..	5	..
6	29·900	30·3	29·2	1·1	..	..	..	..	N	N	½ to 1	¼	..	..	..	9	..
8	29·919	30·8	29·8	1·0	..	..	..	..	N	N	½ to 1	¼	..	..	..	10	..
10	29·924	30·5	29·2	1·3	27·0	3·5	..	..	N	N	0 to ½	¼	..	..	..	10	..
12	29·936	30·1	29·1	1·0	..	..	..	..	N	N	..	¼	..	..	..	6	..
14	29·933	30·2	29·4	0·8	..	..	..	..	N	N	0 to ½	¼	..	..	..	10	..
16	29·939	30·5	29·5	1·0	30·0	0·5	..	..	N	N	..	¼	..	..	..	10	..
18	29·921	30·7	30·0	0·7	..	..	..	..	N	N	..	¼	..	..	..	9	..
20	29·933	31·3	31·0	0·3	..	..	..	..	N	N	..	¼	..	..	..	10	Transit
22	29·956	31·0	31·0	0·0	27·0	4·0	32·0 29·2	41·7 24·5	N by E	NE	..	¼	0·00	0·00	0·000	9½	..
Jan. 5. 0	29·964	32·7	31·1	1·6	..	..	..	..	N	NE	..	¼	..	..	..	9¾	..
2	29·946	34·1	32·0	2·1	..	..	..	..	N	NE	..	¼	..	..	..	9	..
4	29·956	33·4	32·4	1·0	32·5	0·9	..	..	Calm	N	..	¼	..	..	..	7	..
6	29·967	32·2	31·7	0·5	..	..	..	..	Calm	N	..	¼	..	..	..	8	..
8	29·989	32·2	31·6	0·6	..	..	..	..	Calm	N	..	¼	..	..	..	10	..
10	29·996	32·2	31·2	1·0	30·0	2·2	..	..	Calm	Calm	..	..	..	..	..	10	..
12	29·996	32·6	31·1	1·5	..	..	..	..	N	Calm	..	..	..	..	..	10	..
14	29·996	32·7	31·2	1·5	..	..	..	..	N	Calm	..	..	..	..	..	10	..
16	30·008	32·5	31·2	1·3	29·0	3·5	..	..	NNW	Calm	..	..	..	..	..	10	..
18	30·012	31·7	31·2	0·5	..	..	..	..	NNW	N	..	¼	..	..	..	10	..
20	30·055	32·4	31·3	1·1	..	..	..	..	NNW	N	..	¼	..	..	..	10	Transit
22	30·081	33·2	31·7	1·5	33·0	0·2	34·3 31·0	37·0 26·5	NNW	N	..	¼	0·00	0·00	0·000	10	..
Jan. 6. 0	30·104	34·5	33·0	1·5	..	..	..	..	NNE	NNE	..	¼	..	..	..	4	..
2	30·092	34·5	33·6	0·9	..	..	..	..	NE	NNE	..	¼	..	..	..	6	..
4	30·127	35·3	33·2	2·1	31·0	4·3	..	..	N	NNE	..	¼	..	..	..	6	..
6	30·153	33·8	32·6	1·2	..	..	..	..	N	NNE	..	¼	..	..	..	9¾	..
8	30·208	33·2	32·0	1·2	..	..	..	..	NE	NNE	..	¼	..	..	..	10	..
10	30·233	33·0	31·4	1·6	29·0	4·0	..	..	NE	Calm	..	..	..	..	..	9	..
12	30·259	33·0	29·7	3·3	..	..	..	..	NNE	N	..	¼	..	..	..	10	..
14	30·286	31·2	30·1	1·1	..	..	..	..	NE	N	..	¼	..	..	..	5	..
16	30·313	28·0	26·6	1·4	23·3	4·7	..	..	NE	N	..	¼	..	..	..	1	..
18	30·327	29·0	27·0	2·0	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
20	30·365	27·0	25·5	1·5	..	..	..	..	NE	NE	..	¼	..	..	..	0	..
22	30·394	26·0	24·5	1·5	25·0	1·0	35·9 25·9	50·1 20·4	NE	NE	..	¼	0·00	0·00	0·000	0	Transit
Jan. 7. 0	30·400	32·3	30·7	1·6	..	..	..	..	NNE	NNE	..	¼	..	..	..	9	..
2	30·378	33·0	29·5	3·5	..	..	..	..	N	NNE	..	¼	..	..	..	9	..
4	30·370	32·5	30·7	1·8	26·0	6·5	..	..	N	NE	½ to 1	¼	..	..	..	8	..
6	30·357	31·6	30·0	1·6	..	..	..	..	N	NE	0 to ½	¼	..	..	..	8	..
8	30·362	31·0	29·5	1·5	..	..	..	..	N	N	½ to 1	¼	..	..	..	3	..
10	30·378	31·2	30·7	0·5	28·0	3·2	..	..	E by N	NE	..	¾	..	..	..	10	..
12	30·387	29·7	29·2	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..

Jan. 4d. 22h. The readings of the Dry and of the Wet Thermometer were the same, that of the Dew Point was 4° lower: the observations were noted as being correct.

Jan. 7d. 0h. The thermometer rose 6°·3 in the previous two hours.

Jan. 7d, civil reckoning. The mean height of the barometer was greater on this day than on any other day during the month, being 30in·360, as deduced from the two-hourly observations.

Jan. 7d. 10h to Jan. 14d. 12h. During this period the sky was generally covered with cloud.

GENERAL REMARKS.	Observer.
About the zenith, and North of it, the sky is blue: fleecy clouds prevail about the S. and S.W.: the Sun is behind a dark cloud, the edges of which are tinged with red.	G
At present the sky is nearly overcast, there being only a small break near the S.W. horizon: this complete cloudiness came on about a quarter of an hour since, the zenith and neighbourhood being then quite clear: the prevailing cloud was of a fibrous texture, covering about one half of the sky: sleet has just begun falling.	
Some snow has fallen since the last observation, just enough to make the ground white: the sky is now quite black.	
The weather the same as at the last observation: sleet falling.	G
Stars are shining South of the zenith, but rather dimly: the northern part of the sky quite cloudy.	D
The sky quite overcast: a little snow has fallen since the last observation.	
The same.	
The clouds broken in the zenith, and a few stars shining here and there.	
Overcast.	D
Cirro-stratus and undefined clouds.	J H
Cirro-stratus and vapour.	
The same: hazy: breaks to the S.E. and E. of the zenith.	J H
The zenith almost free from clouds; the rest of the sky is generally covered with cirro-stratus, with portions of blue sky in different directions.	D
Cirro-stratus and scud.	
Overcast: cirro-stratus.	
Dense cirro-stratus.	D
,, no break: an excessively dark night.	J H
Cirro-stratus: very dark.	
,, ,,	
Overcast: the Moon's place visible.	
,, snow falling in large flakes.	J H
,, no snow since $21^h.\ 10^m$, between which time and the previous observation it continued to fall.	D
The clouds commenced breaking up soon after $22^h.\ 40^m$: at present the zenith and the eastern part of the sky are clear: light clouds scattered in the N. and S.; also a few heavy cumuli in the N.W. horizon.	
Fleecy clouds in all parts of the sky.	D
Scud and vapour.	J H
Cirro-stratus and scud: slight breaks N.W. of the zenith.	
The same.	
The same: a few stars dimly seen. There is an unusually strong reflexion from the London lights, resembling the light of a large fire: the cloud is very dense over London.	J H
Dense cirro-stratus: a very black night: a strong reflexion from the London lights.	G
About 20^m since the clouds began to break about the zenith; and now, although they have no apparent motion, the zenith, and the sky about 50° around it, are free of cloud: the whole horizon is still thick and dark.	
Nearly cloudless.	
Densely black again.	
Within a quarter of an hour after the time of the last observation the clouds broke, and at $18^h.\ 40^m$ the heavens were cloudless, and still continue so.	G
Cloudless.	D
The N. horizon clear; every other part of the sky cloudy.	
Still the same.	D
The sky generally covered with cirro-cumulus.	G
Scud and light clouds.	J H
Light clouds and vapour.	D
Overcast: sleet squalls since $8^h.\ 40^m$: gusts of wind.	J H
Overcast: cirro-stratus.	D

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Jan. 7. 14	30·395	29·0	28·2	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·401	29·2	28·5	0·7	28·5	0·7	..	..	N by W	Calm	..	..	..	..	..	10	..
18	30·372	29·7	27·9	1·8	..	..	..	..	NE	Calm	..	..	..	..	..	10	..
20	30·391	28·8	27·3	1·5	..	..	..	..	NE	Calm	..	..	..	..	..	10	..
22	30·388	29·0	27·5	1·5	21·5	7·5	32·7 26·4	44·1 20·4	NNE	Calm	..	..	0·00	0·00	0·000	8	Transit
Jan. 8. 0	30·383	29·7	28·2	1·5	..	..	..	..	NNE	NNE	..	½	..	..	..	9¾	..
2	30·345	29·9	27·7	2·2	..	..	..	..	NNE	NNE	..	¼	..	..	..	9¾	..
4	30·322	29·4	27·6	1·8	23·5	5·9	..	..	NNE	NE	..	¼	..	..	..	10	..
6	30·306	28·9	26·9	2·0	..	..	..	..	NNE	NNE nearly calm	..	..	..	..	..	10	..
8	30·296	28·6	26·7	1·9	..	..	..	..	NNE	NE	..	¼	..	..	..	10	..
10	30·269	28·6	26·7	1·9	22·0	6·6	..	..	N	NE	..	¼	..	..	..	10	..
12	30·238	28·6	27·8	0·8	..	..	..	..	NNE	NE	..	¼	..	..	..	10	..
14	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	Greatest declination S.
18	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	...	..	N	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	29·8 26·5	31·8 24·4	N	...	..	..	0·00	0·00	0·000	..	Transit
Jan. 9. 0	30·128	27·5	26·4	1·1	22·0	5·5	..	..	NNE	NE	..	¼	..	..	..	10	..
2	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
8	30·087	27·2	26·3	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	30·053	28·1	27·5	0·6	..	..	..	..	Calm	NE	..	½	..	..	..	10	..
16	30·042	28·0	27·5	0·5	26·0	2·0	..	..	Calm	NE	..	¼	..	..	..	10	..
18	30·037	27·7	27·2	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·026	27·7	27·0	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·040	28·5	27·9	0·6	24·0	4·5	28·0 26·5	28·2 24·0	Calm	Calm	..	..	0·00	0·00	0·000	10	..
Jan. 10. 0	30·029	29·4	28·6	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
2	29·996	29·9	29·2	0·7	..	..	..	..	W	Calm	..	..	..	..	..	10	..
4	29·982	29·7	28·5	1·2	25·5	4·2	..	..	WSW	W	..	¼	..	..	..	10	..
6	29·971	29·0	27·7	1·3	..	..	..	..	WSW	W	..	¼	..	..	..	10	..
8	29·965	28·5	27·5	1·0	..	..	..	..	SW	W	..	¼	..	..	..	10	..
10	29·939	29·0	27·7	1·3	23·5	5·5	..	..	S	WSW	..	¼	..	..	..	10	..
12	29·920	28·8	28·2	0·6	..	..	..	..	SSE	Calm	..	..	..	..	..	10	..
14	29·900	28·6	28·5	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·886	30·0	29·4	0·6	28·0	2·0	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·876	31·7	30·5	1·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·886	32·2	31·0	1·2	..	..	..	..	S	Calm	..	..	..	..	..	10	..
22	29·919	33·0	31·6	1·4	31·5	1·5	32·8 28·5	33·0 24·0	S	Calm	..	..	0·00	0·07	0·100	10	..
Jan. 11. 0	29·922	33·5	32·2	1·3	..	..	..	..	S	Calm	..	..	..	..	..	10	Transit
2	29·918	33·5	32·2	1·3	..	..	..	..	S by W	Calm	..	..	..	..	..	10	..
4	29·925	33·3	31·9	1·4	30·0	3·3	..	..	SSW	Calm	..	..	..	..	..	9¾	New

Jan. 7d. 16h. This is the highest barometrical reading during the month.

Jan. 7d. 22h. *This is the greatest observed difference between the Dew Point and the temperature of the air during the month.*

Jan. 7d and 8d. The least difference in the mean height of the barometer between any two consecutive civil days during the month took place between these two days, being 0in·018, as deduced from the two-hourly observations.

Jan. 8d, civil reckoning. The range of the thermometer on this day was less than on any other day during the year, being 1°·3.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus.	D
,, ,,	
,, ,, very dark.	
,, ,,	D
Scud and cirro-stratus: breaks East and South of the zenith.	J H
The same.	
Cirro-stratus and scud.	J H
The same.	D
Overcast: cirro-stratus.	
,, ,,	
,, ,,	D
,, ,,	J H
,, ,,	D
,, ,,	D
,, ,,	J H
,, ,,	
Overcast: cirro-stratus: a very dark morning.	
,, ,,	J H
,, ,,	D
,, ,,	
,, ,,	D
Overcast: the clouds are of various densities and colours, all moving from the West.	G
Overcast: the cirro-stratus not of uniform density.	J H
,, cirro-stratus: its density is more uniform.	
,, ,, a few stars have been visible at times since the last observation.	J H
Very dark indeed: small rain mixed with sleet, and small hail falling: the wind has veered to the S. since the last observation, but at present it is quite calm.	G
The ground is now white with the small hail, which, mixed with frozen rain, has been falling since the last observation.	
Rain is now falling in very small drops.	
Rain (very small, both in quantity and in the size of the drops) is still falling, and freezes on the ground as fast as it falls, rendering every place very slippery.	
Still a little sleet falling: a very dark morning.	G
Overcast: cirro-stratus and scud.	D
,, ,,	
,, ,,	D
Cirro-stratus and scud.	J H

Jan. 9^{d}. 22^{h}. The readings of the temperature of the Dry Thermometer, the Wet Thermometer, and the Dew Point, are all noted as being correct.

Jan. 10^{d}. 0^{h}. Examined the perpendicularity of the barometer.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Jan. 11. 6	29·936	32·6	31·7	0·9	..	..	..	..	S by W	Calm	..	..	..	..	..	10	..
8	29·949	32·1	31·5	0·6	..	..	..	..	S by W	Calm	..	..	..	..	..	10	..
10	29·960	31·7	31·2	0·5	29·5	2·2	..	..	S by W	Calm	..	..	..	..	..	10	..
12	29·955	31·5	30·7	0·8	..	..	..	..	S by W	Calm	..	..	..	..	..	10	..
14	29·962	31·5	30·9	0·6	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
16	29·963	31·5	30·8	0·7	29·0	2·5	..	..	SSW	Calm	..	..	..	..	..	10	..
18	29·953	31·3	30·9	0·4	..	..	..	..	S by W	Calm	..	..	..	..	..	10	..
20	29·953	31·2	31·0	0·2	..	..	..	..	S by E	Calm	..	..	..	..	..	10	..
22	29·974	32·2	31·1	1·1	28·0	4·2	33·8 31·2	33·5 29·4	S	Calm	..	..	0·00	0·01	0·110	10	..
Jan. 12. 0	29·963	33·7	31·7	2·0	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
2	29·948	34·6	32·5	2·1	..	..	..	..	SSW	SSW	..	½	..	..	..	8	Transit
4	29·945	33·4	31·8	1·6	33·5	—0·1	..	..	SSW	SW	..	¼	..	..	..	7	..
6	29·938	32·5	31·6	0·9	..	..	..	..	S	SSW	..	¼	..	..	..	9	..
8	29·930	31·5	30·7	0·8	..	..	..	..	S	Calm	..	..	..	..	..	3	..
10	29·911	32·5	30·5	2·0	29·5	3·0	..	..	S	SSW	..	¼	..	..	..	8	..
12	29·887	31·8	29·9	1·9	..	..	..	..	SSE	SSW	..	¼	..	..	..	10	..
14	29·862	33·0	30·2	2·8	..	..	..	..	...	SSW	..	½	..	..	..	10	..
16	29·839	32·7	30·2	2·5	28·0	4·7	..	..	...	SSW	..	½	..	..	..	10	..
18	29·812	32·5	30·4	2·1	..	..	..	..	...	SSW	..	¾	..	..	..	10	..
20	29·796	31·7	30·7	1·0	..	..	..	..	...	SSW	..	1+	..	..	..	10	..
22	29·778	32·9	31·6	1·3	29·0	3·9	35·1 31·2	38·7 23·4	...	S	..	¾	0·00	0·00	0·110	10	..
Jan. 13. 0	29·777	32·0	31·0	1·0	..	..	..	..	...	S	..	¼	..	..	..	10	..
2	29·740	32·2	31·2	1·0	..	..	..	..	...	S	..	¼	..	..	..	10	Transit
4	29·717	31·2	30·4	0·8	28·0	3·2	..	..	...	S	..	½	..	..	..	10	..
6	29·668	31·2	30·7	0·5	..	..	..	..	...	SSE	..	¾	..	..	..	10	..
8	29·631	30·3	29·0	1·3	..	..	..	..	SE	SE	½ to 2	1	..	..	..	10	..
10	29·602	29·0	28·3	0·7	27·0	2·0	..	..	ESE	SE	½ to 2	1	..	..	..	10	..
12	29·568	29·0	28·2	0·8	..	..	..	..	ESE	SSE	0 to ½	¾	..	..	..	10	..
14	29·552	29·2	28·5	0·7	..	..	..	..	SE	SSE	..	¼	..	..	..	10	..
16	29·509	29·6	28·8	0·8	28·0	1·6	..	..	SE	SSE	..	¼	..	..	..	10	Apogee
18	29·446	32·1	31·1	1·0	..	..	..	..	SE	Calm	..	..	..	..	..	10	..
20	29·415	34·5	34·0	0·5	..	..	..	..	SE	Calm	..	..	..	..	..	10	..
22	29·420	36·3	35·6	0·7	35·5	0·8	37·0 28·4	38·0 26·0	SSW	SW	..	¼	0·05	0·19	0·235	10	..
Jan. 14. 0	29·457	34·0	33·2	0·8	..	..	..	..	WSW	SSW	0 to 1	¼	..	..	..	10	..
2	29·473	34·7	33·6	1·1	..	..	..	..	WSW	SSW	0 to ½	¼	..	..	..	10	Transit
4	29·504	34·1	33·1	1·0	32·0	2·1	..	..	SW	W	..	¼	..	..	..	8	..
6	29·539	33·4	33·7	—0·3	..	..	..	..	SW	W	..	¼	..	..	..	10	..
8	29·581	34·6	34·0	0·6	..	..	..	..	Calm	W	..	¼	..	..	..	10	..
10	29·621	35·5	34·5	1·0	32·1	3·4	..	..	Calm	Calm	..	..	..	..	..	10	..
12	29·681	35·8	34·8	1·0	..	..	..	..	W	Calm	..	..	..	..	..	10	..
14	29·721	31·2	30·2	1·0	..	..	..	..	WNW	Calm	..	..	..	..	..	0	..
16	29·760	30·1	29·3	0·8	28·0	2·1	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·791	31·5	30·4	1·1	..	..	..	..	SW	Calm	..	..	..	..	..	4	..
20	29·811	30·6	29·6	1·0	..	..	..	..	SW	Calm	..	..	..	..	..	7	..
22	29·860	33·0	31·0	2·0	28·0	5·0	36·8 29·5	36·6 20·4	SW	Calm	..	..	0·05	0·00	0·235	9	..

Jan. 12d. 13h. After this time the links of the chain of the clock of the Anemometer became so stretched, that they parted, and the weight fell to the ground: hence the cause of no record of the wind between Jan. 12d. 14h and Jan. 13d. 8h. Previously to the latter time the links of the chain had been all pinched and made equal, and the machine set going.

Jan. 12d. 4h. The temperature of the Dew Point is higher than the temperature of the air.

Jan. 14d. 6h. The reading of the Wet Thermometer is higher than that of the Dry Thermometer.

Jan. 14d. During the whole of this day the traversing-board of the Anemometer moved irregularly.

GENERAL REMARKS.	Observer.
Dense cirro-stratus: very light sleet falling.	G
Very dark: small particles of snow falling.	
,, small hail, like balls, falling.	G
,, quite overcast.	D
Overcast: very dark: a little sleet falling.	
,, ,,	
,, ,, sleet falling.	
,, a very dark morning: snow and sleet have been slightly falling all night.	D
Snow and sleet falling.	J H
Overcast: vapour and cirro-stratus.	
Fleecy clouds and scud.	J H
The same.	D
A long narrow break in the S.W. horizon; the sky otherwise covered with cirro-stratus and scud.	
Cirro-stratus and vapour W. of the zenith, and in the horizon, in the N.W. and S.: the rest of the sky is clear.	
Cirro-stratus and heavy vapour.	D
The same.	J H
The same: gusts of wind at intervals.	
Tho same.	
Overcast: cirro-stratus: wind rising.	
,, ,, gusts of wind.	J H
,, ,,	D
,, snow and sleet falling.	
,, snow falling.	D
,, ,,	J H
,, the snow ceased at $4^h.\ 40^m$.	
,, cirro-stratus: wind blowing in gusts: a few flakes of snow falling.	
,, ,, snow falling in squalls.	J H
,, ,, small spiculæ of snow, mixed with a few flakes, falling.	G
,,	
Still quite overcast: frozen rain falling.	
Densely cloudy.	
Thawing fast: light rain falling.	G
Overcast: cirro-stratus.	D
,, ,,	
,, ,,	D
The upper cloud moves from a point a little North of the West: the sky is covered with cirro-cumuli of various shades, viz: dirty blue, a slate colour, dirty white, &c.	G
Quite overcast: cirro-stratus.	G
,, ,,	D
Overcast: cirro-stratus.	J H
,, ,,	D
Cloudless: the clouds commenced clearing at $13^h.\ 10^m$, and quite disappeared within half an hour.	
Cloudless.	
Vapour in, and S. of, the zenith.	
Light fleecy clouds and scud.	D
Break in the S. horizon: otherwise cloudy.	J H

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Jan. 15. 0	29·884	35·0	33·0	2·0	..	..	..	..	WSW	SW	..	¼	..	..	..	8	..
2	29·877	36·4	34·7	1·7	..	..	..	..	WSW	WSW	..	¼	..	..	..	9¾	..
4	29·873	35·5	34·5	1·0	33·5	2·0	..	..	SW	WSW	..	¼	..	..	..	9	Transit
6	29·870	33·8	33·1	0·7	..	..	..	..	SW	WSW	..	¼	..	..	..	10	..
8	29·879	32·7	32·0	0·7	..	..	..	..	SW	Calm	..	..	..	..	..	3	..
10	29·865	30·9	30·2	0·7	30·0	0·9	..	..	S by W	Calm	..	..	..	..	..	0	..
12	29·848	29·7	29·6	0·1	..	..	..	..	S by W	Calm	..	..	..	..	..	1	..
14	..	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SSE	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SSE	...	½ to 2½	..	..	..	..	..	..
22	..	..	..	..	..	..	36·0 28·5	41·0 21·5	SSE	...	1 to 2	..	0·05	0·00	0·235	..	..
Jan. 16. 0	29·648	37·0	36·5	0·5	..	..	..	..	SSE	S	2½ to 3½	1	..	..	..	10	..
2	..	..	..	..	..	..	..	..	SW	...	0 to 1	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	SW	...	0 to ½	..	..	..	..	..	Transit
6	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	In Equator
8	..	..	..	..	..	..	..	..	SW	...	½ to 1½	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	SW	...	½ to 1½	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SW	...	0 to ½	..	..	..	..	..	..
14	29·859	35·0	34·0	1·0	..	..	..	..	SW	WSW	0 to ½	¾	..	..	..	10	..
16	29·877	34·0	32·8	1·2	30·0	4·0	..	..	SW	WSW	0 to ½	¾	..	..	..	1	..
18	29·905	33·5	32·3	1·2	..	..	..	..	SW	WSW	0 to ½	¾	..	..	..	1	..
20	29·933	33·1	32·0	1·1	..	..	..	..	SSW	SW	0 to ½	¾	..	..	..	1	..
22	29·982	35·8	34·5	1·3	34·5	1·3	41·3 32·4	45·3 27·5	SW	SW	0 to ½	¼	0·05	0·00	0·235	3	..
Jan. 17. 0	30·004	39·7	37·5	2·2	..	..	..	..	W	WSW	½ to 1½	¼	..	..	..	3	..
2	30·010	41·4	38·5	2·9	..	..	..	..	WNW	W	½ to 1½	¼	..	..	..	1	..
4	30·053	40·5	38·0	2·5	36·0	4·5	..	..	WNW	W by N	..	¼	..	..	..	3	Transit
6	30·087	36·7	35·0	1·7	..	..	..	..	WSW	WNW	..	½	..	..	..	1	..
8	30·115	35·5	34·3	1·2	..	..	..	..	W	WNW	..	¼	..	..	..	0	..
10	30·144	34·5	33·5	1·0	32·5	2·0	..	..	W	NW	..	Just percept.	..	..	..	3	..
12	30·164	31·3	31·0	0·3	..	..	..	..	WSW	Calm	..	..	..	..	..	6	..
14	30·185	31·2	30·6	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	6	..
16	30·203	29·8	29·0	0·8	28·5	1·3	..	..	Calm	Calm	..	..	..	..	..	5	..
18	30·207	28·5	28·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
20	30·243	28·5	28·5	0·0	..	..	..	..	SW	Calm	..	..	..	..	..	10	..
22	30·284	29·3	29·3	0·0	29·0	0·3	41·5 28·0	51·0 24·4	SW	Calm	..	..	0·05	0·00	0·235	10	..
Jan. 18. 0	30·295	30·4	30·4	0·0	..	..	..	..	WSW	Calm	..	..	..	..	..	10	..
2	30·298	31·0	31·0	0·0	..	..	..	..	WSW	Calm	..	..	..	..	..	10	..
4	30·313	30·8	30·8	0·0	30·5	0·3	..	..	WSW	W	..	¼	..	..	..	10	..
6	30·341	32·6	31·8	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
8	30·342	31·7	31·5	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	30·354	33·0	32·5	0·5	32·0	1·0	..	..	Calm	Calm	..	..	..	..	..	10	..
12	30·355	33·5	33·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·363	34·0	33·3	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·362	33·6	33·1	0·5	33·0	0·6	..	..	Calm	Calm	..	..	..	..	..	10	..

Jan. 15d. The Anemometer traversing-board moved correctly.

Jan. 17d. 0h. Examined the perpendicularity of the barometer.

GENERAL REMARKS.	Observer.
Cirro-stratus and vapour.	J H
Cirro-stratus and scud: hazy: small breaks near the zenith.	J H
Cirro-stratus and vapour.	D
Cirro-stratus and scud.	
Vapour and cirro-stratus S. of the zenith: the rest of the sky clear.	
Cloudless.	D
Vapour West of the zenith.	J H
Overcast: scud passing rapidly from the South: small rain falling.	G
Cirro-stratus and scud.	J H
The same: vapour S. of the zenith.	
Vapour near the horizon, and S. and W. of the zenith: gusts of wind.	
Scud and vapour: a fine morning.	J H
Light clouds and scud.	D
The same.	
Light clouds in the South horizon: hazy in the North; otherwise clear.	D
Light clouds and vapour.	J H
Haze and vapour.	
Vapour, and damp, misty air.	
Heavy vapour, principally W. of the zenith: the atmosphere is very thick in the W., and misty over London.	J H
A very thick atmosphere, and heavy vapour: the stars all appear small and glimmering.	G
No change whatever.	
The atmosphere rather clearer, and the stars brighter.	
Clear: a little vapour about. The thermometer, whose bulb is in the focus of a parabolic reflector, and exposed to the sky, reads 25°: a strong ground frost.	
Immediately after the last observation, clouds, and a slight fog, collected in the North, and soon covered the whole of the sky: the outline of the Observatory is at present just visible from the Magnetic Observatory: the ground is white with frost.	G
Light fog.	D
Fog.	
The fog still continues.	
The fog continues.	D
Fog.	G
The fog cleared away about $6^h.\ 40^m$: the sky is now covered with heavy masses of dark cloud moving from the N.W.: the Moon occasionally seen: the general moistness of a nearly calm night still continues: very light airs of wind, occasionally from N.W.	
Fog again collected about $8^h.\ 40^m$: at present a slight fog: a very dark, gloomy-looking night.	G
No change since the last observation.	D
Overcast: a thin fog: a very dark and gloomy night.	
,, cirro-stratus: no fog.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Jan. 18. 18	30·359	32·3	32·1	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·372	31·2	31·2	0·0	..	..	..	..	W	Calm	..	..	..	..	..	10	..
22	30·389	31·0	31·5	−0·5	29·0	2·0	34·2 29·5	33·8 27·5	WSW	Calm	..	..	0·05	0·00	0·235	10	..
Jan. 19. 0	30·347	31·3	31·2	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
2	30·313	31·0	31·1	−0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
4	30·297	31·2	31·3	−0·1	31·0	0·2	..	..	Calm	Calm	..	..	..	..	..	10	..
6	30·287	30·0	30·5	−0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
8	30·267	29·8	29·8	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	30·254	27·8	27·8	0·0	27·5	0·3	..	..	Calm	Calm	..	..	..	..	..	10	1st Qr.
12	30·230	26·5	26·5	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·200	27·0	26·4	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·163	27·5	27·1	0·4	23·5	4·0	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·115	27·4	27·2	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·085	28·5	28·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·082	30·4	29·7	0·7	29·5	0·9	31·8 26·2	— 24·0	Calm	Calm	..	..	0·05	0·00	0·235	10	..
Jan. 20. 0	30·046	32·3	30·9	1·4	..	..	..	..	NNE	Calm	..	..	..	..	..	10	..
2	30·006	32·7	31·5	1·2	..	..	..	..	NNE	Calm	..	..	..	..	..	10	..
4	29·983	33·0	32·0	1·0	33·0	0·0	..	..	Calm	Calm	..	..	..	..	..	10	..
6	29·979	32·5	31·8	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	29·969	32·7	32·0	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
10	29·962	33·0	32·0	1·0	28·0	5·0	..	..	Calm	NE	..	¼	..	..	..	10	..
12	29·932	33·0	32·1	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·918	32·7	31·9	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·922	32·9	31·0	1·9	31·0	1·9	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·909	32·0	31·8	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·928	32·1	31·8	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·948	32·2	31·8	0·4	28·5	3·7	33·7 25·6	34·0 25·0	Calm	Calm	..	..	0·05	0·00	0·235	10	..
Jan. 21. 0	29·953	32·4	31·9	0·5	..	..	..	..	Calm	NE	..	¼	..	..	..	10	..
2	29·938	32·7	32·0	0·7	..	..	..	..	Calm	NE	..	¼	..	..	..	10	..
4	29·941	33·3	32·1	1·2	31·0	2·3	..	..	Calm	Calm	..	..	..	..	..	10	..
6	29·958	32·3	31·5	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	29·957	31·8	31·2	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
10	29·953	31·7	31·1	0·6	31·0	0·7	..	..	Calm	Calm	..	..	..	..	..	10	..
12	29·940	31·6	30·6	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·923	32·0	31·2	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·887	31·2	30·5	0·7	29·0	2·2	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·854	32·2	30·7	1·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·825	32·0	30·7	1·3	..	..	..	..	SE	Calm	..	..	..	..	..	10	..
22	29·779	32·8	31·3	1·5	31·5	1·3	33·3 31·5	33·0 27·7	SE	Calm	..	..	0·05	0·00	0·235	10	..
Jan. 22. 0	29·710	34·8	32·6	2·2	..	..	..	..	SSE	S by E	..	¼	..	..	..	10	..
2	29·621	33·7	32·5	1·2	..	..	..	..	SSE	S by E	..	¼	..	..	..	10	..
4	29·514	34·6	33·5	1·1	32·0	2·6	..	..	SSE	Calm	..	..	..	..	..	10	..
6	29·411	33·8	33·0	0·8	..	..	..	..	SSE	S	0 to ½	¼	..	..	..	10	..
8	29·320	34·8	34·1	0·7	..	..	..	..	...	Calm	..	..	..	..	..	10	Transit
10	29·247	36·5	36·0	0·5	35·0	1·5	..	..	...	S	..	¼	..	..	..	10	..

Jan. 18d. 22h, and 19d. 2h, 4h and 6h. The readings of the Wet Thermometer are higher than those of the Dry Thermometer.

Jan. 19d. 10h. Hourly observations were commenced. (See the Section of Term-Day Observations.)

Jan. 19d, civil reckoning. This day had the greatest relative moisture in the atmosphere of any day in the year, the mean difference of the Dry and Wet Thermometers, being 0°·0, as deduced from the two-hourly observations.

Jan, 19d. 22h. The reading of the self-registering thermometer for maximum radiation was inadvertently omitted.

Jan. 19d. 16h and 20d. 22h. There is a discordance between the difference of the Dry and Wet Thermometer, and the difference of the Dry Thermometer and temperature of the Dew Point: there was no note to the observations.

Jan. 26d. 22h. The readings of the Dry, Wet, and Dew Point Thermometers are marked as being correct. The reading of the

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus.	D
,, a light fog.	D
Damp mist: the Observatory quite obscured from the Magnetic Observatory.	J H
A dense and damp fog obscuring objects at a very little distance: overcast.	P
The same dense fog prevailing: overcast.	P
Dense fog.	D
,,	
,,	D
A thick fog: a dense fog has continued all day.	G
The fog rather thinner.	G
No change: moisture falling heavily.	M
Overcast: a damp fog.	J H
,, cirro-stratus: very gloomy.	D
,, the fog continues, but is much thinner.	P
A slight fog: a general mistiness: the sky is quite covered with a dense cirro-stratus.	G
Overcast: cirro-stratus and scud: the latter moving slowly: the moisture of the atmosphere is still very great.	P
,, cirro-stratus: damp air.	J H
,, ,,	P
,, dense cirro-stratus.	G
,, cirro-stratus.	D
Cirro-stratus and scud.	J H
Overcast: cirro-stratus: the moisture of the atmosphere is so dense as to resemble a very thin rain.	P
,, a fog enveloping the grounds, though not so dense and damp as on the preceding night.	
,, a thin fog.	
,, ,, a thin misty rain falling.	
The same.	P
A thin misty rain: overcast.	J H
The same.	
Overcast: a damp air.	J H
,, cirro-stratus and scud: the scud is moving slowly from the N.N.E.	P
,, the clouds broken in the zenith: the Moon is visible: the scud is now very slowly moving from the W.	
,, the clouds, however, are much broken in the zenith: the Moon distinctly visible.	
,, cirro-stratus.	P
,, ,,	G
,, ,,	
Densely clouded: a very dark night. [visible.	
Overcast: very black indeed: so very dark that, to the South of the Magnetic House, an object two inches from the eye is not	
Densely cloudy.	G
,, ,,	D
Clouds lighter in the zenith, and occasional patches of blue sky have been visible since the last observation: at present the sky is quite covered.	
Overcast: a little snow and sleet commenced falling about $0^h.\ 40^m$, and has continued slightly up to the present time.	D
Very small frozen particles of clear transparent ice falling, which melt as soon as they reach the ground.	G
Frozen rain, mixed with sleet, continued falling, till about $5^h.\ 20^m$, when rain fell, which ceased about ten minutes since.	
Light rain has continued falling ever since the last observation. [visible.	
Overcast: cirro-stratus and scud: the rain continued falling, with slight cessations, until $9^h.\ 10^m$: the Moon has been occasionally	G

minimum temperature seems wrong; the lowest reading in the two-hourly observations is that at 18^h, viz. $32°{\cdot}0$: it would appear that an error of $5°$ has been committed in the reading, and that it should have been $30°{\cdot}6$: this reading is used in the Abstracts.

Jan. $21^d.\ 22^h$. The minimum temperature as shewn by the self-registering thermometer, is $0°{\cdot}3$ higher than the reading of the Dry Thermometer at $21^d.\ 16^h$.

Jan. 21^d and 22^d. The greatest difference in the mean height of the barometer between any two consecutive civil days during the month took place between these two days, being $0^{in}{\cdot}334$, as deduced from the two-hourly observations; and the ranges of the barometer on these two days were the least and greatest of any in the month, being $0^{in}{\cdot}053$ and $0^{in}{\cdot}752$ respectively.

Jan. $22^d.\ 0^h$ to 12^h. Between these times the barometer fell more than half an inch. [month.

Jan. $22^d.\ 10^h$. From $17^d.\ 20^h$ to the present time it has been quite cloudy; it is the longest period without clear sky of any in the

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Jan. 22. 12	29·182	36·0	35·6	0·4	..	..	..	..	...	S	..	¼	..	..	..	0	..
14	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	38·3 30·4	40·7 24·0	...	...	..	..	0·15	—	0·430	..	..
Jan. 23. 0	29·143	34·0	31·6	2·4	..	..	..	..	W	WSW	3 to 4	1	..	..	..	4	..
2	29·142	34·6	32·1	2·5	..	..	..	..	WNW	WSW	4 to 6	1½	..	..	..	10	..
4	29·325	32·0	30·0	2·0	..	..	..	..	NNW	N	2	1½	..	..	..	4	Greatest declination N.
6	..	..	..	..	..	..	..	..	NNW	...	0 to ½	..	..	..	..	..	..
8	29·454	29·5	27·8	1·7	..	..	..	..	NNW	N	..	1	..	..	..	0	..
10	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	Transit
12	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
14	29·601	28·0	27·4	0·6	..	..	..	..	NW	NNW	..	¼	..	..	..	0	..
16	29·650	26·4	25·6	0·8	24·0	2·4	..	..	NW	NNW	..	¼	..	..	..	0	..
18	29·690	26·0	25·0	1·0	..	..	..	..	NW	NNW	..	¼	..	..	..	0	..
20	29·730	23·5	23·0	0·5	..	..	..	..	WNW	Calm	..	..	..	..	..	0	..
22	29·760	24·1	23·5	0·6	20·5	3·6	35·0 23·2	40·7 12·5	WSW	Calm	..	..	0·15	0·00	0·430	5	..
Jan. 24. 0	29·765	29·0	27·8	1·2	..	..	..	..	W	Calm	..	..	..	..	..	0	..
2	29·757	31·8	30·4	1·4	..	..	..	..	W	Calm	..	..	..	..	..	3	..
4	29·743	31·3	30·3	1·0	29·0	2·3	..	..	SW	Calm	..	..	..	..	..	4	..
6	29·732	28·5	28·0	0·5	..	..	..	..	S	Calm	..	..	..	..	..	½	..
8	29·663	28·1	26·8	1·3	..	..	..	..	SE	Calm	..	..	..	..	..	0	..
10	29·616	30·5	28·5	2·0	29·0	1·5	..	..	SE	SSW	..	½	..	..	..	10	..
12	29·510	33·0	32·5	0·5	..	..	..	..	SE	SSW	..	1	..	..	..	10	Transit
14	29·384	34·5	31·2	3·3	..	..	..	..	SE	SSW	..	1½	..	..	..	10	..
16	29·266	33·7	32·2	1·5	30·0	3·7	..	..	SE	SSW	3 to 4	1½	..	..	..	10	..
18	29·177	33·0	32·3	0·7	..	..	..	..	SE	SW	2 to 2½	1	..	..	..	10	..
20	29·187	..	..	..	..	..	..	..	SSE	SW	..	½	..	..	..	10	..
22	29·248	34·0	33·6	0·4	33·0	1·0	34·3 23·7	43·0 13·0	W	Calm	..	..	0·30	0·15	0·540	10	..
Jan. 25. 0	29·328	36·1	35·2	0·9	..	..	..	..	NNW	NNW	..	¼	..	..	..	10	..
2	29·383	39·8	37·8	2·0	..	..	..	..	NW	NNW	1 to 1½	½+	..	..	..	8	..
4	29·467	40·6	38·0	2·6	35·0	5·6	..	..	NW	NNW	½ to 1½	¾	..	..	..	3	..
6	29·537	38·2	36·0	2·2	..	..	..	..	WNW	NNW	..	½	..	..	..	½	..
8	29·602	33·4	32·5	0·9	..	..	..	..	Calm	NNW	..	¼	..	..	..	7	..
10	29·654	32·5	31·5	1·0	29·0	3·5	..	..	Calm	Calm	..	..	..	..	..	7	..
12	29·663	30·0	29·5	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	Transit
14	29·679	29·7	29·3	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·653	29·8	31·5	−1·7	31·0	−1·2	..	..	Calm	Calm	..	..	..	..	..	2	..
18	29·583	32·5	31·0	1·5	..	..	..	..	SE	SW	..	¼	..	..	..	10	..
20	29·472	34·8	34·0	0·8	..	..	..	..	SE	S	1	1	..	..	..	10	..
22	29·344	38·5	37·8	0·7	35·0	3·5	41·2 29·5	48·5 21·4	SSE	SSW	4	¾	0·32	0·03	0·600	10	..
Jan. 26. 0	29·180	36·8	35·4	1·4	..	..	..	..	SSW	SSW	6 to 10	1	..	..	..	10	..
2	29·069	42·0	41·6	0·4	..	..	..	..	SW	SW	2 to 4	1	..	..	..	3	..

Jan. 22d. 22h. The reading of rain-gauge No. 2 was inadvertently omitted.

Jan. 22d. 23h. It was found that the vane of the Anemometer, at about 8h. 50m, had turned round from S. to N. by the W., and the registering-pencil had gone off the rack-work; hence no record of the wind by the Anemometer from 6h to 22h.

Jan. 23d. The lowest reading of the thermometer during the month took place on this day.

Jan. 24d. 0h. Examined the perpendicularity of the barometer.

Jan. 24d. 10h. After this observation the barometer began to fall rapidly, and continued to do so till 18h; at the latter time it was nearly half an inch lower than it was at the former.

Jan. 24d. 10h. The direction of the wind by estimation, and that given by the Anemometer, differ, but there is no reason to suspect either of incorrectness; it is most likely that the direction by estimation is that in which the clouds were moving.

GENERAL REMARKS.	Observer.
The sky continued nearly overcast until $11^h.30^m$, since which time the clouds have been gradually disappearing: at present, not a particle of cloud can be seen.	D
Cumulo-stratus and scud: gusts of wind.	J H
Cirro-stratus and scud: strong gusts of wind to 2+: since $0^h.40^m$ there have been several squalls of sleet and snow.	J H
Large dark masses of cloud moving quickly from the North: there is no upper cloud.	G
Cloudless: the air very cold and the wind keen.	J H
Cloudless: a fine moonlight night.	D
,, ,,	
,,	
,,	D
Vapour and haze.	J H
Hazy: very cold air.	
Cirri and vapour: hazy.	J H
Clouds numerous in the W. and N.W.: haze prevailing generally; cloudless everywhere but in those portions of the sky before-mentioned.	P
Cloudless, with the exception of a few light cirri near the West horizon; the thermometer, whose bulb is exposed to the clear sky, reads $13°\cdot2$: at $7^h.40^m$ a well-defined lunar halo was visible.	J H
Cloudless: hazy: the thermometer, whose bulb is exposed to the clear sky, reads $18°\cdot5$.	P
Overcast: cirro-stratus.	G
,, ,, strong gusts of wind.	J H
The same.	
The same.	
The ground is covered with snow, which is falling in squalls: overcast: cirro-stratus: gusts of wind less strong than at $15^h.40^m$.	J H
Overcast: cirro-stratus: the wind has abated.	
A very dense and thick atmosphere, of a dark, London-fog-like appearance; so dark in the rooms, that candles are required.	G
Overcast; a thin rain falling, and a rapid thaw going on.	P
Breaks in every portion of the sky, though of no great extent: the thaw proceeding rapidly: the wind in moderate gusts.	P
Light fleecy clouds, and haze: gusts of wind.	J H
Haze, and undefined clouds near the horizon.	
Vapour and stratus: the larger stars only are visible.	
The same.	J H
Cloudless, but very hazy: the shadow cast by the Moon is faint: the larger stars only are visible.	G
The haze quite gone: a few light clouds in the N., but too inconsiderable in amount to affect the notation.	
Very hazy: a halo around the Moon: a few clouds in the N.	
Quite cloudy; cirro-stratus.	
Overcast: cirro-stratus: the wind has risen a good deal during the last hour: very red near the horizon in S. and S.E.	G
,, a fine steady rain falling: wind in gusts.	P
Overcast: the rain still falling, and wind blowing, but more steadily.	
Clear every where but in the W. and S.W., where the clouds are somewhat numerous.	P

Jan. 24^d, civil reckoning. The mean daily temperature was less on this day than on any other during the year, being $28°\cdot3$, as deduced from the two-hourly observations.

Jan. $24^d.20^h$. The readings of the Dry and of the Wet Thermometers were inadvertently omitted.

Jan. $25^d.16^h$. The readings of the Wet Thermometer and of the Dew Point are higher than that of the Dry Thermometer.

Jan, $25^d.18^h$. After this time the barometer began to fall rapidly, and continued falling rapidly till $26^d.2^h$. Between Jan. $26^d.2^h$ and 8^h it was nearly stationary, and after the latter time it began to rise. Between $26^d.12^h$ and 14^h the rise was 0·1 of an inch.

Jan. 24^d and 25^d. The greatest difference between the mean temperature of one civil day and the next during the month took place between these two days, being $6°\cdot8$, as deduced from the two-hourly observations.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Jan. 26. 4	29·030	42·3	40·7	1·6	38·5	3·8	..	..	SW	SW	4 to 10	3	..	..	..	9	..
6	29·009	41·0	39·5	1·5	..	..	..	..	SW	WSW	7 to 10	4	..	..	..	10	Full
8	29·034	41·5	38·5	3·0	..	..	..	..	SW	SW	10 to 13	4	..	..	..	10	..
10	29·111	40·8	37·3	3·5	36·0	4·8	..	..	SW	WSW	6 to 8	4	..	..	..	10	..
12	29·196	40·2	36·8	3·4	..	..	..	..	SW	WSW	6 to 7	4 to 4½	..	..	..	10	..
14	29·295	39·0	35·2	3·8	..	..	..	..	SW	WSW	4 to 5	4	..	..	..	6	Transit Perigee
16	29·368	37·0	32·2	4·8	31·0	6·0	..	..	SW	WSW	3 to 4	2½	..	..	..	1	..
18	29·429	37·0	36·8	0·2	..	..	..	..	SW	WSW	3 to 4½	3	..	..	..	0	..
20	29·513	36·5	33·7	2·8	..	..	..	..	SW	WSW	2 to 2½	1½	..	..	..	0	..
22	29·570	37·1	34·5	2·6	30·0	7·1	44·4 35·3	49·5 29·8	SW	W by S	2 to 4½	¾	0·40	0·10	0·745	0	..
Jan. 27. 0	29·628	40·5	36·8	3·7	..	..	..	..	WSW	WSW	3 to 4½	¾	..	..	..	0	..
2	29·648	42·1	38·0	4·1	..	..	..	..	WSW	W	2 to 3	½	..	..	..	½	..
4	29·690	42·1	38·4	3·7	35·0	7·1	..	..	WSW	W by S	..	¼	..	..	..	9½	..
6	29·706	38·8	36·2	2·6	..	..	..	..	SSW	SW	..	¼	..	..	..	8	..
8	29·714	36·4	34·8	1·6	..	..	..	..	SW	SW	..	¼	..	..	..	0	..
10	29·722	35·5	34·3	1·2	31·0	4·5	..	..	SW	SW	..	¼	..	..	..	1	..
12	29·732	35·5	34·3	1·2	..	..	..	..	SW	SW	..	¼	..	..	..	9½	..
14	29·717	34·5	33·5	1·0	..	..	..	..	SW	SW	..	¼	..	..	..	9½	Transit
16	29·714	35·5	34·3	1·2	32·0	3·5	..	..	SSW	SW	..	¾	..	..	..	9	..
18	29·704	33·7	33·0	0·7	..	..	..	..	SSW	SW	..	¾	..	..	..	1	..
20	29·731	34·6	33·8	0·8	..	..	..	..	SSW	SW	..	½	..	..	..	9	..
22	29·741	34·5	34·0	0·5	33·5	1·0	42·8 38·0	55·0 26·0	SSW	SW	..	¼	0·40	0·00	0·748	9¾	..
Jan. 28. 0	29·758	37·8	36·7	1·1	..	..	..	..	WSW	W by S	..	¼	..	..	..	1	..
2	29·758	40·2	38·6	1·6	..	..	..	..	W	W	..	¼	..	..	..	8	..
4	29·784	40·5	37·2	3·3	34·0	6·5	..	..	NW	WNW	..	½	..	..	..	5	..
6	29·808	38·0	35·8	2·2	..	..	..	..	W	WNW	..	½	..	..	..	1	..
8	29·822	34·6	33·2	1·4	..	..	..	..	SW	WNW	..	¼	..	..	..	0	..
10	29·847	34·9	33·5	1·4	30·0	4·9	..	..	SW	WNW	..	¼	..	..	..	6	..
12	29·862	34·5	33·4	1·1	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
14	29·873	31·9	31·1	0·8	..	..	..	..	SW	W	..	¼	..	..	..	3	Transit
16	29·863	31·0	30·5	0·5	30·0	1·0	..	..	SW	W	..	¼	..	..	..	4	..
18	29·859	30·2	29·1	1·1	..	..	..	..	SW	Calm	..	..	..	..	..	3	..
20	29·861	30·2	28·9	1·3	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
22	29·884	32·8	32·1	0·7	32·0	0·8	41·7 29·8	57·0 23·2	Calm	W by S	..	¼	0·40	0·00	0·748	10	..
Jan. 29. 0	29·900	35·5	35·2	0·3	..	..	..	..	SW	W by S	..	¼	..	..	..	9¾	..
2	29·910	37·7	36·8	0·9	..	..	..	..	W	W by S	..	¼	..	..	..	10	..
4	29·946	39·4	37·2	2·2	36·0	3·4	..	..	NW	N	..	¼	..	..	..	10	In Equator
6	29·964	37·2	36·0	1·2	..	..	..	..	NW	NNW	..	¼	..	..	..	10	..
8	29·992	35·6	34·7	0·9	..	..	..	..	N	Calm	..	..	..	..	..	10	..
10	30·012	35·2	34·7	0·5	34·0	1·2	..	..	NNW	Calm	..	..	..	..	..	10	..

Jan. 26d at 4h. 20m. The pressure at the Anemometer was 18lbs.; from 4h. 25m to 4h. 28m the pressure was about 3lbs.; at 4h. 30m it was 10lbs.; at 4h. 40m it was 12lbs.; at 4h. 45m it was 20lbs.; from 4h. 48m to 5h. 20m the pressure varied from 5lbs. to 10lbs., and continued about 7lbs. to 10lbs. till the regular observation at 6h. At 6h. 40m a pressure of 13lbs. took place, and till the next observation at 8h, the pressure was between 10lbs. and 13lbs. At 8h. 20m the pressure decreased to 8lbs., and the wind continued blowing with this pressure till 9h. 5m, at which time the pressure was 5lbs., and till 10h the pressure was between 5lbs. and 8lbs. The regular observations represent the storm after 10h, except a gust of 15lbs. at 11h. 10m.

Jan. 26d. 6h. This is the lowest barometrical reading during the month. [month.

Jan. 26d. 16h. The difference between the Dry and Wet Thermometers was greater at this observation than at any other during the

Jan. 26d, civil reckoning. The mean height of the barometer was less on this day than on any other day during the month, being

GENERAL REMARKS.	Observer.
The southern portion of the sky is covered with scud, moving from W.S.W.: scud appears also N. of the zenith: the upper cloud (bars of cirri) is motionless: a heavy gale of wind.	G
The gale continues; the gusts are frequently $4\frac{1}{2}$, and at times 5: the whole sky is covered with rapidly moving scud.	
Overcast: a heavy gale: gusts to 5: the sky is covered with dense cirro-strati and nimbi: a few drops of rain: the Moon was not visible during the eclipse.	
A gale: overcast: cirro-stratus: gusts to 5.	G
Overcast: cirro-stratus and scud: the Moon's place visible, and the clouds somewhat broken in her immediate neighbourhood: wind blowing in very heavy gusts.	P
Breaks in every part of the sky, though the sky still wears a wild appearance: the Moon is shining brightly, and many stars are visible: wind blowing in as heavy gusts as before.	
A few patches of light scud in different parts of the sky, which is otherwise cloudless: the wind has much abated, though it is still	
Cloudless. [blowing in strong gusts.	P
,,	
,, gusts of wind.	J H
,, ,,	
A few light clouds scattered in various directions.	J H
Nearly the whole heavens covered with a dark and threatening scud, a few breaks only being visible, and these of no very great extent.	P
Large masses of dark scud covering the greater portion of the sky: at present, however, the clouds vanish at intervals, leaving the sky almost cloudless.	
Cloudless: the stars in the horizon well defined.	
Light scud in different parts of the sky; otherwise cloudless.	P
Cirro-stratus and scud: a lunar halo 24° in diameter.	J H
,, ,,	
,, ,, gusts of wind.	
Scud, and banks of fleecy clouds in the W. and N.; elsewhere clear.	
Cirro-stratus and scud: breaks in the S.E. and S. horizon.	J H
Cloudless, with the exception of a few banks of cloud in the S.S.W. horizon.	P
A few banks of cloud in the southern horizon, and patches of light scud thinly diffused over the sky: hazy.	
Cirrus clouds covering the whole of the sky except in the zenith.	P
Cumuli and haze.	J H
A few light clouds: hazy.	
Cloudless and hazy.	
Fleecy clouds: the Moon shining through breaks in the clouds.	J H
The moon shining through breaks in the clouds, the rest of the sky being quite covered with cirro-cumuli, and with scud passing under them from the N.N.W.	G
The Moon shining very brightly: clouds all round the horizon to about 4° altitude: the remainder of the sky quite free of clouds.	
Light fleecy clouds have been forming and passing away since the last observation, and frequently passing under the Moon from the direction of N.N.W.	
Nearly cloudless: a few fleecy clouds about W. and N.W.	
Clouds continue about the W. N.W. horizon, partaking of a cirro-stratus character: a very fine morning.	G
Overcast: cirro-stratus and scud: a thin rain, or sleet, falling.	P
The clouds are much broken in the zenith, and in its immediate neighbourhood: the rest of the sky is covered with cirro-stratus.	
Overcast: cirro-stratus and scud.	P
The same.	G
The same.	
Very dark: one unbroken black cloud covers the sky.	
The same.	G

$29^{in}\cdot280$, as deduced from the two-hourly observations; and the range of the thermometer was greater on this day than on any other during Jan. 26^d. 18^h to 27^d. 0^h. There was no cloud: it is the longest period of clear sky of any in the month. [the month, being $12°\cdot6$.

Jan. 27^d, civil reckoning. This day had the least relative moisture in the atmosphere of any day in the month, the mean difference of the Dry and Wet Thermometers being $2°\cdot7$, as deduced from the two-hourly observations.

Jan. 27^d. 22^h. The reading of the minimum temperature is wrong, the temperature at 18^h being 5° lower; and, therefore, either an error of 5° has been made in its reading, or the wrong end of the index has been taken: if the former, the reading would have been $33°\cdot0$; and if the latter, it would have been $31°\cdot5$; the latter is used in the Abstracts.

Jan. 28^d. 8^h. The directions of the wind by estimation, and by the Anemometer, differ; that by the Anemometer is undoubtedly right: that by estimation is most probably the direction in which the clouds were moving, though no note was made to that effect.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in		
Jan. 29. 12	30·040	34·8	34·4	0·4	..	..	..	..	NNW	Calm	..	..	..	..	..	10	..
14	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	Transit
18	..	..	..	..	..	..	..	..	WNW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	NW	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	39·8 32·5	43·0 31·0	NW	...	..	..	0·40	0·00	0·748	..	..
Jan. 30. 0	30·167	35·4	34·7	0·7	..	..	..	..	NW	NNE	..	$\frac{1}{4}$	..	..	..	10	..
2	..	..	..	..	..	..	..	..	NW	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
10	30·146	34·7	34·1	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	30·098	34·0	33·2	0·8	..	..	..	..	SSW	Calm	..	..	..	..	..	5	..
16	30·078	35·2	34·3	0·9	..	..	..	..	SW	Calm	..	..	..	..	..	10	Transit
18	30·048	36·0	35·2	0·8	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
20	30·032	37·2	36·8	0·4	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
22	30·023	39·5	38·5	1·0	36·0	3·5	39·8 33·1	40·6 27·8	SSW	W	..	$\frac{1}{4}$	0·40	0·00	0·748	$9\frac{3}{4}$	..
Jan. 31. 0	30·002	42·8	42·0	0·8	..	..	..	..	SW	W	..	$\frac{1}{4}$	..	..	..	$9\frac{3}{4}$	..
2	29·962	44·5	44·0	0·5	..	..	..	..	SW	WSW	0 to 1	$\frac{1}{4}$	..	..	..	10	..
4	29·926	45·9	44·3	1·6	42·5	3·4	..	..	SW	SW	..	$\frac{1}{4}$	..	..	..	10	..
6	29·901	44·3	42·8	1·5	..	..	..	..	SW	SW	..	$\frac{1}{4}$	..	..	..	10	..
8	29·886	44·4	43·3	1·1	..	..	..	..	SSW	SW	..	$\frac{1}{4}$	..	..	..	10	..
10	29·867	45·1	44·2	0·9	43·5	1·6	..	..	SSW	Calm	$\frac{1}{2}$ to $1\frac{1}{2}$	..	..	..	..	10	..
12	29·853	44·7	44·2	0·5	..	..	..	..	SW	Calm	..	..	0·50	0·20	0·917	10	..
14	29·866	41·6	41·6	0·0	..	..	..	..	NNW	W	..	$\frac{1}{2}$	..	..	..	10	..
16	29·915	40·5	40·0	0·5	37·5	3·0	..	..	NW	W	..	$\frac{1}{2}$	..	..	..	7	..
18	29·952	39·0	37·8	1·2	..	..	..	..	NW	W	..	$\frac{1}{2}$	..	..	..	0	Transit
20	29·989	34·5	34·0	0·5	..	..	..	..	WSW	W	..	$\frac{1}{4}$	..	..	..	0	..
22	30·035	38·0	36·9	1·1	35·5	2·5	46·8 34·6	47·5 28·5	WSW	W	..	$\frac{1}{4}$	0·50	0·00	0·917	8	..
Feb. 1. 0	30·052	39·8	38·6	1·2	..	..	..	..	WNW	WSW	..	$\frac{1}{4}$	..	..	..	6	..
2	30·030	44·0	40·8	3·2	..	..	..	..	NW	W	..	$\frac{1}{4}$	..	..	..	4	..
4	30·047	43·4	39·7	3·7	36·5	6·9	..	..	NW	NNW	..	$\frac{1}{4}$	..	..	..	2	..
6	30·060	43·0	39·5	3·5	..	..	..	..	NW	NNW	..	$\frac{1}{4}$	..	..	..	3	..
8	30·060	37·4	36·5	0·9	..	..	..	..	NW	Calm	..	..	..	..	..	3	..
10	30·078	34·9	34·5	0·4	35·5	−0·6	..	..	Calm	Calm	..	..	..	..	..	1	..
12	30·080	33·3	32·8	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
14	30·078	36·0	34·8	1·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·064	36·4	35·3	1·1	35·0	1·4	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·057	37·2	36·1	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
20	30·056	39·3	37·5	1·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·088	41·2	39·2	2·0	39·0	2·2	44·1 33·3	51·0 26·0	SW	Calm	..	..	0·50	0·00	0·917	10	..
Feb. 2. 0	30·092	46·1	43·7	2·4	..	..	..	..	WSW	WSW	..	$\frac{1}{4}$	..	..	..	10	3rd Qr.

Jan. 30d. 16h. The reading of the temperature of the Dew Point was inadvertently omitted.

Jan. 31d. 0h. Examined the perpendicularity of the barometer.

Jan. 31d, civil reckoning. The mean daily temperature was greater on this day than on any other during the month, being 41°·1, as deduced from the two-hourly observations.

Jan. 31d. The highest reading of the thermometer during the month took place on this day.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and scud.	P
Overcast: cirro-stratus.	G
The sun was just visible at about $1^h.\ 40^m$; since which time an impenetrable black cloud has covered the sky.	G
Loose clouds in large masses in various parts of the sky, predominating, however, in the horizon.	P
Overcast, and very dark, even the Moon's place being invisible.	
The same.	P
The same.	
Cirro-stratus and haze.	J H
,, ,, a thin misty rain.	
Cirro-stratus and scud.	J H
Overcast: cirro-stratus and scud. The clouds are coming up from the westward and much broken: they are much lighter in the S. horizon.	P
Overcast: cirro-stratus and scud. The clouds are still coming up from the same quarter.	
,, ,, a thin rain falling.	
,, ,,	P
,, ,, rain falling heavily.	J H
,, cirro-stratus: gusts of wind at times: the rain ceased soon after midnight.	
Fleecy clouds in every direction.	
Cloudless: the sky cleared shortly before $17^h.\ 40^m$.	
,,	J H
Patches of blue sky in the zenith; the sky is otherwise covered with cirro-stratus.	D
Cirro-stratus and light clouds.	
Cumuli and haze.	D
Cumuli in every direction, and light fleecy clouds S.E. of the zenith.	J H
Dark and undefined clouds: hazy.	
A fog: the stars are invisible for 30° above the horizon.	
Haze and vapour.	J H
The zenith, and round it for 70°, is cloudless: near the horizon in the North the sky is also cloudless, but quite cloudy everywhere else.	G
By $12^h.\ 40^m$ the greater part of the sky was covered with small clouds, close together, and of a dark colour: at present there is one unbroken black cloud everywhere.	
Quite cloudy still.	
Overcast, and very black.	
Still quite cloudy: the upper current from the North.	G
The same.	D
Still quite cloudy.	

Jan. $31^d.\ 12^h$. The amount of rain collected during the month of January, in the rain-gauge No. 4, was $1^{in}\cdot02$.

Feb. $1^d.\ 6^h$ and 8^h. Between these times the thermometer fell $5°\cdot6$, and the air became relatively much more charged with moisture.

Feb. $1^d.\ 10^h$. The temperature of the Dew Point is higher than that of the Dry Thermometer.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Feb. 2. 2	30·074	49·2	46·2	3·0	..	..	..	..	WSW	WSW	0 to ½	¼	..	..	..	7	..
4	30·089	47·7	45·4	2·3	42·0	5·7	..	..	WSW	W	..	¼	..	..	..	8	..
6	30·135	44·7	43·0	1·7	..	..	..	..	WSW	Calm	..	..	..	..	..	10	..
8	30·144	44·3	43·2	1·1	..	..	..	..	SW	Calm	..	..	..	..	..	10	..
10	30·179	43·3	42·8	0·5	40·0	3·3	..	..	SW	Calm	..	..	..	..	..	9	..
12	30·191	43·0	42·5	0·5	..	..	..	..	SW	Calm	..	..	..	..	..	10	..
14	30·208	42·4	42·0	0·4	..	..	..	..	SW	Calm	..	..	..	..	..	10	..
16	30·226	42·2	42·0	0·2	42·0	0·2	..	..	SW	Calm	..	..	..	..	..	10	..
18	30·247	42·0	41·8	0·2	..	..	..	..	WSW	Calm	..	..	..	..	..	10	..
20	30·277	42·0	41·9	0·1	..	..	..	..	NNW	Calm	..	..	..	..	..	10	Transit
22	30·308	42·1	41·8	0·3	39·5	2·6	50·0 41·4	57·8 37·7	N	Calm	..	..	0·50	0·00	0·917	10	..
Feb. 3. 0	30·324	45·2	44·2	1·0	..	..	..	..	N	Calm	..	..	..	..	..	5	..
2	30·327	46·5	45·1	1·4	..	..	..	..	E	Calm	..	..	..	..	..	3	..
4	30·309	42·8	42·2	0·6	41·5	1·3	..	..	Calm	Calm	..	..	..	..	..	4	..
6	30·333	40·4	40·0	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
8	30·360	39·0	38·8	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
10	30·360	40·3	40·0	0·3	40·0	0·3	..	..	Calm	Calm	..	..	..	..	..	10	..
12	30·361	40·0	39·3	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·351	39·5	38·7	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·350	38·6	38·0	0·6	36·0	2·6	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·344	37·8	37·7	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·350	37·5	37·3	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	9½	Transit
22	30·359	37·0	36·5	0·5	36·5	0·5	47·2 37·3	66·8 33·0	Calm	Calm	..	..	0·50	0·00	0·917	10	..
Feb. 4. 0	30·356	36·5	35·5	1·0	..	..	..	..	ENE	Calm	..	..	..	..	..	10	..
2	30·339	34·4	33·5	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
4	30·302	34·2	33·4	0·8	30·0	4·2	..	..	Calm	ESE	..	¼	..	..	..	4	..
6	30·303	32·2	31·6	0·6	..	..	..	..	E	E	..	¼	..	..	..	10	..
8	30·310	30·2	31·0	−0·8	..	..	..	..	E	E	..	¾	..	..	..	10	..
10	30·291	32·0	31·1	0·9	28·0	4·0	..	..	E	E	..	¼	..	..	..	7	..
12	30·263	32·6	31·7	0·9	..	..	..	..	NE	E	..	¼	..	..	..	10	..
14	30·258	33·4	32·6	0·8	..	..	..	..	NE	E	..	¼	..	..	..	10	..
16	30·230	34·1	33·1	1·0	32·0	2·1	..	..	ENE	ESE	..	¼	..	..	..	10	..
18	30·195	34·8	34·4	0·4	..	..	..	..	NE	E	..	¼	..	..	..	10	..
20	30·186	34·3	34·0	0·3	..	..	..	..	ENE	E	..	¼	..	..	..	10	Transit
22	30·173	34·6	33·3	1·3	32·5	2·1	39·0 31·0	46·8 27·7	ENE	E	..	¼	0·50	0·00	0·917	10	Greatest declination S.
Fb. 5. 0	30·164	34·0	31·9	2·1	..	..	..	..	E	ESE	..	¼	..	..	..	8	..
2	30·124	35·0	32·5	2·5	..	..	..	..	ESE	ESE	..	¼	..	..	..	8	..
4	30·105	34·1	32·0	2·1	31·0	3·1	..	..	E	E	..	¼	..	..	..	3	..
6	30·106	31·4	30·0	1·4	..	..	..	..	Calm	E	..	¼	..	..	..	1	..
8	30·097	31·9	30·3	1·6	..	..	..	..	Calm	E	..	¼	..	..	..	9	..
10	30·104	32·0	30·0	2·0	28·0	4·0	..	..	Calm	Calm	..	..	..	..	..	10	..
12	30·088	31·5	29·8	1·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..

Feb. 3d and 4d. The greatest difference between the mean temperatures of one civil day and the next during the month took place between these two days, being 6°·9, as deduced from the two-hourly observations.

Feb. 4d. 8h. The reading of the Wet Thermometer is higher than that of the Dry Thermometer.

Feb. 4d. 9h. 40m. The reading of the Dry Thermometer was 1°·0 lower than the minimum, as given by the Minimum Thermometer. The temperature of the air was decreasing continually from Feb. 3d. 12h to 4d. 9h. 40m: immediately after 9h. 40m it began to increase, and continued increasing till 18h.

GENERAL REMARKS.	Observer.
Cirro-stratus and fleecy clouds.	D
Broken light clouds: scud is passing from the West.	G
The sky is covered with scud: some blue sky has been seen since the last observation.	
Overcast, and very black: the cloud is apparently very dense.	G
A few stars visible in the zenith: vapour and scud.	J H
Quite overcast.	D
Overcast: cirro-stratus.	
,, ,,	
,, ,,	
,, ,,	D
Stratus and vapour: quite overcast.	J H
Cumuli in every direction: a fine mild morning.	
Light clouds and cumuli.	J H
Light fleecy clouds.	D
Cirro-stratus and vapour.	
Heavy vapour.	
Overcast: cirro-stratus.	D
,, ,, the air close.	J H
,, ,,	
,, ,, very dark.	
,,	
Scud and undefined clouds.	J H
Overcast.	D
,,	
,, cirro-stratus.	D
Light clouds of the cirrus kind, and cumuli.	J H
Cirro-stratus and vapour.	
Overcast: cirro-stratus.	
Clear in the zenith: scud and fleecy clouds elsewhere.	J H
Uniformly overcast: cirro-stratus: the reading of the dry thermometer was 30°·0 at $9^h.40^m$.	G
No change since the last observation.	
The same.	
The same.	
The same.	G
Quite overcast.	D
The zenith quite clear; the rest of the sky is covered with cirro-stratus.	
Cirro-stratus and cumuli.	D
Flimsy cumuli, or rather scud flowing into cumuli, everywhere; the greater part of the sky is of a fine blue: the Sun is behind a bank of dark cumulo-stratus: the air sharp and cold.	G
A small portion of slate-coloured cloud near the horizon in the N. and N.W.; every other part of the sky free of cloud: the Sun, after the last observation, shone brightly for a short time.	
At about $6^h.40^m$ the constellations became partly obscured, and since that time the clouds have been generally collecting, and at present a few only of the large stars are visible.	
Overcast, and very black.	G
The same.	D

Feb. 5^d, civil reckoning. The mean daily temperature was less on this day than on any other during the month, being 33°·4, as deduced from the two-hourly observations.

Feb. 5^d, civil reckoning. The range of the thermometer was less on this day than on any other day during the month, being 3°·6.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Feb. 5. 20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	35·2 29·9	47·7 24·0	Calm	...	..	..	0·50	0·00	0·917	..	Transit
Feb. 6. 0	29·988	33·5	31·5	2·0	..	..	..	..	NE	Calm	..	..	..	..	..	1	..
2	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
4	29·884	34·0	32·1	1·9	..	..	..	..	E	E	..	¼	..	..	..	¼	..
6	29·894	33·5	31·8	1·7	..	..	..	..	ENE	Calm	..	..	..	..	..	8	..
8	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
14	29·739	31·5	30·3	1·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·716	32·5	31·3	1·2	31·5	1·0	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·685	32·4	31·5	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·662	33·8	32·4	1·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·620	34·5	33·9	0·6	32·0	2·5	38·3 29·7	56·5 24·0	ESE	SE	..	¼	0·52	0·02	0·970	10	Transit
Feb. 7. 0	29·616	36·7	36·1	0·6	..	..	..	..	Calm	SSE	..	¼	..	..	..	10	..
2	29·605	41·2	40·5	0·7	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
4	29·635	37·8	37·0	0·8	36·0	1·8	..	..	WSW	WSW	..	¼	..	..	..	9	..
6	29·671	35·1	34·4	0·7	..	..	..	..	W	WSW	..	¼	..	..	..	10	..
8	29·704	33·7	33·1	0·6	..	..	..	..	SW	WSW	..	¼	..	..	..	10	..
10	29·721	32·6	32·3	0·3	32·0	0·6	..	..	WSW	Calm	..	..	..	..	..	10	..
12	29·735	31·7	31·5	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·732	31·1	30·8	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·727	30·7	30·3	0·4	28·5	2·2	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·710	31·2	31·0	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·711	32·3	31·9	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·722	34·5	34·2	0·3	34·5	0·0	41·2 30·9	46·0 29·3	Calm	Calm	..	..	0·53	0·02	1·113	10	..
Feb. 8. 0	29·734	38·8	38·7	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
2	29·714	43·0	44·9	−1·9	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
4	29·715	46·2	46·0	0·2	44·0	2·2	..	..	SW	Calm	..	..	..	..	..	10	..
6	29·741	45·2	45·0	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
8	29·757	43·9	43·7	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	29·758	44·7	44·5	0·2	43·0	1·7	..	..	Calm	Calm	..	..	..	..	..	10	..
12	39·753	43·6	43·6	0·0	..	..	..	..	SSW	Calm	..	..	..	..	..	9	..
14	29·746	41·8	41·8	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
16	29·737	40·7	40·5	0·2	40·5	0·2	..	..	Calm	Calm	..	..	..	..	..	7	..
18	29·717	40·0	39·4	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
20	29·711	38·5	38·2	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
22	29·704	41·0	40·6	0·4	40·5	0·5	46·4 34·8	47·4 33·6	Calm	Calm	..	..	0·55	0·04	1·083	5	..
Feb. 9. 0	29·697	47·0	46·6	0·4	..	..	..	..	SSE	S	..	¼	..	..	..	5	Transit
2	29·674	50·1	46·5	3·6	..	..	..	..	S	S	..	¼	..	..	..	7	..

Feb. 7d. 0h. Examined the perpendicularity of the barometer.

Feb. 7d. 22h. The Minimum Thermometer, corrected for its index-error, reads 0°·2 higher than the Dry Thermometer at 16h.

Feb. 7d. 22h. The reading of Crosley's rain-gauge is evidently wrong, both by comparison with the quantity of rain collected in the other gauges, and with its own next reading, which is less; probably the reading should be 0in·987.

Feb. 8d. 2h. The reading of the Wet Thermometer is higher than that of the Dry Thermometer.

GENERAL REMARKS.	Observer.
Nearly cloudless; a few white cumuli only North of the zenith.	D
Cloudless, with the exception only of a few dark clouds in the western horizon, and a few small patches of scud here and there.	P
Clouds collecting in all parts of the sky: cirro-stratus and scud.	D
Cloudless.	
The sky clouded over just before the observation; it is now quite overcast.	
Directly after the last observation a slight shower of hail fell: the sky has been alternately clear and cloudy for the last two hours; at one time cloudless, and in a few minutes overcast, and vice versâ; at present overcast.	
Overcast: cirro-stratus.	D
,, ,, small rain.	J H
,, ,, the rain ceased at $22^h.\ 40^m$.	
,, ,, the clouds lighter than at 0^h.	J H
Cirro-stratus and scud.	D
,, ,,	
,, ,,	
Overcast: cirro-stratus.	D
,, ,, There is a bright diffused light in the N., of a lighter colour, and more widely spread than the London lights; its appearance is certainly like an aurora.	J H
Overcast: cirro-stratus.	
,, ,, extremely dark.	
,, ,,	
,, ,, damp and misty air.	J H
,, ,, misty air.	D
,, ,,	
,, ,,	
,, ,, thin misty rain.	D J H
Scud in every direction.	
Scud and vapour: the rain commenced at $8^h.\ 10^m$, and fell heavily for fifteen minutes; small rain then succeeded.	
Overcast: small rain falling.	J H
The rain ceased at about $10^h.\ 40^m$: at about $11^h.\ 40^m$ the dark clouds about the zenith broke, and a few stars, large and watery in appearance, became visible, and continued so; every other part of the sky is covered with cloud.	G
A few ill-defined stars are visible: since the last observation the sky has been alternately quite cloudy and then partially clear, and then cloudy again.	
The same kind of weather continues, and even when the stars are visible they appear enveloped in vapour.	
A great deposition of moisture: the stars have the same appearance as before: the zenith, and parts around it for 50°, are free of cloud, but there is much vapour about.	
Since the last observation the greater part of the sky has been free of clouds, but at present there is a considerable quantity of cloud in bars, extending from the S. to the N.: a fine morning.	G
Cirri and light clouds.	D
,, ,,	
,, ,,	D

Feb. 8d, civil reckoning. This day had the greatest relative moisture in the atmosphere of any day in the month, the mean difference of the Dry and Wet Thermometers being 0°·1, as deduced from the two-hourly observations.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Feb. 9. 4	29·653	47·7	44·5	3·2	42·0	5·7	..	..	S	S	..	¼	..	..	..	5	..
6	29·630	43·7	42·0	1·7	..	..	..	..	S	S	..	¼	..	..	..	3	..
8	29·655	44·7	42·2	2·5	..	..	..	..	S	S	0 to ½	¼	..	..	..	10	..
10	29·655	44·2	42·2	2·0	40·0	4·2	..	..	S	S	1 to 1½	1	..	..	..	10	..
12	29·658	43·1	41·8	1·3	..	..	..	..	S	S	..	½	..	..	..	0	..
14	29·683	44·5	43·5	1·0	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
16	29·721	46·0	44·4	1·6	45·0	1·0	..	..	SSW	SSW	..	¼	..	..	..	10	..
18	29·755	42·8	42·4	0·4	..	..	..	..	SSW	SSW	..	¼	..	..	..	4	Apogee
20	29·798	43·7	43·5	0·2	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
22	29·829	45·5	45·1	0·4	42·0	3·5	50·1 40·3	50·8 37·8	SW	SW	..	¼	0·55	0·00	1·083	10	..
Feb. 10. 0	29·855	48·1	47·4	0·7	..	..	..	..	SSW	SW	..	¼	..	..	..	9	Transit
2	29·865	49·5	48·3	1·2	..	..	..	..	SW	SW	..	¼	..	..	..	9	New
4	29·882	49·7	48·6	1·1	49·0	0·7	..	..	SW	SSW	..	¼	..	..	..	9	..
6	29·927	48·0	47·0	1·0	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
8	29·929	46·0	45·6	0·4	..	..	..	..	S	SSW	..	¼	..	..	..	10	..
10	29·932	46·7	45·2	1·5	45·5	1·2	..	..	SSW	Calm	..	..	..	..	..	10	..
12	29·919	46·9	46·0	0·9	..	..	..	..	SSW	SSW	½ to 1	¾	..	..	..	10	..
14	29·900	46·4	45·4	1·0	..	..	..	..	SSW	SW	½ to 1	¾	..	..	..	10	..
16	29·885	46·0	44·8	1·2	42·0	4·0	..	..	SSW	SW	1 to 1½	¾	..	..	..	10	..
18	29·892	45·8	44·6	1·2	..	..	..	..	SSW	SW	1 to 1½	¾	..	..	..	9	..
20	29·887	45·6	44·1	1·5	..	..	..	..	SSW	SW	1½ to 4	1	..	..	..	8	..
22	29·903	47·4	45·6	1·8	45·5	1·9	51·0 45·7	54·4 41·8	SSW	SW	4 to 5	1½	0·55	0·00	1·083	10	..
Feb. 11. 0	29·904	50·6	48·5	2·1	..	..	..	..	SW	SSW	4 to 5	1½	..	..	..	5	..
2	29·894	51·1	48·2	2·9	..	..	..	..	SSW	SW	3 to 4	1	..	..	..	8	Transit
4	29·900	50·3	47·9	2·4	46·0	4·3	..	..	SSW	SSW	1 to 2	1	..	..	..	9	..
6	29·904	48·3	47·3	1·0	..	..	..	..	SSW	SSW	1 to 2	1	..	..	..	10	..
8	29·932	48·0	47·6	0·4	..	..	..	..	SSW	SSW	1 to 1½	1	..	..	..	10	..
10	29·932	48·2	47·6	0·6	46·0	2·2	..	..	SSW	SSW	1 to 2½	1	..	..	..	10	..
12	29·945	47·5	47·3	0·2	..	..	..	..	SSW	SSW	½ to 1	1	..	..	..	10	..
14	29·942	47·2	46·8	0·4	..	..	..	..	SSW	SSW	1 to 1½	1	..	..	..	10	..
16	29·931	47·2	46·8	0·4	46·0	1·2	..	..	SSW	SSW	1	½	..	..	..	10	..
18	29·916	47·0	46·8	0·2	..	..	..	..	SSW	SSW	½ to 2	¾	..	..	..	10	..
20	29·930	48·0	47·8	0·2	..	..	..	..	SSW	SSW	½ to 2	¾	..	..	..	10	..
22	29·934	50·1	49·0	1·1	49·5	0·6	52·6 47·4	60·4 46·4	SSW	SSW	1 to 2½	¾	0·62	0·06	1·221	10	..
Feb. 12. 0	29·945	50·5	49·5	1·0	..	..	..	..	SSW	SSW	3 to 4	¾	..	..	..	10	..
2	29·920	51·3	50·2	1·1	..	..	..	..	SSW	SSW	4 to 5	1½	..	..	..	10	Transit
4	29·916	50·3	49·3	1·0	..	..	..	..	SSW	SSW	3 to 4½	1½	..	..	..	10	..
6	29·917	49·4	48·2	1·2	..	..	..	..	SSW	SSW	3 to 4½	1½	..	..	..	10	..
8	29·942	50·2	48·5	1·7	..	..	..	..	SW	SSW	4 to 5	1½	..	..	..	10	..
10	29·981	49·5	48·5	1·0	47·0	2·5	..	..	SW	SSW	3 to 4½	1½	..	..	..	10	..
12	30·028	48·2	47·2	1·0	..	..	..	..	SW	SSW	1 to 1½	1	..	..	..	7	In Equator

Feb. 11d. 18h. The reading of the Dry Thermometer was 0°·4 lower than the minimum temperature, as given by the Minimum Thermometer, when corrected for its index-error.

Feb. 12d. 4h. The reading of the temperature of the Dew Point was inadvertently omitted.

Feb. 12d. 10h. From Feb. 11d. 6h to the present time there has been no break in the clouds: it is the longest period without clear sky of any in the month.

GENERAL REMARKS.	Observer.
Cirri spread every where: the Sun is shining.	G
Slate-coloured clouds, with bright orange edges, are near the place of the setting Sun: a dark stratus cloud is all round near the horizon, the remainder of the sky being clear.	
About $6^h.\ 40^m$ dark clouds collected and quite covered the sky: at present one uniform dark cloud every where: the clouds in the N.W. are motionless.	
Cirro-stratus: very dark; the wind surging.	G
The clouds cleared away at about $10^h.\ 40^m$: it is still cloudless.	D
Overcast: it became cloudy again at $12^h.\ 25^m$.	
Overcast: cirro-stratus.	
The greater part of the sky is clear: the horizon is thick all round.	
Overcast: cirro-stratus.	D
,, ,, the air is damp and close.	J H
The clouds are more broken: it is still heavy and damp.	
Scud in dark masses South of the zenith; they are generally prevalent, though less dense, in other directions: there is every appearance of rain.	J H
The clouds look very heavy: cirro-stratus and scud, with patches of blue sky in different parts.	D
Overcast: cirro-stratus: the air damp.	
,, cirro-stratus and vapour.	
,, ,,	D
Scud and vapour: gusts of wind.	J H
Cirro-stratus and scud.	
,, ,, surging wind.	
Scud, with occasional slight breaks.	
Red-tinted scud passing rapidly from the S.W.: the clouds East and South of the zenith are of a lighter kind: sudden gusts of wind.	J H
Cirro-stratus and scud: gusts of wind.	D
Cumuli and cumulo-strati: scud in small fragments passing over rapidly, at a low elevation: gusts of wind.	
A streak of blue sky, extending from the horizon in S.S.W. to E.N.E.: the rest of the sky is covered with cirro-stratus and scud: cumulo-strati in the N.W. horizon.	D
Scud and cirro-stratus: breaks East and South of the zenith near the horizon: gusts of wind.	J H
Overcast: cirro-stratus and scud: rain in squalls, since $5^h.\ 10^m$, at intervals.	
,, small rain: wind blowing in gusts.	
,, cirro-stratus and scud: a little rain in squalls.	J H
,, cirro-stratus: light rain at intervals.	G
,, ,, ,, wind in frequent gusts to $1\frac{1}{2}$.	
,,	
Overcast: dense and black cirro-stratus: very dark.	
Cirro-stratus and quick moving scud from the S.W.	G
Dark heavy cirro-strati and scud passing over rapidly from the S.W.	D
Overcast: cirro-stratus.	
,, cirro-stratus and scud: strong gusts of wind: a very stormy-looking sky.	D
,, a stormy-looking sky: gusts of wind to 2.	G
After the last observation the uniform mass of cirro-stratus became broken, and at $4^h.\ 40^m$ the Sun was visible for a short time: immediately afterwards great masses of scud came up from the S.W., and since that time large quantities of scud have passed over rapidly; the direction being S.W. and S.S.W.: breaks at times: no upper cloud: wind in gusts to 2, and occasionally to $2\frac{1}{2}$.	
Upper cloud collected again about $6^h.\ 40^m$: at present dense and dark cirro-stratus and scud: the wind blowing steadily at $1\frac{1}{2}$, and occasionally in gusts to $2\frac{1}{2}$.	
A few stars have now and then been visible for a few minutes since the last observation: a great mass of scud now covers the sky.	G
The stars are shining in the zenith: cirro-stratus and scud cover the rest of the sky: a little rain has occasionally fallen since the last observation.	D

Feb. 12^d, civil reckoning. The mean daily temperature was greater on this day than on any other during the month, being $49°{\cdot}1$, as deduced from the two-hourly observations.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Feb. 12. 14	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SSE	...	..	..	..	..	..	..	..
22	30·048	47·8	47·4	0·4	47·0	0·8	52·2 38·7	55·0 31·5	SSE	SSW	..	$\frac{1}{4}$	0·62	0·00	1·225	10	..
Feb. 13. 0	30·048	48·3	48·2	0·1	..	..	..	..	S	SSW	$\frac{1}{2}$ to 1	$\frac{1}{4}$	..	..	..	10	..
2	..	..	..	..	..	..	..	..	SSW	...	$1\frac{1}{2}$ to 2	..	..	..	..	..	Transit
4	..	..	..	..	..	..	..	..	SSW	...	3 to 4	..	..	..	..	..	..
6	29·968	47·5	46·7	0·8	..	..	..	..	SW	WSW	1 to 2	$\frac{1}{2}$	..	..	..	10	..
8	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	SW	...	$\frac{1}{2}$ to 1	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
14	30·160	38·4	37·4	1·0	..	..	..	..	SW	WSW	..	$\frac{1}{4}$	..	..	..	0	..
16	30·197	37·0	35·8	1·2	35·5	1·5	..	..	SW	SW	..	$\frac{1}{4}$	..	..	..	0	..
18	30·248	37·0	35·9	1·1	..	..	..	..	SW	SW	..	$\frac{1}{4}$	..	..	..	0	..
20	30·288	35·5	34·8	0·7	..	..	..	..	SW	SW	..	$\frac{1}{4}$	..	..	..	1	..
22	30·331	39·0	37·4	1·6	34·5	4·5	50·8 34·8	52·0 28·8	SW	W by S	..	$\frac{1}{4}$	0·64	0·03	1·272	1	..
Feb. 14. 0	30·357	45·5	41·8	3·7	..	..	..	..	SW	W by S	$\frac{1}{2}$	$\frac{1}{4}$	..	..	..	0	..
2	30·364	47·5	42·7	4·8	..	..	..	..	SW	W by N	$\frac{1}{2}$ to 1	$\frac{3}{4}$	..	..	..	$\frac{1}{2}$	..
4	30·371	49·3	44·6	4·7	43·0	6·3	..	..	SW	W by S	..	$\frac{1}{4}$	..	..	..	2	Transit
6	30·378	44·5	42·2	2·3	..	..	..	..	SW	W by S	..	$\frac{1}{4}$	..	..	..	1	..
8	30·390	42·7	40·8	1·9	..	..	..	..	SW	WSW	..	$\frac{1}{4}$	..	..	..	1	..
10	30·411	42·0	41·0	1·0	41·0	1·0	..	..	SW	Calm	..	..	..	..	..	0	..
12	30·408	40·3	40·0	0·3	..	..	..	..	SW	Calm	..	..	..	..	..	10	..
14	30·385	40·6	40·3	0·3	..	..	..	..	SW	Calm	..	..	..	..	..	10	..
16	30·368	42·1	41·5	0·6	39·5	2·6	..	..	SSW	SW	..	$\frac{1}{4}$	..	..	..	10	..
18	30·367	42·6	41·6	1·0	..	..	..	..	SSW	SW	..	$\frac{1}{2}$	..	..	..	10	..
20	30·369	43·0	41·9	1·1	..	..	..	..	SSW	SW	..	$\frac{1}{4}$	..	..	..	10	..
22	30·384	46·1	44·3	1·8	45·0	1·1	50·1 38·6	66·0 33·2	SSW	SW	..	$\frac{1}{4}$	0·64	0·00	1·272	9	..
Feb. 15. 0	30·385	47·7	44·6	3·1	..	..	..	..	SW	SW	$\frac{1}{2}$ to $1\frac{1}{2}$	$\frac{1}{4}$	..	..	..	5	..
2	30·370	51·0	47·1	3·9	..	..	..	..	WSW	SW	$\frac{1}{2}$ to 1	$\frac{1}{4}$	..	..	..	4	..
4	30·349	50·1	45·8	4·3	42·5	7·6	..	..	WSW	WSW	..	$\frac{1}{4}$	..	..	..	3	Transit
6	30·342	47·0	43·6	3·4	..	..	..	..	WSW	SW	..	$\frac{1}{4}$	..	..	..	6	..
8	30·351	42·5	40·6	1·9	..	..	..	..	SW	SW	..	$\frac{1}{4}$	..	..	..	2	..
10	30·381	41·0	39·7	1·3	39·0	2·0	..	..	SW	Calm	..	..	..	..	..	$\frac{1}{2}$	..
12	30·359	41·4	40·5	0·9	..	..	..	..	SW	Calm	..	..	..	..	..	7	..
14	30·388	41·6	40·4	1·2	..	..	..	..	SW	Calm	..	..	..	..	..	10	..
16	30·395	42·5	41·9	0·6	41·5	1·0	..	..	SW	Calm	..	..	..	..	..	10	..
18	30·381	42·2	41·9	0·3	..	..	..	..	SW	Calm	..	..	..	..	..	10	..
20	30·397	42·5	41·9	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·421	44·4	44·2	0·2	44·0	0·4	53·2 40·9	67·5 32·0	Calm	Calm	..	..	0·64	0·00	1·279	10	..
Feb. 16. 0	30·432	45·4	45·1	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..

Feb. 12^d. 22^h. The quantity of water, 0^{in}·004, registered by Crosley's gauge, is by deposition of moisture.

Feb. 14^d. 0^h. Examined the perpendicularity of the barometer.

Feb. 15^d. 0^h. The estimated strength of the wind is irreconcileable with the pressure at the Anemometer: that at the Anemometer is undoubtedly right; that by estimation should be about 1.

GENERAL REMARKS.	Observer.
Cirro-stratus and scud: the air close.	G
The same: a thin rain falling.	
Squally: the wind has been in gusts to $1\frac{1}{2}$: large quantities of scud are passing: a bright streak in the S.W.	G
Cloudless.	D
,,	
,,	
Lines of cirri in the N.W.; otherwise it is cloudless.	D
Light clouds: hazy.	J H
Cloudless.	
Light clouds: a fine day: gusts of wind.	J H
Large white cumuli are scattered about the sky.	D
A small bank of cirro-stratus in the S.W. horizon; otherwise clear.	
Light vapour about the Moon; the sky elsewhere cloudless.	
Cloudless.	D
Overcast.	J H
,, damp air.	
,, cirro-stratus: occasional gusts of wind.	
,, ,, gusts of wind.	
,, scud and heavy clouds.	J H
Dark masses of scud and cirro-stratus: clear breaks here and there.	D
Large cumuli and cumulo-strati scattered in all parts of the sky.	
Cumuli and cumulo-strati N. of the zenith: light cirri in the S.	D
Cumuli in every direction: cumulo-stratus near the N. horizon.	J H
Fleecy clouds and dark scud.	
Light fleecy clouds: a small halo, of an elliptical form, around the Moon: the major axis lying in the direction of the line joining the Moon's cusps.	
Light fleecy clouds: the halo still visible: the ellipticity is perhaps equal to twice the breadth of the Moon's illuminated disc, the greater axis being equal to $2\frac{1}{2}$ diameters of the Moon.	J H
About $10^h.\,40^m$ the sky became quite covered with a thin veil of cloud; at $11^h.\,40^m$ the clouds were still thin, but broken in the zenith: at the time of the observation a few stars are visible; the northern hemisphere quite cloudy.	G
Alternately one half clear and then quite cloudy since the last observation: it is at present overcast.	
Generally cloudy since the last observation: it has been quite overcast since $15^h.\,0^m$.	
Overcast: deposition.	
,, a great deposition, almost amounting to small rain.	G
,, deposition.	D
,, ,,	

Feb. 15^d. The highest reading of the thermometer during the month took place on this day; and the smallest range of the barometer of any in the month took place on this day, civil reckoning, being $0^{in}.043$.

Feb. $15^d.\,22^h$. The amount of water, $0^{in}.007$, registered by Crosley's gauge, since yesterday, is by deposition of moisture.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Feb. 16. 2	30·416	45·0	44·5	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
4	30·382	46·0	45·5	0·5	43·5	2·5	..	..	Calm	Calm	..	..	..	..	..	10	..
6	30·436	45·0	44·7	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
8	30·440	43·7	43·4	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	30·436	42·5	42·2	0·3	42·0	0·5	..	..	Calm	Calm	..	..	..	..	..	7	..
12	30·368	42·2	42·1	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·352	38·7	38·6	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30 334	39·2	39·0	0·2	39·0	0·2	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·381	40·0	39·7	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·295	39·9	39·7	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·290	42·6	42·1	0·5	40·5	2·1	47·2 38·9	47·6 36·1	Calm	Calm	..	..	0·64	0·00	1·279	9½	..
Feb. 17. 0	30·287	47·0	45·5	1·5	..	..	..	..	SSW	Calm	..	..	..	..	..	9½	..
2	30·237	46·9	43·6	3·3	..	..	..	..	Calm	SSW	..	¼	..	..	..	9¾	..
4	30·198	46·5	42·6	3·9	41·5	5·0	..	..	Calm	SSE	..	¼	..	..	..	10	..
6	30·174	41·8	40·2	1·6	..	..	..	..	Calm	Calm	..	..	..	..	..	1	Transit
8	30·186	38·5	37·0	1·5	..	..	..	..	Calm	ESE	..	¼	..	..	..	0	..
10	30·193	35·5	35·2	0·3	35·0	0·5	..	..	Calm	Calm	..	..	..	..	..	0	..
12	30·188	32·8	32·0	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	30·183	31·0	30·9	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
16	30·194	31·8	31·2	0·6	29·5	2·3	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·203	32·8	31·4	1·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·219	32·5	31·0	1·5	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
22	30·258	34·6	33·1	1·5	30·5	4·1	49·0 31·0	55·0 21·6	SW	SW	..	¼	0·64	0·00	1·279	8	..
Feb. 18. 0	30·276	37·0	34·7	2·3	..	..	..	..	WSW	Calm	..	..	..	..	..	0	1st Qr.
2	30·265	41·4	38·7	2·7	..	..	..	..	WSW	Calm	..	..	..	..	..	0	..
4	30·255	42·6	39·4	3·2	37·0	5·6	..	..	W	W	..	¼	..	..	..	½	..
6	30·265	39·0	37·0	2·0	..	..	..	..	Calm	W by S	..	¼	..	..	..	0	Transit
8	30·291	35·4	34·5	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
10	30·299	34·2	33·6	0·6	32·0	2·2	..	..	Calm	Calm	..	..	..	..	..	0	..
12	30·304	31·9	31·5	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·327	30·9	30·7	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	6	..
16	30·310	30·7	30·7	0·0	30·5	0·2	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·306	26·6	26·5	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
20	30·293	26·5	30·5	−4·0	..	..	..	..	Calm	WSW	..	¼	..	..	..	0	..
22	30·287	30·0	30·0	0·0	30·0	0·0	42·6 26·4	60·4 21·4	W	Calm	..	..	0·64	0·00	1·279	0	..
Feb. 19. 0	30·272	34·6	32·0	2·6	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
2	30·231	45·0	42·3	2·7	..	..	..	..	SSW	Calm	..	..	..	..	..	0	..
4	30·194	44·5	42·0	2·5	..	..	..	..	SSW	WSW	..	¼	..	..	..	2	..
6	30·162	39·5	38·7	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
8	30·143	34·2	34·2	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	Transit
10	30·120	32·2	32·0	0·2	32·0	0·2	..	..	Calm	S	..	¼	..	..	..	0	..
12	30·100	33·2	33·1	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..

Feb. 16d. 8h. This is the highest barometrical reading during the month.

Feb. 16d, civil reckoning. The mean height of the barometer was greater on this day than on any other day during the month, being 30in·408, as deduced from the two-hourly observations.

Feb. 16d. 14h. The reading of the Dry Thermometer was 0°·2 lower than that of the Minimum Thermometer, as read at 22h, when corrected for its index-error.

Feb. 17d and 18d. The least difference in the mean height of the barometer between any two consecutive civil days during the month took place between these two days, being 0in·002, as deduced from the two-hourly observations.

Feb. 18d. The lowest reading of the thermometer during the month took place on this day.

GENERAL REMARKS.	Observer.
At $0^h.40^m$ the sky became remarkably dark, and the darkness continued to increase during half an hour, when it was at its maximum: at $1^h.10^m$ the clouds over London assumed the appearance of a copper colour, after which they extended over all parts of the sky; and at 2^h the sky was covered with one dark mass of clouds.	D
Overcast: cirro-stratus and scud.	G
The clouds became broken at about $4^h.20^m$, and the Sun was visible for a short time: quite cloudy now.	
The clouds are broken about the place of the Moon, and S. of her a few stars are seen: no upper cloud: the prevailing cloud is a kind of scud, flowing into loose cumuli.	
The stars and Moon are shining through breaks in the clouds: since the last observation it has been alternately partially clear and quite cloudy: clouds of the same character as at $8^h.0^m$.	G
Overcast: cirro-stratus.	D
,, deposition. [observation.	
,, dense cirro-stratus: a faint light has been visible a short time in the N.N.E.: it disappeared altogether soon after the	
,, cirro-stratus.	
,, the clouds much lighter, and slight appearances of breaks are visible in the zenith.	D
Fleecy and undefined clouds, forming a close network: the clouds move from S.S.W.: the ground moist, with a heavy dew.	J H
Fleecy and undefined clouds. [N. of the zenith.	
Fleecy clouds and scud: the general character of the clouds is much heavier than at the last observation, and slightly electrical	J H
The same as at the last observation.	D
Breaks appeared soon after the last observation, and, for some time, the sky was nearly covered with thin fleecy clouds, which gradually disappeared, until the sky, at $5^h.40^m$, became nearly cloudless: at present, cirro-stratus lines the northern horizon, every other part of the sky being cloudless.	
Cloudless.	D
,,	G
,, a mist in the lower part of the Park.	J H
Scud low in the N.W. horizon.	
Overcast: cirro-stratus.	
,, ,,	
,, ,, one unbroken cloud.	J H
Fleecy clouds and scud: the Sun shining at times through breaks.	D
Cloudless.	
,,	D
Light clouds: hazy.	J H
Cloudless: hazy.	
Hazy: only a few stars visible near the Moon.	
The fog clearing off rapidly: the stars becoming brighter in every direction.	J H
A thick haze: the Moon alone visible, being of a copper colour.	G
Still a dense haze, mixed with clouds: a few of the larger stars and the Moon are now visible.	
Quite cloudy; one unbroken cloud.	
A few stars just visible in the zenith: a fog: much deposition: the ground white with frost.	
White frost: a thin fog: cloudless: a sharp morning.	G
Cloudless: foggy.	D
,, ,,	
,, the fog has quite cleared off: very fine.	D
Loose cumuli near the horizon all round: the remaining portion of the sky clear.	G
Cloudless.	
Cloud: the Moon shining brightly.	
The same.	G
The sky was clouded over directly after the last observation: at present quite overcast: a fog collecting.	D

Feb. $18^d.20^h$. The reading of the Wet Thermometer is higher than that of the Dry Thermometer: the muslin was moistened as usual, and the observation is marked as being correct.

Feb. $18^d.20^h$ to $19^d.2^h$. There was no cloud: it is as long a period of clear sky as any in the month: the sky was clear during the same period between Feb. $25^d.10^h$ to 16^h.

Feb. $19^d.0^h$ to 2^h. The Dry Thermometer rose $10^\circ{\cdot}4$, and the Wet Thermometer rose nearly by the same quantity.

Feb. $19^d.4^h$. The reading of the temperature of the Dew Point was inadvertently omitted. In the following two hours the temperature declined 5°.

Feb. 19^d, civil reckoning. The range of the thermometer was greater on this day than on any other day during the month, being $18^\circ{\cdot}5$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Feb.19. 14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Greatest declination N.
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
							46·9	61·6									
22	..	..	..	..	..	..	30·1	24·6	SW	...	..	..	0·64	0·00	1·279	..	..
Feb.20. 0	29·921	33·1	32·7	0·4	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
2	29·887	34·6	34·0	0·6	..	..	..	..	SW	Calm	..	..	..	..	..	10	..
4	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
6	29·844	34·5	34·0	0·5	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
8	29·824	34·7	34·2	0·5	..	..	..	..	SSW	Calm	..	..	..	..	..	10	Transit
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
14	29·752	35·6	34·6	1·0	..	..	..	..	SW	Calm	..	..	..	..	..	10	..
16	29·727	35·7	34·7	1·0	34·5	1·2	..	..	SW	Calm	..	..	..	..	..	10	..
18	29·710	34·6	33·7	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
20	29·682	35·2	34·2	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
							39·8	40·0									
22	29·671	39·0	37·5	1·5	36·0	3·0	32·0	25·6	S	SSW	1 to 3	1	0·64	0·00	1·279	10	..
Feb.21. 0	29·656	41·8	40·4	1·4	..	..	..	..	SSW	SSW	1 to 1½	¾	..	..	..	10	..
2	29·601	45·5	43·4	2·1	..	..	..	..	SSW	SW by S	1 to 2	¾	..	..	..	10	..
4	29·586	45·0	44·4	0·6	45·0	0·0	..	..	SW	SW	1 to 2	½	..	..	..	10	..
6	29·654	40·1	39·2	0·9	..	..	..	..	WNW	W by N	..	¼	..	..	..	10	..
8	29·692	39·6	39·0	0·6	..	..	..	..	Calm	SW	..	¼	..	..	..	9½	..
10	29·718	38·0	37·2	0·8	37·0	1·0	..	..	SW	Calm	..	..	..	..	..	2	Transit
12	29·740	35·0	34·8	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	½	..
14	29·735	35·1	34·7	0·4	..	..	..	..	Calm	S	..	¼	..	..	..	10	..
16	29·709	36·0	35·7	0·3	34·0	2·0	..	..	SSW	Calm	..	..	..	..	..	10	..
18	29·693	38·0	37·5	0·5	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
20	29·665	38·8	38·1	0·7	..	..	..	..	SE	Calm	..	..	..	..	..	10	..
							47·5	49·5									
22	29·646	41·8	41·4	0·4	41·0	0·8	33·7	28·3	SSE	Calm	..	..	0·73	0·14	1·683	10	..
Feb.22. 0	29·629	46·5	45·5	1·0	..	..	..	..	S	Calm	..	..	..	..	..	10	..
2	29·600	48·4	46·4	2·0	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
4	29·563	47·4	45·5	1·9	43·0	4·4	..	..	SSW	SSW	½ to 1	½	..	..	..	8½	..
6	29·560	45·3	43·5	1·8	..	..	..	..	S	SW by S	..	¼	..	..	..	6	..
8	29·561	41·5	40·3	1·2	..	..	..	..	S	S by W	..	¼	..	..	..	10	..
10	29·541	40·7	39·5	1·2	37·0	3·7	..	..	SSW	Calm	..	..	..	..	..	9	Transit
12	29·517	41·0	39·9	1·1	..	..	..	..	S	S by W	..	¼	..	..	..	10	..
14	29·469	43·0	39·8	3·2	..	..	..	..	SSE	S by W	..	¼—	..	..	..	9	..
16	29·419	41·5	40·2	1·3	40·5	1·0	..	..	SE	S by W	..	¼—	..	..	..	10	..
18	29·371	42·0	40·7	1·3	..	..	..	..	SSE	S by W	..	¼—	..	..	..	10	..
20	29·339	42·5	42·0	0·5	..	..	..	..	SSE	S by W	..	¼—	..	..	..	10	..
							49·0	51·4									
22	29·326	44·5	43·4	1·1	42·6	1·9	40·4	36·5	S	S	..	¼	0·73	0·00	1·483	10	..
Feb.23. 0	29·281	47·5	44·2	3·3	..	..	..	..	...	S	..	½	..	..	..	8	..
2	29·230	47·0	44·5	2·5	..	..	..	..	...	S	..	¼	..	..	..	9½	..
4	29·186	48·2	44·7	3·5	43·0	5·2	..	..	SSE	S	..	¼	..	..	..	5	..

Feb. 20d. 18h. Hourly observations were commenced. (See the Section of Term-Day Observations.)

Feb. 21d. 2h. Examined the perpendicularity of the barometer.

Feb. 21d. 22h. The reading of Crosley's rain-gauge is wrong: most likely it should be 1in·483.

Feb. 22d. 22h. The observer who changed the Anemometer sheet at this time, omitted to clamp the traversing-board, and consequently it did not move: hence no direction of the wind is recorded at 0h and at 2h on Feb. 23d.

GENERAL REMARKS.	Observer.
Overcast: a damp misty air.	J H
,, ,,	J H
,, ,,	G
,, ,,	J H
,, cirro-stratus.	D
,, ,,	
Cirro-stratus in the N., the rest of the sky being quite clear: the clouds broken at about $17^h.\ 40^m$. Clear in the E. horizon: fleecy clouds and scud elsewhere.	D
Overcast: cirro-stratus and scud: gusts of wind: scud passing rapidly from the S.W. at a low elevation.	J H
Overcast: cirro-stratus and scud.	
Cirro-stratus and scud: gusts of wind: the weather heavy and threatening.	J H
Rain commenced falling at $3^h.\ 10^m$, and still continues. wind in gusts.	D
Overcast: cirro-stratus: the rain ceased at $5^h.\ 40^m$.	
Cirro-stratus and scud: the Moon occasionally visible.	
A few scattered fragments of clouds S. of the zenith; the rest of the sky is clear.	D
A few light clouds East of the zenith.	J H
Overcast: cirro-stratus and scud.	
The same.	
Cirro-stratus and scud.	
,, ,,	J H
,, ,,	D
,, ,,	G
The clouds became thinner about $0^h.\ 40^m$, and about 10^m since there was a faint gleam of sunshine: at present scud flowing into loose, white cumuli near the horizon in the S. and S.W.	G
Scud and cirro-stratus: cumulo-stratus in N.W.: gusts of wind.	J H
Scud in every direction.	
Scud: a threatening sky: every appearance of rain: a lunar halo; its diameter is 46°.	
Breaks S. of the zenith: scud and fleecy clouds elsewhere.	J H
Overcast: cirro-stratus and scud.	P
The clouds much broken in the western horizon and near the zenith; the Moon being also visible, with a few stars.	
Overcast; cirro-stratus.	
,, ,,	
,, ,,	P
,, ,,	D
Clear E. of the zenith; cirro-stratus and fleecy cumuli in the rest of the sky.	
Cirro-stratus and scud: breaks about the Sun.	D
Cirrus clouds, with scud, plentifully scattered over the sky, with well-defined cumuli in the horizon to the N.W. and E.: the breaks are extensive and numerous, comprising about one-half of the sky.	P

Feb. 22^d and 23^d. The greatest difference in the mean height of the barometer between any two consecutive civil days during the month took place between these two days, being $0^{in}\cdot364$, as deduced from the two-hourly observations; and the range on the 23rd day was greater than on any other day during the month, being $0^{in}\cdot424$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Feb. 23. 6	29·156	45·4	42·5	2·9	..	..	..	..	SSE	S	..	¼	..	..	..	8	..
8	29·137	43·2	42·1	1·1	..	..	..	..	Calm	S	..	¼	..	..	..	10	..
10	29·095	42·2	41·5	0·7	41·5	0·7	..	..	Calm	Calm	..	..	..	..	..	10	..
12	29·045	42·6	42·3	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
14	29·018	43·6	42·7	0·9	..	..	..	..	SSE	S	..	¼	..	..	..	10	..
16	29·009	44·0	42·9	1·1	43·0	1·0	..	..	S	S	..	¼	..	..	..	10	..
18	28·993	42·8	41·7	1·1	..	..	..	..	S	S	..	¼	..	..	..	10	..
20	29·014	41·2	40·5	0·7	..	..	..	..	S	S by W	..	½	..	..	..	10	..
22	29·042	40·4	39·1	1·3	36·0	4·4	49·7 40·2	61·4 38·8	SSW	SW by W	..	¼	0·76	0·06	1·553	9	..
Feb. 24. 0	29·044	45·8	43·5	2·3	..	..	..	..	S by E	SW by W	..	¼	..	..	..	10	..
2	29·016	45·8	42·8	3·0	..	..	..	..	S	WSW	..	¼	..	..	..	10	Perigee
4	29·001	46·3	44·2	2·1	44·5	1·8	..	..	S by E	S	..	¼	..	..	..	10	..
6	29·011	44·0	42·2	1·8	..	..	..	..	S	S	..	¼	..	..	..	6	..
8	29·044	43·2	41·2	2·0	..	..	..	..	S	Calm	..	..	..	..	..	10	..
10	29·045	38·5	38·0	0·5	38·0	0·5	..	..	Calm	Calm	..	..	..	..	..	2	..
12	29·035	38·6	38·2	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
14	29·014	40·1	39·7	0·4	..	..	..	..	ESE	SE	..	¼	..	..	..	10	..
16	29·001	40·1	40·7	−0·6	40·0	0·1	..	..	SE	Calm	..	..	..	..	..	10	Full
18	29·021	36·8	36·5	0·3	..	..	..	..	SW	WSW	..	¾	..	..	..	10	..
20	29·052	33·6	33·1	0·5	..	..	..	..	WSW	WSW	1 to 2	¾	..	..	..	10	..
22	29·105	38·0	37·5	0·5	38·0	0·0	47·9 33·5	51·8 31·2	WSW	WSW	3 to 4	¾	0·78	0·06	1·315	10	..
Feb. 25. 0	29·156	42·0	38·3	3·7	..	..	..	..	W	W by S	2 to 4	1	..	..	..	9½	..
2	29·180	43·4	39·5	3·9	..	..	..	..	WSW	WSW	1 to 2	¾	..	..	..	9½	..
4	29·199	41·9	37·3	4·6	32·5	9·4	..	..	WSW	WSW	½ to 1	1	..	..	..	6	..
6	29·218	42·1	37·6	4·5	..	..	..	..	W	WSW	0 to 2	½	..	..	..	5	..
8	29·245	35·7	33·8	1·9	..	..	..	..	SW	WSW	..	¼	..	..	..	1	..
10	29·252	34·4	33·1	1·3	32·0	2·4	..	..	SW	SSW	..	¼	..	..	..	0	..
12	29·257	32·6	31·6	1·0	..	..	..	..	SW	Calm	..	..	..	..	..	0	..
14	29·264	31·3	30·8	0·5	..	..	..	..	SW	Calm	..	..	..	..	..	0	Transit
16	29·256	31·3	30·2	1·1	28·5	2·8	..	..	SSW	S	..	¼	..	..	..	0	In Equator
18	29·254	31·7	30·5	1·2	..	..	..	..	SSW	SW by S	..	¾	..	..	..	1	..
20	29·255	35·5	33·6	1·9	..	..	..	..	SSW	SW by S	..	1	..	..	..	9	..
22	29·285	36·5	35·5	1·0	33·0	3·5	44·2 30·8	56·0 21·5	SW	WSW	..	¼	0·78	0·00	1·625	8	..
Feb. 26. 0	29·327	44·4	39·2	5·2	..	..	..	..	WSW	WSW	2 to 3	½	..	..	..	3	..
2	29·349	44·5	39·5	5·0	..	..	..	..	WSW	WSW	1 to 3	½	..	..	..	1	..
4	29·363	44·5	38·7	5·8	32·0	12·5	..	..	WSW	W	1 to 2	¾	..	..	..	⅓	..
6	29·383	41·8	38·0	3·8	..	..	..	..	WSW	SW by W	0 to ½	2	..	..	..	9⅓	..
8	29·434	36·9	36·2	0·7	..	..	..	..	WSW	W	1 to 2	½	..	..	..	10	..
10	29·476	35·0	34·0	1·0	34·0	1·0	..	..	WSW	W	..	¼	..	..	..	0	..
12	29·498	32·5	31·5	1·0	..	..	..	..	SW	Calm	..	..	..	..	..	0	..
14	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	Transit
16	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	—	—	S	...	1 to 2½	..	0·80	0·04	1·625	..	..

Feb. 23d. 18h. This is the lowest reading of the barometer during the month.

Feb. 24d, civil reckoning. The mean height of the barometer was less on this day than on any day during the month, being 29in·023, as deduced from the two-hourly observations.

Feb. 24d. 16h. The reading of the Wet Thermometer is higher than that of the Dry Thermometer.

Feb. 25d at 3h. 40m. There was a pressure of 5lbs. at the Anemometer, and the same pressure continued till 3h. 45m.

Feb. 25d 6h to 8h. The Dry Thermometer fell 6°·4, and the Wet Thermometer fell only 3°·8, so that the air became relatively more charged with moisture.

Feb. 25d. 10h. Hourly observations commenced. (See the Section of Term-Day Observations.)

GENERAL REMARKS.	Observer.
The greatest portion of the sky covered with cirro-stratus and scud: extensive breaks in the S. and S.E., near to the zenith.	P
Overcast: cirro-stratus: rain falling, which commenced shortly after the last observation, and has continued up to this moment.	
,, ,, the clouds much thinner near the Moon: a small halo around the Moon.	P
,, ,, rain has fallen between this and the last observation, and still continues.	D
,, ,,	
,, ,,	
,, ,,	D
Fleecy clouds and vapour.	J H
Scud generally prevalent.	
Overcast: cirro-stratus and scud.	J H
,, ,,	D
The clouds broke at $5^h.\ 25^m$, and have been gradually diminishing up to the present time, the sky, S. and E. of the zenith, being nearly clear: cirro-stratus still continues elsewhere.	
Overcast: cirro-stratus.	
Cirri and thin cirro-stratus in the S. and E. near the horizon; elsewhere clear.	D
Thin cirro-stratus and light scud: a lunar halo of 24° radius.	J H
Overcast: cirro-stratus and scud.	
,, cirro-stratus: rain falling.	
,, ,, the rain has ceased.	
,, ,, snow falling; gusts of wind.	J H
Overcast: cirro-stratus and scud: rain falling slightly: gusts of wind.	D
Cirro-stratus and scud: the clouds lighter in the zenith.	
Cirro-stratus and dark masses of scud all over the sky: clear breaks in different parts, the Sun being occasionally seen through them.	D
Scud and heavy cumuli of an electrical appearance: strong gusts of wind: rain in passing showers.	J H
Large masses of scud, and clouds verging on the cumulo-stratus: gusts of wind.	
Scud, and fleecy clouds near the Moon.	J H
Cloudless.	G
,,	G
,, a splendid moonlight night.	D
,, the night most brilliant.	P
Cirro-stratus and scud S. of the zenith, near the horizon.	J H
Raining: the clouds came up very suddenly.	M
Some clear breaks in the N.W.; elsewhere cloudy.	J H
Loose scud and cumuli are somewhat numerous, but more prevalent, however, in the western horizon: the wind blowing in gusts.	P
A few loose cumuli in different parts of the sky.	D
Light fleecy clouds S. of the zenith.	J H
Squally: a little clear sky in the E.; rain probably coming on.	M
Overcast: cirro-stratus: rain falling.	P
Cloudless.	D
,,	P

Feb. $26^d.\ 3^h$. The difference between the Dry and Wet Thermometers was greater at this observation than at any other during the month. (See the Section of Term-Day Observations.)

Feb. $26^d.\ 4^h$. This is the greatest difference between the Dew Point and the temperature of the air during the month.

Feb. 26^d, civil reckoning. This day had the least relative moisture in the atmosphere of any day in the month, the mean difference of the Dry and Wet Thermometers being $2°{\cdot}4$, as deduced from the two-hourly observations.

Feb. $26^d.\ 22^h$. The observer omitted to read the self-registering thermometers.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Feb. 27. 0	29·313	43·2	39·6	3·6	..	..	..	..	SSW	S	4 to 9	2	..	..	..	10	..
2	..	..	..	..	..	..	..	..	SW	...	1 to 3	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	SW	...	0 to 2	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	SW	...	1 to 2	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	SW	...	0 to ½	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SW	...	1 to 2	..	..	..	..	..	..
14	29·307	41·1	39·0	2·1	..	..	..	..	WSW	SW	2 to 3	½	..	..	..	10	..
16	29·352	38·7	37·2	1·5	35·5	3·2	..	..	WSW	SW	1 to 2½	½	..	..	..	9	Transit
18	29·388	38·6	37·4	1·2	..	..	..	..	WSW	SW	½ to 1½	½	..	..	..	9¾	..
20	29·461	38·0	36·5	1·5	..	..	..	..	WSW	SW	½ to 1½	¼	..	..	..	2	..
22	29·508	41·8	39·7	2·1	36·0	5·8	43·6 36·8	45·7 31·4	WSW	W	1½ to 2½	¼	0·98	0·18	1·725	0	..
Feb. 28. 0	29·544	45·4	42·2	3·2	..	..	..	..	SW	W by S	½ to 1	¼	..	..	..	1	..
2	29·536	47·5	43·2	4·3	..	..	..	..	SW	WSW	½ to 1	¼	..	..	..	10	..
4	29·514	46·9	43·0	3·9	40·0	6·9	..	..	SW	SW	0 to ½	¼	..	..	..	10	..
6	29·477	43·0	41·8	1·2	..	..	..	..	SSW	SW	1 to 1½	¼	..	..	..	10	..
8	29·391	43·0	42·1	0·9	..	..	..	..	SSE	SW	1 to 2	¼+	..	..	..	10	..
10	29·319	47·6	47·0	0·6	46·0	1·6	..	..	SSW	SW	2 to 4½	½+	..	..	..	10	..
12	29·290	49·0	48·0	1·0	..	..	..	..	SSW	SW	2 to 4	1½	1·00	0·04	1·735	10	..
14	29·246	49·2	48·3	0·9	..	..	..	..	SW	SW	3 to 4	1½	..	..	..	10	..
16	29·202	50·2	48·2	2·0	49·0	1·2	..	..	SSW	SW	1½ to 4	1	..	..	..	10	Transit
18	29·164	49·5	48·0	1·5	..	..	..	..	SSW	SSW	2	¾	..	..	..	10	..
20	29·134	49·1	48·1	1·0	..	..	..	..	SSW	SSW	1 to 2½	¼+	..	..	..	10	..
22	29·120	50·3	49·3	1·0	47·5	2·8	51·0 42·4	58·8 36·8	SSW	SW	1 to 2½	¾	1·00	0·00	1·735	10	..
Mar. 1. 0	29·147	45·9	45·9	0·0	..	..	..	..	WNW	WSW	..	¾	..	..	..	10	..
2	29·213	46·3	43·9	2·4	..	..	..	..	W	NW by W	..	¾	..	..	..	10	..
4	29·261	47·4	44·5	2·9	44·5	2·9	..	..	W	W	0 to 1½	½	..	..	..	7	..
6	29·340	45·3	41·6	3·7	..	..	..	..	WSW	WSW	½ to 1	¼	..	..	..	4	..
8	29·408	40·6	38·2	2·4	..	..	..	..	WSW	WSW	1 to 2	½	..	..	..	0	..
10	29·455	39·0	36·5	2·5	34·5	4·5	..	..	WSW	WSW	1+	½	..	..	..	0	..
12	29·519	37·1	36·1	1·0	..	..	..	..	WSW	WSW	1½ to 2½	¾	..	..	..	0	..
14	29·566	36·7	35·3	1·4	..	..	..	..	WSW	WSW	1 to 2	¾	..	..	..	0	..
16	29·612	36·2	35·9	0·3	33·5	2·7	..	..	WSW	WSW	1 to 1½	¾	..	..	..	0	..
18	29·666	35·6	34·3	1·3	..	..	..	..	SW	WSW	0 to ½	¾	..	..	..	0	Transit
20	29·693	38·7	36·6	2·1	..	..	..	..	SW	WSW	1 to 2	¾	..	..	..	8	..
22	29·660	43·3	41·2	2·1	41·5	1·8	52·0 34·4	53·4 27·0	SSW	SW	1 to 2½	¾	1·00	0·00	1·735	10	..
Mar. 2. 0	29·551	44·0	43·5	0·5	..	..	..	..	SW	SSW	5 to 7	1½	..	..	..	10	..
2	29·511	48·0	46·1	1·9	..	..	..	..	SW	SW	8 to 9	2½	..	..	..	10	..
4	29·523	49·3	48·7	0·6	46·5	2·8	..	..	SW	WSW	5 to 6	2½	..	..	..	10	..
6	29·556	49·4	48·7	0·7	..	..	..	..	SW	W by S	4 to 6	2½	..	..	..	10	..
8	29·586	49·0	48·8	0·2	..	..	..	..	WSW	W by S	4 to 5	2½	..	..	..	10	..
10	29·616	49·8	49·0	0·8	46·0	3·8	..	..	WSW	W by S	4 to 5	2½	..	..	..	10	..
12	29·643	49·9	49·3	0·6	..	..	..	..	WSW	WSW	3 to 4	2½	..	..	..	10	..
14	29·663	49·6	49·1	0·5	..	..	..	..	WSW	WSW	3 to 4	1	..	..	..	10	..
16	29·691	50·5	49·5	1·0	48·5	2·0	..	..	WSW	WSW	2 to 3	1½	..	..	..	10	..
18	29·719	50·5	49·5	1·0	..	..	..	..	WSW	WSW	3 to 4½	1	..	..	..	10	Transit

Feb. 27d. 18h to 19h. There was no pressure recorded at the Anemometer.

Feb. 28d. 0h. Examined the perpendicularity of the barometer.

Feb. 28d. 12h. The amount of rain collected during the month of February in rain-gauge No. 4, was 1in·05.

March 1d. 0h. The direction of the wind by estimation and that by the Anemometer do not agree: that by the Anemometer is undoubtedly right.

March 1d. 8h to 18h. There was no cloud; it is the longest period of clear sky of any in the month.

March 1d, civil reckoning. The mean height of the barometer was less on this day than on any other day during the month, being 29in·267, as deduced from the two-hourly observations.

March 2d. 0h. The reading of the Dry Thermometer was 44°·0; that of the Minimum Thermometer, as read at 22h, was 1°·1 higher.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus: a gale of wind.	D
[wind increasing.	
Overcast: cirro-stratus and scud: the clouds very dense, the place of the Moon being barely visible: every appearance of rain: the	P
The clouds broken in the zenith and near the Moon: many stars are also visible: the wind blowing in moderate gusts.	
The clouds are slightly broken in the zenith and round the Moon; with this exception, overcast with cirro-stratus and scud: the wind in gusts.	
Cirrus clouds scattered indiscriminately over the sky, and banks of cloud in the West and South horizons: the wind has much abated; indeed, it is all but calm.	P
Cloudless: a very fine morning.	J H
Light cirri N. of the zenith.	D
Overcast: cirro-stratus.	D
,, cirro-stratus and scud: the wind extremely cold.	P
,, ,, rain falling.	
,, cirro-stratus: a thin rain still falling.	
,, ,, thin rain has continued falling since the last observation: the wind in rather heavy gusts.	P
,, ,, heavy gusts of wind.	D
,, ,, ,,	
,, ,, ,,	
,, ,,	
,, ,, damp air.	D
,, cirro-stratus and scud.	J H
,, cirro-stratus: small rain.	
,, cirro-stratus and scud: rain at intervals.	J H
Fleecy clouds and scud: large breaks N.W. of the zenith.	D
Cumuli and light clouds.	
Cloudless.	
,,	D
,, the stars look dim and watery: a surging wind.	J H
,, gusts of wind.	
,, a surging wind.	
,,	
Thin cirro-stratus and scud.	J H
Overcast: cirro-stratus and scud: gusts of wind.	D
,, ,, ,, rain falling.	
,, slight rain: heavy gusts of wind: at $0^h.\ 40^m$, and for a short time after, the wind blew in gusts to 4.	D
,, ,, strong gusts of wind.	J H
,, rain in squalls: heavy gusts of wind.	
,, heavy rain in squalls, and strong gusts of wind.	
,, rain in squalls.	J H
,, rain falling in thin showers.	P
,, the wind has much subsided, and is blowing in less violent gusts; though, at somewhat distant intervals, it even now	
,, cirro-stratus: the gusts of wind increasing in violence. [increases to about 3.	
,, cirro-stratus and scud: wind still in heavy gusts.	

March $2^d.\ 0^h$. After this time the temperature was generally rising for twenty-eight hours, or till 4^h, on March 3^d.

March $2^d.\ 0^h$ to $0^h.\ 20^m$. The wind blew at the Anemometer with a pressure varying from 7lbs. to 10lbs. on the square foot; from $0^h.\ 20^m$ to $0^h.\ 40^m$ the pressure was constantly 10lbs.; about $0^h.\ 40^m+$ there was a gust to 13lbs., when it immediately lulled to 5lbs., and continued with this pressure till $0^h.\ 45^m$; from $0^h.\ 45^m$ to $1^h.\ 10^m$ the pressure was 8lbs. to 16lbs., the gusts being frequent; from $1^h.\ 10^m$ to $2^h.\ 0^m$ it was 8lbs. to 17lbs.; from 2^h to 4^h the general pressure was 8lbs. with occasional gusts to 11lbs., 12lbs., and 13lbs.: after this the general character of the gale is represented by the regular observations.

March $2^d.\ 14^h$ to March $3^d.\ 6^h$. The estimated strength of the wind between these times appears too small as compared with the pressure recorded by the Anemometer.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Mar. 2. 20	29·757	50·1	49·0	1·1	..	..	..	..	WSW	WSW	2 to 3	1	..	..	..	10	..
22	29·777	52·3	49·7	2·6	47·5	4·8	52·5 45·1	53·4 41·9	SW	WSW	4 to 4½	1	1·12	0·25	2·045	10	..
Mar. 3. 0	29·803	53·8	51·1	2·7	..	..	..	..	WSW	WSW	2 to 4	¾	..	..	..	10	..
2	29·785	53·7	51·2	2·5	..	..	..	..	SW	WSW	3 to 4½	1	..	..	..	10	..
4	29·775	55·2	51·7	3·5	50·5	4·7	..	..	SW	WSW	1 to 2½	¾	..	..	..	10	..
6	29·772	51·8	48·2	3·6	..	..	..	..	SW	WSW	3 to 4	1	..	..	..	7	..
8	29·766	49·5	47·0	2·5	..	..	..	..	SW	WSW	3 to 4½	1½	..	..	..	10	..
10	29·750	48·3	46·2	2·1	46·0	2·3	..	..	SW	WSW	1 to 3	1½	..	..	..	1	..
12	29·746	49·0	47·6	1·4	..	..	..	..	SW	WSW	4 to 6	1½	..	..	..	10	..
14	29·768	46·9	44·8	2·1	..	..	..	..	WSW	WSW	1½ to 2	¾	..	..	..	10	3rd Qr.
16	29·803	43·5	41·3	2·2	41·5	2·0	..	..	WSW	WSW	0 to ½	¼	..	..	..	3	..
18	29·836	41·7	39·6	2·1	..	..	..	..	WSW	WSW	..	¼	..	..	..	9	Transit
20	29·867	41·2	39·6	1·6	..	..	..	..	SW	WSW	..	¼	..	..	..	9	..
22	29·883	43·6	41·1	2·5	38·6	5·0	56·0 40·7	— 36·6	SW	W by N	..	¼	1·12	0·00	..	10	..
Mar. 4. 0	29·900	46·6	43·6	3·0	..	..	..	..	WSW	W by N	..	¼	..	..	..	10	..
2	29·872	47·7	43·4	4·3	..	..	..	..	WSW	Calm	..	..	..	..	..	10	..
4	29·835	47·5	43·2	4·3	42·0	5·5	..	..	WSW	Calm	..	..	..	..	..	10	Greatest declination S.
6	29·826	44·7	42·0	2·7	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
8	29·838	42·1	40·6	1·5	..	..	..	..	SW	Calm	..	..	..	..	..	10	..
10	29·835	41·5	40·5	1·0	40·5	1·0	..	..	SW	Calm	..	..	..	..	..	10	..
12	29·838	40·6	39·6	1·0	..	..	..	..	SW	Calm	..	..	..	..	..	10	..
14	29·830	40·0	39·0	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·838	38·8	38·1	0·7	35·5	3·3	..	..	Calm	Calm	..	..	..	..	..	6	..
18	29·857	35·6	35·2	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	29·892	35·5	35·4	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	Transit
22	29·921	40·7	39·5	1·2	40·5	0·2	49·3 34·8	— 30·7	WSW	Calm	..	..	1·12	0·00	..	0	..
Mar. 5. 0	29·950	46·2	42·6	3·6	..	..	..	..	WSW	W by S	..	¼—	..	..	..	0	..
2	29·950	49·8	44·8	5·0	..	..	..	..	W	WSW	..	¼	..	..	..	5	..
4	29·956	49·1	43·8	5·3	41·0	8·1	..	..	WNW	Calm	..	..	..	..	..	1	..
6	29·941	45·6	41·7	3·9	..	..	..	..	NNW	NNW	..	¼	..	..	..	1	..
8	29·959	41·4	39·7	1·7	..	..	..	..	S	Calm	..	..	..	..	..	2	..
10	29·961	40·4	38·5	1·9	38·0	2·4	..	..	S	Calm	..	..	..	..	..	2	..
12	29·954	38·8	37·8	1·0	..	..	..	..	Calm	S by W	..	¼—	..	..	..	9¾	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
22	..	..	..	..	..	..	51·1 32·1	— 27·2	Calm	...	..	..	1·12	0·00	..	..	..
Mar. 6. 0	29·855	47·5	42·3	5·2	..	..	..	..	SSE	S by E	..	¼	..	..	..	0	..
2	..	..	..	..	..	..	..	..	SE	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	SE	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	SE	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..

March 3d. 1h. 50m. During a gust of wind at this time a pressure of 6lbs. on the square foot is recorded; at 10h. 45m one of 10lbs.; and at 11h. 30m one of 14lbs. took place.

March 3d, civil reckoning. The mean daily temperature was greater on this day than on any other day during the month, being 51°·2, as deduced from the two-hourly observations.

March 3d. 22h. Previously to this time the Solar Radiation Thermometer was sent to Mr. Simms, and Crosley's Rain-gauge was sent to Messrs. Watkins and Hill, for repair.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus: rain falling: the wind not so strong.	P
,, ,,	D
,, ,,	
,, ,,	D
,, cirro-stratus and scud: prior to the observation many extensive breaks were visible in every part of the sky: the Sun shining at intervals.	P
Extensive breaks in every part of the sky: at intervals the heavens are almost free from clouds: the wind increasing, and scud flying with great rapidity from the W. S.W.	
Overcast: cirro-stratus and scud: the wind still increasing. [away about an hour since.	
Every part of the sky is clear but the horizon in the W. S.W., from which quarter clouds are coming up: the cirro-stratus cleared	P
Overcast: cirro-stratus: strong gusts of wind.	D
,, ,,	
A thin cirro-stratus N. of the zenith; the rest of the sky clear: the wind has abated.	
The stars shining in the zenith; every other part of the sky cloudy.	
Cirro-stratus and scud.	D
,, ,,	J H
Cirro-stratus and undefined clouds.	
Overcast: cirro-stratus and scud: calm and gusts of wind alternately.	J H
,, cirro-stratus.	D
,, ,,	
,, ,,	
,, ,, a damp air: a slight misty rain.	D
,, ,, ,, ,,	J H
,, ,,	
Cirro-stratus: at $16^h.\ 20^m$ the sky was nearly cloudless.	
Cloudless.	
,,	J H
,, a very fine morning.	D
,, somewhat hazy in the western horizon.	P
Scud of a light character, scattered plentifully over every part of the sky, with cumulo-stratus in the N. N.W.	P
Light cumuli in various directions: a very fine day.	J H
Haze and light clouds in the neighbourhood of the Sun.	
Haze and vapour in the N.	
Haze and vapour.	J H
A few stars only are visible in the north-western horizon, with Sirius in S. S.W.; the rest of the sky being totally overcast.	P
The morning remarkably fine: cloudless.	P

March $4^d.\ 4^h$ and 16^h. The temperatures of the Dew Point appear strange, as compared with the difference of the Dry and Wet Thermometers; that at the former time appears too high, and that at the latter too low; they are used in the Abstracts as above.

March $5^d.\ 6^h.\ 20^m$. The wind suddenly changed from N. N.W. to S. S.W.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Mar. 6. 12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	29·688	34·0	33·7	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·661	31·4	31·5	−0·1	33·5	−2·1	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·641	34·9	34·5	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	29·628	38·9	37·9	1·0	..	..	..	..	SE	Calm	..	..	..	..	..	9½	..
22	29·633	43·1	41·6	1·5	41·5	1·6	50·4 31·7	— 25·3	SE	S	..	¼	1·12	0·00	..	10	Transit
Mar. 7. 0	29·608	47·0	45·4	1·6	..	..	..	..	S	S	0 to ½	¼	..	..	..	10	..
2	29·555	50·1	46·5	3·6	..	..	..	..	S	S by W	0 to ½	¼	..	..	..	8	..
4	29·517	50·0	46·3	3·7	43·0	7·0	..	..	S	S by E	0 to 2	½	..	..	..	8½	..
6	29·484	46·2	45·0	1·2	..	..	..	..	S	S by E	1 to 1½	¼+	..	..	..	10	..
8	29·465	46·2	45·5	0·7	..	..	..	..	S	S by E	½ to 1	¼	..	..	..	10	..
10	29·434	47·0	46·0	1·0	45·0	2·0	..	..	S	S by E	0 to ½	½	..	..	..	10	..
12	29·410	48·5	47·2	1·3	..	..	..	..	S	S	½ to 1	½	..	..	..	8	..
14	29·390	48·4	48·0	0·4	..	..	..	..	S	S	0 to ½	½	..	..	..	10	..
16	29·369	48·0	47·6	0·4	48·0	0·0	..	..	SSW	S	..	¼	..	..	..	10	..
18	29·375	48·2	47·5	0·7	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
20	29·386	47·4	46·7	0·7	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
22	29·400	51·4	49·3	2·1	48·0	3·4	52·0 44·0	— 42·6	SSW	SSW	..	¼	1·12	0·01	..	8½	Transit
Mar. 8. 0	29·422	51·7	47·2	4·5	..	..	..	..	...	WSW	..	¼	..	..	..	9	..
2	29·412	52·7	46·5	6·2	..	..	..	..	...	WSW	..	¼	..	..	..	6	..
4	29·380	51·8	46·4	5·4	42·5	9·3	..	..	SW	SW	..	¼	..	..	..	3	..
6	29·367	49·7	45·4	4·3	..	..	..	..	SW	SW	..	¼	..	..	..	9	..
8	29·356	46·6	45·0	1·6	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
10	29·331	45·2	44·0	1·2	44·0	1·2	..	..	SSW	SSW	..	¼	..	..	..	7	..
12	29·335	42·0	41·5	0·5	..	..	..	..	SW	SSW	..	¼	..	..	..	10	..
14	29·365	41·6	40·8	0·8	..	..	..	..	WSW	SW	0 to ½	½	..	..	..	10	..
16	29·395	40·1	39·1	1·0	37·5	2·6	..	..	WSW	SW	1 to 1½	¾	..	..	..	9½	..
18	29·444	36·7	38·8	−2·1	..	..	..	..	WSW	WSW	0 to 1	½	..	..	..	0	..
20	29·492	36·6	35·6	1·0	..	..	..	..	WSW	WSW	½ to 1	¾	..	..	..	¼	..
22	29·535	42·4	39·5	2·9	36·5	5·9	56·1 35·5	— 31·2	WSW	WSW	2 to 3	¼+	1·18	0·07	..	7	Transit
Mar. 9. 0	29·539	41·2	40·0	1·2	..	..	..	..	SW	SW	4 to 8	1	..	..	..	10	Apogee
2	29·536	46·8	43·5	3·3	..	..	..	..	SW	SW	1 to 2	¾	..	..	..	4	..
4	29·529	42·8	42·0	0·8	41·5	1·3	..	..	SW	SW by W	0 to 1½	¾	..	..	..	8½	..
6	29·480	42·5	41·1	1·4	..	..	..	..	SSW	WSW	0 to 1	¾	..	..	..	10	..
8	29·353	40·3	39·6	0·7	..	..	..	..	SSE	WSW	..	¾	..	..	..	10	..
10	29·151	40·0	39·2	0·8	39·5	0·5	..	..	SSE	WSW	3 to 5	2	..	..	..	10	..
12	28·795	39·2	38·6	0·6	..	..	..	..	SSE	WSW	6 to10	4	..	..	..	10	..
14	28·587	42·6	41·7	0·9	..	..	..	..	SW	WSW	5 to 6	3	..	..	..	10	..
16	28·664	39·6	38·7	0·9	37·0	2·6	..	..	WSW	WSW	6 to10	3	..	..	..	10	..
18	29·026	39·0	37·0	2·0	..	..	..	..	WNW	WSW	10 to13	3	..	..	..	10	..
20	29·221	39·0	36·6	2·4	..	..	..	..	WNW	WNW	5 to 8	3	..	..	..	10	..
22	29·445	41·0	36·6	4·4	35·0	6·0	46·8 38·5	— 36·0	WNW	WNW	4 to 6	2	1·58	0·45	..	10	..

March 6d. 16h. The reading of the Dry Thermometer is 0°·3 lower than the minimum temperature, as given by the Minimum Thermometer.

March 6d. 16h. The Wet Thermometer reads higher than the Dry Thermometer; and the temperature of the Dew Point is also higher than the reading of the Dry Thermometer.

March 7d. 0h. Examined the perpendicularity of the barometer.

March 7d. civil reckoning. The range of the thermometer was greater on this day than on any other day during the month, being 18°·7.

March 8d. 0h and 2h. The links of the chain of the clock of the Anemometer were off the spikes of the clock-barrel: hence no directions of the wind are registered at these times.

March 8d. 10h. 15m. The wind changed from S. S.W. to W. by S., then gradually changed to S.W. at 12h.

March 8d. 18h. There is something wrong in the readings of the Dry and Wet Thermometers; probably the readings should be transposed; but even then 2°·1 appears too great for the difference between them: in the Abstracts they are used as above.

GENERAL REMARKS.	Observer.
Cloudless: somewhat hazy, however, in the horizon.	P
The stars are looking faint and distorted: hazy: the air very moist: the dew is hanging thickly on every thing.	
Cloudless: since the last observation, indeed almost immediately after, the heavens were totally overcast: still hazy and damp.	
A few breaks and patches of blue sky in the western horizon: the rest of the sky is covered with cirro-stratus.	P
Overcast: cirro-stratus.	D
,, ,,	
Fleecy clouds and scud.	D
Many small breaks in every part of the sky; the rest of the sky is covered with cirro-stratus and scud.	P
Overcast; cirro-stratus and scud: a thin rain falling.	
,, ,, [with a surprising brightness.	
It is now totally overcast; but, not more than ten minutes since, the sky was entirely free from clouds, and the stars were shining	P
Cirro-stratus and vapour: a few stars shining faintly W. of the zenith.	D
Overcast: cirro-stratus: a slight misty rain.	
,, ,,	
,, ,, a misty rain.	
,, ,,	D
Breaks E. and S.E. of the zenith, near the horizon: scud and cirro-stratus elsewhere.	J H
Scud and cirro-stratus: light cirri visible in a break near the W. horizon.	
Light fleecy clouds generally prevalent: scud S. of the zenith.	J H
Cirri in all directions.	D
Cirro-stratus and scud.	
Overcast: cirro-stratus.	
The stars are shining in the zenith; the rest of the sky is covered with cirro-stratus.	D
Overcast: a thin misty rain.	J H
,, ,, gusts of wind.	
Scud and cirro-stratus: gusts of wind.	
Cloudless.	
A few light clouds in the neighbourhood of the Sun.	J H
Light scud scattered over every part of the sky: breaks also are numerous, but predominating to windward: the wind blowing in moderate gusts.	P
Overcast: cirro-stratus: rain falling, and the wind blowing in gusts.	D
Heavy cumulo-strati in the N.: large white cumuli scattered about the remaining portion of the sky.	D
Scud and cirro-stratus: heavy showers of hail and rain at times since the last observation.	J H
Overcast: cirro-stratus and scud: gusts of wind: a heavy threatening sky.	
,, ,, a misty rain.	
Overcast: heavy squalls of rain and violent gusts of wind: the barometer falling rapidly: the wind in heavy gusts to 3: the electrometer was watched; no effect.	J H
Rain pouring down in torrents, and the wind blowing almost a hurricane: the barometer falling rapidly, its reading is $0^{in}\cdot356$ less than at 10^h.	P
Overcast: rain still falling, though not with such violence: the wind is still very powerful: the barometer still rapidly falling: its reading is $0^{in}\cdot208$ less than at 12^h; at $13^h.23^m$ its reading was $28^{in}\cdot657$; at $13^h.35^m$ it was $28^{in}\cdot617$; at $13^h.50^m$ it was $28^{in}\cdot601$.	
Overcast: a few drops of rain only are falling: the wind is still very powerful, and gusts of the greatest violence are of frequent occurrence: after 14^h the barometer was watched, but it did not go lower than it was at 14^h.	
Overcast: cirro-stratus and scud: the barometer is $0^{in}\cdot362$ higher than it was at 16^h.	
,, ,, the storm still raging: the barometer still rising quickly.	P
,, ,, ,,	D

March 9^d, after 6^h. The barometer began to fall rapidly, and extra observations were taken: at 14^h the reading was $0^{in}\cdot949$ lower than it was twelve hours previously.

March $9^d.6^h.50^m$ to $8^h.50^m$. There was no pressure of wind recorded by the Anemometer: at 9^h the wind again began blowing with a pressure of 2lbs., then to 4lbs. by $9^h.20^m$, and with about this pressure till 10^h; at 12^h and 14^h the pressures represent the gale; at $14^h.9^m$ there was a sudden gust of 14lbs., and at 10^m a gust of 21lbs.; then at 20^m a gust of 13lbs.; at 40^m a gust of 13lbs., and then a pressure varying from 5lbs. to 7lbs. till $15^h.40^m$; at $15^h.40^m$ the pressure increased to 10lbs.: after this the gale is sufficiently described by the regular observations.

March 8^d and 9^d. The greatest difference between the mean temperature of one civil day and the next during the month took place between these two days, being $7^\circ\cdot7$, as deduced from the two-hourly observations.

March $9^d.14^h$. This is the lowest barometrical reading during the month.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Mar. 10. 0	29·568	43·0	37·2	5·8	..	..	..	..	NW	NW	4 to 8	1½	..	..	..	7	Transit
2	29·641	45·5	38·6	6·9	..	..	..	..	NW	WNW	3 to 4	2	..	..	..	3	..
4	29·728	45·9	39·1	6·8	37·0	8·9	..	..	NW	WNW	1 to 3	2	..	..	..	2	..
6	29·800	42·1	37·3	4·8	..	..	..	..	WNW	WNW	0 to 1	1	..	..	..	1	..
8	29·864	40·2	36·0	4·2	..	..	..	..	WNW	WNW	..	¼—	..	..	..	0	..
10	29·910	37·7	34·8	2·9	33·5	4·2	..	..	W	WNW	..	¼—	..	..	..	0	..
12	29·963	35·0	33·3	1·7	..	..	..	..	SW	Calm	..	..	..	..	..	1	..
14	29·977	35·6	34·6	1·0	..	..	..	..	SW	Calm	..	..	..	..	..	8	..
16	29·969	38·0	36·2	1·8	36·0	2·0	..	..	SW	Calm	..	..	..	..	..	10	..
18	29·980	39·2	37·5	1·7	..	..	..	..	S	Calm	..	..	..	..	..	10	..
20	29·956	41·7	39·6	2·1	..	..	..	..	S	Calm	..	..	..	..	..	10	..
22	29·919	45·0	43·3	1·7	40·5	4·5	47·1 34·6	— 26·4	S	S	..	¼	1·58	0·00	..	10	..
Mar. 11. 0	29·886	46·7	45·5	1·2	..	..	..	..	S	SSW	2 to 2½	¾	..	..	..	10	Transit
2	29·831	51·1	49·4	1·7	..	..	..	..	S	SSW	½ to 2	¾	..	..	..	9	..
4	29·775	51·4	50·2	1·2	50·0	1·4	..	..	SSW	SSW	0 to 1½	½	..	..	..	10	..
6	29·745	51·2	49·8	1·4	..	..	..	..	SW	SSW	3	½	..	..	..	10	..
8	29·733	50·5	49·4	1·1	..	..	..	..	SW	SSW	2 to 3	¾+	..	..	..	10	..
10	29·739	50·6	49·7	0·9	48·5	2·1	..	..	SW	SSW	2 to 2½	½	..	..	..	10	..
12	29·773	50·1	49·4	0·7	..	..	..	..	WSW	Calm	..	..	..	..	..	10	..
14	29·848	46·0	42·4	3·6	..	..	..	..	NW	Calm	..	..	..	..	..	4	..
16	29·888	39·3	37·5	1·8	37·0	2·3	..	..	W	Calm	..	..	..	..	..	0	..
18	29·912	38·4	37·0	1·4	..	..	..	..	Calm	Calm	..	..	..	..	..	¼	In Equator
20	29·940	37·8	36·8	1·0	..	..	..	..	WSW	WSW	..	¼	..	..	..	6	New
22	29·969	43·3	40·7	2·6	40·5	2·8	52·3 36·3	— 32·2	WSW	WSW	..	¼	1·58	0·00	..	7	..
Mar. 12. 0	29·976	50·0	45·5	4·5	..	..	..	..	WSW	WSW	..	¼	..	..	..	6	Transit
2	29·951	54·1	48·6	5·5	..	..	..	..	SW	SW	..	¼	..	..	..	7	..
4	29·920	55·3	49·1	6·2	43·5	11·8	..	..	SSW	SW	..	¼	..	..	..	3	..
6	29·898	49·0	45·5	3·5	..	..	..	..	SSW	WSW	1 to 2	¼	..	..	..	3	..
8	29·907	42·5	40·4	2·1	..	..	..	..	SW	WSW	1 to 2	¾	..	..	..	3	..
10	29·871	41·6	39·3	2·3	38·5	3·1	..	..	SSW	WSW	..	¼	..	..	..	¼	..
12	29·837	40·5	39·2	1·3	..	..	..	..	SSW	WSW	..	¼	..	..	..	0	..
14	..	..	..	..	..	..	..	..	SSW	...	1 to 2	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SSW	...	3 to 4	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SW	...	1½ to 2	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	NW	...	1 to 2	..	..	..	..	..	..
22	..	..	..	..	..	..	56·5 40·6	— 33·8	NW	...	0 to 1	..	1·58	0·00	..	..	..
Mar. 13. 0	29·888	46·5	41·3	5·2	..	..	..	..	W	W	..	½	..	..	..	9	..
2	..	..	..	..	..	..	..	..	W	...	0 to 1	..	..	..	..	..	Transit
4	29·965	49·9	43·0	6·9	..	..	..	..	NW	NW	..	¼	..	..	..	9½	..
6	..	..	..	..	..	..	..	..	WNW	...	..	..	..	..	..	..	..
8	30·022	45·1	41·4	3·7	..	..	..	..	WNW	Calm	..	..	..	..	..	9	..
10	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
14	30·071	41·3	39·3	2·0	..	..	..	..	SW	Calm	..	..	..	..	..	10	..
16	30·067	40·8	38·7	2·1	37·5	3·3	..	..	SSW	Calm	..	..	..	..	..	10	..
18	30·081	41·6	38·8	2·8	..	..	..	..	S	Calm	..	..	..	..	..	10	..

March 10d, civil reckoning. This day had the least relative moisture in the atmosphere of any day in the month, the mean difference of the Dry and Wet Thermometers being 3°·7, as deduced from the two-hourly observations.

March 10d. 14h. The reading of the barometer is 1in·390 higher than it was twenty-four hours previously: the range of the barometer on the 10th day, civil reckoning, was greater than on any other day in the year, being 1in·376.

March 11d. 20h and 22h. Between these times the Dry Thermometer rose 5°·5.

GENERAL REMARKS.	Observer.
Cumulo-stratus and scud: heavy gusts of wind.	D
Cumuli and cumulo-strati are scattered about the sky.	D
Cumuli and loose scud are momentarily passing over, though not in very great quantities.	P
Clouds of an indescribable character in the N. N.W. horizon, and a few patches of scud are floating from the W. N.W.: the wind has greatly subsided.	
Cloudless: the evening remarkably fine, and the horizon seemingly free from haze.	
Cloudless; haze, however, in the horizon.	P
A few cirro-strati in the W. horizon: every other part of the sky is clear.	D
Cirro-stratus in all parts.	
Overcast: cirro-stratus.	
,, ,,	
,, ,, a very thin misty rain falling.	D
Cirro-stratus and scud.	J H
,, ,, gusts of wind: at $0^h.\ 1^m.\ 30^s$ a very heavy gust: at $22^h.\ 40^m$ small rain began falling and ceased at $23^h.\ 20^m$.	
,, ,, wind in gusts.	J H
Overcast: cirro-stratus: at $2^h.\ 10^m$ the clouds were much broken.	D
,, ,,	D
,, ,, small rain: strong gusts of wind.	J H
,, ,, a thin misty rain falling.	P
,, ,, ,, the air close.	J H
Cirro-stratus and scud S. of the zenith.	
Cloudless.	
Nearly cloudless.	
Scud and light fleecy clouds.	J H
Light cirrus clouds, verging upon cirro-strati, scattered indiscriminately over every part of the sky: breaks plentiful.	P
Cirri in all directions.	D
The sky mostly covered with cirrus clouds.	D
Light clouds generally prevalent.	J H
Light fleecy clouds and cirri.	
Dark scud and undefined clouds N.W. of the zenith.	
Hazy, with a few small clouds in the W. horizon.	J H
Cloudless.	P
A thin cirro-stratus and vapour: the Sun is shining, but very faintly.	D
Thin cirro-stratus; fleecy clouds and scud.	J H
Scud and vapour, with clouds of no particular modification.	J H
Overcast: cirro-stratus: rain fell about $12^h.\ 40^m$, but it has now ceased; prior to this the evening was tolerably fine.	P
,, ,,	
,, ,,	

March 10^d and 11^d. The greatest difference in the mean height of the barometer between any two consecutive civil days during the month took place between these two days, being $0^{in}\cdot406$, as deduced from the two-hourly observations.

March $12^d.\ 4^h$. This is the greatest observed difference between the Dew Point and the temperature of the air during the month.

March $12^d.\ 6^h$. The reading of the Dry Thermometer was $6^\circ\cdot3$ less than it was at the previous observation.

March $12^d.\ 12^h$. The reading of the Dry Thermometer was $0^\circ\cdot1$ lower than the minimum temperature, as given by the Minimum Thermometer at 22^h.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Mar. 13. 20	30·113	42·3	39·6	2·7	..	..	..	..	S	Calm	..	..	..	..	..	10	..
22	30·152	44·3	43·4	0·9	44·0	0·3	52·1 / 40·5	— / 34·0	S	Calm	..	..	1·62	0·04	..	10	..
Mar. 14. 0	30·167	46·8	45·0	1·8	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
2	30·167	49·4	48·0	1·4	..	..	..	..	SSW	SW	..	¼	..	..	..	10	Transit
4	30·173	50·0	46·7	3·3	43·5	6·5	..	..	SSW	Calm	..	..	..	..	..	10	..
6	30·189	47·5	47·2	0·3	..	..	..	..	S	SW	..	¼—	..	..	..	10	..
8	30·212	45·8	45·7	0·1	..	..	..	..	S	SW	..	¼	..	..	..	10	..
10	30·223	45·3	45·3	0·0	44·0	1·3	..	..	SSW	SW	..	¼—	..	..	..	10	..
12	30·235	45·9	44·8	1·1	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
14	30·228	46·2	45·7	0·5	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
16	30·219	46·3	45·7	0·6	46·0	0·3	..	..	SSW	Calm	..	..	..	..	..	10	..
18	30·229	46·3	45·8	0·5	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
20	30·257	47·2	47·0	0·2	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
22	30·269	48·8	48·5	0·3	45·6	3·2	51·1 / 45·2	— / 44·7	S	Calm	..	..	1·62	0·00	..	10	..
Mar. 15. 0	30·269	51·5	50·7	0·8	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
2	30·256	52·7	51·2	1·5	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
4	30·252	52·3	51·3	1·0	52·0	0·3	..	..	WSW	SW	..	¼	..	..	..	10	Transit
6	30·247	52·8	51·6	1·2	..	..	..	..	SW	Calm	..	..	..	..	..	10	..
8	30·262	50·5	49·2	1·3	..	..	..	..	W	Calm	..	..	..	..	..	10	..
10	30·272	49·8	48·8	1·0	48·5	1·3	..	..	Calm	Calm	..	..	..	..	..	10	..
12	30·266	49·2	48·5	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·252	49·2	48·0	1·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·231	48·7	47·7	1·0	46·0	2·7	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·214	47·9	47·0	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·222	49·0	48·0	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·219	50·4	49·0	1·4	48·0	2·4	54·1 / 48·5	58·2 / 47·2	Calm	Calm	..	..	1·62	0·00	2·845	10	..
Mar. 16. 0	30·205	50·2	49·0	1·2	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
2	30·169	51·0	49·3	1·7	..	..	..	..	SW	Calm	..	..	..	..	..	10	..
4	30·136	50·1	48·8	1·3	47·5	2·6	..	..	SSW	Calm	..	..	..	..	..	10	Transit
6	30·099	49·9	48·2	1·7	..	..	..	..	SW	Calm	..	..	..	..	..	10	..
8	30·075	48·8	47·6	1·2	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
10	30·066	47·5	46·5	1·0	46·0	1·5	..	..	SW	Calm	..	..	..	..	..	10	..
12	30·031	46·3	45·5	0·8	..	..	..	..	SW	SW	..	¼	..	..	..	6	..
14	30·027	45·7	45·1	0·6	..	..	..	..	WSW	SW	..	¼	..	..	..	10	..
16	29·990	45·2	44·3	0·9	44·0	1·2	..	..	SW	SW	..	¼	..	..	..	10	..
18	30·003	45·5	44·8	0·7	..	..	..	..	WSW	WSW	..	¼—	..	..	..	10	..
20	30·037	46·4	45·5	0·9	..	..	..	..	WSW	W	..	¼—	..	..	..	9	..
22	30·048	48·5	45·4	3·1	45·5	3·0	52·3 / 45·2	54·6 / 38·8	WNW	WNW	..	¼	1·62	0·00	2·845	10	..
Mar. 17. 0	30·025	52·0	48·1	3·9	..	..	..	..	WSW	WSW	..	¼	..	..	..	7	..
2	29·985	55·5	50·2	5·3	..	..	..	..	SW	WSW	..	¼	..	..	..	7	..
4	29·932	51·7	48·0	3·7	46·5	5·2	..	..	SSW	SW	0 to ½	¼	..	..	..	8	Transit
6	29·878	48·0	45·4	2·6	..	..	..	..	SSW	SW	0 to ½	¼	..	..	..	10	..
8	29·800	46·3	45·3	1·0	..	..	..	..	SSW	SW	½ to 3	¼+	..	..	..	10	..
10	29·705	46·8	46·0	0·8	45·8	1·0	..	..	SSW	SSW	1 to 2½	1	..	..	..	10	..
12	29·620	48·1	47·2	0·9	..	..	..	..	SW	SW	3 to 4½	1	..	..	..	10	..

March 14d. 0h. Examined the perpendicularity of the barometer.

March 15d. 10h. This is the highest barometrical reading during the month.

March 15d, civil reckoning. The mean height of the barometer was greater on this day than on any other day during the month, being 30in·252, as deduced from the two-hourly observations; and its range was less on this and on the 24th day than on any other day in the month, being 0in·053 on both days.

March 15d, civil reckoning. This day had the greatest relative moisture in the atmosphere of any day in the month, the mean difference of the Dry and Wet Thermometers being 0°·8, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus: a thin misty rain has this minute begun falling.	P
,, ,, a thin rain.	D
,, ,,	
,, ,,	D
,, ,,	P
Overcast: cirro-stratus and scud.	
,, ,,	
,, ,,	P
,, ,,	D
,, ,,	
,, ,,	
,, ,,	
,, ,, a thin misty rain falling.	D
,, ,, a thin misty rain.	J H
,, ,, the rain has ceased.	
Overcast: cirro-stratus and scud: the clouds lighter in the N.E. horizon.	J H
,, cirro-stratus: a thin misty rain.	D
,, ,,	
,, ,,	
,, ,,	D
,, ,,	J H
,, ,, the air close.	
,, ,,	
,, ,,	
,, ,,	J H
,, ,,	D
,, ,,	
,, ,,	D
,, ,,	J H
,, ,,	
,, ,, the air close.	
,, ,, a faint light, very probably auroral, in the N.N.W. horizon: at $10^h.40^m$ a fine aurora visible.	J H
Stars visible in every part of the sky, but more numerous in the S. and S.W.: clouds in the horizon: there is a strong light about 15° or 20° above the horizon in the N., probably arising from the light of the Moon, now setting.	P
Overcast: cirro-stratus.	
,, ,,	
,, ,,	
Partial breaks in every part of the sky.	P
Overcast: cirro-stratus.	D
Fleecy clouds and cirro-stratus.	
Cumuli and haze: cirro-stratus in the horizon all round.	D
Cirro-stratus and scud are prevalent; a few somewhat extensive breaks East of the meridian, about 15° or 20° from the zenith.	P
Overcast: cirro-stratus and scud. [since.	
,, cirro-stratus: heavy drops of rain falling, and the wind increasing in power: rain fell, for a short time, about an hour	
,, cirro-stratus and scud: rain falling, and the wind still increasing in violence.	P
,, cirro-stratus: a misty rain: gusts of wind.	D

March $15^d.\ 18^h$. The Dry Thermometer was $0°\cdot6$ lower at this observation than the minimum temperature, as given by the Minimum Thermometer.

March $15^d.\ 22^h$. Crosley's gauge was returned: during the time that it has been away $0^{in}\cdot80$ of rain has fallen in gauge No. 4: the reading, $2^{in}\cdot845$, for Crosley's gauge, is obtained by adding $0^{in}\cdot80$ to the reading at March $2^d.\ 22^h$.

March $16^d.\ 12^h$. This is the first break in the clouds since $13^d.\ 14^h$—: it is the longest period without clear sky of any in the month.

March 16^d, civil reckoning. The range of the thermometer was less on this day than on any other day during the month, being $4°\cdot7$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0 – 10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Mar.17. 14	29·595	49·2	48·0	1·2	..	..	..	..	SW	SW	2 to 3½	1	..	..	..	2	..
16	29·571	47·3	44·5	2·8	44·0	3·3	..	..	SW	SW	3 to 7	1	..	..	..	0	..
18	29·593	44·3	42·6	1·7	..	..	..	..	SW	SW	2 to 2½	¾	..	..	..	8	..
20	29·636	44·3	40·3	4·0	..	..	..	..	WSW	WSW	½ to 2	¼	..	..	..	6	..
22	29·648	46·4	42·1	4·3	39·0	7·4	56·5 44·3	69·5 39·8	SW	W by S	2 to 3	¾	1·64	0·03	2·895	3	..
Mar.18. 0	29·650	46·4	42·0	4·4	..	..	..	..	WSW	WSW	4 steady	1½	..	..	..	10	..
2	29·602	50·0	44·2	5·8	..	..	..	..	WSW	WSW	4½ to 5	1½	..	..	..	10	..
4	29·572	48·4	44·0	4·4	44·5	3·9	..	..	WSW	WSW	3 to 4	¾	..	..	..	9	..
6	29·536	46·0	42·2	3·8	..	..	..	..	WSW	WSW	1 to 5	½	..	..	..	10	Transit
8	29·520	43·6	40·8	2·8	..	..	..	..	WSW	WSW	1½ to 2	¾	..	..	..	7	..
10	29·516	43·6	40·6	3·0	41·0	2·6	..	..	W	WSW	3 steady	1+	..	..	..	10	..
12	29·529	40·4	37·5	2·9	..	..	..	..	WSW	WSW	½ to 1	¾	..	..	..	4	..
14	29·522	38·3	35·4	2·9	..	..	..	..	WSW	WSW	0 to ½	½	..	..	..	3	..
16	29·499	37·5	34·5	3·0	31·0	6·5	..	..	WSW	WSW	1 to 2	¾	..	..	..	2	..
18	29·479	36·8	34·0	2·8	..	..	..	..	WSW	WSW	1 to 2	¾	..	..	..	½	..
20	29·459	38·0	34·8	3·2	..	..	..	..	WSW	WSW	3 to 4	¾	..	..	..	0	..
22	29·422	43·2	37·9	5·3	34·0	9·2	50·8 (43·1)	65·5 35·7	WSW	WSW	3 to 5	¾	1·64	0·00	2·895	3	Greatest declination N.
Mar.19. 0	29·399	44·7	37·6	7·1	..	..	..	..	W	W by S	4 to 6	2	..	..	..	7	..
2	29·336	44·5	38·6	5·9	..	..	..	..	W	W	3 to 5	1½	..	..	..	9	..
4	29·292	43·3	39·1	4·2	36·5	6·8	..	..	W	WNW	4 to 6	1½	..	..	..	9	..
6	29·281	43·6	39·1	4·5	..	..	..	..	WSW	WNW	2 to 3	1½	..	..	..	9	Transit
8	29·265	41·2	37·9	3·3	..	..	..	..	WSW	WNW	3 to 5	1½	..	..	..	9½	..
10	29·212	41·5	38·0	3·5	35·5	6·0	..	..	WSW	WNW	3½ to 5	1½	..	..	..	8	..
12	29·170	42·0	38·6	3·4	..	..	..	..	WSW	WNW	3 to 4	1½	..	..	..	10	1st Qr.
14	..	..	..	..	..	..	..	..	WSW	...	1 to 2	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	WSW	...	0 to ½	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	WSW	...	0 to 1½	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	WNW	...	1 to 2½	..	..	..	..	..	..
22	..	..	..	..	..	..	44·9 37·2	61·0 35·6	NNW	...	2 to 3	..	1·67	0·07	2·990	10	..
Mar.20. 0	29·254	38·7	38·3	0·4	..	..	..	..	N	N by W	1 steady	1	..	..	..	10	..
2	..	..	..	..	..	..	..	..	N	...	2 to 4	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	NNW	...	½ to 1	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
8	29·461	39·1	38·0	1·1	..	..	..	..	NNW	NNW	..	¾	..	..	..	8	Transit
10	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	NNW	...	2 to 2½	..	..	..	..	..	..
14	29·583	40·0	37·1	2·9	..	..	..	..	N	N by W	1 to 3	½+	..	..	..	10	..
16	29·617	38·8	36·7	2·1	36·5	2·3	..	..	N	N by W	½ to 1	½	..	..	..	10	..
18	29·657	38·2	36·3	1·9	..	..	..	..	N	N by W	1 to 2	½+	..	..	..	10	..
20	29·707	39·2	36·7	2·5	..	..	..	..	N	N by W	4 to 4½	½	..	..	..	6	..
22	29·770	38·8	38·6	0·2	38·5	0·3	46·6 37·6	55·6 33·8	N	N	3 to 4	¾	1·70	0·08	3·115	10	..
Mar.21. 0	29·824	42·5	40·7	1·8	..	..	..	..	N	N by W	3 to 4	½	..	..	..	3	..
2	29·857	46·5	43·2	3·3	..	..	..	..	N	N	2 to 3	½	..	..	..	8	..
4	29·898	41·7	40·0	1·7	37·0	4·7	..	..	NNE	N by E	3 to 3½	½	..	..	..	5	..
6	29·961	41·2	38·8	2·4	..	..	..	..	NNE	N	1 to 2	¼+	..	..	..	2	..

March 18d. 20h and 22h. The reading of the Dry Thermometer was 5°·2 higher at the latter of these times than it was at the former.

March 18d. 22h. The reading for the minimum temperature is evidently that of the air at the time of observation, which the observer has inadvertently taken instead of the position of the index: the minimum temperature used in the Abstracts is 36°·8, being the temperature at 18h.

March 18d. 22h. 40m. There was a gust of wind of 11lbs. pressure on the square foot, and at 22h. 45m a gust of 8lbs., and then a pressure varying from 4lbs to 6lbs. till 19d. 0h. 30m; from 0h. 30m to 0h. 40m the pressure was constantly 3lbs.; at 0h. 40m it immediately increased to 9lbs. and continued between 8lbs. and 9lbs. till 1h. 10m; a gradual decrease then took place till 1h. 45m, when the pressure was 3lbs.; from 1h. 45m to 2h. 15m the pressure varied from 3lbs. to 5lbs.; from 2h. 15m to 2h. 30m it varied between 3lbs. and 8lbs.;

GENERAL REMARKS.	Observer.
A thin vapour N. of the zenith; every other part of the sky is quite clear: gusts of wind.	D
Cloudless.	
Cirro-stratus and scud.	
Cirro-stratus of a fleecy character S.E. of the zenith: cirri, and small fragments of loose scud in the remaining part of the sky.	D
Light cirrus clouds and vapour: the wind in gusts.	J H
Cirro-stratus and scud: strong gusts of wind, and a heavy, stormy sky: at $0^h.\ 5^m$ a squall of rain.	
,, ,,	J H
,, ,,	D
Overcast: cirro-stratus.	
The sky about the zenith is mostly clear: cirro-stratus and scud completely cover the western part of the heavens, and detached portions of the same cloud, with a thin vapour, in the remainder of the sky.	
Overcast: cirro-stratus: a shower of rain falling: the wind in gusts: the sky was nearly cloudless at $10^h.\ 25^m$.	D
Scud passing over from the W.N.W.: gusts of wind.	J H
Scud and heavy vapour: the Moon setting in a bank of clouds.	
No positive cloud: stars shining dimly through the vapour.	
Cloudless, with the exception of a few faint lines of undefined clouds near the S.S.E. horizon.	
Cloudless.	J H
Cumuli and loose scud scattered rather profusely over the sky.	P
Cumuli and cumulo-strati all over the sky: the wind blowing a gale.	D
Cirro-stratus and scud.	D
,, ,, squalls of rain.	J H
,, ,, ,,	
,, ,, a lunar halo of 24° radius.	
,, ,, strong gusts of wind.	J H
Overcast: cirro-stratus and scud: the clouds are dark and lowering, and drops of rain occasionally fall.	P
Overcast: cirro-stratus: rain falling.	J H
,, ,, occasional violent squalls of rain.	
Heavy squalls of rain.	
Cirro-stratus and scud: there have been frequent showers of rain during the day.	J H
Overcast: cirro-stratus and scud: the clouds are frequently partially clearing, and leaving for a few minutes extensive breaks.	P
Overcast: cirro-stratus and scud.	
,, ,, [over.	
Cirrus clouds scattered over every part of the sky, and cirro-stratus in S.E., with large quantities of loose scud momentarily passing	P
Overcast: cirro-stratus and scud: rain falling.	D
Scud and cirro-stratus in the horizon all round; fragments of scud and badly formed cumuli thinly scattered about the sky.	
Large masses of scud and cirro-stratus all over the sky: at $0^h.\ 45^m$ a heavy shower of hail and rain, which lasted about ten minutes: at $2^h.\ 25^m$ another heavy shower fell.	D
Cumuli and low scud scattered about the whole sky: rain falling, which commenced about ten minutes before the observation and	P
Cumulo-stratus in the N.W., and cirro-stratus in the horizon. [ceased at $4^h.\ 50^m$.	

from $2^h.\ 30^m$ to $3^h.\ 0^m$ it was constantly 2lbs.; then a sudden increase to 6lbs.; by $3^h.\ 10^m$ it had decreased to 1lb., and continued at this pressure for ten minutes, when a sudden increase to 4lbs. and 5lbs. took place; after this time the gale is represented by the regular observations.

March $20^d.\ 18^h.$ Hourly observations were commenced. (See the Section of Term-Day Observations.)

March $21^d.\ 0^h.$ Examined the perpendicularity of the barometer.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Mar.21. 8	29·996	39·8	37·7	2·1	..	..	..	..	NNE	N	½ to 1	¼+	..	..	..	1	Transit
10	30·045	39·0	37·7	1·3	36·5	2·5	..	..	N	N	..	¼	..	..	..	0	..
12	30·068	38·5	37·2	1·3	..	..	..	..	N	N	..	½	..	..	..	10	..
14	30·080	37·6	36·5	1·1	..	..	..	..	N	N	0 to ½	¼	..	..	..	10	..
16	30·064	36·2	34·5	1·7	35·0	1·2	..	..	Calm	N	..	¼	..	..	..	8	..
18	30·059	35·2	33·2	2·0	..	..	..	..	Calm	N by W	..	¼	..	..	..	10	..
20	30·047	35·5	33·2	2·3	..	..	..	..	Calm	N	..	¼	..	..	..	10	..
22	30·033	39·0	35·8	3·2	32·0	7·0	46·4 34·4	63·0 30·8	Calm	N	..	¼	1·73	0·07	3·190	7	..
Mar.22. 0	29·998	42·2	37·5	4·7	..	..	..	..	N	N	..	¼	..	..	..	8	..
2	29·956	45·3	39·0	6·3	..	..	..	..	N	N	..	¼	..	..	..	8	..
4	29·907	43·1	38·0	5·1	34·5	8·6	..	..	N	N by W	..	¼	..	..	..	9	..
6	29·877	40·6	36·3	4·3	..	..	..	..	N	N	..	¼	..	..	..	5	..
8	29·868	37·0	33·6	3·4	..	..	..	..	N	Calm	..	..	..	..	..	1	..
10	29·855	37·0	34·5	2·5	33·5	3·5	..	..	Calm	Calm	..	..	..	..	..	10	Transit
12	29·850	36·5	36·0	0·5	..	..	..	..	N	NNW	0 to ½	½	..	..	..	10	..
14	29·868	33·3	32·7	0·6	..	..	..	..	N	NNW	..	½	..	..	..	9½	..
16	29·877	32·6	31·8	0·8	29·0	3·6	..	..	N	N by W	½ to 1	½	..	..	..	½	..
18	29·914	32·0	31·0	1·0	..	..	..	..	NNE	N by W	½ to 1	½	..	..	..	½	..
20	29·964	32·8	30·3	2·5	..	..	..	..	NNE	N by E	0 to ½	½	..	..	..	0	..
22	30·006	39·0	34·5	4·5	30·5	8·5	46·6 30·9	69·5 25·3	NNE	NE	½ to 1	¼	1·74	0·05	3·259	½	..
Mar.23. 0	30·008	40·8	40·5	0·3	..	..	..	..	NNE	NE	½ to 2½	½	..	..	..	9½	..
2	30·002	42·0	41·5	0·5	..	..	..	..	NNE	NE	0 to 1	¼	..	..	..	1	..
4	30·016	40·8	41·3	−0·5	34·5	6·3	..	..	NE	N by E	2 to 4½	1	..	..	..	8	..
6	30·043	36·7	36·4	0·3	..	..	..	..	NE	N	..	¾	..	..	..	2	..
8	30·073	34·2	33·4	0·8	..	..	..	..	NNE	N	..	½	..	..	..	½	..
10	30·089	32·1	31·8	0·3	26·2	5·9	..	..	N	N	..	¼	..	..	..	0	Transit
12	30·088	32·6	32·4	0·2	..	..	..	..	N	N	..	1	..	..	..	2	..
14	30·098	33·2	32·6	0·6	..	..	..	..	N	N	..	¼	..	..	..	8	..
16	30·080	32·8	32·2	0·6	32·0	0·8	..	..	N	N	..	¼	..	..	..	9	..
18	30·092	30·8	30·2	0·6	..	..	..	..	N	N	..	¼	..	..	..	½	..
20	30·120	32·9	31·7	1·2	..	..	..	..	N	N	..	¼	..	..	..	10	..
22	30·132	36·9	35·2	1·7	32·0	4·9	44·5 29·9	65·4 23·2	N	N	..	¼	1·76	0·00	3·275	10	..
Mar.24. 0	30·121	41·7	38·3	3·4	..	..	..	..	N	N	..	¼	..	..	..	10	..
2	30·098	41·8	38·3	3·5	..	..	..	..	W	W	..	¼	..	..	..	10	..
4	30·089	41·7	38·2	3·5	36·0	5·7	..	..	W	Calm	..	..	..	..	..	10	..
6	30·090	40·6	40·4	0·2	..	..	..	..	Calm	WNW	..	¼	..	..	..	10	..
8	30·082	40·2	40·2	0·0	..	..	..	..	W	WNW	..	¼	..	..	..	10	..
10	30·088	40·3	40·0	0·3	38·0	2·3	..	..	W	Calm	..	..	..	..	..	10	..
12	30·090	42·6	42·3	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Perigee
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	49·3 36·1	63·6 33·6	Calm	...	..	..	1·76	0·00	3·275	..	..
Mar.25. 0	29·955	49·5	48·0	1·5	..	..	..	..	WSW	W	0 to ½	¼	..	..	..	7	..
2	29·909	52·5	50·8	1·7	..	..	..	..	WSW	W	1 to 2	¼	..	..	..	3	..

March 23d. 2h. 35m. The wind suddenly blew at the Anemometer with a pressure of 5lbs.; by 2h. 50m it had decreased to 1lb.; at 3h. 55m the pressure suddenly increased from ½lb. to 5lbs.; by 4h. 1m it had decreased to 1lb.: at 3h. 53m the direction was N. by E.; at 4h. 0m it was N.E.

March 23d. 4h. The reading of the Wet Thermometer is higher than that of the Dry Thermometer.

March 23d. 10h. Hourly observations were commenced. (See the Section of Term-Day Observations.)

March 23d, civil reckoning. The mean daily temperature was less on this day than on any other day during the month, being 35°·7, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Cloudless, with the exception of a few dark clouds in the N.N.W.	P
Cloudless; a few very small patches of scud excepted.	P
Overcast: cirro-stratus and scud.	D
,, ,,	
Stars shining faintly in the zenith, the rest of the sky is overcast.	
Overcast: cirro-stratus.	
,, ,,	D
Cirro-stratus and light scud.	J H
The same.	
Cirro-stratus and scud.	J H
Cirro-stratus and fleecy clouds.	D
Light cirri prevalent in the zenith: cirro-stratus and haze in the N. and W. portions of the sky: nearly cloudless E. of the zenith.	
A bank of cirro-stratus in the horizon from the N. to W.; otherwise cloudless.	
Overcast: cirro-stratus.	D
,, ,, rain falling heavily.	J H
The sky nearly covered with scud and undefined clouds.	
Cloudless, with the exception of a few scattered cirri near the Moon.	
Dark fragments of scud East of the zenith.	
Cloudless; a ground frost.	J H
A few patches only of light scud in different parts of the sky.	P
[being visible.	
Nearly the whole of the sky is covered with large quantities of scud, cumulo-stratus, and cumuli; a very small portion of blue sky	
A few cumuli and patches of scud: at $2^h.40^m$ there was a violent squall of hail and sleet, which continued but a few minutes.	P
Cumulo-strati and scud: heavy clouds S. of the zenith: at $5^h.30^m$ a shower of hail and sleet.	J H
Fragments of scud W. of the zenith; otherwise clear.	
Cirro-strati low in the N.W. horizon.	J H
A cloudless sky: quite calm.	M
A halo of small diameter around the Moon: clouds in the W. and S.	M
Fleecy clouds and scud.	D
One single and extensive break in the N. and N.W.: the rest of the sky is covered with cirro-stratus and scud.	P
A few clouds in the horizon; otherwise cloudless.	P
Overcast: cirro-stratus.	J H
Gloomy and foggy.	M
Overcast: cirro-stratus.	D
,, ,, the wind changed at $2^h.40^m$.	J H
,, ,,	D
,,	P
,,	P
,, ,, a damp misty air.	J H
,, ,, ,,	D
Cumuli and cumulo-strati.	D
Light clouds and vapour.	J H

March 23d. The lowest reading of the thermometer during the month took place on this day.
March 25d. Good Friday: no Ordinary Observations were taken.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Mar. 25. 4	..	..	..	..	..	..	..	..	WSW	...	1 to 2	..	..	..	..	..	In Equator
6	..	..	..	..	..	..	..	..	SW	...	2 to 3	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	SW	...	1 to 3	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	SW	...	3½ to 4	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SW	...	4 to 5	..	..	..	..	..	Transit
14	29·442	45·4	45·4	0·0	..	..	..	.	SW	WSW	3 to 5	1+	..	..	..	10	..
16	29·455	42·1	41·6	0·5	41·0	1·1	..	..	W	W	1 steady	¾	..	..	..	0	..
18	29·490	38·2	37·8	0·4	..	..	..	..	WSW	W	..	¼	..	..	..	0	..
20	29·511	38·8	35·1	3·7	..	..	..	..	WSW	W	0 to ½	½	..	..	..	0	..
22	29·511	43·3	38·9	4·4	35·0	8·3	57·7 37·1	69·6 30·8	WSW	W	2 to 3½	1	1·78	0·04	3·340	½	..
Mar. 26. 0	29·506	46·1	40·0	6·1	..	..	..	..	W	WNW	3 to 3½	1	..	..	..	5	..
2	29·480	43·9	40·6	3·3	..	..	..	..	WNW	WNW	3½ to 4	1	..	..	..	1	Full
4	29·470	47·8	40·5	7·3	36·5	11·3	..	..	WNW	WNW	1 to 4½	1	..	..	..	5	..
6	29·463	45·2	39·0	6·2	..	..	..	..	WNW	WNW	1 to 3	¾	..	..	..	3	..
8	29·480	40·7	36·6	4·1	..	..	..	..	WSW	WSW	..	¼	..	..	..	½	..
10	29·478	39·7	37·8	1·9	38·5	1·2	..	..	WSW	W	0 to ½	¼	..	..	..	8	..
12	29·497	39·0	37·3	1·7	..	..	..	..	W	W	..	½	..	..	..	8	..
14	..	..	..	..	..	..	..	..	NW	...	..	..	..	..	..	..	Transit
16	..	..	..	..	..	..	..	..	WNW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	48·9 32·3	66·3 26·0	Calm	...	..	..	1·78	0·00	3·340	..	..
Mar. 27. 0	29·658	44·8	39·7	5·1	..	..	..	..	W	WNW	0 to 1	¼	..	..	..	8	..
2	..	..	..	..	..	..	..	..	W	...	½ to 1	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	W	...	½ to 1	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	W	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
14	29·625	43·7	42·7	1·0	..	..	..	..	SSW	SW	..	½	..	..	..	10	Transit
16	29·598	43·5	43·0	0·5	40·7	2·8	..	..	SSW	WSW	..	½	..	..	..	9	..
18	29·594	44·2	43·5	0·7	..	..	..	..	...	WSW	..	¼	..	..	..	1	..
20	29·590	47·5	46·7	0·8	..	..	..	..	...	WSW	..	¼	..	..	..	10	..
22	29·597	50·6	48·8	1·8	47·5	3·1	55·3 42·1	70·5 38·8	...	W by S	..	¼	1·78	0·00	3·350	10	..
Mar. 28. 0	29·624	53·6	49·7	3·9	..	..	..	..	WSW	W by S	1½ to 3	¼	..	..	..	9¾	..
2	29·623	56·8	53·0	3·8	..	..	..	..	WSW	W by S	1 to 1½	¼	..	..	..	8	..
4	29·623	57·7	50·5	7·2	47·0	10·7	..	..	WSW	W by S	2 to 4	1	..	..	..	7	..
6	29·627	55·4	50·4	5·0	..	..	..	..	WSW	W by S	1 to 2	½	..	..	..	9	..
8	29·643	50·7	48·5	2·2	..	..	..	..	SW	W by S	½ to 1	¼	..	..	..	4	..
10	29·662	48·6	46·6	2·0	46·5	2·1	..	..	SW	WSW	1 to 3	½	..	..	..	7	..
12	29·656	49·3	47·4	1·9	..	..	..	..	SW	WSW	1 to 3	½	..	..	..	10	..
14	29·648	49·8	47·7	2·1	..	..	..	..	SW	WSW	1 to 2	½	..	..	..	10	Transit
16	29·649	49·8	48·3	1·5	47·0	2·8	..	..	SW	WSW	1½ to 3	½	..	..	..	10	..
18	29·682	48·8	48·5	0·3	..	..	..	..	SW	WSW	0 to ½	¼	..	..	..	10	..
20	29·728	49·4	48·5	0·9	..	..	..	..	WSW	WSW	..	¼	..	..	..	6	..
22	29·783	49·1	46·5	2·6	44·0	5·1	60·5 47·2	76·8 44·0	NW	NNW	..	¼	1·78	0·00	3·375	9	..

March 26d. 2h. 55m. A gust of wind recording a pressure of 10lbs., and the pressure immediately decreased to ½lb.

March 26d. 4h. The difference between the Dry and Wet Thermometers was greater at this observation than at any other during the month.

March 27d. 16h. The chain of the clock at the Anemometer slipped on the clock-barrel: hence no directions of the wind are registered at 18h, 20h, and 22h.

March 28d. Examined the perpendicularity of the barometer.

GENERAL REMARKS.	Observer.
Cirro-stratus and scud.	J H
Heavy rain falling.	J H
Overcast: cirro-stratus: strong gusts of wind: rain commenced falling at $10^h.\ 40^m$, and continues falling.	D
The rain ceased directly after the last observation: a short time previously to this observation the clouds began to disperse, and Cloudless. [at present not a particle is visible.	
,,	D
A few light cumuli in various directions: the wind blowing in gusts.	J H
Cumuli and scud: gusts of wind.	
Cumuli and scud.	J H
Cumuli and cumulo-strati in all directions.	D
Cumuli and cirro-stratus W. of the zenith, the rest of the sky is clear.	
A low bank of cirro-stratus in the W. horizon; otherwise cloudless.	
The sky is covered with fleecy clouds.	D
Fleecy clouds and scud.	
Cumulo-stratus, cirro-stratus, scud, and haze, mingled together; also, numerous cumuli in the S. and in the S.W.: the appearance of the sky is so confused that it is difficult to describe it: dark and lowering clouds occasionally passing over.	P
Overcast: cirro-stratus: damp air.	J H
Scud and fleecy clouds.	
Scud in various directions: the sky became nearly free from clouds at $17^h.\ 0^m$.	
Overcast: a small misty rain.	J H
Overcast: cirro-stratus and scud: the wind apparently veering round to the North.	P
A few small breaks only in different parts of the sky: the rest of the sky is covered with cirro-stratus and scud.	
Breaks of small extent in every part of the sky: in the N. and N.W. the clouds are assuming the appearance of cumuli: the rest of the sky is covered with cirro-stratus and scud, the former rapidly resolving itself into scud.	P
Scud and fleecy clouds: the wind blowing in gusts.	J H
Dark scud and cirro-stratus: cumulo-strati in the N.W.	
Scud and cirro-strati: gusts of wind to $\frac{3}{4}$.	
Cirro-stratus and heavy vapour: the wind blowing in gusts at intervals.	J H
Overcast: cirro-stratus and scud: the Moon's place visible.	P
,, ,, the clouds are somewhat broken near the Moon, and in the zenith: the wind blowing in some-	
,, ,, [what heavier gusts.	
,, ,, rain falling.	
Breaks in every part of the sky.	P
Cirro-stratus and fleecy clouds.	D

March $28^d.\ 0^h$. The estimated strength of the wind is evidently wrong.

March $28^d.\ 0^h$ to 6^h. The traversing-board moved irregularly: it moved correctly after 6^h.

March 28^d. The highest reading of the thermometer during the month took place on this day.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Mar.29. 0	29·804	52·3	47·4	4·9	..	..	..	..	W	W by N	..	¼	..	..	..	5	..
2	29·824	53·8	47·6	6·2	..	..	..	..	W	W	..	¼	..	..	..	7	..
4	29·823	55·8	50·5	5·3	47·5	8·3	..	..	WSW	W	..	¼	..	..	..	8	..
6	29·816	53·6	49·5	4·1	..	..	..	..	SW	WSW	..	½	..	..	..	½	..
8	29·828	50·9	49·2	1·7	..	..	..	..	SSW	WSW	..	¼	..	..	..	10	..
10	29·838	50·5	49·2	1·3	48·5	2·0	..	..	SW	WSW	..	¼−	..	..	..	10	..
12	29·829	49·3	48·5	0·8	..	..	..	..	SSW	WSW	..	¼	..	..	..	10	..
14	29·816	49·2	48·6	0·6	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
16	29·792	49·1	48·3	0·8	48·0	1·1	..	..	SSW	SSW	..	½	..	..	..	8	Transit
18	29·759	48·2	47·6	0·6	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
20	29·746	..	..	..	..	..	..	..	SW	SSW	2 steady	½+	..	..	..	10	..
22	29·756	49·7	47·7	2·0	46·5	3·2	57·5 47·9	77·5 45·4	SW	SW by W	½ to 1½	½	1·78	0·00	3·375	10	..
Mar.30. 0	29·729	50·5	49·1	1·4	..	..	..	..	SW	SW	1 to 2	½	..	..	..	10	..
2	29·721	56·1	53·3	2·8	..	..	..	..	SW	SW	2 to 3	½	..	..	..	8	..
4	29·690	56·2	52·1	4·1	51·5	4·7	..	..	WSW	W by S	2 to 3	¾	..	..	..	2	..
6	29·720	53·5	47·5	6·0	..	..	..	..	WSW	W by S	3 to 4	½	..	..	..	0	..
8	29·766	47·8	44·5	3·3	..	..	..	..	WSW	W	0 to 1	¼	..	..	..	½	..
10	29·805	45·6	43·6	2·0	43·0	2·6	..	..	WSW	W by S	..	¼	..	..	..	2	..
12	29·825	44·5	43·4	1·1	..	..	..	..	WSW	Calm	..	..	..	..	..	3	..
14	29·819	43·7	42·7	1·0	..	..	..	..	WSW	WSW	..	¼	..	..	..	3	..
16	29·829	43·6	42·3	1·3	41·0	2·6	..	..	SW	WSW	½ to 1	¾	..	..	..	9½	Transit
18	29·780	44·4	42·8	1·6	..	..	..	..	SW	WSW	0 to ½	¾	..	..	..	10	..
20	29·736	44·3	43·3	1·0	..	..	..	..	SW	WSW	..	¾	..	..	..	10	..
22	29·644	48·1	47·1	1·0	48·0	0·1	58·3 43·0	68·3 38·8	SW	SSW	3 to 4	¾	1·85	0·10	3·489	10	..
Mar.31. 0	29·565	51·7	50·1	1·6	..	..	..	..	SW	SSW	3 to 4⅓	1½	..	..	..	10	..
2	29·511	56·0	53·8	2·2	..	..	..	..	SW	SSW	4 steady	1	..	..	..	10	..
4	29·475	54·0	53·5	0·5	51·0	3·0	..	..	SW	SW by W	3 to 4	1	..	..	..	10	..
6	29·422	55·4	53·4	2·0	..	..	..	..	SW	SW by W	4 to 4½	¾	..	..	..	10	..
8	29·401	53·0	52·5	0·5	..	..	..	..	SW	WSW	2 to 4	1+	..	..	..	10	..
10	29·360	52·2	52·0	0·2	51·0	1·2	..	..	SW	W by S	2 to 7	2	..	..	..	10	..
12	29·240	51·3	50·9	0·4	..	..	..	..	SW	SW	4 steady	2	1·90	0·12	3·589	10	Greatest declination S.
14	29·150	50·5	50·1	0·4	..	..	..	..	SW	SW	5 to 9	2½	..	..	..	10	..
16	29·001	51·3	50·2	1·1	49·0	2·3	..	..	SW	SW	6 to 8	3	..	..	..	10	..
18	29·038	49·6	46·8	2·8	..	..	..	..	WSW	W	5 to 12	2	..	..	..	9	Transit
20	29·177	41·8	39·5	2·3	..	..	..	..	WNW	WNW	0 to 1	½	..	..	..	9½	..
22	29·200	43·0	39·8	3·2	36·5	6·5	56·2 41·0	58·1 39·4	NW	NNW	0 to ½	½	2·00	0·38	3·785	9¾	..
Apr. 1. 0	29·198	45·3	41·6	3·7	..	..	..	..	NW	NW	..	¼	..	..	..	10	..
2	29·177	43·4	41·6	1·8	..	..	..	..	NW	WNW	..	¼	..	..	..	10	..
4	29·192	43·4	40·4	3·0	37·5	5·9	..	..	NW	NW	..	½	..	..	..	10	..
6	29·205	42·0	39·2	2·8	..	..	..	..	WNW	WNW	..	¼	..	..	..	3	..
8	29·258	41·8	38·3	3·5	..	..	..	..	NW	NNW	..	¼	..	..	..	2	..
10	29·315	39·9	37·8	2·1	36·5	3·4	..	..	NW	NNW	..	¼	..	..	..	10	..
12	29·369	38·1	37·8	0·3	..	..	..	..	N	N	..	¼	..	..	..	10	..

March 29d. 20h. The readings of the Dry and Wet Thermometers were inadvertently omitted.

March 29d and 30d. The least difference in the mean height of the barometer between any two consecutive civil days during the month took place between these two days, being 0in·011, as deduced from the two-hourly observations.

March 30d. Between 0h and 2h the Dry Thermometer reading increased 5°·6, and between 6h and 8h it decreased 5°·7.

March 31d, 10h and 12h. Between these times the reading of the barometer decreased 0in·120; between 14h and 16h it decreased 0in·149; and between 18h and 20h the increase was 0in·139.

March 31d. 12h. The amount of water collected during the month of March in rain-gauge No. 4, was 1in·90.

April 0d. 16h. This is the lowest barometrical reading during the month.

GENERAL REMARKS.	Observer.
Cumuli and haze.	D
Cumuli and fleecy clouds.	D
Cumuli in the N.W. and N: the rest of the sky, with the exception of a number of breaks of small extent in and about the zenith, and in other directions, covered with cirro-stratus and scud.	P
A few cumuli in the N.; also, small portions of scud in various parts of the sky: the rest of the sky is free from clouds.	
Overcast: a thin cirro-stratus and scud.	
,, cirro-stratus: a thin rain just beginning to fall.	P
,, cirro-stratus and vapour.	D
,, ,,	
Clouds of a fleecy character are spread over the greater portion of the sky; clear breaks are in various parts: the Moon is shining	
Overcast: cirro-stratus and scud. [through the clouds.	
,, ,,	D
Cirro-stratus and scud: a slight rain.	J H
,, ,, ,,	
,, ,, the rain ceased, and the clouds broke at $0^h.\ 40^m$.	J H
Large cumuli here and there: scud in the S. horizon.	D
Cloudless.	
Cirro-stratus in the W. horizon: otherwise clear.	
Haze in the horizon all round.	D
Haze and vapour: gusts of wind.	J H
Haze and vapour.	
Scud and cirro-stratus: a slight break in the S.W. horizon.	
Overcast: cirro-stratus.	
,, ,, rain falling.	J H
,, cirro-stratus and scud: a thin misty rain falling.	P
,, ,, ,, the wind increasing and blowing in strong gusts. [tendency to clear up.	
,, ,, ,, the wind blowing in gusts: the cirro-stratus breaking to windward, and the weather shewing a	P
,, ,, ,, small rain: the wind blowing in gusts.	J H
,, ,, ,, a very slight rain.	
,, ,, ,, rain falling: squally.	
,, ,, ,, ,, heavy gusts of wind: a stormy night.	J H
,, ,, ,, rain falling, and wind blowing with great violence, and in prolonged gusts.	P
,, ,, ,, a heavy rain falling, and the gusts of wind extremely violent.	
,, ,, ,, a thin rain still falling, and the wind as violent as before.	
Breaks of small extent in every part of the sky: the horizon in the N.E. is of a bright red: the clouds, however, are still threatening, and flying with great rapidity.	
Nearly overcast; a few trifling breaks only near the zenith: the wind has greatly subsided; it decreased in violence rapidly after the last observation.	P
Cirro-stratus and scud.	D
,, ,, [affected.	
A heavy shower of rain and hail began falling at $1^h.\ 45^m$, and continued about fifteen minutes: the electrometer was violently	D
Overcast: a thin cirro-stratus and scud: the electrometer was most violently affected between $2^h.\ 40^m$ and $3^h.\ 40^m$, during a violent storm of hail and sleet.	P
Cirro-stratus in the horizon, and light scud in the zenith and other parts of the sky: the Sun shining brightly.	
Dark clouds coming up from the N.W., W., and N; the rest of the sky is dotted only here and there with small portions of scud.	
Overcast: cirro-stratus and scud: a few minutes prior to the observation a few stars were dimly visible in and around the zenith: at this moment rain is falling.	P
Overcast: cirro-stratus and scud: a thin misty rain falling.	D

April $1^d.\ 3^h$. A sudden pressure of 4lbs. was recorded at the Anemometer; at $3^h.\ 5^m$ it was 2lbs.; at $3^h.\ 8^m$ it was 1lb.; at $3^h.\ 10^m$ it was 3lbs.; at $3^h.\ 12^m$ it was $\frac{1}{2}$lb.; at $3^h.\ 15^m$ it was $2\frac{1}{2}$lbs., and then quite calm: at $5^h.\ 15^m$ there was a sudden pressure of 4lbs., which continued constant for five minutes, and then it suddenly became calm again.

April 1^d, civil reckoning. The mean height of the barometer was less on this day than on any other day during the month, being $29^{in}\cdot190$, as deduced from the two-hourly observations.

April 1^d and 2^d. The greatest difference in the mean height of the barometer between any two consecutive civil days during the month took place between these two days, being $0^{in}\cdot345$, as deduced from the two-hourly observations; its range on the first day was $0^{in}\cdot368$, being the greatest in the month.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Apr. 1. 14	29·395	36·8	36·0	0·8	..	..	..	..	NW	NW	..	¼	..	..	..	1	..
16	29·410	38·0	36·0	2·0	36·0	2·0	..	..	NW	NW	..	¼	..	..	..	8	..
18	29·434	35·5	34·6	0·9	..	..	..	..	W	WNW	..	¼	..	..	..	5	Transit
20	29·450	38·0	36·4	1·6	..	..	..	..	W	WNW	..	¼	..	..	..	0	..
22	29·479	40·2	38·0	2·2	34·5	5·7	45·9 35·1	60·2 30·2	NNW	NNW	0 to ½	½	2·10	0·11	3·915	10	..
Apr. 2. 0	29·512	41·0	41·0	0·0	..	..	..	..	NNW	N by W	2 to 3	¾	..	..	..	10	..
2	29·547	41·6	41·0	0·6	..	..	..	..	NNW	N	3 to 4	¾	..	..	..	10	..
4	29·580	40·0	39·6	0·4	39·5	0·5	..	..	NNW	NNW	2 to 4	½	..	..	..	10	..
6	29·619	40·5	37·7	2·8	..	..	..	..	NNW	NNW	1 to 3	½	..	..	..	9	..
8	29·647	39·0	35·9	3·1	..	..	..	..	NNW	N	0 to 1	½	..	..	..	9	3rd Qr.
10	29·670	37·0	35·8	1·2	34·5	2·5	..	..	N	N	1 to 2	¾	..	..	..	5	..
12	29·682	36·1	33·4	2·7	..	..	..	..	N	N	2 to 3	1	..	..	..	8	..
14	..	..	..	..	..	..	..	..	NNW	...	1 to 3	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	NNW	...	1 to 1½	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	NNW	...	½ to 1	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	NNW	...	2 to 3	..	..	..	..	..	Transit
22	..	..	..	..	..	..	43·2 31·6	44·8 26·7	NNW	...	1½ to 3	..	2·11	0·03	3·955	..	..
Apr. 3. 0	29·739	39·3	36·1	3·2	..	..	..	..	N	N	1 to 2½	1	..	..	..	10	..
2	..	..	..	..	..	..	..	..	N	...	1½ to 3	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	N	...	1 to 1½	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	N	...	1 to 3	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	N	...	1 to 2	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	N	...	1 to 2	..	..	..	..	..	..
14	29·946	35·7	34·7	1·0	..	..	..	..	N	N	..	¾	..	..	..	½	..
16	29·964	35·2	33·5	1·7	30·0	5·2	..	..	N	N	0 to ½	¾	..	..	..	10	..
18	29·997	35·0	33·5	1·5	..	..	..	..	N	N	..	½	..	..	..	10	..
20	30·036	36·7	34·3	2·4	..	..	..	..	N	N	0 to 1	½	..	..	..	7	Transit
22	30·071	40·5	36·3	4·2	34·0	6·5	43·7 34·4	62·0 26·5	NNE	N	1 to 2	¼	2·11	0·00	3·960	7	..
Apr. 4. 0	30·098	43·1	43·0	0·1	..	..	..	..	NE	NE	0 to ½	¾	..	..	..	9½	..
2	30·113	43·6	38·6	5·0	..	..	..	..	NE	NNE	..	½	..	..	..	9	..
4	30·127	43·3	39·0	4·3	35·0	8·3	..	..	NE	ENE	..	½	..	..	..	10	..
6	30·154	40·5	37·7	2·8	..	..	..	..	NE	ENE	..	¼	..	..	..	9¾	..
8	30·188	38·9	35·1	3·8	..	..	..	..	NE	ENE	..	¼	..	..	..	9¾	..
10	30·212	36·7	34·0	2·7	31·0	5·7	..	..	Calm	Calm	..	..	..	..	..	4	..
12	30·228	37·0	34·5	2·5	..	..	..	..	NE	NNE	..	¼	..	..	..	10	..
14	30·220	35·3	33·0	2·3	..	..	..	..	NE	NNE	..	¼	..	..	..	2	..
16	30·221	34·0	32·3	1·7	31·0	3·0	..	..	NE	N	..	¼	..	..	..	7	..
18	30·247	34·2	32·7	1·5	..	..	..	..	NNE	N	..	¼	..	..	..	9	..
20	30·251	35·8	34·2	1·6	..	..	..	..	N	N	..	¼	..	..	..	8	Transit
22	30·268	41·8	37·0	4·8	31·0	10·8	45·7 32·9	60·4 25·2	NE	NNE	..	¼	2·11	0·00	3·960	6	..
Apr. 5. 0	30·263	46·0	40·2	5·8	..	..	..	..	NE	E by N	..	¼	..	..	..	3	..

April 2d, civil reckoning. This day had the greatest relative moisture in the atmosphere of any day in the month, the mean difference of the Dry and Wet Thermometers being 1°·5, as deduced from the two-hourly observations.

April 3d, 22h. The quantity of water 0in·005, registered in Crosley's gauge, is by deposition of moisture.

April 4d. 0h. Examined the perpendicularity of the barometer.

GENERAL REMARKS.	Observer.
The clouds suddenly cleared off a few minutes after the last observation, and, for upwards of an hour, the sky was cloudless: Cirro-stratus and vapour. [vapour afterwards appeared in the horizon, particularly in the W., and still continues.	D
Cirro-stratus and scud, chiefly S. of the zenith; the rest of the sky is nearly clear.	
Cloudless: hazy.	D
Scud and undefined clouds.	J H
Overcast: cirro-stratus and scud: rain falling.	
Cirro-stratus and scud: a slight rain: the air cold and keen.	J H
Overcast: cirro-stratus and scud: a heavy shower of rain at $2^h\ 40^m+$.	D
Cirro-stratus and scud: breaks N. of the zenith.	
,, ,,	
Cirro-stratus and vapour.	D
,, ,, rain at intervals in squalls, and strong gusts of wind.	J H
Cirro-stratus and scud: the air to the senses is very cold: at $0^h.\ 40^m$ the clouds moved from N. E. by E.	
Haze and vapour in the N.W. horizon.	
Overcast: cirro-stratus: very dark.	
,, ,, at $18^h.\ 40^m$ the clouds were dispersing.	
Cirro-stratus and scud.	J H
Cumuli in the N. and N.W., also in the N.E.: scud is plentiful in every part of the sky: extensive breaks S. and E. of the zenith, and smaller ones in other parts of the sky.	P
[horizon.	
A few trifling breaks only in the S. and N.: the rest of the sky is covered with cirro-stratus and scud, and with cumuli in N.W.	
Cumuli.	
Cirro-stratus and scud: a slight shower of hail and rain at $4^h.\ 30^m$.	P
,, ,,	J H
,, ,, [during the afternoon.	
Vapour East of the zenith: the sky has cleared apparently from the W., or in a direction diametrically opposite to that of the wind	J H
Overcast: cirro-stratus.	P
Cloudless, with the exception of some dark clouds in the N. and N.W.: about ten minutes before the observation the sky was totally overcast: at $14^h.\ 8^m$ the sky was again nearly overcast, one or two stars only faintly glimmering in the zenith.	
Stars shining brightly in the zenith; the rest of the sky overcast: the heavens are alternately obscured and again clear, apparently by heavy vapour.	
A long narrow break in the northern horizon extending entirely from W. to E., and evidently increasing in width as the clouds pass towards the zenith: small breaks also in every other part of the sky.	
Breaks between the light scud now spread over the sky: the clouds are continually being dissipated, and as rapidly again overspreading the sky: the Sun shining.	P
Cirro-stratus and scud are unequally distributed over the sky: the sky half an hour since was nearly clear.	D
Cumuli, and fragments of cirro-stratus scattered about the sky.	

April $4^d.\ 20^h$ and 22^h. Between these times the temperature increased 6°.

April $4^d.\ 22^h$ and April $9^d.\ 12^h$. The highest barometrical reading during the month.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Apr. 5. 2	30·249	47·4	41·0	6·4	..	..	..	..	ENE	E	..	¼	..	..	..	4	..
4	30·212	46·4	41·1	5·3	37·5	8·9	..	..	ENE	ENE	..	¼	..	..	..	3	..
6	30·195	42·4	38·2	4·2	..	..	..	..	ESE	ESE	..	¼	..	..	..	0	..
8	30·202	37·4	34·9	2·5	..	..	..	..	ESE	ESE	..	¼	..	..	..	¼	..
10	30·208	34·8	32·9	1·9	32·0	2·8	..	..	Calm	Calm	..	..	..	..	..	0	..
12	30·187	32·5	31·8	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	0	Apogee
14	30·152	31·8	31·3	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	30·127	30·2	29·7	0·5	29·0	1·2	..	..	Calm	Calm	..	..	..	..	..	0	..
18	30·105	29·2	28·7	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	30·094	35·5	33·7	1·8	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
22	30·070	42·8	39·0	3·8	36·0	6·8	50·1 28·0	73·5 20·5	NE	NE	..	¼	2·11	0·00	3·960	½	Transit
Apr. 6. 0	30·026	46·5	41·2	5·3	..	..	..	..	NE	ENE	0 to ½	¼	..	..	..	¾	..
2	29·938	49·8	43·0	6·8	..	..	..	..	ENE	ENE	0 to ½	¼	..	..	..	¼	..
4	29·928	50·4	43·5	6·9	36·5	13·9	..	..	ENE	ENE	..	¼	..	..	..	0	..
6	29·881	49·8	42·7	7·1	..	..	..	..	ENE	NE	0 to ½	½	..	..	..	0	..
8	29·861	45·2	39·3	5·9	..	..	..	..	Calm	NE	..	½	..	..	..	¼	..
10	29·852	40·2	36·7	3·5	33·5	6·7	..	..	Calm	Calm	..	..	..	..	..	0	..
12	29·819	38·3	36·1	2·2	..	..	..	..	NE	Calm	..	..	..	..	..	0	..
14	29·781	37·1	35·2	1·9	..	..	..	..	NE	NE	..	½	..	..	..	0	..
16	29·761	36·8	35·3	1·5	34·0	2·8	..	..	NE	NE	0 to ½	½	..	..	..	6	..
18	29·741	40·3	38·9	1·4	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
20	29·737	41·1	40·1	1·0	..	..	..	..	NNE	NE	0 to 1	¼	..	..	..	8	..
22	29·739	43·4	42·2	1·2	42·5	0·9	51·7 36·4	70·6 32·6	NNE	NNE	..	¼	2·11	0·00	3·960	10	Transit
Apr. 7. 0	29·736	47·1	45·0	2·1	..	..	..	..	NE	NNE	..	¼	..	..	..	10	..
2	29·697	54·2	49·0	5·2	..	..	..	..	NE	NE	1 to 2	¼	..	..	..	1	..
4	29·713	55·5	49·9	5·6	43·0	12·5	..	..	NE	NE	0 to 1	¼	..	..	..	1	..
6	29·721	51·7	46·8	4·9	..	..	..	..	NE	NNE	½ to 1	½	..	..	..	2	..
8	29·784	44·3	42·2	2·1	..	..	..	..	NE	NE	0 to ½	¼	..	..	..	3	..
10	29·818	42·1	40·7	1·4	40·0	2·1	..	..	NE	NE	..	¼	..	..	..	10	..
12	29·828	42·2	41·2	1·0	..	..	..	..	N	NE	..	¼	..	..	..	10	..
14	29·846	39·5	39·0	0·5	..	..	..	..	N	NE	..	¼	..	..	..	0	..
16	29·848	37·5	36·8	0·7	36·0	1·5	..	..	N	NE	..	¼	..	..	..	0	..
18	29·910	36·8	36·2	0·6	..	..	..	..	N	NE	..	¼	..	..	..	5	..
20	29·932	39·6	38·7	0·9	..	..	..	..	N	NE	..	¼	..	..	..	10	..
22	29·969	46·8	44·4	2·4	44·0	2·8	57·7 35·4	74·2 30·6	NE	NE	..	¼	2·11	0·00	3·960	9	Transit
Apr. 8. 0	29·991	51·3	46·8	4·5	..	..	..	..	E	ENE	..	¼	..	..	..	3	In Equator
2	30·009	53·4	47·0	6·4	..	..	..	..	E	E by N	0 to ½	¼	..	..	..	0	..
4	30·015	50·2	42·0	8·2	36·5	13·7	..	..	E	ENE	½ to 1	½	..	..	..	0	..
6	30·032	47·2	40·3	6·9	..	..	..	..	ENE	ENE	0 to ½	½	..	..	..	0	..
8	30·070	42·0	38·8	3·2	..	..	..	..	ENE	ENE	0 to ½	¼	..	..	..	0	..
10	30·090	39·2	36·2	3·0	36·0	3·2	..	..	ENE	ENE	..	½	..	..	..	0	..
12	30·123	36·6	35·2	1·4	..	..	..	..	ENE	E by N	..	¼	..	..	..	0	..
14	30·131	34·9	33·9	1·0	..	..	..	..	ENE	E by N	..	¼	..	..	..	0	..
16	30·148	34·4	33·4	1·0	33·0	1·4	..	..	ENE	E by N	..	¼	..	..	..	2	..
18	30·166	36·0	35·1	0·9	..	..	..	..	ENE	ENE	..	¼	..	..	..	5	..

April 5d, civil reckoning. The mean height of the barometer was greater on this day than on any other day during the month, being 30in·227, as deduced from the two-hourly observations.

April 5d. Between 18h and 20h the temperature increased 6°·3, and in the next two hours it further increased 7°·3.

April 5d. The lowest reading of the thermometer during the month took place on this day.

April 6d, civil reckoning, was very nearly a cloudless day, the amount of sky covered with cloud being about one-fiftieth part of the whole sky; this is the first day in the year considered cloudless, and is one of the eighteen days in the year considered to be so.

GENERAL REMARKS.	Observer.
Cumuli in all directions.	D
Cumuli.	B
Not a cloud to be seen.	
A dark mass of cloud in the western horizon.	
A clear evening.	B
Cloudless.	D
,,	
,,	
,, hoar frost.	
,,	D
A few small cumuli.	J H
Cumuli: cumulo-stratus and scud.	P
Small cumuli in various directions: a fine day.	J H
Cloudless.	B
,,	
A dark mass of clouds in the western horizon.	
Cloudless.	B
,,	J H
,, the air cold: the stars look dim and watery.	
Heavy vapour and cirro-stratus.	
Overcast: cirro-stratus.	
Cirro-stratus and scud.	J H
Overcast: cirro-stratus and scud.	P
,, ,,	
Cumuli in horizon, and fleecy clouds floating about in different parts of the sky.	P
Cumuli and cirri in various directions.	J H
A great number of small cirri W. of the zenith, and a few scattered in the eastern part of the sky.	
Scud floating over from the N.E.: a bank of clouds in the N.W. horizon, and lines of cirri extending around the zenith from the S.E. to the N.W.: about 8^m after the observation the clouds amounted to 8.	
Overcast: cirro-stratus. The reflection from the London lights is very strong this evening, the side of the Observatory fronting the N.W. being strongly illuminated: there is also a strong light over Woolwich, no doubt from the town; but this I have only seen when the sky has been covered with a dense cirro-stratus.	J H
Overcast: cirro-stratus.	P
Cloudless: the stars in the N. are somewhat faint, from haze.	
,, the sky is free from haze.	
A thin cirro-stratus covering the zenith and other parts of the sky: the eastern horizon is free from clouds.	
Overcast: the cirro-stratus is thin in the zenith.	P
Cirro-stratus and scud: breaks in different parts of the sky.	D
Cumuli in all directions.	
Cloudless.	D
,, patches of scud occasionally passing over.	P
,,	
,,	
,,	P
,,	D
,,	
A few clouds S.E. of the zenith and in the S. horizon; otherwise clear.	
Cirro-stratus and fleecy clouds in the zenith, and in the S.W. portion of the sky: the remaining parts are nearly clear.	

April 7^d. Between 0^h and 2^h the temperature of the air increased $7°{\cdot}1$, and between 6^h and 8^h it decreased $7°{\cdot}4$; between 20^h and 22^h the increase was $7°{\cdot}2$; and on April 8^d between 20^h and 22^h the increase was $5°{\cdot}3$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Raingauge No 1, (Osler's)	RAIN. Reading of Raingauge No. 2.	RAIN. Stand of Raingauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Apr. 8. 20	30·198	39·8	37·6	2·2	..	..	..	..	ENE	ENE	..	¼	..	..	..	2	..
22	30·230	45·1	39·5	5·6	36·8	8·3	54·3 33·6	75·7 29·2	ENE	ENE	0 to ½	½	2·11	0·00	3·960	6	..
Apr. 9. 0	30·243	44·6	39·0	5·6	..	..	..	..	E	E by N	0 to ½	½	..	..	..	1	Transit
2	30·238	45·6	39·8	5·8	..	..	..	..	E	E by N	..	½	..	..	..	½	..
4	30·216	44·4	39·3	5·1	37·0	7·4	..	..	E	E by S	0 to ½	¼	..	..	..	0	..
6	30·223	40·5	36·5	4·0	..	..	..	..	E	E	0 to ½	¼	..	..	..	0	..
8	30·254	35·8	33·6	2·2	..	..	..	..	E	E	..	¼	..	..	..	0	..
10	30·265	36·6	33·3	3·3	32·0	4·6	..	..	E	E	..	¼	..	..	..	8	..
12	30·268	36·0	32·7	3·3	..	..	..	..	E	E	..	¼	..	..	..	8	..
14	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	ESE	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	46·7 34·4	68·4 29·8	E	...	..	..	2·11	0·00	3·960	..	..
Apr. 10. 0	30·251	42·9	37·5	5·4	..	..	..	..	E	E	..	¼	..	..	..	9	Transit
2	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	..
6	30·185	44·0	40·5	3·5	..	..	..	..	E	ENE	..	¼	..	..	..	10	..
8	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	New
14	30·152	38·0	36·8	1·2	..	..	..	..	ENE	E by N	..	¼	..	..	..	10	..
16	30·131	35·8	34·7	1·1	34·0	1·8	..	..	ENE	E by N	..	¼	..	..	..	1	..
18	30·122	33·8	33·1	0·7	..	..	..	..	ENE	E by N	..	¼	..	..	..	2	..
20	30·125	38·8	37·1	1·7	..	..	...	..	ENE	E by N	..	¼	..	..	..	3	..
22	30·118	43·8	39·5	4·3	37·5	6·3	46·0 33·7	63·0 29·4	ENE	E by N	..	¼	2·11	0·00	3·970	6	..
Apr. 11. 0	30·090	45·3	40·4	4·9	..	..	..	..	ENE	E by N	0 to ½	¼	..	..	..	9	Transit
2	30·077	44·0	40·7	3·3	..	..	..	..	ENE	E	..	½	..	..	..	9¾	..
4	30·047	45·1	37·8	7·3	29·0	16·1	..	..	ENE	ESE	2 to 4	¼	..	..	..	1½	..
6	30·046	43·0	37·5	5·5	..	..	..	..	ENE	E by S	2 to 4	½	..	..	..	1	..
8	30·061	39·6	35·1	4·5	..	..	..	..	ENE	E by S	0 to ½	¾	..	..	..	4	..
10	30·049	38·0	34·8	3·2	31·0	7·0	..	..	NE	E by S	0 to ½	¼	..	..	..	10	..
12	30·040	36·7	34·8	1·9	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
14	30·010	37·8	35·2	2·6	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
16	29·987	38·5	35·4	3·1	32·5	6·0	..	..	NE	NE	½ to 1½	¼	..	..	..	10	..
18	29·986	36·2	32·8	3·4	..	..	..	..	NNE	NE	..	½	..	..	..	8	..
20	29·994	38·0	33·5	4·5	..	..	..	..	NNE	NE	..	½	..	..	..	10	..
22	29·993	40·3	35·0	5·3	32·5	7·8	47·5 35·4	65·0 31·5	NE	NE	2 to 3	½	2·13	0·01	3·990	9	..
Apr. 12. 0	29·972	40·2	36·3	3·9	..	..	..	..	NE	NE	1 to 2	½	..	..	..	10	..
2	29·952	42·7	38·1	4·6	..	..	..	..	NE	NE	0 to ½	½	..	..	..	10	Transit
4	29·900	42·2	37·8	4·4	32·5	9·7	..	..	NE	NE	0 to ½	½	..	..	..	7	..
6	29·894	40·2	37·3	2·9	..	..	..	..	NE	NE	0 to 1	½	..	..	..	7	..
8	29·903	37·5	33·6	3·9	..	..	..	..	NE	ENE	0 to 1½	½	..	..	..	4	..
10	29·904	36·5	32·5	4·0	28·0	8·5	..	..	NNE	ENE	..	½	..	..	..	10	..
12	29·898	36·7	34·2	2·5	..	..	..	..	NNE	NE	..	¼	..	..	..	10	..

April 10d. Between 20h and 22h the increase in the temperature was 5°·0.

April 11d. 0h. Examined the perpendicularity of the barometer.

GENERAL REMARKS.	Observer.
Light fleecy clouds in the zenith: every other part of the sky is quite clear.	D
Cumuli and fleecy clouds in every direction.	J H
Cumuli, principally North and East of the zenith.	
A few light cumuli.	J H
Cloudless.	D
,,	
,,	
Cirro-stratus and vapour: the stars are shining in the zenith.	D
,, ,, the stars are shining S.E. of the zenith.	J H
Cirro-stratus and scud.	D
Overcast: cirro-stratus and scud.	P
Overcast.	
Vapour and haze in the N. horizon; otherwise cloudless. [E.S.E.	J H
Scud S. and S.E. of the zenith, and also in the horizon from the N.N.E. to the S.S.W. round by the East: the clouds move from the	
Scud and light cumuli, principally S. of the zenith.	J H
Cumuli, cumulo-stratus and scud: the clouds increasing and decreasing momentarily.	P
Cumuli, cumulo-strati, cirro-strati, and scud: a few breaks only in the zenith.	
Cumulo-stratus and scud: about an hour since a somewhat heavy shower of rain fell; the electrometer was not affected.	P
Cumuli, principally W. of the zenith: gusts of wind.	J H
Cumuli in various directions.	
Dark scud in every direction, but more prevalent to windward: the wind blowing in fitful gusts.	
It clouded over at $9^h.\ 25^m$, and still remains overcast: a few drops of rain have fallen.	J H
Overcast: a very strong and bright light in the N. N.W., probably owing its origin to the London lights.	P
,, cirro-stratus.	
,, ,, the air very cold. [scud.	
Fine clear breaks in the N. horizon, others also in the zenith, and elsewhere: the rest of the sky is covered with cirro-stratus and	
Overcast: cirro-stratus and scud.	P
Cirro-stratus and scud.	D
,,	
Overcast: cirro-stratus and scud.	D
Extensive breaks in the E. and S. E: cirro-stratus and scud covering the other portions of the sky: the heavens, at intervals, are almost free from clouds.	P
Breaks in the zenith, also E. and S. of it: as before, the rest of the sky is covered with cirro-stratus and scud.	
The whole of the horizon is lined with cirro-stratus: the rest of the sky is free from clouds.	
Overcast.	P
,,	D

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0 — 10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Apr.12. 14	29·885	36·9	34·1	2·8	..	..	..	..	NNE	NE	0 to ½	¼	..	..	..	10	..
16	29·869	36·6	34·4	2·2	33·5	3·1	..	..	NNE	NE	..	¼	..	..	..	10	..
18	29·862	36·7	34·2	2·5	..	..	..	..	NNE	NE	..	¼	..	..	..	10	..
20	29·874	37·2	34·9	2·3	..	..	..	..	NNE	NE	..	¼	..	..	..	10	..
22	29·879	40·0	37·8	2·2	35·5	4·5	44·8 35·6	59·7 23·4	NE	NE	1½ to 3	¼	2·13	0·00	3·995	10	..
Apr.13. 0	29·886	40·1	37·0	3·1	..	..	..	..	NE	NE	½ to 1	½	..	..	..	10	..
2	29·872	40·4	37·3	3·1	..	..	..	..	NNE	NE	½ to 1½	½	..	..	..	10	Transit
4	29·840	41·8	38·3	3·5	37·5	4·3	..	..	N	NNE	1 to 2	½	..	..	..	10	..
6	29·838	37·2	36·2	1·0	..	..	..	..	NE	NNE	1 to 3	½	..	..	..	10	..
8	29·848	37·6	36·5	1·1	..	..	..	..	NNE	NE	..	½	..	..	..	10	..
10	29·848	37·0	36·2	0·8	35·0	2·0	..	..	NNE	NE	..	¼	..	..	..	10	..
12	29·852	36·4	35·5	0·9	..	..	..	..	NNE	NE	0 to 1	¼	..	..	..	10	..
14	29·845	36·2	35·5	0·7	..	..	..	..	NNE	NE	0 to ½	¼	..	..	..	10	..
16	..	36·4	35·3	1·1	32·5	3·9	..	..	NNE	NNE	0 to ½	¼	..	..	..	10	..
18	29·818	37·6	35·6	2·0	..	..	..	..	N	NNE	..	¼	..	..	..	10	..
20	29·825	37·5	36·4	1·1	..	..	..	..	NNE	NNE	..	¼	..	..	..	10	..
22	29·819	42·2	39·5	2·7	39·5	2·7	42·3 35·1	48·7 34·2	NE	NE	..	¼	2·13	0·01	4·035	10	..
Apr.14. 0	29·817	44·8	40·8	4·0	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
2	29·839	45·7	41·5	4·2	..	..	..	..	ENE	NE	½ to 1	½	..	..	..	9	..
4	29·847	47·2	42·7	4·5	39·0	8·2	..	..	ENE	NE	1 to 2	½	..	..	..	8½	Transit
6	29·859	45·1	40·7	4·4	..	..	..	..	NE	NE	1 to 2	½	..	..	..	8	..
8	29·899	41·7	38·4	3·3	..	..	..	..	NE	NE	0 to 1	½	..	..	..	9½	..
10	29·935	39·7	37·0	2·7	35·0	4·7	..	..	NE	NE	0 to 1	¼	..	..	..	10	..
12	29·933	39·6	36·9	2·7	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
14	29·928	39·3	36·3	3·0	..	..	..	..	NE	NE	0 to ½	¼	..	..	..	10	..
16	29·920	39·2	36·3	2·9	34·0	5·2	..	..	NE	NE	..	¼	..	..	..	10	..
18	29·915	39·0	36·7	2·3	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
20	29·943	41·0	38·0	3·0	..	..	..	..	NE	NE	1 to 2	¼	..	..	..	9	..
22	29·960	43·2	39·2	4·0	39·0	4·2	48·8 38·3	62·7 35·5	NE	NE	1 to 3	½	2·13	0·00	4·035	10	..
Apr.15. 0	29·967	45·0	40·3	4·7	..	..	..	..	NE	NE	0 to 2	½	..	..	..	10	..
2	29·968	46·1	40·8	5·3	..	..	..	..	NE	NE	1 to 2	½	..	..	..	10	Greatest declination N.
4	29·934	47·8	42·7	5·1	39·0	8·8	..	..	NE	NE	0 to 1	½	..	..	..	9	Transit
6	29·934	44·3	39·7	4·6	..	..	..	..	NE	NE	1 to 3	½	..	..	..	½	..
8	29·950	40·1	37·5	2·6	..	..	..	..	NE	NE	..	¼	..	..	..	¼	..
10	29·973	38·7	36·5	2·2	36·0	2·7	..	..	NE	NNE	..	½	..	..	..	0	..
12	29·984	36·5	35·0	1·5	..	..	..	..	NE	NNE	..	¼	..	..	..	1	..
14	29·984	38·0	37·2	0·8	..	..	..	..	NNE	NNE	..	¼	..	..	..	10	..
16	29·969	40·0	39·0	1·0	39·0	1·0	..	..	NNE	NNE	..	¼	..	..	..	10	..
18	29·983	39·2	38·3	0·9	..	..	..	..	NNE	NNE	..	¼	..	..	..	10	..
20	29·999	40·5	38·8	1·7	..	..	..	..	NNE	NNE	½ to 2	¼	..	..	..	6	..
22	30·009	44·2	37·3	6·9	34·5	9·7	48·1 36·1	60·3 32·4	NE	NE by E	2 to 4½	¾	2·13	0·00	4·035	4	..
Apr.16. 0	30·022	46·0	38·7	7·3	..	..	..	..	NE	NE by E	..	1	..	..	..	3	..
2	30·012	48·4	40·3	8·1	..	..	..	..	NE	NE	..	¾	..	..	..	½	..
4	29·999	46·3	38·6	7·7	33·0	13·3	..	..	NE	NE	..	¾	..	..	..	¼	..

April 13d, civil reckoning. The mean daily temperature was less on this day than on any other during the month, being 38°·2, as deduced from the two-hourly observations; and the range of the thermometer was less on this day than on any other day during the month, being 5°·4.

April 13d. 16h. The reading of the barometer was inadvertently omitted.

April 13d and 14d. The least difference in the mean height of the barometer between any two consecutive civil days during the month took place between these two days, being 0in·005, as deduced from the two-hourly observations.

April 14d. 0h. From 12d. 10h there has not been a break in the clouds; it is the longest period without clear sky of any in the month.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus.	D
,, ,,	
,, ,,	
,, ,, a little sleet is now falling.	D
,, cirro-stratus and scud: rain at intervals.	J H
,, ,, ,, ,,	
,, ,, ,, ,,	J H
,, cirro-stratus: rain falling.	D
,, ,, ,,	D
,, cirro-stratus and scud: rain in slight showers at intervals: the air is very cold.	J H
,, cirro-stratus: a thin rain falling.	P
,, ,, ,,	J H
,, ,,	
,, ,, very dark.	
Cirro-stratus and scud.	
,, lighter in the horizon to windward.	J H
Overcast: cirro-stratus and scud: the Sun, at times, breaks through the cirro-stratus.	P
,, ,, dark cumuli also in the horizon, and the scud is of a dark and lowering character.	
Cumuli, cumulo-stratus and scud: a few breaks in the eastern horizon, and in other parts of the sky.	P
Cumulo-stratus and scud: occasional breaks.	J H
Scud and badly-defined cumulo-strati.	
Scud and cirro-stratus.	
,, overcast.	J H
Overcast: cirro-stratus and scud.	P
,, ,,	
,, ,,	
,, ,,	
Breaks of small extent in every part of the sky; the rest of the sky is covered with cirro-stratus and scud.	P
Overcast: cirro-stratus and scud.	D
,, ,,	
,, ,,	D
Small breaks in every part of the sky: the rest of the sky is covered with cirro-stratus and scud: the Sun at intervals breaking through the cirro-stratus that surrounds him.	P
Overcast: cirro-stratus and scud: the clouds are somewhat broken in the zenith.	
Cloudless, with the exception of a few clouds in the north-western horizon.	
Cloudless: a strong light in the N., apparently auroral from the disturbed state of the magnets, though the brightness of the Moon will not permit any streamers to be seen.	P
Vapour in the N. horizon; the sky is elsewhere clear: at $12^h.\ 10^m$ the sky was nearly overcast.	D
Overcast: cirro-stratus.	
,, ,,	
,, ,,	
Cirro-stratus and vapour.	D
Cumulo-stratus and scud: gusts of wind: a solar halo visible.	J H
Light fleecy cumuli passing over rapidly.	J H
Patches of scud in various parts of the sky: it is otherwise cloudless.	P
Nearly cloudless.	D

April $15^d.\ 20^h$ and 22^h. The Dry Thermometer rose $3°{\cdot}7$, and the Wet Thermometer fell $1°{\cdot}5$ between these times; the atmosphere was thus becoming relatively less charged with moisture.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Apr.16. 6	30·007	44·0	37·2	6·8	..	..	..	..	NE	NE	..	¾	..	..	..	¼	Transit
8	30·043	39·3	34·5	4·8	..	..	..	..	NE	NE	1 to 3	½	..	..	..	0	..
10	30·055	36·5	33·2	3·3	31·0	5·5	..	..	NE	NE	0 to 1	¼	..	..	..	0	..
12	30·072	33·8	32·0	1·8	..	..	..	..	ENE	NE	..	¼	..	..	..	¼	..
14	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	49·1 31·6	64·4 27·3	NE	...	..	..	2·13	0·00	4·035	..	..
Apr.17. 0	30·069	45·9	41·9	4·0	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
2	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	Transit
8	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
14	30·068	41·3	40·7	0·6	..	..	..	..	NNE	NE	..	½	..	..	..	10	..
16	30·058	40·9	40·2	0·7	38·5	2·4	..	..	NNE	NE	..	¼	..	..	..	10	..
18	30·069	40·5	39·7	0·8	..	..	..	..	NNE	NE	..	½	..	..	..	9¾	..
20	30·089	..	..	..	..	..	..	..	NNE	NE	..	½	..	..	..	9	1st Qr.
22	30·089	44·1	41·7	2·4	36·8	7·3	46·3 40·4	53·8 32·3	NNE	NE	..	¼	2·13	0·00	4·035	10	..
Apr.18. 0	30·089	45·9	42·3	3·6	..	..	..	..	NE	NNE	..	¼	..	..	..	10	..
2	30·081	46·6	42·6	4·0	..	..	..	.	NE	NNE	..	¼	..	..	..	10	..
4	30·069	46·8	43·0	3·8	41·0	5·8	..	..	NE	NE by E	..	¼	..	..	..	10	..
6	30·065	45·1	42·1	3·0	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
8	30·085	43·6	40·3	3·3	..	..	..	..	NE	NE	..	¼	..	..	..	10	Transit
10	30·093	43·0	41·0	2·0	39·0	4·0	..	..	ENE	NE	..	¼	..	..	..	10	..
12	30·087	42·0	39·8	2·2	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
14	30·083	40·0	37·9	2·1	..	..	..	..	ENE	NE	..	¼	..	..	..	10	..
16	30·064	40·7	38·8	1·9	37·0	3·7	..	..	NE	NE	..	¼	..	..	..	10	..
18	30·063	40·2	38·6	1·6	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
20	30·084	41·0	39·0	2·0	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
22	30·112	42·8	40·7	2·1	41·5	1·3	46·9 39·7	50·9 39·0	NE	NE	..	¼	2·13	0·00	4·035	10	..
Apr.19. 0	30·103	46·3	43·2	3·1	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
2	30·087	50·1	45·4	4·7	..	..	..	..	NE	NE	..	¼	..	..	..	3	..
4	30·055	51·3	46·3	5·0	43·0	8·3	..	..	E	E	..	¼	..	..	..	0	..
6	30·023	49·0	45·4	3·6	..	..	..	..	E	E	..	¼	..	..	..	0	..
8	30·021	42·0	40·5	1·5	..	..	..	..	E	E by S	..	¼	..	..	..	¼	Transit
10	30·028	39·8	38·8	1·0	38·0	1·8	..	..	E by N	E by S	..	¼	..	..	..	0	..
12	30·051	37·2	36·8	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	30·037	36·0	35·8	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	30·030	35·2	35·1	0·1	35·0	0·2	..	..	Calm	Calm	..	..	..	..	..	0	..
18	30·032	34·8	34·8	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	30·046	42·5	40·7	1·8	..	..	..	..	NE	NE	..	¼	..	..	..	0	..
22	30·059	51·0	46·6	4·4	43·0	8·0	52·9 34·2	73·6 28·6	NE	NE by E	..	¼	2·13	0·00	4·035	0	..
Apr.20. 0	30·057	56·5	49·5	7·0	..	..	..	..	ENE	NE by E	..	¼	..	..	..	¼	..

April 16d. 7h. Found the pressure-pencil of the Anemometer broken; hence no record of pressure at 0h, 2h, 4h, and 6h.

April 17d. 20h. The readings of the Dry and Wet Thermometers were inadvertently omitted.

April 18d. 0h. Examined the perpendicularity of the barometer.

April 18d, civil reckoning. The range of the barometer on this day was less than on any other day during the month, being 0in·035.

April 19d. Between 18h and 20h the temperature of the air increased 7°·7; in the next two hours the increase was 8°·5; and between 22h and 24h it further increased 5°·5: so that in six hours the temperature rose 21°·7.

GENERAL REMARKS.	Observer.
A few light cumuli near the W. horizon; otherwise clear.	D
Cloudless.	
,,	D
Cloudless, with the exception of a low bank of light fleecy clouds in the N. and N.W. horizon: a very fine night.	J H
Overcast: cirro-stratus.	P
,, a small misty rain.	J H
,, ,,	
Cirro-stratus: heavy vapour and scud.	
Cirro-stratus and scud: breaks N. and E. of the zenith.	J H
Overcast: cirro-stratus and scud.	P
,, ,,	
,, ,,	P
Cirro-stratus and scud: the air is still and close.	J H
,, ,,	
Overcast: cirro-stratus and scud.	
,, ,, the air is close and heavy.	J H
,, ,, the clouds are somewhat broken in the zenith, and in its immediate neighbourhood.	P
,, ,, the whole of the eastern horizon is illuminated by a bright and lurid colour, probably	
,, ,, [proceeding from an extensive fire.	
,, ,,	P
,, ,,	D
Overcast: cirro-stratus and scud.	
Light cumuli scattered in all directions: the clouds began to disperse a short time after the last observation.	D
Cloudless: although the wind is due E., the air is considerably warmer.	P
Cloudless.	
Cloudless, with the exception of a few clouds in the western horizon.	
,, a few light particles of scud at times are passing over the sky.	P
,,	D
,,	
,, a slight deposition.	
,, a hoar frost.	
,,	D
,, a very fine morning.	J H
,, with the exception of a few small cirri about the Sun.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Apr. 20. 2	30·047	59·0	50·4	8·6	44·0	15·0	..	..	ENE	NE	..	¼	..	..	..	¼	..
4	30·012	58·0	49·5	8·5	44·5	13·5	..	..	...	E	..	¼	..	..	..	¼–	..
6	29·996	55·2	48·4	6·8	..	..	..	..	ESE	E by S	..	¼	..	..	..	0	..
8	30·002	48·2	44·6	3·6	..	..	..	..	ESE	E by S	..	¼	..	..	..	¼	..
10	30·020	43·4	41·7	1·7	42·0	1·4	..	..	SE	NE by E	..	½	..	..	..	0	Transit
12	30·019	39·6	38·6	1·0	..	..	..	..	E	NE by E	..	¼	..	..	..	0	..
14	30·009	41·3	41·1	0·2	..	..	..	..	E	E	..	¼	..	..	..	10	..
16	30·020	37·4	37·0	0·4	36·0	1·4	..	..	NE	E	..	¼	..	..	..	0	..
18	30·019	38·0	37·5	0·5	..	..	..	..	NE	E	..	¼	..	..	..	0	..
20	30·030	41·4	40·6	0·8	..	..	..	..	E	E	..	¼	..	..	..	10	..
22	30·041	46·1	44·3	1·8	43·5	2·6	60·7 36·7	82·3 34·2	E	E	..	½	2·13	0·00	4·035	9	..
Apr. 21. 0	30·042	49·4	46·1	3·3	..	..	..	..	ENE	E	0 to ½	¼	..	..	..	8	..
2	30·010	55·7	49·8	5·9	..	..	..	..	ENE	E	½ to 2	¼	..	..	..	¼–	..
4	29·978	54·5	48·3	6·2	45·0	9·5	..	..	ENE	E	1 to 3	¾	..	..	..	0	..
6	29·961	52·1	46·8	5·3	..	..	..	..	ENE	NE by E	½ to 1	2	..	..	..	0	..
8	29·961	47·0	44·3	2·7	..	..	..	..	NE	E	..	¼	..	..	..	6	..
10	29·952	45·2	43·6	1·6	42·0	3·2	..	..	NE	E	0 to 1	¼	..	..	..	10	Transit
12	29·947	43·0	42·6	0·4	..	..	..	..	NE	E by N	..	¼	..	..	..	10	Perigee In Equator
14	29·928	42·8	42·7	0·1	..	..	..	..	NE	E by N	..	¼	..	..	..	10	
16	29·896	44·2	44·2	0·0	43·5	0·7	..	..	NE	E by N	..	¼	..	..	..	10	..
18	29·885	44·7	44·5	0·2	..	..	..	..	NE	E by N	..	¼	..	..	..	10	..
20	29·886	46·3	44·9	1·4	..	..	..	..	NE	E by N	..	¼	..	..	..	10	..
22	29·890	46·4	45·4	1·0	45·0	1·4	57·3 42·6	76·3 42·0	NE	E by N	..	¼	2·13	0·00	4·045	10	..
Apr. 22. 0	29·874	52·3	49·5	2·8	..	..	..	..	NE	ENE	..	¼	..	..	..	7	..
2	29·839	60·1	54·5	5·6	..	..	..	..	NE	ENE	..	¼	..	..	..	0	..
4	29·814	60·3	54·8	5·5	54·0	6·3	..	..	ENE	E by N	..	¼	..	..	..	0	..
6	29·799	56·8	52·5	4·3	..	..	..	..	E	E by N	..	¼	..	..	..	½	..
8	29·797	51·4	49·2	2·2	..	..	..	..	E	E by N	..	¼	..	..	..	1	..
10	29·791	49·4	48·3	1·1	47·5	1·9	..	..	Calm	E by N	..	¼	..	..	..	0	Transit
12	29·794	46·3	46·1	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	½	..
14	29·800	44·0	44·0	0·0	..	..	..	..	...	Calm	..	..	..	..	..	7	..
16	29·760	44·5	44·1	0·4	44·0	0·5	..	..	...	Calm	..	..	..	..	..	8	..
18	29·777	45·4	44·6	0·8	..	..	..	..	...	Calm	..	..	..	..	..	4	..
20	29·785	50·1	48·4	1·7	..	..	..	..	N	Calm	..	..	..	..	..	3	..
22	29·804	57·3	52·3	5·0	51·5	5·8	63·7 42·4	85·7 37·8	N	Calm	..	..	2·13	0·00	4·045	1½	..
Apr. 23. 0	29·804	62·8	57·4	5·4	..	..	..	..	NNE	Calm	..	..	..	..	..	¼	..
2	29·790	68·0	58·3	9·7	..	..	..	..	N	Calm	..	..	..	..	..	5	..
4	29·763	70·5	59·6	10·9	56·5	14·0	..	..	NNW	Calm	..	..	..	..	..	5	..
6	29·755	65·7	58·0	7·7	..	..	..	..	N	Calm	..	..	..	..	..	7	..
8	29·786	62·5	55·4	7·1	..	..	..	..	NNW	Calm	..	..	..	..	..	6	..
10	29·792	56·4	51·5	4·9	49·5	6·5	..	..	Calm	Calm	..	..	..	..	..	3	..
12	29·791	51·5	48·8	2·7	..	..	..	..	Calm	Calm	..	..	..	..	..	4	Transit
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	70·5 45·2	95·4 38·3	...	...	..	..	2·13	0·00	4·045	..	..

April 20d. 5h. 25m. It was found that the vane of the Anemometer at about 3h. 40m had turned quite round, passing from E. by S., W., N. and to E., and the registering-pencil had gone off the rack-work: hence no direction was registered at 4h.

April 20d. Between 6h and 8h the temperature of the air declined 7°·0.

April 20d. 10h. The direction of the wind by estimation and by the Anemometer differ; that by the Anemometer is correct.

April 20d, civil reckoning, was very nearly a cloudless day, the amount of sky covered with cloud being only about 1–500th part of the whole sky: this is one of the eighteen days in the year considered cloudless.

April 20d. 10h. Hourly observations were commenced. (See the Section of Term-Day Observations.)

April 21d. 6h. The estimated strength of the wind is most probably wrong; by consulting the General Remark and the pressure as recorded by the Anemometer, 1 would seem to be nearer the truth.

April 21d. Between 6h and 8h the decrease in the temperature of the air was 5°·1; and the increase between 22h and 24h was 5°·9; on April 22d between 0h and 2h the increase was 7°·8; the decrease between 6h and 8h was 5°·4; and the increase between 20h and 22h was 7°·2.

GENERAL REMARKS.	Observer.
A few light cirri near the Sun; otherwise clear.	J H
Nearly cloudless.	D
Cloudless.	
A few cirri in different parts of the sky; otherwise clear.	D
A beautiful night, the Moon shining brilliantly.	M
,, ,,	M
Overcast: the place of the Moon not even visible.	P
Cloudless.	J H
,, a fine morning.	J H
Overcast: a thin cirro-stratus: the clouds began to collect about $19^h.\ 20^m$.	D
Overcast, but the clouds are broken: mild and pleasant.	M
Cirro-stratus and fleecy clouds.	P
Nearly cloudless.	D
Cloudless.	P
,, a brisk breeze.	M
Loose cirro-stratus and scud in the greater portion of the sky.	D
Cirro-stratus and scud: the air much colder and the wind rising in gusts.	J H
Overcast: cirro-stratus and scud.	P
,, a thin misty rain falling.	
,, cirro-stratus.	
,, foggy, and the air damp.	
,, a thin rain falling.	P
Overcast: cirro-stratus.	D
Clear breaks in all directions: the zenith is almost free from cloud.	
Cloudless.	D
,,	P
A few cirrus clouds in the N.W., the rest of the sky being free from clouds.	
Cirro-stratus in the western horizon, and clouds in the N. deeply tinged with red; a few also in the East.	
Cloudless.	P
Nearly cloudless: a thin vapour about the Moon.	D
Cirro-stratus and vapour N. of the zenith and near the Moon, but not sufficiently dense to obscure it.	
Clear S.W. of the zenith; the sky elsewhere overcast.	
Fleecy clouds and scud.	
Cirri scattered about the sky.	D
,, a dead calm.	J H
Cirri in the N.E. horizon: a very fine day.	
Haze and vapour: sultry.	J H
,,	D
Cirro-stratus and haze.	
,, ,,	
Cirri and vapour N. of the zenith; the rest of the sky is nearly clear.	D
Vapour: cirri and heavy clouds.	J H

April $22^d.\ 18^h.\ 25^m$. It was found that the vane of the Anemometer, at about $13^h.\ 45^m$, had turned quite round, and the registering-pencil had gone off the rack-work: hence no direction of the wind between these times.

April 22^d and 23^d. The greatest difference between the mean temperature of one civil day and the next, during the month, took place between these two days, being $6^{\circ}.5$, as deduced from the two-hourly observations.

April 23^d. Between 8^h and 10^h the decrease in the temperature of the air was $6^{\circ}.1$; and on April 24^d, between 20^h and 22^h, the increase was $7^{\circ}.2$.

April 23^d, civil reckoning. The mean daily temperature was greater on this day than on any other during the month, being $56^{\circ}.6$, as deduced from the two-hourly observations.

April $23^d.\ 23^h$. It was found that the vane had so turned, at $15^h.\ 10^m$, as to cause the registering-pencil to go off the rack-work: hence no directions of the wind were recorded.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Apr.24. 0	29·814	68·0	57·7	10·3	53·0	15·0	..	..	E	E by N	..	¼	..	..	..	1	..
2	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	ESE	...	..	..	..	..	..	..	..
6	29·785	60·9	56·8	4·1	..	..	..	..	ESE	Calm	..	..	..	..	..	8	..
8	..	..	..	..	..	..	..	..	ESE	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SE	...	..	..	..	..	..	..	Transit
14	29·859	45·8	45·5	0·3	..	..	..	..	ENE	Calm	..	..	..	..	..	2	Full
16	29·871	44·0	44·0	0·0	43·5	0·5	..	..	ENE	Calm	..	..	..	..	..	0	..
18	29·873	45·7	45·0	0·7	..	..	..	..	E	Calm	..	..	..	..	..	½	..
20	29·895	53·0	51·0	2·0	..	..	..	..	E	Calm	..	..	..	..	..	¼	..
22	29·922	60·2	54·8	5·4	54·8	5·4	73·7 44·6	97·8 38·7	E	E	..	¼	2·35	0·27	4·241	0	..
Apr.25. 0	29·924	65·5	56·8	8·7	..	..	..	..	ENE	E	..	¼	..	..	..	0	..
2	29·924	68·6	57·3	11·3	..	..	..	..	E	E	..	¼	..	..	..	0	..
4	29·920	67·0	56·0	11·0	53·5	13·5	..	..	ENE	E by N	..	½	..	..	..	0	..
6	29·922	62·7	54·0	8·7	..	..	..	..	ENE	E by N	..	½	..	..	..	1	..
8	29·957	53·0	49·3	3·7	..	..	..	..	ENE	E	..	½	..	..	..	2	..
10	29·957	50·0	46·7	3·3	45·0	5·0	..	..	NE	Calm	..	..	..	..	..	1½	..
12	29·956	46·4	44·5	1·9	..	..	..	..	NE	Calm	..	..	..	..	..	0	..
14	29·941	45·0	43·2	1·8	..	..	..	..	NE	Calm	..	..	..	..	..	0	Transit
16	29·936	43·5	42·5	1·0	41·5	2·0	..	..	NE	Calm	..	..	..	..	..	0	..
18	29·937	42·8	42·0	0·8	..	..	..	..	NE	E by N	..	¼	..	..	..	0	..
20	29·938	51·4	47·3	4·1	..	..	..	..	NNE	ENE	..	¼	..	..	..	0	..
22	29·949	57·2	50·4	6·8	51·0	6·2	69·6 42·6	91·9 35·6	NE	E by N	0 to ½	¼	2·35	0·00	4·241	0	..
Apr.26. 0	29·939	59·7	50·7	9·0	..	..	..	..	NE	ENE	1 to 3	½	..	..	..	0	..
2	29·928	60·7	50·4	10·3	..	..	..	..	ENE	ENE	1 to 3½	¾	..	..	..	0	..
4	29·913	59·0	49·5	9·5	44·0	15·0	..	..	NE	NE	½ to 2	¾	..	..	..	0	..
6	29·902	55·8	48·4	7·4	..	..	..	..	NE	ENE	0 to 2	½	..	..	..	0	..
8	29·908	49·6	44·3	5·3	..	..	..	..	...	ENE	..	¼	..	..	..	½	..
10	29·912	46·3	41·7	4·6	38·0	8·3	..	..	...	ENE	..	¼	..	..	..	0	..
12	29·914	44·5	41·2	3·3	..	..	..	..	ENE	ENE	..	¼	..	..	..	0	..
14	29·893	41·6	40·2	1·4	..	..	..	..	NE	NE	..	¼	..	..	..	0	Transit
16	29·879	42·0	40·4	1·6	41·0	1·0	..	..	ENE	NE	..	¼	..	..	..	0	..
18	29·873	40·0	39·2	0·8	..	..	..	..	NNE	N by E	..	¼	..	..	..	0	..
20	29·876	50·2	45·6	4·6	..	..	..	..	ENE	ENE	½ to 2½	¼	..	..	..	0	..
22	29·893	55·7	48·2	7·5	44·0	11·7	62·5 40·2	79·7 33·2	E	E by S	½ to 1½	¼	2·35	0·00	4·241	½	..
Apr.27. 0	29·890	58·0	48·8	9·2	..	..	..	..	ENE	E by S	½ to 1½	¼	..	..	..	½	..
2	29·883	58·9	49·5	9·4	..	..	..	..	ENE	E by S	½ to 2½	¼	..	..	..	½	..
4	29·863	57·7	48·3	9·4	45·0	12·7	..	..	E	E	½ to 1	½	..	..	..	½	..
6	29·849	56·7	47·9	8·8	..	..	..	..	E	E	0 to ½	¼	..	..	..	1	..
8	29·855	51·3	45·6	5·7	..	..	..	..	ENE	ENE	..	¼	..	..	..	1	..
10	29·875	46·2	43·4	2·8	44·0	2·2	..	..	ENE	Calm	..	..	..	..	..	½	..
12	29·869	44·6	42·7	1·9	..	..	..	..	ENE	Calm	..	..	..	..	..	½	..
14	29·874	42·5	41·6	0·9	..	..	..	..	NE	Calm	..	..	..	..	..	0	..
16	29·882	40·3	39·8	0·5	39·0	1·3	..	..	NE	Calm	..	..	..	..	..	¼	Transit
18	29·884	40·5	40·0	0·5	..	..	..	..	NE	Calm	..	..	..	..	..	0	..
20	29·907	50·1	47·6	2·5	..	..	..	..	NE	Calm	..	..	..	..	..	0	..
22	29·934	58·5	51·7	6·8	48·0	10·5	60·7 40·6	80·5 31·3	NE	Calm	..	..	2·35	0·00	4·241	½	Greatest declination S.

April 24d. At 2h 20m the direction of the wind was N. E.; at 2h. 40m it was E.; at 3h. 0m it was S. E.; at 3h. 20m it was E. by N.; at 3h. 40m it was N. by W.; at 3h. 45m it was N.W., and continued N.W. till 3h. 55m, when it suddenly changed to E. S. E., passing by N. and E.; at 4h. 20m it was S.; at 4h. 40m it was E. by S.: between 3h. 15m and 3h. 45m there fell 0in·12 of rain at the Anemometer; and by 4h. 40m, 0in·08 more had fallen.

April 24d. 16h. The reading of the Dry Thermometer was 0°·6 lower than that of the minimum temperature, as given by the self-registering thermometer.

April 24d. The highest reading of the thermometer during the month took place on this day. April 25d. 0h. Examined the perpendicularity of the barometer.

April 25d. Between 6h and 8h the decrease in the temperature of the air was 9° 7: between 18h and 20h there was an increase of 8°·6: and in the next two hours a further increase of 5°·8 took place. On April 26d, between 6h and 8h, there was a decrease of 6°·2; between 18h and 20h an increase of 10°·2; and in the next two hours a further increase of 5°·5.

April 25d. 6h and 8h. Between these times the atmosphere underwent a considerable hygrometrical change.

April 26d. 11h. 50m. It was found that, at about 6h. 35m, the vane of the Anemometer had turned quite round, and the registering-pencil had gone off the rack-work: hence no direction of the wind was recorded between these times.

GENERAL REMARKS.	Observer.
Light cirri and imperfectly formed cumuli.	
From $2^h.\ 20^m$ to $4^h.\ 40^m$, a thunder storm (see the Section of Extraordinary Observations): during the storm $0^{in}.195$ of rain fell.	
Scud and cumulo-strati: heavy electrical clouds.	
Haze and cumuli N. of the zenith.	J H
Cloudless: hazy.	
A few clouds low in the East; clear elsewhere.	
A few light clouds.	J H
Cloudless.	P
,,	
,,	P
,, distant thunder suspected in the N., at $4^h.\ 25^m$.	J H
Cumuli and small cumulo-strati in the N. and N.W., near the horizon.	
Dark scud and undefined clouds W. and N.W. of the zenith, near the horizon.	
Light cirri and vapour in various directions.	J H
Cloudless.	P
,,	
,,	
,,	
,,	P
,,	D
,,	
,,	D
,,	P
,,	
Cloudless, with the exception of a bank of clouds in the W. horizon.	
,,	P
,,	D
,,	
,,	
,,	
,,	D
A few light clouds.	J H
,,	
,,	J H
A few light clouds in the horizon.	D
Cirri E. of the zenith.	
Clouds in the E. and S. horizon.	
A long line of cirro-stratus in the N.; otherwise clear.	D
Vapour, principally near the N. horizon.	J H
Cloudless.	
A line of cirro-stratus in the N. E. horizon; otherwise clear.	
Cloudless.	
,,	J H
,,	P

April $25^d.\ 12^h$ to $26^d.\ 6^h$ was without cloud: it is the longest period of absolute clear sky of any in the month, but the sky was, with slight exceptions, generally clear from April $24^d.\ 14^h$ to May $3^d.\ 0^h$: and this was the clearest period in the year. The mean amount of the sky covered with cloud was one twenty-fifth of the whole sky between April 25^d and May 2^d: these are eight of the days in the year considered quite cloudless out of the eighteen.

April $26^d.\ 18^h$. The reading of the Dry Thermometer was $0^\circ.2$ lower than the minimum temperature, as shewn by the Minimum Thermometer.

April 27^d. Between 6^h and 8^h the Dry Thermometer fell $5^\circ.4$, and in the next two hours there was a further decrease of $5^\circ.1$, the air becoming relatively more charged with moisture towards 10^h.

April $27^d.\ 16^h$. The Dry Thermometer reading was $0^\circ.3$ less than the minimum temperature, as given by the self-registering thermometer.

April $27^d.\ 18^h$ to 20^h. The Dry Thermometer rose $9^\circ.6$; between 20^h and 22^h it rose $8^\circ.4$; and between 22^h and 24^h there was a further rise of $7^\circ.1$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Apr.28. 0	29·940	65·6	55·2	10·4	..	..	..	..	ENE	Calm	..	..	..	..	..	¼	..
2	29·938	67·2	55·2	12·0	..	..	..	..	E	ESE	..	¼—	..	..	..	¼	..
4	29·938	66·0	54·4	11·6	39·0	27·0	..	..	E	ESE	..	¼	..	..	..	¼	..
6	29·942	60·4	49·9	10·5	..	..	..	..	E	E by S	..	¼	..	..	..	½	..
8	29·963	53·4	48·0	5·4	..	..	..	..	E	E by S	..	¼	..	..	..	1	..
10	29·973	48·5	45·4	3·1	44·0	4·5	..	..	E	E by S	..	¼	..	..	..	½	..
12	29·968	45·6	44·3	1·3	..	..	..	..	E	E	..	¼	..	..	..	0	..
14	29·968	42·7	42·2	0·5	..	..	..	..	NE	E	..	¼	..	..	..	0	..
16	29·942	41·4	41·2	0·2	39·0	2·4	..	..	NE	E	..	¼	..	..	..	2	Transit
18	29·937	44·4	42·9	1·5	..	..	..	..	NE	Calm	..	..	..	..	..	0	..
20	29·938	49·0	44·8	4·2	..	..	..	..	NNE	Calm	..	..	..	..	..	0	..
22	29·941	57·2	51·2	6·0	51·0	6·2	70·1 41·4	96·3 33·8	NE	ENE	..	¼	2·35	0·00	4·241	4	..
Apr.29. 0	29·918	61·3	54·5	6·8	..	..	..	..	E	E	..	¼	..	..	..	2	..
2	29·894	65·8	58·0	7·8	..	..	..	..	ENE	E	..	¼	..	..	..	0	..
4	29·853	62·3	55·7	6·6	54·0	8·3	..	..	E	E	0 to 1	¼	..	..	..	0	..
6	29·836	50·8	50·6	0·2	..	..	..	..	E	E by S	½ to 3	¼	..	..	..	¼	..
8	29·823	50·2	47·8	2·4	..	..	..	..	ESE	E by S	..	¼	..	..	..	½	..
10	29·819	49·1	46·7	2·4	45·5	3·6	..	..	E	E	..	¼	..	..	..	2	..
12	29·811	47·3	45·8	1·5	..	..	..	..	ENE	ENE	..	¼	..	..	..	2	..
14	29·782	45·6	44·6	1·0	..	..	..	..	NE	ENE	..	¼	..	..	..	6	..
16	29·750	44·0	43·5	0·5	43·0	1·0	..	..	ENE	ENE	..	¼	..	..	..	1	..
18	29·736	45·4	44·4	1·0	..	..	..	..	ENE	ENE	..	¼	..	..	..	1	Transit
20	29·728	52·2	48·9	3·3	..	..	..	..	ENE	ENE	..	¼	..	..	..	0	..
22	29·725	59·1	53·1	6·0	52·5	6·6	67·6 44·4	92·2 40·7	ENE	ENE	0 to ½	¼	2·35	0·00	4·241	¼	..
Apr.30. 0	29·707	66·2	56·3	9·9	..	..	..	..	ENE	ENE	½ to 1	¼	..	..	..	¼	..
2	29·690	70·3	57·9	12·4	..	..	..	..	ENE	ENE	½ to 2	¼	..	..	..	0	..
4	29·669	69·2	55·9	13·3	48·0	21·2	..	..	E	ENE	0 to 2	¼	..	..	..	0	..
6	29·671	65·2	54·2	11·0	..	..	..	..	ENE	E by N	0 to ½	¼	..	..	..	0	..
8	29·688	58·2	50·6	7·6	..	..	..	..	E	E by N	..	¼	..	..	..	0	..
10	29·716	53·2	48·5	4·7	46·5	6·7	..	..	NE	E by N	..	¼	..	..	..	1	..
12	29·731	48·9	45·0	3·9	..	..	..	..	NE	E by N	..	¼	2·35	0·00	4·241	½	..
14	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	Transit
20	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	71·3 43·3	93·4 35·6	NE	...	..	..	2·35	0·00	4·241	..	..
May 1. 0	29·842	65·5	52·8	12·7	46·5	19·0	..	..	ENE	ENE	½ to 3	½	..	..	..	0	..
2	..	..	..	..	..	..	..	..	ENE	...	½ to 3	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	ENE	...	½ to 3	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	NE	...	0 to ½	..	..	..	..	..	..
8	29·880	54·0	49·2	4·8	..	..	..	..	NE	NNE	..	¼	..	..	..	0	..
10	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
14	29·888	44·0	42·7	1·3	..	..	..	..	NNE	NE	..	¼	..	..	..	0	..
16	29·884	44·5	42·3	2·2	42·0	2·5	..	..	NE	NE	..	¼	..	..	..	0	..
18	29·890	44·3	42·5	1·8	..	..	..	..	NE	NE	..	¼	..	..	..	0	Transit
20	29·909	53·3	47·5	5·8	..	..	..	..	ENE	NE	½ to 1½	¼	..	..	..	0	..
22	29·915	58·9	49·4	9·5	47·0	11·9	69·3 43·9	90·0 35·8	E	ENE	1 to 4	½	2·35	0·00	4·241	0	..

April 28d. Between 4h and 6h the Dry Thermometer fell 5°·6, and between 6h and 8h, 7°·0; between 20h and 22h it rose 8°·2.
April 28d. 4h. This is the greatest observed difference between the Dew Point and the temperature of the air during the month.
April 28d, 6h and 8h. Between these times the atmosphere underwent a considerable hygrometrical change, becoming relatively much more charged with moisture.
April 28d, civil reckoning. The range of the thermometer was 26°·9: it is greater than the range on any other day during the month.
April 29d. 6h. There is something wrong in the readings of the thermometers; as they stand above, the temperature of the air appears to have declined 11°·5, and also a great hygrometrical change appears to have taken place: had either of these circumstances taken place, a note would have been inserted by the observer to that effect, but there is no note: again, by consulting the directions of the wind, and the General Remarks, it would appear that no great change had taken place, and therefore it would seem that an error of 5° has been made in reading the Dry Thermometer, which should have been 55°·8; and then the difference of the Dry and Wet Thermometers would have been 5°·2: these numbers have been used in the Abstracts.

GENERAL REMARKS.	Observer.
A few clouds, somewhat resembling cumuli, in the N. western horizon; with this exception cloudless: frequent currents of air;	P
A few cumuli in the eastern horizon; otherwise cloudless: the wind extremely light. [with this exception calm.	P
Light clouds in the eastern horizon.	J H
A few light clouds in the neighbourhood of the Sun.	
Scud and undefined clouds in the N.W.	
Vapour in the horizon; otherwise clear.	J H
Cloudless: the stars are extremely bright, though the atmosphere seems somewhat damp: the pith balls of the electrometer are	P
Cloudless. [quiescent.	
Clouds in the N. and E., coming up apparently from the latter quarter: the rest of the sky is at present free from clouds.	
Cloudless.	
,, the pith balls were watched at each observation during the night, but they were unaffected during that period.	P
Cirri scattered about the sky.	D
,,	
Cloudless.	D
,,	P
A few cirrus clouds in the N.W.; with this exception cloudless.	
A few clouds in the same position.	
Clouds scattered pretty diffusely over the sky, but principally in the N. and E., the zenith being free from clouds.	P
Clouds in the N. and N.W. horizon; the sky elsewhere is clear.	D
The zenith clear: clouds are scattered in the S. and E.; the rest of the sky is quite cloudy.	
A few scattered clouds in the zenith: otherwise clear.	
Light clouds in the N.W.	
Cloudless.	D
Light cirri in the N.W.	J H
,, in the eastern horizon.	
Cloudless.	J H
,,	D
,,	
,,	
Clouds in the W. horizon.	D
Vapour in various directions, but principally near the horizon.	J H
Cloudless.	D
,, a very fine day.	D
,,	J H
,,	
,,	
,,	J H
,,	P

April 30d. 0h. In the previous two hours there was an increase in the temperature of the air of 7°·1, and between 6h and 8h a decrease of 7°·0; in the following two hours a decrease of 5°·0.

April 30d. 4h. The difference between the Dry and Wet Thermometers was greater at this than at any other observation during the month.

April 30d, civil reckoning. The relative moisture in the atmosphere was less on this than on any other day in the month, the mean difference of the Dry and Wet Thermometers being 6°·3, as deduced from the two-hourly observations.

April 30d. 12h. The amount of rain collected during the month of April in rain-gauge No. 4, was 0in·43.

May 1d. 0h to May 3d. 2h. With the exception of a few clouds about 2d. 0h + and at 2d. 20h, the sky has been without cloud: it was the longest period of clear sky of any in the month: the period of absolute clear sky was from 2d. 8h to 18h; and another period of the same duration was May 13d. 10h to 20h.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
May 2. 0	29·907	60·2	48·7	11·5	..	..	..	..	ENE	ENE	1 to 2	¼	..	..	..	¼	..
2	29·898	62·6	50·0	12·6	..	..	..	..	ENE	ENE	½ to 2½	½	..	..	..	1	3rd Qr.
4	29·882	61·1	50·5	10·6	37·5	23·6	..	..	NE	E	..	¼	..	..	..	¼	..
6	29·880	59·7	47·7	12·0	..	..	..	..	NE	ENE	..	¼	..	..	..	½	..
8	29·883	52·0	44·5	7·5	..	..	..	..	NE	ENE	..	¼	..	..	..	0	..
10	29·890	46·0	41·5	4·5	37·5	8·5	..	..	NNE	Calm	..	..	..	..	..	0	..
12	29·873	43·6	40·3	3·3	..	..	..	..	N	Calm	..	..	..	..	..	0	..
14	29·857	40·5	38·7	1·8	..	..	..	..	N	Calm	..	..	..	..	..	0	..
16	29·834	40·0	38·3	1·7	37·0	3·0	..	..	NNW	Calm	..	..	..	..	..	0	..
18	29·836	38·2	37·2	1·0	..	..	..	..	W	W	..	¼−	..	..	..	0	..
20	29·841	41·2	40·3	0·9	..	..	..	..	NNW	Calm	..	..	..	..	..	9	Transit
22	29·830	51·5	46·4	5·1	45·0	6·5	63·8 37·6	84·6 30·5	W	Calm	..	..	2·35	0·00	4·241	0	..
May 3. 0	29·805	60·2	49·6	10·6	..	..	..	..	NW	NW	..	¼	..	..	..	0	..
2	29·772	65·1	52·3	12·8	..	..	..	..	NW	NW	..	¼	..	..	..	½	..
4	29·737	67·3	55·3	12·0	47·5	19·8	..	..	W	W by S	..	¼	..	..	..	7	..
6	29·725	60·7	54·2	6·5	..	..	..	..	WSW	SW	½ to 1½	¼	..	..	..	10	..
8	29·733	54·0	51·4	2·6	..	..	..	..	WSW	W by S	..	¼	..	..	..	10	Apogee
10	29·740	51·9	51·3	0·6	50·0	1·9	..	..	WSW	Calm	..	..	..	..	..	10	..
12	29·746	50·6	50·6	0·0	..	..	..	..	WNW	W by N	..	¼	..	..	..	10	..
14	29·733	49·6	49·4	0·2	..	..	..	..	NNW	NNW	..	¼	..	..	..	10	..
16	29·739	48·8	47·1	1·7	47·5	1·3	..	..	WNW	WNW	..	¼	..	..	..	10	..
18	29·760	48·5	46·7	1·8	..	..	..	..	WNW	WNW	..	¼	..	..	..	10	..
20	29·784	47·6	45·2	2·4	..	..	..	..	NW	NW	0 to ½	¼	..	..	..	6	Transit
22	29·795	53·4	48·2	5·2	45·8	7·6	67·3 47·1	89·3 44·8	NW	NNW	..	¼	2·46	0·17	4·425	6	..
May 4. 0	29·777	57·8	49·3	8·5	..	..	..	..	NW	NW by N	..	¼	..	..	..	6	..
2	29·783	57·8	48·8	9·0	..	..	..	..	W	NW by N	..	¼	..	..	..	6	..
4	29·760	60·0	49·7	10·3	41·0	19·0	..	..	W	W	..	¼	..	..	..	6	..
6	29·750	60·2	50·2	10·0	..	..	..	..	W	W	..	¼	..	..	..	5	..
8	29·756	53·6	47·2	6·4	..	..	..	..	WSW	W	..	¼	..	..	..	4	..
10	29·772	47·6	45·2	2·4	45·0	2·6	..	..	S	SSW	..	¼	..	..	..	0	..
12	29·788	46·3	44·5	1·8	..	..	..	..	WSW	SW	..	¼	..	..	..	0	..
14	29·774	44·6	43·8	0·8	..	..	..	..	SSW	SW	..	¼	..	..	..	1	..
16	29·756	43·8	43·4	0·4	43·0	0·8	..	..	SSW	SW	..	¼	..	..	..	½	..
18	29·761	42·5	42·0	0·5	..	..	..	..	S	SW	..	¼	..	..	..	0	..
20	29·773	46·5	45·5	1·0	..	..	..	..	SSW	SW	..	¼	..	..	..	10	Transit
22	29·740	56·8	51·7	5·1	50·0	6·8	62·0 42·5	83·1 36·0	SSW	SW	..	¼	2·46	0·00	4·425	8	..
May 5. 0	29·712	59·5	53·0	6·5	..	..	..	..	SW	S	½ to 2	½	..	..	..	8	..
2	29·668	62·8	54·5	8·3	..	..	..	..	SSW	SW	1 to 3	¼	..	..	..	6	..
4	29·617	56·3	52·7	3·6	50·0	6·3	..	..	SSW	SW	1½ to 3½	1	..	..	..	10	..
6	29·569	55·8	52·8	3·0	..	..	..	..	SSW	SW	½ to 1½	1	..	..	..	10	..
8	29·526	53·8	51·2	2·6	..	..	..	..	SSW	SW	½ to 1	½	..	..	..	10	In Equator
10	29·469	52·1	50·5	1·6	50·5	1·6	..	..	SSW	SW	½ to 1	½+	..	..	..	10	..
12	29·408	51·2	50·7	0·5	..	..	..	..	SSW	SW	½ to 2	¼	..	..	..	10	..
14	29·348	50·8	50·2	0·6	..	..	..	..	SSW	SW	1 to 2	¼	..	..	..	10	..
16	29·326	50·0	49·4	0·6	48·3	1·7	..	..	SW	SW	..	¼	..	..	..	10	..
18	29·315	51·2	49·8	1·4	..	..	..	..	SSW	SW	½ to 1	¼	..	..	..	8	..

May 2d. 0h. Examined the perpendicularity of the barometer.

May 2d. 4h. This is the greatest observed difference between the Dew Point and the temperature of the air during the month.

May 2d. Between 6h and 8h the Dry Thermometer fell 7°·7, and between 8h and 10h, 6°·0; between 20h and 22h there was a rise of 10°·3, and in the next two hours of 8°·7, making an increase of 19°·0, in four hours.

May 2d, civil reckoning. The range of the barometer was less on this day than on any other day during the month, being 0in·042.

May 3d. 2h. The difference between the Dry and Wet Thermometers was greater at this than at any other observation during the month.

May 3d, civil reckoning. The range of the thermometer was greater on this day than on any other day during the month, being 29°·1.

GENERAL REMARKS.	Observer.
A few cumuli in the southern horizon, and a patch or two of scud in other parts of the sky; cloudless, with these exceptions.	P
Cumuli in the N. E. and the S. horizon, with small portions of scud floating in different parts of the sky.	P
A few light, imperfect cumuli.	J H
Light cumuli, principally S. of the zenith.	
Cloudless: the Sun setting in a cloudless sky.	
,,	J H
,, the finest evening the observer has witnessed for some time, the stars shining with unusual brilliancy.	P
,, the stars shining with the same unclouded brilliancy.	
,,	
,,	
Light scud covering almost the whole of the sky, though in some parts it might be termed a thin cirro-stratus.	P
Cloudless: hazy.	D
,, ,,	
A few small cumuli scattered about.	D
Cumuli, cumulo-stratus, cirro-stratus, and scud, all mingled together in every part of the sky, together with haze: the air extremely close and oppressive.	P
Overcast: cirro-stratus and scud: the sky is extremely lowering in the N. and N.W.: rain beginning to fall in large drops: the wind has been gradually getting round to its present position since the last observation.	
Overcast: cirro-stratus and scud: rain in thick drops falling.	
,, ,, the rain has ceased.	P
,, ,, rain has been falling nearly the whole time between this and the last observation.	D
Overcast: cirro-stratus.	
,, ,,	
,, ,,	
Clear in, and N.W. of, the zenith; elsewhere cloudy.	D
Scud and cumuli.	J H
,, ,, imperfect cumulo-strati.	
,, ,, ,,	J H
Cumuli and cumulo-strati, with a little scud here and there.	D
Cumuli and cumulo-strati.	
Fleecy clouds in the zenith; detached clouds scattered near the horizon.	
Cloudless.	D
Cloudless, yet the stars appear dim and watery.	J H
Vapour around the horizon.	
Fragments of scud near the E. horizon.	
Cloudless.	
The sky was clouded over shortly after $18^h.\ 40^m.$ and remains overcast: cirro-stratus.	J H
Cirro-stratus and dark scud covering the greater part of the sky, though there are a few somewhat considerable breaks in and near the zenith, revealing a fine blue sky.	P
As before, a few breaks in the zenith and its neighbourhood, the rest of the sky being covered with cirro-stratus, cumuli, and scud.	P
Scud and cumuli.	D
Overcast: cirro-stratus and scud: a few drops of rain at intervals: gust of wind.	J H
,, ,, gusts of wind.	
,, ,, ,,	
,, ,, ,, squalls of rain.	J H
Overcast: cirro-stratus: rain is falling and has continued to do so since the last observation: the electrometer not affected.	P
,, ,, the rain has for some time ceased.	
Overcast: cirro-stratus and wild scud.	
Loose scud, of a dark appearance, covering the greater part of the sky.	

May $3^d.\ 4^h$ to 6^h. The Dry Thermometer fell $6°{\cdot}6$, while the Wet Thermometer fell only $1°{\cdot}1$; the atmosphere was becoming relatively much more charged with moisture: between 6^h and 8^h the Dry Thermometer fell $6°{\cdot}7$; between 20^h and 22^h it rose $5°{\cdot}8$: on May 4^d, between 6^h and 8^h, it fell $6°{\cdot}6$; and between 20^h and 22^h, it rose $10°{\cdot}3$.

May $5^d.\ 2^h$ to 4^h. The Dry Thermometer fell $6°{\cdot}5$, and on May 6^d, in the same interval, it fell $5°{\cdot}3$.

May 5^d and 6^d. The greatest difference in the mean height of the barometer between any two consecutive civil days during the month took place between these two days, being $0^{in}{\cdot}358$, as deduced from the two-hourly observations; and on May 5^d its range was greater than on any other day in the month, being $0^{in}{\cdot}366$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
May 5. 20	29·298	52·0	50·0	2·0	..	..	..	..	SW	SW	½ to 1	¼	..	..	..	9	..
22	29·284	55·5	51·3	4·2	50·5	5·0	63·9 47·7	76·6 42·0	SW	SW	1 to 4	½	2·56	0·11	4·565	9	Transit
May 6. 0	29·274	57·8	54·0	3·8	..	..	..	..	SW	SW	1 to 4½	½	..	..	..	9	..
2	29·253	56·8	54·2	2·6	..	..	..	..	SW	SW	1 to 4½	½	..	..	..	9	..
4	29·258	51·5	50·3	1·2	50·0	1·5	..	..	WSW	SW	½ to 1½	¼	..	..	..	9½	..
6	29·262	54·4	51·1	3·3	..	..	..	..	SW	SW	½ to 3½	¼	..	..	..	9½	..
8	29·268	49·5	48·1	1·4	..	..	..	..	SW	SW	1 to 1½	¼	..	..	..	9	..
10	29·298	48·4	47·2	1·2	47·0	1·4	..	..	SW	SW	1 to 1½	¼	..	..	..	1	..
12	29·294	47·6	46·3	1·3	..	..	..	..	SW	SW	1 to 1½	½	..	..	..	4	..
14	29·306	48·4	46·7	1·7	..	..	..	..	SW	SW	1 to 3	¾	..	..	..	10	..
16	29·304	46·5	45·2	1·3	45·0	1·5	..	..	SW	SW	½ to 2	¾	..	..	..	1	..
18	29·290	48·3	46·4	1·9	..	..	..	..	SSW	SW	½ to 1	½	..	..	..	10	..
20	29·259	49·7	48·2	1·5	..	..	..	..	SW	SSW	1 to 2	½	..	..	..	10	..
22	29·188	49·9	49·4	0·5	49·4	0·5	57·5 45·9	71·4 47·5	SW	SW	1½ to 4	¾	2·73	0·35	4·865	10	Transit
May 7. 0	29·105	55·3	53·7	1·6	..	..	..	..	SW	SW	2 to 5	1+	..	..	..	10	..
2	29·125	60·5	52·0	8·5	..	..	..	..	WSW	SW	2 to 4½	1—	..	..	..	6	..
4	29·143	52·7	50·9	1·8	51·0	1·7	..	..	SW	SW	3 to 7	1½	..	..	..	9	..
6	29·120	53·6	50·2	3·4	..	..	..	..	SW	SSW	2 to 5	1½	..	..	..	6	..
8	29·106	50·5	47·2	3·3	..	..	..	..	SW	SW	3½ to 8	1½	..	..	..	8	..
10	29·090	47·6	45·2	2·4	45·0	2·6	..	..	SW	SW	3 to 5	2	..	..	..	1	..
12	29·070	49·0	46·1	2·9	..	..	..	..	SW	SW	4½ to 8	2	..	..	..	8	..
14	..	..	..	..	..	..	..	..	W by S	...	½ to 8	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	WSW	...	3 to 5	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	WSW	...	2 to 4½	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	WSW	...	3 to 4½	..	..	..	..	..	..
22	..	..	..	..	..	..	60·0 45·7	72·0 39·8	W by S	...	3 to 5	..	2·77	0·08	5·024	..	Transit
May 8. 0	29·293	52·9	49·7	3·2	..	..	..	..	WSW	WSW	2 to 4	1	..	..	..	4	..
2	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	W by S	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	W by S	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
14	29·646	42·8	41·9	0·9	..	..	..	..	SW	SW by W	..	¼	..	..	..	1	..
16	29·683	42·9	41·8	1·1	40·5	2·4	..	..	WSW	SW by W	..	¼	..	..	..	9½	..
18	29·724	43·9	42·7	1·2	..	..	..	..	WSW	SW by W	..	¼	..	..	..	7	..
20	29·760	48·8	45·5	3·3	..	..	..	..	W	W by S	..	¼	..	..	..	6	..
22	29·787	49·2	44·3	4·9	42·5	6·7	61·7 41·7	85·3 35·0	WNW	WNW	..	¼	2·85	0·25	5·285	9	..
May 9. 0	29·826	49·2	43·5	5·7	..	..	..	..	W by N	WNW	..	¼	..	..	..	8	Transit

May 5d. 22h to 6d. 2h. 40m, and on May 6d from 6h. 5m to 6h. 30m, the Electrometer was affected. (See the Section of Extraordinary Observations.)

May 7d. 0h to 2h. The Dry Thermometer rose 5°·2, and in the next two hours it fell 7°·8: a large hygrometrical change accompanied the rise and fall of the Dry Thermometer.

May 7d, civil reckoning. The mean height of the barometer was less on this day than on any other day during the month, being 29in·176, as deduced from the two-hourly observations.

May 7d. 12h. This is the lowest barometrical reading during the month.

GENERAL REMARKS.	Observer.
But a few partial breaks in different parts of the sky, the rest being covered with the same kind of dark scud mentioned in the last observation.	P
Cirro-stratus and scud.	D
Cirro-stratus and scud: a very stormy-looking sky: rain falling.	
Cirro-stratus: cumulo-stratus and scud: a showery morning.	D
Overcast: cirro-stratus and scud: a few patches of blue sky are visible in the N., about 15° above the horizon: rain falling in rather heavy showers: the electrometer not affected.	P
A dense canopy of clouds covering nearly the whole of the sky, there being but a few breaks in the E. horizon: rain began falling at $6^h.47^m$, the electrometer being violently affected.	
Nimbi at this moment passing over the zenith, and enveloping most of the sky; the breaks being in the N. and in the E.: the nimbi are frequent, and have been constantly passing over during the afternoon.	
A few clouds in the western horizon; otherwise cloudless: the clouds began to dissipate about half an hour before the observation.	P
Cirro-stratus and vapour N. of the zenith; every other part of the sky is clear: gusts of wind.	D
Overcast; cirro-stratus.	
Light clouds in the horizon; the sky otherwise free from clouds.	
Overcast: cirro-stratus.	
,, ,,	D
,, ,, heavy rain: the electrometer slightly affected.	J H
,, ,, gusts of wind to 2, and slight rain falling.	
A heavy shower at $1^h.20^m$: the electrometer was affected (see the Section of Extraordinary Observations): at present, cumulo-strati and scud: no rain.	J H
Cirro-stratus: cumulo-stratus and scud: rain: the electrometer was affected: heavy gusts of wind.	D
The southern portion of the sky is clear, with the exception of a few loose clouds here and there: cumulo-stratus and nimbi N. of the zenith: wind in gusts to 2 +: showery.	
Cirro-stratus: cumulo-stratus and scud: gusts of wind.	
A mass of clouds in the N. horizon: the rest of the sky is clear: the wind at times blowing in violent gusts: rain has fallen between this and the last observation.	D
Scud and cirro-stratus: a gale of wind: violent gusts at intervals.	J H
Cumuli, cumulo-strati, and wild, dark, and lowering scud: nimbi frequently passing over: a few minutes since, a heavy shower of rain fell: at $0^h.44^m$ the electrometer was affected. (See the Section of Extraordinary Observations.)	P
Vapour: generally cloudless.	J H
Scud prevalent: nearly calm.	
Extensive breaks N.W. of the zenith, and smaller ones in various directions: scud and undefined clouds.	
Light clouds scattered in various directions, but more congregated East and North of the zenith.	J H
Cumuli, cumulo-strati, cirro-stratus, and dark scud: the breaks are at times extensive; especially to windward.	P
Cumuli, cumulo-strati, cirro-strati, and scud: nimbi momentarily passing over: a few breaks in the zenith and in its immediate neighbourhood: the electrometer affected by the passing nimbi.	

May $8^d.\ 0^h$. From this time to $0^h.50^m$ the pressure was between 3lbs. and 4lbs.; at $0^h.55^m$ the pressure suddenly increased to 13lbs.; within ten minutes afterwards it had decreased to $\frac{1}{2}$lb.; about $1^h.25^m$ it became calm.

May $9^d.\ 0^h$. Examined the perpendicularity of the barometer.

May 9^d. Three sudden squalls took place; the first at $1^h.40^m$, when there was a sudden pressure of 4lbs., constant till $1^h.45^m$; the second at $3^h.50^m$, when a pressure of 4lbs. took place for two minutes; and the third at $5^h.40^m$, during which a pressure of 2lbs., constant for ten minutes, took place.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
May. 9. 2	29·856	52·8	47·0	5·8	..	..	..	..	N by W	WNW	0 to ½	¼	..	..	..	8	..
4	29·876	51·1	45·6	5·5	42·5	8·6	..	..	NW	NW by W	0 to 3½	¼	..	..	..	6	..
6	29·917	47·7	46·0	1·7	..	..	..	..	NW	NNW	0 to 2½	¼	..	..	..	8	..
8	29·960	47·1	44·8	2·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	29·995	47·2	44·7	2·5	44·5	2·7	..	..	NNW	NNW	..	¼	..	..	..	9	..
12	30·008	43·5	42·7	0·8	..	..	..	..	W	Calm	..	..	..	..	..	0	..
14	30·015	41·9	41·0	0·9	..	..	..	..	W	Calm	..	..	..	..	..	0	..
16	30·026	38·3	37·3	1·0	..	..	..	..	WSW	Calm	..	..	..	..	..	0	..
18	30·040	38·2	36·7	1·5	..	..	..	..	WSW	Calm	..	..	..	..	..	0	..
20	30·055	45·3	43·2	2·1	..	..	..	..	WSW	W	..	¼	..	..	..	0	..
22	30·059	50·5	46·5	4·0	44·0	6·5	56·1 36·4	78·2 27·4	WNW	WNW	..	¼	2·86	0·02	5·335	7	..
May.10. 0	30·062	54·5	47·7	6·8	..	..	..	..	W	W by N	..	¼	..	..	..	8	Transit
2	30·045	58·1	50·3	7·8	..	..	..	..	W	W	..	¼	..	..	..	7	New.
4	30·008	58·6	51·4	7·2	46·0	12·6	..	..	SSW	SW	..	¼	..	..	..	8	..
6	29·986	54·9	48·7	6·2	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
8	29·985	50·1	45·2	4·9	..	..	..	..	SSW	SSW	..	¼	..	..	..	0	..
10	29·972	45·0	41·5	3·5	40·0	5·0	..	..	SW	SSW	..	¼	..	..	..	0	..
12	29·969	41·8	39·6	2·2	..	..	..	..	SSE	Calm	..	..	..	..	..	0	..
14	29·938	43·5	40·2	3·3	..	..	..	..	SSE	SSE	..	¼	..	..	..	4	..
16	29·888	44·4	40·2	4·2	38·5	5·9	..	..	SSE	SSE	..	¼	..	..	..	10	..
18	29·870	46·2	43·2	3·0	..	..	..	..	SSE	SSE	..	¼	..	..	..	7	..
20	29·865	52·5	48·1	4·4	..	..	..	..	S by E	SSE	..	¼	..	..	..	4	..
22	29·848	59·4	56·6	2·8	45·5	13·9	60·6 41·4	78·8 34·0	SSE	S	0 to 2	½	2·86	0·00	5·335	2	..
May 11. 0	29·822	59·3	49·3	10·0	..	..	..	..	S	S	½ to 3	¾	..	..	..	3	
2	29·807	61·7	51·8	9·9	..	..	..	..	SSE	S by W	½ to 2	¾	..	..	..	2	Transit
4	29·761	61·8	51·4	10·4	44·0	17·8	..	..	S by E	S	½ to 3	½	..	..	..	2	..
6	29·749	59·8	50·5	9·3	..	..	..	..	SE	S	..	¼	..	..	..	6	..
8	29·737	56·0	50·0	6·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	29·731	54·6	49·8	4·8	50·0	4·6	..	..	ESE	Calm	..	..	..	..	..	10	..
12	29·749	49·8	47·1	2·7	..	..	..	..	NW	NW	..	¾	..	..	..	10	..
14	29·773	45·3	44·5	0·8	..	..	..	..	N	N by E	0 to ½	¾	..	..	..	10	..
16	29·763	44·3	43·7	0·6	43·0	1·3	..	..	N	N by E	..	½	..	..	..	10	..
18	29·771	44·4	44·0	0·4	..	..	..	..	N	N	..	½	..	..	..	10	..
20	29·803	44·9	44·7	0·2	..	..	..	..	N by E	N by E	..	½	..	..	..	10	..
22	29·811	47·3	46·8	0·5	45·0	2·3	64·1 43·7	81·3 42·0	N by E	N	..	¼	3·17	0·48	5·814	10	..
May 12. 0	29·816	50·6	49·3	1·3	..	..	..	..	N	N by E	..	¼	..	..	..	10	..
2	29·817	48·3	47·5	0·8	..	..	..	..	NNW	NW	..	¼	..	..	..	10	Transit
4	29·831	50·3	48·0	2·3	46·0	4·3	..	..	N by W	NNW	..	¼	..	..	..	10	..
6	29·849	50·0	48·0	2·0	..	..	..	..	N	NNW	..	¼	..	..	..	10	..
8	29·864	49·0	47·5	1·5	..	..	..	..	Calm	NNW	..	¼	..	..	..	8	Greatest declination N.
10	29·876	48·7	47·2	1·5	46·5	2·2	..	..	Calm	NNW	..	¼	..	..	..	10	..
12	29·871	47·6	46·1	1·5	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
14	29·876	45·9	45·4	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
16	29·879	44·8	44·3	0·5	43·5	1·3	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·896	44·3	44·3	0·0	..	..	..	..	WSW	Calm	..	..	..	..	..	10	..
20	29·916	49·4	48·8	0·6	..	..	..	..	WSW	WSW	..	¼	..	..	..	0	..
22	29·930	55·4	52·2	3·2	51·5	3·9	55·2 43·5	65·0 37·4	WSW	W	..	¼	3·17	0·01	5·825	0	..

May 9d, civil reckoning. The mean daily temperature was less on this day than on any other during the month, being 47°·2, as deduced from the two-hourly observations.

May 9d. 16h. The reading of the temperature of the Dew Point was inadvertently omitted.

May 9d. Between 18h and 20h the Dry Thermometer rose 7°·1, and in the next two hours it rose 5°·2.

May 9d. The lowest reading of the thermometer during the month took place on this day.

May 10d. The Dry Thermometer fell 5°·1 between 8h and 10h; between 18h and 20h it rose 6°·3, and in the next two hours, 6°·9.

GENERAL REMARKS.	Observer.
The sky presents exactly the same features as those detailed in the last two observations: electrometrical observations were taken.	P
Cumulo-strati: heavy electrical clouds and scud. (See the Section of Extraordinary Observations.)	J H
A thunder storm passed over from the N.N.W. to the S.S.E. between 5^h and 6^h: cumulo-stratus and scud.	
Cumulo-strati: heavy electrical clouds and scud: rain at times in large drops: close air.	
Scud, and heavy undefined clouds: small breaks N. of the zenith: small white fragments of scud below dense clouds in the N.W.	J H
Cloudless.	P
,,	
,,	
,,	
,,	P
Cumulo-stratus and haze.	D
,,	
Cumulo-stratus all over the sky.	D
Cumulo-stratus in every direction, with dark scud.	P
Overcast: cirro-stratus and scud.	
Cloudless.	
,,	P
,,	D
Cloudy in the horizon all round, but more particularly in the N.	
Overcast: cirro-stratus and scud.	
Cirro-stratus and vapour.	
Cirri and fleecy clouds; the horizon hazy all round.	D
Light fleecy clouds and cirri: the wind in gusts.	J H
Cirro-cumuli, principally W. of the zenith: small light cumuli in various directions: gusts of wind.	
Light cumuli and fleecy clouds: the wind blowing in gusts.	J H
Light cumuli scattered in all directions: a few cirri in the zenith.	D
Fleecy clouds, cirro-stratus and scud: the sky S.E. of the zenith is clear.	
Overcast: cirro-stratus and scud.	
,, cirro-stratus: slight rain.	D
,, ,, ,, strong gusts of wind.	J H
,, ,, rain still falling: strong gusts of wind.	
,, ,, ,,	
Cirro-stratus: heavy rain falling.	
,, ,,	J H
Overcast: rain falling.	P
,, ,,	
,, a thin misty rain falling.	P
Cirro-stratus and scud: the rain ceased at $2^h.\ 40^m$.	J H
,,	
Broken clouds, cirro-stratus, and scud of a fleecy character.	
Overcast: cirro-stratus, and fleecy clouds.	J H
A few stars are visible in the zenith and East of it; the rest of the sky is covered with cirro-stratus.	P
A few stars are still visible in the zenith (now however but faintly), and in its immediate neighbourhood.	
Overcast: cirro-stratus.	
A thin cirro-stratus covering the whole of the sky.	
Cloudless; though somewhat hazy in the horizon: the wind is extremely light, being barely sufficient to move the vane.	P
Cloudless: hazy.	D

May $10^d.\ 22^h$. There is something wrong in the readings of the thermometers: it is conjectured that the reading of the Wet Thermometer should have been $51°{\cdot}6$; if so, the difference of the Dry and Wet Thermometers would have been $7°{\cdot}8$: and this is the reading used in the Abstracts.

May 11^d and 12^d. The greatest difference between the mean temperature of one civil day and the next during the month took place between these two days, being $6°{\cdot}5$, as deduced from the two-hourly observations.

May 12^d, civil reckoning. The relative moisture in the atmosphere was greater on this day than on any other day in the month, the mean difference of the Dry and Wet Thermometers being $1°{\cdot}2$, as deduced from the two-hourly observations.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
May 13. 0	29·939	60·7	51·8	8·9	..	..	..	..	W	W	..	¼	..	..	..	1	..
2	29·941	62·7	52·7	10·0	..	..	..	..	WSW	W	..	¼		..	..	0	..
4	29·921	64·0	55·5	8·5	49·0	15·0	..	..	WSW	WSW	..	¼—	..	..	..	1	Transit
6	29·921	62·8	54·1	8·7	..	..	..	..	W	W by S	..	¼—	..	..	..	3	..
8	29·931	57·8	51·7	6·1	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
10	29·967	51·2	48·8	2·4	48·0	3·2	..	..	SW	Calm	..	..	..	..	..	0	..
12	29·993	47·6	45·4	2·2	..	..	..	..	SW	Calm	..	..	..	..	..	0	..
14	29·986	45·9	45·2	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·939	43·9	43·6	0·3	43·5	0·4	..	..	Calm	Calm	..	..	..	..	..	0	..
18	30·011	44·2	44·0	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	30·041	49·9	48·8	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
22	30·052	59·0	54·7	4·3	57·0	2·0	66·6 43·4	84·5 35·8	Calm	Calm	..	..	3·17	0·00	5·825	6	..
May 14. 0	30·067	64·7	55·7	9·0	..	..	..	..	Calm	SW	..	¼	..	..	..	10	..
2	30·067	67·3	58·3	9·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
4	30·062	65·7	58·2	7·5	54·0	11·7	..	..	Calm	Calm	..	..	..	..	..	8	Transit
6	30·068	62·8	56·0	6·8	..	..	..	..	SE	Calm	..	..	..	..	..	1	..
8	30·095	56·3	53·2	3·1	..	..	..	..	ESE	Calm	..	..	..	..	..	4	...
10	30·144	49·8	48·6	1·2	47·5	2·3	..	..	ESE	Calm	..	..	..	..	..	0	..
12	30·163	48·3	47·0	1·3	..	..	..	..	ESE	Calm	..	..	..	..	..	6	..
14	..	..	..	..	..	..	..	..	ESE	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	ESE	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	ESE	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	70·1 43·9	90·5 39·5	ENE	...	..	..	3·17	0·00	5·825	..	..
May 15. 0	30·252	60·4	54·7	5·7	..	..	..	..	ENE	NE	..	½	..	..	..	5	..
2	30·245	63·2	56·5	6·7	..	..	..	..	ENE	NE	..	¼	..	..	..	2	..
4	..	..	..	..	..	..	..	..	ESE	...	..	..	..	..	..	..	..
6	30·283	56·4	52·2	4·2	..	..	..	..	ESE	NE	..	¼	..	..	..	2	Transit
8	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	E by N	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	30·274	45·6	44·8	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	4	..
16	30·264	46·7	46·1	0·6	45·5	1·2	..	..	Calm	NE	..	¼	..	..	..	7	..
18	30·273	47·6	46·9	0·7	..	..	..	..	NE	NE	..	¼	..	..	..	7	..
20	30·284	51·7	49·6	2·1	..	..	..	..	ENE	NE	..	¼	..	..	..	9¾	..
22	30·273	61·0	54·8	6·2	51·8	9·2	69·7 44·7	90·4 39·0	ENE	NNE	0 to ½	¼	3·17	0·00	5·825	¼	..
May 16. 0	30·258	65·8	58·0	7·8	..	..	..	..	ENE	ENE	0 to ½	½	..	..	..	7	..
2	30·231	67·3	59·2	8·1	..	..	..	..	NE	ENE	0 to ½	½	..	..	..	7	..
4	30·228	65·5	57·0	8·5	61·0	4·5	..	..	NE	ENE	0 to ½	¼	..	..	..	7	..
6	30·202	61·0	53·9	7·1	..	..	..	..	E	ENE	..	¼	..	..	..	6	Transit
8	30·209	55·3	49·5	5·8	..	..	..	..	E	ENE	..	¼	..	..	..	6	..
10	30·224	50·8	46·0	4·8	43·0	7·8	..	..	ENE	ENE	..	¼	..	..	..	½	..
12	30·204	47·3	43·9	3·4	..	..	..	..	ENE	Calm	..	..	..	..	..	0	..
14	30·200	44·2	42·4	1·8	..	..	..	..	NE	Calm	..	..	..	..	..	0	..
16	30·174	43·0	42·5	0·5	42·3	0·7	..	..	Calm	Calm	..	..	..	..	..	0	..
18	30·171	43·0	42·4	0·6	..	..	..	..	NNE	NE	..	¼	..	..	..	10	..

May 13d. Between 6h and 8h the Dry Thermometer fell 5°·0, and in the next two hours it fell 6°·6; between 20h and 22h it rose 9°·1, and in the next two hours 5°·7: on the 14th, between 6h and 8h, it fell 6°·5, and between 8h and 10h it fell 6°·5.

May 13d. 16h. The reading of the barometer appears to be 0in·050 too low: the above reading has been used in the Abstracts.

May 13d. 22h. The reading of the temperature of the Dew Point is evidently wrong; it is most probable that the reading should have been 52°·0, and that number is used in the Abstracts: the difference between it and the Dry Thermometer reading would then have been 7°·0.

May 15d. 20h. This is the highest barometrical reading during the month.

GENERAL REMARKS.	Observer.
Light cumuli in the S.W.: the horizon hazy.	D
Cloudless.	D
Cumuli somewhat numerous in the S.S.W. horizon; scud also in different parts of the sky: the air extremely warm and close.	P
Cumuli in the S.S.W.; cirro-stratus, and rather dense haze, in the W. and N.W.; the rest of the sky is free from clouds.	
Cirro-stratus and haze in the North, the haze probably owing its origin to the London smoke; clear elsewhere.	
Cloudless.	P
,,	D
,,	
,,	
,, hazy in the horizon.	
,, hazy.	D
Light vapour and haze.	J H
Light vapour covers the sky: hazy about the horizon.	
Light cirro-stratus and scud floating beneath: the Sun shines faintly through the cloud.	J H
Light cirro-stratus and vapour.	D
Light haze in the horizon: cirro-stratus about the Sun.	
Hazy in the N.W.: light haze in the horizon all round.	
Cloudless.	D
Heavy vapour: the smaller stars are obscured: it has been difficult to describe accurately the weather this day, from the deceptive appearance of the vapour.	J H
Cumuli and vapour.	
Light clouds and vapour: hazy.	J H
Cumuli, numerous near the horizon: vapour.	P
Light cirro-stratus and vapour near the Sun; otherwise clear.	J H
Vapour: the smaller stars are obscured.	J H
Cirro-stratus and scud.	
,, ,,	
,, ,, the clouds are heavier.	J H
A few patches only of scud near the northern horizon.	P
In the north-western, north-eastern, and northern horizon, and rising to a considerable height, cumuli are piled on each other; they are also numerous in the southern horizon: large masses of white scud around the zenith, and in other parts of the sky.	
The sky presents exactly the same appearances as detailed in the last observation.	P
White cumuli in every direction.	J H
Cumuli and cirro-strati.	
,, ,, vapour.	
A few undefined clouds near the N.W. horizon: vapour prevalent.	J H
Cloudless.	P
,,	
,,	
A thin cirro-stratus covering the whole of the sky.	

May 15^{d}. 20^{h} to 22^{h}. The Dry Thermometer fell 9°·3: on May 16^{d}, between 6^{h} and 8^{h}, the temperature declined 5^{c}·7: between 18^{h} and 20^{h} it rose 5°·2, and in the next two hours there was a further rise of 7°·3.

May 16^{d}. 0^{h}. Examined the perpendicularity of the barometer.

May 16^{d}. 4^{h}. The temperature of the Dew Point appears wrong; most likely it should have been 51° 0, and that number is used in the Abstracts. The difference between the Dew Point and the Dry Thermometer would then be 14°·5.

May 16^{d}, civil reckoning. The mean height of the barometer was greater on this day than on any other day during the month, being 30^{in}·244, as deduced from the two-hourly observations.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Raingauge No. 1, (Osler's)	RAIN. Reading of Raingauge No. 2.	RAIN. Stand of Raingauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
May 16. 20	30·166	48·2	46·7	1·5	..	..	..	..	NNE	NE	..	$\frac{1}{4}$	..	..	..	10	..
22	30·156	55·5	51·6	3·9	48·0	7·5	67·8 42·6	92·5 35·7	NNE	N	..	$\frac{1}{4}$	3·17	0·00	5·825	7	..
May 17. 0	30·135	62·1	55·3	6·8	..	..	..	..	NNE	N	0 to $\frac{1}{2}$	$\frac{1}{4}$	..	..	..	3	1st Qr.
2	30·115	62·9	54·8	8·1	..	..	..	..	N	N	$\frac{1}{2}$ to 1$\frac{1}{2}$	$\frac{1}{4}$	..	..	..	4	..
4	30·085	58·5	53·3	5·2	50·5	8·0	..	..	N	N	0 to $\frac{1}{2}$	$\frac{1}{4}$	..	..	..	7	..
6	30·040	60·0	53·5	6·5	..	..	..	..	NNE	N	0 to 1	$\frac{1}{4}$	..	..	..	3	..
8	30·029	54·6	49·9	4·7	..	..	..	..	NE	N	..	$\frac{1}{4}$	..	..	..	0	Transit
10	30·037	48·5	47·0	1·5	45·5	3·0	..	..	NE	N	..	$\frac{1}{4}$	..	..	..	0	..
12	30·025	45·2	44·2	1·0	..	..	..	..	NNE	N	..	$\frac{1}{4}$	..	..	..	0	..
14	30·001	45·9	44·2	1·7	..	..	..	..	NE	N	..	$\frac{1}{4}$	..	..	..	8	..
16	29·983	46·1	44·0	2·1	44·5	1·6	..	..	NE	N	..	$\frac{1}{4}$	..	..	..	10	..
18	29·966	46·8	45·4	1·4	..	..	..	..	NE	N	..	$\frac{1}{4}$	..	..	..	10	..
20	29·951	48·6	47·0	1·6	..	..	..	..	NNE	N	..	$\frac{1}{4}$	..	..	..	10	..
22	29·930	50·2	49·2	1·0	47·0	3·2	65·1 44·5	89·0 39·3	N by E	N	..	$\frac{1}{4}$	3·17	0·00	5·825	10	Perigee
May 18. 0	29·914	53·7	50·7	3·0	..	..	..	..	NE	N	..	$\frac{1}{4}$	..	..	..	10	..
2	29·903	55·2	51·5	3·7	..	..	..	..	NE	N	..	$\frac{1}{4}$	..	..	..	10	..
4	29·847	53·8	51·8	2·0	53·0	0·8	..	..	NE	NNE	..	$\frac{1}{4}$	..	..	..	10	..
6	29·817	52·8	50·9	1·9	..	..	..	..	ENE	NE	..	$\frac{1}{4}$	..	..	..	10	..
8	29·804	51·8	49·7	2·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
10	29·806	50·9	48·6	2·3	49·0	1·9	..	..	Calm	Calm	..	..	..	..	..	10	..
12	29·773	47·4	46·6	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
14	29·743	44·0	43·7	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	6	..
16	29·716	43·0	42·7	0·3	42·5	0·5	..	..	Calm	Calm	..	..	..	..	..	4	..
18	29·707	47·0	46·3	0·7	..	..	..	..	Calm	ENE	..	$\frac{1}{4}$	..	..	..	10	In Equator
20	29·699	49·4	47·9	1·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·677	56·4	52·4	4·0	51·5	4·9	58·2 42·9	77·5 35·2	SSW	Calm	..	..	3·17	0·00	5·825	$\frac{1}{4}$	..
May 19. 0	29·643	62·2	55·1	7·1	..	..	..	..	SSE	Calm	..	..	..	..	..	6	..
2	29·617	60·6	55·2	5·4	..	..	..	..	SW	SW	..	$\frac{1}{4}$	..	..	..	10	..
4	29·611	56·9	52·3	4·6	50·0	6·9	..	..	WSW	SW	0 to $\frac{1}{2}$	$\frac{1}{4}$	..	..	..	10	..
6	29·605	50·5	49·5	1·0	..	..	..	..	W	W by S	..	$\frac{1}{2}$	..	..	..	8	..
8	29·592	50·3	48·5	1·8	..	..	..	..	SSW	SW	..	$\frac{1}{2}$	..	..	..	1	Transit
10	29·597	46·5	43·7	2·8	40·0	6·5	..	..	SW	Calm	..	..	..	..	..	0	..
12	29·570	42·5	41·0	1·5	..	..	..	..	SSW	Calm	..	..	..	..	..	0	..
14	29·551	41·3	39·7	1·6	..	..	..	..	SSW	Calm	..	..	..	..	..	0	..
16	29·535	44·4	42·3	2·1	40·5	3·9	..	..	SSW	SSW	..	$\frac{1}{4}$	..	..	..	10	..
18	29·486	46·0	44·8	1·2	..	..	..	..	SW	SW	..	$\frac{1}{4}$	..	..	..	$\frac{3}{4}$	..
20	29·544	53·2	50·2	3·0	..	..	..	..	WSW	WSW	..	$\frac{1}{4}$	..	..	..	9$\frac{1}{2}$	..
22	29·562	57·2	52·8	4·4	50·5	6·7	66·4 40·4	90·5 33·8	WSW	WSW	0 to 1	$\frac{1}{4}$	3·17	0·01	5·845	8	..
May 20. 0	29·558	59·0	52·2	6·8	..	..	..	..	SW	WSW	$\frac{1}{2}$ to 1$\frac{1}{2}$	$\frac{1}{4}$	..	..	..	8	..
2	29·559	59·4	52·0	7·4	..	..	..	..	SW	WSW	1 to 2$\frac{1}{2}$	$\frac{1}{2}$	..	..	..	10	..
4	29·553	58·6	52·0	6·6	47·0	11·6	..	..	SW	WSW	$\frac{1}{2}$ to 3$\frac{1}{2}$	$\frac{3}{4}$	..	..	..	9$\frac{3}{4}$	..
6	29·555	55·3	49·3	6·0	..	..	..	..	SW	WSW	$\frac{1}{2}$ to 2	$\frac{3}{4}$	..	..	..	8	..
8	29·565	52·2	48·3	3·9	..	..	..	..	SSW	SW	0 to 1	$\frac{1}{2}$	..	..	..	8	..
10	29·563	49·7	47·6	2·1	46·5	3·2	..	..	SSW	SW	$\frac{1}{4}$ to 1$\frac{1}{2}$	$\frac{1}{4}$+	..	..	..	9	Transit
12	29·594	50·5	48·0	2·5	..	..	..	..	SW	SW	..	$\frac{1}{4}$	..	..	..	10	..

May 17^d. 8^h. The reading of the Dry Thermometer was 5°·4 lower than it was at the preceding observation, and 6°·1 higher than at the following observation.

May 18^d. 20^h to 22^h. The Dry Thermometer rose 7°.

May 19^d. 20^h. The reading of the Dry Thermometer was 7°·2 higher than it was at the preceding observation.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and scud.	P
Extensive breaks in all parts of the sky.	D
Large white cumuli scattered in all directions.	
Cumuli and cumulo-strati.	D
Cumuli, cumulo-stratus, and scud, in every part of the sky, together with haze. [the last observation.	P
Cumuli, cumulo-strati, and scud, in different parts of the sky, principally in the horizon, and not in such great quantities as during	P
Cloudless.	J H
,,	P
,,	D
The sky is almost covered with cirro-stratus: a few stars are shining in the zenith, but the rest of the sky is quite cloudy.	
Overcast: cirro-stratus.	
,, ,,	
,, ,,	D
Heavy scud and undefined clouds: a little misty rain falling.	J H
,, ,, no rain.	
Heavy undefined clouds and scud.	J H
Overcast: cirro-stratus.	D
,, ,,	
,, ,,	
,, ,,	D
Light clouds in the zenith, and cirro-stratus in the horizon.	J H
Cloudless about the zenith: heavy vapour and cirro-stratus all round to an altitude of 50°.	
Cirro-stratus and scud.	
Overcast: one unbroken cirro-stratus.	
,, ,,	J H
A few cumuli in the North and South horizon: hazy.	P
Cumuli, cumulo-strati, cirro-stratus, and scud, together with haze.	
Overcast: cirro-stratus and scud.	P
,, ,, [trical nature) North of the zenith.	J H
Several heavy showers of rain have fallen since the last observation: at present no rain, but heavy clouds (apparently of an elec-	
Light clouds in the neighbourhood of the Sun: elsewhere clear.	
Cloudless.	J H
,,	P
,,	
Overcast: cirro-stratus and scud: the sky is of a wild and threatening appearance, a few drops of rain occasionally falling.	
A few cirrus clouds in and near the zenith, together with a few patches of scud scattered here and there: no rain beyond the few drops mentioned seems to have fallen between this and the preceding observation.	
A few partial breaks here and there; but with this exception the sky is overcast.	P
Cirro-stratus and nimbi cover the greater part of the sky: clear breaks here and there.	D
The sky has the same appearance as at the last observation.	
Large undefined clouds and scud all over the sky.	D
Overcast, with the exception of a few partial breaks East of the zenith. [zenith.	P
Cirro-stratus and scud covering the greater portion of the sky; the breaks being of small extent, and in the neighbourhood of the	
Cirro-stratus and scud indiscriminately scattered over every part of the sky.	
A low scud is scattered over every part of the heavens, though the sky is pretty clear in the immediate neighbourhood of the Moon.	P
The sky is now quite covered with clouds, which have the appearance of a dark, heavy kind of cirro-stratus: the Moon's place is occasionally visible.	D

May 20^{d}. 2^{h}. The reading of the Dry Thermometer was 1°·8 higher than the maximum, as given by the self-registering thermometer.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
May 20. 14	29·596	49·3	47·5	1·8	..	..	..	..	S	SSW	..	¼	..	..	..	10	..
16	29·579	49·2	48·2	1·0	48·0	1·2	..	..	S	SSW	..	¼	..	..	..	10	..
18	29·579	50·3	49·6	0·7	..	..	..	..	S	S	..	¼	..	..	..	9	..
20	29·579	53·2	51·0	2·2	..	..	..	..	S by W	S	0 to 1	¼	..	..	..	10	..
22	29·590	57·0	53·1	3·9	51·0	6·0	57·6 49·2	75·5 43·9	S	S by W	½ to 2	¼	3·20	0·02	5·875	10	..
May 21. 0	29·592	56·7	54·0	2·7	..	..	..	..	SSW	S by W	½ to 2	¾	..	..	..	10	..
2	29·585	60·1	54·5	5·6	..	..	..	..	SSW	S by W	½ to 3½	¾+	..	..	..	10	..
4	29·590	56·5	53·0	3·5	53·0	3·5	..	..	S	S by W	0 to 1½	½	..	..	..	10	..
6	29·583	56·5	52·5	4·0	..	..	..	..	S	S	½ to 3	½	..	..	..	10	..
8	29·597	53·9	51·6	2·3	..	..	..	..	S	S by W	..	¼	..	..	..	10	..
10	29·619	51·5	49·6	1·9	49·0	2·5	..	..	S by W	S	..	¼	..	..	..	10	Transit
12	29·631	50·0	48·2	1·8	..	..	..	..	SSW	S	..	¼	..	..	..	10	..
14	29·626	48·8	47·8	1·0	..	..	..	..	S	S	..	¼	..	..	..	10	..
16	29·622	46·5	46·0	0·5	45·0	1·5	..	..	S	S by W	..	¼	..	..	..	10	..
18	29·632	47·0	46·3	0·7	..	..	..	..	S by E	S by W	..	¼	..	..	..	2–	..
20	29·647	52·7	50·3	2·4	..	..	..	..	S by E	S by W	..	½	..	..	..	9½	..
22	29·656	57·6	53·1	4·5	50·0	7·6	60·2 46·4	67·5 40·0	S by E	S	..	¼	3·20	0·00	5·879	9	..
May 22. 0	29·652	60·2	53·5	6·7	..	..	..	..	S	S by E	0 to 1	¼	..	..	..	8	..
2	29·644	63·7	55·1	8·6	..	..	..	..	S	S	0 to 1	¼	..	..	..	7	..
4	29·597	63·6	53·8	9·8	46·0	17·6	..	..	S	S	0 to ½	¼	..	..	..	7	..
6	..	..	..	..	..	..	..	..	SSE	...	..	..	..	..	..	..	..
8	29·612	56·0	51·2	4·8	..	..	..	..	S by W	SSW	..	¼	..	..	..	4	..
10	29·624	53·5	49·4	4·1	48·5	5·0	..	..	SSE	SSW	..	¼	..	..	..	8	..
12	29·611	48·7	47·2	1·5	..	..	..	..	SSE	S	..	¼	..	..	..	¼	Transit
14	29·609	47·6	46·7	0·9	..	..	..	..	SSE	S	..	¼	..	..	..	5	..
16	29·625	50·0	48·5	1·5	49·0	1·0	..	..	SSE	S	..	¼	..	..	..	10	..
18	29·663	47·4	46·7	0·7	..	..	..	..	SSE	S	..	¼	..	..	..	¼	..
20	29·681	54·3	51·5	2·8	..	..	..	..	S by W	S	..	¼	..	..	..	2	..
22	29·698	62·7	54·3	8·4	53·0	9·7	66·3 47·9	81·7 39·7	S	S	0 to ½	¼	3·20	0·00	5·885	6	..
May 23. 0	29·712	61·4	53·0	8·4	..	..	..	..	SSW	S	0 to 1½	¼	..	..	..	4	..
2	29·723	62·7	53·0	9·7	..	..	..	..	SSW	SSW	½ to 1½	¼	..	..	..	3	..
4	29·721	62·3	53·6	8·7	43·5	18·8	..	..	SSW	S	½ to 1	½	..	..	..	2	..
6	29·707	60·2	52·0	8·2	..	..	..	..	SSW	S	..	¼	..	..	..	0	..
8	29·728	57·0	50·1	6·9	..	..	..	..	Calm	S	..	¼	..	..	..	2	..
10	29·745	50·0	46·8	3·2	44·0	6·0	..	..	Calm	S	..	¼	..	..	..	5	..
12	29·768	49·4	46·3	3·1	..	..	..	..	Calm	Calm	..	..	..	..	..	9	Transit
14	29·758	50·0	47·0	3·0	..	..	..	..	Calm	Calm	..	..	..	..	..	9½	..
16	29·739	50·0	48·3	1·7	47·5	2·5	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·733	50·9	50·0	0·9	..	..	..	..	E	Calm	..	..	..	..	..	10	..
20	29·734	53·4	52·5	0·9	..	..	..	..	E	Calm	..	..	..	..	..	10	..
22	29·731	54·3	53·3	1·0	51·5	2·8	66·5 48·7	82·0 39·2	SSW	Calm	..	..	3·23	0·05	5·955	10	Full
May 24. 0	29·735	55·5	54·9	0·6	..	..	..	..	S	S	..	..	..	..	..	10	..
2	29·706	55·6	53·2	2·4	..	..	..	..	Calm	S	..	..	..	..	..	10	..
4	29·665	58·2	55·4	2·8	55·0	3·2	..	..	N	Calm	..	..	..	..	..	7	..
6	29·664	52·7	50·6	2·1	..	..	..	..	SW	W	..	¼	..	..	..	9	..

May 20d. 18h. Hourly observations were commenced. (See the Section of Term-Day Observations.)

May 22d. 6h. No observations were taken, but at 5h and at 7h observations were taken. (See the Section of Term-Day Observations.)

May 22d. 18h. The reading of the Dry Thermometer was 0°·5 lower than the minimum temperature, as given by the self-registering thermometer: between this time and 20h the Dry Thermometer rose 6°·9, and in the next two hours, 8°·4.

May 22d. 22h. The quantity of water registered by Crosley's gauge, 0in·006, is by deposition of moisture.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus.	D
,, ,, a thin rain falling. [scud.	
A very unsettled looking sky: with the exception of a few clear breaks N. of the zenith, the sky is covered with cirro-stratus and	
Overcast: cirro-stratus and scud.	D
,, ,, ,,	J H
Overcast: cirro-stratus and scud: a slight rain.	
Cirro-stratus and scud: gusts of wind to $1\frac{1}{2}$.	J H
Overcast: cirro-stratus and scud: light squalls of rain since the last observation.	D
,, ,, gusts of wind.	
,, ,, a thin rain.	
,, ,,	D
,, ,,	J H
,, ,,	D
,, the clouds appear thin.	J H
Light clouds principally N.W. of the zenith.	
Cirro-stratus and scud.	J H
Clear sky in the N.W.: cumulo-stratus in the N.W. horizon: the rest of the sky is covered with cirro-stratus.	D
Cumuli and light clouds W. of the zenith; nimbi in the S. horizon: heavy-looking clouds cover the rest of the sky.	
Cumuli and cumulo-strati in all directions: the zenith nearly clear.	D
Cumuli, cumulo-strati, and large masses of scud in every direction.	P
Dark scud N. and W. of the zenith; cumulo-strati in the E. part of the sky.	J H
Dark scud: a break in the N.W. near the horizon.	J H
A few clouds near the horizon in the W.	P
The Moon enveloped in a dark and wild-looking scud, which extends from her position in S.W. to W.N.W., coming up from the former quarter, and approaching the zenith, which is at present free from cloud, as is also the rest of the sky.	
Overcast, simply by scud, which, a few minutes since, was broken in many places; a few drops of rain also falling.	
Cloudless, if we except a few clouds low down in the East horizon. [that of the nimbus.	
Numerous and finely formed cumuli in every direction, most of them having their bases of a dark, dusky colour, much resembling	P
Cumuli and cumulo-strati.	J H
Large white cumuli scattered about the sky.	D
The same.	D
Cumuli in every direction, and loose scud.	P
Cloudless.	
Light scud in the zenith and its neighbourhood, and in other parts of the sky.	
Cirro-stratus about the Moon, and scud floating in different parts of the sky.	P
The sky at present is nearly covered with cirro-stratus; the Moon and a few stars are occasionally seen, but only for a short time.	D
Fleecy clouds and cirro-stratus.	
Overcast; cirro-stratus.	
Overcast: cirro-stratus and scud: slight rain.	
The same.	D
Overcast: cirro-stratus and scud: heavy rain: the electrometer was affected. (See the Section of Extraordinary Observations.)	J H
,, ,, ,, steady rain.	
,, steady rain.	J H
The rain ceased falling about $3^h.\ 0^m$; at present, extensive breaks occur in all parts of the sky: the zenith nearly clear.	D
Cirro-stratus and scud: a shower of rain fell at $5^h.\ 25^m$.	

May $23^d.\ 0^h.$ Examined the perpendicularity of the barometer.

May $23^d.\ 10^h.$ The reading of the Dry Thermometer is $7°{\cdot}0$ lower than it was at $8^h.$

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
May 24. 8	29·670	52·6	51·5	1·1	..	..	..	..	SE	Calm	..	..	..	..	..	3	..
10	29·676	50·0	49·4	0·6	49·0	1·0	..	..	S	Calm	..	..	..	..	..	2	..
12	29·695	47·7	46·8	0·9	..	..	..	..	SSW	Calm	..	..	..	..	..	3	..
14	29·690	45·6	44·8	0·8	..	..	..	..	S	SW	..	½	..	..	..	½	Transit
16	29·701	43·8	43·5	0·3	43·0	0·8	..	..	S	SW	..	¼	..	..	..	0	..
18	29·728	45·8	45·2	0·6	..	..	..	..	S	SW	..	¼	..	..	..	¼	..
20	29·743	53·6	51·0	2·6	..	..	..	..	S	SW	..	¼	..	..	..	4	..
22	29·742	51·2	50·4	0·8	49·0	2·2	59·4 43·4	68·8 36·6	S	SSW	..	¼	3·34	0·20	6·155	4	..
May 25. 0	29·741	58·8	53·2	5·6	..	..	..	..	SSW	SSW	½ to 1	¼	..	..	..	7	..
2	29·745	61·5	54·8	6·7	..	..	..	..	SSW	SSW	½ to 2	¼+	..	..	..	7	..
4	29·752	60·5	53·5	7·0	48·5	12·0	..	..	SSW	SW	0 to 1	¼	..	..	..	5	..
6	29·752	58·3	51·5	6·8	..	..	..	..	SSW	SW	0 to ½	¼	..	..	..	4	Greatest declination S.
8	29·763	53·6	48·7	4·9	..	..	..	..	SSW	SW	..	¼	..	..	..	8	..
10	29·762	50·0	47·5	2·5	46·5	3·5	..	..	S by E	Calm	..	..	..	..	..	9½	..
12	29·745	49·8	48·4	1·4	..	..	..	..	SE	Calm	..	..	..	..	..	10	..
14	29·702	49·2	47·8	1·4	..	..	..	..	SE	SE	..	½—	..	..	..	10	Transit
16	29·665	50·5	49·7	0·8	..	..	..	..	SSE	S	..	¼	..	..	..	10	..
18	29·643	52·3	51·3	1·0	..	..	..	..	S	S	..	¼	..	..	..	10	..
20	29·658	54·0	53·5	0·5	..	..	..	..	S	S	..	¼	..	..	..	10	..
22	29·665	58·4	56·8	1·6	56·0	2·4	63·3 49·2	76·5 42·3	S	S by W	½ to 1½	½	3·41	0·09	6·250	10	..
May 26. 0	29·664	59·0	57·5	1·5	..	..	..	..	SSW	S by W	½ to 1	¼	..	..	..	10	..
2	29·663	63·4	58·6	4·8	..	..	..	..	SW	SSW	0 to 1½	½	..	..	..	7	..
4	29·665	64·0	58·6	5·4	57·2	6·8	..	..	SSW	SSW	0 to 2	½	..	..	..	10	..
6	29·675	61·2	56·9	4·3	..	..	..	..	SSW	SSW	0 to ½	½	..	..	..	3	..
8	29·699	57·1	53·6	3·5	..	..	..	..	SW	SSW	..	¼	..	..	..	1	..
10	29·725	51·8	51·0	0·8	50·0	1·8	..	..	SSW	SSW	..	¼	..	..	..	¼	..
12	29·752	49·6	49·1	0·5	..	..	..	..	SSW	SSW	..	¼	..	..	..	0	..
14	29·759	49·0	48·6	0·4	..	..	..	..	SW	SSW	..	¼	..	..	..	9	Transit
16	29·770	51·4	50·6	0·8	50·0	1·4	..	..	SW	SSW	..	¼	..	..	..	10	..
18	29·788	52·8	51·9	0·9	..	..	..	..	SW	SSW	..	¼	..	..	..	10	..
20	29·813	56·3	54·2	2·1	..	..	..	..	WSW	SSW	..	¼	..	..	..	10	..
22	29·819	60·4	56·3	4·1	54·0	6·4	65·7 48·6	80·4 42·4	WSW	SSW	..	¼	3·41	0·00	6·255	5	..
May 27. 0	29·825	68·3	61·2	7·1	..	..	..	..	SSW	SSW	..	¼	..	..	..	8	..
2	29·835	63·4	58·0	5·4	..	..	..	..	SSW	SSW	..	¼	..	..	..	9¾	..
4	29·825	64·0	58·8	5·2	57·5	6·5	..	..	SSW	SSW	..	½	..	..	..	10	..
6	29·809	62·7	57·7	5·0	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
8	29·815	59·5	57·1	2·4	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
10	29·822	57·7	56·3	1·4	56·5	1·2	..	..	SSW	SSW	..	¼	..	..	..	10	..
12	29·828	56·6	55·4	1·2	..	..	..	..	SW	SSW	..	Very light	..	..	..	10	..
14	29·813	56·0	55·2	0·8	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
16	29·833	53·0	51·5	1·5	51·0	2·0	..	..	W by S	W	..	¼	..	..	..	10	Transit
18	29·842	51·1	51·0	0·1	..	..	..	..	W	W	..	¼	..	..	..	10	..
20	29·871	52·5	52·2	0·3	..	..	..	..	WSW	Calm	..	..	..	..	..	10	..
22	29·901	55·4	51·5	3·9	52·0	3·4	68·3 51·2	86·3 49·5	N by W	N	..	¼	3·53	0·17	6·410	10	..

May 24d. Between 18h and 20h the Dry Thermometer rose 7°·8: in the next two hours it fell 2°·4, and had again risen 7°·6 at 0h.

May 25d. 16h. The reading of the temperature of the Dew Point was inadvertently omitted.

May 26d. 22h. The quantity of water registered by Crosley's gauge, 0in·005, is by deposition of moisture.

May 27d. 10h. Hourly observations were commenced. (See the Section of Term-Day Observations.)

GENERAL REMARKS.	Observer.
The S. and E. portion of the sky is nearly clear, and also the zenith: cirro-stratus and light fleecy clouds in the N.: the Sun is visible in the W. between lines of cirro-stratus.	D
Cirro-stratus in the horizon, more particularly in the S. and W.: a few patches of clouds in different parts of the sky.	D
Fleecy clouds in every direction except near the S. horizon: long lines of cirri passing across the zenith in a direction from Vapour near the North horizon. [N.N.W. to S.S.E.	J H
Cloudless.	
Cloudless; with the exception of a few fragments of scud N. of the zenith.	
Scud passing from the S.W.	J H
Cumulo-strati in the north-western and northern horizon, and also in the south-eastern, whence they rise nearly to the zenith: at about $21^h.20^m$ rain commenced falling, and continued about 25^m.	P
Cumulo-strati, cumuli, and scud in every direction.	
Cumulo-strati, cumuli, and large masses of scud in every direction: the wind increasing and blowing in gusts.	P
Cumulo-strati and cumuli.	J H
,, ,,	
Cirro-stratus and scud: the Sun is partially obscured by a cirro-stratus: but rays of light are visible, ascending in a fan-like shape toward the zenith; five or six may be easily counted.	
A long narrow break near the horizon from N.N.E. to N.W.; otherwise cloudy: cirro-stratus and scud.	J H
Overcast: cirro-stratus: a fine steady rain falling; it commenced about $11^h.45^m$, but the clouds came up about $11^h.0^m$, when a few	P
,, the same fine steady rain continues: the electrometer is quiet. [drops of rain fell.	
,, cirro-stratus: the rain is now confined to a few drops.	
,, cirro-stratus and scud: the rain has for some time ceased: at $18^h.20^m$ a fine steady rain has again begun.	P
,, ,, ,, the rain still continues in the same steady manner: electrometer quiet.	D
,, ,, ,, a very slight rain falling.	
The same.	
Cumulo-stratus and scud.	D
Overcast: cirro-stratus and scud; a few very small patches of blue sky are visible in the zenith, and about ten minutes before the observation they were of considerable extent.	P
Cumuli, cumulo-strati, and scud, in every direction.	
A few sombre-looking clouds only in the western horizon.	
Cloudless, if we except a few dark clouds in the horizon in the W.S.W.	P
Cloudless.	D
With the exception of a few breaks here and there, the sky is now covered with cirro-stratus.	
Overcast: cirro-stratus.	
,, ,,	
,, ,,	D
Large cumuli and scud.	J H
Cumuli and scud.	
Cirro-stratus and scud; but the clouds are much broken.	J H
Overcast: cirro-stratus.	D
,, ,,	
,, ,,	D
Quite cloudy with cumuli.	M
Quite calm, and totally overcast.	M
Overcast: cirro-stratus.	P
,, slight rain.	J H
,, cirro-stratus: heavy rain.	J H
,, ,, the rain ceased falling directly after the last observation.	D
The sky is quite overcast; but some portions of the southern part are lighter than others: nearly calm.	G

May 27^d, civil reckoning. The relative moisture in the atmosphere was less on this day than on any other day in the month, the mean difference of the Dry and Wet Thermometers being $8°.0$, as deduced from the two-hourly observations.

May $27^d.18^h$. The reading of the Dry Thermometer was $0°.1$ lower than the minimum temperature, as given by the self-registering thermometer.

May $27^d.22^h$ to $28^d.0^h$. The Dry Thermometer rose $5°.3$: between 8^h and 10^h it fell $5°.4$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
May 28. 0	29·909	60·7	53·0	7·7	..	..	..	..	Variable	SW	..	¼	..	..	..	8	..
2	29·909	63·2	52·2	11·0	..	..	..	..	NW	W	..	¼	..	..	..	1	..
4	29·916	64·8	53·5	11·3	44·8	20·0	..	..	Variable	W	..	¼	..	..	..	3	..
6	29·919	62·7	53·7	9·0	..	..	..	..	NW	W	..	¼	..	..	..	2	..
8	29·948	59·9	51·8	8·1	..	..	..	..	W	W	..	¼	..	..	..	1½	..
10	29·980	54·5	49·4	5·1	49·0	5·5	..	..	W by S	Calm	..	..	..	..	..	0	..
12	29·978	49·7	46·2	3·5	..	..	..	..	WSW	Calm	..	..	..	..	..	0	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	67·1 44·9	88·8 36·5	SSW	...	..	..	3·53	0·00	6·410	..	..
May 29. 0	29·993	67·3	58·6	8·7	..	..	..	..	SSW	S by W	..	¼	..	..	..	5	..
2	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	S by W	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..
14	29·843	49·0	45·8	3·2	..	..	..	..	S	S	..	¼–	..	..	..	9½	..
16	29·819	49·5	46·0	3·5	43·0	6·5	..	..	Calm	S	..	¼–	..	..	..	10	..
18	29·820	53·5	49·5	4·0	..	..	..	..	Calm	S	..	¼	..	..	..	9½	Transit
20	29·821	56·0	52·7	3·3	..	..	..	..	SW	S	..	¼	..	..	..	6	..
22	29·839	65·4	56·5	8·9	50·5	14·9	74·7 49·4	87·5 40·2	WSW	WSW	..	¼	3·53	0·00	6·410	1	..
May 30. 0	29·855	69·6	60·2	9·4	..	..	..	..	SW	WSW	½ to 2	½	..	..	..	3	..
2	29·857	71·1	60·2	10·9	..	..	..	..	WSW	W	1 to 2	¼	..	..	..	3	..
4	29·851	67·7	57·2	10·5	53·5	14·2	..	..	W	W	0 to 1	¼	..	..	..	3	..
6	29·875	66·5	54·6	11·9	..	..	..	..	WNW	W by N	..	¼	..	..	..	0	..
8	29·910	61·3	51·4	9·9	..	..	..	..	W	W by N	..	¼	..	..	..	2	..
10	29·938	55·4	49·4	6·0	44·0	11·4	..	..	WSW	W by N	..	¼	..	..	..	3	..
12	29·960	53·0	47·7	5·3	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
14	29·958	50·0	47·3	2·7	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
16	29·962	49·0	46·6	2·4	46·0	3·0	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·986	48·8	47·4	1·4	..	..	..	..	Calm	Calm	..	..	..	..	..	3	Transit
20	30·010	55·9	52·0	3·9	..	..	..	..	W	W by S	..	¼	..	..	..	0	..
22	30·013	61·3	53·7	7·6	49·5	11·8	72·7 48·9	84·0 41·7	...	WSW	..	¼	3·53	0·00	6·410	2	..
May 31. 0	30·009	65·0	54·8	10·2	..	..	..	..	WSW	W	..	¼	..	..	..	4	..
2	30·021	68·5	57·0	11·5	..	..	..	..	WSW	W by S	..	¼	..	..	..	4	..
4	30·003	67·3	55·5	11·8	47·0	20·3	..	..	W	W	..	¼	..	..	..	3	Apogee
6	30·018	65·4	54·2	11·2	..	..	..	..	W	W by S	..	¼	..	..	..	2	..
8	30·034	62·2	53·7	8·5	..	..	..	..	W by S	Calm	..	..	..	..	..	3	..
10	30·059	55·6	52·2	3·4	51·5	4·1	..	..	S by W	W by S	..	¼	..	..	..	3	..
12	30·077	52·2	50·0	2·2	..	..	..	..	SW	W by S	..	¼	3·53	0·00	6·410	0	..
14	30·063	49·1	48·0	1·1	..	..	..	..	Calm	SSW	..	¼	..	..	..	0	..
16	30·065	46·7	46·0	0·7	45·0	1·7	..	..	Calm	SSW	..	¼	..	..	..	0	..
18	30·071	48·5	47·0	1·5	..	..	..	..	Calm	SSW	..	¼	..	..	..	1	Transit
20	30·098	61·1	56·0	5·1	..	..	..	..	Calm	Calm	..	..	..	..	..	1	3rd Qr.
22	30·098	66·9	59·2	7·7	55·0	11·9	70·6 47·0	94·5 38·3	S by W	SSW	..	¼	3·53	0·00	6·410	3	..

May 28d. 0h to 1h. There are many changes in the direction of the wind between these times, generally between S. and N. N. E.

May 28d. 4h to 5h. 40m. The directions of the wind were between W. S.W. and N. E.; the changes were very frequent.

May 29d. 14h. The reading of the Dry Thermometer was 0°·4 lower than the minimum temperature, as given by the self-registering thermometer: and on May 30d at 18h the reading was 0°·1 lower than that by the self-registering thermometer.

May 29d. The highest reading of the thermometer during the month took place on this day.

May 29d. 22h. The reading of the Dry Thermometer was 9°·4 higher than at the preceding observation: on May 30th, between 8h and 10h, the temperature fell 5°·9: between 20h and 22h a rise of 5°·4 occurred.

May 30d. 0h. Examined the perpendicularity of the barometer.

GENERAL REMARKS.	Observer.
Cirro-stratus and light vapour.	J H
A few light cumuli scattered over the sky.	D
Cumulo-stratus and cumuli principally towards the N. and W.	G
Cumuli, cumulo-strati, and loose scud in different directions.	P
Vapour and fleecy clouds in the neighbourhood of the Sun, and in the eastern horizon.	J H
Cloudless.	D
,,	P
Cumuli, cumulo-strati, and loose scud in large masses in every direction.	
Overcast, except a few trifling breaks in the zenith; the clouds are somewhat broken around the Moon.	
,, cirro-stratus and scud: the Moon invisible.	
A few breaks in the N,W. only.	
Breaks in every direction, principally N. and W. of the zenith: the Sun shining.	P
A light cirrus scattered thinly about the sky.	D
Cumuli and light clouds.	
,,	D
Cumuli and loose scud scattered in every direction.	P
Cloudless.	
Scud in different parts of the sky, and cirro-stratus lining the horizon in the West and South.	
Scud of a dark character in every direction, but principally in the N. West.	P
Vapour and cirro-stratus in the horizon all around; the rest of the sky is clear.	D
Cirro-stratus and vapour; a few stars shining in the zenith.	
Overcast: cirro-stratus and vapour. [from cloud.	
Vapour and haze in the S. horizon: cirri scattered about, principally S. of the zenith: the northern part of the sky is nearly free	
Cloudless.	D
A few light, white cumuli scattered about: hazy to the North.	G
[of the sky.	
White cumuli are frequently passing from the West: white rocky cumuli near the South horizon: haze on the northern portion	G
Light cumuli and fleecy clouds.	J H
Cumuli and light haze.	D
Cumuli and light fleecy clouds.	
Cirri scattered about the sky: haze in the horizon.	
The same.	D
Cloudless.	J H
,,	
,,	
Cirri scattered in various directions, but principally South of the zenith.	
Cirri and vapour principally in the neighbourhood of the Sun.	J H
Cirri and light haze: a solar halo visible, but very faint; the halo was first seen at $21^h.\ 10^m$.	D

May 30d, civil reckoning. The mean daily temperature was greater on this day than on any other day during the month, being 59°·8, as deduced from the two-hourly observations.

May 30d. 23h. It was found that the vane of the Anemometer at about $20^h.\ 5^m$ had turned round, and the registering-pencil had gone off the rack-work: hence no observation at 22^h. [temperature rose 12°·6.

May 31d. 10h. The reading of the Dry Thermometer was 6°·6 lower than at the preceding observation: between 18^h and 20^h the

May 31d. 10h. The direction of the wind by estimation is different from the direction, as given by the Anemometer.

May 31d. 12h. The amount of rain collected during the month of May, in rain-gauge No. 4, was $2^{in}.09$. [thermometer.

May 31d. 16h. The reading of the Dry Thermometer was 0°·3 lower than the minimum temperature as given by the self-registering

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
June 1. 0	30·088	70·2	58·8	11·4	..	..	..	..	WSW	WSW	..	¼	..	..	..	1	..
2	30·051	72·8	60·1	12·7	..	..	..	..	WSW	W by S	..	¼	..	..	..	4	..
4	30·032	72·0	60·0	12·0	55·0	17·0	..	..	SW	W	..	¼	..	..	..	3	..
6	30·026	69·0	60·0	9·0	..	..	..	..	WSW	W	0 to ½	¼	..	..	..	3	..
8	30·023	65·2	57·5	7·7	..	..	..	..	SW	W	..	¼	..	..	..	0	..
10	30·028	57·5	53·9	3·6	52·0	5·5	..	..	SSW	W	..	¼	..	..	..	¾	..
12	30·000	57·2	54·1	3·1	..	..	..	..	SW	W	..	¼	..	..	..	10	..
14	29·989	58·6	56·7	1·9	..	..	..	..	WSW	W	..	¼	..	..	..	4	In Equator
16	29·977	57·6	56·3	1·3	55·5	2·1	..	..	WSW	W	..	¼	..	..	..	8	..
18	29·997	59·0	57·5	1·5	..	..	..	..	WSW	W	..	¼	..	..	..	10	..
20	30·035	61·3	58·8	2·5	..	..	..	..	WNW	W	..	¼	..	..	..	10	Transit
22	30·079	64·3	59·1	5·2	57·0	7·3	74·7 55·8	96·4 47·5	N by W	NNW	..	¼	3·53	0·00	6·410	3	..
June 2. 0	30·101	65·3	57·4	7·9	..	..	..	..	N	NNW	..	¼	..	..	..	3	..
2	30·115	69·3	58·2	11·1	..	..	..	..	N	N by W	..	¼	..	..	..	3	..
4	30·090	69·0	58·9	10·1	49·3	19·7	..	..	N by E	N	..	¼	..	..	..	½	..
6	30·107	67·2	58·0	9·2	..	..	..	..	NNE	N	..	¼	..	..	..	5	..
8	30·127	57·2	53·3	3·9	..	..	..	..	E by S	E by N	..	¼	..	..	..	2	..
10	30·144	52·0	49·5	2·5	48·2	3·8	..	..	ESE	E by S	..	¼	..	..	..	0	..
12	30·165	49·0	47·2	1·8	..	..	..	..	SSE	Calm	..	..	..	..	..	0	..
14	30·167	45·7	44·7	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	30·176	45·1	44·0	1·1	45·0	0·1	..	..	Calm	Calm	..	..	..	..	..	0	..
18	30·179	47·1	45·6	1·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	30·198	58·5	52·5	6·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	Transit
22	30·175	64·3	56·7	7·6	55·5	8·8	72·2 44·7	98·4 35·0	SW	Calm	..	..	3·53	0·00	6·410	0	..
June 3. 0	30·161	66·5	58·0	8·5	..	..	..	..	W by S	W by S	..	¼	..	..	..	¼	..
2	30·184	72·5	59·8	12·7	..	..	..	..	Variable	W	..	¼	..	..	..	½	..
4	30·102	73·0	65·0	8·0	52·3	20·7	..	..	Variable	W	..	very light	..	..	..	2	..
6	30·078	70·7	60·0	10·7	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
8	30·074	63·5	55·8	7·7	..	..	..	..	SSW	Calm	..	..	..	..	..	0	..
10	30·070	59·2	50·6	8·6	48·5	10·7	..	..	SSW	SSW	..	¼	..	..	..	0	..
12	30·059	51·5	48·2	3·3	..	..	..	..	SW	Calm	..	..	..	..	..	0	..
14	30·038	49·8	46·8	3·0	..	..	..	..	SW	Calm	..	..	..	..	..	0	..
16	30·013	49·0	46·0	3·0	45·0	4·0	..	..	SW	WSW	..	¼	..	..	..	0	..
18	30·006	50·3	47·7	2·6	..	..	..	..	SW	WSW	..	¼	..	..	..	0	..
20	29·992	61·8	55·6	6·2	..	..	..	..	SW	Calm	..	..	..	..	..	0	Transit
22	29·972	69·2	58·2	11·0	53·0	16·2	71·0 48·7	97·5 39·8	W	W	..	¼—	3·53	0·00	6·410	0	..
June 4. 0	29·958	74·0	62·0	12·0	..	..	..	..	WSW	Calm	..	..	..	..	..	0	..
2	29·937	77·5	63·2	14·3	..	..	..	..	N	Calm	..	..	..	..	..	2	..
4	29·914	76·6	64·0	12·6	52·5	24·1	..	..	NE	Calm	..	..	..	..	..	2	..
6	29·900	74·0	63·5	10·5	..	..	..	..	ENE	Calm	..	..	..	..	..	3	..
8	29·873	65·2	59·9	5·3	..	..	..	..	Calm	E	..	¼	..	..	..	4	..
10	29·873	60·7	55·0	5·7	54·0	6·7	..	..	Calm	Calm	..	..	..	..	..	4	..
12	29·844	57·8	53·3	4·5	..	..	..	..	Calm	Calm	..	..	..	..	..	4	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..

June 1d. Between 8h and 10h the Dry Thermometer fell 7°·7.

June 2d. Between 6h and 8h the Dry Thermometer fell 10°·0, and in the next two hours it fell 5°·2: between 18h and 20h a rise of 11°·4 took place; and between 20h and 22h a rise of 5°·8. On June 3d. 2h, the reading of the Dry Thermometer was higher by 6°·0 than at the preceding observation: in the two hours previous to 8h, a fall of 7°·2 occurred: between 18h and 20h the temperature rose 11°·5, and in the next two hours it rose 7°·4.

June 2d. 6h and 8h. Between these times there was a considerable change in the hygrometrical state of the atmosphere, which was becoming relatively much more charged with moisture.

June 2d. 10h to 4d. 0h. The sky was nearly cloudless; and June 3d, civil reckoning, is one of the eighteen days in the year considered cloudless: the mean amount of sky covered with cloud was one twenty-fifth of the whole.

GENERAL REMARKS.	Observer.
Light cirri in different parts of the sky: the solar halo not visible.	D
Cirri in and about the zenith, and loose scud in every direction.	P
A few light cirri, in tufts, scattered about the sky.	G
Generally the sky is of a fine deep blue: a few cirri here and there: the horizon in the North is hazy.	
Cloudless: a fine evening: this has been a fine day.	G
Scud N. N.W. of the zenith, principally near the horizon.	J H
Overcast: a few stars are faintly visible in the zenith.	P
The greater part of the sky S. of the zenith is free from clouds, even low down in the horizon, where the Moon is just rising: north of the zenith the sky is totally overcast.	
A thin cirro-stratus covering the greater portion of the sky: around the Moon the sky is tolerably clear: there is also a line of bright light in the eastern horizon.	
Overcast: cirro-stratus and scud.	
,, ,,	P
Cumuli in all directions.	D
,, ,,	
Cumuli scattered about the sky.	D
Small portions of scud here and there: hazy. [in different parts of the sky.	P
A thin cirro-stratus covering the greater part of the sky South of the zenith, and in the neighbourhood of the Sun: loose scud also	
Cirri numerous in the zenith and its neighbourhood: haze in the horizon.	
Cloudless.	P
,,	D
,,	
,,	
,,	
,,	D
,,	J H
A few light cumuli in various directions.	
The same.	J H
Light clouds and vapour.	G
Cloudless: a very fine day.	
,,	G
,,	D
,, the stars generally dim and watery.	J H
,, ,,	
,,	
,,	
,,	J H
,, the wind extremely light.	P
,,	P
Cumuli and light haze.	D
Light haze, and vapour; the air close and sultry.	J H
The same.	
Dark undefined clouds N.W. of the zenith and near the N. horizon: this has been an exceedingly hot day.	
Scud in various directions.	J H
Scud in the horizon and South of the zenith, and also in smaller portions, in other parts of the sky.	P

June 2d. 20h. This is the highest barometrical reading during the month.

June 2d. The lowest reading of the thermometer during the month took place on this day.

June 3d. 0h to 6h. The vane of the Anemometer was constantly changing its position between S. E. and N. N.W., passing the S. and the W. in its motion.

June 3d, civil reckoning. The mean height of the barometer was greater on this day than on any other during the month, being 30in·135, as deduced from the two-hourly observations.

June 4d. Between 6h and 8h the Dry Thermometer fell 8°·8, and a considerable hygrometrical change took place in the same interval, the air becoming relatively more charged with moisture.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
June 4. 20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	79·4 51·5	104·0 45·0	...	...	..	..	3·53	0·00	6·410	..	Transit
June 5. 0	29·815	..	..	..	..	..	..	..	S	Calm	..	..	..	..	..	7	..
2	..	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..
6	29·743	72·7	59·8	12·9	51·0	21·7	..	..	SW	SW	..	¼	..	..	..	10	..
8	29·753	62·7	56·7	6·0	..	..	..	..	S	SW	..	¼	..	..	..	8	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	29·748	56·1	53·3	2·8	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
16	29·743	52·8	51·5	1·3	51·0	1·8	..	..	ESE	Calm	..	..	..	..	..	10	..
18	29·757	52·8	51·5	1·3	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
20	29·776	61·7	59·2	2·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
22	29·818	73·2	62·5	10·7	57·0	16·2	78·3 51·6	100·1 42·5	NE	Calm	..	..	3·53	0·00	6·410	¼	Transit
June 6. 0	29·836	76·8	61·8	15·0	49·5	27·3	..	..	ENE	E	..	¼	..	..	..	0	..
2	29·842	78·6	62·5	16·1	47·5	31·1	..	..	ENE	E by N	..	¼	..	..	..	0	..
4	29·850	74·7	60·2	14·5	51·5	23·2	..	..	E	E	½ to 1½	¼+	..	..	..	0	..
6	29·875	70·2	59·0	11·2	..	..	..	..	E	E	½ to 1½	¼	..	..	..	0	..
8	29·922	63·8	57·5	6·3	..	..	..	..	E	E	..	¼	..	..	..	3	..
10	29·939	57·7	55·2	2·5	53·5	4·2	..	..	E	E by S	..	¼	..	..	..	9	..
12	29·985	53·7	52·9	0·8	..	..	..	..	ENE	Calm	..	..	..	..	..	1	..
14	29·993	52·3	51·4	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	30·006	51·2	50·6	0·6	50·5	0·7	..	..	Calm	Calm	..	..	..	..	..	1	..
18	30·031	52·6	51·7	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
20	30·059	62·0	58·7	3·3	..	..	..	..	Calm	E by N	..	¼	..	..	..	3	..
22	30·075	70·3	59·3	11·0	48·5	21·8	77·4 50·9	109·0 35·3	NE	E	..	¼	3·53	0·00	6·410	5	..
June 7. 0	30·089	73·0	62·2	10·8	..	..	..	..	ENE	ENE	..	¼	..	..	..	7	Transit
2	30·080	75·8	63·2	12·6	..	..	..	..	ESE	E	..	¼	..	..	..	3	..
4	30·074	71·6	62·0	9·6	58·5	13·1	..	..	ESE	E	..	¼	..	..	..	3	..
6	30·064	70·6	61·5	9·1	..	..	..	..	E	E by S	..	¼	..	..	..	2	..
8	30·095	63·2	58·5	4·7	..	..	..	..	ESE	E	..	¼	..	..	..	2	..
10	30·124	58·7	56·6	2·1	55·5	3·2	..	..	ESE	ESE	..	¼	..	..	..	2	..
12	30·133	57·3	56·0	1·3	..	..	..	..	Calm	E by S	..	¼	..	..	..	10	..
14	30·123	54·7	53·7	1·0	..	..	..	..	NNE	Calm	..	..	..	..	..	2	..
16	30·106	52·7	52·0	0·7	50·0	2·7	..	..	NNE	NE	..	¼	..	..	..	2	..
18	30·107	55·0	53·8	1·2	..	..	..	..	NNE	NE	..	¼	..	..	..	3	..
20	30·124	63·0	60·1	2·9	..	..	..	..	NE	NE	..	¼	..	..	..	2	..
22	30·125	71·3	64·0	7·3	60·0	11·3	76·6 52·5	106·7 36·5	NE	NNE	..	½	3·53	0·00	6·410	8	..
June 8. 0	30·114	77·6	66·7	10·9	..	..	..	..	NE	NNE	..	½	..	..	..	1	Transit

June 4d. 23h. The registering pencil for the direction of the wind was found off the rack, and it had been so from 20h. 5m: hence no record of the direction at 22h.

June 5d. Between 18h and 20h a rise of 8°·9 in the temperature of the air occurred, and in the next two hours a rise of 11°·5; therefore the temperature rose 20°·4 in the four hours; and a great hygrometrical change took place between 20h and 22h, the atmosphere becoming relatively less charged with moisture.

June 6d. 0h. Examined the perpendicularity of the barometer.

June 6d. 2h. The reading of the Dry Thermometer was 1°·2 higher than the maximum temperature, as given by the self-registering thermometer.

GENERAL REMARKS.	Observer.
Vapour and light cirro-stratus: the air close and sultry.	J H
Cirro-stratus and scud: the air sultry.	
A very fine sunset: a mass of clouds, highly tinged with crimson near the Sun's place, and long lines of mottled cirro-stratus, emanating from the Sun's place as a focus, and extending towards the eastern part of the heavens: the clouds in the S. E. are variously tinted with grey, orange, and crimson: heavy electrical clouds have been prevalent, but the electrometer has not been affected by them.	J H
A few stars in the zenith and North of it, the rest of the sky being overcast.	P
Overcast.	
The greater part of the sky, except an inconsiderable portion W. and S. of the zenith, is covered with a thin cirro-stratus.	
Cloudless.	P
Cloudless, with the exception of a few light cirri near the S. horizon.	D
Cloudless.	
Cloudless: at $1^h.\ 20^m$ a faint solar halo was visible, of which the radius was $24°.\ 34'$; it, however, soon disappeared.	D
Cloudless.	P
,,	
Cirri in every direction, and clouds, forming a species of cirro-stratus in the southern horizon: in the western horizon the Sun is enveloped in a dark mass of cirro-stratus, as indeed is the whole of that horizon, though the clouds are not of so sombre a hue.	
A few long, narrow breaks in the N. horizon; the rest of the sky is overcast.	P
Lines of cirro-stratus in the N.; otherwise clear.	D
Cloudless.	
Cirri scattered slightly about the sky.	
Cirri scattered about the sky.	
The same.	D
A thin veil of light cloud, equally distributed, covers a great part of the sky: a faint solar halo, the upper part only visible, which was $22\frac{1}{2}°$ from the center of the Sun.	G
The halo was soon covered with the thin veil of cloud which has prevailed all the morning: the cloud now, is of an undefinable character, but covering the greater part of the sky.	
Near the horizon in the S.E., E., and N.E., are small shining cumuli: cirri near and all round the zenith: loose fibrous clouds about: a fine blue sky generally.	G
Cirri generally prevail in all parts of the sky.	D
Cirri scattered on all sides.	
The same.	
Light fleecy clouds in the N.W. horizon, and also a few N.E. of the zenith: cirri are still to be seen here and there.	D
The sky was clouded over at $11^h.\ 25^m$: at present overcast: the air close.	J H
Light vapour, principally W. of the zenith: the sky is alternately clear and cloudy.	
Scud principally in the N. and N.W. horizon.	
Cumuli and scud.	
Light clouds, cirri, and vapour.	J H
Cirro-cumuli spread over every part of the sky, the finest specimens being South of the zenith: North of the zenith, and some little distance above the horizon, they somewhat resemble cirro-strati.	P
A few patches of scud here and there, and a species of cirro-stratus in the western horizon: hazy: shortly after this observation a halo was seen, the inner part red; distance from the Sun to ring $23\frac{1}{2}°$: an inner halo, concentric with the former, was now seen, but was too faint to be measured.	

June 6^d. Between 6^h and 8^h the Dry Thermometer fell $6°{\cdot}4$; and in the next two hours the temperature fell $6°{\cdot}1$: between 18^h and 20^h a rise of $9°{\cdot}4$ occurred; and between 20^h and 22^h a rise of $8°{\cdot}3$: therefore from 18^h to 22^h the temperature rose $17°{\cdot}7$. On June 7th, between 6^h and 8^h, there was a fall of $7°{\cdot}4$; between 18^h and 20^h a rise of $8°{\cdot}0$; and in the next two hours a rise of $8°{\cdot}3$: the air becoming relatively less charged with moisture between 20^h and 22^h.

June 6^d and 7^d. The greatest difference in the mean height of the barometer between any two consecutive civil days during the month took place between these two days, being $0^{in}{\cdot}228$, as deduced from the two-hourly observations.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
June 8. 2	30·098	79·5	68·4	11·1	..	..	..	..	NE	ENE	..	¼	..	..	..	3	..
4	30·093	78·3	67·0	11·3	63·0	15·3	..	..	NE	ENE	½ to 1	¼	..	..	..	1	..
6	30·089	76·0	66·5	9·5	..	..	..	..	NE	NE	..	¼	..	..	..	2	..
8	30·097	69·4	62·2	7·2	..	..	..	..	NE	NE	..	¼	..	..	..	2	..
10	30·118	60·4	55·5	4·9	52·0	8·4	..	..	NE	Calm	..	..	..	..	..	½	New
12	30·109	55·1	50·8	4·3	..	..	..	..	NE	Calm	..	..	..	..	..	0	..
14	30·101	52·7	49·5	3·2	..	..	..	..	NE	Calm	..	..	..	..	..	0	Greatest declination N.
16	30·087	49·6	48·0	1·6	49·0	0·6	..	..	Calm	Calm	..	..	..	..	..	0	..
18	30·095	51·2	49·8	1·4	..	..	..	..	NNE	Calm	..	..	..	..	..	0	..
20	30·099	59·5	55·0	4·5	..	..	..	..	NE	NNE	..	¼	..	..	..	2	..
22	30·107	68·8	61·0	7·8	55·0	13·8	80·4 48·9	109·5 41·0	NE	NNE	..	¼	3·53	0·00	6·410	0	..
June 9. 0	30·087	73·8	63·3	10·5	..	..	..	..	NE	NNE	..	¼	..	..	..	¼	..
2	30·054	77·6	65·2	12·4	..	..	..	..	NE	NE	..	¼	..	..	..	¼	Transit
4	30·037	76·5	65·1	11·4	56·0	20·5	..	..	NE	E by N.	..	¼	..	..	..	0	..
6	30·018	73·8	65·1	8 7	..	..	..	..	E by N	E	..	½	..	..	..	0	..
8	30·012	69·5	63·4	6·1	..	..	..	..	NE	E	..	¼	..	..	..	0	..
10	30·016	59·6	56·0	3·6	51·0	8·6	..	..	NE	NE	..	¼	..	..	..	0	..
12	30·025	54·0	51·1	2·9	..	..	..	..	NE	Calm	..	..	..	..	..	0	..
14	30·006	51·5	49·0	2·5	..	..	..	..	ENE	Calm	..	..	..	..	..	0	..
16	29·987	50·0	48·6	1·4	48·0	2·0	..	..	N	Calm	..	..	..	..	..	0	..
18	29·982	51·7	50·2	1·5	..	..	..	..	N	NNE	..	¼	..	..	..	0	..
20	29·997	62·6	56·5	6·1	..	..	..	..	NE	NE	..	¼	..	..	..	0	..
22	29·991	71·0	61·1	9·9	56·0	15·0	78·8 49·7	108·4 42·4	NE	E by N	..	¼	3·53	0·00	6·410	0	..
June 10. 0	29·973	76·5	63·7	12·8	..	..	..	..	ENE	ENE	½ to 1	¼	..	..	..	0	..
2	29·962	78·8	66·5	12·3	..	..	..	..	ENE	ENE	..	¼	..	..	..	0	Transit
4	29·952	78·0	64·7	13·3	56·0	22·0	..	..	ENE	E by N	1 to 2	½	..	..	..	0	..
6	29·946	75·6	63·8	11·8	..	..	..	..	ENE	E by N	½ to 1½	½	..	..	..	0	..
8	29·962	70·7	60·6	10·1	..	..	..	..	ENE	E by N	..	¼	..	..	..	0	..
10	30·005	60·7	55·6	5·1	53·0	7·7	..	..	NE	ENE	..	¼	..	..	..	0	..
12	30·024	55·5	52·0	3·5	..	..	..	..	NE	Calm	..	..	..	..	..	½	..
14	30·021	52·0	50·3	1·7	..	..	..	..	NE	NE	..	¼	..	..	..	0	..
16	30·020	50·4	49·4	1·0	47·5	2·9	..	..	NNE	NE	..	¼	..	..	..	¼	..
18	30·025	52·0	50·8	1·2	..	..	..	..	NNE	NE	..	¼	..	..	..	¼	..
20	30·052	63·3	58·5	4·8	..	..	..	..	NNE	NE	..	¼	..	..	..	¼	..
22	30·053	72·5	64·5	8·0	61·3	11·2	79·2 50·5	109·0 44·1	NE	ENE	..	¼	3·53	0·00	6·410	0	..
June 11. 0	30·059	79·1	68·6	10·5	..	..	..	..	NE	ENE	..	¼	..	..	..	0	..
2	30·050	85·3	70·7	14·6	..	..	..	..	NE	NNE	0 to ½	¼	..	..	..	0	..
4	30·048	82·5	69·5	13·0	64·0	18·5	..	..	ENE	ENE	..	¼	..	..	..	0	Transit
6	30·056	78·7	68·7	10·0	..	..	..	..	E by N	E	..	¼	..	..	..	0	..
8	30·068	73·4	66·5	6·9	..	..	..	..	E by N	E	..	¼	..	..	..	1	..
10	30·094	65·7	61·4	4·3	59·0	6·7	..	..	Calm	E	..	¼	..	..	..	0	..
12	30·100	63·1	60·0	3·1	..	..	..	..	Calm	E	..	¼	..	..	..	0	..
14	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	84·4 55·4	118·0 53·5	NNE	...	..	..	3·53	0·00	6·410	..	..

June 8d. Between 6h and 8h the decrease in the temperature of the air was 6°·6: between 8h and 10h it was 9°·0: between 10h and 12h it was 5°·3; therefore the decrease from 6h to 12h was 20°·9: between 20h and 22h the increase was 9°·3, and the increase in the next two hours was 5°·0. On June 9th, between 8h and 10h, the decrease was 9°·9, and in the next two hours it was 5°6: between 18h and 20h the increase was 10°·9, and between 20h and 22h it was 8°·4, and in the following two hours it was 5°·5; and thus the increase from 18h to 24h was 24c·8.

June 8d. 8h to 11d. 12h+. The sky was nearly free from clouds; it is the longest period of clear sky of any in the month: June 10d was the clearest day in the year: and June 9d, 10d, and 11d, are three days in the year out of the eighteen considered cloudless.

June 9d. 18h and 20h. Between these times the hygrometrical state of the atmosphere underwent a considerable change.

GENERAL REMARKS.	Observer.
Cirrus clouds scattered in every direction, and cumuli and cirro-stratus in the South horizon: the halo is still distinctly visible, though not, as before, through the whole of its circumference.	P
Cumuli, principally N. of the zenith: a hot day.	J H
Cumuli and light fleecy clouds.	
Cirri, principally in the neighbourhood of the Sun. [naked eye.	
A few small fragments of scud W. of the zenith: very clear near the N.W. horizon: the planet Mercury is distinctly visible to the	J H
Cloudless.	P
,,	
,,	
,,	
Cirrus clouds in every direction: hazy.	P
Cloudless.	G
A few light scattered cirri.	J H
A few light cirri scattered over the sky.	D
Cloudless: the sky is of a whitish blue. [Thermometer 65° ·1, are correct.	G
,, the weather still continues very hot for the season: the readings of the Dry Thermometer, 73° ·8, and of the Wet	
There are a few small clouds about the place of the Sun, but not sufficient to be represented numerically.	G
Cloudless.	P
,,	D
,,	
,,	
,,	
,,	D
,,	J H
,,	J H
,,	D
,,	
,, [particle of cloud has been visible since last evening.	
Cloudless: this has been another very hot day, though a slight breeze has been blowing all day from E. to N.E.: not the least	
,,	D
Vapour N. of the zenith near the horizon.	J H
Cloudless: a bright yellow light in the North, resembling moonlight.	
A few small fragments of scud.	
Small fragments of scud.	
The same.	J H
Cloudless.	G
,, [day.	D
,, with the exception of a small cloud in the North, which however is too small to be represented numerically: a very hot	D
Cloudless: very hot.	G
,, [South; the remainder of the sky a fine blue.	
A narrow streak of cloud near the place of the Sun; also a few small clouds, of no well-marked modification, low down in the	G
Cloudless.	J H
,,	P

June 8^{d}, civil reckoning. The range of the barometer was less on this day than on any other day in the month, being 0^{in}·036.

June 10^{d}. Between 8^{h} and 10^{h} the decrease in the temperature of the air was 10°·0; and between 10^{h} and 12^{h} it was 5°·2, giving a fall of 15°·2 in four hours: between 18^{h} and 20^{h} the increase was 11°·3: between 20^{h} and 22^{h} it was 9°·2: between 22^{h} and 24^{h} it was 6°·6: between June 11^{d}. 0^{h} and 2^{h} it was 6°·2; therefore the increase of the temperature between 18^{h} and 2^{h} was 33°·3: between June 11^{d}. 8^{h} and 10^{h} the decrease was 7°·7.

June 10^{d}. 8^{h} and 10^{h}. Between these times the hygrometrical state of the atmosphere underwent a considerable change.

June 10^{d}. 22^{h}. The reading of the Dew Point here given is the mean of three distinct observations, viz. 62°·0, 61°·0, and 61°·1. [meter.

June 11^{d}. 2^{h}. The reading of the Dry Thermometer was 0°·9 higher than the maximum temperature, as given by the self-registering thermo-

June 11^{d}, civil reckoning. The range of the thermometer was greater on this day than on any other day during the year, being 34°·9.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
June 12. 0	30·158	78·9	68·4	10·5	..	..	..	..	NE	NE	..	¼	..	..	..	0	..
2	30·153	86·1	70·3	15·8	..	..	..	..	E	E	..	¼	..	..	..	0	..
4	30·133	80·0	67·0	13·0	..	..	..	..	E by S	E by S	..	¼	..	..	..	0	Transit
6	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	Perigee
8	30·154	..	..	..	..	..	..	..	E	E by N	..	¼	..	..	..	5	..
10	..	..	..	..	..	..	..	..	E by S	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	30·182	55·6	54·6	1·0	..	..	..	..	E	E	..	¼	..	..	..	1	..
16	30·174	53·0	52·5	0·5	52·0	1·0	..	..	Calm	E by N	..	¼	..	..	..	1	..
18	30·181	55·3	54·3	1·0	..	..	..	..	NE	NE	..	¼	..	..	..	7	..
20	30·184	62·2	58·8	3·4	..	..	..	..	NE	NE	..	¼	..	..	..	2	..
22	30·167	68·0	61·0	7·0	57·0	11·0	87·4 53·4	118·8 46·2	NE	N	..	¼	3·53	0·00	6·410	0	..
June 13. 0	30·146	74·7	64·4	10·3	..	..	..	..	ENE	NNE	..	¼	..	..	..	0	..
2	30·122	81·0	67·5	13·5	..	..	..	..	NE	NNE	..	¼	..	..	..	0	..
4	30·078	82·1	68·9	13·2	61·0	21·1	..	..	ENE	NE	..	¼	..	..	..	0	..
6	30·049	76·8	66·4	10·4	..	..	..	..	SE	E by S	..	¼	..	..	..	1	Transit
8	30·037	68·0	61·1	6·9	..	..	..	..	ESE	Calm	..	..	..	..	..	3	..
10	30·050	64·0	59·2	4·8	58·0	6·0	..	..	Calm	Calm	..	..	..	..	..	8	..
12	30·032	60·0	57·2	2·8	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
14	29·997	57·6	55·5	2·1	..	..	..	..	Calm	Calm	..	..	..	..	..	8½	..
16	29·987	58·0	55·2	2·8	53·2	4·8	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·985	60·3	58·4	1·9	..	..	..	..	Calm	Calm	..	..	..	..	..	9½	..
20	29·981	66·4	62·1	4·3	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
22	29·984	75·4	66·7	8·7	60·0	15·4	84·0 57·0	113·6 51·2	Calm	Calm	..	..	3·53	0·00	6·410	4	..
June 14. 0	29·978	78·1	65·8	12·3	..	..	..	..	NNW	Calm	..	..	..	..	..	8	..
2	29·939	82·0	66·6	15·4	..	..	..	..	N	N by W	..	½	..	..	..	5	..
4	29·908	80·0	67·2	12·8	60·5	19·5	..	..	Calm	Calm	..	..	..	..	..	8	..
6	29·896	68·9	64·0	4·9	..	..	..	..	...	W	..	¼	..	..	..	10	Transit
8	29·882	67·2	63·0	4·2	..	..	..	..	SW	WSW	..	¼	..	..	..	9	..
10	29·895	65·0	62·3	2·7	61·0	4·0	..	..	SW	WSW	..	¼	..	..	..	10	..
12	29·891	62·8	61·0	1·8	..	..	..	..	SW	Calm	..	..	..	..	..	4	..
14	29·881	58·6	55·5	3·1	..	..	..	..	NNW	NW	..	¼	..	..	..	3	..
16	29·887	57·0	54·8	2·2	53·0	4·0	..	..	WNW	NW	..	¼	..	..	..	¼	..
18	29·895	56·7	55·0	1·7	..	..	..	..	NW	Calm	..	..	..	..	..	3	..
20	29·905	61·6	57·7	3·9	..	..	..	..	NW	N by W	..	¼	..	..	..	6	..
22	29·912	67·3	60·6	6·7	57·5	9·8	82·6 55·5	111·3 50·3	NNW	N	..	¼	3·73	0·24	6·620	8	In Equator
June 15. 0	29·930	68·4	61·4	7·0	..	..	..	..	N by W	N	..	¼	..	..	..	9	..
2	29·939	68·6	62·3	6·3	..	..	..	..	N by E	N by E	..	¼	..	..	..	9	..
4	29·924	70·7	63·2	7·5	62·0	8·7	..	..	NNE	N	..	¼	..	..	..	5	..
6	29·905	68·5	61·1	7·4	..	..	..	..	N	N	..	¼	..	..	..	4	Transit
8	29·894	64·7	59·4	5·3	..	..	..	..	Calm	Calm	..	..	..	..	..	8	1st Qr.
10	29·890	60·9	57·7	3·2	56·0	4·9	..	..	S by E	SW	..	½	..	..	..	5	..
12	29·899	55·1	52·3	2·8	..	..	..	..	SSE	S by E	..	¼	..	..	..	1	..
14	29·894	52·2	50·4	1·8	..	..	..	..	SW	SW	..	¼	..	..	..	2	..
16	29·875	51·5	50·0	1·5	49·5	2·0	..	..	SW	SW	..	¼	..	..	..	6	..

June 12d. 16h. The reading of the Dry Thermometer was 0°·4 lower than the minimum temperature, as given by the self-registering thermometer.

June 12d. Between 18h and 20h the increase in the temperature of the air was 6°·9: in the following two-hourly intervals from 18h to 13d. 4h, it was respectively 5°·8, 6°·7, 6°·3, and 1°·1; therefore the whole increase from 18h to 4h was 26°·8: between 6h and 8h, on June 13th, the decrease was 8°·8, and the increase between 20h and 22h was 9°·0.

June 12d. The highest reading of the thermometer during the month took place on this day.

June 13d. 0h. Examined the perpendicularity of the barometer.

June 14d. Between 4h and 6h the temperature of the air decreased 11°·1, and a great hygrometrical change in the atmosphere took place: between 20h and 22h the increase was 5° 7; and on June 15th, between 18h and 20h, the increase was 10°·1.

GENERAL REMARKS.	Observer.
Cloudless.	D
,,	D
,, the thermometer in the Sun has been as high as 118°.	P
	P
This day has been very fine and hot: at about $1^h.\ 55^m$ the thermometer was at 88°, and stood at that height for about 5^m—at the time a cloudless sky: a white bulb thermometer exposed to the Sun attained the elevation of 124°: after this time the heat declined, and by $5^h.\ 40^m$ the thermometer was below 80°: during the day there were cumuli and haze, all moving from the S.E.: in the evening a good deal of cloud collected, which ultimately all moved towards the N.W.: at about $11^h.\ 10^m$ a faint flash of sheet lightning in the N.W., and a rapid succession of flashes of lightning took place after this till 14^h.	G
Light scud and vapour in the N. and N.W. horizon: several flashes of sheet lightning have been visible in the N.W. horizon for the last two hours.	D
The horizon hazy all round, every other part of the sky is clear.	
The greater portion of the sky, at present, is covered with a thin vapour.	
Fragments of scud in the zenith, and also near the horizon.	D
Cloudless.	H f
,,	
,,	J H
,,	D
A few light clouds scattered in different parts of the sky.	
Vapour in the horizon: cirri and cirro-cumuli N. of the zenith. [fallen since May 27th.	
Scud and vapour nearly cover the sky: a slight shower of rain fell directly after the observation: this is the first rain that has	D
Clear in and about the zenith, but chiefly South of it, the break extending to within 30° or 40° of the South horizon.	P
A few stars in the zenith and its neighbourhood; a few also North of the zenith, about 30° from the horizon.	
Overcast: cirro-stratus.	
Cirro-strati and cirro-cumuli covering almost the whole of the sky.	
Cirro-strati: the sky presents the same appearance as detailed at the last observation.	P
Vapour and light clouds: hazy.	J H
Vapour and light cirro-stratus.	
Light cumuli, vapour, and haze.	J H
Cumulo-strati, cirro-stratus, and scud: the clouds seem charged with electricity, though the electrometer is not affected.	P
Overcast: nimbi and cumulo-strati: the electrometer has been affected since the last observation. (See the Section of Extraordinary Observations.)	
Cumulo-strati, cirro-stratus, and scud: the only break is a small zone S. and E. of the zenith: the Sun was shining at the end of the observation.	
Overcast: cirro-stratus and scud.	P
Cirro-stratus and heavy vapour: the air close and sultry.	J H
A few fragments of scud low in the N. horizon; vapour.	
Scud in the N.E. horizon.	
Scud generally prevalent N. of the zenith.	
Scud and cirro-stratus.	J H
Cirro-stratus and scud: cumulo-strati in the S. and W. horizon.	D
The same.	
Fleecy clouds and cirro-stratus.	D
Electrical clouds and cumuli.	J H
Electrical clouds, cumuli, and fleecy clouds.	
Heavy masses of scud and cumulo-stratus clouds, apparently of an electrical character, though the electrometer remains unaffected.	
Large masses of dark scud: the air close.	J H
Light fragments of scud near the horizon: every other part of the sky is clear.	D
The horizon is thick all round, particularly in the N.	
Scud and cirro-stratus.	

June 14^d. Just after 4^h the vane of the Anemometer turned from W. successively to S., to E., to N., and to W., and the registering-pencil went off the rack-work: this is the first time during this year that the vane has moved in a direction contrary to the apparent motion of the Sun, so as to cause the pencil to go off the rack-work.

June 14^d, civil reckoning. The mean daily temperature was greater on this day than on any other during the month, being 68°·5, as deduced from the two-hourly observations.

June 14^d and 15^d. The greatest difference between the mean temperature of one civil day and the next during the month took place between these two days, being 5°·3, as deduced from the two-hourly observations.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
June 15. 18	29·878	52·0	49·8	2·2	..	..	..	..	SW	SW	..	¼	..	..	..	1	..
20	29·877	62·1	56·2	5·9	..	..	..	..	WSW	SW	..	¼	..	..	..	6	..
22	29·871	64·8	57·8	7·0	55·5	9·3	74·7 50·5	99·8 43·8	...	NW	..	¼	3·73	0·00	6·620	8	..
June 16. 0	29·876	66·3	58·5	7·8	..	..	..	..	NNW	NW	..	½	..	..	..	10	..
2	29·870	66·8	59·0	7·8	..	..	..	..	NNW	NNW	..	½	..	..	..	10	..
4	29·854	70·5	60·0	10·5	53·0	17·5	..	..	NW	N	..	1	..	..	..	5	..
6	29·851	71·2	60·7	10·5	..	..	..	..	NW	N	..	¾	..	..	..	8	..
8	29·885	65·7	58·5	7·2	..	..	..	..	N by E	N by E	..	1½	..	..	..	8	Transit
10	29·898	62·5	55·5	7·0	49·5	13·0	..	..	N	N	..	½	..	..	..	10–	..
12	29·904	58·9	56·5	2·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·908	56·0	52·8	3·2	..	..	..	..	...	NNW	..	¼–	..	..	..	4	..
16	29·912	55·5	51·6	3·9	49·0	6·5	..	..	...	NNW	..	¼–	..	..	..	10	..
18	29·929	55·2	52·3	2·9	..	..	..	..	...	Calm	..	..	..	..	..	9	..
20	29·937	57·6	54·5	3·1	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
22	29·956	66·0	59·4	6·6	55·0	11·0	71·5 53·9	89·0 47·4	Calm	Calm	..	..	3·73	0·00	6·620	8	..
June 17. 0	29·960	63·9	57·6	6·3	..	..	..	..	NE	E	..	¼	..	..	..	8	..
2	29·952	70·0	61·0	9·0	..	..	..	..	NE	E	..	¼	..	..	..	8	..
4	29·951	64·7	57·2	7·5	52·0	12·7	..	..	E	E	..	¼	..	..	..	10	..
6	29·963	62·7	56·1	6·6	..	..	..	..	E by S	E by S	..	¼	..	..	..	4	..
8	29·973	57·4	53·0	4·4	..	..	..	..	E	E by S	..	¼	..	..	..	8	Transit
10	29·986	54·5	51·5	3·0	50·3	4·2	..	..	E	E	..	¼	..	..	..	10	..
12	29·999	53·5	50·4	3·1	..	..	..	..	E by S	E	..	¼	..	..	..	10	..
14	29·989	53·2	50·0	3·2	..	..	..	..	E by S	E	..	¼	..	..	..	10	..
16	29·953	52·5	49·6	2·9	47·5	5·0	..	..	E by N	E	..	¼	..	..	..	9	..
18	29·942	53·1	50·3	2·8	..	..	..	..	E by N	Calm	..	..	..	..	..	10	..
20	29·936	56·7	53·1	3·6	..	..	..	..	SE	ESE	..	¼	..	..	..	10	..
22	29·916	60·2	55·1	5·1	51·0	9·2	71·2 51·4	99·3 45·2	SE	E by S	..	¼	3·73	0·00	6·620	10	..
June 18. 0	29·893	62·2	56·7	5·5	..	..	..	..	SE	SE	..	¼	..	..	..	10	..
2	29·855	62·2	57·3	4·9	..	..	..	..	Calm	S	..	¼	..	..	..	10	..
4	29·833	59·6	57·2	2·4	55·5	4·1	..	..	NE	Calm	..	..	..	..	..	10	..
6	29·813	59·0	57·2	1·8	..	..	..	..	NE	Calm	..	..	..	..	..	10	..
8	29·790	58·7	57·0	1·7	..	..	..	..	E by N	Calm	..	..	..	..	..	10	..
10	29·772	56·0	54·6	1·4	54·0	2·0	..	..	Calm	Calm	..	..	..	..	..	8½	Transit
12	29·737	54·0	53·2	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	S by W	...	..	..	..	..	..	..	..
22	29·612	67·1	64·1	3·0	..	..	67·9 50·2	82·4 44·0	SSW	SW	..	¼	3·75	0·06	6·689	8	..

June 15d. 22h. The wind-direction-pencil was off the rack-work.

June 16d. Between 6h and 8h the decrease in the temperature of the air was 5°·5, and between 20h and 22h the increase was 8°·4: in the next two hours there was a decrease of 2°·1; then an increase followed of 6°·1, and then a decrease of 5°·3: the temperature about 17d. 0h was very variable: between 6h and 8h the decrease was 5°·3.

June 16d. 14h, 16h, and 18h. The wind-direction-pencil was off the rack-work.

GENERAL REMARKS.	Observer.
Small fragments of scud in the horizon.	D
Scud and fleecy clouds.	D
The same.	J H
Scud and cirro-stratus: a dull, heavy sky.	
Scud and cirro-stratus.	J H
The zenith, and round it for 30°, cloudless, with a deep blue sky: towards the southern horizon large cumulo-strati; the remainder of the sky is covered with cumulo-strati.	G
Soon after the last observation the sky was quite covered with scud: since that time large portions of the sky have been alternately free from, and covered with, cloud: at present scud and cirro-stratus, one large break only in the North.	
Large masses of scud have passed from W. N.W. since the last observation: at present, a large, dark, wild-looking cumulo-stratus in the South, its edges of a pale yellow: a dark stratus cloud covers the Sun; above it, scud, with solar lights of a fan-like shape, the rays passing through the breaks: the remainder of the sky is covered with similar scud: no upper cloud: the scud now passes from the West: the lower current is N. by E.	
Cirro-stratus and scud: two bright streaks of orange-coloured cloud in the N.: the sky has been quite clouded this last hour: the scud nearly stationary: the wind has subsided.	G
Overcast: cirro-stratus and dark scud: occasionally a star is for a moment seen faintly in the zenith.	P
Clouds are coming up rapidly from the N.W., having already reached the zenith, and are fast extending themselves over the rest	
Overcast: cirro-stratus and scud. [of the sky.	
Large masses of scud and cumulo-strati covering nearly the whole of the sky.	
Cumulo-strati, cirro-strati, and scud overspreading most of the sky: the principal breaks are N.W. of the zenith.	P
Cirro-stratus and vapour S. of the zenith; fleecy clouds in other directions.	J H
Fleecy clouds, cumuli, and vapour.	
Cumulo-stratus in the N.W.: scud and fleecy clouds are generally prevalent in other directions.	J H
Overcast: cirro-stratus and scud: a single and trifling break about 10° South of the zenith, which, however, will not, from its small extent, affect the notation.	P
Cirro-stratus lining the whole horizon, and extending upwards about 20°: the rest of the sky is free from cloud, with the exception of a few portions of floating scud.	
Small breaks in every direction; the whole horizon is lined with cirro-stratus, the rest of the sky is covered by large masses of	
Overcast: cirro-stratus and scud. [loose scud.	P
,, cirro-stratus and scud in heavy masses.	J H
The same.	
Scud and cirro-stratus.	
,, ,,	
,, ,,	J H
,, ,,	D
,, ,,	
The sky quite overcast: rain falling slightly.	D
A very light rain has fallen since the last observation.	G
Overcast, and nearly calm.	
A little break N. of the zenith; every other part of the sky quite cloudy: the barometer steadily falling.	G
Scud and undefined clouds.	J H
A few light clouds scattered here and there.	D
Cirro-stratus and loose scud of a lowering character: a few breaks in the zenith, and in the N.E.: a loud rumbling of thunder at $22^h.40^m$ was heard from the S.S.W.; at this time the sky was quite overcast: there were frequent squalls after this, accompanied by heavy showers. (See the Section of Extraordinary Observations.)	P

June 18^d, civil reckoning. The mean daily temperature was less on this day than on any other day during the month, being $57°\cdot3$, as deduced from the two-hourly observations; and the range of the thermometer was less on this day than on any other day during the month, being $9°\cdot7$.

June 18^d, 21^d, and 24^d, civil reckoning. The relative moisture in the atmosphere was greater on these days than on any other days in the month, the mean difference of the Dry and Wet Thermometers being $3°\cdot0$ on each day, as deduced from the two-hourly observations.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
June 19. 0	..	..	..	..	..	..	..	..	SSW	...	½ to 1½	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	NW	...	..	..	..	..	..	..	..
6	29·570	65·8	61·8	4·0	..	..	..	..	SW	SW	..	½	..	..	..	8	..
8	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	Transit
12	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
14	29·601	54·4	54·1	0·3	..	..	..	..	W by S	SW	..	¼	..	..	..	4	..
16	29·603	51·8	51·6	0·2	51·5	0·3	..	..	WSW	Calm	..	..	..	..	..	0	..
18	29·616	55·0	54·1	0·9	..	..	..	..	SSW	SW	..	¼	..	..	..	6	..
20	29·616	63·7	61·4	2·3	..	..	..	..	SW	SW	..	¼	..	..	..	7	..
22	29·621	69·4	64·2	5·2	61·0	8·4	71·4 51·9	85·0 46·4	SW	WSW	..	½	4·03	0·45	7·100	6	..
June 20. 0	29·607	71·3	64·0	7·3	..	..	..	..	SW	WSW	0 to ½	¾	..	..	..	6	..
2	29·586	70·3	64·0	6·3	..	..	..	..	SW	SW	..	½	..	..	..	10	..
4	29·582	71·0	63·0	8·0	60·5	10·5	..	..	SW	W	..	¼	..	..	..	8	..
6	29·572	66·5	60·0	6·5	..	..	..	..	SW	WSW	..	¼	..	..	..	9	..
8	29·572	62·7	57·5	5·2	..	..	..	..	SW	WSW	..	¼	..	..	..	8	..
10	29·580	58·5	56·2	2·3	54·0	4·5	..	..	Calm	S	..	very light	..	..	..	8	Transit
12	29·565	56·7	55·8	0·9	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
14	29·546	57·2	56·6	0·6	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
16	29·521	56·9	56·1	0·8	52·5	4·4	..	..	SW	SW	..	¼	..	..	..	10	..
18	29·511	58·5	57·2	1·3	..	..	..	..	Calm	SSW	..	¼	..	..	..	10	..
20	29·525	63·4	59·7	3·7	..	..	..	..	SSW	SSW	..	¼	..	..	..	9½	..
22	29·525	66·3	61·2	5·1	60·5	5·8	72·5 55·6	70·7 49·8	SSW	SSW	..	¼	4·03	0·00	7·100	9	..
June 21. 0	29·510	72·6	65·2	7·4	..	..	..	..	SSW	SSW	..	¼	..	..	..	9	..
2	29·499	63·7	62·5	1·2	..	..	..	..	S	SSW	..	¼	..	..	..	10	..
4	29·490	68·0	63·4	4·6	62·0	6·0	..	..	SW	SSW	..	¼	..	..	..	9	..
6	29·487	67·4	61·9	5·5	..	..	..	..	SW	SSW	0 to ½	¼	..	..	..	3	..
8	29·509	62·0	58·9	3·1	..	..	..	..	SW	SSW	..	½	..	..	..	9	..
10	29·549	58·0	56·5	1·5	55·5	2·5	..	..	SW	SSW	..	¼	..	..	..	7	..
12	29·572	56·0	55·0	1·0	..	..	..	..	SW	SSW	..	¼	..	..	..	0	Transit
14	29·587	55·0	54·0	1·0	..	..	..	..	SW	SSW	..	¼	..	..	..	1	Greatest declination S.
16	29·600	53·7	52·5	1·2	51·0	2·7	..	..	SW	SSW	..	¼	..	..	..	½	..
18	29·619	56·5	54·5	2·0	..	..	..	..	WSW	SW	..	¼	..	..	..	1	..
20	29·645	61·1	57·4	3·7	..	..	..	..	WSW	WSW	..	½	..	..	..	3	..
22	29·644	68·0	59·1	8·9	49·5	18·5	74·1 53·1	92·5 47·8	W by S	SW	..	½	4·10	0·10	7·205	4	..
June 22. 0	29·637	70·5	59·6	10·9	..	..	..	..	SW	SW	0 to ½	½	..	..	..	3	..
2	29·617	69·5	58·0	11·5	..	..	..	..	WSW	SW	..	¼	..	..	..	8	..
4	29·603	72·0	60·0	12·0	48·5	23·5	..	..	SW	SW	..	¼	..	..	..	5	..
6	29·604	67·2	58·1	9·1	..	..	..	..	SW	WSW	..	¼	..	..	..	6	..
8	29·613	60·0	55·5	4·5	..	..	..	..	WSW	WSW	..	¼	..	..	..	9½	..
10	29·635	56·5	54·2	2·3	52·0	4·5	..	..	SW	W	..	¼	..	..	..	9¾	Full
12	29·647	54·6	51·3	3·3	..	..	..	..	WSW	W	..	¼	..	..	..	9	Transit
14	29·692	51·7	50·0	1·7	..	..	..	..	WSW	W	..	¼	..	..	..	10	..

June 19d. Between 18h and 20h the increase in the temperature of the air was 8°·7, and in the next two hours it was 5°·7.

June 19d. 16h. The reading of the Dry Thermometer was 0°·1 lower than the minimum temperature, as given by the self-registering thermometer.

June 20d. 0h. Examined the perpendicularity of the barometer.

June 21d. 0h. A thunder storm. (See the Section of Extraordinary Observations.)

June 20d. 18h. Hourly observations were commenced. (See the Section of Term-Day Observations.)

June 21d. 0h and 2h. Between these times the atmosphere underwent a considerable hygrometrical change, its relative moisture being much increased; the relative moisture underwent a considerable decrease between 20h and 22h.

June 21d, civil reckoning. The mean height of the barometer was less on this day than on any other day during the month, being 29in·520, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
At 8h. 25m a fine double rainbow was visible.	D
[the rest of the sky being clear.	
The S.W. portion of the sky is covered with a cloud of a fleecy character, which has suddenly appeared within the last ten minutes,	D
The clouds mentioned in the last observation had disappeared at 14h. 15m: at present the sky is free from cloud: deposition.	
Fleecy clouds and scud.	
Cirro-stratus and scud.	D
Cumulo-stratus and scud: slight passing showers.	J H
,,	J H
Overcast: cirro-stratus and scud.	P
Generally cloudy: lower scud a little W. of S.	G
Rocky-looking clouds of the cumulus character near the N. horizon, and about the place of the Sun: a wild-looking sky, with a good deal of loose scud to the S.: the wind rising.	
The sky covered with cirro-stratus: the Sun just visible; the horizon just under him bright and clear.	
The Sun set clear, being visible in the horizon, while the rest of the sky was at the same time covered with cirro-stratus: at present all the northern horizon, and 20° above it, is clear: the cloud, too, appears to be rising from the North against what little wind there is, which is due South.	G
Overcast: cirro-stratus and scud.	P
,, ,,	
,, ,,	
,, ,,	
A single break only, though somewhat considerable, in the N.W. horizon; the rest of the sky overcast by cirro-stratus and scud.	P
Cirro-stratus and scud.	J H
Scud, cirro-stratus, and fleecy clouds.	
Thunder showers: cumulo-stratus and scud: the electrometer much affected.	J H
A few breaks in different directions; the sky otherwise overcast by cumulo-strati, cirro-strati and scud.	P
Cumuli, cumulo-strati, and scud, chiefly in the horizon.	
Nimbi overspreading nearly the whole sky: a few drops of rain falling: muttering of thunder heard at a distance in the S.S.W.: a few minutes before the observation a fine rainbow was visible in the S.E.	
Loose and sombre-looking masses of scud enveloping most of the sky.	P
Cloudless: the fleecy clouds which prevailed at 11h. 0m have disappeared.	J H
Fleecy clouds and scud, principally S. of the zenith.	
Vapour S. of the zenith.	
Vapour and light clouds.	
Fleecy clouds and scud, principally about the zenith.	J H
Cumuli and light cirri scattered equally over the sky.	D
Large white cumuli in the N.: clouds of a light fleecy character in the zenith, and also in the S.	
Cumuli and cumulo-strati nearly cover the sky: dark clouds and nimbi in the zenith.	D
Scud and light clouds: cumulo-stratus N. of the zenith: a difference of 23°·5 between the Dry Thermometer and the temperature	J H
Large white clouds and cumulo-strati. [of the Dew Point.	
Cumulo-stratus and scud: at 7h. 10m squalls of rain, and distant thunder.	J H
The sky is covered with cirro-stratus, scud, and nimbi, except a long bright streak in the North: a thin rain falling.	G
Scud generally covering the sky.	J H
Scud and fleecy clouds.	J H

June 21d. 20h and 22h. Between these times the reading of the Dry Thermometer decreased 6°·9, while that of the Wet Thermometer decreased only 1°·7, and therefore the air at the latter time had become relatively much more charged with moisture than it was at the former time.

June 22d. Between 6h and 8h the temperature of the air decreased 7°·2; and between 18h and 20h it increased 7°·9; in the next two hours the increase was 4°·9; in the following two hours the increase was 5°·0; and on June 23rd, between 6h and 8h, the decrease was 5°·8.

June 22h. Between 6h and 8h the atmosphere underwent a considerable hygrometrical change, its relative moisture being much increased.

June 22d. Thunder. (See the Section of Extraordinary Observations.)

June 22d. 14h. It would seem that the barometer reading is 0in·050 in error, the reading being too high by this amount.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
June 22. 16	29·643	50·4	49·2	1·2	48·0	2·4	..	..	WSW	W	..	1/4	..	..	..	10	..
18	29·665	49·2	48·2	1·0	..	..	..	..	SW	W	..	1/4	..	..	..	0	..
20	29·707	57·1	53·0	4·1	..	..	..	..	SW	WSW	..	1/4	..	..	..	0	..
22	29·716	62·0	54·0	8·0	49·0	13·0	72·0 50·6	92·0 43·8	WSW	W	..	1	4·10	0·00	7·205	5	..
June 23. 0	29·714	67·0	56·7	10·3	..	..	..	..	SW	WSW	0 to 1/2	1/4	..	..	..	3	..
2	29·707	67·6	57·1	10·5	..	..	..	..	WSW	WSW	..	1/4	..	..	..	4	..
4	29·711	68·0	58·0	10·0	49·5	18·5	..	..	SW	SW	1 to 3	3/4	..	..	..	8	..
6	29·705	64·8	57·0	7·8	..	..	..	..	SW	W	1 to 2	1 1/2	..	..	..	7	..
8	29·703	59·0	55·5	3·5	..	..	..	..	SW	WSW	..	1/4	..	..	..	9	..
10	29·668	57·5	55·2	2·3	54·3	3·2	..	..	SW	SW	..	1/4	..	..	..	10	..
12	29·646	58·7	56·6	2·1	..	..	..	..	SW	SW	1/2 to 1	1	..	..	..	10	..
14	29·610	60·1	58·0	2·1	..	..	..	..	SW	SW	1 to 1 1/2	1	..	..	..	10	Transit
16	29·589	59·2	58·5	0·7	58·5	0·7	..	..	SW	SW	1/2 to 2	1	..	..	..	10	..
18	29·572	59·5	58·6	0·9	..	..	..	..	SW	SW	1 to 2	1	..	..	..	10	..
20	29·567	61·6	60·0	1·6	..	..	..	..	SW	SW	1 to 3	3/4	..	..	..	10	..
22	29·558	61·8	60·8	1·0	60·0	1·8	71·4 57·0	91·7 52·1	SW	SW	1/2 to 1	3/4	4·10	0·03	7·245	10	..
June 24. 0	29·565	62·9	62·0	0·9	..	..	..	..	SW	WSW	0 to 2	1 1/2	..	..	..	10	..
2	29·543	70·7	63·1	7·6	..	..	..	..	SW	WSW	3 to 4	1 1/2	..	..	..	9	..
4	29·551	68·6	60·9	7·7	54·0	14·6	..	..	SW	SW	2 to 3	1 1/2	..	..	..	9	..
6	29·571	64·9	59·2	5·7	..	..	..	..	SW	SW	1/2 to 2	1	..	..	..	9	..
8	29·589	61·4	57·2	4·2	..	..	..	..	SW	SW	1 to 2	1	..	..	..	9	..
10	29·624	58·6	56·2	2·4	55·5	3·1	..	..	SW	SW	0 to 1/2	1	..	..	..	9	..
12	29·638	56·5	54·8	1·7	..	..	..	..	SW	SW	..	3/4	..	..	..	10	..
14	29·647	55·1	53·4	1·7	..	..	..	..	SW	SW	..	1/2	..	..	..	10	Transit
16	29·637	54·5	52·7	1·8	51·0	3·5	..	..	SW	SW	..	1/2	..	..	..	9 1/2	..
18	29·662	56·2	54·0	2·2	..	..	..	..	WSW	SW	..	1/4	..	..	..	10	..
20	29·664	59·6	56·4	3·2	..	..	..	..	WSW	SW	1 to 2	1/4	..	..	..	10	..
22	29·699	64·8	58·9	5·9	53·5	11·3	70·6 53·8	83·3 48·0	WSW	WSW	1/2 to 2	1	4·10	0·00	7·255	10	..
June 25. 0	29·681	63·0	58·2	4·8	..	..	..	..	SW	SW	0 to 1	1/2	..	..	..	10	..
2	29·633	64·9	58·7	6·2	..	..	..	..	SW	SW	3 to 4 1/2	1	..	..	..	10	..
4	29·566	64·3	58·3	6·0	55·5	8·8	..	..	SW	SW	4 to 6	3/4	..	..	..	10	..
6	29·514	62·0	58·0	4·0	..	..	..	..	SW	SW	4 to 6	1 1/2	..	..	..	10	..
8	29·485	59·4	57·9	1·5	..	..	..	..	SW	SW	3 to 4	1 3/4	..	..	..	10	..
10	29·490	59·5	58·2	1·3	57·5	2·0	..	..	SW	SW	3 to 3 1/2	1	..	..	..	10	..
12	29·501	58·1	56·2	1·9	..	..	..	..	WSW	SW	1 to 3	2 1/2	..	..	..	10	..
14	..	..	..	..	..	..	..	..	WSW	...	2	steady	..	..	..	..	..
16	..	..	..	..	..	..	..	..	WSW	...	1/2 to 2	..	..	..	..	..	Transit
18	..	..	..	..	..	..	..	..	WSW	...	1/2 to 1	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	WSW	...	1 to 2	..	..	..	..	..	..
22	..	..	..	..	..	..	68·1 54·9	86·1 52·5	WNW	...	3 to 4	..	4·10	0·00	7·255	..	..
June 26. 0	29·604	63·8	53·7	10·1	..	..	..	..	W	W	3 to 4 1/2	2 1/2	..	..	..	2	..
2	..	..	..	..	..	..	..	..	W	...	2 to 5	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	W	...	3 to 4 1/2	..	..	..	..	..	..
6	29·693	66·5	56·0	10·5	..	..	..	..	W by S	W	2 to 4	2 1/2	..	..	..	2	..
8	..	..	..	..	..	..	..	..	WSW	...	2 1/2 to 4	..	..	..	..	..	..

June 24d, 0h and 2h. Between these times the temperature of the Dry Thermometer increased 7°·8, while that of the Wet Thermometer increased only 1°·1, and consequently a great hygrometrical change took place in the atmosphere between these times; and between 20h and 22h, the increase in the temperature of the air was 5°·2.

June 24d. Between 0h and 2h the atmosphere underwent a considerable hygrometrical change, its relative moisture being much decreased.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and scud.	P
Cloudless.	P
,,	D
Large white cumuli equally distributed all over the sky, the sky between the clouds being of a pale blue.	G
Cumuli, cumulo-strati, and fine masses of scud.	P
Cumulo-strati and large white cumuli.	J H
Cumulo-stratus and scud.	D
White rocky cumuli near the northern horizon; clear blue sky in the zenith and for some distance East of it; every other part of the sky is covered with cumulo-stratus and scud: the wind warm, and blowing strongly.	G
Scud and cirro-stratus.	J H
Overcast: cirro-stratus and scud.	P
,, ,, gusts of wind.	D
,, ,, rising temperature: gusts of wind.	
,, ,, a slight misty rain: strong gusts of wind.	
The same.	
Overcast: cirro-stratus and scud.	D
,, ,, a slight rain falling.	J H
,, ,, steady rain.	
Scud and cirro-stratus: gusts of wind to 2+.	J H
Cirro-stratus, scud, and vapour: the Sun is shining through thin clouds.	D
Cirro-stratus and scud.	
,,	
,,	D
,,	P
,,	
A few small breaks in the cirro-stratus here and there.	
Clouds enveloping the whole of the sky.	
Overcast by a thin cirro-stratus, through which, however, the Sun pierces.	P
Cirro-stratus and scud.	G
Overcast: cirro-stratus and scud: slight rain.	J H
The clouds more broken: cirro-stratus and scud: strong gusts of wind.	J H
Overcast: cirro-stratus and scud: the wind occasionally blowing in heavy gusts, and now steadily increasing in strength.	P
,, the scud flying with the greatest rapidity, seemingly from the W.S.W. rather than from the S.W.: drops of rain have	
Overcast and rain: the wind still blowing in heavy gusts. [continued to fall since the last observation.	
The same.	P
Overcast: squalls of rain, and a gale of wind.	J H
During the whole of the night the wind has blown strong to 2 or 3: small, loose, flying clouds moving a little N. of W., and a few large cumuli.	G
The wind still blowing a gale: large white cumuli have been prevalent the whole of the day: at present there is a fine chain of white rocky cumuli ranged a little above the horizon in the W., and extending on either side to the N.W. and S.W.; also large white masses of loose scud passing over.	G

June 24^{d} and 25^{d}. The least difference in the mean height of the barometer between any two consecutive civil days during the month took place between these two days, being 0^{in}·017, as deduced from the two-hourly observations.

June 25^{d}. 8^{h}. This is the lowest barometrical reading during the month.

June 25^{d}. 12^{h}. Since 24^{d} 18^{h} the sky has been overcast; it is the longest cloudy period during the month.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
June 26. 10	..	..	..	..	..	..	..	..	WSW	...	0 to ½	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
14	29·884	51·1	48·8	2·3	..	..	..	..	WSW	WSW	..	¾	..	..	..	0	..
16	29·912	50·8	48·2	2·6	46·7	4·1	..	..	WSW	WSW	0 to ½	1+	..	..	..	0	Transit
18	29·963	52·0	48·8	3·2	..	..	..	..	W by S	W by S	½ to 1½	1½	..	..	..	0	..
20	30·006	59·3	52·5	6·8	..	..	..	..	W	W by S	½ to 1	¾	..	..	..	0	..
22	30·050	64·6	54·9	9·7	49·5	15·1	67·9 51·2	89·7 37·0	NW	WNW	½ to 1½	1	4·10	0·00	7·255	6	..
June 27. 0	30·077	65·3	54·8	10·5	..	..	..	..	WNW	WNW	½ to 1	¾	..	..	..	6	..
2	30·090	66·0	54·8	11·2	..	..	..	..	NW	WNW	0 to ½	¾	..	..	..	6	..
4	30·103	69·1	56·7	12·4	49·0	20·1	..	..	NW	NW by N	0 to ½	1	..	..	..	3	..
6	30·102	69·5	57·5	12·0	..	..	..	..	WNW	NW by W veering to W	..	1½	..	..	..	4	..
8	30·119	65·1	54·8	10·3	..	..	..	..	WNW	WNW	..	1½	..	..	..	½	..
10	30·141	60·5	52·7	7·8	48·0	12·5	..	..	NW	WNW	..	¼	..	..	..	¼	..
12	30·149	54·7	50·4	4·3	..	..	..	..	WSW	WNW	..	¼	..	..	..	0	..
14	30·151	51·0	49·3	1·7	..	..	..	..	SW	WNW	..	¼	..	..	..	0	..
16	30·150	48·1	47·5	0·6	47·5	0·6	..	..	SW	Calm	..	..	..	..	..	0	Transit
18	30·152	48·9	48·0	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	¼	..
20	30·160	60·0	55·5	4·5	..	..	..	..	SW	Calm	..	..	..	..	..	0	Apogee
22	30·153	69·1	58·4	10·7	48·0	21·1	71·0 47·9	92·5 42·2	SW	WSW	..	¼	4·10	0·00	7·255	½	..
June 28. 0	30·130	74·5	61·7	12·8	..	..	..	..	SW	WSW	..	¼	..	..	..	1	..
2	30·096	78·7	62·5	16·2	..	..	..	..	WSW	SW	..	¼	..	..	..	1	..
4	30·072	75·6	62·5	13·1	45·5	30·1	..	..	WSW	SW	..	1	..	..	..	9	..
6	30·062	72·7	62·3	10·4	..	..	..	..	WSW	W	..	½	..	..	..	9	..
8	30·032	71·0	63·8	7·2	..	..	..	..	SW	W	..	¾	..	..	..	1	..
10	30·030	63·0	58·2	4·8	54·0	9·0	..	..	SSW	SW	..	¾	..	..	..	1	..
12	30·011	58·0	54·3	3·7	..	..	..	..	SSW	SW	..	¼	..	..	..	¼	..
14	29·987	55·0	51·7	3·3	..	..	..	..	SW	WSW	..	¼	..	..	..	1	..
16	29·967	53·5	49·5	4·0	47·6	5·9	..	..	WSW	W by S	..	¼	..	..	..	1½	..
18	29·943	56·5	52·0	4·5	..	..	..	..	WSW	SW by W	..	¼	..	..	..	2	Transit
20	29·960	61·5	57·4	4·1	..	..	..	..	W by S	SW by W	..	½	..	..	..	2	..
22	29·961	68·0	59·8	8·2	55·0	13·0	77·5 52·5	100·5 46·5	W	W	..	½	4·10	0·00	7·255	3	In Equator
June 29. 0	29·953	72·6	61·6	11·0	..	..	..	..	WSW	W by S	..	½	..	..	..	3	..
2	29·932	75·2	60·8	14·4	..	..	..	..	W	W	..	½	..	..	..	¼	..
4	29·905	78·5	63·8	14·7	54·0	24·5	..	..	WSW	WSW	..	½	..	..	..	½	..
6	29·886	76·2	61·0	15·2	..	..	..	..	W	WSW	..	½	..	..	..	0	..
8	29·875	71·4	60·8	10·6	..	..	..	..	NW	W	..	very light	..	..	..	1	..
10	29·899	65·5	58·0	7·5	53·0	12·5	..	..	Calm	N	..	¼	..	..	..	1	..
12	29·877	59·7	55·9	3·8	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·840	57·9	54·6	3·3	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
16	29·852	55·3	53·2	2·1	51·5	3·8	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·838	55·2	53·5	1·7	..	..	..	..	Calm	Calm	..	..	..	..	..	4	Transit

June 26d. 16h. The reading of the Dry Thermometer was 0°·4 lower than the minimum temperature as given by the Minimum Thermometer.

June 26d. 20h and 22h. Between these times the increase in the temperature of the air was 5°·3; and on June 27th, between 10h and 12h, the decrease was 5°·8; between 18h and 20h, a very large increase took place, being 11°·1; in the next two hours a further increase of 9°·1; in the following two hours the increase was 5°·4; and the temperature in the next two hours was further increased by 4°·2, being on June 28th, at 2h, 78°·7, which was 30°·6 higher than it was at June 27d. 16h.

June 27d. 0h. Examined the perpendicularity of the barometer.

June 27d, civil reckoning. The range of the barometer was 0in·265, being greater than on any other day during the month, except June 30th, when the range was the same.

June 27d. Between 20h and 22h the atmosphere underwent a considerable hygrometrical change, its relative moisture being much decreased.

June 28d. 2h. The reading of the Dry Thermometer was 1°·2 higher than the maximum temperature as given by the self-registering Maximum Thermometer.

June 28d. 2h. The greatest difference during the month between the Dry and Wet Thermometers occurred at this time.

GENERAL REMARKS.	Observer.
Cloudless.	J H
,,	
,,	
,, gusts of wind.	J H
Large cumuli and cumulo-strati passing over rapidly.	D
The same.	
The same.	D
Scud and fleecy clouds.	J H
Fleecy clouds and cumuli: gusts of wind.	
Cumuli, principally E. of the zenith.	
Light scud S. and W. of the zenith.	J H
Cloudless.	P
,,	
,,	
A few finely formed cirri, in and around the zenith, are all the clouds visible.	
Cloudless.	P
A few light clouds in the W. horizon; otherwise clear.	D
Cirri in the N.W.	
Light cirri in various directions.	D
The sky covered with loose cumuli and scud.	G
The sky is nearly covered with cirro-cumuli and scud: no upper cloud: blue sky is seen in small patches in many places: large portions of the sky have, several times since last observation, been free from cloud, with the Sun shining.	
Clear and cloudy since the last observation, though when cloudy it is only scud: no upper cloud: within the last five minutes the scud covered three-fourths of the sky, and now not more than one-tenth is covered: a fine blue sky.	
Shortly after the last observation a fine dark bank of slate-coloured stratus formed in N.W. and N. horizon, obscuring the Sun; above this cloud were several small cumuli, beautifully coloured by the setting Sun, there being no cloud in any other part of the sky: at present a cirro-stratus occupies the N.W. and N. horizon: a few loose clouds above, and other parts of the sky cloudless.	G
Cloudless, with the exception of a few light cirri near the Moon.	J H
A bank of cirro-stratus near the N. horizon.	
Dark scud, chiefly N. of the zenith.	
Small fleecy clouds scattered over the sky.	
,, ,, ,, cumuli.	J H
Cirro-cumuli S.W. of the zenith; fragments of light scud scattered about the sky.	D
Loosely-formed cumuli scattered in all directions about the sky: a slight quantity of scud is now passing over the zenith.	
Nearly cloudless.	D
A few loose cumuli in various directions: a fine deep blue sky.	G
Cloudless. [the N.W.	D
Cirri, with a little scud S. of the zenith: light haze in the N. horizon: during the observation the wind veered from the W. to	D
A bank of cloud in the N. and N.W., 8° above the horizon, which in the N. is beautifully clear: haze round the S. horizon; every other part of the sky cloudless.	G
Cloudless.	D
At present nearly the whole sky is covered with cirro-stratus; a few stars and the Moon are at times visible: the clouds first appeared about $12^h.\ 40^m$.	
Overcast: cirro-stratus and scud.	
Cirro-cumulus in and about the zenith, and scud in the horizon all round.	

June $28^d.\ 4^h$. The temperature of the Dew Point is 30°·1 below the temperature of the air.
June $28^d.\ 4^h$. The greatest difference during the month between the Dew Point and temperature of the air occurred at this time.
June 28^d. Between 8^h and 10^h the decrease in the temperature of the air was 8°·0, and in the next two hours the decrease was 5°·0: between 18^h and 20^h the increase was 5°·0; in the next two hours it was 6°·5: on June 29th, between 8^h and 10^h, the decrease was 5°·9; and the increase between 18^h and 20^h was 7°·4.
June 28^d, civil reckoning. The range of the Thermometer was great on this day, being 30°·6.
June 28^d. Between 20^h and 22^h the atmosphere underwent a considerable hygrometrical change, its relative moisture being much decreased: a large decrease also took place on June 29th, between 0^h and 2^h; and an increase between 6^h and 8^h: it was very variable from June $27^d.\ 8^h$ to June $29^d.\ 12^h$.
June 29^d, civil reckoning. This day had the least relative moisture in the atmosphere of any day in the year, the mean difference of the Dry and Wet Thermometers being 8°·4, as deduced from the two-hourly observations.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
June 29. 20	29·801	62·6	58·4	4·2	..	..	..	..	NE	Calm	..	..	..	..	..	7	..
22	29·817	65·3	60·5	4·8	59·5	5·8	80·1 54·4	104·9 47·4	NE	Calm	..	..	4·10	0·00	7·265	10	..
June 30. 0	29·789	67·6	61·8	5·8	..	..	..	..	ENE	ENE	..	¼	..	..	..	9	..
2	29·770	64·6	60·6	4·0	..	..	..	..	ENE	E by N	..	¼	..	..	..	9¾	..
4	29·694	67·3	60·7	6·6	56·0	11·3	..	..	E by N	E	..	¾	..	..	..	10	..
6	29·714	62·4	58·5	3·9	..	..	..	..	NE	NE	..	½	..	..	..	10	..
8	29·685	58·8	56·5	2·3	..	..	..	..	ENE	NE	..	¼	..	..	..	10	..
10	29·633	57·0	55·6	1·4	54·0	3·0	..	..	NE	Calm	..	..	..	..	..	10	..
12	29·587	56·8	55·5	1·3	..	..	..	..	NE	NE	..	¼+	4·10	0·10	7·275	10	3rd Qr.
14	29·568	55·5	55·1	0·4	..	..	..	..	NNE	NE	..	¼	..	..	..	10	..
16	29·546	55·0	54·5	0·5	54·5	0·5	..	..	N	N by E	..	¼	..	..	..	10	..
18	29·523	53·2	53·0	0·2	..	..	..	..	N by E	N	½ to 1	¼	..	..	..	10	Transit
20	29·606	51·0	51·0	0·0	..	..	..	..	N	N	..	¼	..	..	..	10	..
22	29·650	49·8	49·8	0·0	48·5	1·3	68·9 49·6	86·4 49·7	N by W	NW	½ to 1	¼	4·82	0·88	8·225	10	..
July 1. 0	29·709	52·2	51·0	1·2	..	..	..	..	NW	NW	..	¾	..	..	..	10	..
2	29·727	63·6	55·4	8·2	..	..	..	..	WNW	NW	..	¾	..	..	..	7	..
4	29·731	65·2	56·7	8·5	54·0	11·2	..	..	WSW	WNW	..	¼	..	..	..	7	..
6	29·711	66·8	58·0	8·8	..	..	..	..	WSW	W	..	½	..	..	..	7	..
8	29·730	62·7	55·2	7·5	..	..	..	..	WSW	W by S	..	¼	..	..	..	0	..
10	29·726	59·3	56·5	2·8	57·0	2·3	..	..	WSW	SW	..	½	..	..	..	9	..
12	29·739	57·0	54·7	2·3	..	..	..	..	SW	WSW	..	½	..	..	..	10	..
14	29·707	56·5	55·0	1·5	..	..	..	..	SW	W by S	0 to 1	½	..	..	..	10	..
16	29·705	52·6	51·4	1·2	50·5	2·1	..	..	SW	W by S	..	½	..	..	..	¾	..
18	29·716	51·8	50·9	0·9	..	..	..	..	W	W by S	..	½	..	..	..	0	..
20	29·727	58·4	53·3	5·1	..	..	..	..	W	W by S	½ to 1	¾	..	..	..	¼	Transit
22	29·716	64·1	55·8	8·3	48·0	16·1	68·0 51·8	86·6 46·6	W	WSW	½ to 1½	1	4·82	0·00	8·230	7	..
July 2. 0	29·733	64·0	56·4	7·6	..	..	..	..	WSW	WSW	½ to 1½	1	..	..	..	10	..
2	29·720	65·3	55·2	10·1	..	..	..	..	W	W by S	1 to 3	¾	..	..	..	8	..
4	29·720	56·6	53·7	2·9	52·5	4·1	..	..	W	W by S	2 to 3½	¾	..	..	..	8	..
6	29·712	61·5	53·8	7·7	..	..	..	..	WSW	W	3 to 3½	1	..	..	..	4	..
8	29·728	58·6	53·3	5·3	..	..	..	..	W by S	W	½ to 1	½	..	..	..	3	..
10	29·762	55·7	52·0	3·7	47·0	8·7	..	..	W by S	W	½ to 1	¾	..	..	..	6	..
12	29 775	52·6	50·6	2·0	..	..	..	..	WSW	W	..	¾	..	..	..	0	..
14	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	W	...	..	..	..	..	..	..	Transit
22	..	..	..	..	..	..	68·6 47·7	90·0 42·0	W	...	..	..	4·84	0·06	8·280	..	..
July 3. 0	29·851	62·7	54·5	8·2	..	..	..	..	W by S	W	..	½	..	..	..	8	..
2	29·832	64·7	55·0	9·7	..	..	..	..	W by S	W	..	½	..	..	..	5	..
4	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	WSW	...	0 to 1	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..

June 30d. 4h to 22h. The temperature of the air at each observation was less than it was at the preceding observation.

June 30d. 12h. The amount of rain collected during the month of June, in rain-gauge No. 4, was 0in·95.

July 1d. 0h and 2h. Between these times the temperature of the air increased 11°·4, and the atmosphere underwent a considerable hygrometrical change, having at the latter time much less relative moisture in it than at the former time: between 20h and 22h the temperature of the air increased by 5°·7; between 8h and 10h a considerable hygrometrical change also took place, the relative moisture being much increased.

GENERAL REMARKS.	Observer.
Cirri, and small fleecy clouds.	D
Cirro-stratus and scud: steady rain: the rain ceased at $23^h.\ 0^m$.	J H
,,	
,,	J H
The sky is quite covered with stratus and scud: barometer falling quickly ($0^{in}\cdot08$ within the last two hours).	G
Quite overcast since the last observation: a few drops of rain have fallen within the last ten minutes.	G
Overcast: rain falling.	D
,, ,,	D
Overcast: a thin rain falling: sheet lightning has been frequent and brilliant, principally in the southern horizon: the pith balls of the electrometer have not been affected (they have been constantly watched since $11^h.\ 30^m$).	P
Overcast: a steady rain falling.	
,, the rain continues to fall steadily.	
,, ,,	
,, ,, the electrometer was not affected during the night.	P
Cirro-stratus and scud: rain falling.	J H
,, the clouds much lighter: the rain ceased at $23^h.\ 0^m$.	J H
The clouds broke at $0^h.\ 40^m$: at present cumuli and scud cover the chief part of the sky.	D
Cumulo-strati, cumuli, cirro-stratus, and scud: the sky is occasionally almost free from cloud.	P
The same.	
Cloudless.	
An extensive break in the N.W. horizon, which is slowly extending itself towards the zenith; the sky is, with this exception, overcast.	P
Overcast: cirro-stratus and scud: wind in gusts.	J H
,, ,, heavy electrical clouds.	
A few fragments of loose scud.	
Cloudless.	
A few light cumuli and cirri.	J H
Cirro-stratus and scud: cumuli in the S. horizon.	D
,,	
Heavy cirro-strati and scud: rain has been falling since the last observation.	D
Heavy showers of rain: cirro-stratus and cumulo-stratus.	J H
Cumuli, and light fleecy clouds.	
The same.	
Cumulo-stratus and heavy scud.	J H
Cloudless: between this and the last observation there has been auroral light in the N. horizon.	D
[sky: the Sun frequently shining.	
Large, white, rocky cumuli in large banks all round the horizon; scud and cumulo-stratus scattered over every other part of the Scud and cumulo-stratus moving quickly from the W.: no upper cloud: a fine day.	G

July $2^d.\ 4^h$. In the previous two hours the temperature of the air decreased $8^\circ\cdot7$, and in the following two hours it increased $4^\circ\cdot9$, the temperature of evaporation remaining nearly the same during these changes; and therefore a great hygrometrical change took place between 2^h and 4^h, and also another between 4^h and 6^h; the atmosphere at 4^h having much more relative moisture in it than it had either at 2^h or 6^h.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
July 3. 14	29·701	56·0	54·5	1·5	..	..	..	..	S by W	SSW	0 to ½	1	..	..	..	10	..
16	29·670	56·5	53·9	2·6	52·5	4·0	..	..	S by W	SSW	..	½	..	..	..	10	..
18	29·655	58·4	56·0	2·4	..	..	..	..	S by W	SSW	..	¼	..	..	..	10	..
20	29·650	61·6	59·0	2·6	..	..	..	..	S by W	SSW	..	¾	..	..	..	10	..
22	29·641	66·4	62·0	4·4	61·5	4·9	68·4 55·3	88·9 50·4	S by W	SW	0 to ½	1½	4·84	0·00	8·280	10	Transit
July 4. 0	29·622	71·5	65·0	6·5	..	..	..	..	SSW	SW	..	1½	..	..	..	8	..
2	29·599	74·3	66·7	7·6	..	..	..	..	SSW	SW	0 to 1	1½	..	..	..	8	..
4	29·588	73·8	65·2	8·6	57·0	16·8	..	..	SSW	WSW	0 to 1½	1	..	..	..	5	..
6	29·568	72·5	58·0	14·5	..	..	..	..	SSW	WSW	0 to ½	½	..	..	..	2	..
8	29·542	66·5	57·4	9·1	..	..	..	..	SSW	WSW	..	¼	..	..	..	3	..
10	29·531	60·9	57·2	3·7	55·0	5·9	..	..	S	SSW	..	¼	..	..	..	6	..
12	29·506	60·0	58·2	1·8	..	..	..	..	SSW	SSW	0 to ½	¼	..	..	..	9¾	..
14	29·482	60·5	58·8	1·7	..	..	..	..	SW	SSW	1 to 2	¼	..	..	..	9	..
16	29·488	60·0	58·0	2·0	58·0	2·0	..	..	SW	SSW	3 to 4	½	..	..	..	10	..
18	29·503	60·0	56·0	4·0	..	..	..	..	WSW	WSW	3½ to 5	½	..	..	..	10	..
20	29·521	60·1	54·0	6·1	..	..	..	..	WSW	WSW	4 to 6	½	..	..	..	4	..
22	29·555	62·3	58·5	3·8	49·0	13·3	76·9 57·0	94·3 54·5	WSW	WSW	4 to 6	2	4·84	0·00	8·280	4	Transit
July 5. 0	29·587	67·1	57·0	10·1	..	..	..	..	SW	WSW	3 to 5	2	..	..	..	7	..
2	29·609	62·7	56·5	6·2	..	..	..	..	SW	WSW	1½ to 3	1	..	..	..	8½	..
4	29·621	68·0	57·0	11·0	47·5	20·5	..	..	SW	WSW	3½ to 5	1½	..	..	..	8	..
6	29·663	60·1	56·4	3·7	..	..	..	..	SW	WSW	1 to 3	1	..	..	..	6	..
8	29·693	56·7	52·8	3·9	..	..	..	..	SW	WSW	..	¼	..	..	..	1	..
10	29·725	52·7	51·0	1·7	50·0	2·7	..	..	SW	WSW	..	¼	..	..	..	¼	..
12	29·755	51·1	49·3	1·8	..	..	..	..	WSW	WSW	..	¼	..	..	..	1	..
14	29·776	50·0	48·7	1·3	..	..	..	..	WSW	WSW	..	¾	..	..	..	3	..
16	29·825	48·3	47·7	0·6	46·5	1·8	..	..	W	WSW	..	¾	..	..	..	1	..
18	29·871	50·8	49·4	1·4	..	..	..	..	W by N	WSW	..	¾	..	..	..	½	..
20	29·912	57·2	52·7	4·5	..	..	..	..	NW	W	..	½	..	..	..	½	..
22	29·949	60·8	52·5	8·3	46·5	14·3	70·5 49·4	85·0 42·2	NW	W	0 to ½	¾	4·85	0·03	8·340	7	Transit
July 6. 0	29·975	64·3	53·9	10·4	..	..	..	..	W	W	0 to 1	½	..	..	..	7	Greatest declination N.
2	30·000	62·7	53·3	9·4	..	..	..	..	WNW	W by N	½ to 1½	¾	..	..	..	6	..
4	30·003	68·7	56·0	12·7	45·0	23·7	..	..	NW	WNW	..	½	..	..	..	7	..
6	30·029	67·0	54·4	12·6	..	..	..	..	W by N	WNW	..	½	..	..	..	6	..
8	30·046	59·7	53·7	6·0	..	..	..	..	W	W	..	¼	..	..	..	6	..
10	30·069	56·0	51·7	4·3	51·0	5·0	..	..	WSW	W	..	¼	..	..	..	½	..
12	30·081	52·0	48·7	3·3	..	..	..	..	SW	SW	..	¼	..	..	..	3	..
14	30·067	48·5	47·5	1·0	..	..	..	..	SW	SW	..	¼	..	..	..	2	..
16	30·039	46·0	44·9	1·1	44·0	2·0	..	..	SSW	Calm	..	..	..	..	..	0	..
18	30·026	47·5	46·4	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	½	..
20	30·020	57·6	53·6	4·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·984	62·8	56·9	5·9	54·6	8·2	68·3 45·5	91·4 37·5	SW	WSW	..	½	4·85	0·00	8·345	10	..
July 7. 0	29·942	63·5	55·5	8·0	..	..	..	..	SSW	WSW	..	¾	..	..	..	10	Transit
2	29·899	62·2	55·3	6·9	..	..	..	..	SW	WSW	1 to 3	1	..	..	..	10	..
4	29·856	56·0	53·5	2·5	53·0	3·0	..	..	SSW	SSW	..	½	..	..	..	10	..

July 4d. 0h. Examined the perpendicularity of the barometer.

July 4d. Between 6h and 10h the temperature of the air decreased at the rate of 6° per two hours, and a considerable hygrometrical change took place between these times and between the two hours preceding: between July 4d. 22h and July 5d. 0h, the temperature of the air increased 4°·8, while that of evaporation decreased 1°·5, so that a considerable hygrometrical change took place in the atmosphere at the latter time, the air having much more relative moisture in it than it had at the former time: between 5d. 2h and 4h the increase of temperature was 5°·3; and in the next two hours there was a decrease of 7°·9, and the hygrometrical change between 4h and 6h was large: between 18h and 20h the increase in the temperature was 6°·4.

July 4d. 6h. The difference between the Dry and Wet Thermometers was greater at this time than at any other time in the month.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus.	D
,, ,,	
,, ,,	
,, ,,	D
Overcast: cirro-stratus and scud.	J H
Cirro-stratus and scud.	
Fleecy clouds and scud.	J H
About one-half of the sky is covered with a fine cirro-cumulus and scud, the latter moving quickly from the W.S.W.	G
Fine reticulated cirro-cumulus in and about the zenith, moving from the W.S.W.: some cirri in the N.: a fine blue sky.	G
Cirri and cirro-cumuli scattered here and there.	D
Light clouds and scud.	D
A few stars are faintly visible N. of the zenith; the rest of the sky is covered with cloud that has been some time rising from the	P
A few stars are in the zenith, and also in its immediate neighbourhood, to the South and East thereof. [S. S.W.	
Overcast: cirro-stratus and scud.	
Overcast: a small break is visible N.W. of the zenith, but it will not affect the registered notation.	
Scud in every part of the sky: in the zenith the clouds bear some resemblance to cirro-cumuli.	P
Fleecy clouds and scud.	J H
Cumuli: fleecy clouds and scud: gusts of wind. [rain between $2^h.10^m$ and $2^h.25^m$.	
Cumulo-strati and scud, with light fleecy clouds: slight passing showers: the wind blowing in gusts to $1\frac{1}{2}$: several squalls of	
Heavy cumulo-stratus in the N.: scud and fleecy clouds: gusts of wind to 2.	J H
Cirro-stratus and scud: occasional showers of rain.	D
A few clouds W. of the zenith: cumuli in the S.W. horizon: a rainbow was visible at $7^h.27^m$: a shower of rain had just	P
Cloudless, with the exception of a few dark clouds low down in the horizon to the W. [preceded it.	P
Heavy vapour in various directions.	J H
Heavy vapour.	
Loose scud.	
Loose scud and light cirri.	
A few light cirri in various directions.	J H
Cumuli and cumulo-strati.	D
,,	
Large white cumuli in the S. horizon: dark heavy-looking clouds in the zenith: clear blue sky in the northern part of the sky.	D
Scud and cumuli: gusts of wind.	J H
,, ,,	
Cumulo-strati and scud: a heavy shower of rain at $7^h.30^m$: a very fine rainbow appeared immediately after; in addition to the usual order of colours, there appeared two narrow circles of red within the main arch, and very near each other, or nearly of the same radius.	
Vapour W. of the zenith, principally near the horizon.	J H
Heavy vapour in all directions.	D
Vapour: the stars are dimly shining.	
Cloudless: the horizon is somewhat hazy.	
A few light clouds: hazy.	
Overcast: cirro-stratus and vapour.	D
Cirro-stratus and scud: gusts of wind.	J H
,, ,,	
Overcast: cirro-stratus and scud: gusts of wind to $1\frac{1}{2}$.	J H
,, rain falling.	D

July 4^d and 5^d. The least difference in the mean height of the barometer between any two consecutive civil days during the month took place between these two days, being $0^{in}.006$, as deduced from the two-hourly observations. [Thermometer.

July $5^d.16^h$. The reading of the Dry Thermometer was $1^\circ.1$ lower than the minimum temperature, as given by the self-registering Minimum

July 5^d and 6^d. The greatest difference in the mean height of the barometer between any two consecutive civil days during the month took place between these two days, being $0^{in}.361$, as deduced from the two-hourly observations.

July 6^d. Between 6^h and 8^h the decrease in the temperature of the air was $7^\circ.3$; there was also a considerable hygrometrical change in the atmosphere between these times; and between 20^h and 22^h the increase of temperature was $5^\circ.2$. On July 7th, between 2^h and 4^h, the decrease of temperature was $6^\circ.2$, and the increase between 20^h and 22^h was $9^\circ.8$; a decrease also in the relative state of moisture in the atmosphere took place between these hours.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
July 7. 6	29·804	55·6	52·6	3·0	..	..	..	..	SSW	S by W	1 to 2	1	..	..	..	10	..
8	29·771	55·3	54·0	1·3	..	..	..	..	SSW	S by W	..	¾	..	..	..	10	..
10	29·733	57·6	55·6	2·0	54·0	3·6	..	..	SW	S by W	1 to 1½	¾	..	..	..	10	..
12	29·689	57·5	56·9	0·6	..	..	..	..	SW	S by W	..	½	..	..	..	10	..
14	29·695	54·0	53·0	1·0	..	..	..	..	W	WSW	..	¼	..	..	..	9¾	..
16	29·685	52·0	50·5	1·5	49·8	2·2	..	..	W	W by S	..	¼	..	..	..	10	..
18	29·689	51·9	50·6	1·3	..	..	..	..	W	WSW	..	¼	..	..	..	10	..
20	29·689	55·2	52·7	2·5	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	New
22	29·681	65·0	57·8	7·2	48·5	16·5	66·5 52·1	77·0 46·2	W by S	SW	..	½	4·88	0·06	8·415	7	..
July 8. 0	29·656	65·6	58·1	7·5	..	..	..	..	SSW	SW	0 to 1	½	..	..	..	9	Transit
2	29·634	64·9	57·6	7·3	..	..	..	..	SSW	SW	1 to 3	¾	..	..	..	7	..
4	29·598	64·0	56·5	7·5	53·5	10·5	..	..	SSW	SW	1 to 2	¾	..	..	..	8	..
6	29·559	61·0	55·7	5·3	..	..	..	..	SSW	SW	1 to 2	½	..	..	..	10	..
8	29·535	57·2	54·4	2·8	..	..	..	..	S	SW	0 to 1	½	..	..	..	6	..
10	29·485	55·0	54·5	0·5	54·0	1·0	..	..	S by E	S by W	0 to ½	½	..	..	..	10	..
12	29·490	53·9	52·9	1·0	..	..	..	..	SW	SW	0 to 1	¾	..	..	..	9	..
14	29·476	52·4	50·8	1·6	..	..	..	..	SW	SW	..	1½	..	..	..	9	..
16	29·468	52·3	51·1	1·2	51·0	1·3	..	..	SW	SW	1 to 2	1½	..	..	..	3	..
18	29·508	54·0	51·2	2·8	..	..	..	..	SW	SW	1 to 3	1½	..	..	..	2	..
20	29·547	59·0	54·2	4·8	..	..	..	..	WSW	SW	1 to 2	1	..	..	..	1	..
22	29·579	63·4	56·4	7·0	51·0	12·4	67·2 51·8	85·4 47·0	WSW	W by S	½ to 2	¾	5·02	0·20	8·635	6	..
July 9. 0	29·608	64·8	55·9	8·9	..	..	..	..	SW	WSW	0 to 1	½	..	..	..	5	..
2	29·596	68·6	58·9	9·7	..	..	..	..	SW	SW	1 to 2	½	..	..	..	8	Transit
4	29·619	57·8	56·2	1·6	55·0	2·8	..	..	SW	SW	..	¾	..	..	..	10	..
6	29·599	58·7	56·1	2·6	..	..	..	..	SW	SW	0 to 1	½	..	..	..	10	..
8	29·569	57·0	55·2	1·8	..	..	..	..	SSW	SW	0 to ½	1	..	..	..	10	..
10	29·564	57·7	56·7	1·0	55·0	2·7	..	..	SW	SW	½ to 1	1	..	..	..	7	..
12	29·603	55·4	53·5	1·9	..	..	..	..	SW	SW	½ to 1	½	..	..	..	3	..
14	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	Perigee
22	..	..	..	..	..	..	68·4 50·1	88·5 44·2	SW	...	..	..	5·04	0·03	8·670	..	..
July 10. 0	29·806	64·3	54·5	9·8	..	..	..	..	SW	SW	..	¾	..	..	..	8	..
2	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	Transit
4	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
8	29·778	63·5	56·5	7·0	..	..	..	..	SSW	SW	..	¾	..	..	..	2	..
10	..	..	..	..	..	..	..	..	S by E	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SSE	...	..	..	..	..	..	..	..
14	29·693	53·6	50·8	2·8	..	..	..	..	SE	SW	..	¼	..	..	..	5	..
16	29·632	57·6	54·2	3·4	52·5	5·1	..	..	S by E	S	..	½	..	..	..	10	..
18	29·576	58·1	55·5	2·6	..	..	..	..	S by E	S	..	¼	..	..	..	7	..
20	29·555	66·8	62·1	4·7	..	..	..	..	S by W	S	..	¼	..	..	..	1	..
22	29·551	70·0	64·8	5·2	63·5	6·5	72·1 53·3	93·0 47·2	SSW	S by W	½ to 1	¾	5·04	0·00	8·670	8	..
July 11. 0	29·524	71·5	66·0	5·5	..	..	..	..	S by W	S by W	½ to 1	1	..	..	..	5	..

July 7d, civil reckoning. The mean temperature on this day was 55°·8, as deduced from the two-hourly observations, being the same as the mean daily temperature on the 21st; and the mean was less on these two days than on any other day during the month.

July 7d. 12h. Since 6d. 20h the sky has been overcast: it is the longest cloudy period during the month.

July 8d. 16h. This is the lowest barometrical reading during the month.

July 9d. Between 2h and 4h the decrease in the temperature of the air was 10°·8: a considerable hygrometrical change also took place between these two hours, the relative moisture in the atmosphere having greatly increased.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and scud.	D
,, ,,	
,, ,,	D
,, ,, a thin misty rain falling.	P
A few stars are faintly seen in the zenith and E. of it, the rest of the sky being still overcast: the rain has ceased.	
Overcast: cirro-stratus and scud.	
,, ,,	
,, cirro-stratus.	P
Light scud and cumuli.	D
Clear blue sky N. of the zenith: cumulo-stratus near the horizon in the N.: cirro-stratus and scud elsewhere.	D
Cumuli, cirro-stratus, and scud: gusts of wind.	J H
Cirro-stratus and scud in every direction, there being but few breaks, and those East of the zenith.	P
Overcast: cirro-stratus and scud.	
Loose scud in every direction.	
Overcast: heavy rain.	P
Cirro-stratus and dark scud, with vapour.	J H
The same.	
The same.	
Scud and cirro-stratus: gusts of wind.	
Light fleecy clouds: gusts of wind.	J H
Cumulo-stratus and scud.	D
Cumuli and light scud. [scud, and vapour.	
Clear S.E. of the zenith: heavy cumulo-strati in the horizon in the S. and W.: the rest of the sky is covered with cirro-stratus,	D
Overcast: cirro-stratus and scud: rain falling.	J H
Cirro-stratus and scud: the rain has ceased.	
,, slight rain at intervals.	
,,	J H
Cirro-stratus in the horizon on all sides, the remainder of the sky is clear.	D
Cumuli and fleecy clouds.	J H
Light clouds and small cumuli: this has been a fine day.	J H
The sky clear in the zenith, and within 30° round it; cirro-stratus and vapour in the rest of the sky.	D
Overcast: cirro-stratus	
Scud and fleecy clouds.	
Cirri N.W. of the zenith; every other part of the sky is clear.	D
Large masses of scud and fleecy clouds.	J H
Scud and light clouds: gusts of wind.	J H

July 10d. Between 18h and 20h the temperature of the air increased 8°·7: July 11th, between 6h and 8h, its decrease was 8°·6; between 12h and 14h the decrease was 5°·0; and between 20h and 22h the increase was 6°·4.

July 11d. 0h. Examined the perpendicularity of the barometer.

July 11d. Between 0h and 2h the atmosphere underwent a considerable hygrometrical change, its relative moisture being considerably decreased; an increase took place between 6h and 8h, and a decrease between 20h and 22h.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
July 11. 2	29·493	76·2	66·6	9·6	..	..	..	..	SSW	S by W	1½ to 3	1¼	..	..	..	1½	..
4	29·479	74·7	65·1	9·6	61·5	13·2	..	..	SSW	SSW	½ to 2	½	..	..	..	4	Transit
6	29·480	73·1	64·5	8·6	..	..	..	..	SSW	SSW	½ to 1	½	..	..	..	6	..
8	29·500	64·5	61·6	2·9	..	..	..	..	SSW	SSW	..	¼	..	..	..	9	..
10	29·515	62·2	60·6	1·6	60·0	2·2	..	..	SSW	SSW	..	¼	..	..	..	7	..
12	29·533	61·7	60·2	1·5	..	..	..	..	WSW	Calm	..	..	..	..	..	10	..
14	29·563	56·7	55·7	1·0	..	..	..	..	WSW	Calm	..	..	..	..	..	10	..
16	29·595	55·0	54·5	0·5	53·5	1·5	..	..	WSW	Calm	..	..	..	..	..	10	..
18	29·648	55·0	54·2	0·8	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
20	29·697	59·0	56·5	2·5	..	..	..	..	W	W by S	..	¼	..	..	..	6	..
22	29·748	65·4	58·3	7·1	55·5	9·9	77·5 54·9	92·6 49·8	WNW	WSW	..	¼	5·04	0·01	8·680	6	..
July 12. 0	29·786	74·0	63·0	11·0	..	..	..	..	WSW	WSW	..	¼	..	..	..	6	..
2	29·823	70·5	59·7	10·8	..	..	..	..	W	WSW	0 to 1	¾	..	..	..	4	..
4	29·834	72·0	60·0	12·0	57·2	14·8	..	..	W	W	0 to ½	½	..	..	..	4	Transit
6	29·861	68·7	57·0	11·7	..	..	..	..	WNW	W	0 to ½	¼	..	..	..	1	In Equator
8	29·914	64·5	56·0	8·5	..	..	..	..	WNW	W by N	..	¼	..	..	..	2	..
10	29·958	60·0	54·2	5·8	50·5	9·5	..	..	W	W by N	..	¼	..	..	..	5	..
12	30·003	54·7	52·5	2·2	..	..	..	..	SW	Calm	..	..	..	..	..	0	..
14	30·011	52·7	52·1	0·6	..	..	..	..	SSW	W by S	..	¼	..	..	..	0	..
16	30·025	52·1	51·5	0·6	49·5	2·6	..	..	SW	W by S	..	¼	..	..	..	4	..
18	30·016	57·7	55·6	2·1	..	..	..	..	WSW	W by S	..	¼	..	..	..	8	..
20	30·022	65·1	59·1	6·0	..	..	..	..	WSW	WSW	..	¾	..	..	..	7	..
22	30·036	68·0	61·4	6·6	59·5	8·5	74·3 52·3	100·3 46·5	WSW	SW	1 to 3	1	5·04	0·00	8·680	9	..
July 13. 0	30·047	72·3	64·6	7·7	..	..	..	..	SW	SW	2 to 3	1	..	..	..	8	..
2	30·055	71·5	65·1	6·4	..	..	..	..	SW	SW	1 to 2	¾	..	..	..	9	..
4	30·061	73·0	65·1	7·9	64·0	9·0	..	..	SW	WSW	1 to 3	1	..	..	..	8	..
6	30·064	68·8	63·1	5·7	..	..	..	..	SW	WSW	2 to 3	1	..	..	..	10	Transit
8	30·081	66·2	62·3	3·9	..	..	..	..	SW	WSW	½ to 1	1	..	..	..	10	..
10	30·123	62·7	60·5	2·2	59·0	3·7	..	..	WSW	WSW	..	¾	..	..	..	5	..
12	30·159	57·2	54·4	2·8	..	..	..	..	WSW	WSW	..	¼	..	..	..	0	..
14	30·174	53·4	51·9	1·5	..	..	..	..	WSW	WSW	..	¼	..	..	..	0	..
16	30·192	51·0	50·5	0·5	50·0	1·0	..	..	SW	WSW	..	¼	..	..	..	0	..
18	30·215	51·6	51·1	0·5	..	..	..	..	SW	SW	..	¼	..	..	..	0	..
20	30·229	58·8	55·1	3·7	..	..	..	..	W by S	W	..	¼	..	..	..	1	..
22	30·230	64·2	57·0	7·2	55·0	9·2	73·6 53·3	86·7 43·1	W	W	..	¼	5·04	0·00	8·680	¼	..
July 14. 0	30·220	68·0	56·6	11·4	..	..	..	..	WSW	WSW	..	¼	..	..	..	1	..
2	30·230	69·8	58·3	11·5	..	..	..	..	W	W	..	¼	..	..	..	1	..
4	30·217	71·3	59·0	12·3	53·0	18·3	..	..	W	WNW	..	¼	..	..	..	1	..
6	30·219	68·8	57·7	11·1	..	..	..	..	...	W by N	..	¼	..	..	..	3	Transit
8	30·226	66·1	57·2	8·9	..	..	..	..	NW	NW	..	¼	..	..	..	0	..
10	30·241	61·0	55·6	5·4	51·5	9·5	..	..	W	Calm	..	..	..	..	..	1	1st Qr.
12	30·252	56·7	53·1	3·6	..	..	..	..	N	Calm	..	..	..	..	..	1	..
14	30·255	54·8	52·0	2·8	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
16	30·257	54·0	51·3	2·7	50·0	4·0	..	..	Calm	Calm	..	..	..	..	..	7	..
18	30·261	51·8	50·5	1·3	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	30·275	61·5	55·0	6·5	..	..	..	..	NE	Calm	..	..	..	..	..	¼—	..
22	30·276	68·1	57·3	10·8	48·5	19·6	72·7 52·2	97·9 41·8	NE	NE	..	¼	5·04	0·00	8·680	¼	..

July 11d. civil reckoning. The mean height of the barometer was less on this day than on any other day during the month, being 29in·544, as deduced from the two-hourly observations.

July 11d, civil reckoning. The mean daily temperature was greater on this day than on any other during the month, being 65°·8, as deduced from the two-hourly observations.

July 12d. Between 10h and 12h the temperature of the air declined 5°·3; between 16h and 18h it increased 5°·6; and between 18h and 20h the increase was 7°·4. July 13th, between 10h and 12h, the decrease was 5°·5; between 18h and 20h the increase was 7°·2; and in the next two hours the increase was 5°·4; a large hygrometrical change took place in the atmosphere between these two hours, the relative moisture being much diminished.

July 12d, civil reckoning. The range of the barometer was greater on this day than on any other day in the month, being 0in·440.

July 13d. 16h. The reading of the Dry Thermometer was 2°·3 lower than the minimum temperature, as given by the self-registering Minimum Thermometer.

GENERAL REMARKS.	Observer.
Cumuli and scud in every direction.	P
Cirro-cumulus in the zenith: cumuli and vapour in the N.W. horizon; the remaining part of the sky is clear.	D
Cirro-stratus and light fleecy clouds.	
Cirro-stratus and scud: a shower of rain now falling: an imperfect rainbow visible in the S.E.	
,, flashes of lightning in the S.E.	D
Overcast: cirro-stratus: a few stars are occasionally visible: frequent flashes of sheet-lightning in the E.S.E.	P
,,	
,,	
,, cirro-stratus and scud.	
Cirro-cumuli in the zenith, and loose scud in other parts of the sky.	P
Cumuli and cumulo-strati.	J H
Cumuli, cumulo-strati, and fleecy clouds.	
Large white cumuli and fleecy clouds.	J H
Finely-formed cumuli, and large white masses of scud: hazy.	P
A few cumuli in the western horizon, and scud in different directions.	
Cirro-stratus in the western horizon, and scud in other parts of the sky, principally in the S.W. around the Moon. [zenith.	
Scud in every direction, and cirro-stratus in the horizon to windward, from whence the clouds are slowly advancing towards the	P
Cloudless, but the stars near the zenith appear dim.	J H
,,	
Scud W. of the zenith.	
Cirro-stratus and scud generally prevalent.	
Light cirro-stratus and scud: the wind blowing in gusts.	J H
Cirro-stratus and scud: a few breaks in different parts of the sky.	D
,, gusts of wind.	
,,	D
Scud and cirro-stratus: the wind blowing in gusts.	J H
Overcast: cirro-stratus and scud.	
Scud and cumulo-stratus.	
Large masses of scud.	J H
Cloudless.	D
,,	
,,	
,,	
Light cirri scattered about the N. of the zenith.	D
A few light clouds in various directions.	J H
Cumuli, and small floating masses of scud.	P
Cumuli and loose scud.	P
A few loose cumuli scattered equally about the sky.	D
Cumuli and loose scud in all directions, more particularly in the N. of the zenith.	
Cloudless.	
Scud near the N. horizon; otherwise clear.	D
Black clouds in the W. and in the S. horizon; in the latter direction they almost approach Jupiter.	P
Breaks in the zenith and its neighbourhood; the rest of the sky being overcast.	
Breaks in every part of the sky; the clouds being of a white and watery appearance.	
Cloudless.	
A few cirri only in the zenith and around it, scarcely amounting to the notation given to it.	P
Light cirri in and near the zenith.	J H

July 14d. 6h. It was found that the vane of the Anemometer at 5h had turned round by the N., E., and S., and that the registering-pencil had gone off the rack-work: hence no direction was registered at 6h.

July 14d, civil reckoning. The mean height of the barometer was greater on this day than on any other day during the month, being 30in·220, as deduced from the two-hourly observations.

July 14d. 18h and 15d. 16h. The readings of the Dry Thermometer were 0°·4 and 0°·7 respectively lower than the minimum temperature, as given by the self-registering Minimum Thermometer.

July 14d. Between 18h and 20h the temperature of the air rose 9°·7, and in the next two hours it increased 6°·6: a considerable hygrometrical change took place between 18h and 22h, the air becoming relatively much less charged with moisture. On July 15th, between 6h and 8h, the temperature decreased 7°·5, and in the next two hours the decrease was 6°·6; between 18h and 20h the increase was 11°·5.

July 14d. 22h. This is the highest barometrical reading during the month.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Raingauge No. 1, (Osler's)	RAIN. Reading of Raingauge No. 2.	RAIN. Stand of Raingauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
July 15. 0	30·248	71·0	58·5	12·5	..	..	..	..	Calm	NE by E	..	¼	..	..	..	¼	..
2	30·209	73·8	60·0	13·8	..	..	..	..	...	NE by E	..	¼	..	..	..	0	..
4	30·173	75·0	61·7	13·3	49·0	26·0	..	..	...	Calm	..	..	..	..	..	0	..
6	30·144	71·8	60·5	11·3	..	..	..	..	E	E by N	..	¼	..	..	..	0	..
8	30·144	64·3	56·1	8·2	..	..	..	..	E	E by N	..	¼	..	..	..	0	Transit
10	30·140	57·7	53·5	4·2	53·4	4·3	..	..	E	E by S	..	¼	..	..	..	0	..
12	30·143	53·7	51·0	2·7	..	..	..	..	ESE	E	..	¼	..	..	..	0	..
14	30·105	50·6	49·7	0·9	..	..	..	..	Calm	E by S	..	¼	..	..	..	0	..
16	30·075	48·5	48·0	0·5	47·5	1·0	..	..	Calm	Calm	..	..	..	..	..	0	..
18	30·066	50·0	49·4	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	30·062	61·5	56·8	4·7	..	..	..	..	E	ESE	..	just percep.	..	..	..	1	..
22	30·054	66·3	57·6	8·7	52·0	14·3	77·7 49·2	109·3 41·3	E	E	0 to ½	¼	5·04	0·00	8·680	0	..
July 16. 0	30·038	68·9	60·0	8·9	..	..	..	..	...	E	..	¼	..	..	..	0	..
2	30·015	71·7	60·0	11·7	..	..	..	..	...	E	..	½	..	..	..	½	..
4	29·981	67·4	57·3	10·1	50·0	17·4	..	..	...	ESE	0 to 1	¾	..	..	..	¾	..
6	29·946	64·3	56·0	8·3	..	..	..	..	...	ESE	0 to 2	¼	..	..	..	¼	..
8	29·920	62·1	58·9	3·2	..	..	..	..	...	ESE	½ to 1	½	..	..	..	½	Transit
10	29·917	57·0	54·9	2·1	54·0	3·0	..	..	NE	ESE	..	½	..	..	..	1	..
12	29·897	56·1	55·0	1·1	..	..	..	..	ENE	NE	..	¼	..	..	..	0	..
14	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	ESE	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	ESE	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SE	...	1 to 2	..	..	..	..	..	..
22	..	..	..	..	..	..	72·4 54·8	103·5 49·2	ESE	...	2 to 4	..	5·04	0·00	8·680	..	..
July 17. 0	29·768	66·3	59·8	6·5	..	..	..	..	E	E	1 to 3	¾	..	..	..	4	..
2	..	..	..	..	..	..	..	..	E	...	1 to 2	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	E	...	0 to 1	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	E	...	0 to 1	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	Transit
10	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	29·676	57·2	56·3	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
16	29·675	55·0	54·7	0·3	54·5	0·5	..	..	Calm	Calm	..	..	..	..	..	3	..
18	29·678	57·7	56·7	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
20	29·697	63·0	60·4	2·6	..	..	..	..	W	Calm	..	..	..	..	..	5	..
22	29·705	67·6	62·0	5·6	61·0	6·6	69·2 57·0	98·9 48·9	W	W	..	¼	5·04	0·00	8·680	8	..
July 18. 0	29·724	72·7	63·5	9·2	..	..	..	..	NW	WNW	..	¼	..	..	..	7	..
2	29·717	75·4	64·4	11·0	..	..	..	..	W	W	..	¼	..	..	..	8	..
4	29·720	75·6	63·7	11·9	57·0	18·6	..	..	WSW	SW	..	¼	..	..	..	9	..
6	29·721	71·5	62·8	8·7	..	..	..	..	WSW	SW	..	¼	..	..	..	7	..
8	29·738	66·7	61·5	5·2	..	..	..	..	SW	SW	..	¼	..	..	..	6	..
10	29·754	62·3	58·8	3·5	56·0	6·3	..	..	Calm	Calm	..	..	..	..	..	9	Transit
12	29·761	61·3	58·4	2·9	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·739	60·0	58·4	1·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·737	58·8	57·7	1·1	58·0	0·8	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·724	59·0	58·3	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..

July 15^d and 16^d, civil reckoning. The range of the thermometer was 23°·2 on both of these days, being larger than the range on any other day during the month.

July 15^d. 4^h. The difference between the Dry Thermometer and the Dew Point was greater at this than at any other time during the month.

July 15^d. 4^h. 41^m. It was found that the vane of the Anemometer at 0^h. 35^m had turned round, and the registering-pencil had gone off the rack-work: hence no direction was registered at 4^h and 6^h.

July 15^d, civil reckoning. This day had the least relative moisture in the atmosphere of any day in the month, the mean difference of the Dry and Wet Thermometers being 7°·5, as deduced from the two-hourly observations.

July 15^d. 18^h. There has been no cloud since 15^d. 2^h; it is the longest period of clear sky of any during the month.

July 16^d, civil reckoning, was nearly a cloudless day, the amount of sky covered with cloud being only one-twentieth part of the whole sky: this is one of the eighteen days in the year considered cloudless.

GENERAL REMARKS.	Observer.
Light cirri in and near the zenith.	J H
Cloudless.	J H
,,	P
,, somewhat hazy in the western horizon.	
,,	
,,	P
,,	J H
,, several bright meteors observed since the last observation; all moving towards the N.W.	
,,	
,,	
Light cumuli principally N. and E. of the zenith.	J H
Cloudless.	D
,,	
A few light cirri scattered over the sky.	D
Light clouds East of the zenith.	J H
A few light fleecy clouds.	
A few light fleecy clouds, principally near the Sun.	
Light scud passing rapidly from the E.S.E.	J H
Cloudless.	D
Scud in every direction: the wind in gusts, and increasing in force.	P
Cirro-stratus and scud: the stars are faintly shining in the zenith: several flashes of sheet lightning were seen between 10^h and 12^h.	D
Light scud and vapour.	
The sky is nearly covered with fleecy clouds and scud.	
Fleecy clouds and vapour.	D
Haze and stratus.	J H
Cumuli and scud in every part of the sky.	P
Cumulo-strati, cirro-stratus, and scud; also haze.	P
Cirro-stratus, scud, and vapour: the air very close.	D
Cirri and light fleecy clouds S. of the zenith: the remainder of the sky is nearly covered with cirro-stratus and vapour: the air is still very close.	
Cirri and fleecy clouds.	
Cirro-stratus and scud.	D
Overcast: cirro-stratus.	P
,, ,,	
,, ,,	
,, rain has fallen between this and the last observation.	

July $16^d.8^h.5^m$. It was found that the vane of the Anemometer at July $15^d.22^h.45^m$ had turned round by N. and W., and that the registering-pencil had gone off the rack-work: hence no direction was registered from 0^h to 8^h.

July 16^h. Between 8^h and 10^h the temperature of the air declined $5°\cdot1$: on July 17th, between 18^h and 20^h, an increase of $5°\cdot3$ took place: on July 16th, between 6^h and 8^h, the atmosphere underwent a considerable hygrometrical change, its relative moisture being much increased.

July $17^d.16^h$. The reading of the Dry Thermometer was $2°\cdot0$ lower than the minimum temperature, as given by the self-registering Minimum Thermometer.

July $18^d.0^h$. Examined the perpendicularity of the barometer.

July $18^d.16^h$ and $19^d.18^h$. The readings of the Dry Thermometer were $0°\cdot3$ and $0°\cdot7$ respectively lower than the minimum temperatures, as given by the self-registering Minimum Thermometer; and on July $19^d.4^h$, its reading was $0°\cdot5$ higher than the maximum temperature, as given by the self-registering Maximum Thermometer.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
July 18. 20	29·721	60·5	59·4	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Greatest declination S.
22	29·710	68·0	63·4	4·6	63·5	4·5	78·8 59·1	105·4 54·7	ENE	ENE	..	¼	5·06	0·05	8·725	8½	..
July 19. 0	29·699	68·1	63·6	4·5	..	..	..	..	ESE	ENE	..	¼	..	..	..	9½	..
2	29·690	65·1	61·8	3·3	..	..	..	..	S	SSW	..	¼	..	..	..	10	..
4	29·653	68·5	63·4	5·1	62·0	6·5	..	..	SSW	SSW	..	¼	..	..	..	10	..
6	29·632	67·3	61·5	5·8	..	..	..	..	S	SSW	..	¼	..	..	..	10	..
8	29·632	64·5	60·7	3·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	29·639	62·0	61·0	1·0	60·5	1·5	..	..	Calm	Calm	..	..	..	..	..	10	Transit
12	20·648	58·5	57·2	1·3	..	..	..	..	WSW	Calm	..	..	..	..	..	10	..
14	29·634	56·0	55·4	0·6	..	..	..	..	SW	SW by W	..	¼	..	..	..	10	..
16	29·603	54·4	54·0	0·4	53·5	0·9	..	..	SW	SW by W	..	¼	..	..	..	9	..
18	29·606	53·4	53·0	0·4	..	..	..	..	Calm	SW	..	¼	..	..	..	8	..
20	29·616	58·0	56·7	1·3	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
22	29·602	67·1	57·6	9·5	56·0	11·1	68·0 54·1	84·5 49·5	SW	SW	..	½	5·06	0·01	8·760	7	..
July 20. 0	29·599	69·6	61·6	8·0	..	..	..	..	SW	SW	..	¼	..	..	..	5	..
2	29·607	56·5	55·3	1·2	..	..	..	..	Calm	S	..	¼	..	..	..	10	..
4	29·592	62·6	58·8	3·8	52·5	10·1	..	..	Calm	Calm	..	..	..	..	..	9½	..
6	29·579	62·0	58·1	3·9	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
8	29·578	58·0	56·8	1·2	..	..	..	..	Calm	SW	..	¼	..	..	..	9	..
10	29·596	56·5	55·1	1·4	54·0	2·5	..	..	Calm	Calm	..	..	..	..	..	6	..
12	29·594	53·5	52·7	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	4	Transit
14	29·568	53·0	52·3	0·7	..	..	..	..	Calm	SSW	..	¼	..	..	..	8	..
16	29·575	50·6	50·5	0·1	50·5	0·1	..	..	Calm	SW	..	¼	..	..	..	8	..
18	29·589	52·6	52·2	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
20	29·593	57·5	55·0	2·5	..	..	..	..	NW	NNW	..	¼	..	..	..	10	..
22	29·604	58·0	55·3	2·7	54·0	4·0	69·7 50·8	89·4 43·9	NW	NNW	..	¾	5·15	0·15	8·955	10	..
July 21. 0	29·609	58·1	55·8	2·3	..	..	..	..	NNW	NW	..	¾	..	..	..	10	..
2	29·644	57·5	55·4	2·1	..	..	..	..	NNW	N	0 to ½	¼	..	..	..	10	..
4	29·655	58·5	54·8	3·7	53·5	5·0	..	..	NNW	NNW	..	¼	..	..	..	10	..
6	29·680	59·7	55·5	4·2	..	..	..	..	NNW	NNW	..	¾	..	..	..	5	..
8	29·709	57·7	53·0	4·7	..	..	..	..	NNW	NNW	..	½	..	..	..	3	..
10	29·732	55·3	51·0	4·3	50·0	5·3	..	..	Calm	N by W	..	½	..	..	..	0	..
12	29·752	51·6	49·2	2·4	..	..	..	..	Calm	N	..	¼	..	..	..	¾	Transit
14	29·763	52·1	49·0	3·1	..	..	..	..	NNW	NNW	..	¼	..	..	..	10	..
16	29·776	50·4	47·2	3·2	45·5	4·9	..	..	NNW	NNW	..	¼	..	..	..	8	..
18	29·797	50·0	47·0	3·0	..	..	..	..	NNW	NNW	..	¼	..	..	..	3	..
20	29·824	56·0	51·1	4·9	..	..	..	..	NNW	NNW	..	¼	..	..	..	0	..
22	29·869	58·7	52·1	6·6	46·0	12·7	61·3 49·3	68·3 42·6	NNW	NW by N	..	¼	5·15	0·00	8·975	8½	..
July 22. 0	29·892	62·8	54·6	8·2	..	..	..	..	N	NNW	..	¼	..	..	..	9½	Full
2	29·921	60·3	53·7	6·6	..	..	..	..	N	NNW	..	¼	..	..	..	10	..
4	29·930	60·7	54·6	6·1	51·0	9·7	..	..	N	NNW	..	¼	..	..	..	10	..
6	29·950	59·3	54·0	5·3	..	..	..	..	N	NNW	..	¼	..	..	..	10	..
8	29·979	56·9	52·9	4·0	..	..	..	..	NNE	N	..	¼	..	..	..	10	..
10	30·009	55·4	52·3	3·1	52·0	3·4	..	..	NNE	N	..	¼	..	..	..	10	..

July 18d. The highest reading of the thermometer during the month took place on this day.

July 18d. Between 20h and 22h the temperature of the air increased 7°·5; and on July 19th, between 20h and 22h, there was an increase of 9°·1, the Wet Thermometer only rising 0°·9, so that the air became relatively much less charged with moisture.

July 19d, civil reckoning. The range of the thermometer was less on this day than on any other day in the month, being 10°·0.

July 20d. Between 0h and 2h the temperature of the air declined 13°·1, and the Wet Thermometer fell 6°·3, so that the air became relatively much more charged with moisture: July 21st, between 18h and 20h, the temperature rose 6°·0.

GENERAL REMARKS.	Observer.
Overcast: a slight shower of rain fell at about $18^h.\ 40^m$.	P
Cirro-stratus and scud.	J H
,, ,, slight rain at intervals.	
,, ,, a slight rain falling.	J H
Overcast: cirro-stratus: the wind very light, and the air close and oppressive.	P
,, ,,	
,, ,, the air as before, very close and sultry.	
,, ,, ,,	P
,, ,, a thin rain falling.	J H
Scud and cirro-stratus.	
Scud in dark and heavy masses.	
Cirro-stratus and scud.	
,, ,,	J H
The sky N.W. of the zenith nearly clear: cumulo-strati near the N. horizon: cirro-stratus and scud elsewhere.	D
Cumuli and cumulo-strati.	
Cirro-stratus and cumulo-stratus: heavy rain. During the rain the Dry Thermometer fell upwards of 13°.	D
Cirro-stratus and scud: rain at intervals.	J H
The same.	
Cumulo-strati and finely-formed electrical clouds in every direction: on looking towards the Thames below Blackwall with the telescope, objects appear unsteady as if agitated on the surface of waves: the air is close and sultry.	J H
Lightning in the North; thunder in the distance: the electrometer not affected.	M
The clouds are very thin: the thunder and lightning have ceased.	M
Scud again covering the greater part of the sky: the Moon shining brightly, and also stars in some parts of the sky.	P
The greater part of the sky is covered with light scud: dense cirro-stratus in the northern horizon.	D
Fleecy clouds and cirro-stratus.	D
Overcast: cirro-stratus and scud.	J H
,, a dull, unpleasant morning.	M
,, scud and cirro-stratus.	J H
,, cirro-stratus.	D
,,	P
The clouds in the N.W. clearing away: the zenith clear: scud flying: a shower of rain has recently fallen: a fresh breeze.	M
Light fleecy clouds and vapour: the clouds have separated rapidly since the last observation.	J H
Cloudless.	D
A few fine masses of scud in the S. E. and other smaller portions in other parts of the sky: the clouds came up rapidly from the N.N.W. at about $14^h.\ 10^m$, and almost instantly covered the whole of the sk y.	P
Overcast.	
A thin cirro-stratus covering the greater part of the sky.	
Scnd in various directions.	
Cloudless.	P
Fleecy clouds and scud.	J H
,, ,,	
,, ,,	J H
Overcast: cirro-stratus and scud.	P
,, ,,	J H
,, ,,	P
Overcast: a long bright narrow streak of light cloud (not a break) in the western horizon, quite stationary, and retaining the same position it was seen to occupy nearly an hour since.	P

July $20^d.\ 10^h$. Hourly observations were commenced. (See the Section of Term-Day Observations.)

July 20^d. A thunder storm. (See the Section of Extraordinary Observations.)

July 21^d, civil reckoning. This day had the greatest relative moisture in the atmosphere of any day in the month, the mean difference of the Dry and Wet Thermometers being $2^\circ \cdot 5$, as deduced from the two-hourly observations.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0 – 10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
July 22. 12	30·043	54·0	51·6	2·4	..	..	..	..	NE	N	..	¼	..	..	..	10	..
14	30·054	53·4	51·4	2·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
16	30·049	53·0	51·5	1·5	50·0	3·0	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·057	54·0	51·4	2·6	..	..	..	..	NNE	Calm	..	..	..	..	..	10	..
20	30·075	56·4	52·0	4·4	..	..	..	..	NNE	Calm	..	..	..	..	..	10	..
22	30·088	60·2	53·5	6·7	47·0	13·2	65·5 52·9	89·0 50·3	Calm	Calm	..	..	5·15	0·00	8·975	8	..
July 23. 0	30·101	63·4	55·6	7·8	..	..	..	..	Calm	E	..	¼	..	..	..	4	..
2	30·090	67·3	58·8	8·5	..	..	..	..	Calm	Calm	..	..	..	..	..	4	..
4	30·072	68·1	59·1	9·0	53·0	15·1	..	..	Calm	N by W	..	¼	..	..	..	4	..
6	30·059	65·8	57·8	8·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
8	30·050	62·2	56·1	6·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
10	30·052	55·7	52·8	2·9	52·0	3·7	..	..	Calm	Calm	..	..	..	..	..	0	..
12	30·053	51·2	50·5	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	70·8 47·1	99·0 39·0	Calm	...	..	..	5·15	0·00	8·975	..	..
July 24. 0	29·983	70·3	61·1	9·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
2	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
4	29·907	76·0	63·8	12·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
6	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	29·806	55·2	54·5	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	0	Transit
16	29·789	54·1	53·8	0·3	54·0	0·1	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·799	53·9	53·8	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·802	61·3	60·0	1·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·800	69·5	63·4	6·1	61·5	8·0	78·6 54·0	115·2 45·0	E	ESE	..	¼	5·15	0·00	8·975	5	..
July 25. 0	29·789	72·2	63·5	8·7	..	..	..	..	E	E	..	¼	..	..	..	3	..
2	29·777	71·3	62·1	9·2	..	..	..	..	E	E	..	¼	..	..	..	1	..
4	29·782	69·3	61·0	8·3	56·0	13·3	..	..	E	E	..	¼	..	..	..	2	..
6	29·781	65·2	59·3	5·9	..	..	..	..	...	E	..	¼	..	..	..	2	..
8	29·776	59·7	56·2	3·5	..	..	..	..	E	E	..	¼	..	..	..	1	..
10	29·805	56·0	54·2	1·8	53·5	2·5	..	..	E by N	E	..	¼	..	..	..	¼	Apogee
12	29·798	53·3	52·2	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·787	50·5	50·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·802	49·0	48·4	0·6	47·5	1·5	..	..	Calm	Calm	..	..	..	..	..	0	Transit
18	29·828	48·8	48·2	0·6	..	..	..	..	Calm	NE	..	¼	..	..	..	0	..
20	29·855	59·5	55·0	4·5	..	..	..	..	NE	NE	..	¼	..	..	..	0	..
22	29·867	66·2	57·8	8·4	57·5	8·7	74·9 47·9	105·0 41·3	NE	NE	..	¼	5·15	0·00	8·975	½	..
July 26. 0	29·870	67·6	58·0	9·6	..	..	..	..	NE	NE	..	¼	..	..	..	2	..
2	29·874	71·5	60·0	11·5	..	..	..	..	NE	NE	..	¼	..	..	..	5	..
4	29·881	71·8	60·7	11·1	53·0	18·8	..	..	NE	ENE	..	¼	..	..	..	9	In Equator
6	29·891	68·9	60·0	8·9	..	..	..	..	Calm	ENE	..	¼	..	..	..	2	..

July 23d. Between 8h and 10h the temperature of the air declined 6°·5.

July 24d. Between 18h and 20h the temperature of the air increased 7°·4; between 20h and 22h the increase was 8°·2, and the air had become relatively less charged with moisture. July 25th, between 6h and 8h, the decrease was 5°·5; between 18h and 20h the increase was 10°·7; and in the next two hours the increase was 6°·7: the air became relatively less charged with moisture between 18h and 22h.

July 25d. 0h. Examined the perpendicularity of the barometer.

GENERAL REMARKS.	Observer.
Overcast: fleecy clouds and scud.	J H
Overcast: cirro-stratus.	
,, ,,	
,, ,,	
,, ,,	J H
Extensive breaks in the N. near the horizon; otherwise overcast.	D
Loose cumuli N. of the zenith, and in the horizon nearly all round.	
Cumuli scattered in various parts of the sky.	D
The same.	J H
Cloudless.	
,,	
,,	J H
,, a splendid moonlight night.	D
Cloudless.	
,, hazy: a very fine day.	
,, a fine moonlight night.	
,, a light fog collecting.	
Overcast: cirro-stratus; a light fog.	
,, ,,	D
Cumuli: hazy: the air sultry.	J H
Cumuli and scud: hazy.	P
,, ,,	P
Cirri scattered N. of the zenith.	D
Cirro-stratus N.W. of the zenith, and in the N. horizon; otherwise clear.	
A bank of cirro-stratus in the W.; otherwise clear.	
Nearly cloudless.	D
Cloudless.	P
,, hazy in the northern and western horizon.	
,, the air is moist and damp.	
,,	
,,	P
A few light cumuli in various directions.	J H
White cumuli prevalent.	
,,	J H
The sky is nearly covered with cirro-stratus and scud.	P
Cumuli and scud in various directions: the clouds increasing, coming up from the E. N. E.: the air is close and sultry.	

July 25d. 6h. 40m. It was found that the vane of the Anemometer at 4h. 35m had turned quite round by S., W., and N., and that the registering-pencil had gone off the rack-work: hence no direction was registered at 6h.

July 25d, civil reckoning. The range of the barometer was less on this day than on any other day in the year, being 0in·030.

July 26d. Between 6h and 8h the temperature of the air declined 6°·9: between July 26d. 22h and 27d. 0h, the increase was 6°·0; between 8h and 10h the decrease was 5°·3; and between 20h and 22h the increase was 8°·6.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
July 26. 8	29·915	62·0	56·5	5·5	..	..	..	..	SE	ESE	..	¼	..	..	..	0	..
10	29·942	55·9	53·6	2·3	52·5	3·4	..	..	SE	ESE	..	¼	..	..	..	0	..
12	29·972	52·5	51·3	1·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·983	51·5	50·7	0·8	..	..	..	..	Calm	NE	..	¼	..	..	..	2	..
16	29·990	52·2	51·5	0·7	51·0	1·2	..	..	Calm	NE	..	¼	..	..	..	10	Transit
18	30·013	54·3	53·6	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·018	55·5	54·5	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·048	57·2	56·2	1·0	56·0	1·2	74·0 54·4	98·3 50·0	Calm	Calm	..	..	5·22	0·08	9·075	10	..
July 27. 0	30·061	63·2	60·1	3·1	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
2	30·053	67·6	61·0	6·6	..	..	..	..	Calm	ESE	..	¼	..	..	..	8	..
4	30·033	69·8	62·3	7·5	56·0	13·8	..	..	Calm	Calm	..	..	..	..	..	9	..
6	30·003	66·0	60·7	5·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	30·007	62·3	59·6	2·7	..	..	..	..	Calm	Calm	..	..	..	..	..	8½	..
10	30·015	57·0	56·7	0·3	55·5	1·5	..	..	Calm	Calm	..	..	..	..	..	10	..
12	30·005	56·4	55·4	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·995	55·7	55·4	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·972	55·5	55·3	0·2	55·0	0·5	..	..	Calm	SE	..	¼	..	..	..	10	Transit
18	29·992	55·3	55·0	0·3	..	..	..	..	Calm	N	..	¼	..	..	..	10	..
20	29·945	55·8	55·3	0·5	..	..	..	..	Calm	S	..	¼	..	..	..	9	..
22	29·934	64·4	59·8	4·6	59·0	5·4	71·0 54·6	87·0 52·0	Calm	Calm	..	..	5·82	0·87	9·905	5	..
July 28. 0	29·911	68·0	61·6	6·4	..	..	..	..	W	Calm	..	..	..	..	..	7	..
2	29·887	73·7	64·8	8·9	..	..	..	..	W	W	..	¼	..	..	..	7	..
4	29·848	71·5	63·5	8·0	58·0	13·5	..	..	N	N	..	¼	..	..	..	3	..
6	29·817	69·0	61·0	8·0	..	..	..	..	N	N	..	¼	..	..	..	3	..
8	29·799	62·2	59·9	2·3	..	..	..	..	N	N by W	..	¼	..	..	..	6	..
10	29·790	61·0	57·6	3·4	55·0	6·0	..	..	N	N by W	..	¼	..	..	..	2	..
12	29·771	57·7	54·1	3·6	..	..	..	..	N by W	N by W	..	¼	..	..	..	3	..
14	29·740	56·1	54·1	2·0	..	..	..	..	N by W	NNW	..	¼	..	..	..	10	..
16	29·714	55·8	55·0	0·8	54·5	1·3	..	..	NW	NNW	..	¼	..	..	..	10	..
18	29·699	54·8	54·9	−0·1	..	..	..	..	W	W	..	¼	..	..	..	10	Transit
20	29·703	57·5	56·0	1·5	..	..	..	..	N	NNW	..	¼	..	..	..	10	..
22	29·751	53·9	53·0	0·9	52·0	1·9	73·2 53·6	98·2 51·3	N	NE by N	..	½	5·83	0·01	9·940	10	..
July 29. 0	29·762	59·7	55·5	4·2	..	..	..	..	N	NNE	..	½	..	..	..	9	..
2	29·757	63·9	56·3	7·6	..	..	..	..	N	NNE	..	½	..	..	..	9	..
4	29·769	64·9	57·0	7·9	53·5	11·4	..	..	N	N	..	¼	..	..	..	7	..
6	29·783	58·1	53·0	5·1	..	..	..	..	N	N	..	¼	..	..	..	10	..
8	29·783	56·7	52·5	4·2	..	..	..	..	N	N	..	¼	..	..	..	3	..
10	29·835	52·0	49·3	2·7	48·0	4·0	..	..	N	N	..	¼	..	..	..	¼	..
12	29·856	51·5	47·9	3·6	..	..	..	..	N	N	..	¼	..	..	..	0	..
14	29·860	48·8	46·4	2·4	..	..	..	..	Calm	N	..	¼	..	..	..	0	..
16	29·864	47·7	45·7	2·0	44·5	3·2	..	..	Calm	N	..	¼	..	..	..	9	..

July 26d. 14h. The reading of the Dry Thermometer was 2°·9 lower than the minimum temperature, as given by the self-registering Minimum Thermometer.

July 27d. A thunder-storm. (See the Section of Extraordinary Observations.)

July 28d. Between 0h and 2h the temperature of the air increased 5°·7: between 6h and 8h the decrease was 6°·8: on July 29th, between 4h and 6h, a decrease of 6°·8 took place.

July 28d. 2h. The reading of the Dry Thermometer was 0°·5 higher than the maximum temperature, as given by the self-registering Maximum Thermometer.

GENERAL REMARKS.	Observer.
Cloudless, though the western horizon is not free from haze.	P
,,	P
,, the stars are dim and watery, or rather appearing as through a light fog.	J H
Light fleecy clouds N. and E. of the zenith.	
Overcast: the Moon is entirely obscured: the clouds have been collecting gradually during the early part of the night.	
,, cirro-stratus: a steady rain falling.	
The same.	J H
Overcast: a slight rain falling.	D
Cirro-stratus and scud.	
,,	D
Scud and cirro-stratus.	J H
Overcast: cirro-stratus: a few drops of rain have just commenced falling. [move very slowly from the W.	
Cirro-stratus and scud: the rain ceased at $7^h.\ 20^m$: the air is close, and there are indications of thunder in the S.W.: the clouds	
Overcast: heavy rain since $9^h.\ 0^m$, which still continues: lightning at intervals in the N.W.	J H
Overcast: large masses of scud: the rain continued falling until within a few minutes of this observation: since $10^h.\ 15^m$ several vivid flashes of sheet lightning have been visible in the N.E., accompanied at times by distant thunder.	D
Overcast: scud and nimbi: rain has been falling heavily since the last observation: at about $13^h.\ 10^m$ a violent thunder storm passed over the Observatory, and has continued more or less up to the present time.	
Overcast: cirro-stratus and low scud: a stormy-looking sky: continual rolling of thunder in the S.E. and E. since the last observation: the upper current due W.	
Overcast: heavy rain: during the whole time between this and the last observation there has been a continual rolling of thunder, at intervals of about three or four minutes: at 16^h the storm was in the E., but subsequently went gradually towards the N. and N.W.: at present it appears to approach Greenwich again, the wind having veered to the N.	
The storm increased in violence directly after the last observation, and from that time until $19^h.\ 25^m$ the lightning was incessant; some of the claps of thunder were so tremendous that the Magnetic Observatory appeared to vibrate; heavy rain until the conclusion of the storm.	D
Cirro-stratus and scud, together with haze.	P
The same.	
Cumulo-strati, cirro-stratus, and scud: hazy.	P
Cumuli and haze.	D
Light fleecy clouds and cumuli: hazy.	
Fleecy clouds and scud: hazy: the air is very close.	
Cirro-stratus in the N.: vapour near the S. horizon.	D
Cirro-stratus North of the zenith, stretching from the horizon to within about 20° of the latter.	P
Overcast: cirro-stratus, and dark lowering scud.	
,, a very thin misty rain falling.	
,,	
,,	P
Cirro-stratus and scud: a steady rain falling.	J H
,, a break in the North: the rain ceased at $22^h.\ 40^m$.	
Cumulo-stratus and scud.	J H
Cumuli, cirro-stratus, and scud.	P
Overcast: a thin rain has just begun falling.	
Cirro-stratus lining the whole horizon, and detached portions of scud in other parts of the sky.	
A few dark clouds, or rather a small narrow belt of cirro-stratus lining the northern horizon; with this exception cloudless.	P
Cloudless.	J H
,,	
Dark scud passing from the North: the vane points W.N.W., but the lower current is decidedly North.	

July $28^d.\ 18^h$. The reading of the Wet Thermometer is higher than that of the Dry Thermometer.

July 28^d and 29^d. The greatest difference between the mean temperature of one civil day and the next during the month took place between these two days, being 5°·4, as deduced from the two-hourly observations.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
July 29. 18	29·888	49·6	47·2	2·4	..	..	..	..	Calm	N	..	½	..	..	..	7	Transit
20	29·898	52·9	49·3	3·6	..	..	..	..	Calm	N by W	..	¼	..	..	..	8	..
22	29·918	56·7	50·4	6·3	47·0	9·7	66·4 47·4	89·5 41·3	NNE	N by W	..	½	5·83	0·01	9·945	9	..
July 30. 0	29·921	61·6	53·4	8·2	..	..	..	..	N by W	N by W	0 to ½	½	..	..	..	7	..
2	29·923	61·7	53·6	8·1	..	..	..	..	N	N by W	..	¼	..	..	..	8	..
4	29·937	63·3	54·7	8·6	45·5	17·8	..	..	N	N by W	0 to 1	½	..	..	..	3	3rd Qr.
6	29·937	62·3	53·3	9·0	..	..	..	..	N	N by W	..	¾	..	..	..	1	..
8	29·924	59·0	52·3	6·7	..	..	..	..	Calm	N by W	..	¼	..	..	..	0	..
10	29·937	55·5	51·4	4·1	48·0	7·5	..	..	Calm	N by W	..	¼	..	..	..	4	..
12	29·968	53·1	50·8	2·3	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
14	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	Transit
20	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	67·8 51·8	89·8 44·7	NNE	...	..	..	5·83	0·00	9·945	..	..
July 31. 0	30·028	59·1	53·8	5·3	..	..	..	..	NNE	N by W	0 to 1	¾	..	..	..	9½	..
2	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
8	30·072	63·7	56·8	6·9	..	..	..	..	NE	NNE	..	½	..	..	..	0	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	5·83	0·00	9·945	..	..
14	30·116	52·6	51·4	1·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·117	53·4	52·2	1·2	52·0	1·4	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·137	54·2	52·9	1·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·157	56·6	53·5	3·1	..	..	..	..	Calm	NE	..	¼	..	..	..	10	Transit
22	30·180	60·3	55·8	4·5	52·0	8·3	75·1 51·0	92·0 43·7	Calm	ENE	..	½	5·83	0·00	9·945	10	..
Aug. 1. 0	30·168	67·3	60·3	7·5	..	..	..	..	Calm	E by N	..	¼	..	..	..	7	..
2	30·169	69·1	61·0	8·1	..	..	..	..	Calm	E by N	..	¼	..	..	..	2	..
4	30·149	68·2	61·6	6·6	56·0	12·2	..	..	Calm	E by N	..	¼	..	..	..	2	..
6	30·128	67·8	62·1	5·7	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
8	30·127	61·5	57·3	4·2	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
10	30·134	56·4	54·6	1·8	53·0	3·4	..	..	Calm	Calm	..	..	..	..	..	0	..
12	30·120	53·2	52·3	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	30·102	50·5	50·3	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	30·073	49·7	49·5	0·2	49·0	0·7	..	..	Calm	Calm	..	..	..	..	..	0	..
18	30·080	52·5	51·8	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
20	30·077	57·2	55·0	2·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
22	30·069	62·4	57·7	4·7	55·0	7·4	73·5 48·7	103·5 41·7	Calm	Calm	..	..	5·83	0·00	9·945	10	..
Aug. 2. 0	30·037	68·0	60·5	7·5	..	..	..	..	Calm	ESE	..	½	..	..	..	¼	..
2	29·996	72·6	63·0	9·6	..	..	..	..	Calm	Calm	..	..	..	..	..	¼	..
4	29·947	71·7	62·4	9·3	59·0	12·7	..	..	E	E by N	..	¼	..	..	..	¼	..
6	29·911	67·7	62·0	5·7	..	..	..	..	E	E	..	¼	..	..	..	0	..
8	29·888	61·2	58·8	2·4	..	..	..	..	E	E	..	¼	..	..	..	0	..
10	29·891	58·0	57·3	0·7	56·0	2·0	..	..	E	E	..	¼	..	..	..	0	Greatest declination N.
12	29·886	56·0	55·8	0·2	..	..	..	..	E	Calm	..	..	..	..	..	1	..

July 31d. 12h. The amount of rain collected during the month of July, in rain-gauge No. 4, was 2in·96.

Aug. 1d. 0h. Examined the perpendicularity of the barometer.

Aug. 1d. Between 8h and 10h the temperature of the air decreased 5°·1; between 20h and 22h the increase was 5°·2: on August 2nd, between 6h and 8h, the decrease was 6°·5; and between 20h and 22h the increase was 6°·7.

GENERAL REMARKS.	Observer.
Scud moving from the North.	J H
Scud and cirro-stratus.	J H
,,	D
,,	
,,	D
Fleecy clouds and scud.	J H
Light fleecy clouds.	
Cloudless.	
Dark scud and fleecy clouds, principally N. and W. of the zenith: a light mist.	J H
Fleecy clouds, scud, and vapour.	D
Overcast: scud and cirro-stratus: the clouds appear heavy, and there is every appearance of rain.	J H
The clouds more broken, but still a heavy-looking sky.	
Cloudless.	J H
Overcast: cirro-stratus.	D
,, ,,	
,, ,,	
,, ,,	D
Cirro-stratus and scud.	J H
Cumuli and scud in every direction.	P
Cumuli, scud, and cirri, scattered about in small quantities.	P
Cirri, and light fleecy clouds.	D
Cirri near the S. horizon; otherwise clear.	
A few cirri here and there: vapour S. of the zenith.	
Cloudless.	D
,, the night is remarkably fine.	P
,, ,,	
,,	
A thin cirro-stratus covers the most of the sky.	
Overcast: cirro-stratus.	P
,, ,,	J H
At $22^h.\ 40^m$ the sky cleared, and is now cloudless, with the exception of a few light cirri.	
A few light cirri: a very fine day.	J H
Cumuli in the northern and the western horizon; with this exception cloudless, and very hot.	P
Cloudless.	
,,	
,,	P
Heavy vapour, principally N. and W. of the zenith: several meteors observed since $11^h.\ 10^m$: the vapour is rapidly covering the northern part of the heavens, and extending itself southwards.	J H

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Aug. 2. 14	29·867	55·5	55·2	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·852	56·3	56·0	0·3	55·0	1·3	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·890	58·1	58·0	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·836	60·5	60·1	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·837	67·2	64·4	2·8	59·0	8·2	76·6 55·3	105·0 49·6	NE	Calm	..	..	5·83	0·00	9·945	10	Transit
Aug. 3. 0	29·817	75·6	67·0	8·6	..	..	..	..	NE	E by N	..	$\frac{1}{4}$	..	..	..	4	..
2	29·801	80·5	68·7	11·8	..	..	..	..	NE	E by N	..	$\frac{1}{4}$	..	..	..	6	..
4	29·777	81·5	68·5	13·0	59·0	22·5	..	..	E by N	SE by E	..	$\frac{1}{2}$	..	..	..	3	..
6	29·777	74·0	64·8	9·2	..	..	..	..	Calm	Calm	..	..	..	..	..	$9\frac{1}{2}$	..
8	29·779	68·0	65·6	2·4	..	..	..	..	NE	NE	..	$\frac{1}{4}$	..	..	..	7	..
10	29·778	63·5	62·9	0·6	62·0	1·5	..	..	N	Calm	..	..	..	..	..	1	..
12	29·777	60·8	60·5	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·749	58·7	58·6	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·743	57·2	57·1	0·1	57·0	0·2	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·736	55·7	55·6	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	$\frac{1}{4}$	..
20	29·740	63·6	60·5	3·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
22	29·732	69·9	64·5	5·4	62·7	7·2	82·6 55·4	110·6 52·0	Calm	Calm	..	..	5·83	0·00	9·945	2	Transit
Aug. 4. 0	29·715	77·7	66·2	11·5	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
2	29·721	82·5	67·7	14·8	..	..	..	..	W	W	..	$\frac{1}{4}$	..	..	..	8	..
4	29·713	78·8	65·0	13·8	54·5	24·3	..	..	W	W	..	$\frac{1}{2}$	..	..	..	8	..
6	29·712	75·2	59·8	15·4	..	..	..	..	W	W	0 to $\frac{1}{2}$	$\frac{3}{4}$	..	..	..	7	..
8	29·749	68·9	59·2	9·7	..	..	..	..	W	W	..	$\frac{1}{2}$	..	..	..	2	..
10	29·778	64·2	60·2	4·0	57·5	6·7	..	..	W	W	..	$\frac{1}{2}$	..	..	..	4	..
12	29·785	61·2	59·0	2·2	..	..	..	..	W	WSW	..	$\frac{1}{4}$	..	..	..	9	..
14	29·781	62·7	60·6	2·1	..	..	..	..	W	WSW	..	$\frac{1}{4}$	..	..	..	10	..
16	29·786	63·0	60·7	2·3	59·2	3·8	..	..	W	WSW	..	$\frac{1}{4}$	..	..	..	10	..
18	29·794	63·0	60·2	2·8	..	..	..	..	W by S	WSW	..	$\frac{1}{4}$	..	..	..	$9\frac{3}{4}$	..
20	29·804	69·0	64·5	4·5	..	..	..	..	WSW	WSW	..	$\frac{1}{4}$	..	..	..	4	..
22	29·832	70·1	64·6	5·5	62·0	8·1	82·7 60·7	107·8 54·7	W	WSW	..	$\frac{1}{4}$	5·83	0·00	9·945	10	..
Aug. 5. 0	29·829	72·3	65·7	6·6	..	..	..	..	WSW	WSW	..	$\frac{3}{4}$	..	..	..	8	Transit
2	29·814	76·3	67·8	8·5	..	..	..	..	WSW	SW	..	$\frac{1}{2}$	..	..	..	8	..
4	29·797	76·2	67·3	8·9	64·5	11·7	..	..	SW	SW	0 to 1	$\frac{1}{2}$	..	..	..	3	..
6	29·780	73·4	65·0	8·4	..	..	..	..	WSW	SW	..	$\frac{1}{2}$	..	..	..	0	..
8	29·766	67·1	63·3	3·8	..	..	..	..	SW	SW	..	$\frac{1}{4}$	..	..	..	0	..
10	29·771	62·0	60·7	1·3	60·2	1·8	..	..	SSW	SW	..	$\frac{1}{4}$	..	..	..	0	..
12	29·796	60·1	59·1	1·0	..	..	..	..	SSW	SW	..	$\frac{1}{4}$	..	..	..	9	..
14	29·794	60·2	59·2	1·0	..	..	..	..	SW	SW	..	$\frac{1}{4}$	..	..	..	10	..
16	29·770	59·5	58·8	0·7	58·0	1·5	..	..	SW	SW	..	$\frac{1}{2}$	..	..	..	10	..
18	29·780	60·7	58·9	1·8	..	..	..	..	WSW	SW	..	$\frac{1}{4}$	..	..	..	10	..
20	29·798	63·7	61·8	1·9	..	..	..	..	WSW	Calm	..	..	..	..	..	10	..
22	29·796	67·2	63·4	3·8	62·0	5·2	78·1 59·5	97·0 55·0	SW	SSW	..	$\frac{1}{4}$	5·83	0·00	9·945	10	..
Aug. 6. 0	29·801	66·6	64·8	1·8	..	..	..	..	SSW	SSW	..	$\frac{1}{4}$	..	..	..	10	Transit
2	29·808	63·5	63·5	0·0	..	..	..	..	WSW	WSW	..	$\frac{1}{4}$	..	..	..	10	..
4	29·795	68·2	65·0	3·2	63·0	5·2	..	..	WSW	WSW	..	$\frac{1}{4}$	..	..	..	10	New

Aug. 3d. Between 4h and 6h the temperature of the air decreased 7°·5, and in the next two hours it further decreased 6°·0: a considerable hygrometrical change took place between 4h and 8h, the air becoming relatively much more charged with moisture: between 18h and 20h the temperature increased 7°·9; between 20h and 22h it further increased 6°·3; and between Aug. 3d. 22h and Aug. 4d. 0h an increase of 7°·9 took place; a considerable hygrometrical change occurred at the same time, the air becoming relatively less charged with moisture: between Aug. 4d. 6h and 8h the decrease was 6°·3, a considerable hygrometrical change occurring in the interval; between 18h and 20h the increase was 6°·0.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and vapour.	J H
Overcast: cirro-stratus: a remarkably calm morning.	
,, ,, a damp and rather misty air.	
,, ,, a damp misty air.	J H
,, ,, the clouds much lighter.	D
Fleecy clouds and cumuli: the clouds began to disappear directly after the last observation.	
Light fleecy clouds in various directions: magnificent cumuli in the N. horizon: a very fine day.	D
Fleecy clouds scattered over the sky: finely-formed cumuli floating beneath. [since $4^h.\ 0^m$.	J H
Electrical clouds (cumulo-strati) N. of the zenith: fleecy clouds and scud prevalent elsewhere: the air has become close and sultry	
Cirro-cumuli N. and W. of the zenith: fleecy clouds and small fragments of scud in other directions: several passing showers since the last observation.	
Scud and small fleecy clouds: vapour South of the zenith, which appears to be spreading itself over that part of the heavens.	J H
Cloudless.	D
,, deposition of moisture: several bright meteors were observed since the last observation.	
,, ,, several meteors since $14^h.\ 0^m$.	
A few light cirri N.W. of the zenith.	
Cloudless: a very fine morning.	D
Vapour: hazy.	J H
Cirro-stratus, scud, vapour, and haze, in every direction: the air close and oppressive.	P
Cirro-stratus, cumuli, scud, vapour, and haze.	P
Cirro-stratus and vapour: the air close.	D
Cirri, haze, and vapour: the air very oppressive.	
Cirri N. and N.W. of the zenith; otherwise clear.	
Cirro-stratus N. of the zenith; the rest of the sky clear.	D
A few stars are faintly glimmering in and around the zenith, the rest of the sky being covered by dense masses of scud that have	P
Overcast. [just risen from the westward.	
,, cirro-stratus and scud.	
A few small breaks only, in different directions.	
Cumuli in the northern horizon, and scud covering the greater portion of the sky North of the zenith.	P
Overcast: cirro-stratus and scud.	J H
Scud and fleecy clouds.	J H
,,	D
Cumuli and scud scattered in every direction: the air, notwithstanding the breeze, is close and sultry.	P
Cloudless: a patch or two of scud is floating here and there, which will not, however, affect the notation.	
Cloudless: a few cirrus clouds, however, in the western horizon form an exception, but which, as before, will not affect the notation.	
Cloudless: a meteor was seen about $8^h.\ 40^m$, due East, about 45° from the horizon, and moving towards the E.N.E.: it was remarkably bright, notwithstanding the strong twilight.	P
Scud generally prevalent: several fine meteors, with brilliant trains, observed since $10^h.\ 40^m$; one, at $11^h.\ 35^m$, was below the clouds.	J H
Overcast: cirro-stratus and scud.	
,, ,,	
,, ,,	
Thin cirro-stratus: rain falling.	J H
Overcast: cirro-stratus and scud.	D
,, ,, a thin rain falling.	D
,, cirro-stratus: steady rain.	G
Cirro-stratus and scud: slight rain at intervals since the last observation.	J H

Aug. 5^d. Between 6^h and 8^h the temperature of the air decreased 6°·3, and in the next two hours it decreased 5°·1: a considerable hygrometrical change occurred between 6^h and 8^h, the air becoming relatively more charged with moisture.

Aug. 5^d and 6^d. The least difference in the mean height of the barometer between any two consecutive civil days during the month took place between these two days, being $0^{in}\cdot003$, as deduced from the two-hourly observations.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Aug. 6. 6	29·785	66·3	62·0	4·3	..	..	..	..	Calm	W	..	¼	..	..	..	10	..
8	29·804	60·9	59·7	1·2	..	..	..	..	Calm	W	..	¼	..	..	..	10	..
10	29·825	57·5	57·2	0·3	56·6	0·9	..	..	Calm	W	..	¼	..	..	..	1	..
12	29·835	56·1	55·8	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
22	29·855	65·5	58·0	7·5	..	..	69·4 55·4	89·0 51·0	WSW	WSW	..	¼	5·99	0·20	10·200	3	..
Aug. 7. 0	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	Transit
4	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	Perigee
6	..	..	..	..	..	..	..	..	SW	...	0 to 1	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
14	29·891	55·5	54·0	1·5	..	..	..	..	WSW	WSW	..	¼	..	..	..	1	..
16	29·881	53·3	52·6	0·7	52·5	0·8	..	..	WSW	WSW	..	¼	..	..	..	1	..
18	29·896	53·2	52·6	0·6	..	..	..	..	WSW	WSW	..	¼	..	..	..	1	..
20	29·917	62·0	59·3	2·7	..	..	..	..	SW	SW	..	¼	..	..	..	0	..
22	29·930	70·1	63·1	7·0	60·0	10·1	80·3 53·4	96·0 46·8	WSW	WSW	..	¼	5·99	0·00	10·200	½	..
Aug. 8. 0	29·932	73·8	66·8	7·0	..	..	..	..	WSW	SW	..	¼	..	..	..	10	..
2	29·919	75·2	64·0	11·2	..	..	..	..	WSW	WSW	..	¼	..	..	..	7	Transit
4	29·912	76·8	65·5	11·3	59·0	17·8	..	..	SW	SSW	..	¼	..	..	..	8	..
6	29·906	72·5	63·5	9·0	..	..	..	..	...	SW	..	¼	..	..	..	2	..
8	29·907	65·4	60·2	5·2	..	..	..	..	SSW	SSW	..	¼	..	..	..	0	..
10	29·918	59·7	57·5	2·2	56·5	3·2	..	..	S	SSW	..	¼	..	..	..	0	..
12	29·911	56·5	56·5	0·0	..	..	..	..	S	S	..	¼	..	..	..	0	In Equator
14	29·911	55·0	55·1	−0·1	..	..	..	..	S	S	..	¼	..	..	..	0	..
16	29·885	57·5	56·7	0·8	56·2	1·3	..	..	SSE	SSE	..	¼	..	..	..	10	..
18	29·899	56·0	55·0	1·0	..	..	..	..	SSE	S by E	..	¼	..	..	..	0	..
20	29·902	65·0	60·2	4·8	..	..	..	..	S by E	S	..	¼	..	..	..	0	..
22	29·904	73·1	64·1	9·0	58·5	14·6	77·6 55·4	100·7 48·0	S by E	S	..	¼	5·99	0·00	10·200	¼	..
Aug. 9. 0	29·877	78·6	66·0	12·6	..	..	..	..	SSW	S by W	..	¾	..	..	..	1	..
2	29·850	82·2	66·0	16·2	..	..	..	..	S by W	S by W	..	½	..	..	..	½	..
4	29·828	80·2	66·5	13·7	57·5	22·7	..	..	SSW	SSW	..	¼	..	..	..	0	Transit
6	29·815	76·7	64·5	12·2	..	..	..	..	SSW	SSW	..	¼	..	..	..	0	..
8	29·786	70·5	62·0	8·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
10	29·776	67·3	60·4	6·9	..	..	..	..	SE	Calm	..	..	..	..	..	0	..
12	29·756	65·0	59·8	5·2	..	..	..	..	SE	Calm	..	..	..	..	..	0	..
14	29·729	61·5	58·6	2·9	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·706	60·8	58·7	2·1	57·0	3·8	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·671	63·4	60·3	3·1	..	..	..	..	Calm	Calm	..	..	..	..	..	¼	..
20	29·661	73·6	66·1	7·5	..	..	..	..	S	SSE	..	½	..	..	..	1	..
22	29·603	84·2	70·6	13·6	63·0	21·2	83·9 60·6	102·2 52·3	S	S by E	..	¼	5·99	0·00	10·200	2	..

Aug. 6d. 8h. Since August 5d. 14h the sky has been overcast: it is the longest cloudy period of any in the month.

Aug. 7d. Between 18h and 20h the the temperature of the air increased 8°·8, and in the next two hours it increased 8°·1: on August 8th, between 6h and 8h, the decrease was 7°·1; between 8h and 10h, 5°·7; between 18h and 20h the increase was 9°·0; and between 20h and 22h the increase was 8°·1: between 20h and 22h, August 7th, the atmosphere underwent a considerable hygrometrical change, its relative moisture having greatly decreased.

Aug. 8d. 0h. Examined the perpendicularity of the barometer.

Aug. 8d. 7h. 20m. It was found that the vane of the Anemometer at 4h. 15m had turned so far round as to cause the registering-pencil to go off the rack-work: hence no direction was registered at 6h.

GENERAL REMARKS.	Observer.
Cirro-stratus and scud: the rain ceased immediately after the last observation, but re-commenced ten minutes before the present observation.	J H
Overcast: cirro-stratus and scud: heavy rain since the last observation; but ceased at $7^h.\ 40^m$.	
Fleecy clouds and haze N. of the zenith: the stars are dim and watery.	J H
Cirro-stratus and vapour.	D
Cirri in every direction, and of every variety of form, with light scud.	P
Vapour in the S. horizon: the stars are dim in the zenith.	D
The horizon hazy all around.	
The same.	
Cloudless.	D
A few light cumuli: otherwise clear.	J H
Overcast: cirro-stratus and scud.	P
Cumuli, cumulo-strati, and scud, in every direction.	P
Cumuli, scud, and vapour.	D
Fleecy cumuli, and small fragments of scud S.E. and S.W. of the zenith: the horizon generally hazy.	
Cloudless.	
,,	D
,, no meteors have been yet seen.	P
The same.	
Overcast: the clouds suddenly obscured the whole sky at $14^h.\ 40^m$: about five minutes before, a meteor, equal in brightness to a star of the second magnitude, was seen in the zenith; its course being from due East to West.	
Cloudless.	
,,	P
,, except a few small cirri N. of the zenith.	J H
Cumuli, and light fleecy clouds.	
Fleecy clouds generally prevalent.	J H
Cloudless.	P
,,	
,,	
,,	P
,,	J H
,,	
,, (See Section of Extraordinary Observations.)	
A few small cirri N. of the zenith: about one hundred meteors were seen during the night; the tracks of fifty-three were noted.	
Cirri and fleecy clouds.	J H
Cirri scattered in all directions.	D

Aug. $8^d.\ 14^h$. The reading of the Dry Thermometer was $0°{\cdot}4$ lower than the minimum temperature, as given by the self-registering Minimum Thermometer.

Aug. $8^d.\ 14^h$. The Wet Thermometer reads higher than the Dry Thermometer.

Aug. $9^d.\ 10^h$. The reading of the temperature of the Dew Point was omitted by inadvertence.

Aug. 9^d. Between 18^h and 20^h the temperature of the air increased $10°{\cdot}2$; and between 20^h and 22^h it further increased $10°{\cdot}6$; therefore the rise in four hours was $20°{\cdot}8$: the air became relatively much less charged with moisture between 18^h and 22^h: on August 10^d, between 2^h and 4^h, the temperature decreased $7°{\cdot}3$; and between 8^h and 10^h the decrease was $10°{\cdot}4$, the air in this interval becoming relatively more charged with moisture.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Aug. 10. 0	29·576	87·2	72·0	15·2	..	..	..	..	S by E	S by E	..	¼	..	..	..	2	..
2	29·520	88·8	71·0	17·8	..	..	..	..	S by E	SE	0 to ½	½	..	..	..	6	..
4	29·478	81·5	68·0	13·5	60·3	21·2	..	..	S by E	S by E	..	½	..	..	..	10	Transit
6	29·460	77·5	68·3	9·2	..	..	..	..	WSW	SSW	..	½	..	..	..	10	..
8	29·501	74·2	66·8	7·4	..	..	..	..	Calm	WSW	..	½	..	..	..	10	..
10	29·478	63·8	61·8	2·0	61·0	2·8	..	..	Calm	Calm	..	..	..	..	..	10	..
12	29·451	62·2	61·6	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·465	60·6	60·6	0·0	..	..	..	..	W	W	..	½	..	..	..	10	..
16	29·512	60·1	60·1	0·0	60·0	0·1	..	..	W	WSW	0 to ½	1	..	..	..	10	..
18	29·595	58·5	58·5	0·0	..	..	..	..	W	WSW	0 to ½	1	..	..	..	10	..
20	29·686	61·4	58·0	3·4	..	..	..	..	W	W	½ to 1½	½	..	..	..	8	..
22	29·743	64·2	57·4	6·8	53·0	11·2	90·5 58·5	112·8 57·0	W	W	1 to 1½	½	6·72	1·10	11·140	4	..
Aug. 11. 0	29·817	65·5	56·1	9·4	..	..	..	..	WSW	W	1½ to 3	1½	..	..	..	2	..
2	29·870	68·7	59·0	9·7	..	..	..	..	W by S	W	0 to 1	1½	..	..	..	3	..
4	29·922	68·0	58·0	10·0	49·5	18·5	..	..	WSW	W	..	1	..	..	..	3	..
6	29·948	67·4	59·1	8·3	..	..	..	..	WSW	W by S	..	½	..	..	..	3	Transit
8	29·991	61·7	55·9	5·8	..	..	..	..	WSW	W by S	..	¼	..	..	..	0	..
10	30·032	57·2	54·1	3·1	52.5	4·7	..	..	SW	Calm	..	..	..	..	..	0	..
12	30·054	54·7	53·9	0·8	..	..	..	..	S	S by W	..	¼	..	..	..	0	..
14	30·066	53·3	52·8	0·5	..	..	..	..	S	S by W	..	¼	..	..	..	0	..
16	30·072	52·0	51·7	0·3	51·0	1·0	..	..	Calm	S by W	..	¼	..	..	..	0	..
18	30·102	52·8	52·7	0·1	..	..	..	..	Calm	SSW	..	¼	..	..	..	3	..
20	30·138	62·8	59·5	3·3	..	..	..	..	SSW	SSW	..	¼	..	..	..	3	..
22	30·158	67·6	61·4	6·2	58·5	9·1	69·4 53·0	94·4 46·3	SSW	SW	..	½	6·72	0·00	11·140	1	..
Aug. 12. 0	30·164	73·5	64·3	9·2	..	..	..	..	SW	SW	..	½	..	..	..	2	..
2	30·158	73·5	64·5	9·0	..	..	..	..	SW	SW	..	¾	..	..	..	2	..
4	30·145	73·7	63·6	10·1	62·0	11·7	..	..	SW	SW	..	¼+	..	..	..	0	..
6	30·157	71·1	63·0	8·1	..	..	..	..	SW	SW	..	¼	..	..	..	¼	Transit
8	30·172	65·6	60·6	5·0	..	..	..	..	SW	SW	..	¼	..	..	..	½	..
10	30·198	61·0	59·0	2·0	57·5	3·5	..	..	SSW	SW	..	¼	..	..	..	¼	..
12	30·212	59·0	58·1	0·9	..	..	..	..	SSW	SW	..	¼	..	..	..	0	..
14	30·225	57·2	56·9	0·3	..	..	..	..	SW	SW	..	½	..	..	..	½	..
16	30·219	56·5	56·2	0·3	55·5	1·0	..	..	Calm	SW	..	½	..	..	..	1	..
18	30·248	57·7	57·1	0·6	..	..	..	..	Calm	SW	..	½	..	..	..	10	1st Qr.
20	30·264	62·1	61·1	1·0	..	..	..	..	SW	SW	..	½	..	..	..	10	..
22	30·291	66·6	65·0	1·6	64·0	2·6	76·7 56·5	94·6 51·0	SW	Calm	..	..	6·72	0·00	11·140	10	..
Aug. 13. 0	30·301	70·7	67·1	3·6	..	..	..	..	Calm	SW	..	¼	..	..	..	10	..
2	30·300	72·2	67·5	4·7	..	..	..	..	W by S	W	..	¼	..	..	..	10	..
4	30·294	73·8	68·3	5·5	67·0	6·8	..	..	Calm	Calm	..	..	..	..	..	10	..
6	30·284	73·7	68·2	5·5	..	..	..	..	SW	W by S	..	¼	..	..	..	2	Transit
8	30·280	67·7	65·5	2·2	..	..	..	..	Calm	W by S	..	¼	..	..	..	4	..
10	30·297	64·1	63·1	1·0	62·5	1·6	..	..	Calm	W by S	..	¼	..	..	..	1	..
12	30·299	62·1	61·6	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..

Aug. 10d. The highest reading of the thermometer during the month took place on this day.

Aug. 10d. A thunder storm. (See the Section of Extraordinary Observations.) During the storm 0in·73 of rain was registered by gauge No. 1: 1in·10 was collected by gauge No. 2: 1in·195 was registered by gauge No. 3.; and 1in·28 was collected by gauge No. 4.

Aug. 10d, civil reckoning. The mean height of the barometer was less on this day than on any other day during the month, being 29in·569, as deduced from the two-hourly observations.

Aug. 10d, civil reckoning. This day had the least relative moisture in the atmosphere of any day in the month, the mean difference of the Dry and Wet Thermometers being 7°·9, as deduced from the two-hourly observations.

Aug. 10d. 12h. This is the lowest barometrical reading during the month.

Aug. 10d and 11d. The greatest difference between the mean temperature of one civil day and the next during the month took place between these two days, being 10°·9, as deduced from the two-hourly observations.

Aug. 11d. Between 18h and 20h the temperature of the air increased 10°·0; and between August 11d. 22h and 12d. 0h the increase was 5°·9.

GENERAL REMARKS.	Observer.
Cirri scattered in all directions.	D
Cirri and vapour on all sides: a few small cumuli in the N.W. horizon: the heat is very oppressive.	D
Scud and cirro-stratus.	J H
Cumulo-stratus S. and W. of the zenith: fleecy clouds and cirro-stratus elsewhere: a low murmuring of thunder: thermometer, at $5^h.40^m$ read 81°·5.	
Rain in torrents: thunder and lightning (see Section of Extraordinary Observations): the beat of the clock is not audible where the observer is usually situated for the Magnetic Observations.	
Overcast: rain falling: lightning occasionally seen in the N.	J H
,, very dark: at $11^h.10^m$ the sky suddenly became clear, and remained so for about a quarter of an hour: rain now commenced falling.	D
,, heavy rain; a thunder storm about $13^h.10^m$: a very dark night.	
,, constant rain since the last observation: strong gusts of wind: the rain ceased directly after the observation.	
,, cirro-stratus and scud.	
Cirro-stratus and scud: breaks in different parts of the sky.	D
Nimbi, cumuli, and scud, in every direction.	P
Cumuli and fleecy clouds.	J H
,,	J H
,,	D
Cumuli scattered about the sky.	
Cloudless.	D
,, four fine meteors observed between $9^h.50^m$ and $9^h.55^m$: they all moved from E. to W. across the zenith.	J H
,. a meteor, of a dull appearance, was seen about $11^h.35^m$, moving slowly through Vulpecula towards α Aquilæ.	P
,, no meteors seen.	
,, ,,	
Cirri in every direction, and of every variety of form.	
The same.	P
Cumuli and fleecy clouds.	J H
,,	
,, the temperature the same as at 0^h.	J H
Cloudless: the temperature very uniform.	P
A few clouds only in the horizon to the W. and the N.W.	
Dark lines of cloud in the western and the north-western horizon, and cirrus clouds in the same direction, though considerably nearer the zenith; the rest of the sky is wholly free from cloud.	
Dark lines of cloud in the same position as noted in the last observation.	P
Cloudless: gusts of wind to $\frac{2}{4}$: several meteors observed since $11^h.10^m$, though not so many as usual on a similar night.	J H
Vapour near the W. and N. horizon; otherwise clear.	
Vapour in the N. W. and N.	
Cirro-stratus and scud.	
Overcast: cirro-stratus.	J H
,, ,,	D
Overcast: cirro-stratus	
,, ,,	D
,, ,, the air sultry.	J H
Fleecy clouds prevalent.	
,,	
Cirro-stratus in the W. near the horizon.	J H
Cloudless.	D

Aug. 11^d, civil reckoning. The range of the barometer was greater on this day than on any other day in the month, being $0^{in}.589$.

Aug. 11^d and 12^d. The greatest difference in the mean height of the barometer between any two consecutive civil days during the month took place between these two days, being $0^{in}.342$, as deduced from the two-hourly observations.

Aug. $13^d.0^h$. This is the highest barometrical reading during the month.

Aug. 13^d. Between 6^h and 8^h the temperature of the air decreased 6°·0: on Aug. 14th, between 18^h and 20^h, the increase was 9°·0; in the next two hours the increase was 9°·1; and between Aug. $14^d.22^h$ and $15^d.0^h$ a further increase of 8°·4 took place; therefore the temperature was 26°·5 higher at Aug. $15^d.0^h$ than at Aug. $14^d.18^h$: between 22^h and 24^h the air became relatively less charged with moisture.

Aug. 13^d. civil reckoning. The mean height of the barometer was greater on this day than on any other day during the month, being $30^{in}.275$, as deduced from the two-hourly observations.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°		°	°	°			from lbs. to lbs.		in.	in.	in.		
Aug. 13. 18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	76·7 59·0	102·0 53·5	Calm	...	..	..	6·72	0·00	11·140	..	..
Aug. 14. 0	30·279	76·0	69·5	6·5	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
2	30·249	78·2	69·2	9·0	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
4	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	Transit
10	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	30·158	57·1	56·9	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	30·138	55·8	55·8	0·0	56·0	—0·2	..	..	Calm	Calm	..	..	..	..	..	0	..
18	30·122	55·0	54·8	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	30·107	64·0	61·6	2·4	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
22	30·098	73·1	68·4	4·7	65·5	7·6	83·9 55·3	114·2 48·0	NE	E	..	¼	6·72	0·00	11·140	0	..
Aug. 15. 0	30·086	81·5	70·0	11·5	..	..	..	..	E by S	E	..	¼	..	..	..	0	Greatest declination S.
2	30·050	86·1	70·8	15·3	..	..	..	..	...	Calm	..	..	..	..	..	0	..
4	30·034	85·6	70·5	15·1	58·0	27·6	..	..	...	E by S	..	¼	..	..	..	0	..
6	30·015	81·0	68·0	13·0	..	..	..	..	...	E by S	..	¼	..	..	..	0	..
8	30·020	71·6	63·7	7·9	..	..	..	..	...	E by S	..	¼	..	..	..	0	Transit
10	30·030	65·0	62·0	3·0	61·0	4·0	..	..	Calm	Calm	..	..	..	..	..	1	..
12	30·028	61·6	60·7	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
14	30·026	59·6	59·5	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	30·009	57·5	56·3	1·2	55·5	2·0	..	..	Calm	Calm	..	..	..	..	..	0	..
18	30·019	55·5	55·2	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
20	30·039	65·0	62·0	3·0	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
22	30·062	73·7	66·4	7·3	60·5	13·2	89·1 55·6	121·2 48·4	NE	Calm	..	..	6·72	0·00	11·140	½	..
Aug. 16. 0	30·060	81·4	69·2	12·2	..	..	..	..	NE	NE	..	¼	..	..	..	½	..
2	30·055	84·5	67·2	17·3	..	..	..	..	E	E	..	½	..	..	..	0	..
4	30·033	82·1	67·2	14·9	63·0	19·1	..	..	E	E	..	¼	..	..	..	0	..
6	30·024	77·0	66·5	10·5	..	..	..	..	E	E	..	¼	..	..	..	0	..
8	30·030	68·8	63·5	5·3	..	..	..	..	E	E	..	¼	..	..	..	¼	..
10	30·046	63·5	61·5	2·0	60·5	3·0	..	..	E	E	..	¼	..	..	..	0	Transit
12	30·059	60·8	59·8	1·0	..	..	..	..	E	E	..	very light.	..	..	..	0	..
14	30·043	59·8	58·9	0·9	..	..	..	..	E	E	..	¼	..	..	..	10	..
16	30·034	60·5	59·0	1·5	58·0	2·5	..	..	ENE	E	..	¼	..	..	..	10	..
18	30·011	60·8	59·4	1·4	..	..	..	..	ENE	E	..	¼	..	..	..	10	..
20	30·015	62·7	60·5	2·2	..	..	..	..	ENE	E	..	¼	..	..	..	10	..
22	30·001	68·0	63.3	4·7	60·0	8·0	86·4 59·4	118·0 55·3	ENE	E by S	..	¼	6·72	..	11·140	½	..
Aug. 17. 0	29·986	71·8	66·2	5·6	..	..	..	..	E	ENE	..	¼	..	..	..	¼	..
2	29·957	74·2	67·0	7·2	..	..	..	..	E	ENE	..	¾	..	..	..	0	..
4	29·924	74·4	66·6	7·8	62·0	12·4	..	..	E	E	..	¼	..	..	..	0	..
6	29·913	70·4	65·7	4·7	..	..	..	..	E	E	..	¼	..	..	..	0	..

Aug. 14d. 16h. The temperature of the Dew Point is higher than the reading of the Dry Thermometer.

Aug. 15d. 0h. Examined the perpendicularity of the barometer.

Aug. 15d. Between 6h and 8h the temperature of the air decreased 9°·4; between 8h and 10h it decreased 6°·6: the air became relatively more charged with moisture between 6h and 10h: between 18h and 20h the temperature rose 9°·5; between 20h and 22h it rose 8°·7; and in the next two hours it rose 7°·7: on August 16th, between 4h and 6h, the decrease was 5°·1; between 6h and 8h the decrease was 8°·2; and between 8h and 10h the decrease was 5°·3: an increase of 5°·3 occurred between 20h and 22h.

Aug. 15d. 8h. Since August 14d. 14h no cloud has been visible: it is the longest period of clear sky of any in the month.

GENERAL REMARKS.	Observer.
Light clouds scattered over the sky.	D
The same.	D
Cloudless.	
,,	
,,	
,,	
,, a hot morning.	J H
Cloudless.	
,, not a cloud of any kind visible: light currents of air occasionally sweeping past.	J H
,, a very hot day.	P
,,	
,,	
Cirri scattered about S.W. of the zenith.	D
Clouds extending along the whole range of the southern horizon; and, a few minutes since, in and around the zenith also, although	P
Cloudless. [there is no evidence of wind below.	
,,	
A few light clouds only in the N. and N.W.	
Nearly the whole of the sky is covered with cirro-cumuli.	P
Cirro-cumuli in various directions.	J H
Cirri generally N. of the zenith: a fine hot day.	
Cloudless.	J H
,,	P
A few cumuli in the north-western horizon, which will not, however, affect the notation.	
A few dark clouds in the western horizon, in which the Sun is imbedded; with this exception it is cloudless.	
Cloudless.	P
,, but there is a mist, which causes the stars to look dim and small. At present the Wet-bulb Thermometer is only 1° lower than the Dry: at the observation at 2^h it was 17°·3 lower than the Dry.	G
At $12^h.\ 40^m$ clouds, collected under the Moon, rose very rapidly, and covered the sky: at present the sky is quite covered with black cloud, and the night is very dark.	
Quite cloudy, not a break anywhere.	
The same.	
Quite cloudy: about ten minutes after this the sun broke out; the clouds also became broken generally, and shortly afterwards the sky was nearly free of clouds.	G
A few small white clouds.	J H
,,	
Cloudless.	J H
,,	G
The sky quite free of cloud and of a pale blue colour.	

Aug. $15^d.\ 8^h.\ 5^m$. It was found that the vane of the Anemometer at $1^h.\ 45^m$ had turned round by S.W. and N., and the registering-pencil had gone off the rack-work: hence no direction was registered from 2^h to 6^h.

Aug. 15^d, civil reckoning, was very nearly cloudless, the amount of sky covered with cloud being only one twenty-fifth part of the sky: this is one of the eighteen days in the year considered cloudless.

Aug. 15^d, civil reckoning. The range of the thermometer was greater on this day than on any other day in the month, being 31°·1, as deduced from the two-hourly observations.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Aug. 17. 8	29·908	65·8	65·5	0·3	..	..	..	..	E	E	..	½	..	..	..	0	..
10	29·902	64·1	63·5	0·6	63·0	1·1	..	..	E	E	..	½	..	..	..	9	Transit
12	29·878	60·9	60·8	0·1	..	..	..	..	Calm	E	..	½	..	..	..	½	..
14	29·853	60·8	60·8	0·0	..	..	..	..	Calm	E	..	½	..	..	..	¼	..
16	29·837	60·5	60·5	0·0	60·0	0·5	..	..	Calm	Calm	..	..	..	..	..	3	..
18	29·820	60·2	60·2	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
20	29·828	64·8	64·3	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
22	29·820	75·5	70·1	5·4	69·0	6·5	76·5 58·6	106·0 55·3	ESE	E	..	¼	6·72	0·00	11·140	0	..
Aug. 18. 0	29·817	81·8	72·8	9·0	..	..	..	..	ESE	E	..	¼	..	..	..	0	..
2	29·785	87·8	74·2	13·6	..	..	..	..	E	E	..	¼	..	..	..	0	..
4	29·770	89·7	70·8	18·9	59·0	30·7	..	..	E	E	..	¼	..	..	..	¼	..
6	29·753	84·0	69·2	14·8	55·8	28·2	..	..	Calm	Calm	..	..	..	..	..	8	..
8	29·746	76·6	68·0	8·6	..	..	..	..	E	ESE	½ to 1	¾	..	..	..	8	..
10	29·752	74·3	65·0	9·3	60·0	14·3	..	..	SE	ESE	1½ to 2	1½	..	..	..	8	..
12	29·713	75·5	63·8	11·7	..	..	..	..	SE	ESE	..	¼	..	..	..	9	Transit
14	29·719	73·0	63·7	9·3	..	..	..	..	S by W	SSW	..	½	..	..	..	10	..
16	29·730	66·0	63·0	3·0	61·0	5·0	..	..	SW	SW	..	½	..	..	..	6	..
18	29·751	63·5	61·3	2·2	..	..	..	..	WSW	SW	..	¼	..	..	..	10	..
20	29·781	65·2	63·0	2·2	..	..	..	..	WSW	Calm	..	..	..	..	..	10	..
22	29·806	68·5	64·3	4·2	62·5	6·0	89·9 64·4	120·2 56·6	SW	SW by W	..	¾	6·72	0·00	11·140	10	..
Aug. 19. 0	29·794	72·0	66·1	5·9	..	..	..	..	SW	SW by W	..	½	..	..	..	10	..
2	29·788	70·0	64·7	5·3	..	..	..	..	SW	SW by W	..	½	..	..	..	10	..
4	29·782	65·7	65·0	0·7	63·0	2·7	..	..	S	SSW	..	¼	..	..	..	10	..
6	29·761	65·1	62·8	2·3	..	..	..	..	S	S by W	..	¼	..	..	..	10	..
8	29·741	63·7	62·1	1·6	..	..	..	..	S	S	..	¼	..	..	..	6	..
10	29·757	64·0	62·7	1·3	62·5	1·5	..	..	S	SSW	..	¼	..	..	..	9½	..
12	29·770	61·5	60·5	1·0	..	..	..	..	S	S	..	½	..	..	..	4	Transit
14	29·776	61·0	59·5	1·5	..	..	..	..	SW	SW	..	¾	..	..	..	10	..
16	29·791	61·5	60·0	1·5	59·5	2·0	..	..	SW	WSW	..	¾	..	..	..	10	..
18	29·830	60·8	58·7	2·1	..	..	..	..	SW	WSW	..	1	..	..	..	9	..
20	29·858	61·8	58·8	3·0	..	..	..	..	SW	W	..	1	..	..	..	10	..
22	29·874	66·0	60·5	5·5	57·5	8·5	75·4 58·4	88·5 54·8	SW	WSW	..	1	6·72	0·00	11·160 8·315	10	..

Aug. 17d. Between 20h and 22h the temperature of the air increased 10°·7; in the next two hours it increased 6°·3; and between 18d. 0h and 2h an increase of 6°·0 took place: at 4h the temperature of the Dew Point was 30°·7 lower than that of the air; between 4h and 6h the temperature fell 5°·7; and in the next two hours 7°·4, the air becoming relatively more charged with moisture: between 14h and 16h the decrease was 7°·0. A considerable hygrometrical change took place between August 17d. 20h and August 18d. 4h, the relative moisture becoming considerably less; and from 4h to 8h the increase was considerable.

Aug. 18d. 4h. The difference between the readings of the Dry and Wet Thermometers was greater at this than at any other regular time of observation during the month; also the greatest difference between the observed Dew Point and temperature occurred at this time: the difference at 4h. 30m was 24°.

GENERAL REMARKS.	Observer.
A few detached small clouds near the southern horizon, moving quickly from the E. to W.; not enough to have their amount represented numerically: a red sun-set: the wind rising a little.	G
The few dark scuddy clouds, mentioned in the last observation, soon increased to a large mass of quickly-moving scud, confined to the southern portion of the sky: about $8^h.30^m$ an upper cloud formed: white cumuli moving from the W. and W. by S.: this upper cloud has still the same motion; and, excepting near the zenith, rapidly-moving dark scud is passing everywhere: a star or two near the zenith and the Moon are the only objects visible: the minimum temperature seems to be past, the reading having been 63°·0 since the observation at 8^h.	G
Vapour prevalent: scud moving rapidly from the E.	J H
Heavy vapour near the S. and W. horizon; otherwise clear.	
Heavy vapour and scud coming up from the E.: the stars are very dim.	
A damp mist appeared soon after $16^h.0^m$: at present misty, but the zenith is clear.	
Vapour and haze.	J H
Cloudless.	P
,,	
,, the air exceedingly sultry.	D
A few light clouds: the air exceedingly sultry: the Dew Point 30°·7 below the Dry Thermometer.	J H
Heavy electrical clouds collecting West of the meridian, and gradually spreading themselves N. and S.: the air extremely close: the Dew Point 28°·2 below the Dry Thermometer.	
The electrometer affected: heavy cumulo-strati prevalent: the clouds pass slowly from the W.: the wind is blowing a strong breeze at E.S.E.	
A stormy-looking sky: cirro-stratus and scud: the wind blowing in sudden gusts: after this observation the thermometer again rose, and continued rising until after midnight.	J H
The sky almost covered with a stormy-looking scud, especially in the S. and W.: the clouds are lighter in the E., and those near the zenith are capped with a vivid white, similar to that exhibited by large masses of scud on a fine day: the clouds move with the wind, which is light, sweeping over the surface in currents: the Moon is in the midst of dark clouds, but visible, as are also a few stars.	P
Overcast: cirro-stratus and scud: the sky wears not so wild an aspect as during the last observation: the electrometer affected during five minutes: the bell began ringing at $13^h.29^m$.	
The stars are faintly shining in the zenith, and for some considerable distance around it: the rest of the sky overcast.	
Overcast: cirro-stratus and scud.	
,, the wind in occasional light airs.	P
Scud and cirro-stratus: the clouds are gradually becoming more heavy in appearance: at $22^h.40^m$ mottled cirro-stratus East of the zenith.	J H
Scud and cirro-stratus.	
,, ,, a squall of rain at $1^h.50^m$, and rain is now falling slightly.	J H
Overcast: a thin drizzling rain falling occasionally.	P
Overcast: the cirro-stratus seems growing thinner.	
The greater portion of the heavens is covered with a thin cirro-stratus (somewhat more dense in the West and near the Sun), and loose clouds, slowly dissipating: cloudless in and about the zenith.	
Nearly the whole of the sky is covered with loose and dark scud, varying, almost momentarily, in the neighbourhood of the Moon, leaving her and Jupiter unobscured: the wind at times sweeping past in strong currents.	P
A large quantity of quick-moving scud has passed over within the last hour, principally to the South; the direction of the whole is due West to East; the wind on the surface of the Earth, at the time, being S.: no upper cloud: at present a considerable quantity of scud has passed, from which the Moon has just emerged: the remainder of the sky clear.	G
Alternately clear and cloudy since the last observation; at present quite cloudy, neither stars nor the Moon being visible.	
A few stars have occasionally been seen since the last observation; it is now quite cloudy: a dark scuddy stratus: a rising temperature.	
Scud, with a westerly motion: stratus near the N. horizon: cumulo-stratus to the S: clouds broken in the S.E.: the sky looks wild.	
The Sun shone for about a quarter of an hour about $6^h.40^m$; since then every portion of the sky has been quite covered with cirro-stratus and scud: wind in gusts: appearances of rain.	G
Cirro-stratus and scud.	J H

Aug. 18^d, civil reckoning. The mean daily temperature was greater on this day than on any other day in the year, being 74°·3, as deduced from the two-hourly observations. This day was remarkable for its great heat at so advanced a period in August: the temperature during a part of the day was higher than 90°, although this was not the case at any one of the observation hours, nor was it shewn by the self-registering Maximum Thermometer. The night following was hot throughout, the temperature of the air at midnight was 77°, and the minimum temperature was 65°·5: during the night the differences between the readings of the Dry and Wet Thermometers are remarkable. It is doubtful whether there is any record of so high a temperature at night after the middle of August: during the day the ardour of the Sun was not very great, but the air itself was very hot.

Aug. $18^d.18^h$. The reading of the Dry Thermometer was 0°·9 lower than the minimum temperature, as given by the self-registering Minimum Thermometer.

Aug. 19^d, civil reckoning. The range of the thermometer was less on this day than on any other day during the month, being 10°·5, as deduced from the two-hourly observations. At 4^h the reading of the Wet Thermometer was only 0°·7 below that of the Dry; yesterday at the same time it was 18°·9; at $4^h.30^m$ yesterday it was 24° below that of the Dry: the temperature of the air yesterday at this time was 26° higher than it is now: it is difficult to conceive two days more decidedly different from each other than were these two days.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Aug. 20. 0	29·888	67·7	60·5	7·2	..	..	..	..	WSW	WSW	0 to 1½	½	..	..	..	10	..
2	29·893	70·0	62·8	7·2	..	..	..	..	SW	WSW	..	½	..	..	..	9	..
4	29·895	69·5	61·0	8·5	53·0	16·5	..	..	SW	W by S	½ to 2	½	..	..	..	10	..
6	29·887	67·0	60·0	7·0	..	..	..	..	SW	SSW	0 to ½	½	..	..	..	1	..
8	29·898	60·5	56·9	3·6	..	..	..	..	SSW	SW	..	¼	..	..	..	4	..
10	29·892	58·0	55·5	2·5	52·0	6·0	..	..	SSW	SW	..	¼	..	..	..	6	..
12	29·883	57·7	56·2	1·5	..	..	..	..	SW	SW	..	¾	..	..	..	0	Transit
14	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	Full
16	..	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	71·7 56·4	87·0 52·0	S	...	..	..	6·72	0·00	11·160	..	..
Aug. 21. 0	29·867	73·7	63·7	10·0	..	..	..	..	SW	S	..	½	..	..	..	7	..
2	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
6	29·849	68·2	61·5	6·7	..	..	..	..	WSW	WSW	..	¼	..	..	..	9	..
8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	29·813	56·5	55·2	1·3	..	..	..	..	Calm	Calm	..	..	..	..	..	7	Transit
16	29·799	54·7	54·3	0·4	53·0	1·7	..	..	Calm	SW	..	¼	..	..	..	4	..
18	29·806	55·0	54·6	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
20	29·820	61·1	59·0	2·1	..	..	..	..	Calm	Calm	..	..	..	..	..	2	Apogee
22	29·819	71·8	63·6	8·2	60·2	11·6	78·1 54·8	98·8 47·5	Calm	ENE	..	¼	6·72	0·00	11·160	0	..
Aug. 22. 0	29·818	77·3	66·2	11·1	..	..	..	..	NE	ENE	..	¼	..	..	..	4	..
2	29·814	79·7	67·0	12·7	..	..	..	..	NE	ENE	..	¼	..	..	..	7	..
4	29·811	77·5	67·4	10·1	65·5	12·0	..	..	E	ENE	..	¼	..	..	..	6	..
6	29·791	76·0	67·5	8·5	..	..	..	..	E	E by N	..	¼	..	..	..	8½	..
8	29·797	70·2	65·0	5·2	..	..	..	..	E	Calm	..	..	..	..	..	9	..
10	29·821	66·5	63·2	3·3	62·0	4·5	..	..	Calm	Calm	..	..	..	..	..	8	..
12	29·805	62·7	61·1	1·6	..	..	..	..	Calm	Calm	..	..	..	..	..	¼	In Equator
14	29·786	62·2	61·7	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	9	Transit
16	29·751	60·7	60·6	0·1	60·5	0·2	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·767	58·9	58·8	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	29·775	64·6	62·8	1·8	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
22	29·785	74·7	68·5	6·2	66·5	8·2	82·6 58·9	104·2 53·4	Calm	SSW	..	¼	6·72	0·00	11·160	0	..
Aug. 23. 0	29·780	80·3	69·0	11·3	..	..	..	..	SSW	SW by W	..	¼	..	..	..	0	..
2	29·769	82·3	70·7	11·6	..	..	..	..	SSW	WSW	..	¼	..	..	..	3	..
4	29·746	75·7	66·3	9·4	64·5	11·2	..	..	SSW	SSW	..	½	..	..	..	¼	..
6	29·747	70·0	63·3	6·7	..	..	..	..	SSW	SSW	..	½	..	..	..	¼	..
8	29·757	63·7	58·7	5·0	..	..	..	..	SSW	SW	..	¼	..	..	..	0	..
10	29·773	58·5	55·5	3·0	54·0	4·5	..	..	S	SW	..	¼	..	..	..	0	..
12	29·776	55·5	53·7	1·8	..	..	..	..	S	WSW	..	¼	..	..	..	3	..

Aug. 20d. Between 6h and 8h the temperature of the air fell 6°·5.

Aug. 21d. 18h. Hourly observations were commenced. (See the Section of Term-Day Observations.)

Aug. 21d. Between 18h and 20h the temperature of the air rose 6°·1; between 20h and 22h it rose 10°·7; and in the next two hours it rose 5°·5: a considerable hygrometrical change occurred between 20h and 22h, the air becoming relatively much less charged with moisture: on August 22nd, between 6h and 8h, the decrease in the temperature was 5°·8: between 18h and 20h the increase was 5°·7; between 20h and 22h the increase was 10°·1; and in the next two hours 5°·6: from 20h to 24h the relative moisture in the atmosphere became much less.

GENERAL REMARKS.	Observer.
Cirro-stratus and scud: gusts of wind.	J H
,, ,, breaks E. of the zenith.	J H
Occasional gleams of sunshine: the sky is now quite covered with cirro-stratus and scud, the latter moving slowly from the W. to E.: gusts of wind to 1.	G
The sky is at present nearly cloudless, there being only a few tufts of cloud scattered near the southern horizon; occasional gusts of wind to 1.	
The wind has lulled: stratus clouds all round near the horizon: misty sky in the zenith and round it: quite cold to the senses after the late great heat.	
The Moon shining, but the shadow cast is faint: the stars are dim: a thick mist: all the southern portion of the heavens covered with loose clouds: a corona round the Moon.	G
Vapour appears to cover the whole sky: the stars are dimly seen: wind in gusts: there is no absolute cloud: a corona round the Moon.	J H
The whole of the northern portion of the heavens covered with cumulo-stratus, the southern portion with fine cumuli: the day is fine and warm: the morning has presented the same aspect up to this time.	G
The sky during the day has been generally cloudy, cirro-cumulus and cumuli being the prevailing clouds.	G
Fleecy clouds and scud: the clouds move very slowly from the S.W.	J H
Scud and fleecy clouds N. and W. of the zenith.	
Shortly after the last observation the sky was nearly covered with scud for some time, when it again became clearer: at present mottled cirro-stratus and scud N. of the zenith.	
Light fleecy clouds: the vanes point N.E.	J H
Cloudless: somewhat hazy in the N.	P
A thin cirro-stratus in the southern horizon, and scud and cirri in other parts of the sky.	
Cirro-stratus covering nearly the whole sky S. of the zenith, and prevailing also in other parts of the sky, with scud and haze.	P
Fleecy clouds prevalent, especially S.W. of the zenith.	J H
Fleecy clouds and cirro-stratus.	
Fleecy clouds, cirro-stratus, and scud: the air close.	
The sky generally covered with loose scud: clear near the S. horizon since $8^h.\ 40^m$.	J H
A few clouds north of the zenith only. [entirely obscured.	P
Nearly the whole of the sky covered with a dense scud, rapidly assuming the solidity and compactness of cirro-stratus: the Moon	
Cloudless.	
,, hazy: a thin fog in the Park and low grounds.	
,, a thin fog.	P
,,	J H
,,	
Light cumuli in various directions, but principally N. of the zenith.	J H
A few cumuli in the north-western horizon only: the breeze freshening.	P
Cumuli in the same position as during the last observation.	
Cloudless.	
,,	P
A corona round the Moon; streaks of cloud rising from the S. and E.: the heavens have been unusually free from clouds and vapour during the evening, and the Moon has shone with great brilliancy.	G

Aug. $22^d.\ 0^h$. Examined the perpendicularity of the barometer.

Aug. 22^d, civil reckoning. The range of the barometer was less on this day than on any other day in the month, being $0^{in}\cdot034$.

Aug. 23^d. Between 4^h and 10^h the temperature of the air declined at the rate of $6°$ in two hours; between 18^h and 20^h the increase was $5°\cdot7$; and between 20^h and 22^h the increase was $10°\cdot1$: between August $24^d.\ 6^h$ and 8^h the decrease was $6°\cdot5$: on August 22nd, between 20^h and 22^h, the relative moisture in the atmosphere considerably decreased,

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Aug. 23. 14	29·762	53·2	51·5	1·7	..	..	..	..	Calm	Calm	..	..	..	..	..	0	Transit
16	29·751	52·4	50·6	1·8	49·0	3·4	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·745	51·8	50·7	1·1	..	..	..	..	Calm	SW	..	¼	..	..	..	8	..
20	29·744	57·5	55·6	1·9	..	..	..	..	Calm	S	..	¼	..	..	..	9	..
22	29·731	67·6	60·4	7·2	58·5	9·1	82·9 50·6	103·9 43·8	Calm	Calm	..	..	6·72	0·00	11·160	3	..
Aug. 24. 0	29·704	71·7	62·0	9·7	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
2	29·667	76·0	64·5	11·5	..	..	..	..	NNE	NE	..	½	..	..	..	3	..
4	29·638	76·7	65·6	11·1	55·5	21·2	..	..	NE	ENE	..	½	..	..	..	4	..
6	29·623	72·8	63·4	9·4	..	..	..	..	N by W	N	..	¼	..	..	..	4	..
8	29·627	66·3	60·0	6·3	..	..	..	..	N	N	0 to ½	¼	..	..	..	5	..
10	29·638	61·8	56·0	5·8	53·0	8·8	..	..	N	N	0 to ½	½	..	..	..	8	..
12	29·605	59·3	55·5	3·8	..	..	..	..	N by E	NE	..	½	..	..	..	4	..
14	29·578	59·5	56·0	3·5	..	..	..	..	N by E	NE	..	½	..	..	..	10	..
16	29·616	57·3	56·7	0·6	56·0	1·3	..	..	NNE	NE	..	½	..	..	..	10	Transit
18	29·581	57·0	56·5	0·5	..	..	..	..	NE	NE	0 to 1	¼	..	..	..	10	..
20	29·577	59·3	58·8	0·5	..	..	..	..	NE	NE	..	¾	..	..	..	10	..
22	29·588	62·5	61·4	1·1	60·5	2·0	79·0 55·8	109·5 53·0	NE	NE	..	¼	6·82	0·20	11·380	10	..
Aug. 25. 0	29·587	67·3	65·0	2·3	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
2	29·582	69·8	66·4	3·4	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
4	29·577	71·9	68·7	3·2	66·5	5·4	..	..	NE	NE	..	¼	..	..	..	7	..
6	29·578	70·5	66·5	4·0	..	..	..	..	NE	NE	..	¼	..	..	..	8	..
8	29·612	63·9	63·6	0·3	..	..	..	..	E	ESE	..	¼	..	..	..	9	..
10	29·627	61·6	61·5	0·1	61·0	0·6	..	..	NE	ESE	..	¼	..	..	..	8	..
12	29·636	61·4	61·1	0·3	..	..	..	..	NE	NE	..	¼—	..	..	..	9	..
14	29·636	61·3	61·0	0·3	..	..	..	..	E	Calm	..	..	..	..	..	10	..
16	29·645	59·7	59·8	−0·1	59·0	0·7	..	..	Calm	Calm	..	..	..	..	..	10	Transit
18	29·657	58·0	58·2	−0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
20	29·688	61·1	60·8	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
22	29·720	69·2	64·4	4·8	63·5	5·7	73·7 57·6	100·4 53·1	Calm	E by S	..	¼	6·95	0·20	11·545	5	..
Aug. 26. 0	29·720	72·7	65·5	7·2	..	..	..	..	E	E by S	..	¼	..	..	..	7	..
2	29·708	75·3	64·5	10·8	..	..	..	..	SE	S by E	..	¼	..	..	..	4	..
4	29·736	74·3	65·7	8·6	60·5	13·8	..	..	NE	Calm	..	..	..	..	..	3	..
6	29·711	71·0	63·7	7·3	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
8	29·740	65·8	61·2	4·6	..	..	..	..	Calm	Calm	..	..	..	..	..	¼	..
10	29·778	60·4	59·0	1·4	57·5	2·9	..	..	Calm	Calm	..	..	..	..	..	0	..
12	29·783	57·8	57·2	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·783	56·5	56·1	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·792	58·3	58·3	0·0	57·8	0·5	..	..	N by E	Calm	..	..	..	..	..	10	Transit
18	29·794	57·8	57·7	0·1	..	..	..	..	N	Calm	..	..	..	..	..	10	..
20	29·813	59·8	59·0	0·8	..	..	..	..	N	Calm	..	..	..	..	..	10	..
22	29·852	62·6	60·6	2·0	58·5	4·1	78·1 56·2	109·0 50·0	N	NNE	..	¼	6·95	0·00	11·545	10	..

Aug. 24d. Thunder. (See the Section of Extraordinary Observations.)

Aug. 25d. 8h. The temperature of the air was 6°·6 lower than at the preceding observation; between 20h and 22h the temperature rose 8°·1: between 26d. 6h and 8h the decrease was 5°·2; and between 8h and 10h the decrease was 5°·4.

Aug. 26d. 10h. Hourly observations were commenced. (See the Section of Term-Day Observations.)

Aug. 25d. 16h and 18h. The reading of the Wet Thermometer is higher than that of the Dry Thermometer.

GENERAL REMARKS.	Observer.
Cloudless.	G
,, [cirro-stratus.	
Stratus clouds to the N.: nearly the whole southern portion of the sky covered with scud and cumulo-stratus: the Sun obscured by	
With the exception of a little blue sky about 20° S. of the zenith, the sky is covered with scud and cumulo-stratus.	G
Cumuli and fleecy clouds, especially S. and S.W. of the zenith: hazy.	J H
Cumuli and undefined clouds: very hazy. [since the last observation.	
Cirri, of the linear form, N. of the zenith, extending from the E. to W.: fleecy clouds in various directions: a breeze has sprung up	J H
Cirri and cumulo-strati scattered all over the sky.	G
In the North small cumuli: about the zenith, and all over the southern portion of the sky, cirri and scud: a very fine day.	
Long bars of cirri, their direction N. and S., have been moving slowly from W. to E., several large patches of dark scud at the same time moving from S. to N.; the wind on the surface of the earth being due North: the same motion of the clouds continues, the heavens being one-half covered, particularly the northern part of the sky: some of the clouds to the North are curved or curled up, looking cold, and as if the weather were about to change.	
For 30° around the zenith, cirro-cumulus, apparently without motion: clear about the place of the Moon; every other part of the sky is covered with cirri in bars, with scud, apparently low.	G
A cirro-stratus rising from the S., the Moon seen through it, but ill-defined: a large halo round the Moon: fragments of stormy-looking scud coming up from the S.	J H
Overcast: cirro-stratus: the Moon's place visible: lightning S. of the zenith, and distant murmuring of thunder.	
Heavy rain at times since $14^h.\ 0^m$: overcast: cirro-stratus.	
Overcast: cirro-stratus and scud.	
,, ,,	J H
,, ,,	P
,, cirro-stratus.	
,, cirro-stratus and scud: a few very small breaks are in the zenith, which will not, however, affect the notation.	P
Cumulo-stratus and scud: several squalls of rain since the last observation.	J H
Heavy scud and cumulo-strati S. of the zenith: cumuli and fleecy clouds in the northern part of the heavens.	
Cumulo-strati and nimbi, with large masses of scud: squalls of rain at $6^h.\ 40^m$, and since that time.	
Cirro-stratus and scud.	J H
Nearly the whole sky is covered with loose scud, passing rapidly from the East, though there is scarcely a breath of air on the surface of the earth: the quantity of cloud varies, however, almost momentarily.	P
Overcast: cirro-stratus and scud: as before, there is an upper current that causes the scud to move swiftly.	
,, cirro-stratus: a thin fog.	
Most of the sky covered with cirro-stratus, as before, the breaks being very small, and chiefly in the zenith: there is still a very thin fog, though much thinner: the dew heavy.	
Nearly overcast by cirro-stratus, the breaks being in the zenith: the fog has wholly disappeared.	P
Cumuli and cumulo-strati.	J H
Cumuli and fleecy clouds in every direction.	
The same.	J H
Cumuli and scud in every direction: light airs occasionally rising. [cirro-stratus.	P
Cumuli in the southern horizon, and scud in other parts of the sky; in the western horizon the Sun is enveloped in a dense	
Nearly cloudless.	P
Cloudless.	G
,,	G
,,	J H
Overcast: a thin fog.	J H
,, the fog has disappeared.	P
,, cirro-stratus.	P
,, ,,	G

Aug. 25d. Between 6^h and 8^h rain fell so heavily at Pentonville that two inches fell in an hour; at Somerset House $0^{in}\cdot4$ was collected; and here about $0^{in}\cdot1$ only fell in the same time.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Aug. 27. 0	29·830	69·3	64·4	4·9	..	..	..	..	N	N by E	..	½	..	..	..	8	..
2	29·826	72·7	66·5	6·2	..	..	..	..	N	N	..	¼	..	..	..	5	..
4	29·798	73·1	67·1	6·0	66·0	7·1	..	..	N	N	..	¼–	..	..	..	5	..
6	29·804	70·5	65·4	5·1	..	..	..	..	N	N	..	¼	..	..	..	9	..
8	29·828	65·8	62·8	3·0	..	..	..	..	N by E	N	..	¼	..	..	..	8	..
10	29·828	64·0	61·7	2·3	60·0	4·0	..	..	NE	Calm	..	..	..	..	..	2	..
12	29·846	61·6	60·3	1·3	..	..	..	..	Calm	NE	..	¼	..	..	..	7	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
20	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
22	29·862	63·5	61·8	1·7	..	..	75·9 59·1	105·0 54·8	NE	NE	..	¼–	7·10	0·20	11·755	10	..
Aug. 28. 0	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	ESE	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	ESE	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	ESE	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	29·864	58·5	58·7	—0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·852	59·0	59·0	0·0	58·5	0·5	..	..	Calm	Calm	..	..	..	..	..	10	3rd Qr.
18	29·855	59·1	59·1	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
20	29·857	59·8	59·7	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·859	65·3	63·5	1·8	61·5	3·8	72·7 58·4	101·0 59·0	E	E	..	¼	7·12	0·05	11·820	8	..
Aug. 29. 0	29·848	70·2	66·3	3·9	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
2	29·838	74·2	69·2	5·0	..	..	..	..	NE	NE	..	¼	..	..	..	7	..
4	29·824	71·5	67·2	4·3	65·5	6·0	..	..	NE	NE	..	½	..	..	..	8	..
6	29·827	67·4	64·0	3·4	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
8	29·851	63·6	61·6	2·0	..	..	..	..	Calm	SW	..	¼	..	..	..	9	..
10	29·850	60·5	59·7	0·8	59·0	1·5	..	..	Calm	SE	..	¼	..	..	..	0	..
12	29·850	57·9	58·0	—0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·848	57·0	57·2	—0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
16	29·851	58·0	58·0	0·0	57·5	0·5	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·867	59·6	59·7	—0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Greatest declination N.
20	29·892	59·2	59·4	—0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
22	29·903	64·7	63·1	1·6	60·7	4·0	75·5 56·2	101·3 55·8	W	Calm	..	..	7·12	0·00	11·820	10	..
Aug. 30. 0	29·900	66·7	64·3	2·4	..	..	..	..	SW	SW	..	½	..	..	..	10	..
2	29·904	67·6	64·5	3·1	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
4	29·873	68·3	65·0	3·3	62·5	5·8	..	..	SW	Calm	..	..	..	..	..	10	..
6	29·857	66·5	65·5	1·0	..	..	..	..	W	W	..	¼–	..	..	..	10	..
8	29·850	64·2	61·0	3·2	..	..	..	..	W by N	W	..	¼	..	..	..	10	..
10	29·895	56·0	54·1	1·9	52·5	3·5	..	..	N by W	NNW	..	¼	..	..	..	10	..
12	29·918	55·7	52·5	3·2	..	..	..	..	NW	NW!	..	½	..	..	..	10	..

Aug. 28d. 14h. The reading of the Wet Thermometer is higher than that of the Dry Thermometer.
Aug. 28d. 22h. The temperature of the air was 5°·5 higher than that at the preceding observation.
Aug. 29d. 0h. Examined the perpendicularity of the barometer.
Aug. 29d. Thunder. (See the Section of Extraordinary Observations.)
Aug. 29d. 12h, 14h, 18h, and 20h. The reading of the Wet Thermometer is higher than that of the Dry Thermometer.
Aug. 29d. 22h. The temperature of the air was 5°·5 higher than at the preceding observation: a decrease of 8°·2 took place between Aug. 30d. 8h and 10h, and an increase of 6°·4 between 20h and 22h.

GENERAL REMARKS.	Observer.
Cumuli and scud: gusts of wind.	J H
Cumuli equally distributed all over the sky: the day has indicated the true character of fine weather: an early morning fog, the fog forming cirro-stratus; and about $0^h.\ 40^m$, breaking off and cumuli forming, with fine blue sky.	G
Cumuli and scud in every direction: the wind is not steady, but in light airs.	P
Scud and cumuli: distant thunder: the air exceedingly close.	J H
A red sunset: at present a large quantity of dark-coloured scud moving very slowly from the East: no upper cloud.	G
Clouds in the N. and S.W., but the zenith and its neighbourhood are perfectly clear.	G
Fleecy clouds and scud: at $12^h.\ 10^m$ less cloud: a fine blue sky between the breaks.	J H
Overcast: cirro-stratus and scud: the wind in light airs.	P
A faint flash of lightning was seen to dart from two rocky, copper-coloured cumuli near the horizon in the S.S.E., at $8^h.\ 10^m$: several flashes were also seen between that time and $10^h.\ 40^m$, every other part of the sky being cloudless: during the early part of the night a great many meteors were seen, some as large and as bright as Jupiter, leaving luminous trains: no particular direction.	G
A damp mist prevalent; the larger stars seen: the limb of the Moon not seen.	J H
Overcast: a damp mist: the Moon's place invisible.	
,, cirro-stratus.	
,, ,,	J H
The Sun visible, the clouds being broken a little about his place, and a little also about the zenith: cumulus clouds forming everywhere: rain fell at about $20^h.\ 40^m$.	G
Overcast; cirro-stratus, cumulo-strati, and scud.	P
Cumuli, cumulo-strati, cirro-stratus, and scud: a few drops of rain falling from a cloud passing over the zenith: hazy.	P
Cumulo-stratus, cumuli, and scud.	J H
Thunder since the last observation: at present heavy cumulo-strati and scud prevail.	
Cumulo-strati and scud: thunder and lightning since the last observation.	
The sky cleared at $9^h.\ 25^m$, and is now cloudless.	J H
Cloudless, with the single exception of a narrow slip of scud about 20° N.E. of the zenith, which will not affect the notation.	P
A great part of the sky N. of the zenith covered with a thin cirro-stratus, the rest being clear: the air is moist and damp.	
Overcast: cirro-stratus: the Moon is distinctly visible, notwithstanding, and surrounded by a halo of a bright colour.	
Overcast: cirro-stratus: an extremely dense and damp fog.	
,, the fog still as thick as before.	P
,, stratus: hazy.	J H
Thin stratus: hazy.	
Thin cirro-stratus; hazy.	J H
Overcast: cirro-stratus: extremely hazy.	P
,, ,,	
,, ,, at about $6^h.\ 40^m$ the sky was covered with a dense and lowering cirro-stratus of a highly electrical appearance (this latter description of cloud being in the N.E. and N. principally): a low muttering of thunder was occasionally heard, but the observer saw no lightning: the electrometer was not affected: the sky is now of a dull, leaden appearance.	
Overcast: cirro-stratus: almost immediately after the last observation the wind veered round towards the N.W. or N. N.W., gradually increasing in strength: about $8^h.\ 30^m$ rain fell, and continued till nearly $9^h.\ 40^m$, the wind blowing from $\frac{3}{4}$ to 1 or $1\frac{1}{2}$.	P
Overcast: a dense black stratus: wind in frequent gusts to 1.	G

Aug. $30^d.\ 6^h$ and 8^h. Between these observations $\frac{1}{8}$ inch of rain fell at the apartments of the Royal Society during a thunder storm.

Aug. $30^d.\ 8^h.\ 35^m$ to $9^h.\ 30^m$. The wind blew at the Anemometer with a pressure varying from 1lb. to 4lbs. on the square foot; it commenced blowing suddenly with a pressure of 2lbs.; at $8^h.\ 40^m$ the pressure was 3lbs.; at $8^h.\ 50^m$ the pressure was 4lbs., and this pressure continued for ten minutes; at $9^h.\ 10^m$ it had decreased to 1lb.; it then increased to 2lbs.; by $9^h.\ 20^m$ and $9^h\ 30^m$ the pressure ceased entirely.

Aug. 30^d, civil reckoning. This day had the greatest relative moisture in the atmosphere of any day in the month, the mean difference of the Dry and Wet Thermometers being $1^\circ{\cdot}6$, as deduced from the two-hourly observations.

Aug. 30^d. The lowest reading of the thermometer during the month took place on this day.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Aug. 30. 14	29·937	51·5	48·5	3·0	..	..	..	..	WNW	NW	..	¾	..	..	..	0	..
16	29·950	49·4	47·0	2·4	45·0	4·4	..	..	NW	NW	..	1	..	..	..	3	..
18	29·980	48·2	46·1	2·1	..	..	..	..	NW	NW	..	½	..	..	..	0	..
20	30·012	49·7	47·2	2·5	..	..	..	..	NW	WNW	..	½	..	..	..	0	Transit
22	30·023	56·1	51·0	5·1	47·5	8·6	69·3 47·5	80·5 42·3	NW	N by W	..	¾	7·12	0·00	11·825	½	..
Aug. 31. 0	30·033	60·5	52·0	8·5	..	..	..	..	NNW	NNW	..	1	..	..	..	5	..
2	30·042	61·0	53·5	7·5	..	..	..	..	NW	NNW	..	1+	..	..	..	6	..
4	30·040	60·1	52·0	8·1	43·0	17·1	..	..	NNW	NNW	..	½	..	..	..	8	..
6	30·037	59·7	51·7	8·0	..	..	..	..	NW	NNW	..	½	..	..	..	10	..
8	30·056	54·0	49·6	4·4	..	..	..	..	Calm	NNW	..	¼	..	..	..	10	..
10	30·056	53·1	50·0	3·1	46·5	6·6	..	..	Calm	NNW	..	¼	..	..	..	10	..
12	30·058	52·1	49·2	2·9	..	..	..	..	Calm	NNW	..	¼	7·12	0·00	11·825	8	..
14	30·039	52·0	50·4	1·6	..	..	..	..	Calm	NW	..	¼	..	..	..	10	..
16	29·994	51·7	50·7	1·0	50·0	1·7	..	..	Calm	SW	..	¼	..	..	..	10	..
18	29·949	51·5	50·7	0·8	..	..	..	..	S	SW	..	¼	..	..	..	10	..
20	29·919	53·5	53·2	0·3	..	..	..	..	S	SW	..	¼	..	..	..	10	..
22	29·864	55·9	55·3	0·6	54·5	1·4	62·5 50·8	84·8 44·8	SSW	SSW	..	½	7·23	0·19	12·000	10	Transit
Sep. 1. 0	29·817	58·0	57·1	0·9	..	..	..	..	SSW	SSW	1 to 2	½	..	..	..	10	..
2	29·792	60·8	60·2	0·6	..	..	..	..	SSW	SSW	..	½	..	..	..	10	..
4	29·783	63·1	63·0	0·1	61·8	1·3	..	..	WSW	SW by W	..	½	..	..	..	10	..
6	29·790	63·7	63·7	0·0	..	..	..	..	W	WSW	..	½	..	..	..	10	..
8	29·814	63·7	63·7	0·0	..	..	..	..	Calm	W by S	..	½	..	..	..	9½	..
10	29·850	64·2	64·0	0·2	63·5	0·7	..	..	Calm	W	..	½	..	..	..	10	..
12	29·871	64·1	63·9	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·891	64·3	61·0	3·3	..	..	..	..	W by S	Calm	..	..	..	..	..	10	..
16	29·900	64·5	64·0	0·5	63·0	1·5	..	..	W	W	..	¼	..	..	..	10	..
18	29·916	64·5	64·0	0·5	..	..	..	..	W	W	..	¼	..	..	..	10	..
20	29·955	66·0	64·5	1·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·997	67·7	65·7	2·0	63·8	3·9	66·6 56·4	69·2 55·3	WNW	Calm	..	..	7·36	0·25	12·240	10	Transit
Sep. 2. 0	30·019	70·0	66·0	4·0	..	..	..	..	WNW	WNW	..	¼	..	..	..	10	..
2	30·022	73·8	68·1	5·7	..	..	..	..	W	W	..	½	..	..	..	3	..
4	30·009	75·4	69·5	5·9	67·5	7·9	..	..	NW	Calm	..	..	..	..	..	¼	..
6	30·014	74·9	68·9	6·0	..	..	..	..	Calm	W by N	..	¼—	..	..	..	0	..
8	30·032	69·2	66·4	2·8	..	..	..	..	Calm	W by N	..	¼—	..	..	..	0	..
10	30·062	67·4	65·7	1·7	65·5	1·9	..	..	Calm	Calm	..	..	..	..	..	0	..
12	30·082	63·7	63·6	0·1	..	..	..	..	Calm	SW	..	¼	..	..	..	0	..
14	30·087	61·4	61·4	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	30·092	60·0	60·0	0·0	60·0	0·0	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·096	58·5	58·5	0·0	..	..	..	..	WSW	W	..	¼	..	..	..	10	..
20	30·109	59·5	59·5	0·0	..	..	..	..	WSW	Calm	..	..	..	..	..	10	..
22	30·111	60·9	60·8	0·1	59·5	1·4	75·8 58·8	98·6 56·3	WSW	Calm	..	½	7·36	0·00	12·250	10	Transit
Sep. 3. 0	30·113	64·2	63·0	1·2	..	..	..	..	WSW	W	..	½	..	..	..	10	..

Aug. 31d. Between 6h and 8h the temperature of the air declined 5°·7.

Aug. 31d, civil reckoning. The mean daily temperature was less on this day than on any other during the month, being 54°·6, as deduced from the two-hourly observations.

Aug. 31d. 12h. The amount of rain collected during the month of August, in rain-gauge No. 4, was 1in·78.

Sep. 1d and 2d. The greatest difference between the mean temperatures of one civil day and the next during the month took place between these two days, being 9°·9, as deduced from the two-hourly observations.

Sep. 1d. From 4h to 18h the range of the thermometer was only 1°·4, as shewn by the two-hourly observations.

Sep. 1d. civil reckoning. This day had the greatest relative moisture in the atmosphere of any day in the month, the mean difference of the Dry and Wet Thermometers being 0°·5, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
At about $12^h.\ 30^m$ the clouds became broken about the zenith, and α Aquilæ, α Lyræ, and α Cygni became visible; and shortly afterwards the whole of the clouds disappeared, and it is now cloudless: still a brisk wind; gusts to 1.	G
It continued cloudless until 14^h, when a few clouds appeared moving from the N.: at present a bank of cloud is rising in the N.W.: the wind has blown briskly ever since: the air feels cold.	
Cloudless.	
,, blue haze all round.	G
A few light clouds: hazy.	J H
Cumuli and scud, principally N. of the zenith: gusts of wind.	
,, wind rising in gusts.	J H
Cumuli and cirro-cumulus to the S.; cirri in bars in the W.; hazy to the N.: the Sun in haze; he is visible, but casts no shadow.	G
A kind of cirro-stratus completely covers the sky, the Sun's place being just visible: a thick haze.	
Cirro-stratus generally; a cold wintry-looking sky: at about $6^h.\ 40^m$ the mist dispersed, and the clouds broke, the southern portion of the sky becoming nearly clear; bars of cirri running N. and S., with others at right angles to them, and also some waved cirri occupied a position S. of the zenith for about half an hour, the whole having a slow motion from the North.	
Black cirro-stratus, not very thick, as now and then a star is visible.	G
Cirro-stratus: a few stars are visible.	J H
Overcast: rain falling.	
,, ,,	
,, ,,	
,, ,,	J H
Overcast: a fine, steady rain falling: wind in gusts.	P
,, ,, the wind increasing in gusts from $\frac{1}{2}$ to about $\frac{3}{4}$ or 1.	
,, a fine, steady rain still continues falling.	P
,, cirro-stratus: a steady rain.	J H
,, ,, the rain has just ceased: the clouds move from W. by N.	
The clouds much lighter: hazy: breaks appeared in the zenith at $7^h.\ 10^m$.	
Overcast: cirro-stratus.	J H
,, the wind occasionally sweeping past in light airs.	P
,, the night remarkably calm.	
,,	
,, cirro-stratus: the wind extremely light.	
,, ,,	P
Cirro-stratus and scud: hazy.	J H
Sky covered with undefined clouds: hazy.	
Light clouds: hazy,	J H
A few clouds in the north-western horizon; hazy.	P
Cloudless: hazy.	
,, very hazy and foggy: the haze in the whole horizon is so dense as greatly to resemble cirro-stratus: wind in light airs.	
Cloudless.	P
,, but the stars look dim, owing to vapour: the horizon hazy all round.	G
Every thing the same as at 12^h: great deposition of moisture.	
Quite cloudy: much vapour and deposition.	
Thick fog, no part of the Observatory being visible from the Magnetic House: light rain falling.	
Still a dense and very wetting fog, the ground appearing spotted with cobwebs with the dew resting on them: there is not a square [foot of ground near the Magnetic Observatory free of a web.	G
Stratus: damp, misty air.	J H
Stratus: damp, misty air; but less so than at 22^h.	

Sep. $1^d.\ 14^h$. It would seem that the reading of the Wet Thermometer was in error to the amount of 3°, and that it should have been 64°·0: in that case the difference between its reading and that of the Dry Thermometer would have been 0°·3 instead of 3°·3. The numbers used in the Abstracts are as they stand above.

Sep. $2^d.\ 8^h$. The temperature of the air was 5°·7 lower than at the preceding observation.

Sep. 2^d, civil reckoning. The mean daily temperature was greater on this day than on any other during the month, being 68°·4, as deduced from the two-hourly observations.

Sep. 2^d. The highest reading of the thermometer during the month took place on this day.

Sep. $2^d.\ 18^h$. The reading of the Dry Thermometer was 0°·3 lower than the minimum temperature, as given by the self-registering Minimum Thermometer.

Sep. $3^d.\ 0^h$. This is the highest barometrical reading during the month.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Sep. 3. 2	30·100	66·7	63·0	3·7	..	..	..	..	W	W	..	½	..	..	..	10	..
4	30·075	68·5	64·2	4·3	61·0	7·5	..	..	WSW	WSW	..	¼	..	..	..	5	..
6	30·056	69·5	65·5	4·0	..	..	..	..	WSW	WSW	..	¼−	..	..	..	2	..
8	30·054	64·6	62·7	1·9	..	..	..	..	WSW	WSW	..	¼	..	..	..	1	..
10	30·065	62·5	61·0	1·5	60·0	2·5	..	..	W by S	WNW	..	½	..	..	..	1	..
12	30·069	59·5	59·0	0·5	..	..	..	..	W by S	Calm	..	..	..	..	..	2	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	69·0 51·4	88·5 50·0	Calm	...	..	..	7·36	0·00	12·255	..	..
Sep. 4. 0	30·117	62·1	60·1	2·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
2	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
8	30·081	62·7	59·5	3·2	..	..	..	..	Calm	W by S	..	¼	..	..	..	7	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	New
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Perigee
14	30·100	53·0	53·1	−0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·085	56·0	56·0	0·0	55·3	0·7	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·089	55·5	55·5	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·093	56·0	55·9	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
22	30·088	65·2	62·4	2·8	60·0	5·2	68·6 53·3	93·4 47·0	Calm	Calm	..	..	7·36	0·00	12·261	7	..
Sep. 5. 0	30·068	67·0	63·0	4·0	..	..	..	..	SSW	SW	..	¼−	..	..	..	7	In Equator
2	30·037	69·4	63·1	6·3	..	..	..	..	SW	SW	..	¼+	..	..	..	10	Transit
4	30·002	70·4	63·4	7·0	59·0	11·4	..	..	SW	SW	..	¼	..	..	..	3	..
6	29·976	65·4	59·7	5·7	..	..	..	..	SW	SW by W	..	½	..	..	..	5	..
8	29·966	60·0	57·0	3·0	..	..	..	..	S	Calm	..	..	..	..	..	8	..
10	29·959	55·7	54·5	1·2	54·0	1·7	..	..	S	SW by W	..	¼	..	..	..	2	..
12	29·915	54·0	53·0	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·885	52·0	51·4	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	¼	..
16	29·863	51·8	51·2	0·6	51·0	0·8	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·820	52·2	51·7	0·5	..	..	..	..	Calm	SSW	..	¼−	..	..	..	5	..
20	29·832	56·0	54·7	1·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·839	62·9	60·3	2·6	59·0	3·9	71·4 51·3	91·0 43·3	Calm	Calm	..	..	7·36	0·00	12·261	7	..
Sep. 6. 0	29·828	67·0	61·2	5·8	..	..	..	..	...	W by N	..	½	..	..	..	8	..
2	29·811	69·5	63·7	5·8	..	..	..	..	...	W by S	..	½	..	..	..	9	Transit
4	29·792	67·8	61·0	6·8	..	..	..	..	W by S	WNW	..	¼	..	..	..	6	..
6	29·791	65·5	60·5	5·0	..	..	..	..	W	W	..	¼−	..	..	..	10	..
8	29·795	61·0	58·5	2·5	..	..	..	..	Calm	Calm	..	..	..	..	..	½	..
10	29·807	57·2	55·7	1·5	55·0	2·2	..	..	Calm	Calm	..	..	..	..	..	0	..
12	29·819	54·8	54·5	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
14	29·807	53·0	52·8	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·803	50·4	49·8	0·6	49·0	1·4	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·785	49·0	49·0	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	29·764	52·7	52·0	0·7	..	..	..	..	Calm	ENE	..	¼−	..	..	..	1	..
22	29·759	62·5	60·5	2·0	58·5	4·0	69·3 48·9	95·2 42·4	Calm	ENE	..	just percep.	7·36	0·00	12·261	2	..

Sep. 3d, civil reckoning. The mean height of the barometer was greater on this day than on any other day during the month, being 30in·086, as deduced from the two-hourly observations.

Sep. 4d. 14h. The reading of the Dry Thermometer was 0°·3 lower than the minimum temperature, as given by the self-registering Minimum Thermometer.

Sep. 4d, 14h. The Wet Thermometer reads higher than the Dry Thermometer.

Sep. 4d. 22h. The temperature of the air was 9°·2 higher than at the preceding observation: on Sep. 5th, between 4h and 8h, the temperature decreased at the rate of 5° in two hours; between 20h and 22h the increase was 6°·9.

GENERAL REMARKS.	Observer.
Cirro-stratus and scud: the clouds more broken.	J H
Loose cumuli every where; pale blue sky between.	G
A few small cumuli in the W.: some scud moving from the W, to the N.W.; otherwise cloudless, and very fine.	
A dark stratus cloud near the horizon in the N. and N.W.; every other part of the sky cloudless.	
A dark line of cloud in the S.W.: all round, near the horizon, is hazy: the stars (low ones) look dim, and but few are seen.	G
Heavy vapour near the horizon, especially East of the meridian; cirro-stratus N. of the zenith: the stars dim and watery.	J H
Stratus: hazy.	
Cumuli and cumulo-strati.	
Damp fog: stratus: a mist formed at midnight.	J H
Stratus: the air damp and misty.	
,, ,,	
The stratus gradually disappearing: light fog.	J H
The sky mostly covered with cirro-stratus and scud, with a few cumuli.	P
The clouds of the same species as those of last observation.	
Overcast, cirro-stratus, and scud.	P
Cumuli and scud.	J H
,, ,,	
Cirro-stratus and scud.	
Vapour in the horizon: the stars are dim.	J H
Cloudless.	P
A few lines of cloud in the N. only.	
Cloudless.	
Scud moving slowly from the S. S.W., and cirro-cumuli S.E. of the zenith: cirro-stratus in the horizon.	
Overcast: cirro-stratus.	D
Scud and light clouds.	J H
,,	
,,	J H
Cumuli, cumulo-strati, cirro-stratus, and scud, profusely scattered in every direction.	P
Overcast: the cirro-stratus is so much thinner in some places than in others as to shew with tolerable distinctness the blue sky above it: the wind in light airs.	
The haze extremely dense in the horizon; also a fog, rapidly becoming thicker, and already making the grass damp.	
Cloudless; the fog dense in the low grounds.	P
A few dark lines of cloud in the West, near the horizon; all round cloudy and thick; the stars are dull and small, through the prevalence of vapour.	G
Cloudless; but the stars are small, and shine dimly.	
,, the stars shine more brightly.	
,, a thin damp fog.	
A few light clouds in the W.: the wind is E.N.E., in light airs, so as scarcely to be represented numerically.	G
Light cirri and vapour.	J H

Sep. 5^d. 0^h. Examined the perpendicularity of the barometer.

Sep. 5^d. 22^h. The string of the pressure-pencil was at this time found broken near its point of junction with the wire connected with the tension chain: it was again started at 2^h.

Sep. 6^d. 4^h. The temperature of the Dew Point was inadvertently omitted.

Sep. 6^d, civil reckoning. This day had the least relative moisture in the atmosphere of any day in the month, the mean difference of the Dry and Wet Thermometers being $2°\cdot8$, as deduced from the two-hourly observations.

Sep. 6^d. Between 20^h and 22^h the temperature of the air rose $9°\cdot8$, and $5°\cdot7$ between 22^h and 24^h.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Raingauge No. 1, (Osler's)	RAIN. Reading of Raingauge No. 2.	RAIN. Stand of Raingauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Sep. 7. 0	29·725	68·2	62·3	5·9	..	..	..	..	SE	SE by S	..	½	..	..	..	9	..
2	29·612	68·3	63·2	5·1	..	..	..	..	E	E by N	0 to 1	½	..	..	..	10	Transit
4	29·601	66·6	61·7	4·9	58·5	8·1	..	..	E	E	1 to 2	1¼	..	..	..	10	..
6	29·530	63·6	61·0	2·6	..	..	..	..	E	ENE	1 steady	¾	..	..	..	10	..
8	29·458	61·2	60·2	1·0	..	..	..	..	E	ENE	..	¾	..	..	..	4	..
10	29·382	61·7	61·4	0·3	61·0	0·7	..	..	Calm	Calm	..	..	..	..	..	10	..
12	29·334	62·0	61·4	0·6	..	..	..	..	S	S	..	½+	..	..	..	8	..
14	29·288	62·3	61·7	0·6	..	..	..	..	S	SSW	..	½	..	..	..	10	..
16	29·279	60·5	59·6	0·9	59·0	1·5	..	..	SSW	SW	..	¾	..	..	..	10	..
18	29·268	59·0	57·5	1·5	..	..	..	..	SW	SW	1 to 1½	¾+	..	..	..	10	..
20	29·282	60·5	57·5	3·0	..	..	..	..	SW	SW	3 to 3½	2	..	..	..	6	..
22	29·295	62·6	58·7	3·9	58·0	4·6	71·4 58·3	95·3 54·7	SW	SSW	3 to 4	2	7·60	0·27	12·535	3	..
Sep. 8. 0	29·283	62·3	57·5	4·8	..	..	..	..	SW	SSW	5 to 8	2+	..	..	..	9½	..
2	29·294	55·0	54·0	1·0	..	..	..	..	SW	SSW	4 to 6	2+	..	..	..	10	..
4	29·359	54·7	54·5	0·2	54·0	0·7	..	..	WSW	SSW	3 to 4	2	..	..	..	10	Transit
6	29·399	54·5	54·1	0·4	..	..	..	..	WSW	WSW	2 to 3	2+	..	..	..	10	..
8	29·448	55·7	54·1	1·6	..	..	..	..	WSW	WSW	1 to 1½	1½	..	..	..	9½	..
10	29·495	54·5	53·2	1·3	52·0	2·5	..	..	WSW	WSW	1½ to 3	1½	..	..	..	½	..
12	29·514	53·2	52·5	0·7	..	..	..	..	SW	WSW	0 to 1	½	..	..	..	0	..
14	29·514	53·0	52·3	0·7	..	..	..	..	SW	WSW	0 to ½	½+	..	..	..	0	..
16	29·503	55·0	53·7	1·3	52·2	2·8	..	..	SW	WSW	½ to 1	¾	..	..	..	10	..
18	29·470	54·0	54·0	0·0	..	..	..	..	SW	SW	..	¼−	..	..	..	10	..
20	29·421	57·0	57·0	0·0	..	..	..	..	SW	SW	1 to 3	¾	..	..	..	10	..
22	29·429	62·8	61·7	1·1	59·5	3·3	64·6 52·3	74·2 47·5	WSW	WSW	1 to 3	1½	7·93	0·50	13·075	10	..
Sep. 9. 0	29·415	65·5	63·4	2·1	..	..	..	..	WSW	WSW	1 to 3	1+	..	..	..	10	..
2	29·402	63·9	62·5	1·4	..	..	..	..	WSW	SW	1 to 2	1+	..	..	..	10	..
4	29·347	63·5	62·2	1·3	61·0	2·5	..	..	SW	WSW	2 to 3	¾	..	..	..	10	Transit
6	29·332	63·5	61·6	1·9	..	..	..	..	SW	WSW	½ to 2	¾	..	..	..	6	..
8	29·332	59·6	58·2	1·4	..	..	..	..	SW	SW	..	½	..	..	..	4	..
10	29·335	57·6	56·9	0·7	56·0	1·6	..	..	SW	SW	..	¾	..	..	..	7	..
12	29·331	56·6	55·6	1·0	..	..	..	..	SW	SW	..	½	..	..	..	9	..
14	29·314	56·5	55·5	1·0	..	..	..	..	SW	SW	..	¼	..	..	..	9	..
16	29·292	53·3	52·5	0·8	52·0	1·3	..	..	SW	SW	..	½	..	..	..	9	..
18	29·269	55·4	54·4	1·0	..	..	..	..	SW	SW	..	½	..	..	..	10	..

Sep. 7d. A fall of 0in·113 of the barometer took place between 0h and 2h.

Sep. 7d. A thunder storm. (See the Section of Extraordinary Observations.)

Sep. 7d, civil reckoning. The range of the barometer was greater on this day than on any other day during the month, being 0in·473, as deduced from the two-hourly observations.

Sep. 7d and 8d. The greatest difference in the mean height of the barometer between any two consecutive civil days during the month took place between these two days, being 0in·280, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Light, fleecy cumuli with scud and vapour.	J H
Cirro-stratus and scud: the clouds much heavier.	J H
Overcast: cirro-stratus.	G
About $5^h.\ 20^m$ a dark cloud came up from the West and moved across the sky: on its approaching the zenith the electrometer was affected, and continued to be so during its passage: at present a very wild-looking sky: the upper current is from the West, the next from the South, and that on the surface of the Earth from E.N.E.: a dense cloud occupies all the eastern portion of the heavens: scud and cumulo-strati in the N., and in the W. and S. are waved lines of dark stratus: a few drops of rain fell a few minutes since: the barometer unsteady.	
The great mass of cloud went off to the East a short time after the last observation, leaving generally a clear sky: the clouds which remained were those of the middle current, moving from the South: at present the southern portion of the sky is generally clear, with a few small cumuli: on every side of the zenith are cumulo-strati, the sky in the North being generally clear: all the clouds move from the South towards the North; the lower remains unchanged, being still from E.N.E. The barometer has been very unsteady, being stationary, then suddenly dropping $0^{in}\cdot02$, or $0^{in}\cdot03$; then stationary, and again dropping: lightning in the W., and low murmurings of distant thunder within the last five minutes.	
Overcast; both thunder and brilliant lightning since the last observation, with heavy rain, the electrometer being but slightly affected: at present very dark, with light rain, and occasional flashes of lightning near the horizon in N., E., and S.	G
Faint flashes of lightning in E. and N.W., at intervals: cirro-stratus and scud: gusts of wind.	J H
Overcast: rain falling: flashes of lightning from clouds in N.N.E	
,, cirro-stratus: the sky alternately cloudy and partially clear: the last flash of lightning seen was at $15^h.\ 30^m$.	
Cirro-stratus: scud passing rapidly from the S.W: strong gusts of wind, which is rising considerably.	
A gale of wind from the S.W., which has suddenly sprung up since $18^h.\ 40^m$: scud passing rapidly over: the sky S. of the zenith, at this moment generally clear.	J H
Wild-looking scud flying rapidly from the S.S.W., and at times nearly covering the sky: the wind in gusts from $\frac{3}{4}$ to 2 or $2\frac{1}{2}$.	P
A few breaks in the southern horizon extending towards the S.S.E., the rest of the sky being covered with a wild-looking scud, rapidly driven before the wind: the wind increasing in force, and still in gusts.	
Overcast: rain falling: the wind increasing somewhat.	P
,, continued heavy rain: wind in gusts to $2\frac{1}{2}$.	J H
Continued heavy rain and strong gusts of wind.	
The rain ceased at $7^h.\ 5^m$: at present a break in the horizon from the S.W. to the N.W.: elsewhere cirro-stratus and scud.	
The sky cleared suddenly from the W., at $9^h.\ 20$: a few small fragments of scud N.E. of the zenith: the wind blowing in sudden gusts.	J H
Cloudless: the stars shining with brilliancy: the wind rapidly subsiding, but blowing still in gusts.	P
,, the wind in moderate gusts.	
Overcast: the wind seems increasing in force.	
,, rain falling.	
,, ,, the wind has again risen since the last observation and blows with more steadiness, though still with occasional lulls.	P
Cirro-stratus and scud.	J H
,,	
,, slight rain at $1^h.\ 40^m$: gusts of wind to 2.	J H
Overcast: a thin rain falling, or it may be more justly designated a mist.	P
Cumuli, cumulo-strati, cirri, cirro-stratus, and scud: East of the zenith, and in the S.W., the sky is dotted principally with cirri: West of the zenith, in the W. S.W. and N.W., it is covered chiefly with a dark cirro-stratus: the cirri are stationary, the scud below it being impelled with great rapidity.	
Dark, magnificent cumulo-strati, extending from the W. beyond the N.: in the zenith, cirri, and finely formed cirro-cumuli: the wind in moderate gusts.	
Many stars shining in the zenith, and also N. and S. of it, though but faintly, the remainder of the sky being overcast.	P
A few stars are faintly visible, a thin cirro-stratus covering nearly the whole of the sky.	G
The same.	
A few stars S.E. of the zenith; all the remainder of the sky overcast: it has been alternately clear and cloudy since the last observation.	
Overcast: cirro-stratus and scud; the latter moving from the W.	

Sep. 8^d. The temperature of the air was $7^\circ\cdot3$ lower at 2^h than at 0^h; and $5^\circ\cdot8$ higher at 22^h than at 20^h.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Sep. 9. 20	29·287	56·6	55·0	1·6	..	..	..	..	WSW	SW	1 to 1½	1	..	..	..	9	..
22	29·293	57·5	55·6	1·9	54·0	3·5	65·6 52·8	69·8 47·6	WSW	W by S	0 to 1	¾	7·93	0·00	13·090	6	..
Sep. 10. 0	29·322	61·0	55·7	5·3	..	..	..	..	W	NW by W	2 to 2½	1½	..	..	..	8	..
2	29·362	61·3	57·0	4·3	..	..	..	..	WSW	WNW	½ to 2	1	..	..	..	8	..
4	29·384	55·1	55·0	0·1	53·5	1·6	..	..	W by N	NW by W	1 to 2	1½	..	..	..	8	..
6	29·408	60·0	56·0	4·0	..	..	..	..	W by N	W by N	..	½	..	..	..	6	Transit
8	29·465	56·2	54·3	1·9	..	..	..	..	W	W	..	¾	..	..	..	4	..
10	29·506	54·4	52·6	1·8	50·0	4·4	..	..	W	W	..	¾	..	..	..	1	..
12	29·536	54·0	52·7	1·3	..	..	..	..	W	W	..	¾	..	..	..	4	..
14	..	..	..	..	..	..	..	..	W	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	W	...	½ to 1	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	W by S	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	W by S	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	62·5 49·1	78·7 43·0	W by N	...	0 to 1	..	7·98	0·09	13·180	..	..
Sep. 11. 0	29·557	59·6	55·4	4·2	..	..	..	..	W	W	0 to ½	½	..	..	..	10	..
2	..	..	..	..	..	..	..	..	W	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	W	...	..	..	..	..	..	..	1st Qr.
6	29·562	62·0	57·4	4·6	..	..	..	..	WNW	SW	..	¼	..	..	..	9	Transit
8	..	..	..	..	..	..	..	..	NW	...	..	..	..	..	..	..	Greatest declination S.
10	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	29·625	55·0	54·2	0·8	..	..	..	..	Calm	W	..	½	..	..	..	10	..
16	29·633	54·0	53·5	0·5	52·0	2·0	..	..	Calm	WSW	..	½	..	..	..	10	..
18	29·632	54·0	53·3	0·7	..	..	..	..	Calm	W by S	..	½	..	..	..	10	..
20	29·665	56·0	54·5	1·5	..	..	..	..	Calm	NW	..	½	..	..	..	10	..
22	29·683	59·4	55·2	4·2	52·0	7·4	62·5 53·7	75·0 50·5	NW	N by W	..	½	7·98	0·00	13·180	5	..
Sep. 12. 0	29·694	60·0	55·3	4·7	..	..	..	..	NNW	NNW	..	½	..	..	..	8	..
2	29·705	64·0	58·5	5·5	..	..	..	..	NNW	N by W	..	½	..	..	..	3	..
4	29·721	63·7	57·7	6·0	54·5	9·2	..	..	NNW	N by W	½ to 2	¾	..	..	..	4	..
6	29·745	60·0	55·2	4·8	..	..	..	..	NNW	N by W	..	½	..	..	..	1	..
8	29·800	58·4	55·1	3·3	..	..	..	..	N	N by W	..	½	..	..	..	9	Transit
10	29·838	54·5	53·2	1·3	52·5	2·0	..	..	Calm	N by W	..	¼	..	..	..	3	..
12	29·859	52·1	51·5	0·6	..	..	..	..	N	N by W	..	¼+	..	..	..	0	..
14	29·871	51·0	50·5	0·5	..	..	..	..	N	N by W	..	¼	..	..	..	0	..
16	29·891	50·5	50·0	0·5	49·0	1·5	..	..	Calm	N by W	..	¼+	..	..	..	0	..
18	29·941	49·8	49·6	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	¼	..
20	29·949	51·8	51·0	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
22	29·979	58·0	55·8	2·2	54·0	4·0	64·6 49·6	86·8 43·0	Calm	Calm	..	..	7·98	0·00	13·190	1	..
Sep. 13. 0	29·978	62·0	57·3	4·7	..	..	..	..	N	N by W	..	½+	..	..	..	3	..
2	29·984	63·3	58·6	4·7	..	..	..	..	NNE	N by E	..	½	..	..	..	5	..
4	29·980	62·8	59·1	3·7	55·0	7·8	..	..	N by E	N by E	..	¼	..	..	..	9	..
6	29·986	62·2	57·7	4·5	..	..	..	..	N by E	N by E	..	¼	..	..	..	7	..
8	30·005	56·7	54·8	1·9	..	..	..	..	Calm	N by E	..	¼−	..	..	..	1	Transit

Sep. 10d. The temperature of the air was 6°·2 lower at 4h than at 2h.

Sep. 12d. 0h. Examined the perpendicularity of the barometer.

Sep. 12d. The temperature of the air was 6°·2 higher at 22h than at 20h; and on Sep. 13d, at 22h, it was 6°·8 higher than at 20h.

GENERAL REMARKS.	Observer.
A wild-looking sky, nearly covered with cloud of a stratus character, a few breaks only being visible: some stormy-looking scud passing from the W.: the wind in gusts: a few light drops of rain falling: about 60° of a double rainbow visible in the N.W.	G
Large cumulo-strati, and masses of scud passing from W. by N.	J H
Cumulo-stratus and scud.	
,, several slight squalls of rain since the last observation: the wind blowing in gusts.	
,, passing squalls of rain.	J H
Loose scud in every direction, forming in the zenith a species of cirro-cumulus: the sky at intervals almost covered with large quantities of scud constantly floating over: frequent squalls of rain.	P
The northern portion of the sky clear; in the southern portion there are scud and strati: the scud passing from the W.	G
Two small stratus clouds to the North; every other part of the sky clear.	G
Heavy vapour: the stars appear dim and watery.	J H
The sky covered with heavy cumulo-strati; the Sun's place being occasionally visible.	G
The sky nearly covered with white cumuli and cirro-cumuli: a shower of rain, from dark nimbi, at about 2^h.	G
Overcast: cirro-stratus: very dark.	J H
,, ,, ,,	
,, ,,	
,, ,, the clouds slightly broken.	J H
Flimsy cumuli equally distributed all over the sky: pale blue sky between.	G
Light scud and cirro-stratus covering the greater part of the sky.	P
Loose scud and cumuli in various directions.	P
Cumulo-stratus and scud.	J H
Light clouds, principally W. of the zenith.	
Dark scud generally prevalent.	
Scud and light clouds, principally N. of the zenith.	J H
Cloudless: the stars, however, look unusually dim and faint.	P
,, the stars are still faint and much distorted: hazy.	
The same.	
A few cirri only in the North: foggy.	
Thin lines of cloud in the W. and N.W. near the horizon: foggy.	P
A few light, fleecy cumuli.	J H
Cumuli and fleecy clouds in every direction.	
Cumuli and scud in every part of the sky.	J H
A somewhat extensive break a little N. of the zenith, which is slowly extending itself: about five minutes before the observation the sky was entirely overcast.	P
Scud in every direction, the sky S. of the zenith being wholly covered with it; in this direction it is of a dark and threatening [character.	
Clouds only in the neighbourhood of the Moon: at about 15^m before the observation the greater portion of the sky S. of the zenith was covered with floating masses of scud.	P

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Sep. 13. 10	30·030	56·4	55·2	1·2	54·0	2·4	..	..	Calm	N by E	..	¼–	..	..	..	10	..
12	30·047	56·1	55·1	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·049	53·5	53·6	–0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
16	30·047	54·4	54·4	0·0	54·0	0·4	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·045	55·1	54·8	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·055	56·8	56·8	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·074	63·6	61·0	2·6	60·0	3·6	66·0 53·8	92·3 48·1	NE	ENE	..	¼	7·98	0·00	13·190	3	..
Sep. 14. 0	30·075	70·1	64·0	6·1	..	..	..	..	Calm	ENE	..	¼	..	..	..	6	..
2	30·070	70·4	63·6	6·8	..	..	..	..	Calm	ENE	..	¼	..	..	..	7	..
4	30·047	68·7	63·7	5·0	59·5	9·2	..	..	NE	ENE	..	¼	..	..	..	4	..
6	30·046	65·4	61·5	3·9	..	..	..	..	Calm	ENE	..	¼	..	..	..	8	..
8	30·060	60·5	59·5	1·0	..	..	..	..	Calm	ENE	..	¼	..	..	..	8	..
10	30·076	57·2	56·5	0·7	56·0	1·2	..	..	Calm	ENE	..	¼	..	..	..	1	Transit
12	30·067	56·1	55·5	0·6	..	..	..	..	Calm	ENE	..	¼	..	..	..	10	..
14	30·042	56·7	55·8	0·9	..	..	..	..	Calm	ENE	..	¼	..	..	..	4	..
16	30·029	56·3	56·2	0·1	55·0	1·3	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·034	56·9	56·8	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·044	58·0	58·0	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·040	64·9	62·5	2·4	61·5	3·4	72·1 55·6	102·0 49·2	Calm	Calm	..	..	7·98	0·00	13·190	10	..
Sep. 15. 0	30·023	70·0	64·2	5·8	..	..	..	..	ENE	ENE	..	¼	..	..	..	3	..
2	30·011	68·1	62·7	5·4	..	..	..	..	E	E by N	..	¼	..	..	..	2	..
4	29·994	66·5	62·0	4·5	60·0	6·5	..	..	E	E by N	..	¼	..	..	..	¼	..
6	30·000	61·8	58·9	2·9	..	..	..	..	E	E by N	..	¼	..	..	..	0	..
8	30·005	57·2	56·1	1·1	..	..	..	..	Calm	E by N	..	¼	..	..	..	0	..
10	30·005	54·5	54·4	0·1	54·0	0·5	..	..	Calm	E by N	..	¼	..	..	..	0	Transit
12	29·986	53·5	53·5	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·981	51·8	52·0	–0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·963	50·3	50·6	–0·3	50·5	—0·2	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·957	48·5	48·7	–0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·965	55·5	55·5	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·997	58·2	57·6	0·6	58·0	0·2	70·2 48·6	97·7 44·0	Calm	SE	..	nearly calm	7·98	0·00	13·190	10	..
Sep. 16. 0	29·976	62·4	60·6	1·8	..	..	..	..	...	ESE	..	¼	..	..	..	10	..
2	29·946	67·7	62·7	5·0	..	..	..	..	...	S	..	¼	..	..	..	3	..
4	29·903	67·3	63·2	4·1	60·8	6·5	..	..	...	Calm	..	..	..	..	..	5	..
6	29·886	62·5	59·1	3·4	..	..	..	..	E	E	..	¼–	..	..	..	6	..
8	29·875	57·7	56·6	1·1	..	..	..	..	Calm	E	..	¼	..	..	..	4	..
10	29·853	55·0	54·7	0·3	55·0	0·0	..	..	Calm	Calm	..	..	..	..	..	3	Transit
12	29·843	53·0	53·0	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	4	..
14	29·796	52·7	52·7	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
16	29·757	55·5	55·5	0·0	55·5	0·0	..	..	Calm	SE	..	½	..	..	..	4	..

Sep. 13d. 14h. The reading of the Dry Thermometer was 0°·3 lower than the minimum temperature, as given by the self-registering Minimum Thermometer.

Sep. 13d. 14h. The reading of the Wet Thermometer is higher than that of the Dry Thermometer.

Sep. 14d, civil reckoning. The range of the barometer was less on this day than on any other day during the month, being 0in·031.

Sep. 14d. Between 20h and 24h, there was an increase in the temperature of the air of 12°·0; also an increase of 7°·0 on Sep. 15th, between 18h and 20h.

Sep. 15d. 14h, 16h, and 18h. The reading of the Wet Thermometer was higher than that of the Dry Thermometer: at 16h the temperature of the Dew Point was higher than that of the Dry Thermometer.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and scud.	G
,, ,,	
A few clouds low down in the S., every other part of the sky being free of cloud; vapour.	
Clouds soon came up after the last observation, and at present an unbroken sheet of black cloud covers the sky.	
Overcast: a light rain falling.	
,, misty.	G
Cumuli and fleecy clouds.	J H
,, ,, cumulo-strati N. of the zenith.	
Cumulo-stratus, cumuli, and scud: clouds predominate N. of the zenith.	J H
Fine, large, white cumuli near the horizon all round; a few fleecy clouds near the zenith; the remainder of the sky of a fine deep blue.	G
Cumuli, cumulo-strati, and cirro-cumuli, equally distributed: a fine blue sky seen between the clouds: a fine afternoon.	
A very large quantity of scud has passed from E.N.E. since the last observation, frequently obscuring the Moon, Jupiter, and, indeed, the whole of the heavens: at present, there are some large masses in the South and in the North: the Moon shining in white cloud.	
Scud in large masses continued to pass from E.N.E. until $9^h.\ 25^m$, when the sky became cloudless: at present, with the exception of the horizon in the North, and also in the East, the sky is perfectly clear: the Moon and stars shining brilliantly.	G
Clear till $11^h.\ 30^m$, when clouds suddenly overspread the sky.	J H
Vapour and thin scud.	
Scud and vapour.	
Cirro-stratus and scud.	
A light fog came on shortly after the last observation, and still remains: overcast: cirro-stratus.	J H
Overcast: cirro-stratus.	P
Cumulo-strati and scud in every direction.	
Cumulo-strati and scud in various quarters of the sky.	P
A few small cumuli in the N.W. horizon; elsewhere clear.	J H
Cloudless.	
,,	
,,	P
,, misty.	
,, a dense and damp fog.	
Overcast: a dense and damp fog: the Observatory is not visible from the Magnetic Observatory.	
,, the fog not so thick.	P
,, damp fog.	D
,, cirro-stratus. [are scattered in different parts of the sky.	
The clouds broke at $0^h.\ 40^m$, since which time they have been gradually disappearing; at present, detached portions of cirro-stratus	D
Scud in every direction: hazy.	P
Scud, cirri, and cirro-strati, in different quarters of the sky.	
,, ,, ,, the wind in occasional light airs, and, although one has just risen, the general character of the evening is calm.	
Considerable quantities of fleecy clouds are scattered in every direction, but chiefly in the N. and N.W.	P
A knot, or nucleus of cloud due North, from which lines of cloud of a fleecy character emanate, spreading all over the northern hemisphere: some of the lines extend to 40° S. of the zenith: a cirro-stratus cloud rising from the S.W.	G
Lines of cloud still diverge from the nucleus in the North, and also similar bars of fleecy cloud from a large dense cirro-stratus in the S.W.; the lines crossing each other a little S.E. of the zenith: in this way the whole sky is nearly covered, the only breaks being the narrow spaces between the lines of cloud.	
Stars are shining dimly in the S.E. and N.E.: a cirro-stratus in the S.W. and N.W., reaching nearly to the zenith: heavy vapour and deposition of moisture: the thermometer is rising.	

Sep. $15^d.\ 16^h$. From Sep. $15^d.\ 16^h$ the sky was cloudless: it is the longest period of clear sky of any in the month.

From Sep. $15^d.\ 22^h$ to Sep. $16^d.\ 2^h$ the Anemometer was out of order.

Sep. 16^d. The temperature of the air was increased respectively by $5°{\cdot}3$, $5°{\cdot}8$, and $7°{\cdot}2$ between 0^h and 2^h, 20^h and 22^h, and 22^h and 24^h: a decrease of $5°{\cdot}5$ took place on Sep. 17th, between 4^h and 6^h.

Sep. $16^d.\ 14^h$. The reading of the Dry Thermometer was $0°{\cdot}3$ lower than the minimum temperature, as given by the self-registering Minimum Thermometer.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Sep. 16. 18	29·735	55·0	54·8	0·2	..	..	..	..	Calm	SSE	..	¼	..	..	..	6	..
20	29·720	57·6	56·6	1·0	..	..	..	..	Calm	SSE	..	½	..	..	..	8	..
22	29·691	63·4	61·2	2·2	59·0	4·4	69·2 53·0	94·1 52·0	Calm	S by E	..	¼	7·98	0·00	13·190	4	..
Sep. 17. 0	29·663	70·6	64·5	6·1	..	..	..	..	S	S	..	¼	..	..	..	6	..
2	29·643	72·7	64·5	8·2	..	..	..	..	SSW	S	0 to ½	½	..	..	..	6	..
4	29·629	69·2	63·5	5·7	59·0	10·2	..	..	SSW	SW	0 to 1	½	..	..	..	9	..
6	29·632	63·7	60·8	2·9	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
8	29·637	61·7	59·7	2·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	29·631	60·0	59·5	0·5	59·0	1·0	..	..	Calm	SW	..	¼	..	..	..	10	..
12	29·617	60·4	59·8	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	72·7 52·1	90·2 50·6	N	...	..	..	8·18	0·39	13·600	..	Apogee
Sep. 18. 0	29·655	56·5	54·2	2·3	53·5	3·0	..	..	Calm	NNE	..	¼	..	..	..	10	..
2	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
8	29·569	54·7	54·0	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
14	29·476	53·6	53·6	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·463	53·2	53·1	0·1	53·0	0·2	..	..	Calm	SW	..	¼	..	..	..	9½	..
18	29·464	50·4	50·4	0·0	..	..	..	..	Calm	SSW	..	¼	..	..	..	10	In Equator
20	29·476	51·2	51·1	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
22	29·487	58·2	55·7	2·5	53·0	5·2	59·6 49·9	69·0 46·0	Calm	SW	..	¼	8·39	0·29	13·860	1	..
Sep. 19. 0	29·461	62·8	59·3	3·5	..	..	..	..	S	SSW	..	¼	..	..	..	8	..
2	29·446	64·7	58·6	6·1	..	..	..	..	SSW	SSW	½ to 1	½+	..	..	..	2	..
4	29·466	54·5	53·2	1·3	53·0	1·5	..	..	SW	WSW	0 to 2	¼	..	..	..	10	..
6	29·443	55·0	53·6	1·4	..	..	..	..	Calm	S	..	¼	..	..	..	4	..
8	29·449	54·0	52·7	1·3	..	..	..	..	Calm	S	..	¼	..	..	..	10	Full
10	29·454	52·2	51·4	0·8	51·0	1·2	..	..	Calm	S	..	¼	..	..	..	9	..
12	29·450	50·0	49·4	0·6	..	..	..	..	Calm	S by W	..	¼+	..	..	..	5	Transit
14	29·440	48·2	47·8	0·4	..	..	..	..	Calm	S by W	..	¼	..	..	..	4	..
16	29·417	46·9	46·6	0·3	46·0	0·9	..	..	Calm	S	..	¼	..	..	..	7	..
18	29·405	45·0	44·8	0·2	..	..	..	..	Calm	S	..	¼−	..	..	..	¼	..
20	29·397	47·6	46·7	0·9	..	..	..	..	Calm	S by W	..	¼−	..	..	..	0	..
22	29·414	55·4	52·1	3·3	51·5	3·9	66·4 44·8	82·5 39·8	Calm	S by W	..	¼	8·40	0·03	13·910	1	..
Sep. 20. 0	29·394	59·4	54·0	5·4	..	..	..	..	SW	WSW	..	½	..	..	..	9	..

Sep. 17d. 2h. The difference between the Dry and Wet Thermometers was greater at this than at any other time during the month.

Sep. 17d, civil reckoning. The range of the thermometer was greater on this day than on any other day during the month, being 20°·0, as deduced from the two-hourly observations.

Sep. 19d. 0h. Examined the perpendicularity of the barometer.

Sep. 19d. A decrease of 10°·2 in the temperature of the air took place betwee 2h and 4h; and an increase of 7°·8 between 20h and 22h.

GENERAL REMARKS.	Observer.
Clouds rising from the S.W., and moving across the sky from that quarter; stratus clouds in the E.; cirro-stratus in the W.: deposition of moisture still continues, but much less.	G
For the last hour there have existed several currents in the atmosphere—a white flimsy cloud moves from the N.; a little above it a dark scud from the W.; from the S.W. a constant supply of small white clouds are rising, as before; fine curled cirri move from the S.; and the wind, though still light on the surface, is S.S.E.: a cumulo-stratus cloud occupies a good portion of the North; a cirro-stratus of the S.W.; and no part of the sky to any great extent is free from cloud, and yet blue patches of sky are seen everywhere.	G
Cirri scattered about on all sides: cirro-stratus in the horizon.	D
Cirri and scud in all directions: cumuli in N. and E. near the horizon.	
Cumuli equally distributed over the whole sky.	D
The sky generally covered with cumuli, flowing into cumulo-strati: a scud is passing quickly from the S.W. under a dark nimbus.	G
Overcast: cirro-stratus, nimbus, and scud; the latter moving from the S.W.: at $5^h.35^m$ a light shower of rain began falling; it	
,, very light rain falling. [ceased at $5^h.43^m$.	
,, cirro-stratus: rain continued to fall till $9^h.35^m$.	G
,, ,,	D
,, ,, rain occasionally falling.	
,, ,, this has been a very gloomy day.	
,, rain commenced falling at $9^h.50^m$, and continued until within a short time of this observation.	
A few slight breaks in the zenith; otherwise overcast.	
Overcast: light fog. [the fog has disappeared.	
The clouds began to disappear soon after the last observation: at present a few scattered fragments of scud are alone visible:	D
A few loose cumuli in the S. and E.: a whitish-blue sky everywhere else.	J H
Cumulo-strati, cirro-stratus, and scud: the breaks are in the N. and N.E.	P
Cumuli and white scud in every direction.	P
The sky became overcast at $3^h.40^m$: at present every part of the sky is covered with cirro-stratus: rain falling.	D
Cirro-stratus in the whole horizon: light fleecy clouds and small fragments of scud in various parts of the sky.	
Overcast: cirro-stratus: the Moon's place just visible.	
Fleecy clouds in the zenith; every other part of the sky is covered with cirro-stratus.	D
Large masses of scud in the S. S.W., and in other parts of the sky: the sky rapidly cleared about 15^m previously to the observation; its general character is now cloudy and clear alternately.	P
Large masses of scud still momentarily passing over: at present the Moon is shining brightly, and the clouds are scattered in the	
Scud in every direction. [other parts of the sky remote from her.	
A few patches of scud only here and there.	
Cloudless.	P
Light cumuli in the N.; cirri scattered in other parts.	D
Cumulo-strati and heavy undefined clouds nearly cover the whole sky.	

Sep. 20^d. The temperature of the air increased by $8°.1$ between 20^h and 22^h: it decreased by $5°.2$ and $5°.0$ respectively, between 2^h and 4^h, and 6^h and 8^h, Sep. 21st.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°.	°	°			from lbs. to lbs.		in.	in.	in.		
Sep. 20. 2	29·392	54·5	51·4	3·1	..	..	..	..	SW	WSW	0 to 1	¾	..	..	..	8	..
4	29·370	55·6	52·6	3·0	51·0	4·6	..	..	SSW	SSW	..	¼+	..	..	..	8	..
6	29·372	50·7	48·7	2·0	..	..	..	..	S by W	S by W	..	¼	..	..	..	4	..
8	29·390	48·4	47·1	1·3	..	..	..	..	S	S by W	..	¼−	..	..	..	0	..
10	29·385	46·7	45·7	1·0	45·5	1·2	..	..	Calm	S by W	..	¼	..	..	..	¼	..
12	29·391	45·0	44·5	0·5	..	..	..	..	Calm	S	..	¼	..	..	..	0	..
14	29·388	45·2	44·2	1·0	..	..	..	..	Calm	SSE	..	¼	..	..	..	10	Transit
16	29·373	45·5	45·1	0·4	45·0	0·5	..	..	Calm	SSE	..	¼	..	..	..	10	..
18	29·358	48·1	47·6	0·5	..	..	..	..	Calm	S	..	¼	..	..	..	10	..
20	29·362	47·0	47·0	0·0	..	..	..	..	Calm	S	..	¼	..	..	..	2	..
22	29·385	55·1	52·5	2·6	51·5	3·6	61·3 44·2	76·2 38·1	WSW	WSW	..	¼	8·45	0·05	13·985	3	..
Sep. 21. 0	29·388	59·4	54·5	4·9	..	..	..	..	WSW	WSW	..	¼	..	..	..	3	..
2	29·390	62·3	56·8	5·5	..	..	..	..	WSW	WSW	..	¼	..	..	..	5	..
4	29·381	57·1	54·5	2·6	50·5	6·6	..	..	WSW	WSW	..	¼−	..	..	..	7	..
6	29·374	54·4	52·5	1·9	..	..	..	..	Calm	SW	..	¼	..	..	..	2	..
8	29·378	49·1	48·8	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
10	29·382	47·6	47·6	0·0	47·5	0·1	..	..	Calm	Calm	..	..	..	..	..	1	..
12	29·378	45·6	45·6	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·368	43·3	43·5	−0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	½	Transit
16	29·349	41·7	41·7	0·0	42·0	−0·3	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·347	40·9	40·9	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	29·362	42·0	42·2	−0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·382	45·8	45·9	−0·1	46·0	−0·2	64·7 41·1	90·4 36·5	SW	Calm	..	..	8·46	0·01	13·990	10	..
Sep. 22. 0	29·362	54·6	53·2	1·4	..	..	..	..	W	Calm	..	..	..	..	..	7	..
2	29·349	56·1	52·9	3·2	..	..	..	..	NNW	NW	..	¼	..	..	..	9	..
4	29·352	55·5	52·6	2·9	49·7	5·8	..	..	N by W	Calm	..	..	..	..	..	4	..
6	29·357	54·7	52·0	2·7	..	..	..	..	NW	N	..	¼	..	..	..	6	..
8	29·382	51·5	50·2	1·3	..	..	..	..	NW	N	..	¼	..	..	..	10	..
10	29·392	51·4	49·7	1·7	49·0	2·4	..	..	NW	NW	..	¼	..	..	..	10	..
12	29·393	50·3	49·5	0·8	..	..	..	..	W	Calm	..	..	..	..	..	10	..
14	29·387	46·8	47·0	−0·2	..	..	..	..	SW	Calm	..	..	..	..	..	3	Transit
16	29·382	45·5	45·5	0·0	45·0	0·5	..	..	SW	Calm	..	..	..	..	..	9	..
18	29·380	43·6	43·8	−0·2	..	..	..	..	...	Calm	..	..	..	..	..	1	..
20	29·385	47·0	46·3	0·7	..	..	..	..	...	Calm	..	..	..	..	..	0	..
22	29·386	51·5	49·8	1·7	47·8	3·7	57·7 43·1	69·4 43·0	...	WSW	..	¼	8·46	0·00	13·990	10	..
Sep. 23. 0	29·367	56·2	53·6	2·6	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
2	29·352	56·2	52·5	3·7	..	..	..	..	SW	SW	0 to 1	½	..	..	..	10	..
4	29·325	52·6	51·2	1·4	50·3	2·3	..	..	SW	SW	..	¼	..	..	..	10	..
6	29·298	50·2	49·8	0·4	..	..	..	..	S by E	Calm	..	..	..	..	..	10	..
8	29·278	51·3	51·3	0·0	..	..	..	..	SSE	Calm	..	..	..	..	..	10	..
10	29·263	51·8	51·6	0·2	51·0	0·8	..	..	SSE	Calm	..	..	..	..	..	10	..

Sep. 20d. 18h. Hourly observations were commenced. (See the Section of Term-Day Observations.)

Sep. 21d. The lowest reading of the thermometer during the month took place on this day.

Sep. 21d. 14h, 20h, and 22h. The readings of the Wet Thermometer were higher than those of the Dry Thermometer; and at 16h and 22h the temperatures of the Dew Point were higher than the readings of the Dry Thermometer.

Sep. 21d and 22d. The least difference in the mean heights of the barometer between any two consecutive civil days during the month took place between these two days, being 0in·012, as deduced from the two-hourly observations.

Sep. 22d, civil reckoning. The mean daily temperature was less on this day than on any other during the month, being 49°·0, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Massive cumulo-strati in the whole horizon: dark, heavy, electrical clouds in and near the zenith: a few drops of rain falling.	D
Cirro-stratus and scud in every direction: squally.	P
A nimbus covering the greater part of the sky W. of the meridian, but scarcely reaching to the zenith: scud also in other directions:	
Cloudless: the night extremely fine and the air bracing. [not so squally.	
,, except a few fragments of scud in the southern horizon.	P
,, the Moon shining brightly.	G
A thin cloud (a kind of cirro-stratus) covers nearly the whole of the sky; the Moon shining through it, with a glory round her.	
At times a few stars have been seen, but the clouds have gradually become more dense: it is now overcast: a fine night.	
Rain began falling at $17^h.\ 20^m$, and a fine steady rain has been falling since, and is still falling.	
The rain ceased about $18^h.\ 15^m$, and, on its ceasing, the thermometer again began to fall: at $19^h.\ 30^m$ the reading was $46°{\cdot}4$; it then began to rise slowly: a very damp air: a bank of cumuli near the horizon in the S.; a few scattered clouds in the N. and E.; principally strati.	G
Cumuli near the horizon on all sides; the remainder of the sky is quite free from clouds.	D
Cumuli scattered about: cumulo-strati in the N. near the horizon.	
Cumulo-strati in, and S.E. of, the zenith: the N.W. part of the sky is clear, with the exception of a few small cumuli here and there: cumuli in the S.W.	D
Breaks in every direction: a nimbus passing across the zenith, and a few drops of rain falling: a somewhat heavy shower took	P
Cumulo-stratus in the N.: cirro-stratus in the horizon in the S. [place at $3^h.\ 30^m$.	
A large bank of cirro-stratus in the S.E.: small fragments of scud in various directions.	D
A bank of white cloud extending from S. to N.E. round by E., about one half the height of the Moon: the remainder of the sky cloudless: the reading of the thermometer in the reflector is $40°{\cdot}0$.	G
Cloudless: the deposition of moisture is considerable: a creeping mist on the ground.	G
Cloudy over the Moon: light cirrus clouds: misty.	M
Light fog, which was collecting rapidly at $16^h.\ 0^m$, and through which the Moon is shining: there is no absolute cloud.	D
No change whatever.	D
Overcast: an extremely dense fog, so thick as to render the Observatory invisible from the Magnetic Observatory.	P
,,	G
The fog is gradually disappearing: cumuli and cumulo-strati in all parts of the sky.	D
A few small breaks in various parts of the sky.	P
Clearest to the North: cirro-cumulus clouds: the apparent direction of the wind is North.	M
A large mass of scud is now S. of the zenith, moving towards the horizon and obscuring everything; it has just left the North, where now are fine cirro-cumuli and small cumuli, with a deep blue sky: clearest in the East, there being only a few yellow cumuli near the horizon.	G
Overcast: cirro-stratus and scud.	D
,, ,, the Moon occasionally visible.	P
,, ,, an upper current only, it being quite calm on the surface of the Earth.	
Fleecy clouds in various parts of the sky, but principally S. of the zenith, about the Moon, and in the N. and N.W.; the rest of the sky is free from clouds.	
A thin cirro-stratus covering nearly the whole of the sky; the Moon is distinctly seen through it, and the stars also are visible in	
Scud in various directions moving very slowly: hazy. [the zenith, and S.E. of it.	
Cloudless.	P
Overcast: cirro-stratus and scud: the Sun's place visible.	D
,, cirro-stratus.	
,, ,, a very gloomy-looking sky.	D
,, rain falling: it began about $4^h.\ 5^m$, a few minutes after the observation.	P
,, a fine steady rain has continued to fall without intermission since the last observation.	
,, the rain is still falling heavily, and has continued so to do, without intermission, since its commencement at $4^h.\ 5^m$.	
,, the rain has ceased.	P

Sep. $22^d.\ 14^h$ and 18^h and Sep. $23^d.\ 14^h$. The reading of the Wet Thermometer is higher than that of the Dry Thermometer: on Sep. 23^d at 16^h the temperature of the Dew Point was higher than the reading of the Dry Thermometer.

Sep. $22^d.\ 22^h$. It was found that the clock of the Anemometer had stopped at $16^h.\ 30^m$: the weight had not been raised.

Sep. $23^d.\ 6^h$. The reading of the Dry Thermometer was $0°{\cdot}4$ lower than the minimum temperature, as given by the self-registering Minimum Thermometer.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Sep. 23. 12	29·255	51·8	51·6	0·2	..	..	..	..	Calm	S	..	¼	..	..	..	10	..
14	29·250	51·8	52·0	−0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·224	52·8	52·7	0·1	53·0	−0·2	..	..	Calm	Calm	..	..	..	..	..	10	Transit
18	29·223	52·7	52·6	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·238	53·3	53·0	0·3	..	..	..	..	E by S	NE	..	¼	..	..	..	10	..
22	29·258	54·5	52·2	2·3	52·0	2·5	57·0 50·6	62·4 48·3	E by N	E	..	¼	8·82	0·46	14·470	10	..
Sep. 24. 0	29·271	54·0	51·7	2·3	..	..	..	..	NE	ENE	..	¼	..	..	..	10	..
2	29·282	55·3	53·0	2·3	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
4	29·286	53·6	52·8	0·8	52·0	1·6	..	..	NE	E	..	¼	..	..	..	10	..
6	29·298	52·9	52·7	0·2	..	..	..	..	NE	E	..	¼	..	..	..	10	..
8	29·309	52·0	51·8	0·2	..	..	..	..	NNE	NE	..	¼	..	..	..	10	..
10	29·319	52·7	52·6	0·1	52·5	0·2	..	..	NE	NE	..	¼	..	..	..	10	..
12	29·337	53·3	53·2	0·1	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	55·2 50·5	60·5 48·8	Calm	...	..	..	8·93	0·21	14·700	..	..
Sep. 25. 0	29·425	55·0	54·3	0·7	..	..	..	..	NNE	NE	..	¼	..	..	..	10	..
2	..	..	..	..	..	..	..	..	ENE	...	0 to ½	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	NE	...	0 to 1	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	NNE	...	0 to ½	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	N by E	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	N by E	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
14	29·606	52·2	51·8	0·4	..	..	..	..	N by E	NE	..	¼	..	..	..	9	..
16	29·616	51·3	51·2	0·1	51·0	0·3	..	..	Calm	Calm	..	..	..	..	..	9	..
18	29·636	51·5	51·5	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	7	Transit
20	29·681	54·3	53·7	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
22	29·717	58·4	56·4	2·0	54·0	4·4	61·4 50·9	83·0 49·2	NNE	NE	0 to ½	½	9·19	0·33	15·050	10	..
Sep. 26. 0	29·732	56·2	55·7	0·5	..	..	..	..	E	Calm	0 to ½	..	..	..	..	10	..
2	29·742	60·6	57·5	3·1	..	..	..	..	NE	ENE	½ to 3½	¾	..	..	..	9½	Greatest declination N.
4	29·752	59·7	56·3	3·4	54·0	5·7	..	..	NE	NE	½ to 5	¾	..	..	..	10	..
6	29·786	56·2	53·7	2·5	..	..	..	..	NE	NE	½ to 3	½	..	..	..	8	..
8	29·807	53·2	51.8	1·4	..	..	..	..	N by E	NE	..	½	..	..	..	9	..
10	29·821	52·2	51·0	1·2	50·5	1·7	..	..	NNE	NE	..	½	..	..	..	10	..
12	29·903	49·8	48·7	1·1	..	..	..	..	NNE	N by E	0 to ½	½	..	..	..	0	..
14	29·794	50·2	48·5	1·7	..	..	..	..	NNE	N by E	½ to 3	¾	..	..	..	7	..
16	29·784	49·5	48·3	1·2	47·0	2·5	..	..	N by E	N by E	½ to 1	¼	..	..	..	10	..
18	22·776	50·7	48·5	2·2	..	..	..	..	N by E	N by E	½ to 1	¾	..	..	..	10	Transit
20	29·775	51·0	49·0	2·0	..	..	..	..	N by E	N by E	1 to 2	¼	..	..	..	10	..
22	29·777	51·2	50·0	1·2	50·5	0·7	60·5 49·5	73·0 49·0	NNE	NNE	½ to 2	¾	9·29	0·19	15·270	10	..
Sep. 27. 0	29·781	52·2	51·0	1·2	..	..	..	..	N by E	NNE	1½ to 3	¾	..	..	..	10	..
2	29·762	51·5	51·0	0·5	..	..	..	..	N by E	NNE	½ to 2	½	..	..	..	10	..
4	29·737	52·1	52·1	0·0	51·5	0·6	..	..	N	N	½ to 3	¾	..	..	..	10	3rd Qr.

Sep. 23d. 18h. This is the lowest barometrical reading during the month.

Sep. 24d, civil reckoning. The mean height of the barometer was less on this day than on any other day during the month, being 29in·274, as deduced from the two-hourly observations.

Sep. 24d. 12h. Since Sep. 22d. 22h the sky has been overcast: it is the longest cloudy period of any in the month.

GENERAL REMARKS.	Observer.
Overcast: the place of the Moon has become visible within the last quarter of an hour.	G
,,	
,, a very heavy rain began to fall at $14^h.\ 55^m$, and continued to do so for half an hour; since then rain has continued falling, but much lighter: in the half-hour from $14^h.\ 55^m$ to $15^h.\ 25^m$, between $0^{in}\cdot 3$ and $0^{in}\cdot 4$ fell.	
Overcast: the rain has ceased falling. [place of the Sun.	
,, the Sun's place was seen for a minute or two at $19^h.\ 40^m$; some rain has since fallen: the clouds are lighter about the	G
,, cirro-stratus and scud.	D
,, ,,	
,, ,,	D
,, rain falling.	G
,, ,,	
,, a fine steady rain is now falling.	
The rain ceased almost directly after the last observation; it is now overcast: the thermometer is rising.	G
Overcast: cirro-stratus.	D
Overcast: a few drops of rain falling.	P
[falling about a quarter of an hour since.	
Clear breaks near the Moon; every other part of the sky is covered with cirro-stratus and dark-looking scud: the rain ceased	D
The stars are shining S.W. of the zenith; the remainder of the sky overcast: rain has fallen heavily since the last observation.	
Cirro-stratus and low scud.	
,,	D
A heavy nimbus everywhere: bright near the S. horizon.	G
Overcast: the rain has continued almost without intermission since $23^h.\ 20^m$, and is now pouring down in torrents.	P
A few small breaks in the W.; with this exception overcast.	P
Overcast.	D
Scud in an under current passing over rapidly: clear patches of sky in various parts.	
A few stars are faintly glimmering in the zenith; the rest of the sky overcast.	
Overcast: cirro-stratus.	D
Cloudless. [cast: the wind increasing.	P
Scud and cirro-stratus in every direction, a few breaks being in the zenith and N. of it: about $13^h.\ 15^m$, the sky was totally over-	
Overcast: cirro-stratus and scud.	
,, ,,	
,, rain falling, which commenced about $19^h.\ 35^m$.	P
,, ,,	D
,, ,,	
,, ,,	D
,, a fine steady rain falling.	P

Sep. $26^d.\ 0^h.$ Examined the perpendicularity of the barometer.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Sep. 27. 6	29·766	52·6	52·3	0·3	..	..	..	..	N by E	N	½ to 1	½	..	..	..	10	..
8	29·805	52·5	52·3	0·2	..	..	..	..	N by E	N	½ to 2	¾	..	..	..	10	..
10	29·835	52·0	51·0	1·0	50·0	2·0	..	..	N	N	½ to 1	¾	..	..	..	10	..
12	29·856	50·4	48·5	1·9	..	..	..	..	N	N	½ to 1	1	..	..	..	10	..
14	29·868	48·7	48·5	0·2	..	..	..	..	N by W	N	1 to 2	1	..	..	..	1	..
16	29·879	50·0	48·7	1·3	48·0	2·0	..	..	N by W	N	½ to 1	1	..	..	..	10	..
18	29·895	49·4	48·9	0·5	..	..	..	..	N by W	N	0 to ½	1	..	..	..	10	..
20	29·919	49·6	49·0	0·6	..	..	..	..	N by W	N	½ to 2	¼	..	..	..	8	Transit
22	29·956	54·2	51·6	2·6	48·5	5·7	54·3 48·9	67·2 43·2	N by W	N	1 to 3	¾	9·38	0·25	15·540	7	..
Sep. 28. 0	29·965	54·6	50·8	3·8	..	..	..	..	N	N	2 to 5	1	..	..	..	4	..
2	29·958	56·0	51·5	4·5	..	..	..	..	N	N	1 to 4	¾	..	..	..	2	..
4	29·949	54·8	51·5	3·3	47·5	7·3	..	..	N	N	1 to 4	1	..	..	..	9	..
6	29·955	51·8	49·8	2·0	..	..	..	..	N	N	1 to 2	1	..	..	..	2	..
8	29·954	50·8	49·8	1·0	..	..	..	..	N	N	1 to 2	1	..	..	..	8	..
10	29·956	49·4	48·6	0·8	48·0	1·4	..	..	N	N	0 to ½	¾	..	..	..	2	..
12	29·959	48·8	48·3	0·5	..	..	..	..	N	N	0 to ½	¾	..	..	..	3	..
14	29·960	48·4	47·2	1·2	..	..	..	..	NNE	NNE	0 to ½	¾	..	..	..	8	..
16	29·944	48·2	47·4	0·8	46·5	1·7	..	..	NNE	NNE	1 to 3½	1	..	..	..	10	..
18	29·947	48·2	47·3	0·9	..	..	..	..	NNE	NNE	½ to 1	½+	..	..	..	10	..
20	29·941	49·2	48·0	1·2	..	..	..	..	NNE	NNE	1 to 2½	¾	..	..	..	7	Transit
22	29·938	51·7	49·5	2·2	49·0	2·7	57·6 47·4	75·8 43·0	NNE	NE	½ to 3	¾	9·39	0·02	15·609	7	..
Sep. 29. 0	29·929	55·6	50·5	5·1	..	..	..	..	ENE	NE	3 to 5	1½	..	..	..	7	..
2	29·923	54·5	51·1	3·4	..	..	..	..	ENE	NE	2½ to 6	1½	..	..	..	10	..
4	29·934	53·0	50·5	2·5	48·5	4·5	..	..	NE	NE	1½ to 3½	1	..	..	..	10	..
6	29·956	53·2	50·2	3·0	..	..	..	..	ENE	NE by E	2 to 4	¾	..	..	..	10	..
8	29·995	52·8	49·7	3·1	..	..	..	..	ENE	NE	½ to 2	¾	..	..	..	10	..
10	30·011	52·7	49·7	3·0	48·0	4·7	..	..	ENE	ENE	½ to 2	¾	..	..	..	8	..
12	30·010	52·2	49·2	3·0	..	..	..	..	ENE	NE	½ to 1	¼+	..	..	..	10	..
14	30·020	50·3	48·0	2·3	..	..	..	..	ENE	NE	½ to 1½	¼+	..	..	..	5	..
16	30·020	48·0	46·3	1·7	46·0	2·0	..	..	Calm	NE	..	½	..	..	..	3	..
18	30·026	47·0	45·2	1·8	..	..	..	..	Calm	NE	..	½	..	..	..	7	..
20	30·045	45·5	44·2	1·3	..	..	..	..	Calm	NE	..	¼	..	..	..	0	..
22	30·062	50·4	47·4	3·0	46·0	4·4	56·7 44·8	72·8 38·0	NE	NE	½ to 1½	½+	9·39	0·00	15·609	4	Transit
Sep. 30. 0	30·060	52·9	47·5	5·4	..	..	..	..	NE	ENE	1 to 3½	¾	..	..	..	3	..

Sep. 27d, civil reckoning. The range of the thermometer was less on this day than on any other day in the month, being 3°·1.

GENERAL REMARKS.	Observer.
Overcast: rain still falling, but not so heavily.	P
,, a thin misty rain falling: the wind rising.	
,, a few drops of rain falling.	P
,, the horizon light in the N., N.E., and E.: squally.	G
At about $12^h.\ 15^m$, the brightness mentioned as in the N. horizon began to increase, and at $13^h.\ 30^m$ Polaris was visible; the whole mass of cloud then moved very quickly towards the S.; and at present there is only a small patch of cloud near the S. horizon.	
Clouds, a short time since, came up from the N., and now every part of the sky is covered: thermometer rising: wind in gusts: scud passing from the N.E.	
Overcast: a thin rain falling: scud passing from the N.E.	
A deep, red Sun-rise: the S.E. and W. portions of the sky are quite covered with white clouds, principally cirro-strati: in the N. there is much pale blue sky, and small cumuli moving slowly from the N.E.: the upper curren thas, during the whole morning, been from the N.E.; nor can it be at a great elevation, for it has been from this quarter that every kind of cloud has moved: the thermometer reading at 19^h was 50°: the temperature has been alternately rising and falling during the whole morning.	G
Scud and cirro-stratus scattered about the sky: the wind in gusts.	D
Cumuli and loose scud passing rapidly.	
Cumuli in the horizon on all sides.	D
The sky is everywhere covered with large, heavy clouds; cumuli in some parts, nimbi in others: in the E. there is a very dark, stormy-looking cloud: wind in gusts to 1+: a short time since, the southern portion of the sky was generally clear.	G
Since the last observation the sky has been alternately almost cloudless and quite overcast: a few drops of rain fell shortly after 4^h: at present, there are some loose white clouds in the W.; but, generally, a few loose clouds only are floating about.	
A few stars are shining about the zenith; every other part of the sky overcast.	
It was quite overcast, with rain, from $9^h.\ 0^m$ to $10^h.\ 15^m$: at the latter time the N. horizon became bright, and by $10^h.\ 20^m$, the whole of the sky was free of clouds, they having all passed below the S. horizon: at present there is no absolute cloud above 20° from the S. horizon, but a vapour, causing the stars every where to shine dimly.	G
A heavy shower of rain began falling at $11^h.\ 35^m$, and continued until $11^h.\ 45^m$; the clouds then suddenly dispersed, and left the sky nearly clear: at present, cirro-stratus occupies the whole horizon: vapour in, and N.E. of, the zenith, which occasionally obscures the stars.	D
The sky remained nearly clear until $12^h.\ 30^m$, when clouds again began to collect rapidly, and soon covered the sky: the larger stars were occasionally visible, but only for a short time: the stars S. of the zenith are now dimly shining, and also a few in different parts of the sky.	
Overcast: cirro-stratus and scud: about twenty minutes since, another heavy shower of rain fell: scud passes rapidly over the zenith: the Moon and Stars have been scarcely visible since the last observation.	
Overcast: cirro-stratus and scud: rain has been falling at intervals since the last observation.	
The sky remained overcast, with rain falling slightly, until $19^h.\ 25^m$; at that time the Sun became visible through clear breaks, which rapidly extended themselves: a perfect double rainbow was visible for a few minutes at $19^h.\ 30^m$.	D
At present, the sky S.W. of the zenith is nearly clear, but the northern portion of the sky remains covered with cirro-stratus and scud: cumuli in the N.: cirro-stratus and scud in other directions, but chiefly in the S.	P
Cirro-stratus and scud in every direction: the zenith tolerably free from clouds.	
Overcast: cirro-stratus and scud: rain has just commenced falling: the rain had ceased at $2^h.\ 45^m$: the wind in very heavy gusts to 2.	P
,, ,,	D
,, ,,	
,, ,,	
Cirro-stratus and scud: stars shining dimly in the zenith.	D
Overcast: cirro-stratus: the cirro-stratus is very thin, since many stars in the zenith and around it are occasionally faintly visible:	P
The greater part of the sky S. of the zenith, and W. of it, covered with a dark scud. [the wind has subsided.	
Scud in different parts of the sky, but chiefly S. of the zenith.	
Scud in every direction.	
Cloudless.	P
Cumuli and loose scud.	D
Cumuli scattered in various directions.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Sep. 30. 2	30·047	54·0	47·3	6·7	..	..	..	..	NE	NE	1 to 2	½	..	..	..	3	..
4	30·036	52·2	47·4	4·8	38·0	14·2	..	..	NE	NE	1 to 2	¾	..	..	..	2	..
6	30·036	49·3	46·8	2·5	..	..	..	..	Calm	NE	..	½	..	..	..	2	..
8	30·051	47·3	46·5	0·8	..	..	..	..	Calm	NE	..	¼	..	..	..	10	..
10	30·049	47·5	47·2	0·3	47·5	0·0	..	..	Calm	Calm	..	..	..	..	..	10	..
12	30·064	47·5	47·0	0·5	..	..	..	..	Calm	Calm	..	..	9·40	0·02	15·635	10	..
14	30·070	47·3	47·0	0·3	..	..	..	..	Calm	N	..	¼	..	..	..	10	..
16	30·069	47·0	47·0	0·0	47·0	0·0	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·068	46·2	45·5	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·092	45·9	44·9	1·0	..	..	..	..	Calm	N	..	¼	..	..	..	9	..
22	39·128	50·5	48·5	2·0	46·5	4·0	55·1 45·0	77·0 39·3	NNW.	N	..	¼	9·40	0·00	15·635	6	Transit
Oct. 1. 0	30·144	55·0	51·6	3·4	..	..	..	..	N	N	..	¼	..	..	..	4	..
2	30·138	57·7	54·2	3·5	..	..	..	..	N	N	..	¼	..	..	..	6	..
4	30·141	55·9	52·8	3·1	49·5	6·4	..	..	N	N	..	¼	..	..	..	8	..
6	30·161	52·8	49·8	3·0	..	..	..	..	Calm	N	..	¼	..	..	..	10	..
8	30·182	49·8	48·7	1·1	..	..	..	..	Calm	N	..	¼	..	..	..	6	..
10	30·194	46·2	45·7	0·5	45·0	1·2	..	..	Calm	Calm	..	..	..	..	..	0	..
12	30·197	43·4	43·0	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	30·196	46·5	46·4	0·1	..	..	59·1 35·7	85·5 31·7	Calm	W	..	..	9·40	0·00	15·640	0	Transit
Oct. 2. 0	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
6	30·092	51·4	48·5	2·9	..	..	..	..	Calm	SE	..	¼	..	..	..	3	..
8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	In Equator
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	30·017	43·1	42·9	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
16	29·985	42·1	42·0	0·1	42·0	0·1	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·966	39·8	39·8	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
20	29·970	44·5	44·2	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
22	29·977	49·4	48·3	1·1	47·0	2·4	56·9 40·2	87·5 33·2	Calm	NE	..	¼	9·40	0·00	15·640	10	Perigee
Oct. 3. 0	29·960	55·3	52·8	2·5	..	..	..	..	Calm	NE	..	−¼	..	..	..	10	Transit
2	29·935	57·2	53·5	3·7	..	..	..	..	Calm	NE	..	−¼	..	..	..	10	..
4	29·905	57·6	54·2	3·4	51·0	6·6	..	..	Calm	NE	..	¼	..	..	..	10	..
6	29·911	52·3	50·8	1·5	..	..	..	..	NE	NNE	0 to ½	¼	..	..	..	10	..
8	29·925	50·4	49·0	1·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	29·921	49·4	47·9	1·5	46·0	3·4	..	..	N	NNE	..	¼	..	..	..	10	..
12	29·914	48·0	46·2	1·8	..	..	..	..	N	NNE	..	¼	..	..	..	10	..
14	29·915	45·7	44·6	1·1	..	..	..	..	N by E	NNE	..	¼	..	..	..	0	..
16	29·897	43·6	43·0	0·6	41·5	2·1	..	..	N	NNE	..	¼	..	..	..	10	..
18	29·902	43·5	43·0	0·5	..	..	..	..	N by W	Calm	..	..	..	..	..	10	..

Sep. 30d. 4h. The temperature of the Dew Point was confirmed by a second observation.

Sep. 30d. 4h. The observed difference between the Dew Point and the temperature of the air was greater at this than at any other time during the month.

Sep. 30d. 12h. The amount of rain collected during the month of September, in rain-gauge No. 4, was 3in·99.

Oct. 2d. 18h. The reading of the Dry Thermometer was 0°·4 lower than the minimum temperature, as given by the self-registering Minimum Thermometer.

Oct. 2d. Between 22h and 24h the temperature of the air increased 5°·9; and on Oct. 3rd, between 4h and 6h, it decreased 5°·3.

GENERAL REMARKS.	Observer.
The sky, N. and E. of the zenith, is nearly clear: cirri and small cumuli are scattered S. of the zenith.	D
Cirri about the zenith, and a kind of cirro-stratus in the southern horizon.	P
Dark scud plentiful in the N.N.W. and S., and small patches in other parts of the sky; the rest of the heavens being cloudless.	
Overcast: cirro-stratus: rain falling, having commenced about $8^h.\ 10^m$: the clouds came up from the E. about $7^h.\ 40^m$, and slowly [covered the sky.	P
,, a thin rain falling.	P
,, a dense and dark cirro-stratus.	G
,, ,,	
,, ,, a thin rain falling.	
,, cirro-stratus.	
The N.E. portion of the horizon has been very bright during the last hour: the sky is now generally covered with clouds, which are a little broken, both on the S. and N. sides of the zenith: clouds (generally strati).	G
The greater portion of the sky N. of the zenith is clear: cirro-stratus and small fleecy clouds are generally prevalent in the other [parts.	D
Large cumuli in various directions. [scattered in the N. part of the sky.	
Clouds of a fleecy character in the zenith, and for several degrees around it: cumuli in the S., near the horizon: cumuli and cirri	D
Large cumulo-strati, near the horizon, to the S., with blue sky; nearly every other part of the sky covered with strati.	G
Quite overcast.	
About ten minutes since, the clouds broke about the zenith: at present, the zenith and 40° around it are free from cloud, but the stars shine dimly: near the horizon in the N. are a few breaks; the rest thick.	
The clear space round the zenith gradually extended itself all round, the clouds dispersing (being dissipated), without moving in any direction: by $9^h.\ 10^m$ it was cloudless, and continues so.	G
Cloudless.	D
Cloudless, but misty: the ground was white with hoar frost early in the morning.	G
Stratus lines the horizon in every direction, extending to an altitude of 20°: this has been a fine day: cirri and cumuli occasionally near the horizon.	G
Heavy vapour: a few stars are faintly visible in the zenith.	D
Cloudless: misty.	
Vapour and light clouds.	
Fleecy clouds all over the sky.	D
Overcast: cirro-stratus; some parts, towards the S., lighter than others.	G
Overcast: cirro-stratus: hazy.	P
,, ,,	P
,, clouds lighter in the zenith.	D
,, cirro-stratus and scud.	
,, ,,	
,, cirro-stratus.	D
,, ,,	P
Cloudless.	
Overcast: cirro-stratus: the wind very light.	
,, ,,	

Oct. 3^d. 0^h. Examined the perpendicularity of the barometer.

Oct. 3^d and 4^d. The least difference in the mean height of the barometer between any two consecutive civil days during the month took place between these two days, being $0^{in}\cdot013$, as deduced from the two-hourly observations.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Raingauge No. 1, (Osler's)	RAIN. Reading of Raingauge No. 2.	RAIN. Stand of Raingauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Oct. 3. 20	29·931	46·5	44·6	1·9	..	..	..	..	N by E	NNE	..	¼	..	..	..	8	New
22	29·955	49·3	46·5	2·8	44·5	4·8	58·8 43·2	67·4 34·5	NNE	N by E	..	¼	9·40	0·00	15·640	3	..
Oct. 4. 0	29·971	54·5	50·2	4·3	..	..	..	..	NNE	NE	0 to ½	¼	..	..	..	5	Transit
2	29·968	53·6	49·5	4·1	..	..	..	..	N	N	..	¼	..	..	..	10	..
4	29·955	53·5	49·5	4·0	48·0	5·5	..	..	N by E	N by E	..	¼	..	..	..	9¾	..
6	29·978	49·7	47·4	2·3	..	..	..	..	N by E	NE	..	¼	..	..	..	5	..
8	30·011	44·5	43·7	0·8	..	..	..	..	N by E	Calm	..	..	..	..	..	0	..
10	30·017	45·5	44·5	1·0	44·5	1·0	..	..	Calm	Calm	..	..	..	..	..	10	..
12	30·046	41·7	41·6	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
14	30·062	39·6	39·5	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	30·051	37·2	37·2	0·0	37·0	0·2	..	..	Calm	Calm	..	..	..	..	..	0	..
18	30·062	36·6	36·6	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	30·088	35·0	34·8	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
22	30·104	41·3	40·4	0·9	39·5	1·8	56·4 35·1	84·3 25·0	WSW	Calm	..	..	9·40	0·00	15·640	0	..
Oct. 5. 0	30·115	48·7	46·6	2·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
2	30·103	50·3	47·0	3·3	..	..	..	..	Calm	Calm	..	..	..	..	..	0	Transit
4	30·092	51·2	47·4	3·8	43·0	8·2	..	..	Calm	Calm	..	..	..	..	..	3	..
6	30·095	48·2	46·2	2·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	30·126	44·5	43·1	1·4	..	..	..	..	ESE	Calm	..	..	..	..	..	0	..
10	30·150	39·6	39·3	0·3	39·0	0·6	..	..	Calm	Calm	..	..	..	..	..	0	..
12	30·157	37·3	36·8	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	30·154	38·5	38·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
16	30·146	40·0	39·2	0·8	39·0	1·0	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·155	40·6	40·0	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·188	40·3	39·6	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
22	30·198	46·1	44·9	1·2	43·0	3·1	52·7 36·2	66·3 28·2	Calm	Calm	..	..	9·40	0·00	15·640	4	..
Oct. 6. 0	30·191	55·4	52·5	2·9	..	..	..	..	NNW	Calm	..	..	..	..	..	4	..
2	30·177	58·0	54·0	4·0	..	..	..	..	NNW	Calm	..	..	..	..	..	8	Transit
4	30·169	56·6	53·5	3·1	48·0	8·6	..	..	NNW	Calm	..	..	..	..	..	10	..
6	30·166	53·2	51·4	1·8	..	..	..	..	Calm	Calm	..	..	..	..	..	9½	..
8	30·188	50·2	49·6	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	30·202	50·7	49·2	1·5	49·0	1·7	..	..	NNW	Calm	..	..	..	..	..	10	..
12	30·187	47·9	47·0	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	4	..
14	30·176	44·2	43·6	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	30·185	43·2	42·2	1·0	40·0	3·2	..	..	Calm	Calm	..	..	..	..	..	6	..
18	30·155	44·5	43·5	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·166	45·3	44·4	0·9	..	..	..	..	WSW	Calm	..	..	..	..	..	3	..
22	30·180	50·0	48·1	1·9	46·0	4·0	59·6 43·3	86·5 34·5	NNW	NNW	..	¼	9·40	0·00	15·640	6	..
Oct. 7. 0	30·173	55·4	52·0	3·4	..	..	..	..	NNW	N by W	..	¼	..	..	..	1	..
2	30·152	59·0	55·0	4·0	..	..	..	..	NNW	N	..	¼	..	..	..	2	..
4	30·132	57·8	54·3	3·5	53·2	4·6	..	..	Calm	Calm	..	..	..	..	..	10	Transit
6	30·134	56·3	53·8	2·5	..	..	..	..	Calm	NNW	..	¼–	..	..	..	10	..
8	30·153	56·8	54·1	2·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	30·163	54·7	53·6	1·1	54·0	0·7	..	..	Calm	Calm	..	..	..	..	..	10	..
12	30·190	50·5	50·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..

Oct. 5d. A rise in the temperature of the air of 5°·8 took place between 20h and 22h.

Oct. 6d, civil reckoning. The range of the thermometer was greater on this day than on any other day during the month, being 19°·5, as deduced from the two-hourly observations.

Oct. 6d. A rise of 5°·4 took place in the temperature of the air between 22h and 24h; and of 5°·0 on Oct. 7th, between 20h and 22h.

GENERAL REMARKS.	Observer.
Small breaks in every direction (a rather extensive one in the N. horizon). Shortly after the last observation the clouds broke, and left breaks in every part of the sky.	P
Light fleecy clouds in the S. and S.W. move near the horizon; the remainder of the sky is quite clear.	D
Cumuli equally distributed about the sky.	
Overcast: cirro-stratus.	D
A single break, of small extent, in the eastern horizon, the rest of the sky being overcast.	P
Cirro-cumuli about the zenith and S. of it: stratus clouds of a dark character all round near the horizon.	G
Cloudless.	D
Overcast: cirro-stratus: at intervals a few stars are seen shining faintly.	P
Near the horizon all round are clouds; the other parts of the sky are free of them, but the stars look dull from vapour.	G
Cloudless.	
,, the reading of the Terrestrial Radiation Thermometer is now 27°·0: there are no signs of hoar frost, but the grass is	
,, [covered with small globules of water: very cold to the senses.	
,, the Sun rose cloudless: hoar frost formed on the grass about half an hour since.	G
,, hazy.	D
,, ,,	
,, ,,	D
Cumuli, scud, and dense haze.	P
Overcast: cirro-stratus.	P
Cloudless: vapour in the horizon.	D
The air is thick, with some mist; fog in the low lands, which has been for more than an hour.	G
Cloudless: no change since the last observation.	D
At present the stars are visible only in the zenith: cirro-stratus and heavy vapour cover nearly the whole sky.	
Overcast: cirro-stratus.	
,, ,,	
Cloudless: the clouds began to disappear at sunrise.	D
The haze S. of the zenith so very dense as to resemble a cirro-stratus; in other directions it is much thinner, and the blue sky is faintly seen through it.	P
Cumuli, cumulo-strati, and scud, in every direction: the haze has wholly disappeared.	
Cumulo-strati, cirro-stratus, and scud, covering the greater portion of the sky.	P
The sky is now quite covered with cirro-stratus.	G
Very small breaks between the clouds, which are spread over the sky in every direction.	P
Overcast: light fog in the lower parts of the Park: the place of Jupiter is faintly visible.	D
,, cirro-stratus.	D
The stars are shining dimly in the zenith and for some considerable distance around it.	P
Cloudless; but the stars look distorted and watery. [brightly than before.	
The whole of the sky N. and W. of the zenith is covered with clouds, as are also some other portions of it: the stars shine more	
Overcast: cirro-stratus.	
The haze extremely dense around the whole horizon, so much so as to resemble cirro-stratus; notwithstanding the haze the sky is	P
Cirro-stratus and haze: the sun is shining, but casts a very faint shadow. [cloudless.	D
Cirri in various directions: haze in the horizon.	
The same.	D
Overcast: cirro-stratus.	P
,, ,,	
,, ,,	
,, ,,	P
The clouds within the preceding hour have dispersed without going in any direction (having been dissipated); the stars are, however, dim from vapour.	G

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0 — 10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Oct. 7. 14	30·209	47·7	47·7	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	30·213	48·6	48·6	0·0	48·5	0·1	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·221	48·6	48·6	0·0	..	..	..	..	NW	N	..	¼	..	..	..	10	..
20	30·243	49·2	48·7	0·5	..	..	..	..	NNW	N	..	¼	..	..	..	10	..
22	30·268	54·2	52·7	1·5	51·5	2·7	60·6 47·6	84·7 40·5	NNW	N	0 to ½	¼	9·40	0·00	15·640	9	..
Oct. 8. 0	30·300	56·4	54·1	2·3	..	..	..	..	ENE	N	0 to ½	¼	..	..	..	8	..
2	30·310	56·3	54·2	2·1	..	..	..	..	N by E	N by E	..	¼	..	..	..	10	..
4	30·299	57·5	55·5	2·0	53·0	4·5	..	..	N by W	N	..	¼	..	..	..	9	Transit
6	30·308	54·5	53·2	1·3	..	..	..	..	Calm	NE	..	¼	..	..	..	5	..
8	30·338	50·0	49·6	0·4	..	..	..	..	Calm	NE	..	¼	..	..	..	5	..
10	30·354	48·5	48·5	0·0	48·0	0·5	..	..	Calm	NE	..	¼	..	..	..	2	..
12	30·366	48·3	48·3	0·0	..	..	..	..	Calm	N by E	..	¼	..	..	..	5	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Greatest declination S.
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	60·9 42·3	81·5 37·4	Calm	...	..	..	9·40	0·00	15·640	..	..
Oct. 9. 0	30·400	52·6	52·3	0·3	52·0	0·6	..	..	Calm	N by E	..	¼	..	..	..	9	..
2	30·392	56·6	55·0	1·6	..	..	..	..	Calm	NE	..	¼	..	..	..	10	..
4	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
6	30·358	55·5	53·5	2·0	..	..	..	..	Calm	NE	..	¼	..	..	..	8	Transit
8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	30·366	50·0	49·1	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·347	49·6	48·1	1·5	47·5	2·1	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·350	49·2	48·1	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·364	50·3	48·7	1·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·373	53·5	51·1	2·4	48·0	5·5	60·3 49·2	86·5 45·8	Calm	Calm	..	..	9·40	0·00	15·640	10	..
Oct. 10. 0	30·359	56·9	53·2	3·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
2	30·334	57·8	54·3	3·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
4	30·319	56·5	53·5	3·0	50·5	6·0	..	..	Calm	Calm	..	..	..	..	..	10	..
6	30·304	53·5	51·1	2·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
8	30·305	52·2	50·7	1·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	30·306	51·4	50·1	1·3	49·5	1·9	..	..	Calm	Calm	..	..	..	..	..	10	..
12	30·292	50·6	49·5	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·277	50·2	49·1	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·271	45·2	45·2	0·0	44·5	0·7	..	..	Calm	Calm	..	..	..	..	..	4	..
18	30·249	42·6	42·6	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	30·261	43·0	43·0	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	¼	1st Qr.
22	30·274	47·8	47·0	0·8	46·0	1·8	60·3 42·3	71·2 34·5	Calm	WSW	..	very light	9·40	0·00	15·640	0	..
Oct. 11. 0	30·248	54·7	52·3	2·4	..	..	..	..	Calm	WSW	..	very light	..	..	..	0	..
2	30·234	58·5	55·0	3·5	..	..	..	..	Calm	N	..	very light	..	..	..	0	..
4	30·200	58·0	55·3	2·7	55·3	2·7	..	..	Calm	Calm	..	..	..	..	..	0	..

Oct. 8d. The highest reading of the thermometer during the month took place on this day.

Oct. 9d. 22h. This is the highest barometrical reading during the month.

Oct. 10d. 0h. Examined the perpendicularity of the barometer.

Oct. 10d, civil reckoning. The mean height of the barometer was greater on this day than on any other day during the month, being 30in·335, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Cloudless; no change whatever during the preceding two hours.	G
Within half-an-hour after the last observation, clouds collected, and the sky is now quite overcast.	
Overcast: cirro-stratus.	
Generally overcast, but breaks in many parts of the sky: the clouds appear thinner, as though dispersing: no part of the sky is quite free of cloud.	G
Cirro-stratus and scud: breaks in various parts of the sky.	D
Clear in the zenith; cumulo-stratus and cirro-stratus cover the remaining portion of the sky.	
Overcast: cirro-stratus.	D
A few breaks N. of the zenith, through which blue sky is seen; and, consequently, it would appear that there is no upper cloud: the sky is generally covered with scud moving bodily from the E.	G
The meridian divides the cloudy from the clear part of the sky; all to the E. is clear, all to the W. is cloudy; a kind of scud-cumuli.	
Clear and cloudy alternately since the last observation; at present about one-half clear, the southern portion of the sky being	
Dark near the horizon all round; otherwise clear. [covered with scud.	G
Cirro-stratus and vapour.	D
Breaks in, and North of, the zenith; the rest of the sky overcast.	D
Cirro-cumulus in every direction; a few breaks in the S. of no numerical amount.	G
Cumuli, cumulo-strati, and scud: breaks to the South: this has been a fine day with very little sunshine.	G
Overcast: cirro-stratus.	D
,, ,,	
,, ,,	
,, ,,	D
The sky is quite covered with white cumulo-strati, much thinner in some parts than in others.	G
Overcast: cirro-stratus.	P
,, cirro-stratus and scud: the cirro-stratus is much thinner in the zenith, and in many other directions.	P
,, cirro-stratus.	P
,, ,,	
,, ,,	
,, ,,	D
,, ,,	P
,, ,,	
The stars are shining faintly in, and about, the zenith, and in other directions.	
Cloudless.	
A few clouds only in the North: hazy: a rather thick fog.	P
Cloudless: hazy: a light fog in the lower parts of the Park.	D
,, ,,	
,,	D
,,	P

Oct. 10^{d}, civil reckoning. The mean daily temperature was greater on this day than on any other during the month, being 52°·6, as deduced from the two-hourly observations.

Oct. 10^{d}. Between 14^{h} and 16^{h} a fall of 5°·0 took place in the temperature of the air, and a rise of 6°·9 between 22^{h} and 24^{h}; and on Oct. 11th, between 4^{h} and 6^{h}, there was a fall of 5°·2; and a rise of 5°·1 between 20^{h} and 22^{h}.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Oct. 11. 6	30·188	52·8	51·2	1·6	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
8	30·197	54·2	52·7	1·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
10	30·189	54·1	53·1	1·0	53·0	1·1	..	..	Calm	Calm	..	..	..	..	..	10	..
12	30·198	53·5	52·6	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·182	49·0	49·0	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
16	30·194	46·5	46·5	0·0	46·5	0·0	..	..	Calm	Calm	..	..	..	..	..	7	..
18	30·189	48·8	48·5	0·3	..	..	..	..	N by W	NNE	..	$\frac{1}{4}$	..	..	..	10	..
20	30·200	46·9	46·7	0·2	..	..	..	..	NNW	NNE	..	$\frac{1}{4}$	..	..	..	0	..
22	30·188	52·0	50·3	1·7	48·0	4·0	59·7 46·6	83·0 40·8	NNW	N	..	$\frac{1}{4}$	9·40	0·00	15·640	9	..
Oct. 12. 0	30·174	54·5	52·3	2·2	..	..	..	..	N by W	N	..	$\frac{1}{4}$	..	..	..	10	..
2	30·155	54·5	51·6	2·9	..	..	..	..	N	N by W	0 to $\frac{1}{2}$	$\frac{1}{4}$	..	..	..	10	..
4	30·132	53·7	51·5	2·2	48·8	4·9	..	..	N by W	NNE	$\frac{1}{2}$ to $1\frac{1}{2}$	$\frac{1}{2}$	..	..	..	9	..
6	30·147	50·9	49·3	1·6	..	..	..	..	N	NNE	..	$\frac{1}{4}$	..	..	..	7	..
8	30·163	50·7	49·2	1·5	..	..	..	..	N	NNE	..	$\frac{1}{2}$	..	..	..	10	Transit
10	30·167	49·6	48·2	1·4	46·0	3·6	..	..	N by W	NE	..	$\frac{1}{4}$	..	..	..	10	..
12	30·158	49·3	48·4	0·9	..	..	..	..	NNW	N	..	$\frac{1}{4}$	..	..	..	10	..
14	30·145	48·3	47·6	0·7	..	..	..	..	NNW	N	..	$\frac{1}{4}$	..	..	..	10	..
16	30·132	47·9	47·0	0·9	47·0	0·9	..	..	N by W	N	..	$\frac{1}{4}$	..	..	..	10	..
18	30·130	47·4	46·5	0·9	..	..	..	..	NNW	N	..	$\frac{1}{4}$	..	..	..	10	..
20	30·140	47·8	46·8	1·0	..	..	..	..	N	N	..	$\frac{1}{4}$	..	..	..	9	..
22	30·150	51·3	49·7	1·6	47·5	3·8	56·1 47·2	63·0 42·2	N	Calm	..	..	9·40	0·00	15·640	10	..
Oct. 13. 0	30·162	55·3	51·2	4·1	..	..	..	..	N	N	..	$\frac{1}{4}$	..	..	..	10	..
2	30·145	55·8	51·5	4·3	..	..	..	..	N	N	..	$\frac{1}{4}$	..	..	..	10	..
4	30·140	54·2	50·2	4·0	44·0	10·2	..	..	N	N	..	$\frac{1}{4}$	..	..	..	10	..
6	30·135	51·3	48·5	2·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	30·143	48·4	46·6	1·8	..	..	..	..	Calm	Calm	..	..	..	..	..	9	Transit
10	30·140	46·7	44·5	2·2	41·0	5·7	..	..	Calm	Calm	..	..	..	..	..	5	..
12	30·128	44·0	43·2	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
14	30·124	41·5	41·3	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·104	42·5	42·0	0·5	42·0	0·5	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·105	43·7	43·0	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·116	45·0	44·0	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·114	48·0	46·9	1·1	45·0	3·0	57·1 42·0	66·5 32·3	Calm	W by S	..	$\frac{1}{4}$	9·40	0·00	15·640	10	..
Oct. 14. 0	30·117	50·0	48·6	1·4	..	..	..	..	WSW	W by S	..	$\frac{1}{4}$	..	..	..	10	..
2	30·110	51·0	49·2	1·8	..	..	..	..	WSW	W by N	..	$\frac{1}{4}$	..	..	..	10	..
4	30·100	52·0	49·0	3·0	44·0	8·0	..	..	NW	Calm	..	..	..	..	..	10	..
6	30·099	50·0	48·3	1·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	30·113	49·9	48·2	1·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	30·124	49·1	48·0	1·1	46·0	3·1	..	..	Calm	Calm	..	..	..	..	..	10	Transit
12	30·145	48·2	47·3	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·140	47·6	47·0	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·146	47·7	46·7	1·0	46·0	1·7	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·148	47·4	46·5	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..

Oct. $12^d.\ 14^h$. The barometer reading has been above 30 inches since Oct. $4^d.\ 8^h$; it did not fall below 30 inches till Oct. $16^d.\ 16^h$, an unusual circumstance in Autumn. Since Sep. 24th the direction of the wind has always been from the N., N.E., or E.: at times when the direction of the wind on the surface of the Earth has been in a different direction, the clouds have never changed their decided E. or N.E. motion. Early in the morning of Oct. 12 the wind on the Earth's surface blew from the W., the clouds all came up from the N.E., and during the day the Sun has not been seen; at about 2^h a thick gloom prevailed.

GENERAL REMARKS.	Observer.
Cloudless.	P
Overcast: cirro-stratus: a few stars were visible a few minutes previously to the observation.	
,, the air is extremely mild and the temperature remarkably equable.	P
The same.	G
By $12^h.\ 40^m$ several stars were visible in every part of the heavens: the clouds continued to disperse (not moving in any direction) slowly, until now, the zenith and 70° around it being free from cloud.	
The stars are visible in some places, but the sky is dim from vapour and is becoming cloudy again: deposition of moisture.	
Overcast: cirro-stratus: no deposition of moisture.	
The clouds have gradually cleared away; a faint break appearing in the East at $18^h.\ 40^m$, when the whole went off to the W. and S.W.: it is now cloudless: within ten minutes after this observation, so great a mass of clouds came up from the East as to cover the whole sky.	G
Cirro-stratus and scud: breaks in the zenith.	D
,,	
Overcast: cirro-stratus.	
,, ,,	D
Scud and woolly clouds nearly cover the sky, there being only a little blue sky to the S.	G
A good deal of scud has passed over in the preceding two hours: at present the northern and eastern portions of the heavens are covered by it, the remaining portions being pretty clear.	
Overcast: principally scud.	
,, one or two stars have been visible within the last few minutes.	G
,, cirro-stratus.	D
,, ,,	
,, ,,	
,, ,,	
Breaks in and near the zenith; elsewhere overcast.	D
Overcast: cirro-stratus.	P
,, ,,	
,, ,,	P
,, ,,	D
,, ,,	
Fleecy clouds in the zenith, where a few stars are visible; every other part of the sky remains overcast.	
The zenith, and the sky E. of it, clear: cirro-stratus and fleecy clouds in the rest of the sky.	D
The larger stars are visible in the zenith and in many other parts of the sky, the general character of the clouds being cirro-stratus: the stars are occasionally visible through breaks.	P
Overcast: cirro-stratus and scud: calm on the Earth's surface; a star or two occasionally visible in the zenith.	
,, cirro-stratus.	
,, cirro-stratus and scud: no wind on the Earth's surface.	
,, ,,	P
,, cirro-stratus.	D
,, ,,	
,, ,,	D
,, thin cirro-stratus and scud: a small break or two is occasionally visible.	P
,, cirro-stratus: a fog rising.	
,, ,, the fog is dense in the lower grounds.	
,, ,,	
,, ,, misty.	P
,, ,, ,,	G
,, ,,	
,, ,,	

Oct. 13d, civil reckoning. The range of the barometer was less on this day than on any other day during the month, being $0^{in}.034$.

Oct. 13d. 14h. The reading of the Dry Thermometer was 0°·5 lower than the minimum temperature, as given by the self-registering Minimum Thermometer.

Oct. 14d. 18h. The reading of the Dry Thermometer was 0°·6 lower than the minimum temperature, as given by the self-registering Minimum Thermometer.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Raingauge No. 1, (Osler's)	RAIN. Reading of Raingauge No. 2.	RAIN. Stand of Raingauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Oct. 14. 20	30·166	48·2	47·4	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·175	49·9	48·8	1·1	47·5	2·4	52·3 48·0	56·5 45·0	Calm	Calm	..	..	9·40	0·00	15·640	10	..
Oct. 15. 0	30·176	53·6	51·9	1·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
2	30·166	56·7	51·1	5·6	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
4	30·157	54·2	50·0	4·2	45·0	9·2	..	..	Calm	W	..	$\frac{1}{4}$	..	..	..	10	..
6	30·154	51·7	48·8	2·9	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Apogee
8	30·156	51·6	47·8	3·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	30·158	50·0	48·5	1·5	47·0	3·0	..	..	Calm	Calm	..	..	..	..	..	10	Transit
12	30·154	50·0	49·0	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	58·0 48·4	77·0 45·2	Calm	...	..	..	9·40	0·00	15·640	..	..
Oct. 16. 0	30·143	51·5	49·8	1·7	..	..	..	..	N	Calm	..	..	..	..	..	10	In Equator
2	..	..	..	..	..	..	..	..	N by E	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	N by E	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	.	Calm	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	30·033	48·6	48·1	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·998	48·5	48·1	0·4	48·0	0·5	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·976	48·4	48·0	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·953	48·8	48·4	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·937	50·0	49·5	0·5	48·5	1·5	57·0 48·2	63·0 45·7	Calm	Calm	..	..	9·40	0·00	15·640	10	..
Oct. 17. 0	29·887	53·7	51·0	2·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
2	29·835	53·5	50·8	2·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
4	29·761	52·0	48·8	3·2	46·5	5·5	..	..	Calm	Calm	..	..	..	..	..	10	..
6	29·723	49·7	48·2	1·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	29·685	49·1	48·1	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	29·629	47·6	46·2	1·4	46·0	1·6	..	..	Calm	Calm	..	..	..	..	..	10	..
12	29·570	46·7	46·0	0·7	..	..	..	..	Calm	SW	..	$\frac{1}{4}$	..	..	..	$9\frac{3}{4}$	Transit
14	29·508	46·5	45·2	1·3	..	..	..	..	Calm	SW	..	$\frac{1}{4}$	..	..	..	10	..
16	29·440	47·3	45·5	1·8	45·0	2·3	..	..	S by W	SW	..	$\frac{1}{4}$	..	..	..	10	..
18	29·387	48·0	46·5	1·5	..	..	..	..	S	SW	..	$\frac{1}{4}$	..	..	..	10	..
20	29·368	47·7	46·5	1·2	..	..	..	..	Calm	SW by W	..	$\frac{1}{4}$	..	..	..	9	..
22	29·345	52·4	49·3	3·1	48·0	4·4	54·3 46·4	59·5 42·3	SW	SW	..	$\frac{1}{4}$	9·40	0·00	15·640	4	..
Oct. 18. 0	29·306	55·4	49·8	5·6	..	..	..	..	WSW	WSW	$\frac{1}{2}$ to 1	$\frac{1}{4}$	..	..	..	1	..
2	29·246	54·2	50·5	3·7	..	..	..	..	SSW	WSW	..	$\frac{1}{4}$	..	..	..	10	..
4	29·193	52·7	50·0	2·7	48·0	4·7	..	..	Calm	WSW	..	$\frac{1}{4}$	..	..	..	10	..
6	29·156	51·2	49·0	2·2	..	..	..	..	Calm	SW	..	$\frac{1}{4}$	..	..	..	10	..
8	29·141	43·7	43·2	0·5	..	..	..	..	N by W	NW	0 to $\frac{1}{2}$	$\frac{1}{2}$	..	..	..	10	..
10	29·124	41·7	41·2	0·5	41·5	0·2	..	..	N by W	SW	..	$\frac{1}{2}$	..	..	..	10	..
12	29·092	40·2	39·5	0·7	..	..	..	..	N by W	NNW	0 to $\frac{1}{2}$	$\frac{1}{4}$	..	..	..	10	Transit
14	29·082	39·1	38·7	0·4	..	..	..	..	NNW	NNW	..	$\frac{1}{4}$	..	..	..	10	..

Oct. 15^d. 0^h. From Oct. 13^d. 14^h to the present time there has been no break in the clouds: it is the longest cloudy period in the month.

Oct. 15^d. 2^h and Oct. 18^d. 0^h. The difference of the readings of the Dry and Wet Thermometers was greater than at any other time during the month.

Oct. 17^d. 0^h. Examined the perpendicularity of the barometer.

Oct. 17^d, civil reckoning. The range of the thermometer was less on this day than on any other day in the month, being 7°·0, as deduced from the two-hourly observations.

Oct. 17^d and 18^d. The greatest difference in the mean height of the barometer between any two consecutive civil days during the month took place between these two days, being 0^{in}·556, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus.	G
,, ,,	D
,, ,, the clouds much lighter.	
The sky is nearly clear S. E. of the zenith, the remainder being covered with fleecy clouds.	D
Overcast: cirro-stratus: the upper current still N. E.	G
No change: misty and foggy.	
,, ,,	
,, ,,	G
,, ,,	D
Overcast: cirro-stratus.	P
,, ,,	D
,, ,,	
,, ,,	
,, ,,	D
,, ,, hazy.	J H
,, ,, ,,	
,, ,, ,,	J H
,, ,, ,,	D
,, ,, ,,	
,, ,, ,,	
,, ,, the Moon is occasionally visible through breaks in the clouds.	D
Fleecy clouds are generally prevalent.	J H
Overcast: cirro-stratus: clouds move freely from the W.	
,, ,,	
,, ,,	
Breaks N. of the zenith, with cirri and light clouds: cirro-stratus and scud elsewhere.	J H
Cirri in all parts of the sky.	D
A few light cirri scattered here and there.	
Overcast: cirro-stratus.	D
,, ,,	J H
,, cirro-stratus and scud: a few drops of rain.	
,, cirro-stratus: rain since the last observation until $7^h.\ 40^m$.	
Heavy rain: cirro-stratus and scud.	J H
Occasional rain since the last observation: cirro-stratus and scud.	G
A fine steady rain has been falling for an hour and a half, and still continues.	

Oct. 18d. The temperature of the air had fallen 7°·5 between 6^h and 8^h.

Oct. 18d and 19d. The greatest difference between the mean temperature of one civil day and the next during the month took place between these two days, being 8°·0, as deduced from the two-hourly observations.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Oct. 18. 16	29·058	40·0	39·8	0·2	39·5	0·5	..	..	W	W	..	¼	..	..	..	10	..
18	29·066	40·6	39·5	1·1	..	..	..	..	NW	NW	0 to ½	½	..	..	..	10	..
20	29·090	39·6	39·2	0·4	..	..	..	..	NW	NW	½ to 2½	¾	..	..	..	10	..
22	29·154	41·9	40·0	1·9	39·0	2·9	56·7 38·7	72·3 37·0	NW	NW	0 to ½	1	9·58	0·37	16·020	10	..
Oct. 19. 0	29·214	45·3	41·6	3·7	..	..	..	..	NNW	NNW	0 to 3	¾	..	..	..	3	Full
2	29·248	46·0	42·1	3·9	..	..	..	..	NNW	NNW	0 to 1½	½	..	..	..	6	..
4	29·291	44·1	40·0	4·1	36·0	8·1	..	..	NW	NW	0 to 1½	¾+	..	..	..	3	..
6	29·348	42·0	38·1	3·9	..	..	..	..	NW	NW	0 to ½	¾	..	..	..	0	..
8	29·400	38·2	36·4	1·8	..	..	..	..	N	NW	..	¼	..	..	..	0	..
10	29·435	36·0	34·5	1·5	33 0	3·0	..	..	Calm	NNW	..	½	..	..	..	0	..
12	29·456	32·1	31·5	0·6	..	..	..	..	Calm	NW	..	½	..	..	..	0	Transit
14	29·474	30·4	30·2	0·2	..	..	..	..	Calm	WSW	..	¼	..	..	..	0	..
16	29·487	29·7	29·1	0·6	28·5	1·2	..	..	Calm	WSW	..	¼	..	..	..	0	..
18	29·495	29·8	30·6	−0·8	..	..	..	..	Calm	WSW	..	¼	..	..	..	0	..
20	29·528	30·5	30·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
22	29·555	36·3	34·1	2·2	32·2	4·1	45·9 28·9	61·2 19·7	Calm	WSW	..	¼	9·58	0·00	16·020	1	..
Oct. 20. 0	29·562	42·1	39·5	2·6	..	..	..	..	WSW	W	..	⅗	..	..	..	5	..
2	29·571	45·5	41·0	4·5	..	..	..	..	W	W by N	..	½	..	..	..	6	..
4	29·563	43·2	40·0	3·2	39·3	3·9	..	..	SW	WSW	..	½	..	..	..	2	..
6	29·594	39·8	38·0	1·8	..	..	..	..	Calm	W by S	..	¼	..	..	..	9	..
8	29·620	39·2	37·6	1·6	..	..	..	..	Calm	Calm	..	..	..	..	..	9¾	..
10	29·644	34·6	33·6	1·0	33·0	1·6	..	..	Calm	Calm	..	..	..	..	..	½	..
12	29·658	32·9	32·0	0·9	..	..	..	..	Calm	WSW	..	¼	..	..	..	0	..
14	29·682	31·3	31·0	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	0	Transit
16	29·699	30·3	30·0	0·3	29·0	1·3	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·726	28·7	28·2	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	29·765	30·1	29·7	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
22	29·804	36·0	32·8	3·2	32·0	4·0	45·3 28·3	66·4 17·2	NW	Calm	..	..	9·58	0·00	16·020	0	..
Oct. 21. 0	29·818	41·6	38·0	3·6	..	..	..	..	N	NNW	..	¼	..	..	..	0	..
2	29·822	44·0	40·8	3·2	..	..	..	..	NNW	N by W	..	¼	..	..	..	½	..
4	29·833	43·3	39·0	4·3	31·5	11·8	..	..	NNW	NNW	..	¾	..	..	..	1	..
6	29·854	41·8	37·7	4·1	..	..	..	..	NW	NNW	..	½	..	..	..	0	..
8	29·879	36·5	34·4	2·1	..	..	..	..	Calm	NNW	..	½	..	..	..	0	..
10	29·882	33·7	32·0	1·7	30·0	3·7	..	..	Calm	NNW	..	¼	..	..	..	0	..
12	29·872	30·5	29·5	1·0	..	..	..	..	Calm	W	..	¼	..	..	..	0	..
14	29·855	30·2	29·3	0·9	..	..	..	..	Calm	W	..	¼	..	..	..	0	Transit
16	29·809	30·1	29·5	0·6	29·0	1·1	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·754	30·3	29·5	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	29·693	33·5	32·0	1·5	..	..	..	..	Calm	SW	..	¼	..	..	..	0	..
22	29·572	39·3	37·4	1·9	35·5	3·8	44·7 28·9	65·0 17·5	SSW	SW	½ steady	¾	9·58	0·00	16·020	10	..
Oct. 22. 0	29·445	42·7	41·4	1·3	..	..	..	..	SW	SSW	2½ to 4½	1+	..	..	..	10	..
2	29·276	43·4	43·2	0·2	..	..	..	..	SW	SW	3 to 8	1½	..	..	..	10	..
4	29·115	45·7	45·7	0·0	45·5	0·2	..	..	SW	SW	1½ to 4	2	..	..	..	10	..
6	29·087	45·5	45·5	0·0	..	..	..	..	WSW	WSW	..	½	..	..	..	10	..
8	29·025	44·0	44·0	0·0	..	..	..	..	WSW	WSW	½ to 1	¾	..	..	..	10	..

Oct. 19d. 10h. Hourly observations were commenced. (See the Section of Term-Day Observations.)

Oct. 19d. 18h. The reading of the Wet Thermometer is higher than that of the Dry Thermometer.

Oct. 20d. The lowest reading of the thermometer during the month took place on this day.

GENERAL REMARKS.	Observer.
The rain has not ceased during the last two hours.	G
Continued rain till half an hour since: very dark nimbi everywhere.	
No rain has fallen in the last two hours: the wind has risen: at present a wild-looking sky.	G
Overcast: cirro-stratus and scud.	D
The clouds broke at about 22^h, from which time they have been gradually disappearing: at present, light cirri are scattered about [the sky.	
Cumulo-stratus and scud.	
Light fleecy clouds; the wind blowing in gusts to $1\frac{1}{2}$.	J H
Cloudless: the horizon misty all round.	G
,, misty.	D
,, misty in the horizon.	G
,, the Moon shines brightly: very cold: white frost on the ground.	G
,,	J H
,,	D
,,	P
,,	P
Light clouds: hazy: a white frost.	J H
Hazy about the zenith: large cumuli forming in the North, and small white clouds forming in every part of the sky.	G
Cumuli and cumulo-strati in all directions.	D
Fleecy clouds and dark cumuli.	J H
Cumulo-strati have come up from the North and spread themselves over the sky: clear near the horizon in the South.	G
A single star only is visible in the zenith: the clouds, in the neighbourhood of the Moon, are slightly broken; the Moon herself being much distorted by haze, and of a lurid colour.	P
A few light clouds E. of the zenith; otherwise cloudless.	P
Cloudless.	J H
,,	
,, white frost.	
,, ,,	
Dull clouds: hazy.	J H
Cloudless.	D
,,	
A few small cumuli in different directions: light cirri N.E. of the zenith.	D
A few light clouds. (Some difficulty in ascertaining the Dew Point.)	J H
Cloudless: hazy.	
,, ,,	
,, ,, light fog in the lower grounds.	J H
,, haze, with light fog in the valleys; thermometer in the reflector 22°: the reading of a Registering Thermometer within	G
,, hazy. [an inch of the ground, but quite free, 21°.	
,,	
,,	
,,	G
The sky is now quite overcast.	D
Overcast: rain falling.	
,, ,, wind in heavy gusts.	D
,, ,, ,, a wild day.	G
,, very heavy rain has fallen since the last observation: at present, scud is passing from the W., but no rain is falling.	
,, no rain since the last observation.	

Oct. 21^d, civil reckoning. The mean daily temperature was less on this day than on any other during the month, being $35°\cdot6$, as deduced from the two-hourly observations.

Oct. 21^d, civil reckoning, was very nearly a cloudless day, the amount of sky, covered with cloud being only about one twenty-fifth part of the whole sky: this was one of the eighteen days in the year considered cloudless.

Oct. 22^d. Between 0^h and 2^h a fall of $0^{in}\cdot169$ in the height of the barometer took place; and between 2^h and 4^h a fall of $0^{in}\cdot161$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Raingauge No. 1, (Osler's)	RAIN. Reading of Raingauge No. 2.	RAIN. Stand of Raingauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Oct. 22. 10	28·991	43·0	42·6	0·4	42·5	0·5	..	..	SW	WSW	..	¾	..	..	..	10	..
12	28·935	40·8	40·2	0·6	..	..	..	..	SW	SW	..	½	..	..	..	3	..
14	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	Transit
18	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
22	28·694	46·7	45·2	1·5	..	..	47·7 36·0	55·2 33·2	WSW	WSW	..	1	9·91	0·46	16·520	4	..
Oct. 23. 0	28·684	..	..	..	..	..	..	..	WSW	...	½ steady	..	..	..	..	..	..
2	28·688	41·5	41·5	0·0	..	..	..	..	WSW	W by S	½ to 1	1	..	..	..	5	..
4	28·722	42·0	42·0	0·0	..	..	..	..	W	W	2 to 3	1½	..	..	..	5	..
6	28·744	42·3	42·3	0·0	..	..	..	..	W by S	W	..	1	..	..	..	10	Greatest declination N.
8	..	..	..	..	..	..	..	..	W	W	..	1	..	..	..	10	..
10	..	..	..	..	..	..	..	..	W by S	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
14	28·918	38·5	37·9	0·6	..	..	..	..	WSW	WSW	..	¼	..	..	..	0	..
16	28·938	35·9	35·3	0·6	35·0	0·9	..	..	Calm	WSW	..	¼	..	..	..	0	Transit
18	28·978	34·9	34·5	0·4	..	..	..	..	Calm	WSW	..	¼	..	..	..	0	..
20	29·030	36·5	36·3	0·2	..	..	..	..	WSW	WSW	..	¼	..	..	..	9½	..
22	29·081	39·5	39·0	0·5	38·5	1·0	49·9 33·7	63·6 29·8	W by N	WSW	..	½	9·94	0·08	16·595	10	..
Oct. 24. 0	29·154	43·0	41·0	2·0	..	..	..	..	...	N	..	1½	..	..	..	10	..
2	29·208	43·2	40·6	2·6	..	..	..	..	...	N	..	2	..	..	..	10	..
4	29·281	43·8	40·4	3·4	35·5	8·3	..	..	...	WNW	..	¾	..	..	..	10	..
6	29·341	42·4	38·6	3·8	..	..	..	..	W by N	WNW	0 to 1	½	..	..	..	8	..
8	29·401	38·1	36·5	1·6	..	..	..	..	W	WNW	..	¼	..	..	..	0	..
10	29·450	35·5	33·5	2·0	32·0	3·5	..	..	WSW	W	..	¼	..	..	..	0	..
12	29·476	33·7	31·9	1·8	..	..	..	..	SW	WSW	..	½	..	..	..	0	..
14	29·503	32·4	31·6	0·8	..	..	..	..	SW	WSW	..	½	..	..	..	¼	..
16	29·523	32·7	32·0	0·7	31·0	1·7	..	..	SW	WSW	..	½	..	..	..	4	..
18	29·533	36·0	34·7	1·3	..	..	..	..	SW	SW	..	½	..	..	..	10	Transit
20	29·532	37·1	35·5	1·6	..	..	..	..	SSW	SW	..	½	..	..	..	7	..
22	29·514	40·1	38·6	1·5	38·0	2·1	43·7 31·6	46·0 26·0	SSE	S	..	¼	9·94	0·00	16·600	10	..
Oct. 25. 0	29·463	42·6	42·1	0·5	..	..	..	..	Calm	S	..	¼	..	..	..	10	..
2	29·407	45·7	45·2	0·5	..	..	..	..	Calm	SSW	..	¼	..	..	..	10	..
4	29·379	45·7	45·2	0·5	44·0	1·7	..	..	Calm	SSW	..	½	..	..	..	10	..
6	29·333	45·0	44·5	0·5	..	..	..	..	Calm	SSW	..	½	..	..	..	10	..
8	29·247	46·6	46·3	0·3	..	..	..	..	SSW	SSW	..	½	..	..	..	10	..
10	29·204	44·3	44·5	−0·2	43·5	0·8	..	..	WSW	SSW	0 to 1	1	..	..	..	10	..
12	29·316	37·8	37·2	0·6	..	..	..	..	WNW	NW	1 to 2	2	..	..	..	10	..
14	29·352	35·8	35·5	0·3	..	..	..	..	WSW	WSW	..	¾	..	..	..	4	..
16	29·412	33·0	32·0	1·0	30·5	2·5	..	..	WSW	WSW	..	½	..	..	..	0	..
18	29·448	31·0	29·5	1·5	..	..	..	..	WSW	WSW	..	½	..	..	..	0	Transit
20	29·465	30·2	29·0	1·2	..	..	..	..	SSW	WSW	..	¼	..	..	..	0	..
22	29·478	38·6	35·3	3·3	33·0	5·6	48·7 29·5	48·2 22·0	SSW	SSW	..	¾	10·19	0·36	16·975	4	..

Oct. 22d, civil reckoning. This day had the greatest relative moisture in the atmosphere of any day in the month, the mean difference of the Dry and Wet Thermometers being 0°·6, as deduced from the two-hourly observations.

Oct. 22d, civil reckoning. The range of the barometer was greater on this day than on any other day during the month, being 0in·920.

Oct. 23d. 14h. This is the lowest barometrical reading during the month.

Oct. 24d. 0h. Examined the perpendicularity of the barometer.

Oct. 24d. 5h. 40m. It was found that the traversing-board of the Anemometer had not been clamped at 23d. 22h.; no direction, consequently, was registered from 0h to 4h.

Oct. 25d. At 8h. 15m the wind suddenly blew with a pressure of 2½lbs. on the square foot; at 8h. 20m it was 1lb.; at 8h. 30m it was 4lbs.; at 8h. 40m it was 3½lbs.; at 8h 50m it was 3lbs.; it then gradually decreased to ½lb. at 9h. 0m; at 9h. 5m it was 2lbs.; it almost

GENERAL REMARKS.	Observer.
Still overcast: the Moon's place just visible through the cirro-stratus; a solitary star in Ursa Major was visible a few minutes since.	G
Clouds S. of the zenith; the rest of the sky is now nearly clear.	D
Cumuli and light clouds.	J H
A squall of rain has just passed: cumulo-strati and nimbi prevalent: the clouds move from the W. by N.	
Showers of rain at intervals: cumuli and scud.	J H
Sky covered with scud, which moves rapidly from the W.N.W.: at about $7^h.25^m$ several flashes of lightning were observed in the N.	G
Cloudless.	D
,,	
,, [horizon in the S. is covered with cirro-stratus.	
Clouds began to appear immediately after the last observation: at present the sky, with the exception of a few breaks near the	D
Overcast: cirro-stratus and scud: the air cold and damp.	J H
,, ,, gusts of wind.	
,, ,, wind to $2\frac{1}{2}$ in gusts.	J H
,, ,,	D
Breaks in various parts of the sky.	
Cloudless: the horizon misty all round.	
,,	D
,,	J H
A few light clouds S.W. of the zenith.	
Fleecy clouds generally prevalent.	
Overcast: cirrro-stratus.	
Cirro-stratus: extensive breaks E. of the zenith.	J H
Overcast: rain falling.	D
,, ,,	D
,, ,,	J H
,, ,,	
,, ,,	
,, heavy rain.	
,, ,, the wind has risen very considerably since the last observation, and blows occasionally in violent gusts: at the moment of observation a lull.	J H
,, dashing showers of rain since the last observation: the wind is veering to the N.: the barometer has begun to rise: the fall in the temperature within the preceding two hours is considerable.	G
Shortly after the last observation the clouds broke in the North, and in a short time the sky became clear: at present, white scud-like clouds are passing quickly from the W.S.W.: clear in the North: the stars shining brilliantly.	
Clouds have formed and dispersed continually since the last observation: at present the sky is free from cloud or vapour, the Moon being sharply defined, and the stars shining brilliantly.	
Cloudless.	
,, a white frost.	G
Cirro-stratus S.W. of the zenith; clear elsewhere.	D

immediately decreased to $\frac{1}{2}$lb., and continued at this pressure till $9^h.20^m$, when the pressure increased to 2lbs.; and with slight variations it gradually increased till $9^h.55^m$, when the pressure was 7lbs.; at 10^h it was nearly calm, and continued calm till 11^h, at which time it suddenly blew with a pressure of 4lbs.; it then gradually decreased till $11^h.20^m$, when the pressure was 1lb.; and by $11^h.40^m$ it increased to 7lbs.; and then gradually decreased to 0lb. at $12^h.20^m$: during the squall the wind changed from S.S.W. to W.S.W. at $10^h.0^m$; and in the second squall it changed from W.S.W. to W.N.W. at $11^h.40^m$; on its cessation it returned to W.S.W.

Oct. 25^d. 10^h. The reading of the Wet Thermometer is higher than that of the Dry Thermometer.

Oct. 25^d. A fall of $6^\circ.5$ took place in the temperature of the air between 10^h and 12^h; and a rise of $8^\circ.4$ between 20^h and 22^h.

Oct. 25^d. A rise of $0^{in}.112$ in the height of the barometer took place between 10^h and 12^h.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Oct. 26. 0	29·504	42·6	39·5	3·1	..	..	..	..	SW	SW	1½ to 3	½	..	..	..	5	..
2	29·505	43·8	38·6	5·2	..	..	..	..	WSW	WSW	2 to 3½	½	..	..	..	¼	..
4	29·520	42·4	37·5	4·9	26·0	16·4	..	..	WSW	W	1 to 3½	1½	..	..	..	9	..
6	29·529	38·0	34·3	3·7	..	..	..	..	SW	W	0 to ½	1½	..	..	..	4	..
8	29·540	40·0	36·2	3·8	..	..	..	..	WSW	W	½ to 2	1½	..	..	..	10	..
10	29·554	37·5	36·2	1·3	34·5	3·0	..	..	WSW	W	½ to 2	1½	..	..	..	5	..
12	29·553	39·4	37·5	1·9	..	..	..	..	WSW	WSW	½ to 2	¾	..	..	..	9	..
14	29·548	39·3	37·3	2·0	..	..	..	..	WSW	WSW	1 to 2	¾	..	..	..	0	3rd Qr.
16	29·544	38·1	36·6	1·5	35·5	2·6	..	..	WSW	WSW	2 to 3	1	..	..	..	0	..
18	29·536	38·5	36·9	1·6	..	..	..	..	WSW	WSW	2 to 3	1	..	..	..	0	Transit
20	29·565	40·5	39·5	1·0	..	..	..	..	WSW	WSW	1 to 2½	¾	..	..	..	9	..
22	29·587	42·1	40·4	1·7	37·5	4·6	43·9 36·8	58·7 32·4	WSW	WSW	..	½	10·19	0·00	16·975	4	..
Oct. 27. 0	29·593	47·5	44·0	3·5	..	..	..	..	WSW	W	½ to 2	¾	..	..	..	3	..
2	29·597	48·8	44·2	4·6	..	..	..	..	WSW	W	1 to 3½	¾	..	..	..	6	..
4	29·611	47·5	43·6	3·9	38·0	9·5	..	..	WSW	WSW	1 to 3	¾	..	..	..	7	..
6	29·610	45·3	42·6	2·7	..	..	..	..	WSW	WSW	½ to 2½	½	..	..	..	9	..
8	29·625	43·0	41·0	2·0	..	..	..	..	WSW	WSW	½ to 1	¾	..	..	..	10	..
10	29·606	43·0	41·1	1·9	40·0	3·0	..	..	WSW	WSW	1 to 1½	½	..	..	..	10	..
12	29·596	42·2	40·4	1·8	..	..	..	..	WSW	WSW	½ to 1½	¾	..	..	..	10	..
14	29·562	41·1	39·9	1·2	..	..	..	..	WSW	WSW	..	½	..	..	..	10	..
16	29·540	39·7	38·7	1·0	37·5	2·2	..	..	WSW	WSW	..	½	..	..	..	10	..
18	29·531	38·7	37·8	0·9	..	..	..	..	WSW	WSW	..	½	..	..	..	10	..
20	29·533	37·7	37·2	0·5	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	Transit
22	29·540	39·8	38·7	1·1	37·5	2·3	50·1 36·8	67·5 32·0	WSW	WSW	..	¼	10·19	0·00	16·975	0	..
Oct. 28. 0	29·537	46·2	43·4	2·8	..	..	..	..	W	W	..	¼	..	..	..	0	..
2	29·522	49·1	44·6	4·5	..	..	..	..	W	W	0 to 1½	¼	..	..	..	3	..
4	29·522	47·1	43·6	3·5	43·0	4·1	..	..	W by N	W	..	¼	..	..	..	3	..
6	29·531	42·5	40·5	2·0	..	..	..	..	WSW	W	..	¼	..	..	..	½	..
8	29·537	40·5	39·0	1·5	..	..	..	..	Calm	W	..	¼	..	..	..	0	..
10	29·559	38·1	37·5	0·6	36·0	2·1	..	..	Calm	W	..	¼	..	..	..	0	..
12	29·567	36·4	35·9	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·583	34·4	34·2	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·590	33·2	32·7	0·5	32·0	1·2	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·614	32·2	31·5	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	29·647	30·8	30·7	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	Transit
22	29·695	36·3	35·5	0·8	35·0	1·3	49·3 30·2	65·0 25·0	Calm	WSW	..	¼	10·19	0·00	16·975	0	..
Oct. 29. 0	29·714	41·4	39 6	1·8	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
2	29·732	47·2	44·1	3·1	..	..	..	..	N by W	N by W	..	¼	..	..	..	¼	..
4	29·758	46·3	43·5	2·8	41·0	5·3	..	..	NNW	N	..	¼	..	..	..	3	..
6	29·784	44·6	42·3	2·3	..	..	..	..	NNW	N	..	¼	..	..	..	3	..
8	29·819	39·8	38·5	1·3	..	..	..	..	NNW	Calm	..	..	..	..	..	0	..
10	29·857	39·6	38·2	1·4	37·0	2·6	..	..	NNW	N	..	¼	..	..	..	0	..
12	29·873	39·4	37·8	1·6	..	..	..	..	NW	Calm	..	..	..	..	..	0	..

Oct. 26d. 4h. The observation for the temperature of the Dew Point was repeated, and therefore the reading as above is correct, and it is the greatest observed difference between the Dew Point and temperature of the air during the month.

Oct. 26d, civil reckoning. This day had the least relative moisture in the atmosphere of any day in the month, the mean difference of the Dry and Wet Thermometers being 2°·8, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Cumuli and scud.	D
A few light cumuli near the horizon in the N.W.	D
A little blue sky near the horizon in the S. and S.E., every other part of the sky being covered with cloud: a wild afternoon.	G
Since the last observation the sky has been alternately cloudy and partially clear; at times large dark clouds have appeared, in the N.W., of a threatening appearance: at present the sky round the zenith is clear: cirro-stratus lines the whole horizon; and stormy-looking clouds are S. of the zenith.	
Since the last observation the sky has been alternately clear and cloudy: at present not a break in the clouds, which are a dark cirro-stratus: the temperature rising.	
Breaks have been frequent since last observation, but the stars have shone for a short time only: clouds now prevail in the N., N.W., and W., and towards the horizon in the S. and S.E.: the remainder of the sky quite clear.	G
In the zenith a few stars are shining between the clouds; the sky is in every other part quite overcast.	D
Cloudless.	
,,	
,,	
A long break in the N.; with that exception the sky is overcast.	D
Light cirri and scud scattered in every direction, but predominant in the eastern part of the sky.	J H
Light, fleecy clouds passing rapidly from W.N.W.: gusts of wind.	
Cumuli and light fleecy clouds.	J H
Light fleecy clouds in the zenith: loose scud generally covers the rest of the sky.	D
Cirro-stratus and scud.	
Overcast: cirro-stratus.	
,, ,,	D
,, ,,	J H
,, ,,	
,, ,,	
,, ,,	
,, ,,	J H
Cloudless: the clouds have been gradually disappearing since $20^h.\ 40^m$.	D
Cloudless.	
Cumuli scattered in all directions.	D
Cumuli and haze.	J H
A few small fragments of scud W. of the zenith.	
Cloudless.	
,,	J H
,, but very dark near the horizon all round.	G
,,	
,,	
,, the sky very clear: white frost. [one inch high, but surrounded by a rough, coarse grass, 18°.	
,, the reading of the thermometer for Terrestrial Radiation is 25°; the reading of a thermometer on the ground, bulb free,	G
,, hazy.	D
,, ,,	
A few small cumuli in the N.W., near the horizon.	D
Cumuli all round, near the horizon: some dark clouds moving quickly from the N.	G
A bank of dark-coloured clouds near the horizon, in the West, and small cumuli near the south horizon: a good number of coloured (red) small clouds moving from the north: a deep red sunset.	
Cloudless: the reading of the thermometer for Terrestrial Radiation is 29°: that of a self-registering thermometer, on garden mould, no grass or vegetation being near, 32°.	G
,, fog in the low lands: several meteors have been seen in the last hour.	D
,,	

Oct. 29^d. A decrease of 5°·8 in the temperature of the air took place between 0^h and 2^h.

Oct. $29^h.\ 0^h$. From Oct. $28^d.\ 8^h$ there has been no cloud: it is the longest period of clear sky in the month.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Oct. 29. 14	..	..	..	..	..	..	..	..	W by S	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	W by S	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	In Equator
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	48·1 37·7	68·0 23·5	WSW	...	..	..	10·19	0·00	16·975	..	Transit
Oct. 30. 0	30·016	39·8	38·5	1·3	..	..	..	..	WSW	W	..	¼	..	..	..	0	..
2	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
4	30·041	47·0	43·7	3·3	..	..	..	..	W by S	WNW	..	¼	..	..	..	2	..
6	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
14	30·083	43·4	41·8	1·6	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
16	30·088	45·1	43·6	1·5	42·5	2·6	..	..	WSW	WSW	..	¼	..	..	..	10	..
18	30·112	45·4	44·5	0·9	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
20	30·130	46·4	45·4	1·0	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
22	30·150	47·2	46·3	0·9	45·0	2·2	48·8 39·5	66·0 37·0	WSW	WSW	..	¼	10·19	0·00	16·975	10	Transit
Oct. 31. 0	30·144	50·5	49·0	1·5	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
2	30·147	50·6	49·1	1·5	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
4	30·141	50·6	48·8	1·8	48·0	2·6	..	..	WSW	WSW	..	¼	..	..	..	10	Perigee
6	30·145	49·6	47·6	2·0	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
8	30·145	48·5	47·2	1·3	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
10	30·143	44·6	43·5	1·1	43·0	1·6	..	..	SW	WSW	..	¼	..	..	..	0	..
12	30·132	43·0	42·0	1·0	..	..	..	..	SW	WSW	..	¼	10·19	0·00	16·975	0	..
14	30·124	42·8	41·7	1·1	..	..	..	..	SW	WSW	..	¼	..	..	..	1	..
16	30·113	42·2	41·6	0·6	40·0	2·2	..	..	SW	WSW	..	¼	..	..	..	1	..
18	30·109	42·0	41·5	0·5	..	..	..	..	WSW	WSW	..	¼	..	..	..	0	..
20	30·108	42·0	41·6	0·4	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
22	30·114	44·8	44·0	0·8	43·5	1·3	51·9 40·7	54·8 35·5	WSW	WSW	..	¼	10·19	0·00	16·975	3	..
Nov. 1. 0	30·097	48·8	46·5	2·3	..	..	..	..	WSW	WSW	..	¼	..	..	..	0	Transit
2	30·070	50·5	48·5	2·0	..	..	..	..	WSW	Calm	..	..	..	..	..	0	..
4	30·055	49·0	47·7	1·3	46·5	2·5	..	..	Calm	WSW	..	¼	..	..	..	3	..
6	30·055	45·4	44·7	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
8	30·055	43·0	42·8	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
10	30·047	40·7	40·7	0·0	40·5	0·2	..	..	Calm	Calm	..	..	..	..	..	6	..
12	30·028	42·2	42·2	0·0	..	..	..	..	Calm	NE	..	very light	..	..	..	0	..
14	30·040	38·5	38·5	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·030	42·1	41·9	0·2	42·0	0·1	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·024	43·2	42·8	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·022	43·7	43·6	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·019	47·5	47·1	0·4	47·0	0·5	51·3 38·5	60·5 29·6	Calm	E	..	¼	10·19	0·02	16·995	10	..
Nov. 2. 0	30·008	50·2	49·0	1·2	..	..	..	..	Calm	ENE	..	¼	..	..	..	10	Transit
2	29·987	49·2	48·6	0·6	..	..	..	..	Calm	E	..	¼	..	..	..	10	..
4	29·980	49·5	48·2	1·3	47·0	2·5	..	..	Calm	E	..	¼	..	..	..	10	New
6	29·971	47·5	45·7	1·8	..	..	..	..	Calm	E	..	¼	..	..	..	10	..

Oct. 31d. 0h. Examined the perpendicularity of the barometer.

Oct. 31d. 12h. The amount of rain collected during the month of October, by rain-gauge No. 4, was 1in·41.

GENERAL REMARKS.	Observer.
Clouds of the cumulus character have been prevalent, with much haze; at present the sky is cloudless, but the haze continues.	G
A few cumuli in various directions; a deep blue sky: this has been a very fine, and nearly a cloudless day.	G
Overcast: cirro-stratus.	D
,, ,,	
,, ,,	
,, ,,	D
,, ,,	J H
,, ,,	
,, ,,	J H
,, ,,	D
,, ,,	
,, ,, a few stars have been occasionally visible since $6^h.40^m$.	
Cloudless: the stars however look dim.	D
The same.	J H
Clouds in the S.W. and W., near the horizon.	
Vapour in the horizon in the E. and S.	
Cloudless.	
Overcast: thin cirro-stratus: the temperature has varied very slightly throughout the night.	J H
Cirri and light clouds: hazy in the horizon.	D
Cloudless: hazy.	
,, ,,	D
Cumuli and haze.	J H
Fleecy clouds and vapour, extending towards the zenith from the horizon on all sides: a thin fog coming on.	
Vapour in every direction.	
Vapour in various directions.	J H
A dense fog in the lowlands; a slight one here: cloudless.	G
About an hour since, the fog became very thin, and the stars shone brightly; a quantity of cloud began then to collect, and the sky is now quite cloudy, and the fog denser than it has been previously.	
The fog less dense: quite cloudy.	
No change whatever.	
Still foggy: no change.	G
Overcast: no fog.	D
,,	
,, a thin, misty rain falling.	D
,. a very light rain occasionally falling.	G
About half an hour since there were several slight breaks in the South; the whole mass of cloud was then moving from the East: the sky is now overcast, but the clouds are evidently in some parts thinner than in others.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Nov. 2. 8	29·967	46·2	44·5	1·7	..	..	..	..	Calm	E	..	¼	..	..	..	10	..
10	29·955	44·2	42·7	1·5	40·0	4·2	..	..	Calm	E	..	¼	..	..	..	2	..
12	29·936	39·6	39·0	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·917	36·9	37·2	–0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·895	36·9	37·0	–0·1	37·0	—0·1	..	..	Calm	Calm	..	..	..	..	..	3	..
18	29·891	37·0	36·7	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·882	38·1	37·6	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
22	29·880	41·7	40·8	0·9	39·0	2·7	51·1 35·8	54·0 23·9	Calm	Calm	..	..	10·19	0·00	16·995	8	..
Nov. 3. 0	29·863	46·2	43·9	2·3	..	..	..	..	Calm	E by N	..	¼	..	..	..	6	..
2	29·847	48·0	43·2	4·8	..	..	..	..	NE	ENE	..	½	..	..	..	8½	Transit
4	29·830	45·6	43·3	2·3	42·0	3·6	..	..	NE	ENE	..	¼	..	..	..	9½	..
6	29·831	43·5	42·3	1·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	29·848	40·9	40·2	0·7	..	..	..	..	Calm	NE	..	¼	..	..	..	1	..
10	29·860	38·1	37·6	0·5	37·0	1·1	..	..	Calm	NNE	..	¼	..	..	..	½	..
12	29·872	38·5	37·7	0·8	..	..	..	..	Calm	NNE	..	¼	..	..	..	9	..
14	29·879	38·5	37·7	0·8	..	..	..	..	Calm	NNE	..	¼	..	..	..	10	..
16	29·888	38·0	37·0	1·0	36·5	1·5	..	..	Calm	NNE	..	¼	..	..	..	10	..
18	29·892	35·0	34·6	0·4	..	..	..	..	NNW	NNE	..	¼	..	..	..	3	..
20	29·916	34·8	34·6	0·2	..	..	..	..	NNW	NNE	..	¼	..	..	..	½	..
22	29·948	38·8	37·6	1·2	37·0	1·8	49·2 34·6	70·7 25·5	NNW	N	..	¼	10·19	0·00	17·005	9	..
Nov. 4. 0	29·965	40·2	38·6	1·6	..	..	..	..	NNE	N	..	¼	..	..	..	10	..
2	29·989	40·3	39·1	1·2	..	..	..	..	N by E	N	..	¼	..	..	..	2	Transit
4	30·017	39·5	38·0	1·5	36·0	3·5	..	..	SE	SE	..	¼	..	..	..	5	..
6	30·048	36·2	35·1	1·1	..	..	..	..	S	SE	..	½	..	..	..	6	..
8	30·061	35·0	34·1	0·9	..	..	..	..	Calm	ESE	..	½	..	..	..	1	..
10	30·077	35·1	34·1	1·0	33·5	1·6	..	..	Calm	ENE	..	½	..	..	..	5	..
12	30·077	33·1	33·0	0·1	..	..	..	..	NW	Calm	..	..	..	..	..	8	..
14	30·063	35·0	34·5	0·5	..	..	..	..	NNW	NNW	..	¼	..	..	..	10	..
16	30·058	37·7	36·7	1·0	35·5	2·2	..	..	NNW	NNW	..	¼	..	..	..	10	..
18	30·050	38·7	36·7	2·0	..	..	..	..	NNW	NNW	..	½	..	..	..	10	..
20	30·060	38·8	36·8	2·0	..	..	..	..	N by W	NNW	0 to 1	½	..	..	..	10	..
22	30·067	41·8	39·1	2·7	38·0	3·8	41·5 33·5	56·2 25·5	N	N	0 to 1½	½	10·20	0·03	17·055	5	..
Nov. 5. 0	30·057	43·6	39·9	3·7	..	..	..	..	NNW	N	½ to 1	½	..	..	..	5	Greatest declination S.
2	30·028	43·3	40·6	2·7	..	..	..	..	NNW	N by W	0 to ½	¼	..	..	..	10	..
4	30·004	43·4	40·4	3·0	36·5	6·9	..	..	NNW	NNE	1 to 2	¾	..	..	..	5	Transit
6	30·003	40·7	39·5	1·2	..	..	..	..	NNW	NE	..	1	..	..	..	10	..
8	29·995	37·6	36·2	1·4	..	..	..	..	NNW	NNE	..	1	..	..	..	1	..
10	30·018	38·2	36·8	1·4	..	..	..	..	NNE	NE	..	½	..	..	..	10	..
12	30·024	37·0	36·2	0·8	..	..	..	..	N	N	..	¼	..	..	..	6	..

Nov. 2d. 14h and 16h. The reading of the Wet Thermometer was higher than that of the Dry Thermometer: on Nov. 2d. 16h the temperature of the Dew Point was higher than that of the Dry Thermometer.

Nov. 3d. 2h. The greatest difference during the month between the readings of the Dry and Wet Thermometers occurred at this time.

Nov. 5d. The lowest reading of the thermometer during the month took place on this day.

Nov. 5d. 10h. The reading of the temperature of the Dew Point was inadvertently omitted.

GENERAL REMARKS.	Observer.
Quite overcast; a very warm night.	G
The clouds broke at about $9^h.15^m$, and went off towards the W.; the sky is now nearly clear, there being only a few clouds near the N. horizon, and also near the S. horizon.	G
Cloudless.	D
,,	
Dark clouds S. of the zenith; the rest of the sky continues clear.	
Overcast: cirro-stratus.	
The sky is nearly covered with fleecy clouds.	D
Fleecy clouds and scud.	J H
,,	
,, less cloud W. of the zenith.	J H
The sky covered with fleecy clouds.	D
Overcast: rain falling.	
Small fragments of scud in the N.W.; otherwise clear.	
Vapour in the S. near the horizon.	D
Cirro-stratus and heavy vapour: slight rain since $11^h.10^m$ at intervals.	J H
Overcast: cirro-stratus.	
,, ,,	
Scud and vapour.	
A few light clouds are passing rapidly from the N.N.E.	J H
Cirro-stratus and scud.	D
Overcast: rain falling.	
Cumuli in the whole horizon: fragments of scud S.E. of the zenith; the rest of the sky is quite clear.	D
Cumuli and nimbi.	J H
Cirro-stratus and scud: squalls of rain mixed with hail at intervals since the last observation.	
Scud E. of the zenith.	
Scud in various directions, principally W. of the meridian; several fine meteors were observed this evening; no prevailing direction.	J H
The sky principally covered with dark scud; the stars in a few places are visible.	G
Scud still prevails, now covering the whole of the sky; very frequently some stars are seen glimmering through it; the temperature rising, and the air becoming drier.	
Overcast: the temperature still rising; the air with still less moisture in it.	
,, ,, ,, there is a slight break in the clouds near the eastern horizon, but to no numerical extent.	
At $18^h.40^m$, the break mentioned in the previous observation extended itself, and the sky was nearly free from clouds; they, however, again collected in a quarter of an hour, and the sky has been since that time overcast; during the break, the Dry Wet Bulb Thermometers each sank a degree.	G
North of the zenith generally clear; scud and cirro-stratus in the remaining part of the sky.	D
Scud, and loose cumuli of a fleecy character.	
Overcast: cirro-stratus and scud.	D
The northern portion of the sky generally clear; the southern generally cloudy, being covered with cumulo-stratus and scud; cumuli and scud in the W. and E., the scud moving from E.N.E.	G
A squall occurred about half an hour since, the wind blowing to $1\frac{1}{2}$: it has since lulled: quite cloudy, and a wild-looking night: a red sunset.	
About one hour since the clouds began to pass off to the W. and the sky has been since nearly cloudless: at present a low bank of dark cloud is ranged through the whole southern horizon, the other part of the sky being cloudless.	
Alternately clear and cloudy since the last observation, but much longer cloudy than clear: some rain fell a few minutes since; a few drops are now falling.	G
The sky has been alternately clear and cloudy since the last observation: at present more than half is covered with cloud.	D

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0 – 10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Nov. 5. 14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	45·7 31·1	61·3 23·8	Calm	...	..	..	10·20	0·01	17·070	..	..
Nov. 6. 0	30·077	37·3	37·0	0·3	..	..	..	..	NNW	NNW	..	$\frac{1}{4}$	..	..	..	10	..
2	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
4	30·052	39·9	38·0	1·9	..	..	..	..	N	N	..	$\frac{1}{4}$	..	..	..	8	Transit
6	..	..	..	..	..	..	..	..	N by W	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	N by W	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
14	30·053	39·2	38·1	1·1	..	..	..	..	NNW	N by W	..	$\frac{1}{4}$	..	..	..	10	..
16	30·023	40·2	39·0	1·2	38·5	1·7	..	..	NNW	N by W	..	$\frac{1}{4}$	..	..	..	10	..
18	30·024	38·7	37·8	0·9	..	..	..	..	NNW	N by W	..	$\frac{1}{2}$	..	..	..	8	..
20	30·021	38·8	38·1	0·7	..	..	..	..	N by W	N	..	$\frac{1}{4}$	..	..	..	10	..
22	30·019	41·2	40·1	1·1	38·0	3·2	43·1 36·5	53·6 27·2	N	N	..	$\frac{1}{2}$	10·20	0·00	17·070	8	..
Nov. 7. 0	30·018	46·2	43·1	3·1	..	..	..	..	NNE	NNE	1 to $2\frac{1}{2}$	$\frac{1}{2}$	..	..	..	6	..
2	30·006	46·7	43·1	3·6	..	..	..	..	NNE	NNE	..	$\frac{3}{4}$	..	..	..	8	..
4	30·006	44·2	41·6	2·6	38·5	5·7	..	..	N by E	NNE	..	$\frac{1}{4}$	..	..	..	10	Transit
6	30·026	42·3	40·8	1·5	..	..	..	..	N	NE	..	$\frac{1}{4}$	..	..	..	10	..
8	30·036	41·0	39·6	1·4	..	..	..	..	N	N	..	$\frac{1}{4}$	..	..	..	10	..
10	30·041	40·5	39·5	1·0	39·0	1·5	..	..	N	N	..	$\frac{1}{4}$	..	..	..	10	..
12	30·046	40·0	39·0	1·0	..	..	..	..	N	N	..	$\frac{1}{4}$	..	..	..	10	..
14	30·029	39·4	39·4	0·0	..	..	..	..	N by W	N	..	$\frac{1}{4}$	..	..	..	10	..
16	30·019	39·0	38·3	0·7	38·0	1·0	..	..	N by W	N	..	$\frac{1}{4}$	..	..	..	10	..
18	30·017	38·8	38·0	0·8	..	..	..	..	NNW	Calm	..	..	..	..	..	10	..
20	30·032	39·0	38·0	1·0	..	..	..	..	NNW	Calm	..	..	..	..	..	10	..
22	30·038	41·2	40·2	1·0	39·0	2·2	47·2 36·9	63·5 27·6	N by W	Calm	..	..	10·20	0·00	17·070	10	..
Nov. 8. 0	30·017	44·5	42·2	2·3	..	..	..	..	N	N	..	$\frac{1}{4}$	..	..	..	9	..
2	29·991	43·6	41·0	2·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
4	29·965	42·1	38·8	3·3	32·0	10·1	..	..	Calm	Calm	..	..	..	..	..	10	..
6	29·957	41·0	38·5	2·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
8	29·942	40·1	37·5	2·6	..	..	..	..	Calm	W	..	$\frac{1}{4}$	..	..	..	10	..
10	29·923	39·7	37·2	2·5	35·0	4·7	..	..	Calm	W	..	$\frac{1}{4}$	..	..	..	10	..
12	29·871	39·3	36·3	3·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·837	39·7	37·2	2·5	..	..	..	..	Calm	SW	..	$\frac{1}{4}$	..	..	..	10	..
16	29·779	40·2	37·5	2·7	34·0	6·2	..	..	Calm	SW	..	$\frac{1}{4}$	..	..	..	10	..
18	29·753	41·8	39·4	2·4	..	..	..	..	SW	W	0 to 1	$\frac{1}{2}$	..	..	..	10	..
20	29·742	40·6	37·8	2·8	..	..	..	..	SW	W	$1\frac{1}{2}$ to 3	$\frac{1}{2}$	..	..	..	10	..
22	29·694	43·5	41·0	2·5	38·0	5·5	45·3 39·7	56·2 35·2	SW	SSW	..	$\frac{1}{2}$	10·20	0·00	17·070	10	..
Nov. 9. 0	29·660	43·9	41·5	2·4	..	..	..	..	SSW	SW	1 to 2	$\frac{3}{4}$	..	..	..	10	..
2	29·613	45·6	43·0	2·6	..	..	..	..	SSW	SW	$1\frac{1}{2}$ to 3	$\frac{3}{4}$	..	..	..	10	..
4	29·593	44·2	42·0	2·2	40·0	4·2	..	..	SW	SW	2 steady	1	..	..	..	10	..

Nov. 7d. 0h. Examined the perpendicularity of the barometer.

Nov. 7d, civil reckoning. The range of the barometer was less on this day than on any other day during the month, being 0in·047.

Nov. 8d. 4h. The greatest difference for the month between the Dew Point and the temperature of the air occurred at this time.

Nov. 8d. 12h. The reading of the Dry Thermometer was 0°·4 lower than the minimum temperature, as given by the self-registering thermometer.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus: the Sun's place visible.	D
Fleecy clouds prevalent.	
Overcast: cirro-stratus.	
,, ,,	
Clear in the zenith; the remainder of the sky continues overcast.	
Overcast: cirro-stratus.	D
Scud and cirro-stratus.	J H
Fleecy clouds and scud	
,, gusts of wind.	J H
Overcast: cirro-stratus.	D
,, ,,	
,, ,,	
,, ,,	D
,, ,, a very dark night.	J H
,, ,,	
,, ,,	
,, ,,	
,, ,, the air damp.	J H
,, ,,	D
Cirro-stratus and fleecy clouds.	
Overcast: cirro-stratus: a great gloom prevailing.	D
The same.	J H
Overcast: stratus.	
,, ,,	
,, ,,	J H
,, ,, the clouds are high: the difference between the Dry and Wet Thermometers, viz. 3°, is remarkable at this time of the night in November.	G
No change: a rising temperature: the clouds continue at the same great elevation: the night extremely dark.	
Everything the same.	
The clouds are lower: the wind has risen: an occasional star has been visible since the last observation.	
Shortly after $18^h.40^m$ the clouds broke, and the temperature in a very short time fell to $39°\cdot5$; it is now again quite overcast, excepting a bright streak of light near the horizon, extending from the E. to the S.E.	G
Overcast: cirro-stratus.	D
,, ,,	
,, ,,	D
No change.	G

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Nov. 9. 6	29·567	43·6	42·2	1·4	..	..	..	..	SW	SSW	2½ to 3	1½	..	..	..	10	Transit
8	29·553	43·6	42·9	0·7	..	..	..	..	SW	SW	3 to 4	1½	..	..	..	10	..
10	29·542	44·0	43·0	1·0	42·0	2·0	..	..	SW	SW	4 steady	1½	..	..	..	10	..
12	29·527	45·5	44·6	0·9	..	..	..	..	SW	SW	3 to 4½	1½	..	..	..	10	..
14	29·525	46·2	45·6	0·6	..	..	..	..	SW	SW	2 to 3	1½	..	..	..	10	1st Qr.
16	29·528	47·2	46·6	0·6	46·0	1·2	..	..	SW	SW	1 steady	1+	..	..	..	10	..
18	29·539	47·7	47·2	0·5	..	..	..	..	SW	SW	0 to 1	1	..	..	..	10	..
20	29·554	48·0	47·2	0·8	..	..	..	..	SW	SW by S	0 to 1	1	..	..	..	10	..
22	29·571	48·5	47·7	0·8	46·0	2·5	48·8 43·3	49·0 34·3	SW	SW by S	..	1	10·20	0·00	17·100	10	..
Nov. 10. 0	29·574	49·7	48·5	1·2	..	..	..	..	SSW	SW by S	0 to 1	1	..	..	..	10	..
2	29·538	49·5	48·3	1·2	..	..	..	..	SSW	SW	0 to ½	1	..	..	..	10	..
4	29·507	48·6	47·3	1·3	46·5	2·1	..	..	SSW	S by W	..	¼	..	..	..	10	..
6	29·489	46·2	45·0	1·2	..	..	..	..	...	S by W	..	¼	..	..	..	10	..
8	29·459	46·2	44·4	1·8	..	..	..	..	...	S	..	½	..	..	..	10	Transit
10	29·413	44·0	42·2	1·8	41·0	3·0	..	..	...	S	..	¾	..	..	..	10	..
12	29·368	42·0	39·2	2·8	..	..	..	..	...	S	..	¾	..	..	..	9¾	..
14	29·290	42·0	39·0	3·0	..	..	..	..	...	S	..	1½	..	..	..	10	..
16	29·224	41·2	40·2	1·0	39·0	2·2	..	..	...	S	..	1½	..	..	..	10	..
18	29·147	43·5	43·0	0·5	..	..	..	..	...	S	..	¾	..	..	..	10	..
20	29·100	46·5	46·1	0·4	..	..	..	..	...	S	..	1	..	..	..	10	..
22	29·065	52·2	51·1	1·1	50·5	1·7	52·2 40·8	53·0 37·7	...	SSW	..	1+	10·22	0·03	17·135	8	..
Nov. 11. 0	29·038	54·6	53·4	1·2	..	..	..	..	...	SSW	..	1	..	..	..	8	..
2	28·982	52·3	51·8	0·5	..	..	..	..	...	SSW	..	1	..	..	..	10	..
4	28·874	51·1	50·5	0·6	50·0	1·1	..	..	...	S by E	..	¾	..	..	..	10	..
6	28·765	51·9	51·0	0·9	..	..	..	..	...	S by E	..	2	..	..	..	10	..
8	28·819	51·0	50·3	0·7	..	..	..	..	...	W	..	2½	..	..	..	10	Transit
10	28·911	50·0	49·5	0·5	49·0	1·0	..	..	...	W	..	1½	..	..	..	10	..
12	28·937	49·5	48·7	0·8	..	..	..	..	...	SW	..	1	..	..	..	5	..
14	28·975	50·5	48·7	1·8	..	..	..	..	...	SSW	..	2	..	..	..	10	..
16	28·991	49·2	47·5	1·7	45·5	3·7	..	..	...	S	..	2½	..	..	..	7	..
18	28·991	50·1	48·2	1·9	..	..	..	..	...	S	..	2½	..	..	..	9	..
20	28·948	48·8	48·6	0·2	..	..	..	..	...	SW	..	2	..	..	..	10	..
22	28·987	52·2	51·0	1·2	50·0	2·2	55·8 48·8	58·3 44·6	...	WSW	..	1½	10·43	0·30	17·495	8	Apogee
Nov. 12. 0	29·087	52·6	50·2	2·4	..	..	..	..	...	W by N	..	¾	..	..	..	2	..
2	29·149	53·3	51·2	2·1	..	..	..	..	SW	SW	½ to 2½	¾	..	..	..	7	..
4	29·217	53·0	50·7	2·3	47·0	6·0	..	..	WSW	WSW	1½ to 4	1½	..	..	..	9	..
6	29·316	48·0	46·0	2·0	..	..	..	..	SW	WSW	1½ to 2	1	..	..	..	0	In Equator
8	29·371	46·1	44·4	1·7	..	..	..	..	SW	WSW	½ to 1½	1	..	..	..	0	Transit
10	29·410	46·2	44·2	2·0	42·0	4·2	..	..	SW	WSW	1 to 2	1	..	..	..	0	..
12	29·434	47·6	45·6	2·0	..	..	..	..	SW	SW	½ to 1½	¾	..	..	..	0	..
14	..	..	..	..	..	..	..	..	SW	...	1 to 2½	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SW	...	3 to 3½	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SW	...	1 to 3	..	..	..	..	..	..

Nov. 10d. 10h. Since Nov. 8d. 2h the sky has been generally overcast: it is the longest cloudy period during the month.

Nov. 10d. A rise of 5°·7 in the temperature of the air took place between 20h and 22h.

Nov. 10d. 22h. 40m. It was found that the chain of the Anemometer clock, at 5h. 30m, was broken: the instrument was set going after repair, Nov. 12d. 1h. 40m.

Nov. 11d. A fall of 0in·108 of the barometer took place between 2h and 4h, and of 0in·109 between 4h and 6h.

Nov. 11d, civil reckoning. The range of the thermometer was greater on this day than on any other day in the month, being 13°·4, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
The wind has risen since the last observation: at times the gusts have risen to 2 and 3: quite overcast: a wild night.	
A moderate gale: the wind is very noisy: gusts to 2+: a few drops of rain have fallen: the sky very black.	
Rain in dashing drops nearly the whole time since the last observation: gusts of wind to 2; in other respects no change.	G
Overcast: strong gusts of wind: a very dark night: no rain falling.	D
,, rain falling.	
,, ,,	
,, cirro-stratus and scud.	
,, ,,	D
,, ,, the maximum temperature since 8d. 22h occurs at this time.	J H
Overcast: cirro-stratus: gusts of wind.	
,, ,,	J H
,, ,,	D
,, ,,	
,, ,,	
,, ,,	D
Nearly overcast: slight breaks in the zenith, and near the E. horizon.	J H
Overcast: cirro-stratus: excessively dark: gusts of wind.	
The same.	
Overcast: cirro-stratus: slight rain: gusts of wind.	
The same.	J H
Breaks in various parts of the sky: scud passing over rapidly from the S. S.W.	D
The same as at the last observation.	
Overcast: damp air.	D
,, rain falling.	J H
,, the rain has ceased: strong gusts of wind.	
,, cirro-stratus and scud: clouds move rapidly from the W. by N.: a strong gale of wind.	
Cirro-stratus and scud.	J H
About an hour since the clouds broke near the place of the Moon, and since that time the sky has been partially clear: clouds, curled up, of a dark and threatening appearance, are now collecting and obscuring the Moon, and nearly all the southern portion of the sky: the wind in frequent gusts to 1½ and 2.	G
Frequent gusts of wind to 3: large quantities of dark scud have passed: a few stars are occasionally seen: no meteors: a gale of	
Frequent gusts of wind to 3+: scud passing from the S.: a gale of wind. [wind.	
A little rain falling: the wind has a little abated with respect to gusts; everything else the same.	
A squall happened about an hour since; the wind lulled a little after, but has risen again: heavy rain has fallen in the last quarter of an hour: a very rough morning: during the squall the barometer began to fall again.	G
Clear sky S. E. of the zenith: the rest of the sky is covered with dark scud: a few minutes after the observation a fine single rainbow was visible for a short time N. of the zenith.	D
Cumuli and loose scud scattered over the sky.	
Cirro-stratus and scud: cumulo-strati in the horizon in the N.W.: scud passing rapidly over the zenith.	D
Large masses of scud passing from the W.: a fine deep blue sky is seen between the clouds, which are of the cirro-stratus character; wind in gusts to 2+.	G
About an hour since all the clouds passed off by the E., and since that time it has been cloudless: wind in frequent gusts to 1½, and	
Cloudless: the Moon shining brightly: no meteors have yet been seen. [very noisy.	
,, but a good deal of scud has passed since the last observation: a rigorous watch has been kept for meteors, but none have been seen; indeed, the Moon is shining so bright that only the largest could have been seen.	G
Cloudless: meteors have been carefully looked for since the last observation but none have been seen.	D

Nov. 11d, civil reckoning. The range of the barometer was great on this day, being 0in·525.

Nov. 12d. A fall of 5°·0 in the temperature of the air took place between 4h and 6h.

Nov. 12d, civil reckoning. The mean daily temperature was greater on this day than on any other day during the month, being 49°·8, as deduced from the two-hourly observations.

Nov. 12d. 12h. Since Nov. 12d. 6h the sky has been generally clear: it is the longest period of clear sky during the month.

Nov. 12d. The highest reading of the thermometer during the month took place on this day.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Raingauge No. 1, (Osler's)	RAIN. Reading of Raingauge No. 2.	RAIN. Stand of Raingauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Nov. 12. 20	..	..	..	..	..	..	..	..	SW	...	1 to 3	..	..	..	..	..	..
22	29·364	52·0	50·8	1·2	..	..	55·9 45·9	66·2 41·0	SW	SW	0 to ½	2	10·64	0·43	17·810	10	..
Nov. 13. 0	29·336	51·1	50·1	1·0	..	..	..	..	SW	SW by W	4 to 5	2	..	..	..	10	..
2	29·240	51·0	50·3	0·7	..	..	..	..	SSW	SW by W	3 to 5	2½	..	..	..	10	..
4	..	..	..	..	..	..	..	..	SW	...	3 to 5	..	..	..	..	..	..
6	29·104	53·7	51·8	1·9	..	..	..	..	SW	SW	4 to 5	2½	..	..	..	10	..
8	..	..	..	..	..	..	..	..	WSW	...	4 to 5	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	WSW	...	2 to 3	..	..	..	..	..	Transit
12	..	..	..	..	..	..	..	..	WSW	...	1 to 2	..	..	..	..	..	..
14	29·314	46·5	44·6	1·9	..	..	..	..	WSW	WSW	2 to 2½	1	..	..	..	10	..
16	29·407	45·6	44·0	1·6	43·0	2·6	..	..	WNW	WNW	..	½	..	..	..	8	..
18	29·469	45·3	44·2	1·1	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
20	29·530	44·5	44·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
22	29·597	46·1	45·4	0·7	43·6	2·5	54·5 43·7	55·7 39·3	Calm	Calm	..	..	10·76	0·18	18·115	9¾	..
Nov. 14. 0	29·642	48·5	46·4	2·1	..	..	..	..	Calm	WNW	..	¼	..	..	..	9	..
2	29·665	47·0	45·2	1·8	..	..	..	..	Calm	NNE	..	¼	..	..	..	2	..
4	29·676	45·5	44·0	1·5	44·5	1·0	..	..	Calm	ENE	..	¼—	..	..	..	10	..
6	29·684	45·0	43·6	1·4	..	..	..	..	Calm	E by N	..	¼—	..	..	..	10	..
8	29·667	44·4	43·0	1·4	..	..	..	..	E	E by N	..	¼	..	..	..	10	..
10	29·606	44·8	44·0	0·8	44·0	0·8	..	..	E	E	..	¼	..	..	..	10	Transit
12	29·584	44·7	44·2	0·5	..	..	..	..	ENE	E by S	..	¾	..	..	..	10	..
14	29·529	45·1	44·7	0·4	..	..	..	..	E	E	1 to 2	1	..	..	..	10	..
16	29·504	45·5	45·0	0·5	44·5	1·0	..	..	E	E	1½ steady	¾	..	..	..	10	..
18	29·510	45·0	44·7	0·3	..	..	..	..	ENE	E by N	1 to 2	¾	..	..	..	10	..
20	29·528	43·0	42·4	0·6	..	..	..	..	E	E by N	1½ to 3	1½	..	..	..	10	..
22	29·561	43·3	42·7	0·6	42·5	0·8	49·5 42·8	56·5 38·3	E	E	1 to 3	¾	10·86	0·52	18·710	10	..
Nov. 15. 0	29·542	43·7	43·0	0·7	..	..	..	..	E by S	E	2 to 4	¾	..	..	..	10	..
2	29·521	44·5	43·9	0·6	..	..	..	..	ESE	E	0 to 1	½	..	..	..	10	..
4	29·494	44·0	43·7	0·3	43·0	1·0	..	..	ESE	E	..	½	..	..	..	10	..
6	29·507	44·0	43·7	0·3	..	..	..	..	E by S	E	..	½	..	..	..	10	..
8	29·526	44·6	44·2	0·4	..	..	..	..	Calm	E	..	½	..	..	..	10	..
10	29·544	44·8	44·7	0·1	44·5	0·3	..	..	Calm	E	..	½	..	..	..	10	Transit
12	29·565	44·8	44·6	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·591	43·8	43·6	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·588	43·8	43·6	0·2	43·5	0·3	..	..	Calm	E	..	¼	..	..	..	10	..
18	29·598	43·7	43·5	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·606	43·3	43·3	0·0	..	..	..	..	E	Calm	0 to ½	..	..	..	..	10	..
22	29·642	43·8	43·6	0·2	43·5	0·3	45·4 42·8	45·8 41·8	E	E by N	0 to 1	¼	11·04	0·25	18·985	10	..
Nov. 16. 0	29·641	43·9	42·8	1·1	..	..	..	..	NE	ENE	0 to ½	¼	..	..	..	10	..
2	29·645	43·5	42·0	1·5	..	..	..	..	NE	E by N	0 to 2	¼	..	..	..	10	..
4	29·671	42·7	40·7	2·0	38·0	4·7	..	..	NE	ENE	½ to 1	¼	..	..	..	10	..
6	29·693	41·6	39·8	1·8	..	..	..	..	NE	NNE	..	½	..	..	..	10	..
8	29·732	41·3	38·9	2·4	..	..	..	..	NE	NNE	½ to 2	½	..	..	..	10	..
10	29·766	39·8	37·0	2·8	32·0	7·8	..	..	NE	NNE	0 to ½	½	..	..	..	9	..
12	29·814	38·2	36·0	2·2	..	..	..	..	NE	NE	..	¼	..	..	..	½	Transit

Nov. 14d. 0h. Examined the perpendicularity of the barometer.

Nov. 15d, civil reckoning. On this day the greatest relative moisture in the atmosphere for the month occurred, the mean difference of the Dry and Wet Thermometers being 0°·4, as deduced from the two-hourly observations.

Nov. 15d, civil reckoning. The range of the thermometer was less on this day than on any other day in the month, being 2°·5, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Cirro-stratus and scud: rain falling.	J H
,, ,, strong gusts of wind.	
,, ,, heavy gusts of wind to 3+.	
,, ,, strong gusts of wind: a few breaks are occasionally visible.	J H
Overcast: cirro-stratus: the sky has been generally clear since $7^h.40^m$: no meteors were seen: rain commenced falling a few minutes after the observation. A few stars are now shining in the zenith; cirro-stratus and scud elsewhere.	D
Overcast: cirro-stratus.	
Cirro-stratus and scud.	D
,, foggy in the low grounds from $20^h.40^m$, until half an hour since.	J H
,, the wind is just perceptible: at $0^h.40^m$ the wind was N.N.W.	
Fleecy clouds and scud: hazy, with vapour.	J H
Cirro-stratus and haze: the wind is scarcely perceptible.	D
Overcast: cirro-stratus.	
,, ,,	
,, ,, a little rain has fallen since the last observation: rain again commenced falling at $10^h.10^m$.	D
,, heavy rain.	J H
,, slight rain.	
,, ,,	
,, cirro-stratus: slight rain.	
,, ,, ,, strong gusts of wind.	J H
,, ,, ,,	D
,, ,, ,,	
,, ,, ,,	D
,, ,, heavy rain.	J H
,, slight rain.	J H
,, ,,	
,, the rain has ceased.	G
,,	
,,	
,, a slight rain falling.	
,, ,,	
,, shortly after 18^h, rain began to fall fast, and continues still falling.	G
,, cirro-stratus: a very thin rain falling.	D
,, ,,	
,, ,,	D
Cirro-stratus and scud.	G
,,	
Cirro-stratus: the place of the Moon has been two or three times seen within the last half hour.	
About an hour since the clouds broke, and the Moon has since been shining, but imbedded in cloud: there is no absolutely clear sky now: no motion in the clouds, which are of the cirro-stratus and stratus kind.	G
A few clouds in the N. near the horizon; every other part of the sky is clear; the Moon shining brilliantly.	D

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Nov. 16. 14	29·862	36·6	36·0	0·6	..	..	..	..	NNE	NNE	..	½	..	..	..	2	..
16	29·915	37·1	36·2	0·9	34·5	2·6	..	..	NE	NNE	..	½	..	..	..	4	..
18	29·977	38·2	37·1	1·1	..	..	..	..	NE	NE	1 to 1½	½	..	..	..	10	..
20	30·044	38·5	36·8	1·7	..	..	..	..	NNE	N	0 to ½	½	..	..	..	10	..
22	30·114	39·5	37·2	2·3	34·0	5·5	44·1 35·8	45·0 27·8	NE	NE	½ to 1	¾	11·04	0·00	18·985	10	..
Nov. 17. 0	30·157	41·7	39·3	2·4	..	..	..	..	NE	NNE	0 to ½	¾	..	..	..	8	..
2	30·199	42·4	39·4	3·0	..	..	..	..	Calm	NE	..	½	..	..	..	10	..
4	30·252	41·6	38·4	3·2	33·0	8·6	..	..	Calm	NE	..	¼	..	..	..	10	..
6	30·294	40·0	36·8	3·2	..	..	..	..	Calm	NNE	..	¼	..	..	..	8	..
8	30·341	39·6	37·1	2·5	..	..	..	..	Calm	NNE	..	¼	..	..	..	9	..
10	30·378	39·0	36·7	2·3	32·0	7·0	..	..	Calm	NNE	..	¼	..	..	..	9	..
12	30·387	37·8	36·0	1·8	..	..	..	..	Calm	Calm	..	..	..	..	..	9	Transit
14	30·401	36·1	35·0	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
16	30·425	36·3	35·3	1·0	33·5	2·8	..	..	Calm	Calm	..	..	..	..	..	9	Full
18	30·438	36·2	35·2	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·442	36·2	35·1	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·470	40·2	38·2	2·0	32·0	8·2	42·4 36·2	52·5 26·8	Calm	S	..	¼	11·04	0·00	18·985	9	..
Nov. 18. 0	30·464	42·0	38·2	3·8	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
2	30·441	43·0	39·5	3·5	..	..	..	..	SSW	S by W	..	¼	..	..	..	10	..
4	30·425	40·4	37·4	3·0	31·5	5·9	..	..	S by W	SSW	..	¼	..	..	..	2	..
6	30·416	36·9	34·8	2·1	..	..	..	..	S by W	SSW	..	¼	..	..	..	10	..
8	30·395	35·1	33·4	1·7	..	..	..	..	S	SSW	..	¼	..	..	..	7	..
10	30·374	33·2	32·0	1·2	31·5	1·7	..	..	S	SSW	..	¼	..	..	..	3	..
12	30·341	35·0	33·2	1·8	..	..	..	..	S	Calm	..	..	..	..	..	10	..
14	30·302	38·5	36·3	2·2	..	..	..	..	S	SW	..	¼	..	..	..	10	Transit
16	30·258	40·6	37·8	2·8	35·5	5·1	..	..	S	SW	0 to 1	¾	..	..	..	10	..
18	30·217	41·3	40·7	0·6	..	..	..	..	SSW	SW	0 to ½	¾	..	..	..	10	..
20	30·195	41·6	38·8	2·8	..	..	..	..	SSW	SW	..	½	..	..	..	10	..
22	30·111	43·7	41·0	2·7	37·0	6·7	43·5 32·5	47·0 20·6	SSW	SSW	1 to 3	¾	11·04	0·01	19·005	10	..
Nov. 19. 0	30·070	45·8	42·0	3·8	..	..	..	..	SW	SW	2 to 3	1	..	..	..	10	..
2	30·011	44·8	43·2	1·6	..	..	..	..	SW	SSW	2 to 3	¾	..	..	..	10	..
4	29·951	46·5	44·7	1·8	43·0	3·5	..	..	SW	SSW	2 to 3	¾	..	..	..	10	..
6	29·899	46·4	44·8	1·6	..	..	..	..	SW	SW	2 to 4	1	..	..	..	10	..
8	29·826	45·5	44·8	0·7	..	..	..	..	SW	SW	2 to 4	1	..	..	..	10	..
10	29·742	46·5	46·5	0·0	46·5	0·0	..	..	SW	SW	1 to 2	1½	..	..	..	10	..
12	29·652	50·5	50·0	0·5	..	..	..	..	SW	SW	0 to 1	1½	..	..	..	10	Greatest declination S.
14	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	Transit
16	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
22	29·682	46·0	45·0	1·0	44·0	2·0	51·5 43·5	51·0 41·5	N	N	..	¼	11·51	0·62	19·600	10	..

Nov. 17d. 22h. This is the highest barometrical reading during the month.

Nov. 17d and 26d, civil reckoning. On these days the relative moisture in the atmosphere was less than on any other day in the month, the mean difference of the Dry and Wet Thermometers being 2°·1 on each day, as deduced from the two-hourly observations.

Nov. 18d, civil reckoning. The mean height of the barometer was greater on this day than on any other day during the year, being 30in·419, as deduced from the two-hourly observations.

Nov. 18d and 19d. The greatest difference between the mean temperature of one civil day and the next during the month took place between these two days, being 6°·8, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Cirro-stratus in the whole horizon; clear elsewhere.	D
Cirro-stratus N.W. of the zenith.	
The sky became overcast shortly after the last observation, and continues so.	
Overcast: cirro-stratus.	D
,, cirro-stratus and scnd.	J H
Fleecy clouds and scud.	
Cirro-stratus and scud.	J H
,,	D
Clear near the horizon in the N.W.; fleecy clouds cover every other portion of the sky: the Moon is visible through the clouds.	
Fleecy clouds in every direction; the Moon is shining through them.	
No change since the last observation.	D
No change since 8^h.	J H
Fleecy clouds moving from the E. by S.	
The same.	
Overcast: cirro-stratus.	
,, ,, at $20^h.15^m$ the wind S. by E., and just perceptible.	J H
Fleecy clouds in every direction.	D
Overcast: cirro-stratus.	
,, ,,	D
Cirro-stratus W. of the zenith.	J H
Cirro-stratus and scud: the Moon's place visible: the clouds thin.	
Fleecy clouds and scud: a halo round the Moon at $6^h.20^m$.	
Fleeey clouds and scud.	J H
The sky is quite covered with a white cirro-stratus, through which the Moon is shining, but the shadow cast is very faint: several linear-strati, in parallel lines, running from N.W. to S.E.: the ground in the lower part of the Park is frozen.	G
One unbroken cirro-stratus: a small halo round the Moon, its whole diameter about $1\frac{1}{2}^\circ$: a large one also, but very faint; the right (West side) not visible: the air mild: a rising temperature and falling barometer.	
The halo continued but for a very short time, the clouds becoming much more dense, and the Moon's place only just visible: the wind has increased, and it is now in frequent gusts to 1; still the temperature rises, and the air is very dry.	
The clouds are more dense and approaching to nimbi; no other change: the air appears extremely thick.	
A few light drops of rain have fallen; no other change: rain now falling.	G
Overcast: slight rain falling: gusts of wind to 1+.	D
,, ,,	
,, rain falling.	D
,, no rain falling.	G
Cirro-stratus and quickly moving scud from the S.W.: a few drops of rain: wind in gusts to $1\frac{1}{2}$.	
Immediately after the last observation rain began to fall quickly, and it has continued without ceasing ever since; very dark: wind in gusts to 2: a wild unpleasant night.	
Continued, heavy rain, frequently in heavy squalls, with wind to 2 and 2+: half an inch of rain has fallen in the last four hours: a tempestuous night: for so high a barometer such heavy rain and squalls are unusual.	G
Overcast: rain falling: the rain ceased at about $12^h.10^m$.	J H
,,	G

Nov. $18^d.12^h$. The distance between the center of the S. extremity of the halo and of the Moon was 23°, and between the center of the N. extremity and the Moon was 22°: the distance between the center of the ring at the E. extremity and the center of the Moon was 22°: the halo was therefore circular, though it did not appear to be so.

Nov. 19^d, civil reckoning. The range of the barometer was greater on this day than on any other day in the month, being $0^{in}\cdot650$, as deduced from the two-hourly observations.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Nov. 20. 0	29·682	46·5	44·8	1·7	..	..	..	..	N	N	..	¼	..	..	..	9	..
2	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
6	29·660	44·6	43·4	1·2	..	..	..	..	Calm	N	..	¼	..	..	..	10	..
8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	29·605	40·8	38·8	2·0	..	..	..	..	Calm	ENE	..	¼	..	..	..	10	Transit
16	29·639	40·2	38·2	2·0	37·0	3·2	..	..	Calm	ENE	..	¼	..	..	..	10	..
18	29·648	39·1	37·5	1·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·656	38·8	37·1	1·7	..	..	..	..	Calm	ENE	..	¼	..	..	..	10	..
22	29·692	38·1	36·7	1·4	33·0	5·1	48·7 36·9	57·2 28·2	Calm	NE by E	..	¼	11·51	0·00	19·600	1	..
Nov. 21. 0	29·709	42·1	40·1	2·0	..	..	..	..	N	NE by E	..	¼	..	..	..	½	..
2	29·712	43·1	40·5	2·6	..	..	..	..	N	NE	..	¼	..	..	..	2	..
4	29·707	41·1	39·5	1·6	38·0	3·1	..	..	Calm	Calm	..	..	..	..	..	8	..
6	29·724	38·6	37·6	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
8	29·725	37·3	36·6	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
10	29·708	35·7	35·2	0·5	34·5	1·2	..	..	Calm	Calm	..	..	..	..	..	9	..
12	29·675	35·0	34·5	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·623	36·4	35·2	1·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·552	38·0	36·5	1·5	34·0	4·0	..	..	SE	SSW	..	¼	..	..	..	10	Transit
18	29·454	37·5	36 8	0·7	..	..	..	..	SSE	SSW	..	¼	..	..	..	10	..
20	29·395	35·5	35·0	0·5	..	..	..	..	SSE	SSW	..	½	..	..	..	10	..
22	29·289	34·8	34·3	0·5	34·0	0·8	44·5 34·5	62·0 25·8	SSE	Calm	..	..	11·64	—	19·789	10	..
Nov. 22. 0	29·204	35·7	35·0	0·7	..	..	..	..	SE	SSE	..	¼	..	..	..	10	..
2	29·165	35·8	35·3	0·5	..	..	..	..	E by S	E by S	..	¼	..	..	..	10	..
4	29·182	36·0	35·5	0·5	34·0	2·0	..	..	E by S	E by S	..	¼	..	..	..	10	..
6	29·231	36·2	35·5	0·7	..	..	..	..	W	W	..	¼	..	..	..	10	..
8	29·268	36·3	35·7	0·6	..	..	..	..	W	W	..	¼	..	..	..	10	..
10	29·301	37·2	36·3	0·9	34·0	3·2	..	..	WSW	N	..	¼	..	..	...	6	..
12	29·339	36·0	35·3	0·7	..	..	..	..	WSW	Calm	..	..	..	..	..	3	..
14	29·353	35·5	34·7	0·8	..	..	..	..	WSW	Calm	..	..	..	..	..	0	..
16	29·370	34·0	32·8	1·2	32·0	2·0	..	..	SW	Calm	..	..	..	..	..	0	Transit
18	29·388	35·3	34·5	0·8	..	..	..	..	SW	Calm	..	..	..	..	..	7	..
20	29·399	36·0	35·6	0·4	..	..	..	..	SW	Calm	..	..	..	..	..	4	..
22	29·387	39·2	38·2	1·0	36·5	2·7	38·5 33·5	39·5 28·5	SW	SW	..	¼	11·72	0·41	19·935	8	..
Nov. 23. 0	29·375	43·0	42·0	1·0	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
2	29·346	45·6	44·2	1·4	..	..	..	..	SW	SW	..	¼	..	..	..	9	..
4	29·288	43·7	42·6	1·1	41·0	2·7	..	..	SSW	SW	..	¼	..	..	..	9½	..
6	29·250	43·0	42·3	0·7	..	..	..	..	S	Calm	..	..	..	..	..	10	..
8	29·203	43·5	42·5	1·0	..	..	..	..	S	SW	..	¼	..	..	..	9	..
10	29·136	43·5	43·0	0·5	42·0	1·5	..	..	S by E	SW	..	¼	..	..	..	10	..
12	29·032	45·2	44·3	0·9	..	..	..	..	SSE	SSE	..	¼	..	..	..	10	..
14	28·922	44·2	42·7	1·5	..	..	..	..	SSE	SSE	0 to 2	¾	..	..	..	10	..
16	28·802	42 5	41·6	0·9	41·0	1·5	..	..	SE	SSE	0 to 2	¾	..	..	..	10	..
18	28·733	44·5	44·2	0·3	..	..	..	..	SSE	SSE	..	½	..	..	..	10	Transit

Nov. 20d. 18h. Hourly observations were commenced. (See the Section of Term-Day Observations.)

Nov. 21d. 0h. Examined the perpendicularity of the barometer.

Nov. 21d. Between 18h and 22h there was a fall of the barometer of 0in·165.

Nov 21d. 22h. The reading of the Library rain-gauge was omitted by inadvertence; the quantity inserted at Nov. 22d. 22h is, therefore, the amount for the two previous days.

Nov. 22d. 10h. The directions of wind by the Anemometer and by estimation differ.

GENERAL REMARKS.	Observer.
The clouds are broken in many parts in the S.: occasional gleams of sunshine.	G
Cirro-stratus.	
Overcast: cirro-stratus.	D
,, ,,	
,, ,,	
,, ,, the Moon is visible through the clouds.	D
Light fleecy clouds.	J H
,, a fine morning.	
,,	J H
The sky is nearly covered with a thin cirro-stratus.	D
Clear in the zenith: cirro-stratus in, and 20° above, the horizon on all sides.	
Cirro-stratus and scud.	
Cirro-stratus and fleecy clouds	D
A thin cirro-stratus covers the sky, but the brighter stars are visible through it: a halo round the Moon, the diameter about 45°.	J H
Overcast: cirro-stratus.	
,, ,,	
,, rain falling.	
,, ,, at $20^h.20^m$ snow and rain.	J H
,, snow falling fast, though melting as soon as it touches the ground.	P
,, sleet and rain.	
,, a thin rain falling.	P
,, the rain has ceased.	J H
,, cirro-stratus.	
,, ,,	
Light fleecy clouds in every direction: the wind is N., as inferred from the motion of the clouds.	J H
The S.E. portion of the sky, principally about the Moon, is covered with dark clouds, moving slowly from the N.W.: a fine coloured corona was visible about ten minutes prior to the observation, but is now, as well as the Moon, wholly obscured.	P
Cloudless.	
,,	
Light clouds in every direction.	
Clouds in every direction, all of a deep, red colour; the sky also being of a remarkably deep blue.	P
Cirro-stratus and fleecy clouds.	D
Overcast: cirro-stratus.	
Cirro-stratus and scud.	D
A few partial breaks in various directions.	P
Overcast: cirro-stratus.	
A few stars glimmering in the E., the rest of the sky being overcast, though, but a few minutes previously to the observation, not a cloud was visible.	
Overcast: cirro-stratus.	P
,, ,, rain falling.	D
,, ,, gusts of wind.	
,, ,, a thin rain falling.	
,, rain falling.	

Nov. 22^d, civil reckoning. The mean daily temperature was less on this day than on any other during the month, being $36°\cdot3$, as deduced from the two-hourly observations.

Nov. 23^d. Between 10^h and 12^h the barometer fell $0^{in}\cdot104$; between 12^h and 14^h, $0^{in}\cdot110$; and between 14^h and 16^h, $0^{in}\cdot120$.

Nov. $23^d.18^h$. This is the lowest reading of the barometer for the month.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Nov. 23. 20	28·765	43·8	43·0	0·8	..	..	..	..	SW	WSW	..	¼	..	..	..	10	..
22	28·803	44·1	43·0	1·1	41·5	2·6	45·9 39·5	48·7 35·0	SW	WSW	..	¼	11·77	0·10	20·035	7	..
Nov. 24. 0	28·813	46·1	44·0	2·1	..	..	..	..	SSW	SW	..	¼	..	..	..	4	..
2	28·812	45·7	43·2	2·5	..	..	..	..	SW	SW	0 to ½	¼	..	..	..	7	..
4	28·810	46·6	44·0	2·6	42·5	4·1	..	..	SSW	SSW	0 to 1	¼	..	..	..	2	..
6	28·813	43·8	41·6	2·2	..	..	..	..	SSW	SW	0 to 1	¼+	..	..	..	¼	..
8	28·826	44·2	43·0	1·2	..	..	..	..	SSW	SW	..	½	..	..	..	10	..
10	28·807	41·9	40·6	1·3	40·0	1·9	..	..	S	SSW	0 to 1½	½	..	..	..	10	..
12	28·797	42·0	40·5	1·5	..	..	..	..	S	S	0 to ½	¾	..	..	..	2	..
14	28·783	42·7	41·2	1·5	..	..	..	..	S	S	1 to 3	1	..	..	..	10	..
16	28·783	41·2	40·7	0·5	40·0	1·2	..	..	SSW	SSW	2 to 4	¾	..	..	..	7	..
18	28·788	40·7	40·5	0·2	..	..	..	..	SSW	SSW	0 to 1	½	..	..	..	10	Transit
20	28·790	40·9	40·5	0·4	..	..	..	..	S	S	..	½	..	..	..	3	..
22	28·799	44·1	42·7	1·4	42·0	2·1	48·2 41·2	54·9 36·5	S	S	0 to 1	¼	12·04	0·36	20·385	6	3rd Qr.
Nov. 25. 0	28·763	45·5	43·5	2·0	..	..	..	..	SW	S	0 to 3	½	..	..	..	9	..
2	28·743	43·5	42·1	1·4	..	..	..	..	SSW	SSW	0 to ½	¾	..	..	..	10	..
4	28·758	44·7	43·8	0·9	42·2	2·5	..	..	SW	SW	..	½	..	..	..	2	..
6	28·799	41·8	40·8	1·0	..	..	..	..	SW	SW	..	½	..	..	..	3	..
8	28·831	43·2	41·8	1·4	..	..	..	..	SW	SW	..	¾	..	..	..	9½	..
10	28·852	43·1	41·2	1·9	39·0	4·1	..	..	SW	SW	..	½	..	..	..	0	..
12	28·901	42·7	40·3	2·4	..	..	..	..	SW	SW	2 to 3	1	..	..	..	4	..
14	28·926	41·9	40·2	1·7	..	..	..	..	SW	SW	0 to 1	1—	..	..	..	¾	..
16	28·939	40·9	38·8	2·1	37·0	3·9	..	..	SW	SW	..	¼	..	..	..	0	..
18	28·945	40·2	38·5	1·7	..	..	..	..	SW	SW	..	¼	..	..	..	6	..
20	28·951	40·4	39·0	1·4	..	..	..	..	SW	SSW	..	¼	..	..	..	4	Transit
22	28·991	43·4	40·7	2·7	38·0	5·4	46·8 39·0	52·1 32·0	SW	SW	..	¼	12·04	0·00	20·385	8	..
Nov. 26. 0	29·015	45·6	42·3	3·3	..	..	..	..	SW	SSW	..	¼	..	..	..	4	..
2	29·034	47·3	43·5	3·8	..	..	..	..	SW	WSW	..	½	..	..	..	8	In Equator
4	29·066	46·4	42·5	3·9	39·0	7·4	..	..	SW	SW	..	½	..	..	..	4	..
6	29·106	42·1	40·2	1·9	..	..	..	..	SW	SW	..	¼	..	..	..	6	..
8	29·150	40·8	39·5	1·3	..	..	..	..	Calm	SW	..	½	..	..	..	0	..
10	29·168	39·2	38·2	1·0	36·0	3·2	..	..	Calm	SW	..	¼	..	..	..	½	..
12	29·191	42·7	41·6	1·1	..	..	..	..	Calm	SW	..	¼	..	..	..	4	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
22	29·242	44·2	43·3	0·9	..	..	47·7 36·9	57·4 28·5	Calm	SSE	..	¼	12·05	0·05	20·550	7	..
Nov. 27. 0	29·237	45·0	43·6	1·4	..	..	..	..	S	S by E	..	¼	..	..	..	2	..
2	..	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	SE	...	..	..	..	..	..	..	..
6	29·192	43·5	42·7	0·8	..	..	..	..	SE	E by S	..	¼	..	..	..	10	..
8	..	..	..	..	..	..	..	..	SE	...	0 to ½	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	SSE	...	0 to ½	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SSE	...	..	..	..	..	..	..	..

Nov. 24d and 25d. The least difference in the mean height of the barometer between any two consecutive civil days during the month took place between these two days, being 0in·010, as deduced from the two-hourly observations.

Nov. 25d. 10h. Hourly observations were commenced. (See the Section of Term-Day Observations.)

GENERAL REMARKS.	Observer.
Overcast: the Moon is visible.	D
Fleecy clouds and scud in various directions.	J H
The same.	
Fleecy clouds and scud: gusts of wind.	J H
A few light fleecy clouds scattered in various parts.	D
A few clouds only in the W. horizon.	
A quarter of an hour since, the sky was quite cloudless; it has, however, suddenly become overcast: rain has now commenced falling.	
Overcast: cirro-stratus: rain has fallen heavily since the last observation, but has now ceased: several vivid flashes of sheet lightning at about $8^h.25^m$.	D
A few clouds with vapour N.W. of the zenith; otherwise clear: gusts of wind to 1+.	J H
Overcast: cirro-stratus: the wind blew strongly in gusts between 13^h and 15^h.	
Fleecy clouds and scud: clear and cloudy alternately.	
Overcast: heavy rain.	
Scud and nimbi S. of the zenith.	J H
Breaks in every direction, but chiefly S. of the zenith: a portion of a rainbow in the western horizon: showery.	P
Nearly overcast, but a few breaks are visible here and there: nimbi occasionally passing over: the wind in moderate gusts.	
Overcast: heavy rain falling: rain has been falling almost without intermission since the last observation.	P
Fleecy clouds and scud.	J H
Scud in the S.W. horizon; otherwise clear.	
A few stars are visible S. of the zenith; otherwise overcast.	J H
Cloudless, but the stars look dull and watery.	G
The southern portion of the sky is nearly covered with cloud: the wind in gusts to $1\frac{1}{2}$lb.	G
A few light clouds in the neighbourhood of the Moon; otherwise clear: the wind in gusts.	J H
Cloudless: a fine corona round the Moon.	P
Clouds scattered in every direction; the stars shining brightly between the clouds: a small halo round the Moon.	P
Haze and vapour cover the whole sky.	D
The sky mostly covered with thin cloud, through which the Sun is dimly shining.	G
Cirri S. and S.E. of the zenith; cirro-stratus in the South, near the horizon; cloudless N. of the zenith.	D
Cirro-stratus and scud.	J H
Stratus clouds to the North; scud passing from the W.S.W.: the upper cloud is cirrus, situated about the zenith and North of it.	G
Clouds in every direction, chiefly, however, in W., N.W., and S.; stars being visible in the zenith in the N. and in the E.	P
Cloudless; stars are dim, however, in every direction.	J H
The horizon thick in the S.: every other part of the sky is brilliantly clear.	D
Cirro-stratus in the N.W.; clear elsewhere.	
Cirro-stratus and fragments of scud scattered over the sky.	
Cirro-stratus in the whole horizon; the rest of the sky is clear.	D
Overcast.	G

Nov. 25^d, civil reckoning. The mean height of the barometer was less on this day than on any other day during the year, being $28^{in}.799$, as deduced from the two-hourly observations.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Nov. 27. 14	28·911	46·2	45·4	0·8	..	..	..	..	SSE	SSE	0 to 1	¼	..	..	..	10	..
16	28·864	47·2	46·6	0·6	46·5	0·7	..	..	S	S	½ to 1	½	..	..	..	10	Perigee
18	28·835	47·6	46·6	1·0	..	..	..	..	S	S	1 to 3	¾	..	..	..	3	..
20	28·838	48·8	47·6	1·2	..	..	..	..	S	S	..	¾	..	..	..	9	..
22	28·828	51·0	48·7	2·3	47·0	4·0	51·7 43·0	54·8 36·4	S by W	SSW	0 to 1	¼	12·21	0·23	20·745	8	Transit
Nov. 28. 0	28·804	53·3	50·1	3·2	..	..	..	..	S by W	S by W	1 to 2½	¾	..	..	..	9	..
2	28·795	53·5	51·6	1·9	..	..	..	..	S by W	S by W	1 to 2	½	..	..	..	8	..
4	28·763	53·8	51·4	2·4	51·0	2·8	..	..	S	S	..	½	..	..	..	8	..
6	28·805	48·7	48·4	0·3	..	..	..	..	SSW	SW	..	1	..	..	..	10	..
8	29·036	43·6	42·0	1·6	..	..	..	..	WSW	WSW	4 to 5	1½	..	..	..	0	..
10	29·162	43·0	41·2	1·8	40·0	3·0	..	..	SW	WSW	½ to 1	¾	..	..	..	0	..
12	29·239	44·0	43·2	0·8	..	..	..	..	WSW	WSW	..	¾	..	..	..	9	..
14	29·277	43·7	42·6	1·1	..	..	..	..	SSW	WSW	..	½	..	..	..	2	..
16	29·314	44·0	43·2	0·8	41·5	2·5	..	..	S	WSW	..	½	..	..	..	10	..
18	29·364	43·5	42·2	1·3	..	..	..	..	SSW	WSW	..	¼	..	..	..	7	..
20	29·386	42·5	41·4	1·1	..	..	..	..	S	WSW	..	¼	..	..	..	2	..
22	29·427	43·9	42·6	1·3	42·5	1·4	53·9 41·8	54·5 36·3	S by E	S	..	½	12·25	0·06	20·825	1	Transit
Nov. 29. 0	29·444	48·5	46·5	2·0	..	..	..	..	SSW	S by W	..	¼	..	..	..	5	..
2	29·448	50·1	46·7	3·4	..	..	..	..	SSW	SW	..	¼	..	..	..	1	..
4	29·435	47·2	44·1	3·1	40·0	7·2	..	..	S	SW	..	¼	..	..	..	3	..
6	29·434	44·0	43·0	1·0	..	..	..	..	S by E	SW	..	¼	..	..	..	3	..
8	29·447	43·7	42·7	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
10	29·440	43·7	42·7	1·0	..	..	..	..	Calm	SW	..	¼	..	..	..	9¾	..
12	29·442	43·2	43·1	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	9¾	..
14	29·422	45·1	43·7	1·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·428	44·4	43·7	0·7	43·0	1·4	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·438	44·2	43·8	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·476	43·4	43·4	0·0	..	..	..	..	Calm	S	..	¼	..	..	..	9	..
22	29·542	45·5	45·1	0·4	44·5	1·0	50·6 43·3	59·8 36·6	SW	WSW	..	¼	12·25	0·00	20·830	8	Transit
Nov. 30. 0	29·609	46·0	45·0	1·0	..	..	..	..	WSW	W	..	¼	..	..	..	8	..
2	29·675	46·8	45·2	1·6	..	..	..	..	WSW	W	..	¼	..	..	..	4	..
4	29·737	44·8	44·0	0·8	..	..	..	..	WSW	W	..	¼	..	..	..	2	..
6	29·786	41·7	41·2	0·5	..	..	..	..	Calm	WSW	..	¼	..	..	..	0	..
8	29·815	40·0	39·7	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
10	29·871	39·0	38·7	0·3	38·5	0·5	..	..	Calm	SW	..	¼	..	..	..	0	..
12	29·893	40·4	40·1	0·3	..	..	..	..	Calm	Calm	..	..	12·25	0·00	20·830	2	..
14	29·907	42·1	41·8	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
16	29·900	44·5	44·2	0·3	44·0	0·5	..	..	Calm	S	..	¼	..	..	..	1	..
18	29·922	47·0	46·6	0·4	..	..	..	..	Calm	S	..	¼	..	..	..	10	..
20	29·922	47·5	47·4	0·1	..	..	..	..	Calm	S	..	¼	..	..	..	10	..
22	29·944	48·8	48·3	0·5	47·0	1·8	49·1 37·9	55·3 29·7	Calm	S by W	..	¼	12·25	0·00	20·840	6	..
Dec. 1. 0	29·955	51·4	49·5	1·9	..	..	..	..	SSW	S by W	..	¼	..	..	..	8	Transit
2	29·932	51·7	50·0	1·7	..	..	..	..	SSW	SSW	0 to ½	¼	..	..	..	10	..

Nov. 28d. 0h. Examined the perpendicularity of the barometer.

Nov. 28d. 4h. 10m. There was no pressure of wind recorded at the Anemometer; at 4h. 15m the pressure was 1lb., and it gradually increased to 4½lbs. at 4h. 40m; and it then as gradually decreased to 1lb. by 5h. 10m: no pressure was then recorded till 6h. 5m, when a sudden pressure of 7lbs. took place, and for forty minutes afterwards the pressure was between 4lbs. and 7lbs.: after 6h. 45m the pressure decreased gradually till 10h. 40m, when no pressure was recorded: at 6h. 5m, when the sudden pressure of 7lbs. took place, the direction of the wind suddenly changed from S.S.W. to W.S.W.; and, as the wind decreased in force, so the direction gradually returned to S.S.W.

Nov. 28d. A fall in the temperature of the air took place between 4h and 8h, at the rate of 2°·5 per hour.

GENERAL REMARKS.	Observer.
Overcast: rain falling slightly.	D
,, ,, gusts of wind.	
The sky is clear everywhere but in the horizon, which is occupied with a dense cirro-stratus.	
Cirro-stratus and scud.	D
Scud and cirro-stratus.	J H
,, gusts of wind: rain fell from $0^h.40^m$ to $1^h.10^m$.	
,, the rain has ceased.	J H
Cirro-stratus and scud: a faint rainbow was visible in the N.E. shortly before the observation.	D
Overcast: slight rain falling.	
Cloudless.	
,,	D
Generally cloudy.	J H
Vapour in various directions: a considerable number of meteors have been observed since $12^h.40^m$.	
Overcast.	
Scud and vapour: the appearance of the sky changes frequently.	
Scud and cirro-stratus.	J H
A few light clouds scattered over the sky.	D
Cumuli in various directions: nimbi S. of the zenith.	
Light clouds and cumuli near the horizon in the W.	D
Light clouds and scud.	J H
Cirro-stratus and scud, principally W. of the meridian.	
Heavy vapour prevalent: at $8^h.10^m$ clouds = 2.	
Nearly overcast.	J H
A few stars are dimly seen about the zenith; every other part of the sky overcast.	G
Overcast: the clouds must be high, as the reflection of the London lights is farther from the horizon than usual.	
,, a very slight rain fell about $14^h.30^m$: the wind at the time being S.; strength $\frac{1}{4}$; it afterwards veered to S.E., and then it calmed.	
Quite overcast: a small misty rain falling; occasionally a very gentle wind from the S.E.: very dark; so much so indeed, that objects at the distance of a foot from the eye are not visible.	
The clouds are broken in various places, but principally near the horizon in the S., or to windward: small patches of fine blue sky appear between the breaks.	G
Cirro-stratus and fleecy clouds.	D
,,	
Cumuli and haze.	D
Cirri near the zenith, under which, quick moving scud from the W.: near the horizon in the W., faint cumuli: a fine afternoon.	G
Cloudless: the sky very clear.	
,, ,,	
,, a considerable deposition of moisture: the reading of the thermometer in the parabolic reflector $30°\cdot0$.	G
Clouds in the W. and S.W., near the horizon.	D
Heavy vapour W. of the zenith.	
Vapour in the S.W. horizon.	
Overcast.	
,, a misty rain falling.	D
A few light cirri E. of the zenith: scud in every direction.	J H
Cirro-stratus and scud: slight gusts of wind.	
Overcast: cirro-stratus: the clouds look heavy in the S.W.	J H

Nov. 28^d. Between 6^h and 8^h the barometer rose $0^{in}\cdot231$; and $0^{in}\cdot126$ between 8^h and 10^h.

Nov. 28^d and 29^d. The greatest difference in the mean height of the barometer between any two consecutive civil days during the month took place between these two days, being $0^{in}\cdot499$, as deduced from the two-hourly observations.

Nov. $29^d.10^h$ and $30^d.4^h$. The readings of the temperature of the Dew Point were omitted through inadvertence.

Nov. $30^d.12^h$. The amount of rain collected during the month of November, by rain-gauge No. 4, was $4^{in}\cdot25$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Dec. 1. 4	29·912	51·4	50·4	1·0	48·0	3·4	..	..	S by W	S	0 to ½	½	..	..	..	10	..
6	29·913	52·2	51·5	0·7	..	..	..	..	SW	SSW	1 to 2	½	..	..	..	10	..
8	29·927	53·2	51·6	1·6	..	..	..	..	SSW	SSW	1½ to 3	¾	..	..	..	10	..
10	29·921	53·6	51·6	2·0	50·0	3·6	..	..	SSW	SSW	0 to 3	½	..	..	..	10	..
12	29·926	53·5	51·6	1·9	..	..	..	..	SSW	SW	½ to 3	1	..	..	..	10	..
14	29·917	52·2	51·1	1·1	..	..	..	..	SSW	SW	1 to 2	1+	..	..	..	10	..
16	29·904	53·0	51·3	1·7	49·7	3·3	..	..	SSW	SW	0 to 2	1½	..	..	..	10	New
18	29·918	53·5	51·7	1·8	..	..	..	..	SSW	SW	1½ to 2	1½	..	..	..	10	..
20	29·947	52·7	50·7	2·0	..	..	..	..	S by W	SSW	0 to 1	1	..	..	..	9	..
22	29·973	52·0	50·7	1·3	51·5	0·5	53·8 49·3	55·6 46·0	S by W	S	1 to 2	¾	12·25	0·00	20·845	10	..
Dec. 2. 0	29·979	55·2	51·3	3·9	..	..	..	..	SSW	S	0 to ½	½	..	..	..	9	Transit
2	29·974	55·7	51·2	4·5	..	..	..	..	SSW	S by W	0 to 1	¼	..	..	..	10	..
4	29·973	53·0	49·0	4·0	46·0	7·0	..	..	S by E	S by W	..	½	..	..	..	8	..
6	29·979	51·0	47·6	3·4	..	..	..	..	S	S by W	0 to ½	½	..	..	..	9	..
8	29·994	49·7	46·7	3·0	..	..	..	..	S	S by W	..	½	..	..	..	0	..
10	29·992	48·5	45·0	3·5	43·0	5·5	..	..	Calm	S by W	..	½	..	..	..	½	Greatest declination S.
12	30·008	46·6	44·3	2·3	..	..	..	..	Calm	S by W	..	¼	..	..	..	4	..
14	30·016	45·6	43·8	1·8	..	..	..	..	Calm	S by W	..	¼	..	..	..	0	..
16	30·022	42·0	41·2	0·8	41·0	1·0	..	..	Calm	S by W	..	¼	..	..	..	0	..
18	30·034	43·2	43·1	0·1	..	..	..	..	Calm	S by W	..	¼	..	..	..	0	..
20	30·057	43·1	42·7	0·4	..	..	..	..	Calm	S by W	..	¼	..	..	..	0	..
22	30·117	46·9	46·0	0·9	45·5	1·4	55·9 42·1	57·5 32·7	Calm	SSW	..	¼	12·25	0·00	20·845	0	..
Dec. 3. 0	30·145	53·0	50·7	2·3	..	..	..	..	SW	SW	..	¼	..	..	..	5	..
2	30·160	52·8	51·2	1·6	..	..	..	..	SW	SW	..	¼	..	..	..	10	Transit
4	30·188	51·9	51·0	0·9	50·0	1·9	..	..	Calm	W	..	¼	..	..	..	9	..
6	30·237	51·7	51·1	0·6	..	..	..	..	Calm	W	..	¼	..	..	..	10	..
8	30·277	50·3	50·2	0·1	..	..	..	..	Calm	W	..	¼	..	..	..	10	..
10	30·292	48·7	48·5	0·2	48·5	0·2	..	..	Calm	W	..	¼	..	..	..	10	..
12	30·297	46·2	46·2	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	53·5 42·9	66·8 41·1	Calm	...	..	..	12·25	0·00	20·855	..	..
Dec. 4. 0	30·321	50·0	49·7	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
2	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	Transit
4	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
6	30·268	45·5	45·0	0·5	..	..	..	..	S	SW	..	¼	..	..	..	2	..

Dec. 2d. 2h and Dec. 22d. 1h. The greatest difference during the month between the readings of the Dry and Wet Thermometers occurred at these times. For the latter, see Term-Day Observations.

Dec. 2h. 4h. The greatest observed difference for the month between the Dew Point and the temperature of the air occurred at this time.

Dec. 2d, civil reckoning. For this day the relative moisture in the atmosphere was less than on any other day in the month, the mean difference of the Dry and Wet Thermometers being 2°·7, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus.	D
,, ,,	
,, ,,	
,, ,, within the last hour the sky has been alternately clear and cloudy: at $9^h.\ 40^m$ not a cloud was seen.	D
,, cirro-stratus and scud: a very dark night: gusts of wind.	J H
,, cirro-stratus: strong gusts of wind.	
,, ,, ,,	
,, ,, ,, at $18^h.\ 10^m$ there were a few slight breaks about the zenith.	
Cirro-stratus and scud: breaks in the S. horizon.	J H
Overcast: rain now commenced falling: at $22^h.\ 10^m$ the rain again ceased.	D
Cirro-stratus and scud.	
Overcast: cirro-stratus.	D
Cirro-stratus and scud: breaks E. of the zenith.	J H
Clear breaks in the S.W. near the horizon: Venus has been shining brilliantly for half an hour in one of the breaks; cirro-stratus and scud in other parts of the sky: the wind blowing in gusts.	
Cloudless: at $7^h.\ 35^m$ a meteor shot from the Pleiades in a curved path towards γ Tauri; it was very bright.	
A little vapour N.E. of the zenith; elsewhere clear: several fine meteors have been seen since the last observation; one about $8^h.\ 15^m$ appeared to shoot upwards from the Lynx towards the zenith, leaving a fine train of sparks visible for 2°+.	J H
The zenith, and 45° around it, quite free of cloud: below 45°, in the North, West, and South, a good deal of dark cloud, but thin, for here and there a star is shining: a very warm night, especially as there are so few clouds: Thermometer in Reflector at 39°.	G
Cloudless.	
,, splendidly clear.	
,, for the last three quarters of an hour the zodiacal light has been very bright: the extreme right edge passes through Spica Virginis, a little to the right of Mars, very nearly through β Virginis, and, leaving Regulus to the right, it is lost in the trapezium formed by the four stars, γ, η, χ, ξ Leonis; downwards, it extends to within 5° of the horizon; the other boundary passes from the trapezium through β Leonis and to the left of ϵ Virginis, and so downwards towards the horizon: at about 5° altitude, the space between its limits is about 20°, or something less than the distance of Spica from β Virginis.	
The zodiacal light continued visible until $19^h.\ 30^m$: its dimensions, or position, did not alter with respect to the stars: the horizon is now of a bright red from the E. to the S., and the sky quite cloudless: this has been a remarkably fine night.	G
Cloudless.	D
Cumuli in all directions.	
Overcast: cirro-stratus.	D
At $3^h.\ 30^m$ the clouds broke in the West, and during ten minutes nearly all the northern hemisphere, as well as the greater part of the southern, was without cloud: about fifteen minutes since a large mass of cloud came up from the West and covered the sky, except near the horizon in the S. and S.W.	G
Overcast: a damp air: a slight misty rain, very small in amount: very warm.	
,, and very dark.	
,, very dark indeed.	G
,, a dense fog: objects are invisible at the distance of a few feet.	D
Cirro-stratus and scud.	J H
Light clouds, principally W. of the zenith: it has been a fine day.	J H

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Dec. 4. 8	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
14	30·244	43·3	43·0	0·3	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
16	30·223	43·4	43·0	0·4	43·0	0·4	..	..	SW	SW	..	¼	..	..	..	10	..
18	30·209	43·4	43·0	0·4	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
20	30·204	44·0	43·6	0·4	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
22	30·218	43·1	42·8	0·3	41·0	2·1	52·5 42·7	54·2 37·2	SW	SW	..	¼	12·25	0·00	20·855	10	..
Dec. 5. 0	30·191	45·5	44·7	0·8	..	..	..	..	SW	WSW	..	¼	..	..	..	½	..
2	30·177	48·1	47·5	0·6	..	..	..	..	SW	SW by W	..	¼	..	..	..	8	..
4	30·160	48·5	47·8	0·7	47·5	1·0	..	..	Calm	SSW	..	¼	..	..	..	10	Transit
6	30·157	46·0	45·7	0·3	..	..	..	..	Calm	SW	..	¼	..	..	..	0	..
8	30·148	42·8	42·6	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
10	30·139	40·2	40·0	0·2	40·0	0·2	..	..	Calm	Calm	..	..	..	..	..	0	..
12	30·147	39·7	39·5	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·131	38·0	37·8	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·121	37·5	37·2	0·3	36·5	1·0	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·120	37·0	36·8	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·126	37·5	37·2	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·136	39·2	39·1	0·1	39·0	0·2	52·4 36·8	61·4 32·0	Calm	Calm	..	..	12·25	0·00	20·865	10	..
Dec. 6. 0	30·133	39·0	38·8	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
2	30·113	39·5	39·3	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
4	30·104	39·5	39·1	0·4	38·5	1·0	..	..	Calm	Calm	..	..	..	..	..	10	Transit
6	30·111	39·0	38·5	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	30·122	38·5	38·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	30·136	38·3	37·8	0·5	37·5	0·8	..	..	Calm	Calm	..	..	..	..	..	10	..
12	30·140	37·7	37·7	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·151	37·0	37·0	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·162	36·6	36·5	0·1	36·5	0·1	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·170	36·4	36·3	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·197	36·2	36·2	0·0	..	..	..	..	Calm	N	..	¼	..	..	..	10	..
22	30·219	37·1	37·0	0·1	37·0	0·1	39·6 35·8	40·5 33·8	Calm	Calm	..	..	12·25	0·00	20·870	10	..
Dec. 7. 0	30·226	37·8	37·6	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
2	30·220	38·0	37·8	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
4	30·238	37·8	37·6	0·2	37·5	0·3	..	..	Calm	SW	..	¼	..	..	..	10	..
6	30·255	37·5	37·3	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
8	30·265	37·0	37·0	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	30·283	36·2	36·2	0·0	36·0	0·2	..	..	Calm	Calm	..	..	..	..	..	10	..
12	30·281	35·6	35·4	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·279	35·4	35·3	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·292	34·8	34·7	0·1	34·5	0·3	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·287	35·2	35·1	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·303	35·0	34·8	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·327	35·0	34·9	0·1	35·0	0·0	37·9 34·5	39·8 32·2	Calm	Calm	..	..	12·25	0·00	20·875	10	..
Dec. 8. 0	30·326	35·6	35·5	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
2	30·303	36·0	35·7	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..

Dec. 5d. 0h. Examined the perpendicularity of the barometer.

Dec. 6d, civil reckoning. The range of the barometer was 0in·036; on the 30th the range was the same, and it is the least daily range of the barometer during the month.

Dec. 7d, civil reckoning. For this day the relative moisture in the atmosphere was greater than for any other day in the month, the mean difference of the Dry and Wet Thermometers being 0°·1, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus.	D
,, ,,	
,, ,,	
,, ,,	D
Cirro-stratus: hazy.	J H
Light cumuli in the Western horizon, and a little vapour about the Sun's place: otherwise clear.	
Light fleecy clouds in the N.E.; thin cirro-stratus generally prevalent in other directions.	J H
Overcast: cirro-stratus.	D
Cloudless.	
,, deposition of moisture.	
,, light fog.	D
Stratus: thick fog.	J H
,, ,,	
,, light fog.	
Overcast: ,,	
,, damp fog.	J H
,, ,,	D
,, ,,	
,, very gloomy.	D
,, gloomy: damp: the air misty.	J H
,, the air thick and misty.	
,, ,,	
,, the air clearer than 8^h.	J H
,, a very thick, misty air: exceedingly dark.	G
No change.	
,,	
,,	
,,	G
Overcast: misty air.	D
,, ,,	
,, ,,	D
,, [very dark.	G
The wind was very light and veered to the W. before $5^h.\,20^m$; it then became calm, and fog began to collect; it is now foggy and A very dense, wetting fog: very dark indeed.	
No change.	G
Overcast: very thick misty air, approaching to fog.	D
The same.	
The same.	
Overcast: a dense fog.	
,, ,,	D
,, foggy, and the air extremely damp.	J H
,, a dense fog: the Anemometer vane pointed N.N.W. at $22^h.\,40^m$: the air very damp and cold.	
Overcast: a dense fog, so dark that candles were necessary for computing in the Ante-Room of the Magnetic Observatory: at $2^h.\,40^m$ the fog was considerably lighter.	J H

Dec. 7^d, civil reckoning. The range of the thermometer was less on this day than on any other day in the month, being $2^\circ\cdot4$, as deduced from the two-hourly observations.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Dec. 8. 4	30·302	36·8	36·5	0·3	36·5	0·3	..	..	Calm	Calm	..	..	..	..	..	10	..
6	30·310	37·4	37·3	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
8	30·312	35·2	35·1	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	30·333	33·4	33·2	0·2	33·0	0·4	..	..	Calm	Calm	..	..	..	..	..	10	..
12	30·323	33·7	33·5	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·304	34·6	34·5	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·305	35·3	35·0	0·3	35·0	0·3	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·296	36·3	36·0	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·307	36·8	36·5	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·308	39·2	38·9	0·3	39·0	0·2	39·1 32·6	40·0 27·5	Calm	Calm	..	..	12·25	0·00	20·875	10	..
Dec. 9. 0	30·300	41·3	40·7	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
2	30·272	42·4	41·6	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
4	30·256	42·1	41·5	0·6	40·0	2·1	..	..	Calm	Calm	..	..	..	..	..	10	..
6	30·245	41·5	41·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
8	30·236	41·2	40·8	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	30·215	40·7	40·5	0·2	40·5	0·2	..	..	Calm	Calm	..	..	..	..	..	10	..
12	30·199	40·3	40·2	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	1st Qr.
14	30·175	40·2	40·2	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	In Equator
16	30·159	37·5	37·3	0·2	37·0	0·5	..	..	Calm	Calm	..	..	..	..	..	5	..
18	30·140	36·5	36·3	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Apogee
20	30·145	35·3	35·0	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·135	35·6	34·9	0·7	35·0	0·6	42·0 35·0	43·8 27·0	Calm	S	..	¼	12·25	0·00	20·880	10	..
Dec. 10. 0	30·132	36·0	35·2	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
2	30·114	37·1	36·4	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
4	30·107	37·0	36·6	0·4	36·0	1·0	..	..	Calm	SSW	..	¼	..	..	..	10	..
6	30·098	37·1	36·8	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	30·101	38·3	38·2	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
10	30·094	37·5	37·3	0·2	37·0	0·5	..	..	Calm	Calm	..	..	..	..	..	10	..
12	30·070	36·6	36·5	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..
22	29·918	38·5	38·4	0·1	..	..	38·5 36·0	39·0 33·0	SE	S	..	¼	12·25	0·00	20·880	10	..
Dec. 11. 0	..	..	..	..	..	..	..	..	SSE	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	SSE	...	..	..	..	..	..	..	..
4	29·838	41·6	41·2	0·4	..	..	..	..	SSE	SSE	..	¼	..	..	..	10	..
6	..	..	..	..	..	..	..	..	SSE	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	SSE	...	..	..	..	..	..	..	Transit
10	..	..	..	..	..	..	..	..	SSE	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SSE	...	..	..	..	..	..	..	..
14	29·750	44·5	43·4	1·1	..	..	..	..	SSE	S by E	..	¼	..	..	..	10	..
16	29·729	45·7	45·2	0·5	45·0	0·7	..	..	SSE	S by E	..	½	..	..	..	10	..
18	29·701	47·2	46·8	0·4	..	..	..	..	SSE	S by E	⅓ to 1½	¾	..	..	..	10	..
20	29·6[illegible]6	49·0	48·5	0·5	..	..	..	..	SSE	S by E	½ to 1	¾	..	..	..	10	..
22	29·708	51·5	51·0	0·5	49·5	2·0	52·0 38·0	52·0 36·8	SSE	SSW	½ to 2	1	12·51	0·29	21·120	10	..

Dec. 9d. 2h. The reading of the Dry Thermometer was 0°·4 higher than the maximum temperature, as given by the self-registering Maximum Thermometer.

Dec. 9d. 14h. From Dec. 5d. 12h to the present time, there has been no break in the clouds; it is the longest cloudy period in the month.

GENERAL REMARKS.	Observer.
Overcast: foggy: very dark.	D
,, ,, ,,	
,, ,, the Moon has been distinctly seen through the fog since the last observation, but is now again invisible.	
A dense fog.	D
The fog very dense: gas lights invisible at a very short distance: the trees dripping with moisture.	J H
A dense fog.	
Overcast: the fog lighter.	
,,	
,,	J H
,, there is still a light fog.	D
,,	
,,	D
,, cirro-stratus.	J H
,, ,,	
,, ,, at $8^h.\ 20^m$, the clouds more broken: the Moon's place seen.	
,, ,, the Moon's place invisible.	J H
,, the clouds appear slightly illuminated about the N. and N.N.E.	G
,,	
In the zenith, and about 45° all round it, stars are shining: below 45° it is still cloudy.	
The zenith has been alternately clear and cloudy since the last observation; at present quite cloudy.	
Overcast.	G
,,	D
,,	
,,	D
,,	G
,,	
,, a very light, drizzling rain falling.	G
,, ,,	D
,, ,,	
Overcast: a thick mist: at $22^h.\ 40^m$ the wind changed to S.E.	G
It has been overcast during the whole day, with the exception of a break in the S.S.E. at $23^h.\ 40^m$, which continued only a short time.	G
Overcast: cirro-stratus: at about $11^h.\ 40^m$ a lunar halo was visible.	D
,, ,, rain falling heavily.	
,, ,, ,,	
,, ,, a slight rain falling.	D
Cirro-stratus and scud: strong gusts of wind, and rain in squalls at intervals.	J H

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Dec.12. 0	29·752	53·8	53·0	0·8	..	..	..	..	SSW	SSW	0 to 1	1	..	..	..	10	..
2	29·752	55·7	54·5	1·2	..	..	..	..	SSW	SSW	½ to 2	1	..	..	..	10	..
4	29·795	54·8	54·2	0·6	54·0	0·8	..	..	SSW	SSW	0 to ½	½	..	..	..	10	..
6	29·815	55·2	54·2	1·0	..	..	..	..	SW	SW	1 to 3	1	..	..	..	10	..
8	29·841	54·5	53·9	0·6	..	..	..	..	SSW	SW	..	¾	..	..	..	10	Transit
10	29·871	54·6	54·2	0·4	54·0	0·6	..	..	SSW	SW	0 to ½	½	..	..	..	10	..
12	29·884	55·4	54·5	0·9	..	..	..	..	SSW	SW	0 to 1	½	..	..	..	10	..
14	29·897	54·5	53·7	0·8	..	..	..	..	SW	SW	..	¾	..	..	..	10	..
16	29·913	54·0	53·2	0·8	52·5	1·5	..	..	S	SW	..	¾	..	..	..	10	..
18	29·906	52·7	51·4	1·3	..	..	..	..	S	SW	1½ to 3	¾	..	..	..	9	..
20	29·924	52·0	50·1	1·9	..	..	..	..	S	SW	0 to ½	¾	..	..	..	1	..
22	29·946	52·4	50·2	2·2	50·0	2·4	56·0 50·5	57·6 44·8	S	S by W	1 to 3	¾	12·51	0·00	21·120	4	..
Dec.13. 0	29·950	57·5	53·6	3·9	..	..	..	..	SSW	S by W	0 to 2	¼	..	..	..	2	..
2	29·936	58·0	54·2	3·8	..	..	..	..	SSW	S	..	½	..	..	..	0	..
4	29·935	54·2	52·0	2·2	51·0	3·2	..	..	S	S	..	½	..	..	..	¼	..
6	29·927	49·5	48·0	1·5	..	..	..	..	S	S by W	..	¼	..	..	..	0	..
8	29·919	51·0	50·7	0·3	..	..	..	..	SSE	S	..	¼	..	..	..	7	..
10	29·918	49·5	48·5	1·0	47·5	2·0	..	..	SSE	S	..	¼	..	..	..	6	Transit
12	29·923	49·6	48·2	1·4	..	..	..	..	S by E	S	..	¼	..	..	..	10	..
14	29·924	49·2	47·6	1·6	..	..	..	..	S	S	..	½	..	..	..	9	..
16	29·928	48·7	48·3	0·4	48·0	0·7	..	..	S	S	..	¼	..	..	..	10	..
18	29·956	47·6	46·6	1·0	..	..	..	..	S	S	..	¼	..	..	..	8	..
20	29·978	47·0	46·6	0·4	..	..	..	..	S	SW	..	¼	..	..	..	10	..
22	30·007	48·5	48·0	0·5	47·5	1·0	58·2 46·6	67·0 39·5	S by W	S by W	..	¼	12·51	0·00	21·120	0	..
Dec.14. 0	30·018	51·0	50·0	1·0	..	..	..	..	S	S	..	¼	..	..	..	0	..
2	30·000	55·0	52·6	2·4	..	..	..	..	S by E	S	..	¼	..	..	..	1	..
4	30·006	53·5	51·8	1·7	50·0	3·5	..	..	SSE	S	..	¼	..	..	..	1	..
6	30·007	50·0	48·8	1·2	..	..	..	..	Calm	SW	..	¼	..	..	..	1	..
8	30·002	46·0	45·2	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
10	29·987	47·0	46·0	1·0	45·0	2·0	..	..	S	S	..	½	..	..	..	0	Transit
12	29·985	45·5	44·8	0·7	..	..	..	..	S by E	S	..	¼	..	..	..	0	..
14	29·982	44·6	44·1	0·5	..	..	..	..	S by E	S	..	¼	..	..	..	0	..
16	29·986	45·0	44·1	0·9	44·0	1·0	..	..	S	S	..	¼	..	..	..	¼	..
18	29·983	46·2	45·0	1·2	..	..	..	..	S by E	S	..	¼	..	..	..	½	..
20	30·010	43·8	43·3	0·5	..	..	..	..	S	S	..	¼	..	..	..	1	..
22	30·031	46·7	45·5	1·2	43·5	3·2	55·4 43·3	68·8 35·6	S by E	S	..	¼	12·51	0·00	21·120	1½	..
Dec.15. 0	30·039	53·6	50·5	3·1	..	..	..	..	S	S by E	..	¼	..	..	..	1	..

Dec. 12d. 0h. Examined the perpendicularity of the barometer.

Dec. 13d, civil reckoning. The mean daily temperature was greater on this day than on any other during the month, being 52°·9, as deduced from the two-hourly observations.

Dec. 13d. The highest reading of the thermometer during the month took place on this day.

GENERAL REMARKS.	Observer.
Cirro-stratus and scud: strong gusts of wind: no rain.	
The same.	J H
Overcast: cirro-stratus.	D
,, ,, the Moon's place visible.	
,, ,,	
,, ,,	D
,, ,, the Moon is occasionally visible.	J H
,, ,, scud passing rapidly from the S.W.: the upper current appears N.	
,, cirro-stratus and scud.	
Cirro-stratus and scud: occasional breaks: though the stars have been shining at intervals very generally since $16^h.\ 40^m$, there is a great quantity of heavy vapour prevalent.	
Light fragments of scud floating rapidly over: thin lines of cirro-stratus in the S. and E.: a very finely tinted sky in the S. and S.E.	J H
Fragments of scud in various directions: cirri S. and S. E. of the zenith.	D
Light cirri scattered over the sky.	
Cloudless: a fine day.	D
A few cirro-strati in the W. horizon: a very fine day for December.	J H
Cloudless: splendidly clear.	
Cirro-cumulus and very fine waved cirro-stratus, stretching from the N. N. E. to S. S.W.: a coloured corona round the Moon: at $6^h.\ 30^m$ a perfect prismatic halo appeared, the colours remarkably vivid.	
Cirro-cumuli in every direction: the clouds this evening have assumed the most extraordinary forms: several at $8^h.\ 50^m$ spread out in a fan-like shape from a point near the S.W. horizon, completely over the heavens: they assumed a similar appearance a few minutes before $9^h.\ 40^m$.	J H
Overcast: this has been a remarkable day, the temperature having been 58°: the sky has been splendidly clear, with, at times, fine coloured clouds and fibrous cirri.	G
A short time since, the clouds broke about the place of the Moon: the sky, in other respects, is quite covered with scud and nimbi, all moving from the S.	
The sky quite covered with cloud, in bars, alternately dark and light: their direction is N.E. to S.W., or the dark lines all emanate from a pitch-black cloud near the horizon in the S.W.: the arms radiating from the cloud give the sky the appearance of being covered with a large fan.	
The dark lines of cloud mentioned in the last observation still retain the same position; the intermediate spaces have been alternately clear and covered with light clouds: at present stars are shining in these spaces: near the horizon, in the N.W., it is also clear: the sky has an extraordinary appearance from the curious forms the clouds have assumed.	
Within five minutes after the last observation not a star was visible, though, in a short time, many were again seen, and the E. S. E portion of the sky was luminous, as though by the zodiacal light; after this the sky became overcast.	G
Cloudless.	D
,,	
A few light cirri in the zenith.	D
A few long cirri extending from a little above the Sun across the zenith to within a short distance of the horizon in the E. N. E.:	G
With the exception of a few clouds near the horizon in the N.W., the sky is perfectly free from cloud. [a very fine day.	
Cloudless: splendidly clear.	
The same as at the last observation.	G
Cloudless: a splendid moonlight night.	D
,, ,,	
A few small clouds in the W. horizon.	
Small clouds in the N.W. horizon.	
,,	D
Small cumuli and fleecy clouds, principally N.W. and W. of the zenith.	J H
Small cumuli and fleecy clouds.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Raingauge No. 1, (Osler's)	RAIN. Reading of Raingauge No. 2.	RAIN. Stand of Raingauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Dec. 15. 2	30·021	54·5	51·2	3·3	..	..	..	..	S	S by W	..	½	..	..	..	¼	..
4	30·026	52·5	49·6	2·9	48·0	4·5	..	..	S by E	S	..	¼	..	..	..	1	..
6	30·024	49·0	47·0	2·0	..	..	..	..	S by E	S	..	¼	..	..	..	4	..
8	30·021	46·9	45·2	1·7	..	..	..	..	S	S	..	¼	..	..	..	4	..
10	30·026	46·3	44·5	1·8	43·0	3·3	..	..	S	S	..	¼	..	..	..	6	Transit
12	30·019	46·2	44·2	2·0	..	..	..	..	SSW	S	..	¼	..	..	..	9	..
14	29·987	47·3	45·9	1·4	..	..	..	..	SSW	S	..	¼	..	..	..	7	..
16	29·980	47·0	45·7	1·3	44·0	3·0	..	..	S	S	..	¼	..	..	..	8	..
18	29·954	47·2	46·0	1·2	..	..	..	..	S	S by W	..	¼	..	..	..	10	..
20	29·956	48·0	47·0	1·0	..	..	..	..	S by W	S by W	..	¼	..	..	..	9½	..
22	29·966	49·5	48·1	1·4	47·5	2·0	55·0 45·5	60·2 37·5	S by W	S	..	¼	12·51	0·00	21·125	10	..
Dec. 16. 0	29·938	53·0	50·5	2·5	..	..	..	..	SSW	SSW	0 to 1	½	..	..	..	10	..
2	29·897	54·0	51·3	2·7	..	..	..	..	SSW	SSW	1 to 2	¾	..	..	..	8	..
4	29·881	53·1	51·0	2·1	49·5	3·6	..	..	SSW	SSW	½ to 3	¾	..	..	..	10	..
6	29·878	51·5	50·9	0·6	..	..	..	..	SW	SSW	..	¾	..	..	..	10	..
8	29·869	51·5	50·6	0·9	..	..	..	..	SW	W	0 to 1	¾	..	..	..	9	..
10	29·853	51·2	50·0	1·2	48·8	2·4	..	..	SW	W	0 to ½	¾	..	..	..	9	..
12	29·852	51·2	49·3	1·9	..	..	..	..	SW	WSW	0 to 1	¾	..	..	..	9	Transit
14	29·820	51·3	49·6	1·7	..	..	..	..	SW	WSW	1 to 1½	¾	..	..	..	8	..
16	29·786	51·2	49·3	1·9	48·5	2·7	..	..	SW	WSW	1 to 2	1	..	..	..	8	..
18	29·770	50·8	50·2	0·6	..	..	..	..	SW	SW	1 to 3	1	..	..	..	10	..
20	29·798	51·3	50·9	0·4	..	..	..	..	WSW	SW	1 to 2	1	..	..	..	10	Greatest declination N.
22	29·864	49·3	48·0	1·3	47·5	1·8	54·6 49·3	58·0 44·5	W by S	WSW	..	¼	12·51	0·01	21·145	9	..
Dec. 17. 0	29·919	49·7	48·0	1·7	..	..	..	..	WSW	WSW	½ constant	¼	..	..	..	5	..
2	29·944	49·5	46·2	3·3	..	..	..	..	WSW	W	½ to 1	¼	..	..	..	3	..
4	29·978	45·5	42·7	2·8	41·2	4·3	..	..	Calm	W	..	¼	..	..	..	2	..
6	30·031	43·2	41·4	1·8	..	..	..	..	Calm	W	..	½	..	..	..	0	..
8	30·058	42·0	40·7	1·3	..	..	..	..	Calm	W	..	¼	..	..	..	0	Full
10	30·086	40·9	39·7	1·2	39·0	1·9	..	..	Calm	W	..	¼	..	..	..	0	..
12	30·089	39·3	38·6	0·7	..	..	..	..	Calm	W	..	¼	..	..	..	0	Transit
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	50·9 36·5	60·3 30·8	Calm	...	..	..	12·51	0·00	21·145	..	..
Dec. 18. 0	30·194	40·0	39·7	0·3	..	..	..	..	Calm	SW by W	..	½	..	..	..	½	..
2	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
4	30·197	44·6	43·5	1·1	..	..	..	..	Calm	W	..	¼	..	..	..	0	..

Dec. 16d and 17d. The least difference in the mean height of the barometer between any two consecutive civil days during the month took place between these two days, being 0in·020, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
A few light clouds in the N. and W. horizon.	J H
Small cumuli and cirri here and there.	D
The sky S. of the zenith is quite clear: cirro-cumuli and fleecy clouds are generally prevalent in the remaining part.	
Cirro-cumulus N.E. of the zenith: the portion of the sky near the N. horizon is covered with cirro-stratus; the remainder, with the exception of small fragments of cloud, scattered about, is clear.	
The greater part of the sky is now covered with fleecy clouds and a thin kind of cirro-stratus, through which the stars and Moon are shining: since the last observation the Moon has been generally free of cloud; when, however, any did pass over her, a very perfect coloured halo was exhibited: the halo is now (time of observation) quite perfect, showing beautifully the prismatic colours, having within it a magnificent corona, showing also very vividly the prismatic colours.	D
Fleecy clouds generally cover the sky: the clouds are assuming a darker appearance.	J H
Fleecy clouds prevalent.	
Fleecy clouds and a thin cirro-stratus, through which the Moon appears, surrounded by a corona.	
Cirro-stratus and a light scud.	
The same.	J H
Overcast: cirro-stratus.	D
,, ,,	
Cirro-stratus and fleecy clouds.	D
Cirro-stratus and scud.	J H
,, a heavy sky.	
The sky is generally covered with fleecy clouds moving rather quickly from the W.: the vanes point S.S.W.	
Fleecy clouds: a corona about the Moon: the direction of the wind is taken from the motion of the clouds.	J H
No upper cloud: a large mass of white scud passing very quickly from the W. S.W.: when the scud is thin, a corona round the Moon is visible, whose diameter is about 4°.	G
There is now an upper cloud, cirro-stratus, moving from the W. S.W., and when passing the Moon there is a fine corona about 4° diameter, exhibiting prismatic colours: still vast quantities of scud passing over.	
Everything the same as at the last observation.	
The clouds have become denser, but the Moon's orb is still visible: scud still passing quickly from the S.W. in large quantities: a few drops of rain have fallen at intervals.	
Shortly after the last observation the whole character of the cloud changed; during the previous part of the night they were of a silvery white, and then became quite black: it is now darker than before, and light rain is falling.	G
Cirro-stratus and scud.	D
Light fleecy clouds and cirri.	
Cirri and light fleecy clouds: cirro-stratus in the horizon in the South.	D
A few fine cirro-cumuli South of the zenith, and some fleecy clouds near the southern horizon.	G
Cloudless: the Moon rose perfectly unclouded.	
,,	
,, at $8^h.\ 20^m$ white clouds appeared in the N.W. and W., and by $8^h.\ 40^m$ the sky was quite covered with quick-moving dark scud: at $8^h.\ 50^m$ the sky was cloudless, and continues so: during the prevalence of the cloud the thermometer rose from 41° to 42°.	G
Cloudless.	D
A few small clouds in the E. horizon; otherwise clear.	J H
Cloudless: another fine day.	G

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Dec. 18. 6	30·223	42·6	42·0	0·6	..	..	..	..	Calm	W by S	..	¼	..	..	..	0	..
8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	30·320	38·6	38·5	0·1	..	..	..	..	Calm	WSW	..	¼	..	..	..	1	Transit
16	30·347	38·6	38·5	0·1	38·5	0·1	..	..	Calm	WSW	..	¼	..	..	..	5	..
18	30·331	38·0	38·0	0·0	..	..	..	..	Calm	SW	..	¼	..	..	..	0	..
20	30·389	37·2	37·1	0·1	..	..	..	..	Calm	SW	..	¼	..	..	..	10	..
22	30·401	38·0	38·0	0·0	37·5	0·5	46·0 36·4	56·0 33·6	Calm	SW	..	¼	12·51	0·00	21·145	2	..
Dec. 19. 0	30·410	40·5	40·2	0·3	..	..	..	..	SW	SW	..	¼	..	..	..	2	..
2	30·404	42·7	42·1	0·6	..	..	..	..	W by S	SW	..	¼	..	..	..	2	..
4	30·391	42·2	41·6	0·6	41·5	0·7	..	..	SW	WSW	..	¼	..	..	..	6	..
6	30·406	40·4	40·0	0·4	..	..	..	..	SW	SW	..	¼	..	..	..	2	..
8	30·399	39·5	39·0	0·5	..	..	..	..	SW	SW	..	¼	..	..	..	9	..
10	30·395	39·8	39·5	0·3	39·5	0·3	..	..	SW	SW	..	½	..	..	..	10	..
12	30·379	40·0	39·5	0·5	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
14	30·333	40·8	40·4	0·4	..	..	..	..	SW	SW	..	¼	..	..	..	10	Transit
16	30·325	41·7	41·0	0·7	40·5	1·2	..	..	SW	SW	..	¼	..	..	..	10	..
18	30·302	42·1	42·0	0·1	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
20	30·302	44·0	43·2	0·8	..	..	..	..	SW	SW	..	½	..	..	..	10	..
22	30·295	45·3	44·8	0·5	43·0	2·3	44·6 37·7	47·6 34·0	SW	SW	0 to ½	¼	12·51	0·00	21·145	10	..
Dec. 20. 0	30·290	47·8	47·0	0·8	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
2	30·274	50·0	49·3	0·7	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
4	30·282	49·5	48·7	0·8	46·5	3·0	..	..	WSW	WSW	..	¼	..	..	..	10	..
6	30·267	49·0	48·1	0·9	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
8	30·246	48·7	48·4	0·3	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
10	30·254	48·2	48·0	0·2	47·5	0·7	..	..	W by S	WSW	..	¼	..	..	..	10	..
12	30·225	48·1	47·7	0·4	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
14	30·194	48·2	47·8	0·4	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
16	30·176	49·6	49·0	0·6	48·0	1·6	..	..	WSW	WSW	..	¼	..	..	..	10	Transit
18	30·158	50·1	49·6	0·5	..	..	..	..	W by S	WSW	..	¼	..	..	..	10	..
20	30·166	50·0	49·7	0·3	..	..	..	..	W	WSW	..	¼	..	..	..	10	..
22	30·198	51·0	50·5	0·5	50·0	1·0	51·3 45·6	— 43·8	W by S	W	..	¼	12·51	0·00	21·155	8	..
Dec. 21. 0	30·198	54·0	52·0	2·0	..	..	..	..	NW	NW	..	¼	..	..	..	10	..
2	30·185	53·5	51·5	2·0	..	..	..	..	W	W	..	¼	..	..	..	10	..
4	30·188	53·2	52·0	1·2	52·0	1·2	..	..	W	Calm	..	..	..	..	..	10	..
6	30·184	52·5	51·4	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	30·189	51·0	50·5	0·5	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
10	30·187	50·1	49·8	0·3	49·5	0·6	..	..	SW	Calm	..	..	..	..	..	10	..
12	30·164	50·3	50·3	0·0	..	..	..	..	SW	W	..	¼	..	..	..	10	..
14	30·128	49·2	49·2	0·0	..	..	..	..	SW	WSW	..	¼	..	..	..	10	..
16	30·114	48·2	48·1	0·1	48·0	0·2	..	..	WSW	SW	..	¼	..	..	..	10	Transit
18	30·084	47·7	46·5	1·2	..	..	..	..	WSW	WSW	0 to 1	¾	..	..	..	10	..
20	30·075	49·2	48·7	0·5	..	..	..	..	WSW	WSW	0 to 1	¾	..	..	..	10	..
22	30·051	49·3	48·3	1·0	48·0	1·3	54·2 47·3	— 45·0	WSW	WSW	0 to 1	¼	12·51	0·00	21·155	6	..
Dec. 22. 0	29·994	53·1	48·7	4·4	..	..	..	..	SW	WSW	1 to 4	1	..	..	..	½	..

Dec. 19d. 0h. This is the highest barometrical reading during the month.

Dec. 19d. 0h. Examined the perpendicularity of the barometer.

Dec. 19d, civil reckoning. The mean height of the barometer was greater on this day than on any other day during the month, being 30in·381, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Cloudless.	J H
A few clouds in the N.W.; otherwise cloudless.	D
The sky is partially covered with thin clouds.	
Cloudless.	
Overcast: foggy.	D
Light clouds: there was a thin fog at $21^h.\ 40^m$, which is now gradually disappearing.	J H
,,	
Light clouds and vapour.	J H
Cirro-stratus and vapour.	D
The horizon remains cloudy, but every other part of the sky is quite clear.	
Cirro-stratus and vapour.	
Overcast: cirro-stratus.	D
,, ,, every appearance of rain: the Moon is seen through the cirro-stratus.	J H
,, ,,	
,, ,,	
,, ,,	
,, ,,	J H
,, ,,	P
,, ,, a very thin rain falling.	
,, ,,	P
,, ,,	J H
,,	
,,	
,, cirro-stratus and scud.	J H
,, ,,	P
,, ,,	
,, ,, a thin rain falling.	
,, ,, no rain.	
,, ,,	P
Cirro-stratus and scud.	J H
Overcast: cirro-stratus.	D
,, ,,	J H
,, ,,	P
,, ,,	
,, ,,	P
,, ,, a Scotch mist.	G
,, ,, ,,	
,, ,, a very light rain falling, or a heavy mist.	G
,, ,,	D
,, ,, scud passing rapidly from the W.	J H
,, ,, and scud.	J H
Loose scud in every direction, but chiefly South of the zenith.	P
Scud and light clouds: wind in gusts.	J H

Dec. $19^d.\ 22^h$. The thermometer of the Solar Radiator was accidentally broken, and no readings are consequently registered after this time to the end of the year.

Dec. $20^d.\ 18^h$. Hourly observations were commenced. (See the Section of Term-Day Observations.)

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Dec. 22. 2	29·955	52·5	48·7	3·8	..	..	..	..	WSW	WSW	½ to 2	¼	..	..	..	0	..
4	29·925	50·2	47·4	2·8	46·0	4·2	..	..	WSW	WSW	½ to 1	½	..	..	..	0	..
6	29·901	46·8	45·2	1·6	..	..	..	..	SW	W	..	½	..	..	..	0	..
8	29·860	49·3	47·8	1·5	..	..	..	..	SW	W	½ to 2	¾	..	..	..	10	..
10	29·824	48·7	46·8	1·9	45·5	3·2	..	..	WSW	W	½ to 3	1	..	..	..	10	Perigee
12	29·771	49·0	47·2	1·8	..	..	..	..	SW	WSW	1½ to 3	1	..	..	..	10	..
14	29·706	48·5	47·2	1·3	..	..	..	..	SW	SW	1 to 3	1	..	..	..	10	..
16	29·659	48·9	47·2	1·7	46·5	2·4	..	..	SW	SW	½ to 2	1½	..	..	..	10	..
18	29·568	48·1	47·4	0·7	..	..	..	..	SW	SW	½ to 1	1	..	..	..	10	Transit
20	29·526	48·2	47·6	0·6	..	..	..	..	SW	SW	½ to 4	½	..	..	..	10	..
22	29·509	46·1	45·4	0·7	43·0	3·1	53·2 46·1	— 41·0	SW	WSW	..	½	12·51	0·01	21·180	10	..
Dec. 23. 0	29·496	45·5	45·0	0·5	..	..	..	..	SW	WSW	..	½	..	..	..	10	..
2	29·459	45·2	43·5	1·7	..	..	..	..	WSW	WSW	..	½	..	..	..	10	..
4	29·455	43·7	41·6	2·1	41·0	2·7	..	..	SW	WSW	..	¼	..	..	..	10	..
6	29·456	41·0	39·6	1·4	..	..	..	..	WSW	SW	..	¼	..	..	..	5	In Equator
8	29·489	41·2	40·1	1·1	..	..	..	..	W	SW	..	¼	..	..	..	10	..
10	29·518	38·5	37·1	1·4	36·0	2·5	..	..	WSW	WSW	..	¼	..	..	..	4	..
12	29·516	35·0	33·3	1·7	..	..	..	..	WSW	WSW	..	¼	..	..	..	½	..
14	29·525	34·7	33·4	1·3	..	..	..	..	WSW	WSW	..	¼	..	..	..	0	..
16	29·517	34·1	33·0	1·1	32·0	2·1	..	..	WSW	WSW	..	¼	..	..	..	0	..
18	29·517	33·5	32·5	1·0	..	..	..	..	WSW	WSW	..	½	..	..	..	0	Transit
20	29·532	33·0	32·1	0·9	..	..	..	..	WSW	WSW	..	½	..	..	..	0	..
22	29·575	34·8	33·8	1·0	33·0	1·8	46·2 33·1	— 26·5	WSW	WSW	..	¼	12·51	0·01	21·280	1	..
Dec. 24. 0	29·586	38·2	36·9	1·3	..	..	..	..	WSW	WSW	..	¼	..	..	..	0	..
2	29·587	40·2	37·8	2·4	..	..	..	..	WSW	WSW	..	¼	..	..	..	0	..
4	29·611	39·0	37·0	2·0	35·5	3·5	..	..	SW	WSW	..	¼	..	..	..	0	..
6	29·641	35·8	35·0	0·8	..	..	..	..	SW	WSW	..	¼	..	..	..	0	3rd Qr.
8	29·677	34·3	33·5	0·8	..	..	..	..	WSW	WSW	..	¼	..	..	..	1½	..
10	29·694	33·7	33·0	0·7	32·5	1·2	..	..	WSW	WSW	..	¼	..	..	..	0	..
12	29·715	33·5	32·8	0·7	..	..	..	..	WSW	WSW	..	¼	..	..	..	0	..
14	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	Transit
20	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
22	29·732	38·0	37·0	1·0	..	..	39·8 31·2	— 24·7	SW	SW	..	¼	12·51	0·00	21·280	2	..
Dec. 25. 0	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
2	29·658	45·0	43·2	1·8	..	..	..	..	SSW	SSW	½ to 1	½	..	..	..	8	..
4	..	..	..	..	..	..	..	..	SW	...	½ to 2½	..	..	..	..	..	..
6	29·613	46·2	44·5	1·7	..	..	..	..	SW	SSW	3 to 3½	¾	..	..	..	10	..
8	..	..	..	..	..	..	..	..	SW	...	1½ to 3	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	SW	...	2 to 5	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SW	...	3 to 4	..	..	..	..	..	..
14	..	..	..	..	..	..	..	..	SW	...	2 to 3½	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SW	...	3½ to 4	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SW	...	2½ to 4½	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SW	...	4 to 5	..	..	..	..	..	Transit
22	29·447	48·5	47·5	1·0	..	..	48·7 37·0	— 34·0	SW	SW	4 to 5	2	12·51	0·00	21·280	10	..

Dec. 23d, civil reckoning. The range of the thermometer was greater on this day than on any other day in the month, being 14°·0, as deduced from the two-hourly observations.

Dec. 24d, civil reckoning, was comparatively a cloudless day, the amount of sky covered being a fiftieth part of the whole sky: this was one of the eighteen days in the year considered cloudless.

GENERAL REMARKS.	Observer.
Cloudless: wind in gusts.	J H
,,	D
,,	G
Overcast: cirro-stratus and scud: the wind in moderate gusts.	P
Cirro-stratus and scud: gusts of wind.	J H
The same.	D
Overcast: cirro-stratus and scud: the Moon's place is visible.	
,, ,, ,,	
,, ,, a misty rain falling.	
,, ,, rain falling.	D
,, cirro-stratus.	J H
,, ,, rain falling.	
,, ,, slight rain.	J H
,, ,, no rain falling.	D
The sky is nearly clear in, and 60° around, the zenith: the other portion is still covered with cirro-stratus.	
Overcast: cirro-stratus and vapour.	
Heavy vapour: cirro-stratus in the horizon.	D
Vapour in various directions.	J H
Cloudless.	
,,	
,, a splendid morning.	
,, a white frost.	J H
A few light clouds S. of the zenith.	D
Cloudless.	
,,	D
,, hazy.	J H
,,	
,, vapour occasionally appears in every direction.	
,,	J H
,,	G
Light clouds scattered over the sky.	D
Cirro-stratus and scud.	D
Overcast: cirro-stratus.	D
A strong gale: overcast, with a light misty rain.	G

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Dec. 26. 0	..	..	..	..	..	..	..	..	SW	...	4 to 4½	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	SW	...	4½ to 5	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	SW	...	4½ to 5	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	SW	...	4½ steady	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	SW	...	4 to 5	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	SW	...	3 to 5	..	..	..	..	..	..
12	29·299	46·2	44·7	1·5	..	..	..	..	SW	SSW	4 to 8	2½	..	..	..	10	..
14	29·247	45·8	44·2	1·6	..	..	..	..	SW	SW	4 to 5	2½	..	..	..	10	..
16	29·210	45·5	44·2	1·3	43·0	2·5	..	..	SW	SW	1½ to 4	2	..	..	..	10	..
18	29·149	46·0	45·5	0·5	..	..	..	..	SW	SW	3 to 5	2	..	..	..	10	..
20	29·198	42·7	42·5	0·2	..	..	..	..	SW	SW	..	½	..	..	..	10	Transit
22	29·243	42·3	42·2	0·1	42·0	0·3	50·0 / 41·5	— / 39·8	SW	SW	..	¼	12·63	0·26	21·440	10	..
Dec. 27. 0	29·288	44·0	43·2	0·8	..	..	..	..	SW	WSW	..	¼	..	..	..	10	..
2	29·317	45·0	43·0	2·0	..	..	..	..	W	WSW	..	¼	..	..	..	7	..
4	29·369	43·2	41·2	2·0	39·8	3·4	..	..	WSW	WSW	..	¼	..	..	..	3	..
6	29·426	38·5	37·3	1·2	..	..	..	..	WSW	W	..	¼	..	..	..	0	..
8	29·484	36·7	36·0	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
10	29·550	36·2	35·1	1·1	34·0	2·2	..	..	Calm	W	..	¼	..	..	..	0	..
12	29·612	34·6	33·9	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·649	33·4	32·6	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·720	32·6	32·0	0·6	32·0	0·6	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·761	31·5	30·9	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	29·844	31·6	31·0	0·6	..	..	..	..	W	Calm	..	..	..	..	..	0	..
22	29·921	32·1	31·7	0·4	30·0	2·1	44·7 / 30·8	— / 25·6	Calm	Calm	..	..	12·63	0·00	21·440	0	Transit
Dec. 28. 0	29·957	36·0	34·5	1·5	..	..	..	..	WSW	SW by W	..	¼	..	..	..	0	..
2	29·984	39·5	37·3	2·2	..	..	..	..	WSW	WSW	..	¼	..	..	..	½	..
4	30·021	39·3	37·6	1·7	35·5	3·8	..	..	SW	WSW	..	¼	..	..	..	0	..
6	30·061	36·2	35·1	1·1	..	..	..	..	SW	SW	..	¼	..	..	..	0	..
8	30·096	34·9	34·0	0·9	..	..	..	..	SW	SW	..	¼	..	..	..	0	..
10	30·118	33·5	33·1	0·4	33·0	0·5	..	..	SW	SW	..	¼	..	..	..	0	..
12	30·111	34·3	33·7	0·6	..	..	..	..	SW	SW	..	¼	..	..	..	7	..
14	30·090	37·5	36·4	1·1	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
16	30·079	42·0	40·8	1·2	39·0	3·0	..	..	SW	SW	0 to 2	¾	..	..	..	10	..
18	30·056	44·1	42·5	1·6	..	..	..	..	SW	SW	1½ to 2	¾	..	..	..	10	..
20	30·026	45·2	43·7	1·5	..	..	..	..	SW	SW	3 to 5	1½	..	..	..	10	..
22	30·048	46·8	45·2	1·6	44·0	2·8	46·4 / 32·3	— / 27·0	SW	SW	3 to 4	1	12·63	0·00	21·445	10	Transit
Dec. 29. 0	30·040	48·0	46·4	1·6	..	..	..	..	SW	SW	2 to 5	1	..	..	..	10	..
2	30·018	48·5	47·0	1·5	..	..	..	..	WSW	SW	3½ to 5	1	..	..	..	10	..
4	30·028	49·7	48·0	1·7	46·0	3·7	..	..	WSW	WSW	2 to 2½	1	..	..	..	10	..
6	30·049	50·0	48·0	2·0	..	..	..	..	WSW	WSW	3 to 4	1	..	..	..	10	..
8	30·072	49·8	48·1	1·7	..	..	..	..	WSW	WSW	2 to 3	¾	..	..	..	10	..
10	30·090	50·0	48·5	1·5	47·0	3·0	..	..	WSW	WSW	½ to 1	1	..	..	..	10	..
12	30·086	49·8	48·3	1·5	..	..	..	..	WSW	WSW	1½ to 3	½	..	..	..	10	..
14	30·084	49·8	48·5	1·3	..	..	..	..	WSW	WSW	1½ to 3	¾	..	..	..	10	..
16	30·091	50·6	48·8	1·8	47·3	3·3	..	..	WSW	SW	1 to 2	¾	..	..	..	10	..
18	30·079	50·3	49·1	1·2	..	..	..	..	WSW	SW	2 to 3	¾	..	..	..	10	Greatest declination S.

Dec. 26d. 18h. This is the lowest barometrical reading during the month.

Dec. 27d. 0h. Examined the perpendicularity of the barometer.

Dec. 27d, civil reckoning. The mean height of the barometer was less on this day than on any other day during the month, being 29in·341, as deduced from the two-hourly observations.

Dec. 27d. The lowest reading of the thermometer during the month took place on this day.

Dec. 27d and 28d. The greatest difference in the mean height of the barometer between any two consecutive civil days during the month took place between these two days, being 0in·596, as deduced from the two-hourly observations; and the mean temperature on the second of these days was 34°·5, being less than on any other day in the month.

GENERAL REMARKS.	Observer.
A strong gale: overcast, with a light misty rain.	
The same.	G
A strong gale of wind: very dark: overcast: cirro-stratus: gusts of wind, often to 3.	
The same.	
A strong gale of wind: at times the wind is very loud with gusts frequently to 3: a few drops of rain falling.	
The wind continued to blow strongly for an hour after the last observation, when rain began to fall freely; the wind subsided, and the barometer began to rise: it rains fast now.	G
Overcast: cirro-stratus: a misty rain falling.	D
The same.	
Cumulo-strati and scud.	D
The lower current is W.S.W., or, perhaps, a little nearer the West; the upper current is the same, while the middle is from the N.W., where are some very fine coloured cumuli: about the zenith is a large quantity of cirri moving from W.S.W.	G
Cloudless: rather misty.	
,,	
,,	G
,,	D
,,	
,,	
,, a white frost.	
,, ,,	D
,, ,,	J H
,,	
Light clouds: hazy.	J H
Cloudless.	D
,,	
,,	
,,	D
Vapour coming up from the S.W.	J H
Overcast.	
,, gusts of wind.	
,, ,,	
,, strong gusts of wind.	J H
,,	D
,,	D
,, wind in gusts to 1½.	G
,, cirro-stratus.	J H
,, ,, gusts of wind: scud passing rapidly from the W.	
,, ,,	
,,	J H
,,	G
,,	
,,	
,, very black.	

Dec. 28d. 0h. From Dec. 27d. 6h to the present time, the sky has been without cloud: it is the longest period of clear sky during the month.

Dec. 28d, civil reckoning. The mean daily temperature was less on this than on any other day during the month, being 34°·5, as deduced from the two-hourly observations.

Dec. 28d, civil reckoning. The range of the barometer was greater on this than on any other day in the month, being 0in·469.

Dec. 28d and 29d. The greatest difference between the mean temperature of one civil day and the next during the month took place between these two days, being 12°·3, as deduced from the two-hourly observations.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Raingauge No. 1, (Osler's)	RAIN. Reading of Raingauge No. 2.	RAIN. Stand of Raingauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Dec. 29. 20	30·074	50·5	49·3	1·2	..	..	..	..	WSW	SW	½ to 1	½	..	..	..	10	..
22	30·101	52·0	50·8	1·2	49·0	3·0	51·7 46·8	— 45·0	WSW	SW	1 to 3	½	12·63	0·00	21·445	10	..
Dec. 30. 0	30·086	53·0	51·2	1·8	..	..	..	..	WSW	SW	1 to 3	¾	..	..	..	7	Transit
2	30·080	54·1	51·6	2·5	..	..	..	..	WSW	WSW	2 steady	1	..	..	..	7	..
4	30·088	52·8	51·2	1·6	50·0	2·8	..	..	WSW	WSW	2 to 3	1	..	..	..	7	..
6	30·071	51·3	49·8	1·5	..	..	..	..	WSW	WSW	½ to 2	¾	..	..	..	9½	..
8	30·090	50·6	49·0	1·6	..	..	..	..	WSW	WSW	2 to 3	¾	..	..	..	9½	..
10	30·100	50·7	49·2	1·5	48·0	2·7	..	..	WSW	WSW	1½ to 2	1	..	..	..	10	..
12	30·107	51·0	49·6	1·4	..	..	..	..	W by S	WSW	2 to 3	1	..	..	..	10	..
14	30·078	50·6	49·2	1·4	..	..	..	..	W by S	WSW	2 to 3	1	..	..	..	10	..
16	30·074	50·2	49·0	1·2	48·5	1·7	..	..	W by S	WSW	2 to 3	1½	..	..	..	10	..
18	30·047	49·6	48·6	1·0	..	..	..	..	W by S	WSW	3 to 4	1½	..	..	..	10	..
20	30·028	49·5	48·6	0·9	..	..	..	..	W by S	WSW	3 to 4	1	..	..	..	10	..
22	30·002	50·1	50·1	0·0	48·5	1·6	54·8 49·2	— 46·1	W by S	WSW	1½ to 3	1½	12·63	0·00	21·445	10	..
Dec. 31. 0	29·976	52·5	50·5	2·0	..	..	..	..	W by S	WSW	4 to 5	1½	..	..	..	10	Transit
2	29·931	53·1	51·1	2·0	..	..	..	..	W	WSW	3 to 4½	2	..	..	..	10	..
4	29·925	53·5	51·0	2·5	49·5	4·0	..	..	W by S	WSW	3 to 3½	1½	..	..	..	10	..
6	29·921	52·1	51·4	0·7	..	..	..	..	WSW	WSW	2 to 3	1	..	..	..	10	..
8	29·932	51·5	50·6	0·9	..	..	..	..	W by S	WSW	½ steady	½	..	..	..	10	New
10	29·977	45·3	43·0	2·3	42·5	2·8	..	..	NW	WSW	0 to ½	½	..	..	..	0	..
12	30·017	44·2	40·5	3·7	..	..	..	..	NW	WSW	2 to 4	2	12·63	0·00	21·445	6	..
14	..	..	..	..	..	..	..	..	WNW	...	½ to 4	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	WNW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	NW	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..

Dec. 30d, civil reckoning. The range of the barometer was 0in·036. (See the note to Dec. 6th.)

Dec. 31d. A fall of 6°·2 in the temperature of the air took place between 8h and 10h.

Dec. 31d. 8h. 10m. There was a sudden pressure of 8lbs. at the Anemometer; and at 8h. 20m it had decreased to 2lbs., and almost immediately afterwards it ceased altogether.

GENERAL REMARKS.	Observer.
Overcast: very black.	D
,,	J H
Cirro-stratus and scud: nearly clear in the zenith.	
,, wind in gusts to $1\frac{1}{2}$.	J H
,, ,, the scud is passing quickly from the W.	D
,, a clear break in the S.W. horizon: the wind occasionally in gusts to 1+.	
A few stars are visible about the zenith: the remainder of the sky is covered with cirro-stratus and scud.	
Overcast: cirro-stratus and scud: gusts of wind to $1\frac{1}{2}$.	D
,, cirro-stratus.	J H
,,	
,,	
,,	
,,	J H
,, cirro-stratus: scud passing rapidly from the W.S.W.	D
,, cirro-stratus and scud: strong gusts of wind.	D
The same.	J H
The same.	D
Overcast: cirro-stratus.	
,, ,,	
Cloudless: about a quarter of an hour after the last observation a shower of rain fell; soon after which, stars became visible in the zenith: the clouds had wholly disappeared at $9^h.\ 40^m$.	D
Scud and vapour: very strong gusts of wind.	J H

Dec. $31^d.\ 12^h$. The amount of rain collected during the month of December by rain-gauge No. 4, was $0^{in}.74$.

ROYAL OBSERVATORY, GREENWICH.

TERM-DAY

METEOROLOGICAL OBSERVATIONS.

1842.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION. from Anemometer.	WIND. DIRECTION. by Estimation.	WIND. PRESSURE. from Anemometer, in pounds, per square foot.	WIND. PRESSURE. by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Jan. 19. 10	30·254	27·8	27·8	0·0	27·5	0·3	Calm	Calm	..	..	10
11	30·240	27·8	27·5	0·3	..	..	Calm	Calm	..	..	10
12	30·230	26·5	26·5	0·0	..	..	Calm	Calm	..	..	10
13	30·208	26·8	26·6	0·2	..	..	Calm	Calm	..	..	10
14	30·200	27·0	26·4	0·6	..	..	Calm	Calm	..	..	10
15	30·187	27·2	26·8	0·4	..	..	Calm	Calm	..	..	10
16	30·163	27·5	27·1	0·4	23·5	4·0	Calm	Calm	..	..	10
17	30·137	27·3	27·0	0·3	..	..	Calm	Calm	..	..	10
18	30·115	27·4	27·2	0·2	..	..	Calm	Calm	..	..	10
19	30·104	27·5	27·4	0·1	..	..	Calm	Calm	..	..	10
20	30·085	28·5	28·0	0·5	..	..	Calm	Calm	..	..	10
21	30·072	29·3	28·7	0·6	..	..	Calm	Calm	..	..	10
22	30·082	30·4	29·7	0·7	29·5	0·9	Calm	Calm	..	..	10
23	30·067	31·5	30·6	0·9	..	..	Calm	Calm	..	..	10
Jan. 20. 0	30·046	32·3	30·9	1·4	..	..	N N E	Calm	..	..	10
1	30·016	32·6	31·3	1·3	..	..	N N E	Calm	..	..	10
2	30·006	32·7	31·5	1·2	..	..	N N E	Calm	..	..	10
3	29·991	32·8	31·7	1·1	..	..	N N E	Calm	..	..	10
4	29·983	33·0	32·0	1·0	33·0	0·0	Calm	Calm	..	..	10
5	29·987	32·5	32·0	0·5	..	..	N E	Calm	..	..	10
6	29·979	32·5	31·8	0·7	..	..	Calm	Calm	..	..	10
7	29·970	32·5	32·0	0·5	..	..	Calm	Calm	..	..	10
8	29·969	32·7	32·0	0·7	..	..	Calm	Calm	..	..	10
9	29·970	32·4	31·7	0·7	..	..	Calm	Calm	..	..	10
10	29·962	33·0	32·0	1·0	28·0	5·0	Calm	N E	..	¼	10
12	29·932	33·0	32·1	0·9	..	..	Calm	Calm	..	..	10
14	29·918	32·7	31·9	0·8	..	..	Calm	Calm	..	..	10
16	29·922	32·9	31·0	1·9	31·0	1·9	Calm	Calm	..	..	10
18	29·908	32·0	31·8	0·2	..	..	Calm	Calm	..	..	10
19	29·920	32·0	31·8	0·2	..	..	Calm	Calm	..	..	10
20	29·929	32·0	31·8	0·2	..	..	Calm	Calm	..	..	10
21	29·937	32·0	31·8	0·2	..	..	Calm	Calm	..	..	10
22	29·949	32·2	31·8	0·4	28·5	3·7	Calm	Calm	..	..	10
23	29·961	32·5	32·1	0·4	..	..	Calm	Calm	..	..	10
Jan. 21. 0	29·953	32·4	31·9	0·5	..	..	Calm	N E	..	¼	10
1	29·949	32·7	32·1	0·6	..	..	Calm	N E	..	¼	10
2	29·938	32·7	32·0	0·7	..	..	Calm	N E	..	¼	10
3	29·941	32·9	32·2	0·7	..	..	Calm	Calm	..	..	10
4	29·941	33·3	32·1	1·2	31·0	2·3	Calm	Calm	..	..	10
5	29·946	32·5	31·5	1·0	..	..	Calm	Calm	..	..	10
6	29·958	32·3	31·5	0·8	..	..	Calm	Calm	..	..	10
7	29·959	31 8	31·2	0·6	..	..	Calm	Calm	..	..	10
8	29·956	31·8	31·2	0·6	..	..	Calm	Calm	..	..	10
9	29·960	31·8	31·1	0·7	..	..	Calm	Calm	..	..	10
10	29·953	31·7	31·1	0·6	31·0	0·7	Calm	Calm	..	..	10
11	29·947	31·7	31·1	0·6	..	..	Calm	Calm	..	..	10
12	29·940	31·6	30·6	1·0	..	..	Calm	Calm	..	..	10
13	29·934	31·8	31·0	0·8	..	..	Calm	Calm	..	..	10
14	29·923	32·0	31·2	0·8	..	..	Calm	Calm	..	..	10
15	29·928	31·7	30·6	1·1	..	..	Calm	Calm	..	..	10
16	29·887	31·2	30·5	0·7	29·0	2·2	Calm	Calm	..	..	10
17	29·865	32·2	30·7	1·5	..	..	Calm	S	..	¼	10

Jan. 19d, 21d, and 22d. See the foot notes to these days in the Section of Ordinary Meteorological Observations.

GENERAL REMARKS.	Observer.
A thick fog which has continued all day.	G
The fog still continues, but it is less dense.	
The fog thinner.	G
Quite calm: the fog as before: moisture falling heavily.	M
No change: moisture falling heavily.	M
Overcast: misty: damp air.	J H
,, damp fog.	
,, damp, misty air.	J H
,, cirro-stratus: very gloomy.	D
,, ,,	D
,, the fog still continues, but is much thinner.	P
,, the clouds breaking, and exhibiting a tendency to clear up: the fog is still growing thinner.	P
A slight fog: the sky quite covered with a dense cirro-stratus.	G
Overcast: cirro-stratus: a light mist.	D
,, cirro-stratus and scud; the latter moving slowly: the moisture of the atmosphere is still very great.	P
,, ,, the air still extremely damp.	P
,, ,, damp air.	J H
,,	P
,, ,,	P
,, ,,	G
,, a dense cirro-stratus.	G
,, cirro-stratus: damp air.	D
,, ,,	D
,, a damp, driving mist: at $9^h.\ 15^m$ the clouds were broken.	J H
,, cirro-stratus and scud.	J H
,, ,, the moisture of the atmosphere is so dense as to resemble a very thin rain.	P
,, a fog enveloping the grounds, though less dense and less damp than on the preceding night.	
,, a thin fog.	
,, a thin, misty rain falling.	
,, ,,	
,, the rain somewhat thicker.	
,,	P
,, a thin, misty rain.	J H
,, ,,	D
,, ,,	J H
,,	
,, the air damp.	
,, ,,	J H
,, misty, and a dampness in the atmosphere: the clouds are moving slowly from the N.N.E.	P
,, cirro-stratus and scud: the scud is moving very slowly.	
,, cirro-stratus and scud from the West: the Moon's place visible.	
,, the Moon distinctly visible, and clouds breaking in the zenith: the atmosphere drier.	
,, the clouds however much broken in the zenith and around the Moon.	
,, cirro-stratus and scud.	
,,	
,,	P
,,	G
,,	
,,	
,,	
,,	
,, so very dark that an object two inches from the eye is not visible.	G

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION. from Anemometer.	WIND. DIRECTION. by Estimation.	WIND. PRESSURE. from Anemometer, in pounds per square foot.	WIND. PRESSURE. by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Jan. 21. 18	29·854	32·2	30·7	1·5	..	..	Calm	Calm	..	..	10
19	29·833	32·0	30·7	1·3	..	..	S E	Calm	..	..	10
20	29·825	32·0	30·7	1·3	..	..	S E	Calm	..	..	10
21	29·805	32·5	31·0	1·5	..	..	S E	Calm	..	..	10
22	29·779	32·8	31·3	1·5	31·5	1·3	S E	Calm	..	..	10
23	29·754	33·5	32·6	0·9	..	..	S E	Calm	..	..	10
Jan. 22. 0	29·710	34·8	32·6	2·2	..	..	S S E	S by E	..	$\frac{1}{4}$	10
1	29·666	34·7	32·8	1·9	..	..	S S E	S by E	..	$\frac{1}{4}$	10
2	29·621	33·7	32·5	1·2	..	..	S S E	S by E	..	$\frac{1}{4}$	10
3	29·588	34·0	32·5	1·5	..	..	S S E	S by E	..	$\frac{1}{4}$	10
4	29·514	34·6	33·5	1·1	32·0	2·6	S S E	Calm	..	..	10
5	29·484	34·0	33·0	1·0	..	..	S S E	Calm	..	..	10
6	29·411	33·8	33·0	0·8	..	..	S S E	S	0 to $\frac{1}{2}$	$\frac{1}{4}$	10
7	29·341	34·2	33·5	0·7	..	..	S S E	S	..	$\frac{1}{4}$	10
8	29·320	34·8	34·1	0·7	..	..	...	Calm	..	..	10
9	29·267	35·4	35·0	0·4	..	..	...	Calm	..	..	10
10	29·247	36·5	36·0	0·5	35·0	1·5	...	S	..	$\frac{1}{4}$	10
11	29·203	36·5	36·0	0·5	..	..	...	W S W	..	$\frac{1}{4}$	8
12	29·182	36·0	35·6	0·4	..	..	...	S	..	$\frac{1}{4}$	0
Feb. 20. 18	29·710	34·6	33·7	0·9	..	..	Calm	Calm	..	..	3
19	29·691	32·5	31·6	0·9	..	..	Calm	Calm	..	..	1
20	29·682	35·2	34·2	1·0	..	..	Calm	Calm	..	..	7
21	29·673	37·5	36·0	1·5	..	..	S by E	S S W	..	$\frac{1}{4}$	10
22	29·671	39·0	37·5	1·5	36·0	3·0	S	S S W	1 to 3	1	10
23	29·666	41·5	39·8	1·7	..	..	S by W	S S W	1 to 2	$\frac{3}{4}$	10
Feb. 21. 0	29·656	41·8	40·4	1·4	..	..	S S W	S S W	1 to $1\frac{1}{2}$	$\frac{3}{4}$	10
1	29·623	44·7	43·0	1·7	..	..	S S W	S W by S	1 to 2	$\frac{3}{4}$	$9\frac{1}{2}$
2	29·601	45·5	43·4	2·1	..	..	S S W	S W by S	1 to 2	$\frac{3}{4}$	10
3	29·589	46·8	44·8	2·0	..	..	S W	S W by S	1 to 2	$\frac{3}{4}$	10
4	29·586	45·0	44·4	0·6	45·0	0·0	S W	S W	1 to 2	$\frac{1}{2}$	10
5	29·623	41·4	41·0	0·4	..	..	W N W	W	$\frac{1}{2}$ to 1	$\frac{1}{2}$	10
6	29·654	40·1	39·2	0·9	..	..	W N W	W by N	..	$\frac{1}{4}$	10
7	29·677	40·0	39·3	0·7	..	..	Calm	W	..	$\frac{1}{4}$	10
8	29·693	39·6	39·0	0·6	..	..	Calm	S W	..	$\frac{1}{4}$	$9\frac{1}{2}$
9	29·698	39·2	38·6	0·6	..	..	Calm	Calm	..	..	8
10	29·718	38·0	37·2	0·8	37·0	1·0	S W	Calm	..	..	2
11	29·737	37·3	35·8	1·5	..	..	Calm	Calm	..	..	2
12	29·740	35·0	34·8	0·2	..	..	Calm	Calm	..	..	$\frac{1}{2}$
13	29·743	34·5	34·2	0·3	..	..	Calm	Calm	..	..	$\frac{1}{2}$
14	29·735	35·1	34·7	0·4	..	..	Calm	S	..	$\frac{1}{4}$	10
15	29·720	35·4	35·0	0·4	..	..	Calm	Calm	..	..	9
16	29·709	36·0	35·7	0·3	34·0	2·0	S S W	Calm	..	..	10
17	29·697	36·5	36·2	0·3	..	..	Calm	Calm	..	..	10
18	29·693	38·0	37·5	0·5	..	..	S S W	Calm	..	..	10
19	29·676	38·3	37·8	0·5	..	..	S E	Calm	..	..	10
20	29·665	38·8	38·1	0·7	..	..	S E	Calm	..	..	10
21	29·660	39·0	38·1	0·9	..	..	S E	Calm	..	..	10
22	29·646	41·8	41·4	0·4	41·0	0·8	S S E	Calm	..	..	10
23	29·642	44·3	43·6	0·7	..	..	S E	S S E	..	$\frac{1}{4}$	8

GENERAL REMARKS.	Observer.
Overcast.	G
,,	
,,	G
,,	D
,,	
,,	
	D
,, occasional patches of blue sky have been visible since the last observation.	J H
,, snow commenced falling at $0^h.\ 40^m$, and still continues slightly.	D
,, snow and sleet have continued to fall slightly since the last observation.	D
The same.	G
Overcast: frozen rain, or clear, frozen particles, quite transparent, falling.	
The same.	
Overcast: about $5^h.\ 20^m$ small flakes of snow were mixed with the frozen rain, and continued falling until $5^h.\ 50^m$.	
Rain falling.	
,, scud passing slowly from the West; several light patches S. of the zenith.	
Rain, with a few cessations, has continued since the last observation.	
The rain continued till $9^h.\ 10^m$, and since then, the Moon and a few stars have occasionally been seen; the upper current is a little North of West: at present the sky is quite covered with cirro-stratus and scud.	G
The sky nearly overcast: the Moon occasionally visible.	D
Cloudless: the sky remained nearly overcast until within the last half hour, since which time, up to that of the observation, the clouds have been gradually disappearing.	D
Cirro-stratus in the N.; the rest of the sky quite clear.	D
A small bank of cirro-stratus in the N.W. horizon; otherwise cloudless.	
Fleecy clouds and scud cover the chief portion of the sky: the E. horizon very clear.	
Overcast: cirro-stratus and scud.	D
,, ,, gusts of wind to 1+.	J H
,, ,, the wind in gusts; though it has much abated since the last observation.	
,, ,,	
Cirro-stratus and scud.	
Cirro-stratus and heavy masses of scud: gusts of wind.	
The same.	J H
Overcast: rain commenced falling shortly after the last observation, and still continues: gusts of wind.	D
,, rain falling.	
,, cirro-stratus and scud: the rain ceased at $5^h.\ 40^m$.	
The sky is covered with a thin cirro-stratus: the Moon's place visible.	
Cirro-stratus and scud: the Moon occasionally visible.	
Fleecy clouds all over the sky.	
A few scattered fragments of clouds S. of the zenith: the rest of the sky clear.	
The same.	D
A few light clouds East of the zenith.	J H
Light clouds in the N.W.	
Overcast: the Moon's place invisible.	
Fleecy clouds and scud.	
Overcast: cirro-stratus and scud.	
,, ,,	
,, cirro-stratus: small rain: a very dark morning.	
,, ,, the rain has ceased.	
,, ,,	
,, cirro-stratus and scud: damp air.	J H
,, ,,	D
Clear S.E. of the zenith; the rest of the sky overcast.	D

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION. from Anemometer.	WIND. DIRECTION. by Estimation.	WIND. PRESSURE. from Anemometer, in pounds per square foot.	WIND. PRESSURE. by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Feb. 22. 0	29·629	46·5	45·5	1·0	..	..	S	Calm	..	..	10
1	29·602	47·0	45·2	1·8	..	..	S by W	Calm	..	..	10
2	29·600	48·4	46·4	2·0	..	..	S S W	Calm	..	..	10
3	29·576	48·2	45·7	2·5	..	..	S S W	Calm	½ to 1	..	10
4	29·563	47·4	45·5	1·9	43·0	4·4	S S W	S S W	½ to 1	½	8½
5	29·557	46·1	44·5	1·6	..	..	S S W	S W by S	..	¼	9
6	29·560	45·3	43·5	1·8	..	..	S	S W by S	..	¼	6
7	29·568	42·9	41·9	1·0	..	..	S S W	S by W	..	¼	8
8	29·561	41·5	40·3	1·2	..	..	S	S by W	..	¼	10
9	29·553	41·4	40·0	1·4	..	..	S S W	S by W	..	¼	10
10	29·541	40·7	39·5	1·2	37·0	3·7	S S W	Calm	..	..	9
11	29·531	40·7	39·8	0·9	..	..	S S W	Calm	..	..	10
12	29·517	41·0	39·9	1·1	..	..	S	S by W	..	¼	10
Feb. 25. 10	29·252	34·4	33·1	1·3	32·0	2·4	S W	S S W	..	¼	0
11	29·257	33·3	32·0	1·3	..	..	S W	Calm	..	..	0
12	29·257	32·6	31·6	1·0	..	..	S W	Calm	..	..	0
13	29·260	31·4	30·6	0·8	..	..	S W	Calm	..	..	0
14	29·264	31·3	30·8	0·5	..	..	S W	Calm	..	..	0
15	29·266	31·3	30·3	1·0	..	..	S W	Calm	..	..	0
16	29·256	31·3	30·2	1·1	28·5	2·8	S S W	S	..	¼	0
17	29·254	31·1	30·0	1·1	..	..	S S W	S	..	¼	1
18	29·254	31·7	30·5	1·2	..	..	S S W	S W by S	..	¾	1
19	29·258	32·5	31·4	1·1	..	..	S	S W by S	..	¾	1
20	29·255	35·5	33·6	1·9	..	..	S S W	S W by S	..	1	9
21	29·285	35·5	34·7	0·8	..	..	S S W	S W by W	..	½	10
22	29·285	36·5	35·5	1·0	33·0	3·5	S W	W S W	..	¼	8
23	29·309	39·4	37·8	1·6	..	..	W S W	W S W	½ to 1	¼	½
Feb. 26. 0	29·327	44·4	39·2	5·2	..	..	W S W	W S W	2 to 3	½	3
1	29·339	44·5	40·0	4·5	..	..	W S W	W S W	1½ to 4	¾	5
2	29·349	44·5	39·5	5·0	..	..	W S W	W S W	1 to 3	½	1
3	29·360	44·8	38·6	6·2	..	..	W S W	W	3 to 4½	1	½
4	29·363	44·5	38·7	5·8	32·0	12·5	W S W	W	1 to 2	¾	½
5	29·374	43·3	38·8	4·5	..	..	W S W	S W by W	0 to ½	1	5
6	29·383	41·8	38·0	3·8	..	..	W S W	S W by W	0 to ½	2	9½
7	29·393	41·3	38·5	2·8	..	..	W S W	S W by W	2 to 3	¼	10
8	29·434	36·9	36·2	0·7	..	..	W S W	W	1 to 2	½	10
9	29·450	35·8	35·4	0·4	..	..	W S W	W	..	¼	3
10	29·476	35·0	34·0	1·0	34·0	1·0	W S W	W	..	¼	0
Mar. 20. 18	29·657	38·2	36·3	1·9	..	..	N	N by W	1 to 2	½ +	10
19	29·689	38·5	36·5	2·0	..	..	N by W	N by W	2 to 4	¾	2
20	29·706	39·2	36·7	2·5	..	..	N	N by W	4 to 4½	½	6
21	29·720	39·3	36·9	2·4	..	..	N	N by W	4 to 4½	¾	8
22	29·770	38·8	38·6	0·2	38·5	0·3	N	N	3 to 4	¾	10
23	29·805	39·8	39·3	0·5	..	..	N	N	4 to 5	¾	8
Mar. 21. 0	29·824	42·5	40·7	1·8	..	..	N	N by W	3 to 4	½	3
1	29·850	40·6	40·0	0·6	..	..	N	N by W	3 to 4	½	7
2	29·857	46·5	43·2	3·3	..	..	N	N	2 to 3	½	8
3	29·889	43·4	40·9	2·5	..	..	N N E	N	2 to 4	½	7
4	29·898	41·7	40·0	1·7	37·0	4·7	N N E	N by E	3 to 3½	½	5

Feb. 26d, civil reckoning. On this day the relative moisture was less than on any other day in the month, (See the Section of Extraordinary Observations.)

GENERAL REMARKS.	Observer.
Cirro-stratus and scud.	G
Overcast: large masses of scud passing over at a low elevation. [the S. and S.W.	D
There was a very faint gleam of sunshine about ten minutes since: at present scud, flowing into loose cumuli, near the horizon in	G
Cirro-stratus and scud.	D
Cumulo-stratus in the N.W., and scud in heavy masses passing quickly from the S.W.	J H
Breaks near the N.W. horizon: heavy scud elsewhere.	
Scud in every direction.	
Scud floating over from the South.	
Scud in large heavy masses: there is every appearance of rain: a large lunar halo is visible, of 23° radius.	
No change.	
Slight breaks S. of the zenith: elsewhere scud and fleecy clouds.	
Cirro-stratus and scud.	J H
Overcast: cirro-stratus and scud.	P
Cloudless.	G
,,	
,,	G
,,	D
,, a splendid moonlight night.	
,,	D
,, the night most brilliant.	P
A few light clouds coming up from the S. and S.W.; with this exception, cloudless.	P
Cirro-stratus and scud S. of the zenith, near the horizon.	J H
Scud in the horizon in every direction.	J H
Rain falling; the clouds had come up very suddenly.	M
Rain falling heavily.	M
Clear breaks in the N.W.; elsewhere cloudy: at $22^h.\ 10^m$, the clouds rapidly passing off.	J H
A few cumuli in various directions.	J H
Loose scud and cumuli somewhat numerous, more prevalent however in the W. horizon: wind blowing in gusts.	P
Large cumuli equally scattered about the sky.	D
A few loose cumuli in different parts of the sky.	D
Light clouds scattered over the sky.	J H
Light fleecy clouds S. of the zenith.	J H
The Sun sinking into a mass of cirro-stratus: large masses gathering in the W.	M
Squally: a little clear sky in the E.: rain probably coming on.	M
Overcast: cirro-stratus and scud: the clouds are dense and lowering, and, a few degrees S. of the zenith, somewhat broken: at $7^h.\ 5^m$, a very heavy hail storm is passing over the Observatory; the storm ceased in a few minutes.	P
Overcast: cirro-stratus: rain again falling.	P
Scud and cirro-stratus all round the horizon; the sky otherwise clear: the rain ceased soon after the last observation.	D
Cloudless.	P
Overcast: cirro-stratus and scud.	P
At this moment the sky is nearly cloudless: scud in the N. E.	
Cirri in every direction, and cirro-stratus in the S. E., with large quantities of low scud momentarily passing over.	
Most of the sky covered with cirro-stratus and scud: the breaks are in the N.N.W. and N.	P
Overcast: cirro-stratus and scud: rain falling.	D
The rain continued until about a quarter of an hour since: at present, the zenith is almost free from cloud; cirro-stratus elsewhere.	
Scud and cirro-stratus in the horizon on all sides: fragments of scud, and badly-formed cumuli, thinly scattered about the sky.	
Cirro-stratus and loose scud: at $0^h.\ 45^m$, a heavy shower of hail and rain, which lasted ten minutes.	
Large masses of scud and cirro-stratus in all parts of the sky: showery.	
Cirro-stratus and scud: at $2^h.\ 35^m$, another shower of hail and rain fell.	D
Cumuli in the N.W.: cirro-stratus and scud scattered over almost the rest of the sky: a shower of rain fell about ten minutes before the observation, and lasted about fifteen minutes.	P

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION. from Anemometer.	WIND. DIRECTION. by Estimation.	WIND. PRESSURE. from Anemometer, in pounds per square foot.	WIND. PRESSURE. by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Mar. 21. 5	29·932	42·0	40·0	2·0	..	..	N N E	N	2 to 3½	½	3
6	29·961	41·2	38·8	2·4	..	..	N N E	N	1 to 2	¼+	2
7	29·974	40·3	38·0	2·3	..	..	N N E	N	½ to 1	½	1
8	29·997	39·8	37·7	2·1	..	..	N N E	N	½ to 1	¼+	1
9	30·026	39·5	38·1	1·4	..	..	N by E	N	..	¼+	9½
10	30·046	39·0	37·7	1·3	36·5	2·5	N	N	..	¼	0
11	30·055	38·8	38·0	0·8	..	..	N	N	..	¼	10
12	30·068	38·5	37·2	1·3	..	..	N	N	..	½	10
13	30·074	38·3	37·2	1·1	..	..	N	N	½ to 1	¼	10
14	30·080	37·6	36·5	1·1	..	..	N	N	0 to ½	¼	10
15	30·069	36·5	35·5	1·0	..	..	N	N	..	¼	10
16	30·064	36·2	34·5	1·7	35·0	1·2	Calm	N	..	¼	8
17	30·057	35·5	33·8	1·7	..	..	N	N	..	¼	8
18	30·059	35·2	33·2	2·0	..	..	Calm	N by W	..	¼	10
19	30·052	35·3	33·3	2·0	..	..	N	N by W	..	¼	10
20	30·047	35·5	33·2	2·3	..	..	Calm	N	..	¼	10
21	30·041	36·5	34·2	2·3	..	..	N	N	..	¼	10
22	30·033	39·0	35·8	3·2	32·0	7·0	Calm	N	..	¼	7
23	30·010	40·0	36·5	3·5	..	..	N	N	..	¼	7
Mar. 22. 0	29·998	42·2	37·5	4·7	..	..	N	N	..	¼	8
1	29·975	43·1	38·3	4·8	..	..	N	N	..	¼	7
2	29·956	45·3	39·0	6·3	..	..	N	N	..	¼	8
3	29·939	43·4	37·7	5·7	..	..	N	N	..	¼	7
4	29·908	43·1	38·0	5·1	34·5	8·6	N	N by W	..	½	9
5	29·883	41·4	37·1	4·3	..	..	N	N	..	¼	6
6	29·877	40·6	36·3	4·3	..	..	N	N	..	¼	5
7	29·874	38·4	35·2	3·2	..	..	N	N N W	..	¼—	1
8	29·868	37·0	33·6	3·4	..	..	N	Calm	..	..	1
9	29·853	35 8	34·0	1·8	..	..	Calm	Calm	..	..	6
10	29·855	37·0	34·5	2·5	33·5	3·5	Calm	Calm	..	..	10
12	29·850	36·5	36·0	0·5	..	..	N	N N W	0 to ½	½	10
13	29·870	33·8	33·5	0·3	..	..	N	N N W	..	½	10
14	29·868	33·3	32·7	0·6	..	..	N	N N W	..	½	9½
15	29·871	33·0	32·2	0·8	..	..	N	N by W	..	½	6
Mar. 23. 10	30·089	32·1	31·8	0·3	26·2	5·9	N	N	..	¼	0
11	30·090	31·2	30·5	0·7	..	..	N	Calm	..	..	6
12	30·088	32·6	32·4	0·2	..	..	N	N	..	1	2
13	30·097	32·7	32·5	0·2	..	..	N	N	..	¼	4
14	30·098	33·2	32·6	0·6	..	..	N	N	..	¼	8
15	30·096	31·8	31·6	0·2	..	..	N	N	..	¼	1
16	30·080	32·8	32·2	0·6	32·0	0·8	N	N	..	¼	9
17	30·090	32·5	32·0	0·5	..	..	N	N	..	¼	9
18	30·092	30·8	30·2	0·6	..	..	N	N	..	¼	½
19	30·112	32·0	30·9	1·1	..	..	N	N	..	½	9
20	30·120	32·9	31·7	1·2	..	..	N	N	..	¼	10
21	30·128	35·5	34·0	1·5	..	..	N	N	..	¼	10
22	30·132	36·9	35·2	1·7	32·0	4·9	N	N	..	¼	10
23	30·133	38·7	36·5	2·2	..	..	N	N	..	¼	10
Mar. 24. 0	30·121	41·7	38·3	3·4	..	..	N	N	..	¼	10
1	30·111	43·0	39·3	3·7	..	..	N	N	..	¼	10
2	30·098	41·8	38·3	3·5	..	..	W	W	..	¼	10

March 21d, 22d, 23d, and 24d. See the foot-notes to these days in the Section of Ordinary Meteorological Observations.

GENERAL REMARKS.	Observer.
Cumuli numerous in the N.W.; cirri and scud in the zenith: the Moon visible.	P
Cumulo-stratus in the N.W.; and cirro-stratus lining the whole horizon.	
Cloudless, with the exception of a few clouds in the horizon, and a few patches of scud.	
A considerable bank of dark clouds in the N. N.W.; the rest of the sky is free from clouds.	
An extensive break near the Moon; the rest of the sky overcast: a shower of rain just commencing.	
Cloudless.	
Overcast: rain falling.	P
Overcast: cirro-stratus and scud.	D
The sky quite overcast: the Moon's place just visible.	
The same.	
Thin cirro-stratus and vapour completely cover the sky.	
Stars shining faintly in the zenith; every other part of the sky overcast.	
The same.	
Overcast: cirro-stratus.	
,, ,.	
,, ,,	
,, ,,	D
Cirro-stratus and light scud.	J H
Scud and fleecy clouds in every direction.	
The same.	
Cumuli and scud.	
Cirro-stratus and scud.	
,,	J H
Cirro-stratus and fleecy clouds: the clouds are much lighter in the zenith than elsewhere.	D
The sky, East of the zenith, nearly clear; cirro-stratus and light fleecy clouds in every other part of the sky.	
Light cirri prevalent in the zenith: cirro-stratus and haze in the North and West: nearly cloudless E. of the zenith.	
A mass of clouds, fringed with cirro-cumuli, to the West: the clear portion of the sky is of a fine blue.	
A bank of cirro-stratus in the horizon extending from N. to W.; the sky otherwise cloudless.	D
Cirro-cumuli about the Moon: hazy in the N.	
Overcast: cirro-stratus.	D
,, ,, heavy rain.	J H
,, rain falling.	
Scud and undefined clouds.	
Clouds dispersing.	J H
Cloudless: quite calm.	M
Cloudy.	
A halo of small diameter round the Moon: clouds in the West and South.	M
Fleecy clouds and cirro-stratus S. and E of the zenith: light cirri scattered about in the North.	D
Fleecy clouds and scud.	
A few light cirri about the Moon; otherwise clear.	D
An extensive break, extending from the N. to the N.W.; the rest of the sky is covered with cirro-stratus and scud.	P
A few stars only visible in the zenith; the rest of the sky overcast.	
A few clouds in the horizon only; otherwise cloudless.	P
Scud and vapour.	J H
Overcast: cirro-stratus.	
,, ,,	J H
Gloomy and foggy.	M
Overcast: cirro-stratus.	D
,, ,,	D
,, cirro-stratus and scud.	P
,, cirro-stratus: the wind changed at the time of observation: foggy.	J H

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION. from Anemometer.	WIND. DIRECTION. by Estimation.	WIND. PRESSURE. from Anemometer, in pounds per square foot.	WIND. PRESSURE. by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Mar. 24. 3	30·090	41·3	38·5	2·8	..	..	Calm	Calm	..	..	10
4	30·089	41·7	38·2	3·5	36·0	5·7	W	Calm	..	..	10
5	30·088	41·4	39·5	1·9	..	..	N W	N	..	1	10
6	30·090	40·6	40·4	0·2	..	..	Calm	W N W	..	¼	10
7	30·082	40·4	40·3	0·1	..	..	W S W	W N W	..	¼	10
8	30·082	40·2	40·2	0·0	..	..	W	W N W	..	¼	10
9	30·102	39·8	39·0	0·8	..	..	W S W	Calm	..	..	10
10	30·088	40·3	40·0	0·3	38·0	2·3	W	Calm	..	..	10
Apr. 20. 10	30·020	43·4	41·7	1·7	42·0	1·4	S E	N E by E	..	½	0
11	30·015	40·6	39·6	1·0	..	..	E by S	N E by E	..	¼	0
12	30·019	39·6	38·6	1·0	..	..	E	N E by E	..	¼	0
13	30·009	40·9	40·6	0·3	..	..	E N E	E	..	¼	10
14	30·009	41·3	41·1	0·2	..	..	E	E	..	¼	10
15	30·007	39·2	38·9	0·3	..	..	N E	E	..	¼	6
16	30·020	37·4	37·0	0·4	36·0	1·4	N E	E	..	¼	0
17	30·012	37·1	36·8	0·3	..	..	E N E	E	..	¼	0
18	30·019	38·0	37·5	0·5	..	..	N E	E	..	¼	0
19	30·029	41·0	39·8	1·2	..	..	E N E	E	..	¼	0
20	30·030	41·4	40·6	0·8	..	..	E	E	..	¼	10
21	30·035	44·6	43·2	1·4	..	..	E	E	..	¼	10
22	30·042	46·1	44·3	1·8	43·5	2·6	E	E	..	½	9
23	30·055	47·2	44·6	2·6	..	..	E N E	E	..	½	9
Apr. 21. 0	30·042	49·4	46·1	3·3	..	..	E N E	E	0 to ½	¼	8
1	30·020	52·8	49·8	3·0	..	..	N E	E	..	½	2
2	30·010	55·7	49·8	5·9	..	..	E N E	E	½ to 2	½	¼
3	29·995	55·8	49·2	6·6	..	..	E N E	E by N	½ to 1	½	0
4	29·978	54·5	48·3	6·2	45·0	9·5	E N E	E	1 to 3	¾	0
5	29·960	53·0	47·4	5·6	..	..	E N E	N E	1 to 3	2	0
6	29·961	52·1	46·8	5·3	..	..	E N E	N E by E	½ to 1	2	0
7	29·958	49·5	45·7	3·8	..	..	E	E	..	½	¼
8	29·961	47·0	44·3	2·7	..	..	N E	E	..	¼	6
9	29·965	45·8	43·8	2·0	..	..	N E	E	..	¼	9½
10	29·952	45·2	43·6	1·6	42·0	3·2	N E	E	0 to 1	¼	10
11	29·953	43·7	43·0	0·7	..	..	E N E	E	..	¼	10
12	29·947	43·0	42·6	0·4	..	..	N E	E by N	..	¼	10
13	29·938	42·8	42·5	0·3	..	..	N E	E by N	..	¼	10
14	29·928	42·8	42·7	0·1	..	..	N E	E by N	..	¼	10
15	29·917	43·4	43·4	0·0	..	..	N E	E by N	..	¼	10
16	29·896	44·2	44·2	0·0	43·5	0·7	N E	E by N	..	¼	10
17	29·887	44·2	44·2	0·0	..	..	N E	E by N	..	¼	10
18	29·885	44·7	44·5	0·2	..	..	N E	E by N	..	¼	10
19	29·887	45·3	44·9	0·4	..	..	N E	E by N	..	¼	10
20	29·886	46·3	44·9	1·4	..	..	N E	E by N	..	¼	10
21	29·884	45·9	44·9	1·0	..	..	N E	E by N	..	¼	10
22	29·890	46·4	45·4	1·0	45·0	1·4	N E	E by N	..	¼	10
23	29·886	47·4	46·2	1·2	..	..	N E	E by N	..	½	10
Apr. 22. 0	29·874	52·3	49·5	2·8	..	..	N E	E N E	..	¼	7
1	29·849	56·3	51·9	4·4	..	..	N E	E N E	..	¼	0
2	29·839	60·1	54·5	5·6	..	..	N E	E N E	..	¼	0
3	29·823	62·0	55·6	6·4	..	..	E N E	E N E	..	¼	0
4	29·814	60·3	54·8	5·5	54·0	6·3	E N E	E by N	..	¼	0

April 20d, 21d, and 22d. See the foot-notes to these days in the Section of Ordinary Meteorological Observations.

GENERAL REMARKS.	Observer.
The sky covered with a thin cirro-stratus: the Sun visible through the clouds.	D
Overcast: cirro-stratus.	D
The wind has suddenly changed from the W. to N.: raining a little.	M
Overcast.	B
,, cirro-stratus.	P
,,	P
,, one impervious cloud.	J H
Damp, misty air.	J H
A beautiful night: the Moon shining brilliantly.	M
No change in the weather: the sky brilliant.	
The same.	M
Overcast:	P
,, the place of the Moon not even visible. [round the Moon.	
Stars visible in, and around, the zenith: the Moon visible: the rest of the sky is covered with a thin cirro-stratus: a small halo	P
Cloudless.	J H
,,	
,,	J H
,,	D
Overcast: a thin cirro-stratus: the clouds began to collect at about $19^h.\ 20^m$.	
,, cirro-stratus.	D
,, but the clouds are broken: the air mild and pleasant.	M
Cirro-stratus and scud.	J H
Cirro-stratus and fleecy clouds.	P
Cumuli and scud.	P
Nearly cloudless.	D
Cloudless.	P
,,	P
,, a brisk breeze.	M
,, ,,	M
A few cirri scattered about the sky; otherwise clear.	D
Loose cirro-stratus and scud in the greater portion of the sky.	D
Cirro-stratus and scud: a break in the N.W. near the horizon: cirro-stratus and scud.	J H
,, the air much colder, and the wind rising in gusts.	
Overcast: cirro-stratus.	J H
,, ,,	P
,, a thin misty rain falling.	
The same.	
The same.	
Overcast: the rain has now ceased.	
,, the air extremely mild.	
,, a thin fog in the lower grounds, and the air moist and damp.	
,, the same thin rain falling.	
The same.	
Overcast: cirro-stratus.	P
,, ,,	D
,, ,,	
Clear breaks in all directions: the zenith almost free from cloud.	
Cloudless.	
,,	
,,	D
,,	P

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION. from Anemometer.	WIND. DIRECTION. by Estimation.	WIND. PRESSURE. from Anemometer, in pounds per square foot.	WIND. PRESSURE. by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Apr. 22. 5	29·805	58·5	53·7	4·8	..	..	E	E by N	..	$\frac{1}{4}$	$\frac{1}{2}$
6	29·799	56·8	52·5	4·3	..	..	E	E by N	..	$\frac{1}{4}$	$\frac{1}{2}$
7	29·779	54·5	51·1	3·4	..	..	E	E by N	..	$\frac{1}{4}$	$\frac{3}{4}$
8	29·797	51·4	49·2	2·2	..	..	E	E by N	..	$\frac{1}{4}$	1
10	29·791	49·4	48·3	1·1	47·5	1·9	Calm	E by N	..	$\frac{1}{4}$	0
11	29·793	47·4	46·8	0·6	..	..	Calm	Calm	..	..	0
12	29·794	46·3	46·1	0·2	..	..	Calm	Calm	..	..	$\frac{1}{2}$
May 20. 18	29·579	50·3	49·6	0·7	..	..	S	S	..	$\frac{1}{4}$	9
19	29·580	52·0	50·6	1·4	..	..	S by W	S by W	..	$\frac{1}{4}$	8
20	29·579	53·2	51·0	2·2	..	..	S by W	S	0 to 1	$\frac{1}{4}$	10
21	29·582	55·3	52·2	3·1	..	..	S by W	S by W	$\frac{1}{2}$ to 1	$\frac{1}{4}$	7
22	29·590	57·0	53·1	3·9	51·0	6·0	S	S by W	$\frac{1}{2}$ to 2	$\frac{1}{4}$	10
23	29·585	56·5	52·9	3·6	..	..	S	S by W	1 to $2\frac{1}{2}$	$\frac{3}{4}$	10
May 21. 0	29·592	56·7	54·0	2·7	..	..	S S W	S by W	$\frac{1}{2}$ to 2	$\frac{3}{4}$	10
1	29·589	58·5	54·0	4·5	..	..	S S W	S by W	2 to 3	$\frac{3}{4}$	10
2	29·585	60·1	54·5	5·6	..	..	S S W	S by W	$\frac{1}{2}$ to $3\frac{1}{2}$	$\frac{3}{4}+$	10
3	29·587	57·7	53·4	4·3	..	..	S S W	S by W	$\frac{1}{2}$ to 2	1	10
4	29·590	56·5	53·0	3·5	53·0	3·5	S	S by W	0 to $1\frac{1}{2}$	$\frac{1}{2}$	10
5	29·576	59·2	54·5	4·7	..	..	S	S	2 to 4	$\frac{1}{2}$	8
6	29·583	56·5	52·5	4·0	..	..	S	S	$\frac{1}{2}$ to 3	$\frac{1}{2}$	10
7	29·592	55·3	52·0	3·3	..	..	S	S by W	$\frac{1}{2}$ to 2	$\frac{1}{2}$	9
8	29·597	53·9	51·6	2·3	..	..	S	S by W	..	$\frac{1}{4}$	10
9	29·612	51·8	50·2	1·6	..	..	S	S	..	$\frac{1}{4}$	10
10	29·619	51·5	49·6	1·9	49·0	2·5	S by W	S	..	$\frac{1}{4}$	10
11	20·627	50·7	48·5	2·2	..	..	S S W	S	..	$\frac{1}{4}$	10
12	29·631	50·0	48·2	1·8	..	..	S S W	S	..	$\frac{1}{4}$	10
13	29·623	49·3	47·8	1·5	..	..	S S W	S	..	$\frac{1}{4}$	10
14	29·626	48·8	47·8	1·0	..	..	S	S	..	$\frac{1}{4}$	10
15	29·623	47·5	47·0	0·5	..	..	Calm	S	..	$\frac{1}{4}$	10
16	29·622	46·5	46·0	0·5	45·0	1·5	S	S by W	..	$\frac{1}{4}$	10
17	29·628	45·7	45·3	0·4	..	..	S S E	S by W	..	$\frac{1}{4}$	6
18	29·631	47·0	46·3	0·7	..	..	S by E	S by W	..	$\frac{1}{4}$	2–
19	29·630	50·5	48·4	2·1	..	..	S S E	S by W	..	$\frac{1}{4}$	$\frac{3}{4}$
20	29·646	52·7	50·3	2·4	..	..	S by E	S by W	..	$\frac{1}{4}$	$9\frac{1}{2}$
21	29·645	55·3	52·6	2·7	..	..	S S E	S	..	$\frac{1}{4}$	$9\frac{1}{2}$
22	29·656	57·6	53·1	4·5	50·0	7·6	S by E	S	..	$\frac{1}{4}$	9
23	29·658	59·7	53·6	6·1	..	..	S	S	..	$\frac{1}{4}$	9
May 22. 0	29·653	60·2	53·5	6·7	..	..	S	S by E	0 to 1	$\frac{1}{4}$	8
1	29·647	62·2	54·0	8·2	..	..	S by E	S	1 to 2	$\frac{1}{2}$	7
2	29·644	63·7	55·1	8·6	..	..	S	S	0 to 1	$\frac{1}{4}$	7
3	29·611	63·2	53·7	9.5	..	..	S	S	..	$\frac{1}{2}$	6
4	29·597	63·6	53·8	9·8	46·0	17·6	S	S	0 to $\frac{1}{2}$	$\frac{1}{4}$	7
5	29·589	60·2	52·6	7·6	..	..	S	S	..	$\frac{1}{2}$	9
7	29·593	59·8	53·3	6·5	..	..	S	S	..	$\frac{1}{4}$	7
8	29·613	56·0	51·2	4·8	..	..	S by W	S S W	..	$\frac{1}{4}$	4
9	29·626	55·0	50·0	4·0	..	..	S	S S W	..	$\frac{1}{4}$	8
10	29·624	53·5	49·4	4·1	48·5	5·0	S S E	S S W	..	$\frac{1}{4}$	8
11	29·614	51·0	48·3	2·7	..	..	S S E	S	..	$\frac{1}{4}$	2
12	29·611	48·7	47·2	1·5	..	..	S S E	S	..	$\frac{1}{4}$	$\frac{1}{4}$
May. 27. 10	29·822	57·7	56·3	1·4	56·5	1·2	S S W	S S W	..	$\frac{1}{4}$	10

May 27d. See the foot-note to this day in the Section of Ordinary Meteorological Observations.

GENERAL REMARKS.	Observer.
A few cirri in the N.W.; otherwise cloudless.	P
As before, a few cirri in the same quarter; the rest of the sky free from cloud.	
Clouds in the eastern horizon, and cirri in the W. and N.W., with a few patches of scud in the N.	
Cirro-stratus in the western horizon, and clouds, strongly tinged by the setting Sun, in the North.	
Cloudless.	P
,,	D
Nearly cloudless: a thin vapour about the Moon.	D
The sky is nearly covered with cirro-stratus and scud: the appearance of the sky is very unsettled.	D
Fleecy clouds in the zenith; cirro-stratus and scud elsewhere: an extensive and clear break in the N.W.	
Overcast: cirro-stratus and scud.	
Light scud in the zenith: the S.W. portion of the sky is at present nearly clear; cirro-stratus elsewhere.	D
Overcast: cirro-stratus and scud.	J H
,, ,, a few spots of rain at intervals.	
,, ,, slight rain.	
Cirro-stratus, scud, and clouds verging on the cumulo-stratus, N. of the zenith: no rain at present.	
,, gusts of wind to $1\frac{1}{2}$.	
,, ,, drops of rain.	J H
Overcast: cirro-stratus and scud: light squalls of rain since the last observation.	D
Extensive breaks in, and W. of, the zenith: the Sun shining: gusts of wind to 1.	
The sky again quite overcast: large masses of scud passing over the zenith.	
Breaks S.E. of the zenith: an unsettled-looking sky: a few light drops of rain falling.	
Overcast: cirro-stratus and scud: a thin rain falling.	
,, ,, the clouds lighter in the North.	
The sky completely covered with dark cirro-stratus.	D
,, a few drops of rain.	J H
,,	
Cirro-stratus and scud: a heavy-looking sky.	
,,	
,,	
,, the clouds thin.	
,, breaks in the N.W. horizon: light cirri about the zenith.	
Light clouds principally N.W. of the zenith.	
Light clouds in the N. horizon.	
Cirro-stratus and scud.	
,,	J H
A clear sky in the N.W.: cumulo-strati in the N.W. horizon; the remainder of the heavens covered with cirro-stratus.	D
Massive cumulo-strati in the N. and N.W.: light clouds in the zenith; cirro-stratus elsewhere.	
Cumuli and light clouds W. of the zenith; heavy-looking clouds cover the rest of the sky: nimbi in the S. horizon.	
Cumuli and cumulo-strati in all directions: the zenith almost clear.	
The sky has the same appearance as at the last observation.	D
Cumuli, cumulo-strati, and large masses of scud profusely scattered in every direction.	P
The same.	
The greater part of the sky is covered with dark scud, with a few breaks S. of the zenith: cumuli in the S. horizon.	
The sky, South of the zenith, pretty free from clouds; but the rest almost wholly covered by dark scud.	P
Dark scud North and West of the zenith, and cumulo-strati in the eastern part of the sky.	J H
Dark scud in every direction: the cumulo-strati passed off to the North.	
Dark scud: a break in the N.W. near the horizon.	J H
Clouds only in the north-eastern horizon: the clouds cleared away rapidly but a few minutes since.	P
A few clouds in the western horizon: with this exception the sky is cloudless.	P
Quite cloudy with cumuli.	M

May 22^{d}. 6^{h}. The observations were inadvertently omitted.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION. from Anemometer.	WIND. DIRECTION. by Estimation.	WIND. PRESSURE. from Anemometer, in pounds per square foot.	WIND. PRESSURE. by Estimation 0–6.	Amount of Clouds 0–10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
May. 27. 11	29·830	57·0	55·5	1·5	..	..	S	S S W	..	1	10
12	29·828	56·6	55·4	1·2	..	..	Calm	S S W	..	..	10
13	29·821	56·3	55·4	0·9	..	..	S W	Calm	..	..	10
14	29·813	56·0	55·2	0·8	..	..	S W	Calm	..	..	10
15	29·818	55·5	55·0	0·5	..	..	W S W	Calm	..	..	10
16	29·833	53·0	51·5	1·5	51·0	2·0	W by S	W	..	$\frac{1}{4}$	10
17	29·846	51·5	51·4	0·1	..	..	W by S	W	..	$\frac{1}{4}$	10
18	29·842	51·1	51·0	0·1	..	..	W	W	..	$\frac{1}{4}$	10
19	29·853	52·6	52·4	0·2	..	..	W S W	Calm	..	..	10
20	29·871	52·5	52·2	0·3	..	..	W S W	Calm	..	..	10
21	29·882	53·8	51·2	2·6	..	..	N N W	N W	..	$\frac{1}{4}$	10
22	29·901	55·4	51·5	3·9	52·0	3·4	N by W	N	..	Light	10
23	29·903	57·2	57·3	−0·1	..	..	N by W	Calm	..	..	10
May. 28. 0	29·909	60·7	53·4	7·3	..	..	Variable	S W	..	$\frac{1}{4}$	8
1	29·913	60·5	52·3	8·2	..	..	W N W	W N W	..	$\frac{1}{4}$	8
2	29·909	63·2	52·2	11·0	..	..	N W	W	..	$\frac{1}{4}$	1
3	29·919	64·4	53·5	10·9	..	..	W N W	W	..	$\frac{1}{4}$	1
4	29·916	64·8	53·5	11·3	44·5	20·3	Variable	W	..	$\frac{1}{4}$	3
5	29·913	65·3	54·5	10·8	..	..	Variable	W	..	$\frac{1}{4}$	2
6	29·919	62·7	53·7	9·0	..	..	N W	W	..	$\frac{1}{4}$	2
7	29·939	62·5	53·0	9·5	..	..	W	W by N	..	$\frac{1}{4}$	4
8	29·948	59·9	51·8	8·1	..	..	W	W	..	$\frac{1}{4}$	$1\frac{1}{2}$
9	29·962	56·6	50·7	5·9	..	..	W	W	..	$\frac{1}{4}$	$\frac{1}{4}$
10	29·980	54·5	49·4	5·1	49·0	5·5	W by S	Calm	..	..	0
June 20. 18	29·510	58·5	57·2	1·3	..	..	Calm	S S W	..	$\frac{1}{4}$	10
19	29·519	59·8	58·0	1·8	..	..	S S W	S S W	..	$\frac{1}{4}$	10
20	29·525	63·4	59·7	3·7	..	..	S S W	S S W	..	$\frac{1}{4}$	$9\frac{1}{2}$
21	29·525	63·5	60·5	3·0	..	..	S S W	S S W	..	$\frac{1}{4}$	10
22	29·525	66·3	61·2	5·1	60·5	5·8	S S W	S S W	..	$\frac{1}{4}$	9
23	29·512	69·0	63·4	5·6	..	..	S S W	S S W	..	$\frac{1}{4}$	9
June 21. 0	29·510	72·6	65·2	7·4	..	..	S S W	S S W	..	$\frac{1}{4}$	9
1	29·491	70·7	63·7	7·0	..	..	S S W	S S W	..	$\frac{1}{4}$	$9\frac{1}{2}$
2	29·499	63·7	62·5	1·2	..	..	S	S S W	..	$\frac{1}{4}$	10
3	29·507	63·4	61·3	2·1	..	..	S S W	S S W	0 to $\frac{1}{2}$	$\frac{1}{4}$	10
4	29·490	68·0	63·4	4·6	62·0	6·0	S W	S S W	..	$\frac{1}{4}$	9
5	29·486	68·7	62·8	5·9	..	..	S W	S S W	0 to 1	$\frac{1}{4}$	6
6	29·486	67·4	61·9	5·5	..	..	S W	S S W	0 to $\frac{1}{2}$	$\frac{1}{4}$	3
7	29·507	64·5	59·9	4·6	..	..	S W	S S W	0 to $\frac{3}{4}$	$\frac{1}{4}$	7
8	29·510	62·0	58·9	3·1	..	..	S W	S S W	..	$\frac{1}{4}$	9
9	29·523	60·1	57·8	2·3	..	..	S W	S S W	..	$\frac{1}{4}$	8
10	29·550	58·0	56·5	1·5	55·5	2·5	S W	S S W	..	$\frac{1}{4}$	7
11	29·569	56·5	55·5	1·0	..	..	S W	S S W	..	$\frac{1}{4}$	3
12	29·572	56·0	55·0	1·0	..	..	S W	S S W	..	$\frac{1}{4}$	0
13	29·586	55·5	54·6	0·9	..	..	S W	S S W	..	$\frac{1}{4}$	$\frac{1}{4}$
14	29·586	55·0	54·0	1·0	..	..	S W	S S W	..	$\frac{1}{4}$	1
15	29·592	54·2	53·4	0·8	..	..	S W	S S W	..	$\frac{1}{4}$	0
16	29·600	53·7	52·5	1·2	51·0	2·7	S W	S S W	..	$\frac{1}{4}$	$\frac{1}{2}$
17	29·615	53·1	52·0	1·1	..	..	S W	S S W	..	$\frac{1}{4}$	$\frac{1}{2}$
18	29·619	56·5	54·5	2·0	..	..	W S W	S W	..	$\frac{1}{4}$	1
19	29·632	57·7	55·5	2·2	..	..	W S W	S W	..	$\frac{1}{4}$	3
20	29·645	61·1	57·4	3·7	..	..	W S W	W S W	..	$\frac{1}{4}$	3

May 27d, civil reckoning. The relative moisture in the atmosphere was less on this day than on any other day during the month.

May 27d and 28d. See the foot-notes to these days in the Section of Ordinary Meteorological Observations.

June 21d, civil reckoning. The mean height of the barometer was less on this than on any other day in the month. (See the Section of Ordinary Meteorological Observations.)

June 21d, 1h to 2h. A thunder storm. (See the Section of Extraordinary Meteorological Observations.)

GENERAL REMARKS.	Observer.
Very dark: a light breeze.	M
Quite calm, and totally overcast.	M
Overcast: cirro-stratus.	P
,, ,,	
,, a thin rain falling.	P
,, slight rain.	J H
,, heavy rain since $16^h.\ 20^m$.	
,, cirro-stratus: heavy rain.	J H
,, rain.	D
,, cirro-stratus: the rain ceased falling directly after the last observation.	
,, ,,	D
The sky is quite overcast; but some parts of the southern portion are lighter than others: nearly calm.	G
Overcast: cirro-stratus: hazy.	P
Cirro-stratus and light vapour.	J H
Cumuli: light fleecy clouds and vapour.	J H
A few light cumuli scattered over the sky.	D
A few white fleecy clouds near the zenith: small detached white cumuli here and there: the sky of a pale blue colour.	G
Cumulo-strati and cumuli principally towards the N. and W.	G
Cumuli, cumulo-strati, and loose scud, in different directions.	P
The same.	P
Large fleecy clouds, and a great quantity of vapour in the neighbourhood of the Sun.	J H
Vapour and fleecy clouds in the neighbourhood of the Sun, and in the eastern horizon.	J H
Nearly cloudless.	D
Cloudless.	D
Overcast: cirro-stratus and scud.	P
,, ,,	
,, except in the N.W horizon, where a few breaks are seen.	
,, cirro-stratus and scud.	P
Cirro-stratus and scud.	J H
The sky is nearly covered with dark cirro-strati: clear breaks about the zenith: the Sun at times shining.	D
Scud, cirro-stratus, and fleecy clouds.	J H
Large masses of cirro-stratus and scud all over the sky: the Sun's place just visible: gusts of wind.	D
Thunder showers: cumulo-stratus and scud: thunder and lightning.	J H
The sky quite overcast: a thin rain.	D
A few breaks in different parts of the sky; with this exception overcast: the wind in gusts, amounting to about one-half.	P
Finely formed cumuli, and large masses of scud in every direction: the clouds move from the S.W.	
Cumulo-strati, cumuli, and scud, principally in the horizon.	P
The same.	J H
Nimbi overspreading nearly the whole sky: a few large drops of rain falling: muttering of thunder in the S.W.: a rainbow in	P
Nimbi and dark scud in every direction: a low muttering of thunder frequently heard. [the S.E.	
Loose scud, of a sombre character, obscuring the greater part of the sky.	P
Fleecy clouds, principally near the Moon.	J H
Cloudless.	
A few small cirri S.W. of the zenith; otherwise clear.	
Scud and fleecy clouds, principally S. of the zenith.	
Cloudless.	
Vapour S. of the zenith.	
A few small fragments of scud in the E. horizon.	
Fleeey clouds and vapour.	
Fleecy clouds and scud.	
,, chiefly in the zenith: at $20^h.\ 20^m$ a perfect solar halo was visible: it disappeared in seven minutes.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION. from Anemometer.	WIND. DIRECTION. by Estimation.	WIND. PRESSURE. from Anemometer, in pounds per square foot.	WIND. PRESSURE. by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
June 21. 21	29·644	62·0	56·7	5·3	..	..	W	W	..	½	7
22	29·644	68·0	59·1	8·9	49·5	18·5	W by S	S W	..	½	4
23	29·642	69·0	58·7	10·3	..	..	W by S	S W	½ to 2	½	6
June 22. 0	29·637	70·5	59·6	10·9	..	..	S W	S W	0 to ½	½	3
1	29·630	70·2	59·0	11·2	..	..	S W	S W	..	¼	5
2	29·616	69·5	58·0	11·5	..	..	W S W	S W	..	¼	8
3	29·613	69·6	58·6	11·0	..	..	W S W	S W	..	¼	8
4	29·602	72·0	60·0	12·0	48·5	23·5	S W	S W	..	¼	5
5	29·604	70·5	59·0	11·5	..	..	W S W	S W	..	¼	4
6	29·604	67·2	58·1	9·1	..	..	S W	W S W	..	¼	6
7	29·610	62·2	55·0	7·2	..	..	W	W S W	..	¼	8
8	29·613	60·0	55·5	4·5	..	..	W S W	W S W	..	¼	9½
9	29·621	59·5	54·8	4·7	..	..	W S W	W S W	..	¼	8
10	29·635	56·5	54·2	2·3	52·0	4·5	S W	W	..	¼	9¾
11	29·643	55·2	52·0	3·2	..	..	S W	W	..	¼	10
12	29·647	54·6	51·3	3·3	..	..	W S W	W	..	¼	9
13	29·641	53·2	51·1	2·1	..	..	W S W	W	..	¼	10
14	29·692	51·7	50·0	1·7	..	..	W S W	W	..	¼	10
15	29·642	51·8	50·0	1·8	..	..	W S W	W	..	¼	10
16	29·643	50·4	49·2	1·2	48·0	2·4	W S W	W	..	¼	10
17	29·656	49·9	48·8	1·1	..	..	W S W	W	..	¼ +	1
18	29·665	49·2	48·2	1·0	..	..	S W	W	..	¼	0
19	29·697	54·6	52·2	2·4	..	..	W S W	W S W	..	¼	0
20	29·707	57·1	53·0	4·1	..	..	S W	W S W	..	¼	0
21	29·711	60·3	54·6	5·7	..	..	W S W	W S W	..	½	5
22	29·716	62·0	54·0	8·0	49·0	13·0	W S W	W	..	1	5
23	29·716	65·4	56·3	9·1	..	..	W S W	W S W	..	½	4
June 23. 0	29·714	67·0	56·7	10·3	..	..	S W	W S W	0 to ½	¼	3
1	29·715	69·2	57·2	12·0	..	..	W S W	W S W	0 to ½	¼	3
2	29·707	67·6	57·1	10·5	..	..	W S W	W S W	..	¼	4
3	29·705	72·6	60·9	11·7	..	..	S W	S W	½ to 2	½	5
4	29·711	68·0	58·0	10·0	49·5	18·5	S W	S W	1 to 3	¾	8
5	29·705	67·4	57·0	10·4	..	..	W S W	W	1 to 2½	1	9
6	29·705	64·8	57·0	7·8	..	..	S W	W	1 to 2	1½	7
7	29·700	62·1	55·7	6·4	..	..	S W	W S W	½ to 3	¼	10
8	29·703	59·0	55·5	3·5	..	..	S W	W S W	..	¼	9
9	29·680	58·2	55·1	3·1	..	..	S S W	S W	0 to ½	½	10
10	29·668	57·5	55·2	2·3	54·3	3·2	S W	S W	..	¼	10
July 20. 10	29·597	56·5	55·1	1·4	54·0	2·5	Calm	Calm	..	..	6
11	29·601	55·2	53·6	1·6	..	..	S	Calm	..	..	9
12	29·595	53·5	52·7	0·8	..	..	Calm	Calm	..	..	4
13	29·577	52·4	52·0	0·4	..	..	Calm	Calm	..	..	4
14	29·568	53·0	52·3	0·7	..	..	Calm	S S W	..	..	8
15	29·561	50·8	50·8	0·0	..	..	Calm	Calm	..	..	1
16	29·575	50·6	50·5	0·1	50·5	0·1	Calm	S W	..	¼	8
17	29·580	52·0	51·5	0·5	..	..	S W	Calm	..	..	10
18	29·589	52·6	52·2	0·4	..	..	Calm	Calm	..	..	7
19	29·590	55·0	54·2	0·8	..	..	N N W	N	..	¼	10
20	29·593	57·5	55·0	2·5	..	..	N W	N N W	..	¼	10

June 22d. 7h to 8h. A thunder storm. (See the Section of Extraordinary Meteorological Observations.)

June 21d, 22d, and 23d. See the foot-notes to these days in the Section of Ordinary Meteorological Observations.

GENERAL REMARKS.	Observer.
Fleecy clouds and scud in every direction.	J H
Cumuli and light cirri scattered equally over the sky.	D
Large cumuli in all directions: heavy cumulo-strati near the N. horizon.	
Clouds of a light fleecy character in the zenith, and also in the S.: large white cumuli in the N.	
Massive cumuli and cumulo-strati in all directions.	
Cumuli and cumulo-strati nearly cover the whole sky: nimbi, and dark, undefined clouds in the zenith.	
Cumulo-strati near the horizon all around: scud and fleecy clouds in the zenith.	D
Scud and cumulo-stratus.	J H
,,	
Large white clouds and cumulo-strati.	
Heavy cumulo-strati and electrical clouds N. of the zenith: cirri and cumuli in the southern part of the sky.	
Dark, heavy scud in every direction, with cumulo-stratus: squalls of rain: distant thunder.	
Heavy scud in every direction.	J H
Slight rain falling: the sky covered with cirro-stratus, scud, and nimbi, except a large bright streak in the N.	G
Overcast: the slight rain falling at the last observation soon ceased.	
Scud generally covering the sky.	G
Scud and cirro-stratus.	J H
Scud and fleecy clouds.	J H
Overcast: cirro-stratus and scud.	P
,, ,,	
Scud in different directions.	P
Cloudless.	D
,,	
,,	D
Fleecy clouds and cumuli.	D
Large white cumuli equally distributed all over the sky; the sky between the clouds of a pale blue.	G
Large white cumuli scattered in all directions.	D
Cumuli, cumulo-strati, and masses of scud.	P
Cumuli and scud.	P
Cumulo-strati and large white cumuli.	J H
Cumuli and cumulo-strati.	D
Cumulo-strati and scud.	D
The sky nearly covered with scud and cumulo-stratus.	G
White rocky cumuli near the N. horizon: clear blue sky in the zenith and for some distance East of it; every other portion of the sky is covered with cumulo-stratus and scud: a warm wind, and blowing strongly.	G
Cumulo-stratus and scud: gusts of wind.	J H
Scud and cirro-stratus.	J H
Overcast: cirro-stratus and scud.	P
,, ,,	P
Lightning in the N.; thunder in the distance. [thunder still heard.	M
The southern portion of the sky brilliantly clear: Jupiter and the Moon on the borders of the clouds; everywhere else cloudy:	
The clouds are very thin; the thunder and lightning have ceased.	M
Magnificent clouds in the southern horizon, extending about 30° from thence; the Moon wholly enveloped in them: thin clouds in the N.W.	P
Scud again covering the greater part of the sky: the Moon again shining brightly, and also stars in some parts of the sky.	
Clouds now in the N.W. horizon only: the stars are shining brightly.	P
The greater part of the sky is covered with light scud: dense cirro-stratus in the N. horizon.	D
Overcast: cirro-stratus.	
Fleecy clouds and cirro-stratus.	D
Overcast: cirro-stratus and scud.	J H
,, ,,	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION. from Anemometer.	WIND. DIRECTION. by Estimation.	WIND. PRESSURE. from Anemometer, in pounds per square foot.	WIND. PRESSURE. by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
July 20. 21	29·599	57·2	54·8	2·4	..	..	N N W	N N W	..	1/4	10
22	29·604	58·0	55·3	2·7	54·0	4·0	N W	N N W	..	3/4	10
23	29·612	57·5	55·0	2·5	..	..	W N W	N W	..	3/4	10
July 21. 0	29·609	58·1	55·8	2·3	..	..	N N W	NW	..	3/4	10
1	29·622	56·5	55·7	0·8	..	..	N N W	N by W	0 to 1/2	1/4	10
2	29·645	57·5	55·4	2·1	..	..	N N W	N	0 to 1/2	1/4	10
3	29·656	58·0	55·0	3·0	..	..	N N W	N N W	..	1/4	10
4	29·656	58·5	54·8	3·7	53·5	5·0	N N W	N N W	..	1/4	10
5	29·668	59·6	55·4	4·2	..	..	N N W	N N W	..	1/2	10
6	29·679	59·7	55·5	4·2	..	..	N N W	N N W	..	3/4	5
7	29·681	60·9	55·0	5·9	..	..	N N W	N by W	..	1/4	7
8	29·709	57·7	53·0	4·7	..	..	N N W	N N W	..	1/2	3
9	29·708	56·0	51·3	4·7	..	..	N N W	N by W	..	1/2	0
10	29·732	55·3	51·0	4·3	50·0	5·3	Calm	N by W	..	1/2	0
11	29·752	53·1	50·2	2·9	..	..	N N W	N by W	..	1/4	0
12	29·753	51·6	49·2	2·4	..	..	Calm	N by W	..	1/4	3/4
13	29·759	52·5	49·2	3·3	..	..	N N W	N N W	..	1/4	2
14	29·763	52·1	49·0	3·1	..	..	N N W	N N W	..	1/4	10
15	29·774	51·8	48·4	3·4	..	..	N N W	N N W	..	1/4	10
16	29·775	50·4	47·2	3·2	45·5	4·9	N N W	N N W	..	1/4	8
17	29·785	50·0	46·5	3·5	..	..	N N W	N N W	..	1/4	2
18	29·797	50·0	47 0	3·0	..	..	N N W	N N W	..	1/4	3
19	29·819	52·0	48·2	3·8	..	..	N N W	N N W	..	1/4	1
20	29·825	56·0	51·1	4·9	..	..	N N W	N N W	..	1/4	0
21	29·834	57·7	51·2	6·5	..	..	N N W	N N W	..	1/4	0
22	29·869	58·7	52·1	6·6	46·0	12·7	N N W	N W by N	..	1/4	8 1/2
23	29·881	60·5	53·0	7·5	..	..	N	N N W	..	1/4	9
July 22. 0	29·892	62·8	54·6	8·2	..	..	N	N N W	..	1/4	9 1/2
1	29·908	64·1	55·2	8·9	..	..	N	N N W	..	1/4	10
2	29·921	60·3	53·7	6·6	..	..	N	N N W	..	1/4	10
3	29·934	59·6	53·6	6·0	..	..	N	N N W	..	1/4	10
4	29·930	60·7	54·6	6·1	51·0	9·7	N	N N W	..	1/4	10
5	29·938	60·0	54·3	5·7	..	..	N	N N W	..	1/4	10
6	29·950	59·3	54·0	5·3	..	..	N	N N W	..	1/4	10
7	29·981	57·8	53·0	4·8	..	..	N	N N W	..	1/4	10
8	29·980	56·9	52·9	4·0	..	..	N N E	N	..	1/4	10
9	29·996	56·2	52·2	4·0	..	..	N N E	N	..	1/4	10
10	30·009	55·4	52·3	3·1	52·0	3·4	N N E	N	..	1/4	10
11	30·018	55·0	52·0	3·0	..	..	N N E	N	..	1/4	10
12	30·043	54·0	51·6	2·4	..	..	N E	N	..	1/4	10
13	30·048	53·7	51·5	2·2	..	..	N E	Calm	..	..	10
14	30·054	53·4	51·4	2·0	..	..	Calm	Calm	..	..	10
15	30·052	53·1	51·5	1·6	..	..	Calm	Calm	..	..	10
16	30·049	53·0	51·5	1·5	50·0	3·0	Calm	Calm	..	..	10
17	30·053	53·0	51·5	1·5	..	..	Calm	Calm	..	..	10
18	30·057	54·0	51·4	2·6	..	..	N N E	Calm	..	..	10
19	30·069	54·0	51·3	2·7	..	..	N N E	Calm	..	..	10
20	30·075	56·4	52·0	4·4	..	..	N N E	Calm	..	..	10
21	30·082	56·0	50·9	5·1	..	..	N N E	Calm	..	..	8
22	30·089	60·2	53·5	6·7	47·0	13·2	Calm	Calm	..	..	8
23	30·102	61·8	54·3	7·5	..	..	Calm	E by S	..	1/4	5

July 21d, civil reckoning. This day had the greatest relative moisture in the atmosphere of any day in the month, and the range of the thermometer was less on this than on any other day in the month. (See the Section of Ordinary Meteorological Observations.)

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and scud: hazy N. of the zenith.	J H
,, ,,	M
,, ,, a dull heavy atmosphere: wind blowing in sudden gusts.	J H
,, ,,	P
,, rain falling.	P
,, cirro-stratus.	D
,, ,,	P
,, ,,	P
,, very gloomy.	M
The clouds clearing away from the N.W.: clear in the zenith: a shower of rain has just fallen: gusts of wind: scud flying.	M
Scud and fleecy clouds: clear breaks in various directions.	J H
Light fleecy clouds and vapour: the clouds have separated rapidly since the last observation.	J H
Cloudless.	D
,,	
,,	D
Scud in different parts of the sky, chiefly in the S. E.: clouds arose about $11^h.\ 10^m$, and for a short time the whole sky was overcast.	P
Scud in the southern horizon and in the N.W.	
Overcast.	
,, cirro-stratus and scud.	
A thin cirro-stratus covering the greater part of the sky.	
Cirro-stratus in the horizon, and scud in different quarters of the sky.	
Scud in various parts of the sky.	
Scud in different directions.	
Cloudless.	
,, there are a few cumuli in the W., which will not, however, affect the notation.	P
Fleecy clouds and scud.	J H
Cumuli and scud.	
Fleecy clouds and scud.	
,,	
The clouds heavier, consisting of scud and fleecy cumuli.	J H
The same.	P
Overcast.	
,,	
,,	P
,, cirro-stratus and scud.	J H
,, ,,	P
,, ,,	
,, a long and narrow streak of light cloud in the W. horizon.	
,, the light in the W. extending itself.	P
,, fleecy clouds and scud.	J H
,, cirro-stratus and scud.	
,, cirro-stratus.	
,, ,,	
,, a remarkably calm night.	
,, cirro-stratus and scud.	
,, ,,	
,, ,,	
,, ,,	
Fleecy clouds and scud.	J H
Extensive breaks near the N. horizon; every other part of the sky overcast.	D
Fragments of scud and fleecy cumuli in different parts of the sky.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION. from Anemometer.	WIND. DIRECTION. by Estimation.	WIND. PRESSURE. from Anemometer, in pounds per square foot.	WIND. PRESSURE. by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
July 23. 0	30·102	63·4	55·6	7·8	..	..	Calm	E	..	¼	4
1	30·095	66·9	57·6	9·3	..	..	Calm	Calm	..	..	4
2	30·091	67·3	58·8	8·5	..	..	Calm	Calm	..	..	4
3	30·084	66·6	57·5	9·1	..	..	Calm	Calm	..	..	2
4	30·073	68·1	59·1	9·0	53·0	15·1	Calm	N by W	..	¼	4
5	30·069	66·4	57·9	8·5	..	..	N	N by W	..	¼	2
6	30·060	65·8	57·8	8·0	..	..	Calm	Calm	..	..	0
7	30·059	65·0	57·5	7·5	..	..	Calm	Calm	..	..	0
8	30·051	62·2	56·1	6·1	..	..	Calm	Calm	..	..	0
9	30·049	56·8	53·4	3·4	..	..	Calm	Calm	..	..	0
10	30·053	55·7	52·8	2·9	52·0	3·7	Calm	Calm	..	..	0
11	30·054	53·7	51·6	2·1	..	..	Calm	Calm	..	..	0
12	30·053	51·2	50·5	0·7	..	..	Calm	Calm	..	..	0
Aug. 21. 18	29·806	55·0	54·6	0·4	..	..	Calm	Calm	..	..	3
19	29·813	57·2	56·6	0·6	..	..	Calm	Calm	..	..	3
20	29·820	61·1	59·0	2·1	..	..	Calm	Calm	..	..	2
21	29·825	65·2	61·1	4·1	..	..	E N E	Calm	..	..	½
22	29·819	71·8	63·6	8·2	60·2	11·6	Calm	E N E	..	¼	0
23	29·807	74·5	64·2	10·3	..	..	N E	E N E	..	¼	4
Aug. 22. 0	29·818	77·3	66·2	11·1	..	..	N E	E N E	..	¼	4
1	29·811	80·8	67·3	13·5	..	..	N E	E N E	..	¼	4
2	29·814	79·7	67·0	12·7	..	..	N E	E N E	..	¼	7
3	29·818	80·1	68·4	11·7	..	..	E S E	E by N	..	¼	8
4	29·811	77·5	67·4	10·1	65·5	12·0	E	E N E	..	¼	6
5	29·805	75·9	67·5	8·4	..	..	E N E	E by N	..	¼	8
6	29·791	76·0	67·5	8·5	..	..	E	E by N	..	¼	8½
7	29·798	73·1	65·6	7·5	..	..	E by N	Calm	..	..	8
8	29·797	70·2	65·0	5·2	..	..	E	Calm	..	.	9
9	29·814	69·0	64·1	4·9	..	..	E	Calm	..	.	9
10	29·821	66·5	63·2	3·3	62·0	4·5	Calm	Calm	..	..	8
11	29·823	64·6	62·4	2·2	..	..	Calm	E by N	..	¼	1
12	29·805	62·7	61·1	1·6	..	..	Calm	Calm	..	..	¼
13	29·790	62·2	60·9	1·3	..	..	Calm	Calm	..	..	5
14	29·786	62·2	61·7	0·5	..	..	Calm	Calm	..	..	9
15	29·766	61·6	61·1	0·5	..	..	Calm	Calm	..	..	6
16	29·752	60·7	60·6	0·1	60·5	0·2	Calm	Calm	..	..	0
17	29·764	59·4	59·2	0·2	..	..	Calm	Calm	..	..	¼
18	29·766	58·9	58·8	0·1	..	..	Calm	Calm	..	..	0
19	29·763	61·0	60·6	0·4	..	..	Calm	Calm	..	..	0
20	29·776	64·6	62·8	1·8	..	..	Calm	Calm	..	..	0
21	29·775	68·9	65·7	3·2	..	..	Calm	Calm	..	..	0
22	29·785	74·7	68·5	6·2	66·5	8·2	Calm	S S W	..	¼	0
23	29·792	76·9	68·7	8·2	..	..	W S W	W S W	..	½	2
Aug. 23. 0	29·780	80·3	69·0	11·3	..	..	S S W	S W by W	..	¼	0
1	29·775	81·5	69·3	12·2	..	..	S S W	W S W	..	¼	¼
2	29·769	82·3	70·7	11·6	..	..	S S W	W S W	..	¼	3
3	29·767	78·4	68·3	10·1	..	..	S S W	W S W	..	½	4
4	29·746	75·7	66·3	9·4	64·5	11·2	S S W	S S W	..	½	¼
5	29·746	72·0	64·8	7·2	..	..	S by W	S S W	..	½	¼
6	29·747	70·0	63·3	6·7	..	..	S S W	S S W	..	½	¼
7	29·745	67·5	63·3	4·2	..	..	S S W	S S W	..	½	0

Aug. 22d, civil reckoning. The range of the barometer was less on this than on any other day in the month. (See the Section of Ordinary Meteorological Observations.)

Aug. 21d and 23d. See the foot-notes on these days in the Section of Ordinary Meteorological Observations.

GENERAL REMARKS.	Observer.
Loose cumuli N. of the zenith, and nearly all round the horizon.	D
The same as at the last observation.	
White cumuli scattered in various parts of the sky.	D
A few light cumuli scattered about.	J H
The same.	
The same.	
Cloudless: a very fine afternoon.	
,,	
,,	
,,	
,,	
,, Jupiter and the Moon shining brilliantly.	J H
,, a splendid Moonlight night.	D
Mottled cirro-stratus and scud N. of the zenith.	J H
Cirro-stratus and fleecy clouds.	
Light fleecy clouds.	
,,	J H
Cloudless: somewhat hazy in the N.	P
Light scud and cirri in various directions, but all W. of the meridian.	
A thin cirro-stratus in the southern horizon, and scud and cirri in other parts of the sky.	
Light scud and cirri in various directions W. of the meridian.	
Nearly the whole of the sky S. of the zenith covered with cirro-stratus, which prevails also in other directions.	
Cirro-stratus, cirro-cumuli, and scud, with haze.	P
Fleecy clouds prevalent, especially S.W. of the zenith..	J H
Fleecy clouds and cirro-stratus.	
,, ,,	
,, ,,	
,, ,,	
Scud and cirro-stratus: clear near the S. horizon.	
Loose scud: clear near the S. horizon.	
The sky cleared soon after the last observation: at present fleecy clouds N.W. and S. of the zenith.	J H
A few clouds only N. of the zenith.	P
The zenith covered with clouds resembling cirro-cumuli, and other parts of the sky by a literally transparent scud.	
A thick scud covering the greater portion of the sky: the Moon is totally obscured.	
The Moon is shining brightly, and the greater portion of the sky, S. of the zenith, free from clouds.	
Cloudless.	
A few clouds in the northern and eastern horizon.	
Cloudless: hazy.	
,,	
,,	
,,	P
,,	J H
Loose fleecy clouds S. of the zenith; near the northern horizon, misty, with clouds.	G
Cloudless.	J H
Cloudless, except a few small fragments of scud.	
Fleecy clouds in various directions.	
The same.	J H
Cumuli (a few only) in the north-western horizon: the breeze freshening.	P
,, ,, the barometer very fluctuating.	
,, ,,	
Cloudless.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION. from Anemometer.	WIND. DIRECTION. by Estimation.	WIND. PRESSURE. from Anemometer, in pounds per square foot.	WIND. PRESSURE. by Estimation 0–6.	Amount of Clouds 0–10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Aug. 23. 8	29·756	63·7	58·7	5·0	..	..	S S W	S W	..	¼	0
9	29·767	60·6	57·0	3·6	..	..	S	S W	..	¼	0
10	29·773	58·5	55·5	3·0	54·0	4·5	S	S W	..	¼	0
11	29·765	57·5	55·1	2·4	..	..	S	S W	..	¼	0
12	29·776	55·5	53·7	1·8	..	..	S	W S W	..	¼	3
13	29·768	54·3	52·8	1·5	..	..	S S W	W S W	..	¼	0
14	29·762	53·2	51·5	1·7	..	..	Calm	Calm	..	..	0
15	29·765	53·0	52·1	0·9	..	..	S	Calm	..	..	0
16	29·751	52·4	50·6	1·8	49·0	3·4	Calm	Calm	..	..	0
17	29·751	50·8	50·0	0·8	..	..	Calm	Calm	..	..	3
18	29·745	51·8	50·7	1·1	..	..	Calm	S W	..	¼	8
19	29·745	52·5	51·5	1·0	..	..	Calm	S W	..	¼	8
20	29·744	57·5	55·6	1·9	..	..	Calm	S	..	¼	9
Aug. 26. 10	29·778	60·4	59·0	1·4	57·5	2·9	Calm	Calm		..	0
11	29·781	60·0	58·6	1·4	..	..	Calm	Calm	..	..	0
12	29·783	57·8	57·2	0·6	..	..	Calm	Calm	..	..	0
13	29·783	57·6	56·8	0·8	..	..	Calm	E	..	..	2
14	29·783	56·5	56·1	0·4	..	..	Calm	Calm	..	..	0
15	29·788	57·0	57·0	0·0	..	..	N N E	Calm	..	..	10
16	29·792	58·3	58·3	0·0	57·8	0·5	N by E	Calm	..	..	10
17	29·795	57·8	57·7	0·1	..	..	N	N E	..	¼	10
18	29·794	57·8	57·7	0·1	..	..	N	Calm	..	..	10
19	29·805	58·6	58·2	0·4	..	..	N	N N E	..	(¼—)	10
20	29·813	59·8	59·0	0·8	..	..	N	Calm	..	..	10
21	29·835	61·4	59·5	1·9	..	..	N	N N E	..	¼	10
22	29·852	62·6	60·6	2·0	58·5	4·1	N	N N E	..	¼	10
23	29·843	65·0	61·8	3·2	..	..	N	N	..	¼	10
Aug. 27. 0	29·830	69·3	64·4	4·9	..	..	N	N by E	..	½	8
1	29·838	71·8	65·8	6·0	..	..	N	N	..	½	8
2	29·826	72·7	66·5	6·2	..	..	N	N	..	¼	5
3	29·821	72·6	67·0	5·6	..	..	N	N by E	..	¼	7
4	29·799	73·1	67·1	6·0	66·0	7·1	N	N	..	¼—	5
5	29·805	72·5	66·5	6·0	..	..	N	N	..	¼	7
6	29·804	70·5	65·4	5·1	..	..	N	N	..	¼	9
7	29·821	68·4	64·4	4·0	..	..	N	N	..	¼	8
8	29·827	65·8	62·8	3·0	..	..	N by E	N	..	¼	8
9	29·816	65·0	62·2	2·8	..	..	N N E	N by E	..	¼	10
10	29·828	64·0	61·7	2·3	60·0	4·0	N E	Calm	..	..	2
Sep. 20. 18	29·358	48·1	47·6	0·5	..	..	Calm	S	..	¼	10
19	29·360	46·8	46·8	0·0	..	..	Calm	S	..	¼	5
20	29·362	47·0	47·0	0·0	..	..	Calm	S	..	¼	2
21	29·368	47·8	47·6	0·2	..	..	Calm	S	..	¼	4
22	29·385	55·1	52·5	2·6	51·5	3·6	W S W	W S W	..	¼	3
23	29·379	57·2	53·5	3·7	..	..	W S W	W S W	..	¼	2
Sep. 21. 0	29·388	59·4	54·5	4·9	..	..	W S W	W S W	..	¼	3
1	29·387	62·3	56·3	6·0	..	..	W S W	W S W	..	¼	7
2	29·391	62·3	56·8	5·5	..	..	W S W	W S W	..	¼	5

Sep. 20d. The increase in the temperature of the air was 7°·3 between 21h and 22h.

Sep. 21d. The lowest reading of the thermometer during the month took place on this day. (See the Section of Ordinary Meteorological Observations.)

GENERAL REMARKS.	Observer.
Cloudless.	P
,,	
,,	
,, the barometer still very fluctuating.	P
A corona round the Moon: clouds in bars rising from the South and the East.	G
Cloudless.	
,,	
,,	
,,	
Clouds rising from the South-west, and moving very slowly.	
Stratus clouds to the North, and scud and cumulo-stratus to the South.	
Scud and cumulo-stratus, the former moving from the South.	
Nearly the whole of the sky covered with scud and cumulo-stratus: a very little blue sky in the S.	G
Cloudless.	G
,, the sky appears perfectly clear; no vapour or cloud, and the Moon is shining very brightly.	
The sky remarkably clear.	
A few clouds appeared near the horizon in the S. and S.W. about a half an hour since: at present a few clouds are near the horizon in the same place, and a few loose clouds near the zenith: all the other parts of the sky clear.	J H
Cloudless.	
The sky completely covered with a stratus: a thin fog rising.	
Overcast: a thin fog.	J H
,, cirro-stratus and scud: even the place of the Moon is not visible; she however made her appearance when on the meridian, just revealing her position: the currents of air extremely light: a thick fog.	P
Overcast: the fog is entirely dissipated.	
,, cirro-stratus.	
,, ,,	P
,, ,,	G
,, ,,	
,, ,,	G
Cumuli and scud: gusts of wind.	J H
,, occasional breaks.	J H
Cumuli equally distributed all over the sky: this day has indicated the true character of fine weather: an early morning fog, the fog forming cirro-stratus, and about $0^h.40^m$ breaking off, and cumuli forming with fine blue sky.	G
Cumuli and cumulo-strati.	G
Cumuli and scud in every direction: the wind is not steady, but in light airs.	P
Cirro-stratus in the southern horizon: cumuli and scud in every other direction: wind as before.	P
Scud and cumuli: distant thunder: the air excessively close.	J H
The sky covered with scud and cirro-stratus.	G
A red sun-set: at present a large quantity of dark-coloured scud moving very slowly from the East: no upper cloud.	G
Overcast: cirro-stratus and scud: a star or two faintly glimmering in the zenith, and a somewhat powerful light in the N.W. horizon.	P
Clouds in the N. and S.W., but the zenith and its neighbourhood are perfectly clear.	P
A fine steady rain falling.	G
The rain ceased about fifteen minutes after the last observation: the eastern horizon bright: blue sky about the zenith, and W. of it.	
A bank of cumuli near the horizon in the South: a few stratus clouds in the N. and E.; otherwise clear.	
,, a few scattered clouds about the zenith, and near the horizon all round.	G
Cumuli in the horizon on all sides; every other part of the sky clear.	D
Cumuli lining the whole horizon, and scud in other parts of the sky.	P
Cumuli scattered about the sky: cumulo-strati in the N., near the horizon.	D
Massive cumulo-strati in the northern portion of the sky: cumuli S. of the zenith.	
Cumulo-strati in, and S.E. of, the zenith: nearly clear in the N.W.: cumuli in the S.W.	D

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION. from Anemometer.	WIND. DIRECTION. by Estimation.	WIND. PRESSURE. from Anemometer, in pounds per square foot.	WIND. PRESSURE. by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Sep. 21. 3	29·388	57·5	54·7	2·8	..	..	W S W	W S W	..	(¼—)	9½
4	29·381	57·1	54·5	2·6	50·5	6·6	W S W	W S W	..	(¼—)	7
5	29·374	55·5	52·6	2·9	..	..	Calm	W S W	..	¼	4
6	29·374	54·4	52·5	1·9	..	..	Calm	S W	..	¼	2
7	29·377	50·6	49·8	0·8	..	..	Calm	Calm	..	..	1
8	29·379	49·1	48·8	0·3	..	..	Calm	Calm	..	..	2
9	29·386	48·3	48·3	0·0	..	..	Calm	Calm	..	..	2
10	29·383	47·6	47·6	0·0	47·5	0·1	Calm	Calm	..	..	1
11	29·382	46·7	46·7	0·0	..	..	Calm	Calm	..	..	0
12	29·379	45·6	45·6	0·0	..	..	Calm	Calm	..	..	0
13	29·367	44·0	44·2	—0·2	..	..	Calm	Calm	..	..	0
14	29·368	43·3	43·5	—0·2	..	..	Calm	Calm	..	..	½
15	29·363	42·9	42·7	0·2	..	..	Calm	Calm	..	..	1
16	29·349	41·7	41·7	0·0	42·0	—0·3	Calm	Calm	..	..	0
17	29·346	40·8	40·8	0·0	..	..	Calm	Calm	..	..	0
18	29·347	40·9	40 9	0·0	..	..	Calm	Calm	..	..	0
19	29·364	41·4	41·4	0·0	..	..	Calm	Calm	..	..	5
20	29·362	42·0	42·2	—0·2	..	..	Calm	Calm	..	..	10
21	29·368	44·0	44·2	—0·2	..	..	W S W	Calm	..	..	10
22	29·382	45·8	45·9	—0·1	46·0	—0·2	S W	Calm	..	..	10
23	29·373	50·5	50·0	0·5	..	..	S W	Calm	..	..	10
Sep. 22. 0	29·362	54·6	53·2	1·4	..	..	W	Calm	..	..	7
1	29·365	54·7	52·7	2·0	..	..	N N W	N by W	..	¼	5
2	29·349	56·1	52·9	3·2	..	..	N N W	N W	..	¼	9
3	29·347	56·2	52·9	3·3	..	..	N N W	N by W	..	¼	9
4	29·352	55·5	52·6	2·9	49·7	5·8	N by W	Calm	..	..	4
5	29·354	56·0	52·5	3·5	..	..	N N W	N	..	½	5
6	29·357	54·7	52·0	2·7	..	..	N W	N	..	¼	6
7	29·370	53·5	50·8	2·7	..	..	N W	N	..	½	10
8	29·382	51·5	50·2	1·3	..	..	N W	N	..	¼	10
9	29·394	51·3	49·9	1·4	..	..	N W	N W	..	¼	8
10	29·392	51·4	49·7	1·7	49·0	2·4	N W	N W	..	¼	10
Oct. 19. 10	29·435	36·0	34·5	1·5	33·0	3·0	Calm	N N W	..	½	0
11	29·451	33·1	32·0	1·1	..	..	Calm	N W	..	¼	0
12	29·456	32·1	31·5	0·6	..	..	Calm	N W	..	½	0
13	29·469	31·5	30·5	1·0	..	..	Calm	W S W	..	¼	0
14	29·474	30·4	30·2	0·2	..	..	Calm	W S W	..	¼	0
15	29·479	30·5	29·6	0·9	..	..	Calm	W S W	..	¼	0
16	29·488	29·7	29·1	0·6	28·5	1·2	Calm	W S W	..	¼	0
17	29·493	30·2	29·7	0·5	..	..	Calm	W S W	..	¼	½
18	29·496	29·8	30·6	—0·8	..	..	Calm	W S W	..	¼	0
19	29·502	29·7	29·6	0·1	..	..	Calm	W S W	..	¼	0
20	29·528	30·5	30·0	0·5	..	..	Calm	Calm	..	..	0
21	29·544	32·8	31·0	1·8	..	..	Calm	S W by W	..	½	0
22	29·555	36·3	34·1	2·2	32·2	4·1	Calm	W S W	..	¼	1
23	29·564	39·6	37·0	2·6	..	..	W S W	W	..	½	0
Oct. 20. 0	29·562	42·1	39·5	2·6	..	..	W S W	W	..	¾	5
1	29·559	44·4	41·0	3·4	..	..	W S W	W by S	..	¼ +	7
2	29·571	45·5	41·0	4·5	..	..	W	W by N	..	½	6
3	29·572	44·7	40·7	4·0	..	..	W S W	W S W	..	¼	1

Sep. 21d. 13h, 14h, 20h, 21h, and 22h. The readings of the Wet Thermometer were higher than those of the Dry Thermometer; and at 16h and 22h the temperatures of the Dew Point were higher than those of the Dry Thermometer.

Sep. 22d, civil reckoning. The mean daily temperature was less on this day than on any other day during the month: for the other foot-notes on Sep. 21d and 22d, see the Section of Ordinary Meteorological Observations.

GENERAL REMARKS.	Observer.
A few small breaks only in the north-western and south-western horizon: a thin rain falling: squally.	P
Breaks in every direction: a nimbus passing across the zenith; and a few drops of rain falling.	
Cumuli, cumulo-strati, and scud, in every direction.	P
Cumulo-stratus in the N.: cirro-stratus in the S. near the horizon.	D
Fragments of loose scud in the zenith; the sky is otherwise clear.	
A large bank of cirro-stratus in the S.E.; small fragments of scud in various directions.	D
A bank of white cloud reaching from about one half the height of the Moon to the horizon, and to the S. and E.; otherwise cloudless.	G
The same bank of cloud is about half the height that it was at the last observation, and reaches to the same points in the heavens.	
Cloudless: the deposition of moisture is considerable: a creeping mist on the ground.	
No change whatever during the preceding hour.	G
The same.	M
Cloudy about the Moon's place: light cirri: misty.	M
Cirri N.W. of the zenith: light vapour, or fog.	D
Light fog: the Moon is shining through it: there is no absolute cloud.	
The same.	
The same.	
Cirro-stratus and light fog.	D
Overcast: a dense fog, so thick that the Observatory is not visible from the Magnetic Observatory.	P
The same.	P
Foggy.	G
The Sun's place visible: the fog clearing away: there is an upper cloud.	G
The fog is gradually disappearing: cumuli and cumulo-strati in all parts of the sky.	D
Cumulo-strati and scud: the sky E. of the zenith nearly clear: the fog has quite disappeared.	D
A few small breaks in various quarters of the sky.	P
Small breaks in every direction.	P
Nearly clear in the N.; cirro-cumulus clouds.	M
Light clouds: the weather pleasant.	M
A large mass of scud is now S. of the zenith and moving towards the horizon: cirro-cumuli and small cumuli, with a deep blue sky: the East is the clearest portion of the sky, there being only a few yellow cumuli near the horizon.	G
The sky covered wiih scud moving from the N.	G
Overcast: cirro-stratus and scud.	D
Fleecy clouds in all directions: the Moon shining through breaks.	D
Overcast: cirro-stratus and scud: the Moon occasionally visible.	P
Cloudless: the horizon misty.	G
,, very cold.	G
,, the Moon shines brightly: very cold: white frost on the ground.	J H
,, a very fine night.	
,,	J H
,,	D
,,	
A few light clouds in the zenith: otherwise cloudless.	D
Cloudless.	P
,, a fine clear and frosty morning: a white frost covering the ground.	P
,,	M
A fine cloudless morning.	M
Light clouds: hazy: white frost.	J H
Cloudless.	G
[the sky: a general haze.	
,, but hazy about the zenith: cumuli of a large kind forming in the North: small white clouds forming in every part of	G
Cumulo-strati and scud in every direction: hazy.	P
Cumuli and cumulo-strati in all directions.	D
Cumuli and light fleecy clouds.	J H

Oct. 19d. 18h. The Wet Thermometer reads higher than the Dry Thermometer.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION. from Anemometer.	WIND. DIRECTION. by Estimation.	WIND. PRESSURE. from Anemometer, in pounds per square foot.	WIND. PRESSURE. by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Oct. 20. 4	29·563	43·2	40·0	3·2	39·3	3·9	S W	W S W	..	½	2
5	29·584	41·2	39·2	2·0	..	..	Calm	W	..	¼	2
6	29·594	39·8	38·0	1·8	..	..	Calm	W by S	..	¼	9
7	29·606	40·5	38·4	2·1	..	..	Calm	Calm	..	..	10
8	29·620	39·2	37·6	1·6	..	..	Calm	Calm	..	..	9¾
9	29·639	36·1	35·0	1·1	..	..	Calm	Calm	..	..	0
10	29·644	34·6	33·6	1·0	33·0	1·6	Calm	Calm	..	..	½
11	29·649	33·7	33·0	0·7	..	..	Calm	W S W	..	¼	0
12	29·658	32·9	32·0	0·9	..	..	Calm	W S W	..	¼	0
13	29·668	31·7	31·2	0·5	..	..	Calm	Calm	..	..	0
14	29·682	31·3	31·0	0·3	..	..	Calm	Calm	..	..	0
15	29·690	30·0	29·5	0·5	..	..	Calm	Calm	..	..	0
16	29·699	30·3	30·0	0·3	29·0	1·3	Calm	Calm	..	..	0
17	29·709	29·3	29·3	0·0	..	..	Calm	Calm	..	..	0
18	29·726	28·7	28·2	0·5	..	..	Calm	Calm	..	..	0
19	29·736	29·7	29·5	0·2	..	..	Calm	Calm	..	..	0
20	29·765	30·1	29·7	0·4	..	..	Calm	Calm	..	..	1
21	29·777	31·2	30·1	1·1	..	..	Calm	Calm	..	..	½
22	29·803	36·0	32·8	3·2	32·0	4·0	N W	Calm	..	..	0
23	29·805	38·1	35·0	3·1	..	..	N	N N W	..	¼	0
Oct. 21. 0	29·819	41·6	38·0	3·6	..	..	N	N N W	..	¼	0
1	29·815	43·2	39·5	3·7	..	..	N by W	N by W	..	¼	½
2	29·822	44·0	40·8	3·2	..	..	N N W	N by W	..	¼	½
3	29·824	44·2	40·2	4·0	..	..	N by W	N by W	..	¼	¼
4	29·834	43·3	39·0	4·3	31·5	11·8	N N W	N N W	..	¾	1
5	29·840	42·2	38·0	4·2	..	..	N N W	N by W	..	½	½
6	29·854	41·8	37·7	4·1	..	..	N W	N N W	..	½	0
7	29·870	40·5	37·0	3·5	..	..	N W	N N W	..	½	0
8	29·879	36·5	34·4	2·1	..	..	Calm	N N W	..	½	0
9	29·890	35·1	33·0	2·1	..	..	Calm	N N W	..	½	0
10	29·882	33·7	32·0	1·7	30·0	3·7	Calm	N N W	..	¼	0
11	29·881	32·0	30·7	1·3	..	..	Calm	N N W	..	¼	0
12	29·872	30·5	29·5	1·0	..	..	Calm	W	..	¼	0
13	29·858	29·7	29·0	0·7	..	..	Calm	W	..	¼	0
14	29·855	30·2	29·3	0·9	..	..	Calm	W	..	¼	0
15	29·839	29·5	28·8	0·7	..	..	Calm	Calm	..	..	0
16	29·809	30·1	29·5	0·6	29·0	1·1	Calm	Calm	..	..	0
17	29·786	30·2	29·5	0·7	..	..	Calm	Calm	..	..	0
18	29·754	30·3	29·5	0·8	..	..	Calm	Calm	..	..	0
19	29·718	31·5	30·0	1·5	..	..	Calm	S W	..	¼	0
20	29·693	33·5	32·0	1·5	..	..	Calm	S W	..	¼	0
21	29·675	34·5	33·0	1·5	..	..	S S W	S W	..	½	0
22	29·572	39·3	37·4	1·9	35·5	3·8	S S W	S W	½ steady	¾	10
23	29·515	41·2	39·2	2·0	..	..	S W	S S W	½ to 1	¾	10
Oct. 22. 0	29·445	42·7	41·4	1·3	..	..	S W	S S W	2½ to 4½	1+	10
1	29·359	42·6	42·2	0·4	..	..	S S W	S S W	2 to 5	1+	10
2	29·276	43·4	43·2	0·2	..	..	S W	S W	3 to 8	1½	10
3	29·190	44·5	44·4	0·1	..	..	S S W	S S W	4 to 7	1½	10
4	29·114	45·7	45·7	0·0	45·5	0·2	S W	S W	1½ to 4	2	10
5	29·099	46·2	46·2	0·0	..	..	W S W	S W	1 to 3	1½	10
6	29·086	45·5	45·5	0·0	..	..	W S W	W S W	..	½	10

Oct. 20d. The lowest reading of the thermometer during the month took place on this day.

Oct. 21d, civil reckoning. The mean daily temperature was less on this day than on any other day in the month, and this was very nearly a cloudless day. (See the Section of Ordinary Meteorological Observations.)

GENERAL REMARKS.	Observer.
Fleecy clouds and dark cumuli.	J H
Cumulo-strati near the horizon in the North and West: the remainder of the sky clear and blue.	G
The cumulo-strati mentioned in the last observation have come up from the North, and have spread themselves nearly all over the sky: near the horizon, in the S., the sky is clear.	G
Overcast: cirro-stratus and scud: the Moon occasionally visible. [by the haze.	P
A single star visible in the zenith, and the clouds slightly broken in the neighbourhood of the Moon: her image is much distorted	P
Cloudless.	D
A few light clouds East of the zenith; otherwise cloudless.	P
Cloudless.	J H
,,	
,,	
,,	
,,	
,,	
,,	
,,	
,, white frost.	
A few small clouds: hazy.	
A few small clouds near the Sun.	J H
Cloudless.	D
,,	
,,	
A few small cumuli scattered in various parts of the sky.	
Light cirri N.E. of the zenith: small cumuli here and there.	
Cumuli in the N.W.; otherwise cloudless.	D
A few light clouds.	J H
Haze, and light clouds W. of the zenith.	
Cloudless: hazy.	
,, ,,	
,, ,,	
,, ,,	
,, ,, light fog in the lower grounds.	
,, ,, ,,	J H
,, ,, ,, the thermometer, whose bulb is in the parabolic reflector, now reads 22°; one	G
,, ,, [within an inch of the ground, the bulb quite free, reads 21°.	
,, ,,	
,, white frost.	
,, hazy: sharp frost for the season.	
,, ,,	
,, ,, a red sun-rise.	
,, no haze.	
,,	
,,	G
The sky is now quite overcast: wind in gusts.	D
The same.	
The sky is now quite overcast: rain falling.	
The same.	
The same.	
The same.	D
The same.	G
The sky is now quite overcast: the rain is now lighter: the barometer has not fallen this last quarter of an hour.	
The wind has lulled: heavy rain since the last observation: scud passing from the West.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION. from Anemometer.	WIND. DIRECTION. by Estimation.	WIND. PRESSURE. from Anemometer, in pounds per square foot.	WIND. PRESSURE. by Estimation 0—6.	Amount of Clouds 0—10.
d h m	in.	°	°	°	°	°			from lbs. to lbs.		
Oct. 22. 7	29·053	45·0	45·0	0·0	..	..	W S W	W S W	0 to ½	¾	10
7. 45	29·030	..	..	..	..	..	W S W	....	..	..	..
8	29·025	44·0	44·0	0·0	..	..	W S W	W S W	½ to 1	¾	10
9	29·016	43·6	43·4	0·2	..	..	S W	W S W	..	¾	10
10	28·991	43·0	42·6	0·4	42·5	0·5	S W	W S W	..	¾	10
11	28·981	41·4	40·8	0·6	..	..	S W	W S W	..	½	10
12	28·935	40·8	40·2	0·6	..	..	S W	S W	..	½	3
21. 10	28·706	43·2	42·8	0·4	..	..	S W	W S W	..	½	5
21. 40	28·696	..	..	..	..	..	S W	....	..	..	..
22. 40	28·694	46·7	45·2	1·5	..	..	W S W	W S W	..	1+	4
23. 0	28·694	..	..	..	..	..	W S W	....	0 to ½	..	..
23. 25	28·684	..	..	..	..	..	W S W	....	½ to 2½	..	..
23. 40	28·681	..	..	..	..	..	W S W	....	0 to 1	..	..
Oct. 23. 0. 10	28·683	..	..	..	..	..	W S W	....	0 to ¾	..	..
0. 25	28·682	..	..	..	..	..	W S W	....	0 to ½	..	..
1. 30	28·688	41·5	41·5	0·0	..	..	W S W	W by S	½ to 2	1½	5
4. 25	28·722	42·0	42·0	0·0	..	..	W	W	½ to 3	1½	5
4. 55	28·744	42·3	42·3	0·0	..	..	W by S	W	..	1	10
5. 10	28·747	..	..	..	..	..	W by S	.....	..	..	..
Nov. 20. 18	29·648	39·1	37·5	1·6	..	..	Calm	Calm	..	..	10
19	29·651	39·0	37·3	1·7	..	..	Calm	Calm	..	..	10
20	29·656	38·8	37·1	1·7	..	..	Calm	E N E	..	¼	10
21	29·660	37·2	36·0	1·2	..	..	Calm	E N E	..	¼	½
22	29·692	38·1	36·7	1·4	33·0	5·1	Calm	N E by E	..	¼	1
23	29·712	41·4	39·0	2·4	..	..	N	N E by E	..	¼	1
Nov. 21. 0	29·709	42·1	40·1	2·0	..	..	N	N E by E	..	¼	½
1	29·723	44·1	41·0	3·1	..	..	N	N E	..	¼	2
2	29·712	43·1	40·5	2·6	..	..	N	N E	..	¼	2
3	29·699	42·7	40·5	2·2	..	..	Calm	N E	..	¼	5
4	29·708	41·1	39·5	1·6	38·0	3·1	Calm	Calm	..	..	8
5	29·718	39·7	38·4	1·3	..	..	Calm	Calm	..	..	10
6	29·725	38·6	37·6	1·0	..	..	Calm	Calm	..	..	5
7	29·741	37·8	37·0	0·8	..	..	Calm	Calm	..	..	10
8	29·726	37·3	36·6	0·7	..	..	Calm	Calm	..	..	8
9	29·715	37·0	36·0	1·0	..	..	Calm	Calm	..	..	9
10	29·708	35·7	35·2	0·5	34·5	1·2	Calm	Calm	..	..	9
11	29·693	35·6	34·8	0·8	..	..	Calm	Calm	..	..	10
12	29·674	35·0	34·5	0·5	..	..	Calm	Calm	..	..	10
13	29·639	35·5	34·8	0·7	..	..	Calm	Calm	..	..	10
14	29·623	36·4	35·2	1·2	..	..	Calm	Calm	..	..	10
15	29·591	37·8	35·5	2·3	..	..	Calm	S S W	..	¼	10
16	29·552	38·0	36·5	1·5	34·0	4·0	S E	S S W	..	¼	10
17	29·511	37·0	36·3	0·7	..	..	Calm	S S W	..	¼	10
18	29·455	37·5	36·8	0·7	..	..	S S E	S S W	..	¼	10
19	29·439	37·2	36·5	0·7	..	..	S	S S W	..	½	10
20	29·395	35·5	35·0	0·5	..	..	S S E	S S W	..	½	10
21	29·356	35·0	34·5	0·5	..	..	S S E	S	..	½	10
22	29·290	34·8	34·3	0·5	34·0	0·8	S S E	Calm	..	..	10
23	29·252	35·3	34·8	0·5	..	..	S E	S by E	..	¼	10
Nov. 22. 0	29·203	35·7	35·0	0·7	..	..	S E	S S E	..	¼	10

Oct. 22d. 23h. 40m. This is the lowest barometrical reading during the year.

Oct. 22d, civil reckoning. On this day the relative moisture in the atmosphere and the range of the barometer were greater than on any other day during the month. (See the Section of Ordinary Meteorological Observations.)

GENERAL REMARKS.	Observer.
Overcast.	G
,,	
,, the Moon is just visible through the cirro-stratus.	
The same.	
The same.	G
Clouds S. of the zenith: the rest of the sky is now nearly clear.	D
The clouds are much broken: cumuli forming in the N.: the Sun is faintly shining.	G
Cumuli and light clouds.	J H
A squall of rain has just passed over: cumulo-strati and nimbi prevalent.	
Cumuli and scud: showers of rain at intervals.	J H
The sky is quite covered with a quickly-moving scud, moving from the W.N.W.: at about $7^h.25^m$ several flashes of lightning were observed in the N.	G
Overcast: cirro-stratus.	D
,, ,,	
,, ,, the Moon is visible through the clouds.	
The clouds began to disappear immediately after the last observation: at present, only a few clouds are visible in the horizon.	D
Light fleecy clouds.	J H
,,	
,,	
,,	
,,	
Cirro-stratus S.W. of the zenith; light clouds in other directions.	J H
The sky is now nearly covered with a thin cirro-stratus.	D
Overcast: cirro-stratus.	
Cirro-stratus in, and 20° above, the horizon on all sides: clear in and about the zenith.	
Overcast: cirro-stratus.	
Cirro-stratus and scud.	
The sky nearly covered with fleecy clouds.	
Cirro-stratus and fleecy clouds.	
Overcast: a thin cirro-stratus: the Moon's place visible.	D
The same	J H
Overcast: cirro-stratus.	
,, ,,	
,, ,,	
,, ,, the Moon is just visible.	
,, ,,	
,, ,, rain falling.	
,, ,, ,,	
,, ,, ,, at $20^h.20^m$, snow and rain.	
The same.	
Overcast: cirro-stratus: snow falling, but it does not lie on the ground.	J H
,, ,, rain and sleet.	P
The same.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION. from Anemometer.	WIND. DIRECTION. by Estimation.	WIND. PRESSURE. from Anemometer, in pounds per square foot.	WIND. PRESSURE. by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Nov. 22. 1	29·174	35·7	35·3	0·4	..	..	E S E	S E	..	1/4	10
2	29·165	35·8	35·3	0·5	..	..	E by S	E by S	..	1/4	10
3	29·168	36·3	35·7	0·6	..	..	Calm	E by S	..	1/4	10
4	29·182	36·0	35·5	0·5	34·0	2·0	E by S	E by S	..	1/4	10
5	29·206	36·5	36·0	0·5	..	..	Calm	E by S	..	1/4	10
6	29·232	36·2	35·5	0·7	..	..	W	W	..	1/4	10
7	29·260	36·8	36·0	0·8	..	..	W N W	W	..	1/4	10
8	29·268	36·3	35·7	0·6	..	..	W	W	..	1/4	10
9	29·289	36·3	35·7	0·6	..	..	W by S	W	..	1/4	3
10	29·301	37·2	36·3	0·9	34·0	3·2	W S W	N	..	1/4	6
11	29·310	35·5	35·0	0·5	..	..	W S W	N	..	1/4	0
12	29·339	36·0	35·3	0·7	..	..	W S W	Calm	..	..	3
14	29·353	35·5	34·7	0·8	..	..	W S W	Calm	..	..	0
16	29·370	34·0	32·8	1·2	32·0	2·0	S W	Calm	..	..	0
18	29·388	35·3	34·5	0·8	..	..	S W	Calm	..	..	7
20	29·399	36·0	35·6	0·4	..	..	S W	Calm	..	..	4
22	29·387	39·2	38·2	1·0	36·5	2·7	S W	S W	..	1/2	8
23	29·384	42·0	40·8	1·2	..	..	S W	S W	..	1/2	9
Nov. 23. 0	29·375	43·0	42·0	1·0	..	..	S W	S W	..	1/4	10
1	29·354	44·6	43·2	1·4	..	..	S W	S W	..	1/4	9
2	29·346	45·6	44·2	1·4	..	..	S W	S W	..	1/4	9
3	29·334	44·1	42·7	1·4	..	..	S S W	S W	..	1/4	9
4	29·288	43·7	42·6	1·1	41·0	2·7	S S W	S W	..	1/4	9 1/2
5	29·276	43·1	42·1	1·0	..	..	S by W	S W	..	1/4	10
6	29·250	43·0	42·3	0·7	..	..	S	Calm	..	..	10
Nov. 25. 10	28·852	43·1	41·2	1·9	39·0	4·1	S W	S W	..	1/2	0
11	28·885	43·0	40·9	2·1	..	..	W S W	S W	..	1/2	1
12	28·902	42·7	40·3	2·4	..	..	S W	S W	2 to 3	1	4
13	28·911	42·5	40·6	1·9	..	..	S W	S W	..	3/4	0
14	28·926	41·9	40·2	1·7	..	..	S W	S W	0 to 1	1—	3/4
15	28·944	41·0	39·3	1·7	..	..	S W	S W	..	3/4	4
16	28·938	40·9	38·8	2·1	37·0	3·9	S W	S W	..	1/4	0
17	28·945	40·8	39·0	1·8	..	..	S W	S W	..	1/2	0
18	28·944	40·2	38·5	1·7	..	..	S W	S W	..	1/4	6
19	28·943	39·2	37·6	1·6	..	..	S W	S S W	..	1/4	1
20	28·950	40·4	39·0	1·4	..	..	S W	S S W	..	1/4	4
21	28·980	41·5	39·6	1·9	..	..	Calm	S S W	..	..	2
22	28·991	43·4	40·7	2·7	38·0	5·4	S W	S W	..	1/2	8
23	29·011	44·9	42·5	2·4	..	..	S W	S S W	..	1/4	8
Nov. 26. 0	29·014	45·6	42·3	3·3	..	..	S W	S S W	..	1/4	4
1	29·013	46·4	42·6	3·8	..	..	S W	S W	..	1/4	5
2	29·034	47·3	43·5	3·8	..	..	S W	W S W	..	1/2	8
3	29·040	47·7	43·7	4·0	..	..	W S W	S W	..	1/4	7
4	29·066	46·4	42·5	3·9	39·0	7·4	S W	S W	..	1/2	4
5	29·086	42·7	40·5	2·2	..	..	S W	S W	..	1/4	1
6	29·106	42·1	40·2	1·9	..	..	S W	S W	..	1/4	6
7	29·125	41·4	40·0	1·4	..	..	Calm	S W	..	1/2	1/2
8	29·149	40·8	39·5	1·3	..	..	Calm	S W	..	1/2	0
9	29·163	40 2	39·0	1·2	..	..	Calm	S W	..	1/4	0

Nov. 22d, civil reckoning. The mean daily temperature was less on this day than on any other during the month. (See the Section of Ordinary Meteorological Observations.)

Nov. 25d, civil reckoning. The mean height of the barometer was less on this day than on any other in the year. (See the Section of Ordinary Meteorological Observations.)

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus: rain and sleet.	P
,, ,, a thin rain falling.	
,, ,, ,,	P
,, ,, the rain has ceased.	J H
,, ,, a few spots of rain.	
,, ,,	
,, ,, a few stars were seen in the zenith at $6^h.\ 45^m$.	
,, ,,	
Heavy vapour.	
Light fleecy clouds prevalent: wind N., as inferred from the motion of the clouds.	
Cloudless.	
Dark clouds near the Moon moving slowly from the N.W.	J H
Cloudless.	P
,,	
Light clouds in every direction.	
Clouds in every direction.	P
Cirro-stratus and fleecy clouds.	D
Cirro-stratus and scud.	
Overcast: cirro-stratus.	
Cirro-stratus and scud.	
,,	D
Clouds broken in the South: a dull-looking sky.	G
A few partial breaks in various directions.	P
Overcast: cirro-stratus and scud.	
,, ,,	P
Cloudless: but the stars look dull and watery.	G
Some dark clouds to the North: everywhere else clear.	
The southern portion of the sky is nearly covered with clouds: wind in gusts to $1\frac{1}{2}$.	G
A few clouds to the North, but none to any numerical extent.	J H
A few light clouds in the neighbourhood of the Moon; otherwise clear: gusts of wind.	
Scud chiefly S. of the zenith: a few spots of rain from passing scud.	J H
Cloudless: a fine corona around the Moon.	P
,, a very small halo around the Moon.	
Clouds scattered in every direction; the stars shining brightly between the clouds: a small halo around the Moon.	P
Thin clouds and vapour about the Moon; every other part of the sky is clear: the halo is not visible at present.	D
Haze and vapour.	D
Vapour.	J H
The sky generally covered with thin cloud: the Sun shining dimly through it.	G
The sky is mostly covered with a thin cirro-stratus.	D
Cirri S. and S.E. of the zenith: cirro-stratus in the S. near the horizon: cloudless N. of the zenith.	D
Clouds scattered over every part of the sky except the zenith, which is wholly free from clouds.	P
Cirro-stratus and scud.	J H
Stratus clouds to the North; white, flimsy clouds to the South, under which is a quickly-moving dark scud from the N.W.	G
,, scud passing from the W. S.W: upper cloud cirri situated about the zenith and N. of it.	P
A few lines of clouds in the western horizon only.	
Clouds in every direction, chiefly, however, in the W.N.W., and in the S.; stars being visible in the zenith, in the N. and in the E.	P
Vapour N.E. of the zenith, and a few small clouds in the S.W. horizon.	J H
Cloudless: the stars dim in every direction.	J H
,,	D

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION. from Anemometer.	WIND. DIRECTION. by Estimation.	WIND. PRESSURE. from Anemometer, in pounds per square foot.	WIND. PRESSURE. by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Nov. 26. 10	29·168	39·2	38·2	1·0	36·0	3·2	Calm	S W	..	1/4	1/2
Dec. 20. 18	30·158	50·1	49·6	0·5	..	..	W by S	W S W	..	1/4	10
19	30·151	50·1	49·8	0·3	..	..	W	W S W	..	1/4	10
20	30·165	50·0	49·7	0·3	..	..	W	W S W	..	1/4	10
21	30·165	49·8	49·6	0·2	..	..	W S W	W S W	..	1/4	10
22	30·198	51·0	50·5	0·5	50·0	1·0	W by S	W	..	1/4	8
23	30·217	52·7	51·5	1·2	..	..	W N W	W S W	..	1/4	10
Dec. 21. 0	30·198	54·0	52·0	2·0	..	..	N W	N W	..	1/4	10
1	30·191	54·2	52·0	2·2	..	..	N W	N W	..	1/4	10
2	30·185	53·5	51·5	2·0	..	..	W	W	..	1/4	10
3	30·196	53·8	52·1	1·7	..	..	W by S	W	..	1/4	10
4	30·188	53·2	52·0	1·2	52·0	1·2	W	Calm	..	..	10
5	30·194	52·8	51·8	1·0	..	..	S W	Calm	..	..	10
6	30·184	52·5	51·4	1·1	..	..	Calm	Calm	..	..	10
7	30·178	50·0	50·0	0·0	..	..	S W	Calm	..	..	7
8	30·189	51·0	50·5	0·5	..	..	W S W	W S W	..	1/4	10
9	30·192	50·5	50·3	0·2	..	..	W S W	W S W	..	1/4	10
10	30·188	50·1	49·8	0·3	49·5	0·6	S W	Calm	..	..	10
11	30·170	50·3	50·3	0·0	..	..	W S W	W	..	1/4	10
12	30·164	50·3	50·3	0·0	..	..	S W	W	..	1/4	10
13	30·142	49·6	49·6	0·0	..	..	W S W	W	..	1/4	10
14	30·128	49·2	49·2	0·0	..	..	S W	W S W	..	1/4	10
15	30·120	48·6	48·5	0·1	..	..	W S W	S W	..	1/4	10
16	30·115	48·2	48·1	0·1	48·0	0·2	W S W	S W	..	1/4	10
17	30·093	48·5	47·5	1·0	..	..	W S W	S W	0 to 1/2	1/2	10
18	30·084	47·7	46·5	1·2	..	..	W S W	W S W	0 to 1	3/4	10
19	30·072	48·5	48·0	0·5	..	..	W S W	W S W	0 to 2	3/4	10
20	30·075	49·2	48·7	0·5	..	..	W S W	W S W	0 to 1	3/4	10
21	30·068	49·7	48·8	0·9	..	..	W S W	W S W	0 to 1/2	1/4	10
22	30·050	49·3	48·3	1·0	48·0	1·3	W S W	W S W	0 to 1	1/4	6
23	30·024	51·6	48·5	3·1	..	..	S W	W S W	0 to 1/2	1/4	1
Dec. 22. 0	29·993	53·1	48·7	4·4	..	..	S W	W S W	1 to 4	1	1/2
1	29·968	53·5	49·0	4·5	..	..	W S W	W S W	1 to 2	3/4	0
2	29·955	52·5	48·7	3·8	..	..	W S W	W S W	1/2 to 2	1/4	0
3	29·931	51·8	48·2	3·6	..	..	W S W	W S W	1 to 3 1/2	1/2	0
4	29·924	50·2	47·4	2·8	46·0	4·2	W S W	W S W	1/2 to 1	1/2	0
5	29·912	48·0	46·3	1·7	..	..	W S W	W	..	1/4	0
6	29·900	46·8	45·2	1·6	..	..	S W	W	..	1/2	0
7	29·877	47·8	46·8	1·0	..	..	S W	W	..	1/4	10
8	29·859	49·3	47·8	1·5	..	..	S W	W	1/2 to 2	3/4	10
9	29·843	48·7	47·0	1·7	..	..	S W	W	1/2 to 2	3/4	6
10	29·825	48·7	46·8	1·9	45·5	3·2	W S W	W	1/2 to 3	1	10
11	29·813	49·0	46·8	2·2	..	..	S W	W	1 to 3 1/2	1	10
12	29·772	49·0	47·2	1·8	..	..	S W	W S W	1 1/2 to 3	1	10
13	29·731	48·8	47·2	1·6	..	..	S W	S W	1 to 2 1/2	1	10
14	29·706	48·5	47·2	1·3	..	..	S W	S W	1 to 3	1	10
15	29·681	48·6	47·0	1·6	..	..	S W	S W	2 to 3 1/2	1 1/2	9
16	29·658	48·9	47·2	1·7	46·5	2·4	S W	S W	1/2 to 2	1 1/2	10
17	29·608	49·0	47·5	1·5	..	..	S W	S W	1 to 3 1/2	1	10
18	29·569	48·1	47·4	0·7	..	..	S W	S W	1/2 to 1	1	10
19	29·532	48·0	47·6	0·4	..	..	S W	S W	1/2 to 1	1/2	10

GENERAL REMARKS.	Observer.
The horizon thick in the S.; every other part of the sky is brilliantly clear.	D
Overcast: cirro-stratus.	P
,, ,,	
,, ,,	
,, ,,	P
,, and scud.	J H
,, ,,	J H
,, ,,	D
,, ,,	D
,, ,,	J H
,, ,,	J H
,, cirro-stratus.	P
,, ,,	
,, ,,	
Stars shining faintly in the zenith and its neighbourhood; the rest of the sky being overcast.	
Overcast: cirro-stratus.	
,, ,,	P
,, ,, a thick wetting mist.	G
The same.	
The same.	
Overcast: cirro-stratus.	
,, ,, a very light rain falling, or a very heavy mist.	G
,, ,,	D
,, ,,	D
Cirro-stratus and scud.	J H
Cirro-stratus: scud passing rapidly from the W.	
Cirro-stratus and scud.	
,,	J H
Overcast: cirro-stratus and scud: at $21^h.\ 15^m$ breaks appeared in every direction: the Moon is visible in the S.W.	P
Loose scud in every direction, but chiefly South of the zenith.	P
A few light clouds near the S. horizon.	D
Scud and light clouds: gusts of wind.	J H
Cloudless: the wind blowing in gusts.	P
The same.	J H
The same.	D
Cloudless.	D
,,	G
,,	G
,, cirro-stratus and scud: the clouds came up about $6^h.\ 20^m$, and soon covered the sky.	P
,, ,, the wind blowing in moderate gusts.	P
Scud and vapour.	J H
Cirro-stratus and scud: strong gusts of wind.	
The same.	J H
The same.	D
Overcast: cirro-stratus and scud: strong gusts of wind.	
,, ,, the Moon's place visible.	
A few stars are shining in the zenith: the clouds (chiefly scud) are passing over with great rapidity.	
Overcast: cirro-stratus and scud: the Moon is occasionally visible.	
,, ,,	
,, ,, a misty rain falling.	
,, ,, the Moon's place faintly visible: slight rain.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION. from Anemometer.	WIND. DIRECTION. by Estimation.	WIND. PRESSURE. from Anemometer, in pounds per square foot.	WIND. PRESSURE. by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Dec. 22. 20	29·526	48·2	47·6	0·6	..	..	S W	S W	½ to 4	½	10
21	29·519	46·0	45·8	0·2	..	..	W S W	W S W	..	1¼	10
22	29·508	46·1	45·4	0·7	43·0	3·1	S W	W S W	..	½	10
23	29·499	45·6	44·8	0·8	..	..	S W	W S W	..	¾	10
Dec. 23. 0	29·495	45·5	45·0	0·5	..	..	S W	W S W	..	½	10
1	29·462	44·0	43·8	0·2	..	..	W S W	W S W	..	¾	10
2	29·459	45·2	43·5	1·7	..	..	W S W	W S W	..	½	10
3	29·455	45·1	43·1	2·0	..	..	S W	W S W	..	½	10
4	29·455	43·7	41·6	2·1	41·0	2·7	S W	W S W	..	¼	10
5	29·459	42·6	41·0	1·6	..	..	W S W	W S W	..	¼	10
6	29·456	41·0	39·6	1·4	..	..	W S W	SW	..	¼	5
7	29·468	41·0	40·0	1·0	..	..	Calm	SW	..	¼	10
8	29·489	41·2	40·1	1·1	..	..	W	S W	..	¼	10
9	29·510	40·6	39·6	1·0	..	..	W S W	W S W	..	¼	9
10	29·518	38·5	37·1	1·4	36·0	2·5	W S W	W S W	..	¼	4
11	29·522	36·6	35·4	1·2	..	..	W S W	W S W	..	¼	0
12	29·516	35·0	33·3	1·7	..	..	W S W	W S W	..	¼	½
14	29·525	34·7	33·4	1·3	..	..	W S W	W S W	..	½	0
16	29·516	34·1	33·0	1·1	32·0	2·1	W S W	W S W	..	¼	0
18	29·517	33·5	32·5	1·0	..	..	W S W	W S W	..	½	0
20	29·532	33·0	32·1	0·9	..	..	W S W	W S W	..	½	0
22	29·574	34·8	33·8	1·0	33·0	1·8	W S W	W S W	..	¼	1
23	29·592	36·5	35·2	1·3	..	..	W S W	W S W	..	¼	0
Dec. 24. 0	29·586	38·2	36·9	1·3	..	..	W S W	W S W	..	¼	0
1	29·587	39·4	37·2	2·2	..	..	W S W	W S W	..	¼	0
2	29·587	40·2	37·8	2·4	..	..	W S W	W S W	..	¼	0
3	29·591	40·6	37·4	3·2	..	..	W S W	W S W	..	¼	0
4	29·611	39·0	37·0	2·0	35·5	3·5	S W	W S W	..	¼	0
5	29·627	37·8	35·5	2·3	..	..	W S W	W S W	..	¼	0
6	29·640	35·8	35·0	0·8	..	..	S W	W S W	..	¼	0
7	29·659	35·5	34·8	0·7	..	..	W S W	W S W	..	¼	1
8	29·677	34·3	33·5	0·8	..	..	W S W	W S W	..	½	1½
9	29·683	34·5	34·0	0·5	..	..	W S W	W S W	..	¼	½
10	29·695	33·7	33·0	0·7	32·5	1·2	W S W	W S W	..	¼	0
11	29·706	33·0	32·5	0·5	..	..	W S W	W S W	..	¼	0
12	29·715	33·5	32·8	0·7	..	..	W S W	W S W	..	¼	0

Dec. 23d, civil reckoning. The range of the thermometer was greater on this day than on any other day in the month. (See the Section of Ordinary Meteorological Observations.)

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and scud: rain falling.	D
,, ,, ,,	D
,, ,, slight rain falling.	J H
,, ,, rain falling.	
The same.	
Overcast: cirro-stratus and scud: heavy rain continued falling until $0^h.\ 40^m$, when it moderated.	
,, ,, slight rain.	
,, ,, rain has ceased.	J H
,, ,,	D
,, ,, clouds lighter N.W. of the zenith.	
The sky to the W., and 60° around the zenith, is nearly clear: the other portions are still covered with cirro-stratus.	
About $6^h.\ 30^m$ the sky again became quite overcast, and continues so.	
Overcast: cirro-stratus and vapour.	
Cirro-stratus and vapour: a few stars have been faintly visible since $8^h.\ 5^m$.	
Heavy vapour: cirro-stratus in the horizon.	
Cloudless.	D
Vapour in various directions.	J H
Cloudless.	
,,	
,,	
,, white frost.	J H
A few light clouds S. of the zenith.	D
Cloudless.	
,,	
,,	
,,	
,,	D
,,	J H
,, hazy.	
,,	
Vapour: principally North of the zenith.	
,,	
,,	
,,	
Cloudless.	J H
,,	G

Dec. 24^d, civil reckoning. This day was nearly cloudless, and is one of the eighteen days in the year considered cloudless.

ROYAL OBSERVATORY, GREENWICH.

EXTRAORDINARY METEOROLOGICAL OBSERVATIONS.

1842.

OBSERVATIONS WITH THE ACTINOMETER.

Day, 1842.	Greenwich Mean Solar Time of the Initial Reading.	Instrument exposed to the Sun's Rays or in the Shade.	Readings of the Graduated Scale. Initial A	Readings of the Graduated Scale. Terminal B	Change in One Minute. B−A	Apparent Effect of Sun's Radiation in Parts of the Scale.	Mean Result of each Group in Parts of the Scale.	Greenwich Mean Solar Time corresponding to the Mean of each Group.	Altitude of the Sun.	GENERAL REMARKS.	Observer.
	h m s		d	d	d	d	d	h m s	°		
Jan. 26	22. 2. 55	Sun	5·5	19·8	+14·3					Cloudless.	
	4. 25	Shade	24·2	27·2	+ 3·0	10·4				,,	
	5·55	Sun	34·8	47·2	+12·4	9·2				,,	
	7. 25	Shade	54·3	57·8	+ 3·5	10·8	10·78	22. 7. 10	16	,,	G
	8. 55	Sun	65·8	82·0	+16·2	12·8				,,	
	22. 10. 25	Shade	84·2	87·5	+ 3·3					,,	
Jan. 26	22. 42. 48	Sun	4·4	23·2	+18·8					Cloudless.	
	44. 18	Shade	25·2	26·2	+ 1·0	17·3				,,	
	45. 48	Sun	34·2	51·9	+17·7	16·8				,,	
	47. 18	Shade	52·2	52·9	+ 0·7	16·2				,,	
	48. 48	Sun	59·8	75·8	+16·0	15·8				,,	
	50. 17	Shade	75·8	75·4	− 0·4	16·4				,,	
	51. 47	Sun	81·9	97·8	+15·9	16·0				,,	
	53. 17	Shade	13·8	13·9	+ 0·1	15. 4	16·79	22. 53. 47	19	,, the compressing-screw was withdrawn a little.	G
	54. 47	Sun	22·1	37·2	+15·1	16. 2				,,	
	56. 17	Shade	38·1	35·9	− 2·2	17·3				,,	
	57. 46	Sun	43·1	58·1	+15·0	17·2				,,	
	22. 59. 16	Shade	57·3	55·1	− 2·2	16·9				,,	
	23. 0. 46	Sun	61·9	76·2	+14·3	17·1				,,	
	2. 16	Shade	4·7	1·3	− 3·4	19·6				,, the compressing-screw was withdrawn a little.	
	23. 3. 45	Sun	9·3	27·4	+18·1					,,	
Jan. 26	23. 24. 41	Sun	8·8	22·8	+14·0					Cloudless.	
	26. 11	Shade	22·1	18·1	− 4·0	19·7				,,	
	27. 41	Sun	25·8	43·2	+17·4	21·5				,,	
	29. 11	Shade	42·2	38·1	− 4·1	22·1				,,	
	30. 41	Sun	43·0	61·5	+18·5	22·9				,,	
	32. 11	Shade	60·4	55·8	− 4·6	22·3				,,	
	33. 41	Sun	62·9	79·8	+16·9	21·3				,,	
	35. 11	Shade	7·4	3·2	− 4·2	21·0				,, the compressing-screw was withdrawn.	
	36. 41	Sun	10·1	26·8	+16·7	21·8	21·53	23. 37. 11	20	,,	G
	38. 11	Shade	25·1	19·2	− 5·9	21·8				,,	
	39. 41	Sun	26·2	41·3	+15·1	20·9				,,	
	41. 11	Shade	39·4	33·8	− 5·6	21·2				,,	
	42. 41	Sun	42·5	38·5	+16·0	21·8				,,	
	44. 11	Shade	56·8	50·8	− 6·0	21·4				,,	
	45. 41	Sun	57·3	72·0	+14·7	21·2				,,	
	47. 11	Shade	70·1	63·2	− 6·9	22·0				,,	
	23. 48. 41	Sun	69·8	85·2	+15·4					,,	
Jan. 28	21. 43. 0	Sun	6·1	17·8	+11·7					Cloudless, and nearly calm.	
	44. 30	Shade	20·1	22·1	+ 2·0	10·3					
	46. 0	Sun	27·3	40·1	+12·8	11·2					
	47. 30	Shade	41·9	43·2	+ 1·3	11·7	10·84	21. 48. 0	15		G
	49. 0	Sun	49·2	61·8	+12·6	10·9					
	50. 30	Shade	62·8	65·5	+ 2·7	10·1					
	21. 52. 0	Sun	71·8	84·8	+13·0						
Jan. 28	23. 21. 0	Sun	5·4	10·2	+ 4·8					The Sun obscured by cirri.	
	22. 30	Shade	10·2	8·5	− 1·7	7·1					
	24. 0	Sun	11·1	17·1	+ 6·0	10·6	10·37	23. 24. 30	20	Very hazy about the Sun.	G
	25. 30	Shade	16·1	8·7	− 7·4	13·4					
	23. 27. 0	Sun	16·0	21·9	+ 5·9					Clear about the Sun, but still hazy.	

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	h m s		d	d	d	d	d	h m s	°		
Feb. 26	22. 24. 36	Sun	4·5	30·2	+25·7					Cloudless.	
	26. 6	Shade	31·8	32·0	+ 0·2	24·9				,,	
	27. 36	Sun	43·8	68·2	+24·4	25·3	25·07	22. 28. 6	27	,,	G
	29. 6	Shade	69·1	67·2	− 1·9	25·0				,,	
	22. 30. 36	Sun	70·2	92·0	+21·8					,, the compressing-screw was then withdrawn, and the column was full of blebs; as soon as the instrument was cleared of them the next series was taken.	
Feb. 26	22. 33. 36	Sun	0·9	25·5	+24·6					Cloudless.	
	35. 6	Shade	24·5	23·5	− 1·0	22·3				During 15ˢ, thin strati passed over the Sun.	
	36. 36	Sun	22·6	40·5	+17·9	20·3	22. 30	22. 37. 6	28		G
	38. 6	Shade	41·0	37·2	− 3·8	24·3				Cloudless: nearly calm: a whitish blue sky.	
	39. 36	Sun	35·5	58·5	+23·0	27·9				,,	
	41. 6	Shade	54·0	48·0	− 6·0	31·9				,,	
	42. 36	Sun	46·5	75·2	+28·7	34·7	31·74	22. 43. 6	28	,, [drawn.	G
	44. 6	Shade	8·0	2·0	− 6·0	33·0				,, ,, the compressing-screw was with-	
	45. 36	Sun	0·0	25·3	+25·3	31·2				A loose thin cumulus passed over the Sun between 22ʰ. 46ᵐ. 1ˢ, [and 22ʰ. 46ᵐ. 8ˢ.	
	47. 6	Shade	19·0	13·2	− 5·8	26·9					
	48. 36	Sun	10·2	27·0	+16·8	22·7	24. 87	22. 49. 6	28	Loose cumuli passing over: the shadow cast by the Sun is alternately faint and bright.	G
	50. 6	Shade	20·5	14·5	− 6·0	25·0				No clouds about the Sun.	
	51. 36	Sun	12·2	33·3	+21·1	27·4					
	53. 6	Shade	31·8	25·2	− 6·6	28·0	27·98	22. 54. 21	28	,,	G
	54. 36	Sun	22·7	44·3	+21·6	28·4				,, the wind is strong.	
	56. 6	Shade	43. 2	36·2	− 7·0	28·1				,,	
	22. 57. 36	Sun	42. 0	62·5	+20·5					,,	
Feb. 26	23. 39. 36	Sun	15·5	33·5	+18·0					The Sun was obscured by clouds for about 5ˢ.	
	41. 6	Shade	33·0	25·3	− 7·7	23·9					
	42. 36	Sun	22·5	36·8	+14·3	22·6	24·40	23. 43. 6	30	Loose cumuli, or scud, passing over the Sun for 8ˢ.	G
	44. 6	Shade	34·1	25·2	− 8·9	26·7					
	45. 36	Sun	19·8	41·0	+21·2	30·9				Cloudless.	
	47. 6	Shade	38·2	27·8	−10·4	31·0				,,	
	48. 36	Sun	24·5	44·5	+20·0	30·4				,,	
	50. 6	Shade	40·9	30·6	−10·3	30·2				,,	
	51. 36	Sun	27·2	46·9	+19·7	29·8				,,	
	53. 6	Shade	45·0	35·2	− 9·8	28·8	30·14	23. 53. 36	30	,,	G
	54. 36	Sun	30·9	49·2	+18·3	28·7				,,	
	56. 6	Shade	6·0	−5·0	−11·0	30·6				,, the compressing-screw was withdrawn after the columns	
	57. 36	Sun	2·0	22·8	+20·8	30·9				,, [had been cleared of some blebs which had appeared.	
Feb. 26	23. 59. 6	Shade	20·0	10·9	− 9·1	30·1				,,	
Feb. 27	0. 0. 36	Sun	5·0	26·2	+21·2	30·1				,,	
	2. 6	Shade	23·2	14·5	− 8·7	22·9				,,	
	3. 36	Sun	10·0	17·2	+ 7·2	17·1				The Sun was obscured by cumuli for about 31ˢ.	
	5. 6	Shade	14·2	3·1	−11·1	22·5	22·17	0. 6. 21	30	The Sun was obscured by cumulo-strati for about 10ˢ.	G
	6. 36	Sun	−2·0	13·5	+15·5	26·0				The Sun was obscured by cumulo-strati for about 3ˢ.	
	8. 6	Shade	17·1	7·2	− 9·9	23·4				The Sun was obscured by cumulo-strati for about 15ˢ.	
	9. 36	Sun	1·5	12·9	+11·4	21·1				The Sun was obscured by cumulo-strati for about 13ˢ.	
	11. 6	Shade	11·2	1·8	− 9·4	25·7				No clouds near the Sun.	
	12. 36	Sun	−2·0	19·2	+21·2	30·4					
	14. 6	Shade	16·8	7·9	− 8·9	22·1				,,	
	15. 36	Sun	2·1	7·2	+ 5·1	14·6				The Sun behind a cumulus cloud for 37ˢ. [observation.	
	0. 17. 6	Shade	15·5	5·5	−10·0					The Sun behind a cumulus cloud during all the time of this	
Feb. 28	22. 48. 53	Sun	1·9	30·9	+29·0					Cloudless.	

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	h m s		d	d	d	d	d	h m s	°		
Feb. 28	22. 50. 23	Shade	34·2	38·5	+ 4·3	23·0				Cloudless.	
	51. 53	Sun	41·9	67·5	+25·6	22·0				,,	
	53. 23	Shade	70·6	73·5	+ 2·9	22·3				,,	
	54. 53	Sun	2·2	27·0	+24·8	22·1	21·45	22. 54. 38	29	,, the compressing-screw withdrawn.	G
	56. 23	Shade	29·2	31·8	+ 2·6	20·3				,,	
	57. 53	Sun	32·8	53·8	+21·0	19·0				,,	
	22. 59. 23	Shade	55·6	57·0	+ 1·4	16·4				,,	
	23. 0. 53	Sun	58·2	72·8	+14·6	13·6				The Sun in a haze.	
	2. 23	Shade	73·8	74·4	+ 0·6	14·7	14·80	23. 2. 53	29	,,	
	3. 53	Sun	2·5	18·5	+16·0	15·7				,, the compressing-screw withdrawn.	G
	5. 23	Shade	19·8	19·9	+ 0·1	13·6				The Sun in thin clouds.	
	23. 6. 53	Sun	20·0	31·3	+11·3					The Sun in cirri.	
Apr. 28	23. 37. 54	Sun	0·7	42·0	+41·3					No clouds near the Sun.	
	39. 24	Shade	47·5	54·1	+ 6·6	29·4				,,	
	40. 54	Sun	59·5	90·2	+30·7	24·4				,,	
	42. 24	Shade	94·0	100·1	+ 6·1	27·2				,, [drawn.	
	43. 54	Sun	0·0	35·8	+35·8	29·8				,, the compressing-screw was with-	
	45. 24	Shade	41·1	47·1	+ 6·0	31·4	30·13	23. 45. 54	53	,,	G
	46. 54	Sun	46·2	85·1	+38·9	33·0				,,	
	48. 24	Shade	0·0	5·9	+ 5·9	33·0				,,	
	49. 54	Sun	9·0	47·9	+38·9	32·9				,, the compressing-screw withdrawn.	
	51. 24	Shade	51·8	58·0	+ 6·2	30·1				,,	
	52. 54	Sun	61·5	95·2	+33·7	28·4				,,	
	54. 24	Shade	0·9	5·4	+ 4·5	31·7				The Sun is in a thin cloud.	
	55. 54	Sun	8·5	47·2	+38·7	31·8				No clouds near the Sun; the compressing-screw withdrawn.	
	57. 24	Shade	46·5	55·8	+ 9·3	31·0				,,	
	23. 58. 54	Sun	58·2	100·0	+41·8	34·9				,,	
Apr. 29	0. 0. 24	Shade	0·6	5·1	+ 4·5	35·9	32·48	0. 0. 54	53	,,	
	1. 54	Sun	7·2	46·1	+38·9	32·1				,, the screw withdrawn.	G
	3. 24	Shade	46·0	55·2	+ 9·2	29·0				,,	
	4. 54	Sun	59·1	96·5	+37·4	30·9				,,	
	6. 24	Shade	0·2	4·0	+ 3·8	35·0				,,	
	7. 54	Sun	6·0	46·2	+40·2	36·3				,, the screw withdrawn.	
	9. 24	Shade	49·2	53·3	+ 4·1	34·4				,,	
	10. 54	Sun	54·8	91·5	+36·7	34·2				,,	
	12. 24	Shade	0·0	1·0	+ 1·0	37·7				,,	
	13. 54	Sun	1·2	41·9	+40·7	39·3	36·34	0. 13. 39	53	,, the screw withdrawn.	G
	15. 24	Shade	45·1	47·0	+ 1·9	37·0				,,	
	16. 54	Sun	49·1	86·2	+37·1	35·3				,,	
	18. 24	Shade	2·2	4·0	+ 1·8	36·5				,,	
	0. 19. 54	Sun	6·5	46·0	+39·5					,, the screw withdrawn.	
Apr. 29	23. 15. 54	Sun	1·9	39·5	+37·6					,,	
	17. 24	Shade	42·6	48·8	+ 6·2	31·1				Cloudless.	
	18. 54	Sun	56·0	93·0	+37·0	31·2				,,	
	20. 24	Shade	96·5	102·0	+ 5·5	31·8	32·14	23. 20. 54	53	,,	
	21. 54	Sun	1·5	39·1	+37·6	32·5				,,	G
	23. 24	Shade	43·1	47·8	+ 4·7	34·1				,, the compressing-screw withdrawn.	
	24. 54	Sun	50·0	90·0	+40·0	35·0				,,	
	26. 24	Shade	0·2	5·5	+ 5·3	33·9				,,	
	27. 54	Sun	8·8	48·0	+39·2	33·8				,, the screw withdrawn.	
	29. 24	Shade	53·3	58·1	+ 4·8	34·3	34·50	23. 29. 54	53	,,	G
	30. 54	Sun	60·0	99·0	+39·0	34·9				,,	
	32. 24	Shade	0·0	3·5	+ 3·5	35·1				,,	
										,, the screw withdrawn.	

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	h m s		d	d	d	d	d	h m s	°		
Apr. 29	23. 33. 54	Sun	4·8	43·0	+38·2					Cloudless.	
Apr. 30	0. 1. 54	Sun	2·5	38·7	+36·2					,,	
	3. 24	Shade	41·7	42·7	+ 1·0	34·1				,,	
	4. 54	Sun	43·6	77·5	+33·9	32·9				,,	
	6. 24	Shade	79·2	80·2	+ 1·0	31·4				,,	
	7. 54	Sun	2·1	33·0	+30·9	30·3				,, the compressing-screw withdrawn.	
	9 24	Shade	35·4	35·7	+ 0·3	32·4	33·12	0. 9. 54	53	,,	G
	10. 54	Sun	37·1	71·5	+34·4	34·5				,,	
	12. 24	Shade	73·3	72·8	− 0·5	34·1				,,	
	13. 54	Sun	1·5	34·2	+32·7	33·7				,, the screw withdrawn.	
	15. 24	Shade	35·3	33·8	− 1·5	34·7				,,	
	0. 16. 54	Sun	34·5	68·1	+33·6					,,	
Apr. 30	1. 4. 54	Sun	3·0	33·0	+30·0					Cloudless.	
	6. 24	Shade	33·8	32·8	− 1·0	29·1				,,	
	7. 54	Sun	33·5	59·6	+26·1	28·4				,,	
	9. 24	Shade	60·0	56·5	− 3·5	30·7	29·78	1. 9. 54	51	,,	G
	10. 54	Sun	54·5	82·8	+28·3	31·3				,,	
	12. 24	Shade	1·5	1·0	− 2·5	29·4				,, the screw withdrawn.	
	1. 13. 54	Sun	9·5	35·0	+25·5					,,	
May 26	22. 5. 55	Sun	1·1	26·2	+25·1					Thin white cumuli about the Sun for 25ˢ.	
	7. 25	Shade	29·5	36·8	+ 7·3	19·6					
	8. 55	Sun	40·1	68·7	+28·6	21·0				The Sun was in white cumulus cloud for 5ˢ.	
	10. 25	Shade	73·8	81·8	+ 8·0	24·9				Cloudless.	
	11. 55	Sun	3·1	40·2	+37·1	28·9	25·73	22. 12. 25	53	No clouds near the Sun: the compressing-screw withdrawn.	G
	13. 25	Shade	45·0	53·5	+ 8·5	23·4				,,	
	14. 55	Sun	57·5	84·2	+26·7	19·7				A white cloud covered the Sun for 7ˢ.	
	16. 25	Shade	1·5	7·0	+ 5·5	26·3				The screw withdrawn.	
	17. 55	Sun	7·2	44·0	+36·8	30·3				No clouds near the Sun.	
	19. 25	Shade	46·5	54·0	+ 7·5	28·4	27·46	22. 19. 55	54	,,	G
	20. 55	Sun	58·5	93·5	+35·0	27·5				,,	
	22. 25	Shade	4·0	11·5	+ 7·5	24·8				,, the screw withdrawn.	
	23. 55	Sun	11·5	41·0	+29·5	22·9				A thin cloud covered the Sun for 40ˢ.	
	25. 25	Shade	45·2	51·0	+ 5·8	25·4				No clouds near the Sun.	
	26. 55	Sun	3·2	36·0	+32·8	25·4				,, the screw withdrawn.	
	28. 25	Shade	51·0	60·0	+ 9·0	24·9	25·84	22. 28. 55	55	,,	G
	29. 55	Sun	63·1	98·1	+35·0	27·8				,,	
	31. 25	Shade	2·2	5·7	+ 3·5	25·7				,, the screw withdrawn.	
	32. 55	Sun	7·5	32·0	+24·5	20·3				The Sun was in a cumulus cloud for 20ˢ.	
	34. 25	Shade	36·0	41·9	+ 5·9	15·9				After this observation large clouds came up, and the Sun was not free from clouds for one minute at a time: the wind was blowing gently from S. S. W.: the Sun, when free of cloud, did not cast a well-defined shadow.	
	22. 35. 55	Sun	45·0	64·0	+19·0						
May 29	22. 33. 50	Sun	1·0	44·8	+43·8					No clouds about the place of the Sun.	
	35. 20	Shade	51·2	67·1	+15·9	27·7				,, ,, [withdrawn.	
	36. 50	Sun	1·2	44·5	+43·3	28·1	28·05	22. 38. 5	57	,, ,, the compressing-screw	G
	38. 20	Shade	53·0	67·5	+14·5	28·0				,, ,,	
	39. 50	Sun	2·5	44·2	+41·7	28·4				The Sun was behind a cloud for about 5ˢ: the screw withdrawn.	
	41. 20	Shade	54·0	66·2	+12·2	27·2					
	42. 50	Sun	1·2	38·2	+37·0	25·3				Cirri collecting: the Sun has been in cloud 25ˢ: the screw [withdrawn.	

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	h m s		d	d	d	d	d	h m s			
May 29	22. 44. 20	Shade	45·8	57·0	+11·2	17·6					
	22. 45. 50	Sun	0·5	21·1	+20·6					Cumuli about the Sun.	
May 29	22. 50. 50	Sun	1·0	42·0	+41·0					Cloudless.	
	52. 20	Shade	47·1	55·7	+ 8·6	32·0				,,	
	53. 50	Sun	59·8	100·0	+40·2	31·9				,,	
	55. 20	Shade	1·1	9·2	+ 8·1	29·9				,, the screw withdrawn.	
	56. 50	Sun	9·2	45·0	+35·8	28·4	31·67	22. 57. 20	58	The Sun in cirri for 3s.	G
	58. 20	Shade	3·1	9·8	+ 6·7	31·2				Cloudless: the screw withdrawn.	
	22. 59. 50	Sun	13·1	53·0	+39·9	34·5				,,	
	23. 1. 20	Shade	58·0	62·2	+ 4·2	33·8				,,	
	23. 2. 50	Sun	0·9	37·0	+36·1					,, the screw withdrawn.	
May 30	22. 49. 50	Sun	2·1	38·0	+35·9					Cloudless.	
	51. 20	Shade	43·5	51·0	+ 7·5	27·8				,,	
	52. 50	Sun	53·5	88·1	+34·6	27·9				,,	
	54. 20	Shade	2·1	8·1	+ 6·0	28·0				,, the compressing screw withdrawn a little.	
	55. 50	Sun	10·2	43·5	+33·3	28·6				,,	
	57. 20	Shade	47·2	50·7	+ 3·5	28·6	27·34	22. 57. 50	58	,,	G
	22. 58. 50	Sun	52·2	83·0	+30·8	27·1				,,	
	23. 0. 20	Shade	2·1	6·0	+ 3·9	26·3				,, the screw withdrawn.	
	1. 50	Sun	7·4	36·9	+29·5	28·0				,,	
	3. 20	Shade	40·0	39·2	− 0·8	23·8				White cumuli over the Sun.	
	23. 4. 50	Sun	39·1	55·5	+16·4					,,	
July 7	16. 46. 57	Sun	1·5	1·0	− 0 5					Overcast: cirro-stratus.	
	48. 27	Shade	0·5	−0 5	− 1·0	0·0				,, ,, [in a little.	
	49. 57	Sun	−1·5	−3·0	− 1·5	−0·5				,, ,, the compressing screw was forced	
	51. 27	Shade	6·0	5·0	− 1·0	−0·5				,, ,,	
	52. 57	Sun	4·2	2·7	− 1·5	−0·3	−0·2	16. 53. 27	8	,, ,, the beginning of the eclipse.	G
	54. 27	Shade	1·9	0·5	− 1·4	0·0				,, ,,	
	55. 57	Sun	15·5	14·2	− 1·3	0·0				,, ,, the screw was forced in a little.	
	57. 27	Shade	13·2	12·0	− 1·2	−0·1				,, ,,	
	16. 58. 57	Sun	10·1	8·9	− 1·2					,, ,, [gloom prevails.	
July 7	17. 13. 57	Sun	38·7	38·1	− 0·6					The sky is still overcast: a heavy cloud on the Sun; a sensible	
	15. 27	Shade	36·5	35·0	− 1·5	+0·3				The clouds are much darker.	
	16. 57	Sun	33·9	32·1	− 1·8	0·0	0·3	17. 17. 27	11	The Sun is just visible.	G
	18. 27	Shade	31·9	29·8	− 2·1	+0·6					
	17. 19. 57	Sun	29·5	28·2	− 1·3					A dark gloom over London, and in the West.	
July 7	17. 24. 57	Sun	23·2	22·2	− 1·0					The Sun is just visible.	
	26. 27	Shade	21·5	19·5	− 2·0	+1·0					
	27. 57	Sun	19·1	18·1	− 1·0	+0·5	0·6	17. 28. 27	13	A faint shadow is cast.	G
	29. 27	Shade	17·0	16·0	− 1·0	+0·2					
	17. 30. 57	Sun	15·5	14·8	− 0·7						
July 7	17. 33. 57	Sun	11·5	10·5	− 1·0					Overcast.	
	35. 27	Shade	9·8	8·8	− 1·0	0·0				,,	
	36. 57	Sun	8·0	7·0	− 1·0	+0·2	0·20	17. 37. 27	14	,,	G
	38. 27	Shade	6·5	5·2	− 1·3	+0·4				,,	
	17. 39. 57	Sun	4·9	4·0	− 0·9					,,	
July 7	17. 43. 57	Sun	36·0	35·5	− 0·5					A faint shadow is cast by the Sun.	

In every observation, whether in the Sun's rays or in the shade, the Terminal Reading was taken exactly one minute after the Initial Reading.
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July 7d. The observations were taken before the commencement of the Solar Eclipse, during its continuance, and for a short time after its ending.

OBSERVATIONS WITH THE ACTINOMETER.

Day, 1842.	Greenwich Mean Solar Time of the Initial Reading.	Instrument exposed to the Sun's Rays or in the Shade.	Readings of the Graduated Scale. Initial A	Terminal B	Change in One Minute. B−A.	Apparent Effect of Sun's Radiation in Parts of the Scale.	Mean Result of each Group in Parts of the Scale.	Greenwich Mean Solar Time corresponding to the Mean of each Group	Altitude of the Sun.	GENERAL REMARKS.	Observer.
	h m s		d	d	d	d	d	h m s			
July 7	17. 45. 27	Shade	35·4	34·5	− 0·9	+0·6				Greatest obscuration: a very considerable gloom now pre-	
	46. 57	Sun	34·2	34·0	− 0·2	+0·7	0·63	17. 47. 27	16	[vails.	G
	48. 27	Shade	33·1	32·2	− 0·9	+0·6					
	17. 49. 57	Sun	31·8	31·4	− 0·4						
July 7	17. 51. 57	Sun	29·1	28·5	− 0·6						
	53. 27	Shade	28·0	27·1	− 0·9	−0·2				A quantity of cloud is coming up: clear blue sky to the N.	
	54. 57	Sun	27·5	25·9	− 1·6	−0·6	− 0·23	17. 55. 27	17		G
	56. 27	Shade	25·0	24·0	− 1·0	+0·1				Rays, below the Sun, perpendicularly downwards.	
	17. 57. 57	Sun	23·8	23·5	− 0·3					The appearance of the sky is sensibly lighter.	
July 7	18. 5. 57	Sun	23·0	24·0	+ 1·0					The Sun is still visible, but remains partially obscured.	
	7. 27	Shade	25·0	25·1	+ 0·1	+0·7					
	8. 57	Sun	25·4	26·0	+ 0·6	+0·6	0·43	18. 9. 27	19		G
	10. 27	Shade	25·9	25·9	0·0	0·0				The Sun is now quite obscured.	
	18. 11. 57	Sun	25·9	25·3	− 0·6						
July 7	18. 20. 57	Sun	24·5	23·9	− 0·6					The Sun's place is faintly visible.	
	22. 27	Shade	23·9	23·3	− 0·6	+0·3					
	23. 57	Sun	23·2	23·2	0·0	+0·6	0·53	18. 24. 27	22		G
	25. 27	Shade	22·8	22·3	− 0·5	+0·7				A little brighter.	
	18. 26. 57	Sun	22·1	22·5	+ 0·4						
July 7	18. 30. 57	Sun	21·3	21·5	+ 0·2						
	32. 27	Shade	21·2	21·0	− 0·2	+0·1					
	33. 57	Sun	20·9	20·5	− 0·4	−0·2	0·00	18. 34. 27	25		G
	35. 27	Shade	20·2	19·9	− 0·3	+0·1					
	18. 36. 57	Sun	19·8	19·8	0·0					The eclipse is nearly over: the end was not visible, as the	
										[Sun became again obscured.	
July 7	18. 59. 57	Sun	17·6	18·3	+ 0·7						
	19. 1. 27	Shade	18·1	18·0	− 0·1	+0·6					
	2. 57	Sun	18·0	18·3	+ 0·3	+0·4	0·47	19. 3. 27	29		G
	4. 27	Shade	18·4	18·3	− 0·1	+0·4					
	19. 5. 57	Sun	18·3	18·6	+ 0·3					A cirro-stratus cloud prevailed during the eclipse; the Sun's place was just visible nearly the whole time; no terrestrial tints were noticed; a streak of blue sky was in the N. all the time; the gloom to the West was considerable, the clouds looking very dark: at the greatest obscuration the appearances of objects were much the same as they are a little after sunset.	
July 15	22. 52. 2	Sun	37·5	78·5	+41·0					Cloudless: currents of air occasionally swept past the instru-	
	53. 32	Shade	83·7	90·2	+ 6·5	33·9				,, [ment during this series.	
	55. 2	Sun	7·0	46·8	+39·8	33·0				,, the compressing-screw withdrawn.	
	56. 32	Shade	57·5	64·6	+ 7·1	33·3				,,	
	58. 2	Sun	5·5	46·5	+41·0	34·1				,, the screw withdrawn.	
	22. 59. 32	Shade	54·5	61·2	+ 6·7	33·8				,,	
	23. 1. 2	Sun	4·5	44·5	+40·0	34·0				,, the screw withdrawn.	
	2. 32	Shad	49·8	55·2	+ 5·4	34·9				,,	
	4. 2	Sun	5·5	46·0	+40·5	35·2	34·49	23. 4. 32	58	,, the screw withdrawn.	D
	5. 32	Shade	50·2	55·5	+ 5·3	34·5				,,	
	7. 2	Sun	6·0	45·0	+39·0	34·5				,, the screw withdrawn.	
	8. 32	Shade	50·2	54·0	+ 3·8	35·2				,,	
	10. 2	Sun	6·5	45·5	+39·0	35·6				,, the screw withdrawn.	

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	h m s		d	d	d	d	d	h m s			
July 15	23. 11. 32	Shade	51·6	54·0	+ 3·0	36·2				Cloudless.	
	13. 2	Sun	5·5	44·8	+39·3	35·5				,, the screw withdrawn.	
	14. 32	Shade	50·2	54·8	+ 4·6	33·6				,,	
	23. 16. 2	Sun	61·0	98·0	+37·0					,,	
July 16	23. 24. 2	Sun	3·5	40·5	+37·0					Cloudless.	
	25. 32	Shade	46·9	48·4	+ 1·5	35·4				,,	
	27. 2	Sun	55·2	92·0	+36·8	37·3				,,	
	28. 32	Shade	92·8	90·4	− 2·4	40·0				,,	
	30. 2	Sun	4·8	43·2	+38·4	41·1				,, the compressing-screw withdrawn.	
	31. 32	Shade	45·2	42·2	− 3·0	40·5				,,	
	33. 2	Sun	46·2	82·7	+36·5	39·4				,,	
	34. 32	Shade	85·8	83·0	− 2·8	39·5	39·26	23. 35. 2	59	,,	P
	36. 2	Sun	3·4	40·2	+36·8	39·8				,, the screw withdrawn.	
	37. 32	Shade	44·6	41·3	− 3·3	40·1				,,	
	39. 2	Sun	45·2	82·0	+36·8	40·5				,,	
	40. 32	Shade	84·6	80·6	− 4·0	39·7				,,	
	42. 2	Sun	3·0	37·5	+34·5	38·0				,, the screw withdrawn.	
	43. 32	Shade	40·5	37·5	− 3·0	39·1				,,	
	45. 2	Sun	41·8	79·5	+37·7	41·3				,,	
	46. 32	Shade	80·8	76·7	− 4·1	41·4				,,	
	48. 2	Sun	4·4	41·3	+36·9	41·2				,, the screw withdrawn.	
	49. 32	Shade	44·5	40·0	− 4·5	41·1				,,	
	51. 2	Sun	44·0	80·2	+36·2	40·7				,,	
	52. 32	Shade	81·0	76·5	− 4·5	38·9				,,	
	54. 2	Sun	2·5	35·0	+32·5	36·7	40·41	23. 54. 32	60	,, the screw withdrawn.	P
	55. 32	Shade	38·5	34·6	− 3·9	38·3				,,	
	57. 2	Sun	41·5	77·7	+36·2	41·2				,,	
	23. 58. 32	Shade	82·0	76·0	− 6·0	41·6				,,	
July 17	0. 0. 2	Sun	4·8	39·8	+35·0	40·6				,, the screw withdrawn.	
	1. 32	Shade	38·6	33·5	− 5·1	40·7				,,	
	3. 2	Sun	37·0	73·2	+36·2	41·7				,,	
	4. 32	Shade	72·1	66·2	− 5·9	42·0				,,	
	6. 2	Sun	4·5	40·5	+36·0	42·0				,, the screw withdrawn.	
	7. 32	Shade	40·0	34·0	− 6·0	41·4				,,	
	9. 2	Sun	36·8	71·6	+34·8	41·5				,,	
	10. 32	Shade	72·8	65·4	− 7·4	40·8				,,	
	12. 2	Sun	4·0	36·0	+32·0	39·6				,, the screw withdrawn.	
	13. 32	Shade	35·0	27·3	− 7·7	40·0	41·09	0. 14. 2	60	,,	D
	15. 2	Sun	32·3	64·8	+32·5	41·5				,,	
	16. 32	Shade	60·8	50·5	−10·3	42·1				,,	
	18. 2	Sun	51·8	82·8	+31·0	41·5				,,	
	19. 32	Shade	80·5	69·8	−10·7	40·5				,,	
	21. 2	Sun	69·0	97·6	+28·6	39·8				,,	
	22. 32	Shade	94·8	83·2	−11·6	41·5				,,	
	0. 24. 2	Sun	3·5	34·6	+31·1					,, the screw withdrawn.	
July 25	0. 2 13	Sun	5·5	45·0	+39·5					The Sun is free from clouds.	
	3. 43	Shade	55·9	61·0	+ 5·1	34·2				,, [screw withdrawn.	
	5. 13	Sun	6·5	45·6	+39·1	32·4				The Sun is covered by a cumulus cloud: the compressing-	
	6. 43	Shade	50·6	59·0	+ 8·4	29·1				The Sun is again free from clouds.	
	8. 13	Sun	66·0	102·0	+36·0	28·3				,,	
	9. 43	Shade	3·0	10·0	+ 7·0	30·6				,, the screw withdrawn.	
	11. 13	Sun	15·8	55·0	+39·2	32·3	30·85	0. 10. 58	58	,,	P

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	h m s		d	d	d	d	d	h m s	°		
July 25	0. 12. 43	Shade	61·8	68·7	+ 6·9	31·0				The Sun is again free from clouds.	
	14. 13	Sun	5·7	42·2	+36·5	29·3				,, the screw withdrawn.	
	15. 43	Shade	46·0	53·5	+ 7·5	31·1				,,	
	17. 13	Sun	4·1	44·8	+40·7	30·2				,, the screw withdrawn.	
	18. 43	Shade	46·8	60·3	+13·5	14·5				,,	
	20. 13	Sun	3·0	18·3	+15·3	4·3				The Sun is in a loose cumulus cloud: the screw withdrawn.	
	21. 43	Shade	21·5	30·0	+ 8·5	17·8				,,	
	23. 13	Sun	34·7	72·0	+37·3	29·5				The Sun is free from clouds.	
	24. 43	Shade	76·9	84·0	+ 7·1	27·5				,,	
	26. 13	Sun	3·4	35·2	+31·8	24·8				The Sun is obscured: the screw withdrawn.	
	27. 43	Shade	39·0	46·0	+ 7·0	24·9				No clouds near the Sun.	
	0. 29. 13	Sun	58·0	89·9	+31·9					,, [during this and the last series.	
July 25	0. 32. 13	Sun	3·8	38·1	+34·3					Clear near the Sun: the liquid ascended by starts several times	
	33. 43	Shade	44·5	45·8	+ 1·3	27·7				The Sun in a loose cumulus cloud for some time.	
	35. 13	Sun	49·3	73·0	+23·7	21·5				,, ,,	
	36. 43	Shade	75·9	79·0	+ 3·1	31·1				The Sun has emerged from the cumulus.	
	38. 13	Sun	5·0	49·7	+44·7	41·4				No clouds near the Sun: the compressing screw withdrawn.	
	39. 43	Shade	53·5	57·0	+ 3·5	36·9	34·36	0. 40. 13	57	,, [JH	JH
	41. 13	Sun	62·0	98·2	+36·2	31·5				The Sun is obscured by light cirri.	
	42. 43	Shade	0·0	6·0	+ 6·0	30·9				The Sun is again free from clouds: the screw withdrawn.	
	44. 13	Sun	14·2	51·8	+37·6	34·6				No clouds near the Sun.	
	45. 43	Shade	57·2	57·2	0·0	37·6				,,	
	47. 13	Sun	5·5	43·0	+37·5	36·6				,, the screw withdrawn.	
	48. 43	Shade	43·5	45·3	+ 1·8	37·3	35·59	0. 49. 58	57	,, [servation.	JH
	50. 13	Sun	46·2	86·9	+40·7	38·7				,, The Sun was in a cumulus at the second reading of this ob-	
	51. 43	Shade	90·5	92·8	+ 2·3	34·5				The Sun became again free at the second reading: the screw	
	53. 13	Sun	1·0	33·8	+32·8	31·1				No clouds near the Sun. [withdrawn.	
	54. 43	Shade	35·2	36·3	+ 1·1	34·3				,,	
	0. 56. 13	Sun	50·4	88·3	+37·9						
Aug. 1	23. 28. 22	Sun	5·8	46·7	+40·9					The Sun is free from clouds.	
	29. 52	Shade	53·5	64·1	+10·6	30·3				,,	
	31. 22	Sun	5·0	45·8	+40·8	30·6				,, the screw withdrawn.	
	32. 52	Shade	53·0	62·8	+ 9·8	30·7				,,	
	34. 22	Sun	5·2	45·3	+40·1	31·1	31·43	23. 34. 52	56	,, the screw withdrawn.	D
	35. 52	Shade	51·6	59·9	+ 8·3	32·0				,,	
	37. 22	Sun	5·6	46·0	+40·4	32·5				,, the screw withdrawn.	
	38. 52	Shade	52·1	59·6	+ 7·5	32·8				,,	
	40. 22	Sun	5·7	46·0	+40·3	33·4				The Sun is shining through light cirri: the screw withdrawn.	
	41. 52	Shade	50·0	56·3	+ 6·3	25·2				,,	
	43. 22	Sun	5·3	28·0	+22·7	16·7	27·16	23. 43. 52	56	,, the screw withdrawn.	D
	44. 52	Shade	31·5	37·2	+ 5·7	26·0				,,	
	46. 22	Sun	45·5	86·2	+40·7	34·5				,,	
	47. 52	Shade	90·5	97·2	+ 6·7	33·3				The Sun is free from clouds.	
	49. 22	Sun	5·6	44·8	+39·2	30·6				,, the screw withdrawn.	
	50. 52	Shade	43·7	54·2	+10·5	28·3				,,	
	52. 22	Sun	5·5	44·0	+38·5	30·9				No clouds are near the Sun: the screw withdrawn.	
	53. 52	Shade	47·8	52·5	+ 4·7	34·7					
	55. 22	Sun	5·6	45·8	+40·2	35·1				The screw withdrawn.	
	56. 52	Shade	49·4	55·0	+ 5·6	34·6					
	58. 22	Sun	5·3	45·4	+40·1	34·9				The screw withdrawn.	
	23. 59. 52	Shade	50·2	55·1	+ 4·9	34·9					
Aug. 2	0. 1. 22	Sun	6·2	45·7	+39·5	36·2	34·96	0. 0. 22	56	The screw withdrawn.	D

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	h m s		d	d	d	d	d	h m s	°		
Aug. 2	0. 2. 52	Shade	47·2	49·0	+ 1·8	36·6					
	4. 22	Sun	55·5	92·8	+37·3	35·7					
	5·52	Shade	95·0	96·5	+ 1·5	35·8					
	7. 22	Sun	5·6	42·8	+37·2	36·3				The screw withdrawn.	
	8. 52	Shade	44·6	45·0	+ 0·4	36·8					
	10. 22	Sun	50·8	88·0	+37·2	36·6					
	11. 52	Shade	89·0	89·8	+ 0·8	33·1					
	13. 22	Sun	2·5	33·1	+30·6	29·5				The Sun is shining through light cirri: the screw withdrawn.	
	14. 52	Shade	33·5	34·9	+ 1·4	32·5				The Sun is again free from cloud.	
	16. 22	Sun	39·8	77·0	+37·2	36·7				,,	
	17. 52	Shade	78·3	77·9	− 0·4	36·8				,,	
	19. 22	Sun	4·7	40·2	+35·5	35·8				,, the screw withdrawn.	
	20. 52	Shade	41·3	41·4	+ 0·1	36·6				,,	
	22. 22	Sun	46·8	84·3	+37·5	38·1				,,	
	23. 52	Shade	85·2	84·1	− 1·1	38·6				,,	
	25. 22	Sun	4·6	42·0	+37·4	39·1				,, the screw withdrawn.	
	26. 52	Shade	42·8	40·6	− 2·2	38·8	37·32	0. 26. 37	56	,,	D
	28. 22	Sun	45·3	81·1	+35·8	37·9				,,	
	29. 52	Shade	81·7	79·7	− 2·0	37·9				,,	
	31. 22	Sun	5·4	41·4	+36·0	38·7				,, the screw withdrawn.	
	32. 52	Shade	41·0	37·7	− 3·3	39·3				,,	
	34. 22	Sun	40·5	75·9	+35·4	38·7				,,	
	35. 52	Shade	75·8	72·5	− 3·3	38·0				,,	
	37. 22	Sun	4·0	38·0	+34·0	37·5				Very light cirri before the Sun: the screw withdrawn.	
	38. 52	Shade	37·7	34·0	− 3·7	31·2					
	40. 22	Sun	36·0	57·0	+21·0	25·2				The Sun is shining through light cirri.	
	41. 52	Shade	55·9	51·3	− 4·6	32·0					
	43. 22	Sun	54·5	88·3	+33·8	38·1	36·43	0. 43. 52	55		D
	44. 52	Shade	87·9	84·0	− 3·9	39·2				No clouds are near the Sun.	
	46. 22	Sun	5·0	41·7	+36·7	40·3				The screw withdrawn.	
	47. 52	Shade	42·0	38·6	− 3·4	39·4				The Sun quite clear: the screw withdrawn.	
	49. 22	Sun	42·5	77·7	+35·2	38·6					
	50. 52	Shade	78·1	74·8	− 3·3	39·3					
	52. 22	Sun	4·6	41·3	+36·7	39·1				The screw withdrawn.	
	53. 52	Shade	41·0	39·6	− 1·4	37·2	37·09	0. 54. 22	55		D
	55. 22	Sun	43·5	78·3	+34·8	33·6				There are light clouds near the Sun.	
	56. 52	Shade	80·0	83·8	+ 3·8	32·3					
	58. 22	Sun	5·1	42·3	+37·3	35·2				The screw withdrawn.	
	0. 59. 52	Shade	46·5	47·0	+ 0·5	35·7					
	1. 1. 22	Sun	50·2	85·2	+35·0	37·3					
	2. 52	Shade	83·2	78·0	− 5·2	24·5				[cumulus.	
	4. 22	Sun	3·0	6·6	+ 3·6	7·7				The screw withdrawn: the Sun is dimly shining through a	
	5. 52	Shade	3·0	0·0	− 3·0	18·3				The Sun is dimly shining through a cumulus.	
	7. 22	Sun	4·0	31·0	+27·0	32·5				The Sun is again clear.	
	8. 52	Shade	30·0	22·0	− 8·0	38·4	38·00	1. 9. 22	54		D
	10. 22	Sun	24·1	57·8	+33·7	43·1				,,	
	11. 52	Shade	53·8	43·1	−10·7	33·2				Cumulus.	
	13. 22	Sun	39·0	50·2	+11·2	22·6				The Sun is shining through a cumulus.	
	14. 52	Shade	44·8	32·8	−12·0	31·7					
	16. 22	Sun	35·0	63·1	+28·1	39·1				The Sun is shining through a thin cloud.	
	17. 52	Shade	59·0	49·0	−10·0	39·7	36·40	1. 17. 37	53		D
	1. 19. 22	Sun	50·8	82·0	+31·2					The Sun is clear.	
Aug. 2	3. 57. 22	Sun	4·8	36·2	+31·4						

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	h m s		d	d	d	d	d	h m s			
Aug. 2	3. 58. 52	Shade	39·7	40·4	+ 0·7	29·7					
	4. 0. 22	Sun	44·8	74·2	+29·4	29·0					
	1. 52	Shade	76·4	76·5	+ 0·1	29·4				[was broken during the process.	
	3. 22	Sun	3·0	32·6	+29·6	29·4	29·60	4. 3. 52	32	The compressing-screw withdrawn: the column of liquid	P
	4. 52	Shade	34·4	34·8	+ 0·4	29·3					
	6. 22	Sun	39·2	69·0	+29·8	29·9					
	7. 52	Shade	70·5	70·0	− 0·5	30·5					
	4. 9. 22	Sun	73·8	104·0	+30·2						
Aug. 2	4. 14. 22	Sun	4·8	33·3	+28·5						
	15. 52	Shade	36·7	29·4	− 7·3	35·1					
	17. 22	Sun	36·9	64·0	+27·1	31·9					
	18. 52	Shade	65·0	62·7	− 2·3	29·5					
	20. 22	Sun	3·5	30·7	+27·2	30·2				The screw withdrawn: the column of liquid broken.	
	21. 52	Shade	31·2	27·6	− 3·6	30·4	30·29	4. 22. 22	29	The column of liquid broken.	P
	23. 22	Sun	30·0	56·3	+26·3	29·8				The weather unfavourable, currents of air sweeping over the	
	24. 52	Shade	56·2	52·8	− 3·4	29·5				[instrument.	
	26. 22	Sun	55·2	81·1	+25·9	30·3					
	27. 52	Shade	81·2	75·7	− 5·5	31·6					
	4. 29. 22	Sun	3·4	29·7	+26·3					The screw withdrawn.	
Nov. 21	0. 0. 45	Sun	0·9	30·0	+29·1					Cloudless.	
	2. 15	Shade	32·8	40·8	+ 8·0	19·1				,,	
	3. 45	Sun	44·8	69·8	+25·0	18·1				,,	
	5. 15	Shade	74·0	79·8	+ 5·8	18·2				,,	
	6. 45	Sun	2·1	25·0	+22·9	18·1	18·22	0. 6. 30	19	The screw is withdrawn.	G
	8. 15	Shade	28·1	31·9	+ 3·8	18·2				Cloudless.	
	9. 45	Sun	34·1	55·1	+21·0	17·6				,,	
	11. 15	Shade	58·2	61·2	+ 3·0	13·3					
	12. 45	Sun	62·5	74·0	+11·5	9·5				At $0^h.\ 12^m.\ 55^s$ cumulous clouds came over the Sun: at $0^h.\ 13^m.\ 30^s$ they were less dense: at $0^h.\ 13^m.\ 50^s$ this density had increased.	
	14. 15	Sun	76·0	77·0	+ 1·0	5·5				The Sun is quite obscured: dark nimbi.	
	0. 15. 45	Shade	77·5	79·0	+ 1·5					The Sun is in clouds.	
Nov. 21	0. 29. 45	Sun	2·9	19·6	+16·7					[and the Sun was free of cloud at $33^m.26^s$.	
	31. 15	Shade	20·8	20·8	0·0	13·2				[at $32^m.55^s$; they were less dense at $33^m.18^s$;	
	32. 45	Sun	20·8	30·5	+ 9·7	9·8	10·07	0. 33. 15	18	The Sun was in thin cumuli at $32^m.50^s$; their density increased	G
	34. 15	Shade	34·4	34·2	− 0·2	7·2				The Sun was in cloud till $0^h.\ 35^m.\ 10^s$.	
	0. 35. 45	Sun	33·7	38·0	+ 4·3					The Sun is occasionally in cloud.	
Dec. 4	23. 36. 0	Sun	5·5	28·2	+22·7					Cloudless.	
	37. 30	Shade	32·0	36·3	+ 4·3	18·3				,,	
	39. 0	Sun	39·0	61·5	+22·5	18·1				,,	
	40. 30	Shade	65·4	70·0	+ 4·6	17·7				,,	
	42. 0	Sun	72·0	94·0	+22·0	18·5				,,	
	43. 30	Shade	1·0	3·5	+ 2·5	20·0				,, the compressing-screw withdrawn.	
	45. 0	Sun	4·8	27·8	+23·0	20·3				,,	
	46. 30	Shade	39·3	42·2	+ 2·9	20·1				,,	
	48. 0	Sun	43·0	66·0	+23·0	20·3				,,	
	49. 30	Shade	68·0	70·5	+ 2·5	20·3				,,	
	51. 0	Sun	71·0	93. 5	+22·5	20·3				,,	
	52. 30	Shade	0·0	2·0	+ 2·0	20·5				,, the compressing-screw withdrawn.	
	54. 0	Sun	2·0	24·5	+22·5	21·2	20·24	23. 50. 0	16	,,	G

In every observation, whether in the Sun's rays or in the shade, the Terminal Reading was taken exactly one minute after the Initial Reading.
The "Apparent effect of the Sun's radiation" is found by comparing each change (whether in the Sun's rays or in the shade) with the mean of that which immediately precedes and that which immediately follows it.

OBSERVATIONS WITH THE ACTINOMETER.

Day, 1842.	Greenwich Mean Solar Time of the Initial Reading.	Instrument exposed to the Sun's Rays or in the Shade.	Readings of the Graduated Scale. Initial A	Readings of the Graduated Scale. Terminal B	Change in One Minute. B−A.	Apparent Effect of Sun's Radiation in Parts of the Scale.	Mean Result of each Group in Parts of the Scale.	Greenwich Mean Solar Time corresponding to the Mean of each Group.	Altitude of the Sun.	GENERAL REMARKS.	server.
	h m s		d	d	d	d	d	h m s			
Dec. 4	23. 55. 30	Shade	25·9	26·5	+ 0·6	21·7				Cloudless.	
	57. 0	Sun	26·7	48·8	+22·1	21·8				,,	
	23. 58. 30	Shade	49·5	49·5	0·0	21·9				,,	
Dec. 5	0. 0. 0	Sun	49·3	70·9	+21·6	21·9				,,	
	1. 30	Shade	72·0	71·5	− 0·5	21·1				,,	
	3. 0	Sun	71·0	90·5	+19·5	20·1				Light cirri.	
	4. 30	Shade	90·5	89·8	− 0·7	20·7				,,	
	6. 0	Sun	0·8	21·2	+20·4	21·1				,,	
	7. 30	Shade	22·2	21·5	− 0·7	19·8	20·03	0. 7. 15	16	,, the screw withdrawn.	G
	9. 0	Sun	21·3	39·1	+17·8	18·6				,,	
	10. 30	Shade	39·4	38·6	− 0·8	19·9				,,	
	12. 0	Sun	39·3	59·8	+20·5	21·3				,,	
	13. 30	Shade	59·8	59·0	− 0·8	22·1				,,	
	15. 0	Sun	58·2	80·2	+22·0	22·9	22·10	0. 14. 0	16	,, but thinner.	G
	16. 30	Shade	81·0	80·0	− 1·0	13·3				Clear.	
	18. 0	Sun	78·8	81·3	+ 2·5	4·8				,, [out faintly.	
	19. 30	Shade	80·8	77·3	− 3·5	4·8				At 17m. 40s cumuli cover the Sun: at 18m. 55s the Sun broke	
										The Sun is still covered with cloud, through which he shines faintly.	
	0. 21. 0	Sun	75·8	75·9	+ 0·1					A cumulo-stratus has now come up, and covers the Sun: the Sun's orb is visible: at 21m. 40s a faint shadow for 55s.	
Dec. 14	22. 49. 0	Sun	6·0	35·2	+29·2						
	50. 30	Shade	38·8	43·2	+ 4·4	23·9					
	54. 0	Sun	46·8	74·2	+27·4	23·8					
	55. 30	Shade	77·5	80·4	+ 2·9	23·2					
	57. 0	Sun	3·2	28·0	+24·8	21·8				A slight cloud: the compressing-screw withdrawn.	
	58. 30	Shade	30·0	33·2	+ 3·2	22·8				Clear.	
	23. 0. 0	Sun	34·4	61·5	+27·1	24·8	23·95	22. 59. 30	14		G
	1. 30	Shade	63·0	64·3	+ 1·3	24·7					
	3. 0	Sun	66·0	90·8	+24·8	24·1					
	4. 30	Shade	2·8	3·0	+ 0·2	25·0				The screw withdrawn.	
	6. 0	Sun	2·9	28·5	+25·6	25·8					
	7. 30	Shade	29·7	29·0	− 0·7	23·6				[posure of the instrument.	
	9. 0	Sun	29·7	49·8	+20·1	21·3				A thin fleecy cloud covers the Sun during the minute of ex-	
	10. 30	Shade	50·2	48·5	− 1·7	21·2				The Sun is still in the same cloud.	
	12. 0	Sun	47·2	66·0	+18·8	20·8	21·52	23. 13. 15	15	,, ,,	G
	13. 30	Shade	66·3	64·0	− 2·3	21·7				,, ,,	
	15. 0	Sun	63·5	83·5	+20·0	22·1				,, ,,	
	16. 30	Shade	87·0	85·0	− 2·0	22·0				,, ,,	
	23. 18. 0	Sun	3·0	23·0	+20·0					,, ,, the cloud is a cirrus of rather a close texture: the compressing-screw withdrawn.	

In every observation, whether in the Sun's rays or in the shade, the Terminal Reading was taken exactly one minute after the Initial Reading.
The "Apparent effect of the Sun's radiation" is found by comparing each change (whether in the Sun's rays or in the shade) with the mean of that which immediately precedes and that which immediately follows it.

OBSERVATIONS OF METEORS.

Göttingen Mean Solar Time.	COURSE AND DESCRIPTION OF THE METEORS.	Observer.
d h m s		
Aug. 9. 12. 12. 39	A Meteor, direction N. E. to S.W., passing by ξ Draconis: it left a train of light.	JH
15. 54	A Meteor, direction E. to W., passing over α and δ Ursæ Majoris.	
18. 6	A Meteor passing from ζ Coronæ to κ Coronæ: small and faint.	
20. 44	A Meteor, direction N. to S., passing ξ Draconis: faint, and its motion rapid.	
27. 44	A Meteor passing from η Ursæ Minoris to γ Ursæ Minoris: faint and small.	
33. 27	A Meteor passing from Polaris to γ Ursæ Minoris: fine, with a train 20° in length.	
34. 29	A Meteor passing from δ Coronæ Borealis to α Coronæ Borealis: small.	
36. 14	A Meteor passing from 3° W. of ν Andromedæ to α Andromedæ: small, and its motion rapid.	
41. 17	A Meteor passing from γ Cephei to κ Cephei.	
44. 29	A Meteor passing from ξ Andromedæ to 70 Pegasi: slow, with a fine train.	
45. 49	A Meteor passing near μ Ceti: bright, and its motion slow.	
48. 54	A Meteor passing below, and parallel to, the line joining α and ζ Pegasi: bright, and its motion rapid.	
50. 29	A Meteor passing from Triangulum to β Persei.	
52. 28	A Meteor, direction N. E. to S.W., passing below γ Pegasi and near ω Piscium: fine.	
53. 59	A Meteor passing from 41 Muscæ to ξ Arietis: fine.	
12. 58. 52	A Meteor, direction S. S. E. to N. N.W., passing δ Aurigæ.	
13. 5. 35	A Meteor, passing from μ Ceti to γ Ceti: as bright as a star of the 2nd magnitude.	
7. 44	A Meteor passing from Polaris to η Ursæ Minoris.	
8. 45	A Meteor passing from π Pegasi to α Cygni: this was a splendid Meteor, as bright as Jupiter, and leaving a train visible 4^s after its head had vanished.	
10. 42	A Meteor passing from γ Andromedæ to β Trianguli: its motion quick.	
13. 44	A Meteor, direction N. E. to S.W., from ι Ceti to ω Aquarii.	
21. 2	A Meteor passing from o Ursæ Majoris to ι Ursæ Majoris, leaving a long train.	
24. 39	A Meteor passing from ζ Draconis to ξ Draconis.	
26. 37	A Meteor, direction N.W. to S.W.: it appeared 1° E. of β Persei, and left a very bright train.	
29. 2	A Meteor passing from α Arietis to μ Ceti, leaving a very bright train.	
31. 26	A Meteor, direction N. N. E. to S. S.W., passing below 41 Muscæ.	
34. 2	A Meteor passing 4° below Polaris to κ Draconis: bright, with a train.	
37. 16	A Meteor passing above 72 Ophiuchi to 1° N. of α Herculis.	
39. 27	A Meteor passing from the W. of λ Aquarii to 1° N. of Fomalhaut: fine.	
42. 39	A Meteor passing from η Pegasi to ι Pegasi.	
46. 44	A Meteor passing from χ Persei to 10 Camelopardali: small.	
47. 37	A Meteor, direction N. W. to S. E., from β Persei to ρ Persei.	
48. 45	A Meteor, direction E. N. E. to W. S. W., passed 71 Aquilæ and κ Aquilæ.	
49. 51	A Meteor, direction N. E. to S. W., passed μ and ν Ceti.	
51. 7	A Meteor, direction S. E. to N. W., from o Ursæ Majoris to 23 Ursæ Majoris.	
13. 52. 32	A Meteor, direction S. E. to N. W., passed 10 Camelopardali.	
14. 10. 17	A Meteor passing from the Pleiades to λ Tauri: fine, with a train.	
13. 30	A Meteor passing from ω Aquarii to 88 Aquarii.	
14. 33	A Meteor passing from α Delphini to θ Aquilæ: small, and its motion slow.	
16. 42	A Meteor passing from ρ Persei to the Pleiades: small.	
19. 17	A Meteor passing from α Andromedæ to α Pegasi.	
19. 22	A Meteor, passing from ζ Andromedæ to γ Pegasi, parallel to the latter.	
23. 23	A Meteor, direction N. E. to S. W., near ι Ceti.	
26. 23	A Meteor passing from ψ Tauri to υ Tauri: very fine, with a quick motion, and leaving a train.	
36. 32	A Meteor, direction S.W. to N. E., passed β Aurigæ.	
38. 3	A Meteor passing from μ Andromedæ to α Andromedæ.	
14. 39. 11	A Meteor, direction E. to W., near α Cygni.	
15. 5. 4	A Meteor passing from 46 Aurigæ to α Aurigæ.	
6. 52	A Meteor passing from ϵ Pegasi to α Aquarii: fine, with a train.	
9. 49	A Meteor, direction E. to W., near δ Cygni.	
10. 36	A Meteor passing from β Tauri to ι Tauri.	
12. 3	A Meteor passing from κ Ursæ Majoris to ϵ Ursæ Majoris: fine, and its motion quick.	
15. 22. 4	A Meteor, direction W. to E., passed ζ Tauri: very fine, and as bright as Capella.	

The meteor at $15^h.12^m.4^s$ was the last seen, though the observer watched until $15^h.50^m$: glimpses were obtained of at least half as many more as the number registered: eight very fine meteors were seen between 11^h and 12^h, and about 100 other meteors between 11^h and 16^h: that seen at $13^h.8^m.45^s$ was exceedingly large and bright, and seemed to illuminate the Observatory: its colour was an intense yellow, and its form apparently slightly elliptical, the major axis lying in the direction of the motion of the meteor, or nearly perpendicular to the vertical plane passing through the zenith and meteor, when in the middle of its course. The direction of the wind was S.W. throughout.

OBSERVATIONS MADE FOR THE PURPOSE OF ASCERTAINING THE LOWEST READING OF THE BAROMETER, ON OCTOBER 23, 1842.

Greenwich Mean Solar Time.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	WIND. From Anemometer. Direction.	WIND. From Anemometer. Pressure in pounds per square foot.	WIND. By Estimation. Direction.	WIND. By Estimation. From 0—6.	Amount of Clouds 0—10.	REMARKS.	Observer.
d h m	in.	°	°			from lbs. to lbs.					
Oct. 22. 20. 30	28·706	43·2	42·8	0·4	S W		W S W	½	5	The clouds much broken: the South horizon bright: cumuli forming in the N.	G
21. 0	28·694				S W						G
22. 0	28·694	46·7	45·2	1·5	W S W		W S W	1+	4	Cumuli and light clouds.	JH
22. 20	28·693				W S W	0 to ½					
22. 45	28·683				W S W	½ to 2½					
23. 0	28·681				W S W	0 to ½					
23. 30	28·682				W S W	0 to ¾					
22. 23. 45	28·682				W S W	0 to ½					
23. 0. 50	28·688	41·5	41·5	0·0	W S W	½ to 3	W by S	1+	5	A squall of rain has just passed: cumulo-strati and nimbi prevalent: the clouds move from W. by N.	
3. 45	28·722	42·0	42·0	0·0	W	0 to ½	W	1½	5	Showers of rain at intervals: cumuli and scud.	JH
4. 15	28·744	42·3	42·3	0·0	W by S		W	1	10	The sky covered with scud which is moving rapidly from W. N. W.	G
4. 30	28·746				W by S	0 to ½				At about 7m.25s several flashes of lightning were observed in the N.	JH

Oct. 22d. These observations were taken in consequence of the barometer being so low, and still falling, for the purpose of ascertaining its lowest reading; it took place at 23h. 0m, and it is the lowest reading during the year. On Oct. 21st, at 10h, the reading was 1in·201 higher than it was at this time.

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time.	WIND. from Anemometer. Direction.	Pressure in lbs. per square foot.	REMARKS.	Observer.
d h m s		lbs.		
Apr. 24. 1. 30	NE	..	Growling of distant thunder.	G B A
...	..	..	A louder growl: the pith balls opened 10°.	
37	NE	..	The pith balls open 6° or 8°: they suddenly closed and opened several times.	
40	NE	..	The balls open 18°: on application of test (bringing near an excited tube of glass) the balls closed: on withdrawing the glass the balls remained open.	
...	..	..	The electricity was again tested and the balls closed; on withdrawing the test the balls remained	
42	NE	..	The balls are open 30°. [open and then closed suddenly.	
43¼	NE	..	The balls are open 60°, and the bell is ringing; afterwards the balls closed to 30°.	
47½	NE	..	The bell ceased ringing: the balls are open 22°: soon after the bell again rang, and the balls were separated 40°.	
50	ENE	..	The bell ringing: the balls are open 30°: the balls close upon applying the test.	
...	ENE	..	The balls are separated by 20°.	
1. 55	E	..	The balls are separated by 8°, and stationary: reading of Dry Thermometer = 69°·5, of Wet Thermometer = 59°·0.	G B A
2. 3. 57	E	..	The balls are open 12°, and the clapper of the alarm-bell is vibrating, though not so far as	J H
5. 27	ESE	..	The balls suddenly opened about 8°, and immediately closed. [the brass ball.	
6. 21	ESE	..	The balls opened 12°, and remained at about this deflection for 35ˢ.	
7. 17	ESE	..	Thunder: the balls opened 12°, remained open about one minute, then contracted 6°; but	
9. 57	ESE	..	The balls opened 16°. [still moving by sudden starts.	
10. 7	ESE	..	The balls opened 60°: the bell ringing.	
10. 42	ESE	..	The East ball dropped at the N. side of the glass case, the other, at the same time, being	
11. 27	ESE	..	Low thunder. [stationary: the bell is ringing loudly.	
11. 42	ESE	..	The balls opened 75°.	
12. 32	ESE	..	A violent agitation of the balls, causing each of them to describe a kind of parabolic curve, the vertex of each curve being on the same side as the ball itself.	
13. 1	E	..	The West ball stationary at 75°; the East one is still describing the same curve as before:	
14. 27	SE	..	Everything as before. [the bell ringing.	J H
17. 27	SE	..	On the application of the test the balls opened: a light rain falling.	GBA,&C.
20. 57	SE	..	Excited glass has no effect, but touching with the finger makes the balls fly out. (The glass case, it is evident, is strongly charged with electricity.)	
24. 57	SE	..	The East ball is stationary, and the West ball describes the same curve.	
26. 57	SE	..	Thunder: crackling of sparks, and the balls are violently agitated.	
28. 57	ESE	..	Lightning and thunder: violent agitation of the balls.	
31. 57	ESE	..	The bell ringing.	
32. 42	ESE	..	Lightning: the balls violently agitated.	
32. 57	ESE	..	A vivid flash of lightning, accompanied by loud thunder: a stream of electricity passed from the large ball to the clapper of the alarm-bell.	
33. 57	ESE	..	Another vivid flash of lightning, and a loud peal of thunder.	
34. 57	ESE	..	Bell ringing.	
35. 57	E	..	Another flash of lightning.	
36. 27	E	..	The bell ringing, and the balls violently agitated.	
38. 0	ENE	..	Rain falling in large drops.	
39. 27	ENE	..	A flash of lightning, after which the balls dropped.	
40. 27	ENE	..	The balls again violently agitated.	
41. 12	ENE	..	Another flash: no effect on the pith balls.	
42. 27	ENE	..	Heavy rain.	
44. 12	ENE	..	No change whatever.	
45. 17	ENE	..	A vivid flash of lightning, and great excitement of the balls: excited glass has no effect as a test: on touching with the finger they stood out wide apart.	
46. 47	ENE	..	A vivid flash: the balls immediately closed; but about 2ˢ after, they became as violently	
47. 37	ENE	..	Another flash: the bell again ringing. [agitated as before.	
48. 17	ENE	..	Another flash: bright sparks from the large ball to the bell.	
48. 57	ENE	..	The pith balls stationary.	
49. 12	ENE	..	The pith balls again agitated.	

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time.	WIND. from Anemometer. Direction.	WIND. from Anemometer. Pressure in lbs. per square foot.	REMARKS.	Observer.
d h m s		lbs.		
Apr. 24. 2. 49. 52	ENE	..	A flash of lightning: a spark again went across from the large ball to the bell: heavy rain falling.	G B A
50. 52	ENE	..	A splendid white flash, with loud thunder, nearly vertical: no spark seen: the balls stationary.	
51. 47	ENE	..	A faint flash: the balls stationary, and the clapper of the alarm-bell also, for several seconds.	
53. 32	ENE	..	Two flashes and very loud thunder: the pith balls are performing very curious curves.	
54. 67	ENE	..	A very fine flash, and a violent peal of thunder: a loud crackling of the sparks.	
55. 57	NE	..	Lightning, and sparks.	
56. 27	NE	..	The balls stationary at the side of glass case: the bell ringing.	
56. 57	NE	..	Another flash of lightning: the bell ringing, but the pith balls unaffected.	
58. 7	NNE	..	The action apparently less: the bell just ringing, and the balls separated 12°.	
58. 57	NNE	..	The bell has ceased ringing: the balls a little separated: on applying the test, the balls close.	
2. 59. 57	N	..	The bell has again commenced ringing.	
3. 0. 13	N	..	A flash and spark were seen.	
1. 45	N	..	The balls separated 40°: the bell ringing.	
1. 49	NNW	..	A flash of lightning but no spark observed.	
4. 12	NNW	..	The balls have closed.	
4. 21	NNW	..	The balls have again opened.	
4. 39	NNW	..	A violent start of the pith balls which adhere to the side of the glass case: the bell still ringing.	
5. 57	NNW	..	Another flash: the balls closed and no spark was observed: after the interval of a few seconds the balls gradually opened.	
7. 12	NNW	..	Forked lightning: the balls separated 12°: the bell not ringing: on applying the test the	
8. 42	NW	..	Lightning and heavy rain. [balls closed.	
11. 0	NW	..	Rain falling very heavily: the balls opened about 16°.	
11. 47	NW	..	Lightning: the clapper of the alarm-bell was slightly agitated.	
12. 16	NW	..	The balls closed and again opened.	
13. 2	NW	..	The balls were gradually contracting.	
13. 42	NW	..	They were quite closed.	
13. 47	NW	..	The balls suddenly started open about 10° and remained so until $14^m. 41^s$, when there was another sudden start, and the bell commenced ringing.	
14. 57	NW	..	The balls closed to about 12°: the balls closed on applying the test.	
16. 2	NW	..	A flash of lightning of a reddish colour. [less heavily.	
21. 57	ESE	..	A flash of lightning: the balls started instantaneously: loud thunder, but the rain falling	
23. 57	ESE	..	The balls were separated 20°: the balls opened on application of the test.	
28. 57	ESE	..	The balls were separated 24°: the electricity in the same state.	
30. 57	ESE	..	The balls were separated 20°: the electricity in the same state.	
31. 37	ESE	..	The balls have closed: all action is apparently over at present.	
32. 41	ESE	..	The balls opened at 8° and then to 12°, remaining so for some time.	
35. 43	ESE	..	The balls closed when the test was applied.	
35. 58	ESE	..	The balls started slightly, and the bell commenced ringing: the greatest separation of the balls was 30°: faint sparks taken.	
38. 57	SE	..	The balls opened to 30°, and remained stationary.	
40. 57	SSE	..	The balls closed.	
41. 47	S	..	The balls again opened 18°.	
41. 57	S	..	The bell ringing, and the balls open 15°.	
42. 17	SE	..	The balls were separated 42°; the West ball at an angle of 12°, and the East one at 30°.	
42. 47	SE	..	The balls were separated 50°.	
44. 47	SE	..	The West ball stationary at 0°, and the East at an angle of 35°.	
46. 37	SE	..	The balls are in the same state, and the clapper of the alarm-bell is slightly agitated.	GBA, &c.
47. 37	SE	..	The charge was withdrawn by touching the suspension-piece of the balls with the finger, and the balls closed.	J H
56. 47	ESE	..	A low muttering of thunder in the North.	
3. 57. 57	ESE	..	A double clap of thunder in the North: the pith balls were not affected.	
4. 6. 57	E	..	A double clap of thunder in the N.W., resembling the report and echo of a heavy piece of ordnance.	

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time.	WIND. from Anemometer. Direction.	Pressure in lbs. per square foot.	REMARKS.	Observer.
d h m s		lbs.		
Apr. 24. 4. 17. 57	ESE	..	Low muttering of thunder in the N.W. from a dark heavy cloud, which is apparently stationary: low electrical clouds are W. and N.W. of the zenith, and in the S. E., but these last are not of so heavy a character.	J H
...	..	..	The rain that fell during the thunder shower, as shewn by Crosley's gauge, was $0^{in}\cdot195$.	
31. 57	SE	..	Muttering of thunder in the N.W.: reading of Barometer $= 29^{in}\cdot785$, of Dry Thermometer $= 60°\cdot9$, of Wet Thermometer $= 56°\cdot8$.	
49. 57	SE	..	The balls have again opened 20° and remained so for some seconds: the balls opened when the test was used.	
51. 47	SE	..	The balls still remain open, but not more than 12°: some low dark scud passing over the Magnetic Observatory.	
52. 22	SE	..	The balls are gradually closing.	
54. 47	SE	..	The balls have opened 20°.	
56. 17	SE	..	The balls have opened 25°: low thunder. [obtained.	
57. 0	SE	..	The balls are agitated, especially the westerly one, at the same deflection: faint sparks	
...	SE	..	The balls open on applying the test.	
58. 47	SE	..	The westerly ball has a tremulous motion, that to the East being stationary: the deflection of the West ball is 23°.	
4. 59. 37	SE	..	Both balls are agitated, but the E. ball more than the other.	
5. 0. 47	SE	..	Crackling of sparks heard: the balls open on applying the test.	
4. 3	SE	..	The balls remain separated 23°.	
11. 57	ESE	..	The balls still remain separated, though not more than 10°: the clouds are passing off: a dark mass of scud has been passing across the zenith since it became affected at $4^h.\ 49^m.\ 57^s$.	
13. 27	ESE	..	The balls have nearly closed.	
14. 27	ESE	..	They are now separated 8°.	
16. 57	ESE	..	The same.	
19. 57	ESE	..	The same.	
22. 57	ESE	..	The same.	
23. 57	ESE	..	The balls have nearly closed.	
24. 57	ESE	..	The balls have quite closed.	
5. 28. 37	ESE	..	The electrometer was left: the observer returned at $5^h.\ 58^m.\ 37^s$.	
6. 1. 57	NE	..	No electricity: heavy electrical clouds in the N.W. and N.E. of the zenith: the vane points N.E., from which quarter there is a slight breeze, but the clouds move from the W.N.W.	
44. 0	ENE	..	Up to this time the electrometer has not been observed to be again affected: the clouds passed off to the N.W.: in the N. E. and N. N. E. are dark reddish clouds; the sky South of the zenith being free from cloud.	J H
May 5. 21. 33. 57	SW	1	The pith balls have opened 50°: the W. ball being much agitated: the bell ringing: on bringing excited glass near, as a test, the balls open: reading of Barometer $= 29^{in}\cdot284$, of Dry Thermometer $= 55°\cdot5$, of Wet Thermometer $= 51°\cdot3$.	J H
36. 27	SW	2	The balls have opened 40°.	
36. 42	SW	2	The balls have opened 80°.	
36. 47	SW	2	The balls have opened 100°: the bell ringing.	
37. 12	SW	2	The balls are thrown in all directions, and strong sparks are obtained.	
37. 57	SW	$2\frac{1}{2}$	The balls have opened 40°: the bell has ceased ringing.	
38. 42	SW	3	The balls have closed.	
49. 37	SW	$3\frac{1}{2}$	The balls opened 75°: the East ball is very much agitated, but the West one remains stationary: the bell ringing violently: on the application of the test the balls opened.	
51. 7	SW	..	The bell has ceased ringing: the balls are both drawn towards the N. at an angle of about 30°.	
52. 37	SW	..	The bell is again ringing: the balls are open 50°.	
53. 57	SW	..	The balls opened 20°; and, 5^s later, they opened 40°.	
54. 17	SW	..	The balls opened 60°: the bell is still ringing: heavy rain falling.	
54. 57	SW	..	The bell is ringing at intervals.	
21. 55. 42	SW	..	The balls have opened 6°.	
22. 6. 57	SW	..	The West ball is moving in space, at a great angle with the other.	

May 5^d. The observations were taken while rain was falling: for meteorological observations at the time, see pages (68), (69), (70), and (71).

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time.	WIND. from Anemometer. Direction.	Pressure in lbs. per square foot.	REMARKS.	Observer.
d h m s		lbs.		
May 5. 22. 8. 57	SW	½	The balls have separated 50°.	J H
9. 12	SW	..	The balls have separated 30°.	
9. 57	SW	..	The alarm-bell clapper is fixed to the large ball.	
10. 37	SW	1½	The balls are now separated 80°: the bell ringing.	
11. 17	SW	1½	The balls are now separated 100°, and at the same time violently agitated: the bell is still ringing.	
11. 42	SW	1	The balls are now separated 70°.	
12. 7	SW	1	The same.	
12. 47	SW	1	The balls are now separated 70°: on the application of the test, the balls closed: the bell ringing.	
13. 57	SW	1	The balls are violently agitated: the bell is still ringing.	
16. 27	SW	1	The balls closed when the test was applied: the bell is ringing.	
17. 17	SW	1	The balls have opened 40°.	
17. 47	SW	1	The balls are violently agitated.	
18. 42	SW	1	No effect could be produced with excited glass as a test: the glass case of the pith balls is very much excited: light clouds in the zenith: cumulo-strati in various directions, but principally in the N.	
20. 47	SW	1	The bell has now ceased ringing, having commenced at $10^m. 37^s$; the glass case is still very much excited.	
28. 57	SW	1	The alarm-bell clapper has commenced vibrating.	
31. 7	SW	2	The balls have opened 130°, and the bell is ringing.	
31. 57	SW	1	The bell is ringing violently: excited glass has no effect as a test: large cumulo-strati coming-up.	
33. 12	SW	1	The bell is still ringing: the balls open when the test is applied.	
34. 27	SW	1	The balls have opened 40°.	
35. 12	SW	1	The bell has ceased ringing.	
35. 52	SW	1	The balls closed on the application of the test: the bell is again ringing.	
36. 52	SW	1	The bell has ceased.	
36. 53	SW	1	The alarm-bell is fixed to the large ball.	
37. 12	SW	1	The ball is again free.	
47. 57	SW	1	The pith balls have again opened.	
48. 57	SW	1	The balls closed when tested: the alarm-bell is again fixed to the large ball.	
52. 12	SW	1	The balls closed when tested: the pith balls have opened 40°: the bell ringing.	
53. 57	SW	1	The balls are slightly open: sparks obtained.	
22. 56. 37	SW	1	The balls have opened 20°: the bell ringing: the balls still close on repeated trials of the test.	
23. 28. 12	SW	4½	The bell ringing: the balls opened on the test being applied; reading of Barometer $= 29^{in}\cdot 274$, of Dry Thermometer $= 57°\cdot 8$, of Wet Thermometer $= 54°\cdot 0$.	
28. 27	SW	4½	The bell ringing.	
30. 27	SW	4	The same.	
30. 57	SW	3½	The balls have opened 20°.	
30. 59	SW	3½	The bell has ceased ringing: the balls still open when tested.	
31. 17	SW	3	On applying the test the balls flew to the glass case.	
33. 57	SW	2½	The balls are very much agitated.	
34. 2	SW	2½	The bell ringing: the balls now close when the test is applied.	
34. 57	SW	2½	The bell has ceased ringing.	
35. 27	SW	2	The bell is again ringing, but ceased in 20^s.	
37. 57	SW	2	The balls separated 40°: the electricity is still as at the last testing.	
40. 57	SW	1½	The same.	
43. 17	SW	1½	The same.	
43. 18	SW	1½	The balls are now open 20°.	
54. 47	SW	3	The balls are now open 50°: the bell is again ringing.	
55. 27	SW	3	The balls are now open 30°: the balls open when the test is used.	
55. 57	SW	2½	The balls are now open 60°: the bell is ringing quickly: rain falling.	
56. 32	SW	2½	The balls have closed, and the bell ceased.	
58. 12	SW	2½	The balls have opened 20°.	
58. 17	SW	2½	The balls have opened 30°: the balls close on applying the test.	
5. 23. 59. 57	SW	2½	The balls have opened 20°.	
6. 0. 1. 37	SW	..	The balls have opened 15°.	

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time.	WIND. from Anemometer. Direction,	Pressure in lbs. per square foot.	REMARKS.	Observer.
d h m s		lbs.		
May 6. 0. 2.57	SW	..	The balls have opened 10°.	JH
10.57	SW	..	The balls have opened 8°: the electricity is in the same state.	
11. 7	SW	..	The balls continued open between 2° and 8°, until $0^h.\ 20^m$, when they closed.	
53.57	SW	$3\frac{1}{2}$	The balls have opened 60°: the balls now open when the test is used.	
54. 7	SW	$3\frac{1}{2}$	The bell ringing: rain falling.	
56. 9	SW	3	The balls have opened 30°: the balls open when tested.	
57.12	SW	3	The balls have opened 60°: sparks obtained.	
59. 3	SW	3	The bell has ceased ringing. [testing.	
59.37	SW	3	The balls are now open 40°, and the bell is again ringing: the electricity as at the last	
0.59.57	SW	3	The balls have closed, and the bell has ceased ringing: the rain has ceased.	
1. 2.57	SW	2	The balls opened 15°: on the test being applied the balls closed: reading of barometer $= 29^{in}\cdot 253$, of Dry Thermometer $= 56°\cdot 8$, of Wet Thermometer $= 54°\cdot 2$.	
37.15	SW	3	The balls opened 60°: the test was applied, and the balls opened: rain is again falling.	
37.27	SW	3	The balls opened 70°: the bell ringing.	
38.27	SW	3	The balls opened 70°: the balls closed when tested: sparks obtained.	
1.39.25	SW	3	The balls opened 20°: the balls closed when tested: the bell has ceased.	
2. 0. 7	SW	..	The balls are now opened slightly: on the application of the test, the balls still close.	JH
May 6. 5.24. 7	SW	1	The balls have opened 8°: rain falling in torrents: reading of Barometer $= 29^{in}\cdot 262$, of Dry Thermometer $= 54°\cdot 4$, of Wet Thermometer $= 51°\cdot 1$.	P
26. 7	SW	1	The balls have opened 20°: the bell is slightly ringing.	
27. 7	SW	$\frac{3}{4}$	The balls have opened 30°: the bell continues ringing.	
27.37	SW	$\frac{3}{4}$	The balls have opened 35°: the bell continues ringing.	
28. 7	SW	$\frac{3}{4}$	The balls opened further on the application of the test.	
29. 7	SW	$\frac{1}{5}$	The balls are violently agitated: the bell is still ringing.	
30. 7	SW	$\frac{1}{2}$	The same.	
31. 7	SW	2	The same.	
32. 7	SW	2	The electricity is still in the same state.	
32.37	SW	$2\frac{1}{2}$	Rain is still falling.	
33.37	SW	3	The bell ringing: distant rumbling of thunder: the balls are now open 30°.	
34. 7	SW	4	The same.	
35. 7	SW	4	The bell ringing: the balls have separated 40°: the electricity is now in the opposite state.	
38. 7	SW	$3\frac{1}{2}$	The bell has ceased: rain falling less violently: the balls are open 10°.	
39. 7	SW	$3\frac{1}{2}$	The same.	
41. 7	SW	3	The balls are now open 7°: the rain is increasing.	
41.37	SW	2	The balls now open on applying the test.	
43. 7	SW	1	A slight opening of the balls is now the only visible effect.	
5.49. 7	SW	$1\frac{1}{2}$	Breaks in every direction, but principally in the N.: a dense nimbus is still stretching from E. to W. to within a short distance of the horizon: nimbi are continually passing over from the S.W.	P
May 6.22.15·57	SW	2	The balls slightly opened, and then again closed; this was during a heavy shower of rain.	JH
7. 0.36.13	SW	4	The balls opened 20°, and then 40°: the bell ringing: heavy rain: on applying the usual test of an excited glass tube, the balls opened further.	
37.23	SW	4	The balls opened 60°, and much agitated.	
37.48	SW	4	The balls opened 50°: the bell is still ringing.	
38. 3	SW	4	The balls opened 20°: the bell has ceased: the electricity is in the same state.	
38.57	SW	4	The balls are now open from 90° to 100°: the electricity has changed its state: the rain is	
39.33	SW	4	The balls are open 40°, and are much agitated: the bell rang for about 5^s. [not so heavy.	
40.23	SW	4	The balls are open 30°: the balls still close on applying the test.	
41.23	SW	4	The balls are open 10°.	
41.53	SW	4	The electricity is changed again.	
46.53	WSW	4	The balls have opened 90°, and the bell is again ringing.	

May 6^d and 7^d. The observations were taken during the time of rain falling: for meteorological observations at the time, see pages (70) and (71).

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time.	WIND. from Anemometer. Direction.	Pressure in lbs. per square foot.	REMARKS.	Observer.
d h m s		lbs.		
May 7. 0. 47. 13	WSW	4	The balls have opened 40°: the bell has ceased ringing.	J H
47. 30	WSW	4	The balls have opened 130°.	
47·53	WSW	4	The balls are greatly agitated: on the test being applied, the balls closed.	
48. 33	WSW	4	The balls have opened 40°.	
49. 18	WSW	4	The balls have opened 50°: the electricity is as at the last application of the test.	
50. 13	WSW	4	The balls have opened 60°: the bell ringing.	
50. 53	WSW	4	The balls have opened 20°: sparks obtained: the bell has ceased ringing.	
51. 9	WSW	4	The balls suddenly closed, and remained so for about a minute, when they again opened about 10°: on applying the test, they opened wider.	
0. 52. 53	WSW	12	The balls have again closed.	
1. 3. 43	WSW	5	The balls opened 10°, and then 20°, but in less than half a minute they again closed: reading of Barometer = 29^{in}·125, of Dry Thermometer = 60°·5, of Wet Thermometer = 52°·0.	J H
May 7. 3. 10. 55	SW	6	The balls have opened 60°: the bell is ringing violently: on bringing excited glass near, the	D
14. 55	SW	5½	The balls have opened 60°: the bell is ringing violently. [balls closed.	
15. 35	SW	5	The balls have opened 60°: the bell has ceased ringing.	
17. 15	SW	4	The balls have opened 60°: the bell is again ringing.	
17. 25	SW	3½	The balls have opened 70°: the bell is ringing violently: the electricity is in the same state.	
22. 55	SW	3	The balls have opened 70°: the bell has ceased ringing: reading of Barometer = 29^{in}·143, of Dry Thermometer = 52°·7, of Wet Thermometer = 50°·9.	
23. 48	SW	4	The balls have opened 40°: the electricity is still in the same state.	
23. 55	SW	4	The balls have opened gradually to 70°.	
27. 8	SW	4½	The balls are separated 100°: the bell is still ringing without the least cessation.	
29. 23	SW	4½	The balls have closed, and the bell has ceased ringing.	
30. 23	SW	4½	The balls have opened 40°: the electricity is still in the same state.	
32. 33	SW	4	The balls have opened 20°: the electricity is still in the same state.	
3. 33. 53	SW	3	The balls gradually closed: no further effect was noticed.	D
May 8. 0. 2. 53	WSW	3½	The balls have opened 20°: the bell is ringing.	P
3. 23	WSW	2	The balls are violently affected: the bell is ringing.	
4. 23	WSW	2	The balls are separated 30°: the bell is ringing.	
4. 53	WSW	2½	The same.	
5. 23	WSW	2½	The same. [brought near.	
5. 53	WSW	3	The balls are violently affected: the bell is ringing: the balls close when excited glass is	
8. 53	WSW	2	The balls are separated 20°: the bell is ringing.	
9. 53	WSW	1½	The same.	
11. 23	WSW	2½	The balls are separated 30°: the bell is ringing violently.	
11. 53	WSW	3	The balls are greatly excited: the bell is ringing violently.	
12. 23	WSW	5	Rain commenced falling: the bell ceased ringing the moment the rain began.	
12. 53	WSW	7	The balls are violently affected and separated about 50°: the bell again ringing.	
13. 23	WSW	9	The balls now open when the test is applied: rain falling heavily.	
15. 53	WSW	11	No effect.	
16. 23	WSW	12	The balls are separated 2°: the rain is still falling heavily.	
16. 53	WSW	10	The balls are separated 6°.	
17. 23	WSW	9	The balls are separated 6°: the bell is not ringing.	
17. 53	WSW	7	The balls are separated 10°: the bell is again ringing.	
18. 23	W by S	5	The balls are separated 20°: the bell is again ringing.	
18. 53	WSW	4½	The balls are violently affected, collapsing and expanding: the bell is ringing violently.	
19. 23	WSW	4	The balls close on applying the test. [electricity is as at the last trial.	
20. 23	WSW	3	The bell is ringing violently: the balls are separated about 30°, but are violently affected: the	
21. 23	WSW	2	The bell has ceased ringing: the balls are separated 10°.	
22. 23	WSW	1½	The bell again commenced ringing: the balls are separated 10°.	
22. 53	WSW	1	The bell again ceased ringing: the balls are separated 10°: the electricity is in the same state.	

May 8^{d}. The observations were taken during a shower of rain: for accompanying meteorological observations, see pages (70) and (71).

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time.	WIND. from Anemometer. Direction.	Pressure in lbs. per square foot.	REMARKS.	Observer.
d h m s		lbs.		
May 8. 0. 23. 53	WSW	½	The balls are separated 5°: the rain has suddenly ceased.	P
24. 23	WSW	½	The bell is again ringing: the balls are separated 20°.	
24. 53	W by S	½	The bell ceased ringing: the balls are separated 20°.	
25. 23	W by S	½	The bell again commenced ringing: the balls are separated 10°.	
25. 53	W by S	½	The bell ringing: the balls are separated 20°.	
26. 3	W by S	½	The bell ringing: the balls are separated 10°.	
26. 23	W by S	½	The electricity is still in the same state.	
26. 53	W by S	1	The bell has ceased ringing: the balls are separated 5°.	
0. 27. 23	W by S	½	The balls have closed, and the rain has also ceased falling.	P
May 8. 22. 8. 23	WNW	..	The balls are separated 20°.	P
9. 23	WNW	..	The same.	
10. 23	WNW	..	The balls are separated 20°: the balls close when the test of excited glass is used.	
10. 53	WNW	..	The balls are separated 20°: the bell has commenced ringing: no rain falling.	
11. 23	WNW	..	The balls are separated 30°: the bell still ringing.	
11. 53	WNW	..	The electricity is as before.	
12. 23	WNW	..	The balls are violently affected: a little rain is now falling.	
13. 53	WNW	..	The bell ceased.	
14. 13	WNW	..	The balls are separated 30°: the bell has re-commenced ringing.	
14. 53	WNW	..	The electricity is still in the same state.	
15. 53	WNW	..	The balls are separated 30°: the bell still ringing.	
16. 23	WNW	..	The balls are violently excited, collapsing and expanding: the pith ball which is nearest to the large ball is more violently excited than the other.	
16. 53	WNW	..	Rain falling.	
18. 23	WNW	..	The balls are separated about 10°: the electricity has suddenly become much weaker.	
18. 53	WNW	..	The balls are separated about 30°: the bell ringing.	
19. 53	W	..	The electricity is still the same: the balls still close on applying the test.	
20. 23	W	..	The balls are separated 20°: the bell has ceased ringing: the pith ball which is more remote from the large ball is now more violently excited than the other.	
21. 23	W	..	The bell ringing: the balls now open further when the test is applied.	
22. 53	W	..	The bell ringing: the balls are separated 30°.	
23. 23	W	..	The same. [of 8ˢ: the balls are separated 40°.	
23. 53	W	..	The bell ringing: there are twenty vibrations of the clapper of the alarm-bell in the space	
24. 23	W	..	The bell has ceased ringing: the balls are separated 40°.	
25. 23	W	..	The balls are separated 10°.	
25. 53	W	..	The balls are separated 30°.	
26. 23	W	..	The same.	
26. 53	W	..	The bell again ringing: the balls are separated 30°.	
27. 23	W	..	The balls are gradually collapsing.	P
53. 23	NW	..	The bell commenced ringing: the balls separated 40°; and the balls closed on applying the test.	D
55. 53	NW	..	The bell ringing violently: the electricity is in the same state.	
22. 58. 53	NW	..	The same.	
23. 3. 53	NNW	..	The bell ringing violently: the balls are separated 40°. [70 times in 15ˢ.	
8. 53	W	..	The bell ringing violently: the balls are separated 40°: the clapper of the alarm-bell vibrates	
9. 48	W	..	The bell ringing violently: the balls are separated 60°: the electricity is still in the same state.	
13. 43	W	..	The bell still ringing: the electricity is still in the same state.	
14. 23	W	..	The bell ceased: it has been ringing without intermission during the last twenty-one minutes.	
19. 13	W	..	The bell ringing: the balls are separated 30°: the balls now open further on applying the test.	
20. 33	W by N	..	The bell has again ceased: reading of Barometer = 29ⁱⁿ·826, of Dry Thermometer = 49°·2, of Wet Thermometer = 43°·5.	
57. 23	W by N	..	The bell has re-commenced ringing: the balls separated 40°: the electricity is as at the last	
8. 23. 58. 53	N	..	The balls are separated 30°. [trial.	
9. 0. 0. 53	N	..	The bell has ceased ringing.	
5. 8	N	..	The bell is again ringing: the balls are separated 30°: the balls now close when the test is [applied.	

May 8ᵈ. 22ʰ. The observations were taken during the time of nimbi passing the zenith: for meteorological observations at the time, see pages (70) to (73).

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time.	WIND. from Anemometer. Direction.	WIND. from Anemometer. Pressure in lbs. per square foot.	REMARKS.	Observer.
d h m s		lbs.		
May 9. 0. 6. 38	N	..	The bell has ceased.	D
0. 14. 3	NNW	..	The bell rang for a few seconds: the balls are open 40°: the electricity is the same.	D
May 9. 4. 25. 55	W by N	..	Thunder heard in the N.W.	J H
28. 55	W by N	..	Thunder again heard.	
37. 13	W by N	..	The balls opened 30°: the balls close when excited glass is brought near.	
37. 58	W by N	..	The balls opened 40°: the bell ringing.	
38. 23	W by N	..	The balls opened 50°, and were much agitated.	
38. 53	W by N	..	The balls opened 40°: the bell still ringing: the electricity is the same.	
39. 23	W by N	..	The balls opened 50°: the bell still ringing.	
39. 53	W by N	..	The balls opened 50°: the bell ringing more violently.	
40. 53	W by N	..	The electricity is still of the same kind.	
41. 23	W by N	..	The same.	
42. 53	W by N	..	The electricity is still of the same kind: the bell is still ringing.	
43. 38	W by N	..	The balls are separated 90°.	
44. 8	W by N	..	The electricity is still of the same kind.	
44. 53	W by N	..	The bell still ringing: rain has commenced falling.	
45. 53	W by N	..	The balls are separated 150°: the electricity is of the same kind.	
46. 53	W by N	..	The bell still ringing: a succession of bright sparks obtained from the ball.	
47. 53	W by N	..	The bell still ringing.	
48. 23	W by N	..	The bell has ceased.	
48. 43	W by N	..	The bell has again commenced: rain falling heavily.	
48. 53	W by N	..	The electricity has changed, since the balls open on the test (of excited glass) being applied.	
49. 8	W by N	..	The electricity is in its former state: the bell ringing.	
50. 53	W by N	..	The electricity is in its former state: the bell ringing: the pith balls much agitated.	
51. 18	WNW	..	The electricity is in its former state: the bell has ceased.	
51. 53	WNW	..	The electricity is in its former state.	
52. 23	NW	..	The balls closed a few seconds, and then again opened: the bell ringing.	
52. 43	NNW	..	A flash of lightning and a loud spark: the thunder is nearly vertical: the bell ceased after the thunder.	
53. 38	NNW	..	The balls now open when the test is used: the bell is ringing.	
54. 3	NNW	..	The same.	
54. 53	NNW	..	The balls now open when the test is used: the bell ceased: thunder.	
55. 9	NNW	..	The balls now open when the test is used: the bell again commenced ringing.	
55. 28	NNW	..	A flash of lightning: the bell ceased instantaneously: the balls expanding.	
55. 58	NNW	..	The bell has suddenly recommenced.	
56. 18	NNW	..	The clapper of the alarm-bell adheres to the bell itself.	
56. 23	NNW	..	The clapper is again free: electricity still in the same state: the pith balls are separated 60°.	
57. 23	NNW	..	The bell ringing: electricity still in the same state: the wind is veering further towards the North.	
4. 58. 53	NNW	..	The bell is ringing: electricity still in the same state.	
5. 0. 43	NNW	2	The bell ringing: electricity still in the same state: sparks taken: the rain is falling heavily.	
1. 23	N	2	The bell ringing: electricity still in the same state.	
1. 53	N	1½	The bell ringing: electricity still in the same state: the shower is passing over: the sky is clear to windward.	
2. 43	N	2	The bell ringing: electricity still in the same state.	
3. 53	N	2	The same.	
4. 53	N	2½	The bell has ceased: electricity still in the same state.	
5. 58	N	2	The pith balls are open 40°.	
6. 53	N	2½	The pith balls are open 60°: the electricity still in the same state.	
8. 23	N	3	The pith balls are open 60°: the bell has ceased.	
8. 43	N	3	The bell again ringing: the rain has ceased falling.	
9. 33	N	3½	The electricity continues in the same state.	
11. 3	N	2	The electricity continues in the same state: the balls are open 20°, but gradually closing.	
12. 3	N	1½	The balls are separated 10°.	
14. 3	N	1	The same.	

May 9d. The observations were taken during a thunder-storm: for meteorological observations at the time, see pages (72) and (73).

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time.	WIND. from Anemometer. Direction.	WIND. from Anemometer. Pressure in lbs. per square foot.	REMARKS.	Observer.
d h m s		lbs.		
May 9. 5. 15. 3	NW	½	The balls have closed: reading of Barometer = 29in·917, of Dry Thermometer = 47°·7, of Wet Thermometer = 46°·0.	J H
May 23. 21. 26. 57	SSW	..	The balls opened 10° during heavy rain, and remained stationary some time: on applying excited glass the balls closed: reading of Barometer = 29in·731, of Dry Thermometer = 54°·3, of Wet Thermometer = 53°·3.	J H
30. 57	SW	..	The balls are still open 10°.	
31. 27	SW	..	The electricity is of the same kind as before.	
34. 57	SW	..	The balls are open 5°.	
21. 41. 57	SW	..	The balls are open 8° or 10°: the electricity is still of the same kind.	
22. 19. 57	SW	..	The balls are open 8°: rain still falling.	
20. 57	SW	..	The balls are open 15°.	
21. 12	SW	..	The balls are open 8°. [bell is slightly vibrating.	
23. 7	SW	..	The balls are open 20°: the electricity is still of the same kind: the clapper of the alarm-	
23. 37	SW	..	The balls are open 30°.	
24. 27	SW	..	The balls are open 15°.	
27. 47	SW	..	The balls have opened 30°, then closed to 15°.	
31. 57	SSW	..	The balls are still separated 15°.	
32. 57	SSW	..	The balls have opened 30°, and in a few seconds closed to 15°: the electricity still of the same kind: faint sparks taken from the large ball.	
33. 57	SSW	..	The balls are separated 20°.	
36. 27	SSW	..	The balls are separated 40°.	
36. 48	SSW	..	The balls are separated 20°: sparks taken.	
41. 57	SSW	..	The balls are separated 15°: rain still falling.	
44. 57	SSW	..	The balls are separated 30°: after this, the balls gradually closed to 10°.	J H
50. 57	SSW	..	The balls still close upon applying the test.	G
54. 57	SSW	..	The pith balls are nearly together.	
55. 27	SSW	..	The balls open 5°.	
55. 52	SSW	..	The balls open 10°: on the test of excited glass being applied, the balls completely closed.	
58. 27	SSW	..	The balls open 5°.	
22. 58. 57	SSW	..	The balls open 10°, and agitated.	
23. 4. 2	S	..	The balls open 5°: they had remained open 10° since the last observation.	
8. 32	S	..	The balls are together.	
19. 27	S	..	The balls again opened: the balls close when the test is used: reading of Barometer = 29in·735, of Dry Thermometer = 55°·5, of Wet Thermometer = 54°·9.	
48. 57	Calm	..	The balls opened to 15°, then closed to 10°: rain falling.	
52. 36	Calm	..	The balls opened to 15°: rain falling.	
23. 58. 42	Calm	..	The balls opened to 18°: rain falling.	
24. 0. 0. 57	Calm	..	The balls opened to 20°: large drops of rain falling.	
3. 39	Calm	..	The balls opened to 15°: large drops of rain falling.	
3. 57	Calm	..	The balls opened to 10°: large drops of rain falling.	
25. 57	Calm	..	The balls have been constantly separated from 10° to 15° since the last observation; they are now closed to 5°: they open wider on application of the test.	
28. 17	Calm	..	The balls are open 20°: on applying the test the balls decidedly close.	
29. 12	Calm	..	The balls are open 7°.	
48. 57	Calm	..	The balls are open 10°: the electricity is still in the same state: rain falling heavily.	
53. 57	Calm	..	The balls are open 4°.	
0. 59. 57	Calm	..	The balls are nearly closed: rain still falling heavily.	
1. 28. 57	Calm	..	The balls are open 3° or 4°: reading of Barometer = 29in·706, of Dry Thermometer = 55°·6, of Wet Thermometer = 53°2.	G
June 14. 4. 30. 0	Calm	..	The bell commenced ringing, and the balls were suddenly so violently affected as to adhere to the side of the glass, thus rendering it impossible to note the expansion: after remaining thus for a few moments only they began to collapse and expand rapidly: thunder in the W.: rain in very large drops.	P

May 23d. The observations were taken while rain was falling: see pages (78) and (79) for accompanying meteorological observations.

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time.	WIND. from Anemometer. Direction.	Pressure in lbs. per square foot.	REMARKS.	Observer.
d h m s		lbs.		
June 14. 4. 35. 0	Calm	..	Sparks rapidly emitted, accompanied by a crackling noise, much louder than the sound of the bell: the balls close when excited glass is brought near.	P
37. 0	Calm	..	The balls are violently affected, opening and closing unceasingly: bright vivid sparks still emitted: the rain has ceased.	
38. 0	Calm	..	On the usual test being applied the balls were unaffected: thunder.	
39. 0	Calm	..	Thunder in the N.W.: the bell still ringing, and the appearance of sparks as before.	
40. 0	Calm	..	The same. [commenced.	
41. 30	Calm	..	Loud thunder: the bell still ringing, and the appearance of sparks as before: rain has again	
42. 0	Calm	..	Thunder in N.W.: the balls close on using the test. [time.	
45. 0	Calm	..	Rain falling very heavily: the thunder is more prolonged: the bell has ceased for the first	
45. 30	Calm	..	The bell has again commenced: sparks are emitted, but no sound accompanies them.	
46. 0	Calm	..	A clap of thunder: the bell is not ringing.	
46. 30	Calm	..	A rumbling of thunder: the bell has again commenced.	
47. 0	Calm	..	The bell has ceased.	
48. 0	Calm	..	Thunder: the balls are opened 10°.	
48. 30	Calm	..	The rumbling of thunder is nearer and louder.	
50. 0	Calm	..	A bright flash of lightning: thunder following immediately.	
50. 30	Calm	..	Thunder: the balls most violently affected.	
51. 30	Calm	..	The bell ceased, but almost immediately recommenced: rain still falling: thunder near the zenith and more prolonged.	
52. 0	Calm	..	Thunder: the electricity appears to be still of the same kind: the glass of the electrometer is so excited that the pith balls adhere to it: the electricity was discharged from the balls by touching their suspension-piece.	
54. 0	Calm	..	The balls opening and closing as before: thunder near the zenith.	
55. 0	Calm	..	The same.	
55. 30	Calm	..	The balls opening and closing as before: rain still falling heavily.	
56. 0	Calm	..	A bright flash of forked lightning: a heavy clap of thunder immediately followed.	
56. 30	Calm	..	The bell ringing and the balls affected as before. [excited.	
57. 0	Calm	..	The electricity appears to be still the same, but the glass of the electrometer is very much	
4. 58. 30	Calm	..	A bright flash of lightning: a loud peal of thunder followed immediately: just before the flash was seen the bell ceased ringing, but began again as soon as the thunder had ceased.	
5. 0. 0	Calm	..	The bell has ceased ringing: rain falling violently.	
0. 30	Calm	..	A rumbling of thunder rather more distant: the bell is not ringing.	
1. 30	Calm	..	The bell again commenced.	
3. 30	Calm	..	The bell ceases: the thunder more distant in N. N.W.	
3. 45	Calm	..	The bell ringing, and the balls separated 30°: the rain still falling.	
6. 0	Calm	..	Thunder: the rain has now almost ceased: the bell still ringing, and the balls as violently affected as ever.	
7. 30	Calm	..	The loudest clap of thunder yet heard, apparently a little West of zenith: the bell ringing.	
8. 30	Calm	..	The balls close when the test is applied.	
9. 0	Calm	..	The bell ringing violently: a loud clap of thunder.	
10. 0	Calm	..	The bell ringing violently.	
11. 0	Calm	..	The rain has now ceased: the balls close when the test is applied: lightning.	
14. 0	Calm	..	The bell ringing and the balls as much affected as before, rapidly opening and closing: reading of Barometer = 29^{in}·896, of Dry Thermometer = 68°·9, of Wet Thermometer = 64°·0. The bell ceased about 5^{h}. 20^{m}, and no more thunder was heard.	P
June 19. 3. 55. 44	WNW	½	The balls are separated 80° and much agitated: the bell ringing. [brought near.	J H
57. 44	WNW	½	Strong shocks taken from the ball: thunder: the balls open further when excited glass is	
3. 59. 44	WNW	..	The bell ceased for a few seconds but very soon recommenced.	
4. 2. 44	WNW	..	Almost continuous thunder from a cloud S. E. of zenith: the electricity is in the same state.	
3. 44	WNW	..	The balls are opened 45°: thunder.	
4. 14	WNW	..	The balls are opened 45°: strong sparks are taken from the ball: the bell continues ringing.	
5. 14	WNW	..	The balls are opened 80°; 65 vibrations of the ball of the alarm-bell in 10^{s}.	

June 14^{d}. The observations were taken during rain and thunder: for meteorological observations at the time, see pages (90) and (91).

June 19^{d}. The observations were taken during thunder.

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time.	WIND. from Anemometer. Direction.	Pressure in lbs. per square foot.	REMARKS.	Observer.
d h m s		lbs.		
June 19. 4. 7. 24	W N W	..	The balls are opened 30° or 35°: a continuous rolling of thunder S. and S.E. of the zenith: the bell ringing violently. [bell obliquely.	J H
8. 24	W N W	..	The balls are separated further, but the bell is not ringing so violently: the ball strikes the	
10. 54	W by N	..	The bell still ringing, the ball striking it obliquely: the pith balls singularly convulsed, at times motionless, and then again agitated in every description of curve.	
12. 24	W by N	..	The balls are separated 40°, and stationary.	
13. 14	W by N	..	The balls open on applying the test: the bell ringing less violently.	
13. 44	W by N	..	The balls are separated 10°.	
13. 49	W by N	..	The balls are separated 30°.	
14. 48	W	..	A violent start of balls and bell.	
15. 24	W	..	Fifty strokes of the bell in 10^s.	
15. 34	W	..	A loud clap of thunder.	
16. 16	W	..	The bell has ceased: the balls are separated 70°.	
17. 34	W	..	The balls close.	
18. 44	W	..	No disturbance: distant thunder.	
20. 22	W by S	..	The balls have suddenly opened 60°: the bell ringing: there are 35 strokes in 10^s.	
21. 14	W by S	..	The balls are separated 40°, and the bell ceases: the balls now close on using the test.	
22. 4	W by S	..	The balls are separated 8°, and are closing.	
22. 27	W by S	..	The balls have closed.	
23. 56	W by S	..	The balls suddenly started open, but immediately afterwards closed.	
26. 56	W by S	..	Another start to 20°, and they suddenly closed.	
29. 34	WSW	..	The balls are separated 180°: the bell again ringing: there are 60 strokes in 10^s: the balls open when the test is used: rain falling.	
34. 14	WSW	..	The balls are separated 20°: the bell ringing: there are 40 strokes in 10^s, but the bell appears to ring by sudden starts: rain falling faster.	
35. 34	WSW	..	The balls are opened 45°: the bell ringing more loudly. [meter.	
36. 44	WSW	..	Shocks taken from a wire placed to communicate between the large ball and the electro-	
37. 44	WSW	..	The balls are separated 85°: the bell is ringing violently, the ball striking it obliquely: rain falling heavily.	
38. 44	WSW	..	Very fine sparks taken from the ball: the pith balls are separated 30°: the bell is ringing violently, there being about 80 strokes in 10^s, more, indeed, than can be counted correctly.	
41. 44	WSW	..	The bell still ringing violently; the ball strikes it obliquely.	
43. 14	WSW	..	The balls are separated 40°: the electricity is in the same state.	
44. 44	WSW	..	A constant succession of fine sparks taken from the ball.	
45. 22	WSW	..	The bell has ceased: the balls are open 10°.	
4. 58. 44	SW	..	No appearance of any disturbance: the thunder clouds have passed off in the S.E.	J H
6. 34. 44	W by S	..	The bell ringing: the balls are separated 30°: no effect on using the test.	M
39. 54	W	..	The bell ringing: the balls open on applying the test.	
41. 54	W	..	Thunder in the distance: the bell is still ringing violently: sparks very distinct.	
6. 45. 44	WSW	..	The bell is still ringing.	M
June 21. 0. 38. 36	SSW	$\frac{1}{2}$	The balls are separated 40°: the bell ringing: the balls close when excited glass is brought	D & J H
39. 36	SSW	1	The balls are separated 30°. [near.	
40. 6	SSW	2	The electricity is in the same state.	
40. 46	SSW	2	The same.	
41. 36	SSW	2	The balls have closed.	
41. 51	SSW	2	The balls have again opened 10°: the electricity is still in the same state.	
42. 51	SSW	2	The balls opened 40°; then 70°.	
43. 36	SSW	$1\frac{1}{2}$	The bell ringing violently: strong shocks taken: the electricity is in the same state.	
44. 6	SSW	$1\frac{1}{2}$	The clapper of the alarm-bell adheres to the bell.	
44. 46	SSW	$1\frac{1}{2}$	The bell again ringing, the ball being free.	
45. 6	SSW	$1\frac{1}{2}$	The electricity is still of the same kind.	
46. 16	SSW	$1\frac{1}{2}$	The balls are separated 45°: thunder: the bell ringing violently.	

June 19^d. The observations were taken during thunder.

June 21^d. The observations were taken during thunder and thunder-showers: for meteorological observations at the time, see pages (94) and (95).

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time.	WIND. from Anemometer. Direction.	Pressure in lbs. per square foot.	REMARKS.	Observer.
d h m s		lbs.		
June 21. 0. 46. 36	SSW	1	There are about 80 strokes of the bell in 10^s.	D & JH
47. 11	SSW	1	A loud spark, after which the bell ceased ringing.	
47. 34	SSW	1	Thunder.	
47. 51	SSW	1	The bell suddenly re-commenced ringing: the electricity is still the same.	
48. 26	SSW	1	A constant succession of sparks from the large ball to the bell, every half second.	
50. 6	SSW	..	The bell ringing violently, and sparks still continuing every half second; they may be heard at the distance of 50 feet.	
50. 36	SSW	..	The sparks ceased, and the bell ceased ringing also: the electricity is still the same: the balls	
51. 36	SSW	..	Violent ringing: sparks again emitted. [close when the test is applied.	
52. 21	SSW	..	A constant succession of sparks.	
52. 36	SSW	..	A clap of thunder: the bell ceased ringing immediately after the thunder.	
52. 56	SSW	..	The bell again commenced ringing.	
53. 26	SSW	..	Sparks again in constant succession: heavy cumulo-strati in, and S.E. of, the zenith.	
53. 36	SSW	..	The electricity is still the same.	
54. 36	SSW	..	Sparks still in constant succession, and the bell ringing violently.	
55. 16	S	..	Lightning, the sparks ceasing instantaneously; then thunder, after which the ringing of the bell ceased, but re-commenced with sparks in 15^s.	
56. 36	S	..	Violent ringing, and sparks still emitted: gusts of wind.	
56. 46	S	..	Very loud sparks: rain and thunder.	
57. 21	S	..	The bell has ceased: heavy rain.	
58. 5	S	..	The bell has again commenced ringing.	
0. 58. 31	S	..	Lightning: a volley of sparks: heavy rain: the sparks have been emitted from the large ball to the alarm-bell for upwards of 2^m, without the least cessation.	
1. 0. 51	S	..	A flash, and loud sparks: the bell ringing violently: heavy rain, and a rolling of thunder:	
1. 56	S	..	The bell has ceased: rain falling violently. [the electricity still of the same kind.	
2. 39	S	..	The bell has again commenced.	
3. 36	S	..	The electricity is still of the same kind.	
3. 48	S	..	Sparks: the bell ringing violently: rain falling, but not so heavily.	
4. 6	S	..	Sparks every third of a second.	
4. 36	S	..	The bell ringing, but no sparks.	
7. 36	S	..	The electricity is the same: the rain ceasing.	
10. 36	S	..	The bell ceases: the balls are slightly opened: the electricity is still the same.	
12. 6	S	..	The balls are quite closed: the rain has ceased.	
18. 51	S	..	The balls are separated about 8°: the electricity is still of the same kind.	
1. 23. 36	S by W	..	The balls are quite closed: the storm is over.	D & JH
June 22. 6. 38. 59	W	$\frac{1}{3}$	The balls started open 15°: heavy electrical clouds prevalent: the balls close when excited	J H
40. 44	W	$\frac{1}{2}$	The balls are separated 50°: the bell ringing. [glass is brought near.	
41. 24	W	$\frac{1}{2}$	The bell ringing rapidly: strong sparks taken.	
42. 44	W	$\frac{1}{3}$	The bell ringing rapidly: the balls are open 50°.	
43. 44	W	$\frac{1}{3}$	The electricity is of the same kind.	
44. 44	W	$\frac{1}{2}$	The bell is still ringing violently: fine sparks taken.	
45. 44	W	$\frac{1}{3}$	The bell is still ringing violently, 80 strokes in 10^s: heavy rain falling.	
47. 14	W	$\frac{1}{2}$	The same.	
48. 44	W	..	The same.	
49. 44	W	..	The bell is still ringing violently: the electricity is still of the same kind.	
50. 44	W	..	The bell is still ringing violently: the electricity is still of the same kind: the balls are	
51. 42	W	..	The bell has ceased. [separated 30°.	
51. 54	W	..	The pith balls have suddenly opened 160°.	
52. 44	W	..	They have again closed: the rain has ceased.	
54. 44	W	..	The balls are again open.	
54. 49	W	..	The bell ringing: the balls now open wider when excited glass is brought near.	
55. 44	W	..	The balls are separated 60°, and are much agitated.	
56. 44	W	..	The electricity is as at the last trial.	

June 22^d. The observations were taken during passing cumulo-strati and occasional murmurings of thunder: for other meteorological observations at the time, see pages (94) and (95).

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time.	WIND. from Anemometer. Direction.	Pressure in lbs. per square foot.	REMARKS.	Observer.
d h m s		lbs.		
June 22. 6. 57. 59	W	..	The bell continues ringing.	J H
58. 44	W	..	Heavy cumulo-strati passing over.	
6. 59. 14	W	..	Low murmuring of thunder: the pith balls are greatly agitated.	
7. 0. 14	W by S	..	The bell is still ringing, but not so violently.	
0. 54	W by S	..	The bell is still ringing: the balls are separated 30°: the electricity is of the same kind.	
1. 24	W by S	..	The bell has ceased ringing, and the ball has become fixed to the alarm-bell: a constant	
1. 44	W by S	..	The balls have opened 15°. [muttering of thunder.	
2. 39	W by S	..	The balls have opened 5°.	
2. 54	W by S	..	The balls have closed: thunder in the N.	
17. 54	WSW	..	The balls are separated 20°: the bell ringing.	
18. 39	WSW	..	The balls are separated 30°: the bell has ceased.	
20. 34	WSW	..	The balls are separated 40°: reading of Barometer = 29^{in}·613, of Dry Thermometer = 60°·0, of Wet Thermometer = 55°·5.	
21. 44	WSW	..	The balls open wider when the test is applied.	
23. 4	WSW	..	The pith balls are separated 30°.	
24. 4	WSW	..	The pith balls are separated 20°.	
7. 24. 19	WSW	..	The balls are gradually closing.	J H
June 24. 0. 20. 0	SW	2	The balls have opened 50°: on bringing excited glass near, the balls close: rain falling.	G
20. 45	SW	2	The bell is ringing violently.	
21. 15	SW	2	The balls are separated 50°.	
21. 45	SW	2½	The bell rings without cessation; it strikes about three times in a second.	
22. 45	SW	2½	The balls have opened 50°, and are greatly agitated: rain is still falling; and the electricity	
23. 15	SW	2½	The bell struck twice in a second. [is of the same kind as before.	
24. 7	SW	2½	The balls are separated 20°: the bell has ceased.	
24. 20	SW	3	The balls are separated 20°: the bell is again ringing. [same kind.	
24. 32	SW	3	The balls have opened 10°, and the bell has ceased ringing: the electricity continues of the	
24. 44	SW	3	The balls have closed: rain is still falling.	
26. 10	SW	2½	The balls are separated 7°: the electricity has changed: the balls open further when the	
27. 45	SW	2½	No change. [test is used.	
28. 47	SW	2½	The balls have opened 10°.	
0. 31. 15	SW	2½	The balls have opened 5°	G
July 2. 2. 1. 51	W	5	The balls have slightly opened: a heavy shower of rain has commenced falling.	D
4. 21	W	2	The bell rung for a few seconds.	
4. 51	W	½	On the application of the usual test, the balls have closed.	
8. 51	W	½	The bell is ringing: the shower is over, and the electricity has changed, the balls opening wider when the test is applied. [over the zenith.	
2. 10. 51	W by S	½	The bell has ceased: the cloud from which the electricity appears to have come has passed	D
3. 5. 1	W by S	3½	The balls have opened 50°: the bell is ringing, but not violently: heavy rain falling.	J H
6. 6	W by S	3	The bell is violently ringing, and there is a constant succession of sparks: the electricity is of the same kind as at the last trial, the balls opening wider on the application of the test: on replacing the electrometer, after applying the test, the observer received a violent shock.	
7. 31	W by S	3	Fine sparks: the bell continues ringing.	
8. 6	W by S	3	The bell is ringing slowly.	
8. 16	W by S	3	The bell has ceased. [heavily.	
8. 41	W by S	3	The bell is again ringing: the balls now close when the test is used: rain continues to fall	
9. 46	W by S	3	The bell is again ringing: the balls are separated 60°: sparks were visible immediately on removing the electrometer for the purpose of applying the test, which however had no effect on the pith balls.	
11. 46	W by S	3½	Beautiful sparks on removing the electrometer: the bell is still ringing violently.	
12. 41	W by S	2½	The clapper of the alarm-bell adheres to the large ball.	
13. 1	W by S	3½	The bell is ringing violently.	
14. 16	W by S	2	The balls are separated 20°: the balls open when the test is used.	

June 24^{d}. The observations were taken while rain was falling: for meteorological observations, see pages (96) and (97).

July 2^{d}, 6^{d}, and 19^{d}. The observations were taken while rain was falling: for meteorological observations at these times, see pages (100) and (101) for July 2; (102) and (103) for July 6; and (110) and (111) for July 19.

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time.	WIND. from Anemometer. Direction.	Pressure in lbs. per square foot.	REMARKS.	Observer.
d h m s		lbs.		
July 2. 3. 14. 31	W by S	1	The balls are separated 30°: the bell has ceased ringing.	J H
16. 1	W by S	½	The electricity is still the same: heavy rain falling.	
21. 6	W	..	The electricity is still the same: heavy rain falling: reading of Barometer = 29in·720, of Dry Thermometer = 56°·6, of Wet Thermometer = 53°·7.	
25. 1	W	..	The bell is ringing: the rain has ceased.	
26. 6	W	..	The bell has ceased.	
29. 31	W by N	..	The bell is again ringing.	
31. 1	W by N	½	The same.	
32. 1	W by N	1	The bell ceased ringing, but immediately recommenced.	
32. 31	W by N	½	The bell is ringing: there are no clouds within 40° of the zenith.	
3. 32. 46	W by N	½	The bell has ceased.	J H
July 6. 6. 35. 52	W by N	..	The balls are slightly opened: rain falling.	J H
36. 22	W by N	..	The balls are separated 50°: this was a sudden start.	
37. 17	NW	..	The bell is ringing: the balls open further when the test is used: on removing the electrometer there was a succession of sparks.	
38. 47	N	..	The bell is ringing.	
39. 8	N	..	The bell suddenly stopped, but recommenced immediately: the pith balls are at the side of [the glass.	
40. 7	NNW	..	The bell is ringing slowly, 30 beats in 10s: the electricity is of the same kind.	
41. 22	WNW	..	The bell is ringing slowly.	
41. 42	WNW	..	The balls now close when the test is applied.	
44. 22	W by N	..	The same.	
44. 42	W by N	..	The bell is ringing slowly.	
6. 45. 22	W	..	The bell has nearly ceased ringing: the pith balls are still adhering to the glass.	J H
July 19. 23. 39. 7	SW	..	The balls are separated 8°: the bell ringing.	D
43. 7	SSW	..	The balls are separated 30°: the bell ringing: the balls close when the usual test is applied.	
46. 7	SSW	..	The bell is ringing violently.	
51. 7	S by W	..	The bell is ringing violently: the balls are separated 50°.	
54. 7	S	..	Sparks are emitted from the large ball into the bell.	
19. 23. 58. 7	S	..	Sparks at the interval of a second: the bell is ringing violently.	
20. 0. 0. 7	S by E	..	No change.	
1. 7	S by E	..	Rain falling.	
2. 7	S by E	..	On placing the electrometer in connexion with the large ball, the observer received a most violent shock, he, at the time, having hold of the glass sides of the instrument: the glass must have been highly excited.	
4. 7	S by E	..	The bell is ringing, and sparks are emitted as before.	
4. 37	SSE	..	No sparks at present.	
7. 7	SSE	..	The bell is still ringing.	
8. 22	SE	..	The bell has ceased.	
8. 37	SE	..	The bell again rang for a few seconds only.	
9. 7	SE	..	The balls closed on application of the test.	
10. 37	SE	..	The bell began ringing, and continued for half a minute.	
11. 7	SE	..	Rain falling steadily.	
12. 7	SE	..	No effect at present on the pith balls.	
26. 7	SE	..	The balls are separated 20°: the bell has again commenced ringing: the balls close when [tested.	
27. 37	SE	..	The bell has ceased.	
28. 22	SE	..	The electricity is of the same kind.	
30. 7	SE	..	Thunder in the distance.	
30. 22	SE	..	The bell rang for a short time.	
32. 7	SE	..	The same.	
33. 37	SE	..	The electricity is of the same kind.	
35. 7	SE	..	The balls are separated 6°.	
36. 7	SE	..	Rain falling: dark, heavy-looking clouds are passing over the zenith.	

July 20d. The immediate circumstances accompanying the exhibition of electricity were not noticed: for meteorological observations at about the time, see pages (110) and (111).

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time.	WIND. from Anemometer. Direction.	Pressure in lbs. per square foot.	REMARKS.	Observer.
d h m s		lbs.		
July 20. 0. 39. 37	SSE	..	The bell ringing.	D
40. 37	SSE	..	The balls have opened 40°: the electricity continues of the same kind.	
41. 12	SSE	..	The bell has ceased ringing.	
42. 27	SSE	..	The bell is again ringing.	
43. 7	SE	..	The electricity is of the same kind.	
45. 7	SE	..	Thunder.	
49. 7	SSE	..	The bell is still ringing.	
53. 22	SE	..	The balls are separated 10°: the bell has ceased ringing: the electricity is of the same kind.	
0. 54. 37	SE	..	The balls have closed: heavy rain falling.	D
1. 9. 37	SE	..	The balls are separated 10°: distant thunder.	P
10. 7	SE	..	The balls are separated 5°.	
1. 11. 7	SE	..	The balls are separated 5°: rain falling heavily: reading of Barometer = 29^{in}·607, of Dry Thermometer = 56°·5, of Wet Thermometer = 55°·3.	P
July 20. 4. 26. 37	SSE	..	The balls have opened 40°: the bell is slightly ringing: the balls close when excited glass is brought near.	J H
28. 7	SSE	..	The balls have opened 90°.	
29. 7	SSE	..	The bell has ceased: the balls are collapsing.	
29. 35	SSE	..	The bell again commenced ringing: the balls adhere to the side of the glass.	
30. 37	SSE	..	The bell is ringing by starts.	
31. 7	SSE	..	The electricity is as when first tested.	
4. 33. 17	S	..	The balls have closed.	
5. 3. 7	SSE	..	The balls are separated 40°: the bell ringing: the balls now open wider when the test is applied.	
4. 7	SSE	..	The balls are separated 20°: the bell ringing.	
11. 7	SSE	..	The bell is ringing at intervals.	
23. 7	Calm	..	The balls have been open 50° for the last nine minutes: reading of Barometer = 29^{in}·579, of Dry Thermometer = 62°·0, of Wet Thermometer = 58°·1.	
26. 37	Calm	..	The balls are a little open: the bell has ceased.	
27. 7	Calm	..	The bell again ringing by starts: the electricity is the same.	
39. 7	Calm	..	The same.	
5. 40. 7	Calm	..	The bell has ceased.	
July 27. 10^h to 13^h	Calm	..	Frequent flashes of lightning, with occasional claps of thunder, in the N. E.	D
12. 24. 18	Calm	..	A vivid flash of lightning and a loud clap of thunder: the pith balls are not affected.	
26. 48	Calm	..	Lightning: the pith balls are not affected: loud thunder.	
30. 18	Calm	..	The same.	
33. 28	Calm	..	A very vivid flash: a loud clap of thunder: sparks emitted from the large ball to the bell, which rang only for a few seconds: heavy rain.	
36. 43	Calm	..	The same as at the last observation: the balls close when the test is applied.	
38. 48	Calm	..	The same.	
39. 48	Calm	..	Lightning: a clap of thunder: the pith balls are not affected.	
41. 28	Calm	..	Lightning: a clap of thunder: the pith balls are not affected: rain in torrents.	
42. 30	Calm	..	Lightning: a clap of thunder: the pith balls are not affected.	
47. 18	Calm	..	The same.	
12. 49. 51	Calm	..	Lightning: a clap of thunder: the pith balls are not affected: after this time several faint flashes were visible S.E. of the zenith: each flash accompanied with thunder.	
13. 9. 48	Calm	..	A murmuring of thunder in the S.E.: no lightning seen.	
14. 33	Calm	..	Lightning in the N.W.: no thunder.	
13. 15. 18	Calm	..	A rolling of thunder in the S.E.: from this time, until 17^h. 20^m, there was a continual rolling of thunder at intervals of about three or four minutes; it continued in the S.E. for some time, then gradually approached the N., round by E.; no lightning was visible, nor were the pith balls affected: shortly before 17^h. 20^m the wind veered to the North, and immediately the dense electrical clouds, near the horizon, approached the zenith: the storm then recommenced with increased violence: reading of Barometer = 29^{in}·995, of Dry Thermometer = 55°·7, of Wet Thermometer = 55°·4.	

July 27^d. The observations were taken during a thunder-storm: for meteorological observations at the time, see pages (114) and (115).

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time.	WIND. from Anemometer. Direction.	Pressure in lbs. per square foot.	REMARKS.	Observer.
d h m s		lbs.		
July 27. 17. 24. 48	E	..	A flash of lightning: thunder: heavy rain: reading of Barometer = 29in·992, of Dry Thermometer = 55°·3, of Wet Thermometer = 55°·0.	D
17. 29. 18	ESE	..	A flash of lightning: thunder: heavy rain.	
18. 3. 18	SE	..	The bell has commenced ringing: lightning and loud claps of thunder since 17h. 29m.	
4. 18	SE	..	The balls closed when tested.	
9. 28	SE	..	The bell has ceased ringing: rain falling heavily.	
13. 28	SE	..	A tremendous clap of thunder: sparks from the bell: the Magnetic Observatory appears to shake.	
18. 18	SE	..	Another violent clap: lightning 2s previously: a volley of sparks from the large ball to the	
22. 8	SE	..	Another clap, precisely similar to the last two. [bell.	
26. 18	SSE	..	The same.	
33. 48	SSE	..	A faint flash of lightning: loud thunder.	
39. 18	SSE	..	A rolling of thunder: no lightning visible.	
42. 18	SSE	..	The balls close when the test is applied.	
50. 8	SSE	..	A rolling of thunder.	
18. 51. 18	SSE	..	The balls have closed: no further effect.	D
Aug. 10. 5. 19. 28	W by S	½	The balls are separated 50°: the bell ringing: reading of Barometer = 29in·460, of Dry Thermometer = 77°·5, of Wet Thermometer = 68°·3.	J H
24. 28	W	1½	The bell has ceased.	
24. 53	W	..	The balls are quite closed: rain falling heavily.	
34. 46	W	..	The balls are separated 30°: when excited glass is brought near, they close.	
36. 40	W	..	The balls are separated 30°: the bell has ceased.	
37. 42	W	..	The balls are slowly closing: thunder in the N.W.	
38. 58	W	..	The balls are separated 10°.	
42. 28	W	..	The balls are separated 5°.	
42. 43	W	..	The bell has again commenced ringing. [the rain ceased.	
5. 43. 8	WNW	..	The bell ceased: the balls are quite closed: rain falling at present: shortly after this time	
6. 40. 18	WNW	..	The balls are open 50°: the bell has begun to ring: the balls close on applying the test: cumulo-strati coming up from the West.	
41. 28	WNW	..	The balls are open 50°: the bell ringing rapidly.	
43. 58	WNW	..	The balls are closing: the bell has ceased.	
44. 48	WNW	..	The balls are closed. [thunder.	
47. 28	WNW	..	The balls are open 60° and agitated: the bell has again commenced ringing very violently:	
49. 28	WNW	..	The balls are open 70° and agitated: the bell has again commenced ringing very violently: thunder: the electricity is too strong to be tested safely: there are about 80 strokes of the bell in 10s.	
51. 58	WNW	..	The balls are much agitated, and the bell is still ringing very violently: rain has again com-	
52. 53	WNW	..	The bell ceased, and the balls closed instantaneously. [menced falling.	
53. 53	WNW	..	The bell again ringing: the balls close when tested.	
56. 28	WNW	..	The bell ringing very violently: the pith balls adhere to the side of the glass case.	
58. 28	WNW	..	The electricity is still the same: thunder.	
6. 59. 28	WNW	..	The balls are separated 40°: the bell still ringing. [has yet been seen.	
7. 0. 58	WNW	..	The balls are closing, and the bell has ceased: rain falling heavily: thunder: no lightning	
2. 18	WNW	..	The balls are quite closed.	
3. 57	WNW	..	A red flash of lightning: no thunder till 7h. 4m. 22s: the pith balls unaffected.	
6. 4	NW	..	The pith balls are slightly agitated. [directions.	
7. 11	E	..	A red flash of lightning: the bell was struck twice, and the pith balls were thrown about in all	
7. 58	E	..	A sudden jerking motion in the balls, they sometimes expanding and again suddenly closing.	
9. 25	ESE	..	The balls are separated 30°, but close when the test is used: a bright flash of lightning,	
	ESE	..	when the bell, which had been ringing a few seconds, ceased.	
10. 17	ESE	..	Another flash: the balls are quite closed, but the bell is slightly agitated.	
10. 42	ESE	..	Another flash.	
11. 12	ESE	..	Another flash: the bell rang for a few seconds: thunder East of the zenith.	

July 27d. 18h. 50m. 8s. This was the last thunder heard: the first flash of lightning was seen at 9h. 35m, so that the storm had continued 9h. 15m, during which time thunder was heard every three or four minutes, and 0in·83 of rain fell.

Aug. 10d. The observations were taken during a thunder-storm and thunder rain: during the storm, 0in·73 of rain was registered by gauge No. 1; 1in·10 was collected by gauge No. 2; 1in·195 was registered by gauge No. 3; and 1in·28 was collected by gauge No. 4. For meteorological observations during the storm, see pages (122) and (123).

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time.	WIND. from Anemometer. Direction.	Pressure in lbs. per square foot.	REMARKS.	Observer.
d h m s		lbs.		
Aug. 10. 7. 11. 36	ESE	..	Another flash: 3 strokes of the bell: the balls closed.	JH
11. 55	ESE	..	Another flash: 3 strokes of the bell.	
12. 7	ESE	..	Another flash: no effect.	
12. 31	ESE	..	Another flash: 3 strokes of the bell: thunder continues East of the zenith.	
13. 23	ESE	..	Another flash: 7 strokes of the bell.	
13. 37	ESE	..	Another flash: 3 strokes of the bell. [falling heavily.	
14. 36	E	..	The balls are opened 10°: a flash of lightning followed by thunder at $7^h.\ 14^m.\ 47^s$: rain still	
15. 13	WNW	..	The balls are closed: a red flash of lightning: 2 strokes of the bell.	
23. 28	N by E	..	The balls are closed: rain falling very heavily: there have been three flashes of lightning since $7^h.\ 15^m$: reading of Barometer = $29^{in}\cdot 501$, of Dry Thermometer = $74°\cdot 2$, of Wet Thermometer = $66°\cdot 8$.	
23. 56	N by E	..	The balls are closed: a flash of lightning: all the flashes are of the red forked kind.	
24. 37	N by E	..	The same: a flash of lightning: rain falling very heavily.	
24. 39	N by E	..	The same.	
26. 15	N by E	..	The same: a flash of lightning: rain falling less heavily.	
27. 58	N by E	..	The same: a flash of lightning.	
28. 40	N by E	..	The same: thunder East of the zenith: the storm is moving from the W. S.W.	
29. 2	N by E	..	The same: a flash of lightning: low thunder.	
7. 29. 42	NNE	..	The same: louder thunder: the wind has veered to the N.: occasional flashes of lightning in the N. after this time until 10^h.	JH
Aug. 10. 12. 14. 28	WSW	..	The balls are opened 30°: the balls close when tested: distant thunder.	D
18. 43	WSW	..	A flash of lightning: thunder 15^s after.	
22. 28	WSW	..	The balls are violently agitated: the bell rang for about 2^s: a vivid yellow flash of lightning and loud thunder: rain falling heavily.	
24. 28	W by S	..	The balls are opened 30°: the electricity is of the same kind.	
29. 23	W by S	..	The balls are violently agitated: the bell rang; at the same time a volley of sparks was emitted from the large ball into the bell: a vivid flash of lightning, followed by thunder in 10^s: the electricity is of the same kind: distant thunder.	
31. 13	W by S	..	The balls are opened 20°.	
32. 50	W by S	..	The balls are violently agitated: the bell rang violently for 15^s, six beats in a second: a terrific flash of forked lightning, followed by thunder in 7^s.	
34. 48	W by S	..	The balls are violently agitated: a flash of lightning and a peal of thunder in 7^s; no sparks	
40. 43	W by S	..	The balls are opened 5°: the electricity is still of the same kind. [emitted.	
52. 43	W	..	The balls are opened 5°.	
12. 53. 43	W	..	The balls are closed: a few flashes of lightning were afterwards seen in the N. horizon, but the electrometer was not further affected.	D
Aug. 18. 6. 23. 33	ESE	..	The balls are opened 50°: the bell suddenly commenced ringing: electrical clouds in the zenith.	JH
44. 33	E	..	The balls are much agitated: the balls close when excited glass is brought near.	
44. 49	E	..	Fine sparks passing into the bell from the ball.	
45. 33	E	..	The balls are violently agitated.	
46. 33	E	..	The bell ringing: the ball striking it obliquely.	
47. 3	E	..	The bell ringing violently: heavy cumulo-strati passing over.	
48. 33	E	..	The balls are violently agitated: the bell ringing violently.	
49. 13	E	..	The balls are much agitated, one being twisted round in a very eccentric ellipse: the electricity is of the same kind.	
49. 33	E	..	The balls are violently agitated: the bell is still ringing.	
50. 33	E	..	The balls are violently agitated: the bell is still ringing: a succession of beautiful sparks.	
51. 28	E	..	The balls are violently agitated: the bell is still ringing: very fine sparks, accompanied by a loud sound.	
52. 43	E	..	The balls are violently agitated: the bell is still ringing: the sparks are quite dazzling: they have continued since $6^h.\ 50^m.\ 33^s$.	

Aug. 18^d. The observations were taken during the prevalence of heavy, electrical clouds; the day was the hottest in the year: for other remarks, see pages (126) and (127).

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time.	WIND. from Anemometer. Direction.	Pressure in lbs. per square foot.	REMARKS.	Observer.
d h m s		lbs.		
Aug. 18. 6. 54. 33	E	..	The balls are violently agitated: the bell is still ringing: there are about 70 strokes in 10^s; the sparks continue equally bright.	J H
56. 33	E	..	The balls are violently agitated: the bell is still ringing: there are about 70 strokes in 10^s: the sparks may be heard at the distance of 30 yards.	
58. 33	E	..	The balls are violently agitated: the bell is still ringing: the sparks still continue.	
6. 58. 40	E	..	The balls are violently agitated: the bell is still ringing: the strokes are irregular: at $6^h.\ 58^m.\ 50^s$ they again became regular: the electricity is of the same kind.	
7. 1. 11	E	..	The balls are violently agitated: the bell is still ringing: the sparks ceased.	
1. 43	E	..	The balls are violently agitated: the bell is still ringing: the sparks are again seen occasionally.	
2. 0	E	..	The balls are violently agitated: the bell is still ringing: the sparks are again continuous.	
2. 23	E	..	The balls are violently agitated: the bell is still ringing: the sparks ceased, but again commenced in 4^s.	
4. 3	E	..	The balls are violently agitated: the elliptical motion of the balls is very often noticed: the bell is ringing violently: sparks are occasionally emitted.	
6. 33	E	..	The balls are violently agitated: the bell still ringing violently: the sparks have ceased.	
8. 33	E	..	The balls are violently agitated: the bell still ringing violently: the electrical clouds are gradually passing over: the wind has suddenly risen, and is blowing strong from the E.: the clouds move from W. S.W.	
12. 48	E	..	The balls are violently agitated: the bell still ringing violently: the balls close when the test is applied: sparks are emitted when the electrometer is removed, but they cease immediately on its being replaced.	
13. 33	E by S		The balls are violently agitated: the bell still ringing less violently.	
22. 33	E	$\frac{1}{2}$	The balls are slightly agitated; the bell still ringing less violently: the balls close when tested: reading of Barometer $= 29^{in}\cdot 746$, of Dry Thermometer $= 76^\circ\cdot 6$, of Wet Thermometer $= 68^\circ\cdot 0$.	
24. 1	E	$\frac{1}{2}$	The balls have opened 40°: the bell still ringing but much more slowly.	
24. 20	E	1	The bell ceased after having been violently agitated during 40^m.	
7. 25. 3	E by S	1	The balls have closed: the clouds are much lighter in the zenith.	J H
12. 47. 33	SW	2	The balls are much agitated: the bell ringing violently: bright sparks emitted.	P
48. 33	SW	2	The test was applied but no effect was produced.	
51. 33	SW	2	The balls are opened about 40°: a large nimbus passing over the zenith.	
12. 52. 33	SSW	2	The bell suddenly stopped: the test was again applied without effect: the electricity was discharged by touching the suspending-piece of the balls with the finger.	P
Aug. 19. 1. 34. 45	SSW	..	The balls are separated 16°: the bell struck two or three times: reading of Barometer $= 29^{in}\cdot 788$, of Dry Thermometer $= 73^\circ\cdot 0$, of Wet Thermometer $= 64^\circ$.	G
35. 5	SSW	..	The balls are separated 20°: the balls closed when tested: dark scud passing over, and rain falling slightly.	
1. 35. 45	SSW	..	The balls are closed: rain falling heavily.	G
Aug. 24. 13. 39. 52	N by E	..	The balls are separated 30°: the bell ringing: the balls closed when tested: lightning has been seen during the last hour in the S. and S.E.: rain has just commenced: reading of Barometer $29^{in}\cdot 578$, of Dry Thermometer $= 59^\circ\cdot 5$, of Wet Thermometer $= 56^\circ\cdot 0$.	J H
41. 37	N by E	..	The balls are separated 40°: the bell ringing violently: rain falling heavily: dense electrical clouds passing over.	
44. 2	N by E	..	The balls are separated 70°: the bell makes 50 strokes in 10^s.	
45. 20	N by E	..	The balls are separated 30°: the bell ceased, the clapper of the bell adhering to the large ball.	
45. 55	N by E	..	The balls are closed: the clapper of the bell is again free.	
51. 55	N by E	..	The bell rang for a few seconds.	
52. 22	N by E	..	The balls are separated 30°: the bell ringing: the balls close when the test is applied.	
53. 52	N by E	..	The balls are separated 20°: the bell ringing slowly.	
54. 42	N by E	..	The balls are gradually closing: the bell ceased.	
13. 58. 52	N by E	..	The bell rang for about 30^s.	J H

Aug. 19d. Rain was falling at the time.

Aug. 24d. The observations were taken during a squall of rain.

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time.	WIND. from Anemometer. Direction.	WIND. from Anemometer. Pressure in lbs. per square foot.	REMARKS.	Observer.
d h m s		lbs.		
Aug. 25. 2. 41. 53	NE	..	The balls are open 10°: a squall of rain: the balls close on application of the usual test.	JH
2. 42. 25	NE	..	The balls are gradually closing.	
6. 7. 23	ESE	..	The balls are open 40°: the bell ringing: the balls now open wider when the test is applied: a heavy cumulo-stratus passing over.	
9. 1	ESE	..	The balls are open 150°: the bell ringing: there are about 60 beats in 10^s.	
10. 8	ESE	..	The bell ringing, but less violently: the electricity is of the same kind.	
11. 3	ESE	..	The bell has ceased.	
11. 23	ESE	..	The electricity is still the same: rain falling very heavily.	
12. 25	ESE	..	The balls are closed.	
15. 3	ESE	..	The balls are open 20°: the bell rang for a few seconds: the rain has ceased.	
15. 23	ESE	..	The balls are closed.	
6. 26. 53	ESE	..	The balls are slightly agitated: thunder in the N.: the wind has been veering to the South of East since the squall began.	JH
Aug. 29. 3. 58. 56	NE	..	The balls are separated 40°: the bell is ringing: on applying excited glass, the balls open wider.	JH
4. 1. 11	NE	..	The balls are separated 60°: the bell is ringing: electrical cumulo-strati passing over the Magnetic House.	
2. 56	NE	..	The bell is ringing: the electricity is the same.	
4. 56	NE	..	The bell is ringing: the electricity is the same: faint sparks taken: thunder N.E. of	
6. 6	NE	..	The balls are separated 60°: the bell is ringing less rapidly. [the zenith.	
6. 41	NE	..	The balls are separated 20°: the bell has ceased: the electricity is the same.	
7. 56	NE	..	The balls are closed: thunder East of the zenith.	
24. 58	NE	..	The balls are slightly agitated. [thunder.	
28. 46	NE	..	The balls are open 30°: the bell ringing: the balls now close on applying the usual test:	
30. 56	NE	..	The balls are open 50°: the bell ringing very slowly.	
32. 16	NE	..	The same.	
33. 56	NE	..	The electricity is the same.	
36. 24	NE	..	The balls are open 150°: the bell ringing; but there are only 18 strokes in 5^s: thunder in the N.	
4. 38. 26	NE	..	The balls are closed: the bell ceased at the same time that the balls closed, or very suddenly after a peal of thunder in the N.N.W.: there was a murmuring of thunder in the N. and N.W. for about 45^m after this time, and heavy cumulo-strati prevailing N. of the zenith.	
6. 27. 41	SW	..	The balls are closed: lightning: constant murmuring of thunder S. of the zenith.	
34. 34	SW	..	The same: lightning in the N.N.W.: heavy clouds West of the zenith.	
6. 35. 18	SW	..	Thunder in the N.	JH
Sep. 7. 4. 41. 38	E	$\frac{1}{2}$	The balls are separated 20°: the bell strikes 5 times in 1^s.	G
42. 38	E	$\frac{1}{2}$	The balls are separated 15° to 30°: the bell strikes 6 times in 1^s.	
44. 8	E	1	The balls are separated 30°: the balls open wider when excited glass is brought near.	
45. 38	E	1	The bell has ceased ringing.	
45. 48	E	1	The balls are separated 10°: very dark in the zenith and around it.	
4. 46. 23	E	1	The balls are closed.	
5. 9. 41	E	1	The balls are separated 4°: the balls close when the test is applied.	
10. 38	E	1	The balls are separated 5°.	
11. 38	E	1	The same.	
17. 38	E	1	The balls are separated 2°.	
5. 17. 48	E	1	The balls are closed: reading of Barometer = $29^{in}\cdot530$, of Dry Thermometer = $63°\cdot6$, of Wet Thermometer = $61°\cdot0$.	G
Sep. 7. 7. 50. 20	ENE	1	The balls are separated 3°.	G
50. 33	ENE	1	The bell rang twice: reading of Barometer = $29^{in}\cdot406$, of Dry Thermometer = $62°\cdot2$, of Wet Thermometer = $61°\cdot0$.	

Aug. 29^d. The observations were taken during thunder.

Sep. $7^d.\ 4^h+$. The observations were taken during the passage of a large cloud over the zenith: after $7^h.\ 50^m$, during lightning, thunder, and heavy rain: see meteorological observations at about the same time, pages (138) and (139).

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time.	WIND. from Anemometer. Direction.	Pressure in lbs. per square foot.	REMARKS.	Observer.
d h m s		lbs.		
Sep. 7. 7. 51. 28	ENE	1	The balls are separated 10°: lightning East of the North.	G
51. 38	ENE	1	The balls are separated 1°: the test failed: thunder from the N.	
52. 39	ENE	1	The balls are separated 10°: they closed in 3s.	
54. 6	ENE	½	The balls are closed: thunder in the N.	
54. 57	ENE	½	The balls are twisted: heavy thunder.	
55. 48	ENE	½	The balls have just separated.	
56. 38	ENE	½	Very black: constant lightning in the North: rain falling.	
59. 16	ENE	½	The balls are separated 3°: the test failed.	
59. 38	ENE	½	The balls are separated 7°: very heavy rain.	
7. 59. 58	ENE	½	The balls are closed.	
8. 0. 18	E	½	The balls are separated 5°, and twisted: lightning.	
2. 38	E	1	Sheet lightning very abundant in the North.	
4. 6	E	3	The balls are separated 7°; they closed immediately.	
4. 38	E	3	Thunder and lightning.	
4. 40	ENE	2	The balls are separated 7°: reading of Barometer = 29in·394.	
5. 26	ENE	4	The bell struck once: heavy claps of thunder.	
5. 40	ENE	4	The balls are closed.	
6. 6	ENE	3	The balls separated 20°, and then closed: lightning.	
6. 33	ENE	3	The balls are separated 7°.	
7. 47	ENE	3	The balls separated 8°, and then closed: the bell struck: a flash of lightning: a spark obtained.	
7. 52	E by N	3½	Thunder: heavy rain.	
9. 33	E by N	3	Heavy rain and lightning: loud thunder 12s after: reading of Barometer = 29in·386.	
14. 23	E	2½	Lightning constant and very vivid up to the present time, with heavy thunder: rain.	
16. 6	E	3	The balls separated, and immediately closed: lightning and thunder.	
16. 36	E	3	The balls separated 3°, and immediately closed: lightning: the bell struck.	
16. 41	E	3	Thunder.	
17. 20	E	2	The balls separated, and immediately closed: vivid lightning.	
18. 16	E	2	The balls separated 10°, and immediately closed: vivid lightning: the bell struck.	
18. 29	E	1½	Thunder, and heavy rain.	
19. 38	E	1	The balls separated 2°, and immediately closed: the bell struck: reading of Barometer [=29in·412.	
20. 3	E	1	Thunder.	
22. 40	E	½	No effect: very beautiful lightning.	
22. 49	E	½	Thunder.	
23. 17	E	½	The balls are separated 10°, and twice twisted round each other.	
25. 11	E	½	The balls are separated 30°.	
26. 8	E	½	A very heavy clap of thunder.	
27. 3	E	½	The balls are separated 10°.	
27. 5	E	½	The balls are closed: rain in large drops.	
27. 38	E	½	Heavy rain: lightning in the East.	
28. 38	E	½	No effect: lightning frequent and very vivid.	
28. 58	E	½	The balls separated 10°, and then closed: lightning in the N. and N.E.: the bell has struck.	
29. 53	E	½	The same.	
31. 38	E	½	The balls separated 15°.	
33. 43	E	½	The balls separated 10°, and then closed: lightning.	
34. 3	E	½	Thunder: reading of Barometer = 29in·414.	
35. 52	ESE	½	The balls are violently agitated; they struck the glass on each side, and immediately closed.	
36. 0	ESE	½	Loud thunder, and heavy rain.	
37. 16	ESE	½	The lightning illumines every thing.	
37. 23	ESE	½	Thunder, chiefly confined to the N. and N.E.; a heavy roll.	
38. 54	ESE	½	The balls separated 10°, and then 15°, and then twisted.	
39. 38	SE	½	Lightning from every quarter.	
42. 10	SE	½	The balls separated 15°, and immediately closed: the bell struck twice.	
42. 18	SE	½	Loud thunder, and heavy rain.	
43. 11	SE	½	The balls agitated and entangled.	

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time.	WIND. from Anemometer. Direction.	Pressure in lbs. per square foot.	REMARKS.	Observer.
d h m s		lbs.		
Sep. 8. 8. 45. 23	SE	$\frac{1}{2}$	No effect: a large mass of lightning in the N.N.E.	G
45. 41	SE	$\frac{1}{2}$	No effect: thunder.	
46. 26	SE	$\frac{1}{2}$	No effect: a long and loud peal of thunder which continued 22^s.	
47. 53	SE	$\frac{1}{2}$	No effect: a very vivid purple flash of forked lightning; up to the present time it has been generally white.	
50. 44	SE	$\frac{1}{2}$	No effect: a beautiful display of forked lightning.	
50. 50	SE	$\frac{1}{2}$	No effect: thunder.	
53. 38	ESE	$\frac{1}{2}$	No effect: lightning less frequent, and the rain more moderate: lightning low down in the horizon in the S.: reading of Barometer $= 29^{in}\cdot 396$.	
8. 59. 38	SE	$\frac{1}{2}$	The storm appears to be going off: the rain that fell during the storm was $0^{in}\cdot 2$ nearly.	
9. 24. 0	ESE	$\frac{1}{2}$	Lightning is still seen in the E. and N., but principally in the latter direction, but no thunder is heard: the electrometer has been very little affected, considering the extent of the storm; it would, therefore appear, that the storm has been chiefly confined to the electricity passing from one cloud to another: lightning was seen at intervals till $15^h.\ 30^m$, but it had no effect on the electrometer: reading of Barometer $= 29^{in}\cdot 382$, of Dry Thermometer $= 61°\cdot 7$, of Wet Thermometer $= 61°\cdot 4$.	G
Sep. 9. 23. 23. 39	W	$1\frac{1}{2}$	The balls are much agitated; the bell is ringing: the balls open when excited glass is brought near: reading of Barometer $= 29^{in}\cdot 322$, of Dry Thermometer $= 61°\cdot 0$, of Wet Thermometer $= 55°\cdot 7$.	J H
23. 25. 59	W	2	The balls are closed: this took place from a squall of rain from the N.W.	
Sep. 10. 1. 50. 24	NW	1	The balls are separated 20°: the bell struck 5 times.	
54. 49	NW	1	The balls are much agitated, and the bell is ringing: the electricity is still the same.	
1. 56. 9	NW	1	The balls are slightly open, and slowly closing.	J H
Sep. 20. 0. 12. 21	SW	..	The bell is ringing.	G & D
12. 51	SW	..	The balls are separated 20°: they open when the usual test is applied.	
13. 1	SW	..	The bell struck 5 beats in 1^s.	
13. 11	SW	..	The same.	
13. 51	SW	..	The balls are much agitated: the bell struck 5 beats in 1^s.	
14. 1	SW	..	Sparks emitted.	
14. 11	SW	..	A heavy cloud passing over.	
14. 41	SW	..	One of the balls is carried obliquely.	
14. 51	SW	..	The balls are separated 20°: the electricity is of the same kind: rain falling.	
15. 26	SW	..	The balls are separated 40°: the electricity is of the same kind: sparks emitted.	
15. 56	SW	..	The bell was struck obliquely by the clapper.	
16. 16	SW	..	The balls are separated 40°.	
17. 1	SW	..	The electricity is still the same: sparks emitted: the charge was withdrawn by touching the suspension-piece of the pith balls.	
17. 56	SW	..	Black cumulo-stratus in the zenith.	
18. 11	SW	..	The balls are greatly agitated.	
19. 1	SW	..	The bell has not yet ceased ringing: sparks emitted.	
19. 21	SW	..	The bell is struck more obliquely by the clapper.	
20. 11	SW	..	Heavy rain.	
20. 21	SW	..	The balls are separated 30°: the electricity is in the same state.	
20. 31	SW	..	The balls are much agitated.	
21. 11	SW	..	The bell gives 3 strokes in 1^s.	
21. 49	SW	..	The balls are separated 30°, return to 10°, cross, and then fly to the glass on each side: continued rain.	
22. 51	SW	..	The rain not so heavy.	
23. 11	SW	..	The clapper strikes the bell less obliquely.	

Sep. 20^d. The observations were taken during passing clouds.

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time.	WIND. from Anemometer. Direction.	Pressure in lbs. per square foot.	REMARKS.	Observer.
d h m s		lbs.		
Sep. 20. 0. 23. 30	SW	..	The bell has ceased ringing: it before struck 32 times in 10^s: blue sky is now visible West of the zenith, the dark, heavy, black clouds having gone off eastward.	G & D
24. 41	SW	..	The electricity has changed: the balls close when tested: the rain has ceased.	
25. 56	SW	..	The bell struck once.	
26. 36	SW	..	The balls are separated 10°: the bell struck twice: the electricity is as at the last trial.	
27. 1	SW	..	The clapper adhered to the bell more than a second.	
27. 21	SW	..	The balls are separated 10°: the bell gave 3 strokes: electricity still the same.	
27. 41	SW	..	The balls are separated 20°: the bell struck several strokes.	
27. 51	SW	..	The balls are separated 30°: the electricity is still in the same state.	
28. 31	SW	..	The bell struck twice: blue sky near the zenith.	
29. 6	SW	..	The balls are separated 15°: the electricity continues in the same state.	
29. 19	SW	..	No effect.	
30. 18	SW	..	The balls are separated 30°: the bell struck 4 times: electricity continues the same.	
31. 21	SW	..	The balls are separated 20° and 30°: electricity continues the same: loose scud about the zenith.	
32. 51	SW	..	The balls are separated 20°.	
32. 56	SW	..	The balls are separated 5°.	
34. 21	SW	..	The balls are separated 4°: the Sun shining: large clouds in the N.	
0. 35. 51	SW	..	The balls are closed: very large clouds, of a yellowish appearance, about the sky, particularly in the N.	G & D
2. 15. 56	SSW	..	The balls are separated 40°, and much agitated: the bell struck many times.	G
17. 11	SSW	..	The bell struck 4 times in 1^s: the balls now open when the test is applied.	
18. 26	SSW	..	One ball is vibrating about zero; the other adheres to the glass.	
19. 56	SSW	..	The balls close on using the test.	
19. 41	SSW	..	The bell gave 3 strokes in 1^s.	
20. 51	SSW	..	The balls are separated 50°.	
21. 31	SSW	..	The balls are separated 50°: the electricity is the same.	
22. 56	SSW	..	The balls are separated 60°: the bell gives 3 strokes in 2^s.	
23. 19	SSW	..	One of the balls vibrates about zero; the other adheres to the glass: sparks emitted.	
25. 26	SSW	..	The balls are separated 40°, and agitated.	
26. 31	SSW	..	The bell ceased a few seconds since.	
26. 37	SSW	..	The bell struck again.	
27. 1	SSW	..	The balls are separated 30°: the bell ceased: the balls open when tested.	
27. 51	SSW	..	Rain falling fast.	
28. 1	SSW	..	The balls are separated 15°.	
28. 41	SSW	..	The balls have closed.	
31. 41	SSW	..	The balls are separated 30°: the bell is again ringing: rain falling.	
31. 51	SSW	..	The balls have closed: the bell has ceased.	
34. 26	SSW	..	The balls are separated 10°: the balls open when tested: rain falling heavily.	
36. 31	SSW	..	The balls are separated 50°.	
37. 51	SSW	..	The balls are separated 20°.	
2. 38. 51	SSW	..	The balls are separated 2°.	G
Sep. 25. 10. 47. 42	NNE	..	The balls separated 10°, and then closed: rain falling.	G
48. 42	NNE	..	The balls are separated 5°.	
10. 50. 12	NNE	..	The same.	G
Nov. 4. 4. 15. 13	Calm	..	The needle of the galvanometer is vibrating from 20°, N. P. East, to 6°, N. P. West: in one minute it settled at zero.	J H
4. 16. 23	Calm	..	The needle of the galvanometer deflected to 10°, N. P. West, and remained there some seconds, when it again returned to zero: this disturbance took place during a squall.	J H

ROYAL OBSERVATORY, GREENWICH.

ABSTRACTS

OF THE

RESULTS

OF THE

MAGNETICAL OBSERVATIONS.

1842.

TABLE I.—Mean Westerly Declination, as deduced from the 12 Observations taken on every Civil Day (except Sundays, Good Friday, and December 26), at the even Hours of Göttingen Mean Solar Time.

Days of the Month, 1842.	January.	February.	March.	April.	May.	June.	July.	August.	Sep.	Oct.	Nov.	Dec.
	23°	23°	23°	23°	23°	23°	23°	23°	23°	23°	23°	23°
	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″
1	10. 22	13. 2	7. 6	15. 11	*S*	17. 48	9. 37	17. 38	16. 35	12. 24	18. 28	20. 36
2	*S*	12. 58	8. 21	13. 40	11. 29	18. 0	11. 23	16. 12	16. 2	*S*	17. 41	20. 39
3	16. 45	12. 45	7. 49	*S*	11. 52	17. 46	*S*	16. 23	16. 38	18. 36	19. 1	20. 30
4	14. 57	13. 19	7. 48	8. 59	11. 10	17. 18	9. 17	16. 45	*S*	23. 4	18. 36	*S*
5	14. 51	13. 44	7. 41	6. 25	11. 33	*S*	16. 30	17. 44	14. 17	24. 5	19. 16	20. 47
6	14. 23	*S*	*S*	7. 36	11. 19	13. 47	21. 8	17. 21	12. 43	24. 16	*S*	19. 46
7	15. 58	17. 31	6. 52	6. 34	12. 0	12. 52	20. 55	*S*	12. 59	23. 44	15. 3	16. 52
8	14. 41	17. 18	7. 56	6. 22	*S*	11. 20	21. 25	15. 54	12. 45	22. 53	13. 28	17. 30
9	*S*	18. 57	7. 42	6. 28	11. 27	11. 58	20. 55	14. 33	12. 8	*S*	13. 28	15. 33
10	14. 32	19. 24	8. 43	*S*	9. 17	12. 51	*S*	14. 53	13. 30	21. 5	12. 4	17. 36
11	13. 19	17. 33	11. 11	9. 54	10. 24	12. 25	20. 0	15. 11	*S*	18. 34	14. 40	*S*
12	15. 23	18. 9	10. 5	7. 24	10. 4	*S*	18. 2	15. 5	12. 3	18. 47	14. 11	17. 23
13	15. 6	*S*	*S*	9. 17	10. 39	10. 9	16. 7	14. 55	13. 30	18. 37	*S*	13. 12
14	15. 3	16. 48	10. 36	10. 10	10. 37	7. 46	15. 53	*S*	16. 11	19. 38	14. 42	8. 28
15	13. 28	15. 2	9. 27	12. 52	*S*	8. 9	17. 7	14. 59	15. 20	18. 6	16. 0	8. 58
16	*S*	16. 16	9. 17	11. 33	8. 54	15. 59	16. 11	16. 34	16. 24	*S*	16. 51	8. 31
17	11. 8	14. 10	9. 36	*S*	8. 32	20. 0	*S*	17. 4	17. 15	15. 28	15. 50	8. 27
18	7. 40	16. 13	10. 41	13. 40	7. 26	18. 12	17. 23	15. 25	*S*	12. 59	16. 13	*S*
19	7. 44	13. 43	11. 5	16. 52	7. 38	*S*	19. 10	18. 29	15. 10	12. 26	16. 28	15. 3
20	7. 42	*S*	*S*	16. 17	7. 16	16. 47	17. 55	16. 45	14. 10	15. 40	*S*	19. 57
21	7. 34	14. 34	11. 9	15. 32	7. 46	16. 32	18. 43	*S*	14. 44	13. 41	15. 16	20. 2
22	7. 41	14. 58	13. 41	16. 21	*S*	15. 38	18. 31	13. 59	15. 14	12. 47	21. 1	20. 54
23	*S*	14. 39	13. 42	16. 42	11. 17	17. 0	19. 2	12. 22	14. 10	*S*	20. 31	19. 37
24	7. 24	16. 9	11. 36	*S*	13. 54	16. 32	*S*	13. 0	14. 38	15. 5	21. 3	19. 57
25	10. 36	13. 40	Good Fri.	12. 18	14. 14	15. 9	17. 7	11. 37	*S*	17. 34	19. 55	*S*
26	10. 24	16. 21	14. 37	9. 53	14. 44	*S*	16. 55	11. 50	12. 52	17. 26	20. 11	Holiday.
27	10. 55	*S*	*S*	8. 27	16. 10	12. 2	17. 50	11. 35	12. 8	18. 53	*S*	20. 30
28	10. 31	11. 57	15. 2	9. 19	17. 56	9. 19	17. 47	*S*	11. 51	18. 5	19. 39	19. 36
29	11. 27	...	14. 4	8. 26	*S*	9. 17	16. 55	11. 28	13. 32	18. 19	20. 55	19. 46
30	*S*	...	14. 35	9. 56	16. 57	9. 10	16. 15	14. 21	12. 54	*S*	21. 9	20. 55
31	9. 52	...	14. 43	...	18. 25	...	*S*	17. 11	...	17. 43	...	20. 29

The letter *S* denotes that the day was Sunday.

TABLE II.—Table exhibiting the Times at which Differences greater than 3′ took place between the Mean Positions of the Declination Magnet on two consecutive Days, with the amount of the Difference, estimated positive when the Theodolite Reading is less, or the Westerly Declination greater, on the Second Day.

January.		February.		April.		June.		July.	
Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.
	′ ″		′ ″		′ ″		′ ″		′ ″
17 & 18	− 3. 28	28 & 29	− 4. 51	18 & 19	+ 3. 12	15 & 16	+ 7. 50	4 & 5	+ 7. 13
24 & 25	+ 3. 12					16 & 17	+ 4. 1	5 & 6	+ 4. 38
31 & 32	+ 3. 10								

August.		October.		November.		December.	
18 & 19	+ 3. 4	3 & 4	+ 4. 28	21 & 22	+ 5. 45	12 & 13	− 4. 11
		19 & 20	+ 3. 14			13 & 14	− 4. 44
						19 & 20	+ 4. 54

In the above tables there are 6 instances of a change of more than 3′ and less than 4′,
7 instances of a change of more than 4′ and less than 5′,
1 instance of a change of more than 5′ and less than 6′,
2 instances of a change of more than 7′ and less than 8′.

TABLE III.—Table exhibiting the greatest and the least Differences in the Mean Positions of the Declination Magnet between any two consecutive Civil Days during each Month, estimated positive when the Westerly Declination was greater on the Second Day.

1842, Month.	Differences in the Mean Daily Positions of the Declination Magnet, from one Day to the next.		Days between which the Greatest Difference took place.	Days between which the Least Difference took place.
	Greatest.	Least.		
	′ ″	′ ″	d d	d d
January	— 3. 28	— 0. 2	17 & 18	19 & 20
February	— 4. 51	— 0. 4	0 & 1	1 & 2
March	+ 2. 32	— 0. 1 + 0. 1	21 & 22	3 & 4 22 & 23
April	+ 3. 12	+ 0. 6	18 & 19	8 & 9
May	+ 2. 37	— 0. 2	23 & 24	13 & 14
June	+ 7. 50	— 0. 2	15 & 16	28 & 29
July	+ 7. 13	— 0. 3	4 & 5	27 & 28
August	+ 3. 4	— 0. 6	18 & 19	11 & 12
September	+ 2. 41	— 0. 14	13 & 14	7 & 8
October	+ 4. 28	— 0. 8	3 & 4	25 & 26
November	+ 5. 45	0. 0	21 & 22	8 & 9
December	+ 4. 54	+ 0. 3	19 & 20	1 & 2

TABLE IV.—Mean of all the Two-hourly Westerly Declinations for those Days in each Month, on which (as shewn by the Mean of Two-hourly Readings) the marked end of the Magnet was most drawn towards the East, or was most drawn towards the West.

1842, Month.	Mean Western Declination for that Day in the Month, when the marked end of the Magnet throughout the Day was most drawn towards the		Greatest Difference in the Mean Positions of the Magnet, between any Two Days in the Month.	Day when the marked end was most drawn towards the	
	West.	East.		West.	East.
	° ′ ″	° ′ ″	° ′ ″	d	d
January	23. 16. 45	23. 7. 24	0. 9. 21	3	24
February	19. 24	11. 57	7. 27	10	28
March	15. 2	6. 52	8. 10	28	7
April	16. 52	6. 22	10. 30	19	8
May	18. 25	7. 16	11. 9	31	20
June	20. 0	7. 46	12. 14	17	14
July	21. 25	9. 17	12. 8	8	4
August	18. 29	11. 28	7. 1	19	29
September	17. 15	11. 51	5. 24	17	28
October	24. 16	12. 24	11. 52	6	1
November	21. 9	12. 4	9. 5	30	10
December	20. 55	8. 27	12. 28	30	17

This table shews that the mean position of the magnet was subject to less variation in the month of September than in any other month. In December it was subject to the greatest change in its mean daily position. In July the variation in its mean positions was great, and the two days in this month in which the magnet was in its extreme positions were separated by only four days. The mean monthly range (thus estimated from the mean of all the observations in each day) was 9′. 44″. The yearly range (similarly estimated) was 17′. 54″, being the difference between the mean West declination on October 6, when the marked end of the magnet was in its extreme westerly position, and the mean West declination on April 8, when the marked end of the magnet was in its extreme easterly position.

TABLE V.—Extreme Positions of the Declination Magnet in each Month, in Single Observations, for Daily, Term-day, and Extraordinary Observations.

1842.	The Western Declination when the marked end of the Magnet was most drawn towards the						Range in the Month.	Day and Hour when the marked end of the Magnet was most drawn towards the					
	West.	East.	West.	East.	West.	East.		West.	East.	West.	East.	West.	East.
	Daily Observations.		Term Observations.		Extraordinary Observations.			Daily Observations.		Term Observations.		Extraordinary Observations.	
	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	d h m	d h m	d h m	d h m	d h m s	d h m s
January	23. 21. 48	22. 48. 10	23. 11. 37	23. 2. 50	23. 21. 39	22. 43. 23	0. 38. 25	1. 0. 0	1. 10. 0	20. 1. 10	19. 10. 40	11. 14. 0. 0	1. 9. 43. 0
February	23. 30. 11	22. 48. 59	23. 21. 1	23. 6. 26	23. 31. 55	22. 48. 42	0. 43. 13	7. 2. 0	24. 12. 0	26. 1. 25 26. 2. 25	25. 10. 0	24. 13. 15. 0	24. 12. 6. 0
March	23. 23. 58	22. 55. 0	23. 20. 34	22. 56. 53	23. 24. 33	22. 51. 51	0. 33. 7	30. 1. 50	16. 10. 0	24. 0. 55 24. 1. 30	24. 8. 35	29. 0. 35. 10	5. 9. 48. 0
April	23. 33. 59	22. 50. 49	23. 29. 33	23. 5. 51	23. 35. 38	22. 50. 49	0. 44. 49	14. 18. 0	12. 14. 0	21. 0. 20	20. 14. 30	14. 18. 19. 30	12. 14. 0. 0
May	23. 25. 23	22. 59. 17	23. 24. 10	23. 3. 18	23. 21. 6	22. 59. 18	0. 33. 4	31. 0. 0	15. 14. 0	28. 1. 55 28. 2. 0	27. 18. 15	7. 2. 0. 0	16. 20. 0. 0
June	23. 28. 5	22. 57. 25	23. 24. 42	23. 8. 42	23. 25. 23	22. 57. 25	0. 30. 40	16. 2. 0	4. 12. 0	23. 1. 0	23. 8. 5	4. 6. 0. 0	4. 12. 0. 0
July	23. 35. 21	22. 36. 45	23. 25. 42	22. 51. 30	24. 9. 1	22. 31. 36	1. 37. 25	3. 18. 0	3. 14. 0	21. 2. 45	20. 10. 0	1. 18. 10. 0	3. 14. 54. 0
August	23. 35. 7	23. 3. 24	23. 19. 41	23. 5. 33	23. 35. 7	23. 8. 10	0. 31. 43	19. 1. 50	20. 10. 0	27. 1. 40	26. 12. 45	19. 1. 50. 0	11. 20. 0. 0
September	23. 26. 45	22. 59. 48	23. 23. 42	23. 0. 20	23. 20. 14	22. 50. 48	0. 35. 57	13. 2. 0	12. 12. 0	22. 1. 20	22. 7. 30	28. 18. 11. 0	2. 8. 25. 30
October	23. 33. 10	23. 4. 38	23. 22. 48	23. 4. 24	23. 21. 48	23. 1. 11	0. 31. 59	8. 2. 0	18. 14. 0	21. 0. 20	20. 10. 50	8. 12. 0. 0	8. 9. 30. 0
November	23. 28. 28	22. 58. 10	23. 24. 53	23. 17. 54	23. 30. 42	22. 53. 29	0. 37. 13	29. 1. 50	21. 14. 0	26. 0. 40 26. 0. 45	25. 17. 5	21. 18. 42. 0	10. 8. 50. 0
December	23. 27. 6	23. 4. 2	23. 26. 43	23. 16. 44	23. 20. 7	22. 45. 29	0. 41. 37	30. 2. 0	13. 12. 0	22. 0. 40 22. 0. 45	21. 10. 0	9. 8. 24. 0	9. 9. 31. 0

The largest and the smallest western declinations in the year are both in July, and they occurred during the great disturbances which took place on the 1st, 2nd, and 3rd days: the yearly range was 1°. 37′. 25″. Were these numbers not used, the extreme yearly range would be deduced from the observation on April 14^{d}. 18^{h}. 19^{m}. 30^{s}, and that on July 3^{d}. 14^{h}; and its value would be 58′. 53″.

TABLE VI.—Determination of the Absolute Western Declination from the Means of the Two-hourly Observations.

1842.	Absolute Westerly Declination of Magnet.	1842.	Absolute Westerly Declination of Magnet.
	° ′ ″		° ′ ″
January	23. 11. 54	July	23. 17. 14
February	15. 23	August	15. 10
March	10. 35	September	14. 11
April	11. 0	October	18. 4
May	11. 39	November	17. 22
June	13. 59	December	17. 22

The mean westerly declination for the year is 23°. 14′. 29′.

TABLE VII.—Diurnal Range of the Declination Magnet on every Day of the Year (except Sundays, Good Friday, and December 26), as deduced from all the Observations taken on that Day.

Days of the Month, 1842.	January.	February.	March.	April.	May.	June.	July.	August.	Sep.	Oct.	Nov.	Dec.
	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″
1	38.25	10.14	18.46	15.26	*S*	5.58	14.49	14. 8	9.39	10.34	5.48	6. 8
2	*S*	21.12	10.45	13.42	13. 1	11. 2	83.33	12.17	34.36	*S*	23.16	4. 4
3	9.16	10.16	7.46	*S*	10.53	9.00	*S*	7.14	11.50	17.40	14.56	4.20
4	6.53	8.20	6.58	16.12	8.29	28.49	65.39	8. 5	*S*	8.34	6.16	*S*
5	9.20	4.58	22. 9	11.41	12.39	*S*	25.30	13. 4	18. 3	5.20	7.28	4. 3
6	8.27	*S*	*S*	11.31	12. 8	9.32	13.25	12.44	12.48	9.22	*S*	9.49
7	8.58	25.29	9.32	10.54	15.00	12.16	12.24	*S*	9.49	11.00	6. 1	18.11
8	5.41	17.15	8.33	12. 8	*S*	10.53	10.58	14.33	10.31	31.59	5.10	10.34
9	*S*	6. 4	8.36	12. 1	15.37	14. 7	18.14	13.11	13.41	*S*	8. 0	35.44
10	6.44	7.58	8.43	*S*	12.32	15.10	*S*	12.14	9.49	6.56	32.40	10. 6
11	19. 5	20.25	8.17	33. 9	11.13	9.52	12.42	11.52	*S*	7.53	18.35	*S*
12	13.49	22.39	15.47	12.46	10.31	*S*	11.44	18.13	20.20	7.56	5.27	2.40
13	4.19	*S*	*S*	34.45	10.39	15.51	10.16	8.47	28.11	15.00	*S*	18. 8
14	5. 7	10. 8	13. 4	12.27	10.44	16.55	9.34	*S*	10.21	11.50	6. 1	5.36
15	24.55	10.39	17.10	40.53	*S*	6.16	10.31	10.35	11. 3	11.27	3.37	4.24
16	*S*	6. 7	22.59	34.29	20.39	23.57	12.14	10.23	10.45	*S*	7.35	4.24
17	6. 3	34. 2	12.55	*S*	28.41	5.29	*S*	16. 9	17.40	16. 2	6. 0	5.23
18	13.41	14.44	9.52	17.58	8.24	9. 3	13.53	8.29	*S*	12.51	4.42	*S*
19	12.47	28. 0	19.18	14.29	11.46	*S*	10.34	23. 6	11.53	16.56	5.13	26. 0
20	4.47	*S*	*S*	16.13	8.26	7.40	11.35	22.24	21.31	13.53	*S*	4. 9
21	16.47	6.47	17. 7	15.27	10.25	12.42	12. 7	*S*	18.33	10. 1	22.39	5.21
22	15.25	5.19	13. 0	10.27	*S*	13.21	11. 4	12.18	11.19	11.24	36.13	8.26
23	*S*	6.53	23.14	8.52	17.11	16. 0	15.40	14.48	10.11	*S*	6.59	6. 4
24	20. 8	40. 4	15.42	*S*	11. 7	12.42	*S*	15.19	10.45	16. 7	7. 2	5.38
25	15.26	42.49	Good Fri.	7.24	11.13	9.44	11.53	13.58	*S*	9.40	5.19	*S*
26	8.46	8.51	11.49	8.46	11.10	*S*	12.58	12.33	6. 3	20.41	5.29	Holiday
27	13.53	*S*	*S*	9.59	14.52	8.14	16.25	13.53	10.51	13.13	*S*	4.24
28	6.33	15.57	13.14	7.43	10.52	9.17	11.33	*S*	14.58	8.55	3.52	8.50
29	8.11		12.21	13.17	*S*	10.13	14.57	12.11	9.54	13.54	9.37	7.18
30	*S*		15.36	8.58	8.29	13.33	14.27	18. 5	7.32	*S*	11.44	9.14
31	10.27		9.49		13. 5		*S*	8. 8		6.24		7.18

The letter *S* denotes that the day was Sunday.

TABLE VIII.—Mean Daily Range of the Declination Magnet in each Month.

1842.	Mean of all the Daily Ranges in each Month.	1842.	Mean of all the Daily Ranges in each Month.
	′ ″		′ ″
January	12. 4	July	18. 2
February	16. 3	August	13.15
March	13.35	September	13.57
April	15.50	October	12.31
May	12.18	November	10.36
June	12.13	December	9. 5

The mean daily range of the magnet appears smallest in December, and largest in July; the latter being nearly the double of the former. By taking the means of the above numbers in two groups, those between April and September for one, and the remaining months for the other, we have that

	′ ″
The daily range in Summer is	14.16,
The daily range in Winter is	12.19,
The mean daily range for the year is	13.17.

TABLE IX.—Greatest and Least Daily Range of the Declination Magnet in each Month.

1842, Month.	Daily Range of the Declination Magnet.		Day on which the Range of the Magnet was	
	Greatest.	Least.	Greatest.	Least.
	′ ″	′ ″	d	d
January	38. 25	4. 19	1	13
February	42. 49	4. 58	25	5
March	23. 14	6. 58	23	4
April	40. 53	7. 24	15	25
May	28. 41	8. 24	17	18
June	28. 49	5. 29	4	17
July	83. 33	9. 34	2	14
August	23. 6	7. 14	19	3
September	34. 36	6. 3	2	26
October	20. 41	5. 20	26	5
November	36. 13	3. 52	22	28
December	35. 44	2. 40	9	12

TABLE X.—Table shewing how often in each Month the Daily Range of the Declination Magnet has been included between consecutive Minutes or other limits.

The Diurnal Range was	Number of Cases in												Whole Number of Cases in the Year.
	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	
Greater than 2′ and less than 3′												1	1
,, 3 ,, 4											2		2
,, 4 ,, 5	2	1									1	7	11
,, 5 ,, 6	2	1				2				1	6	4	16
,, 6 ,, 7	4	4	1			1			1	2	5	2	20
,, 7 ,, 8		1	1	2		1		1	1	2	3	2	14
,, 8 ,, 9	4	2	4	3	4	1		4		2	1	2	27
,, 9 ,, 10	2		3	1		6	1		4	2	1	2	22
,, 10 ,, 11	1	4	1	2	6	2	4	2	6	2		2	32
,, 11 ,, 12			1	2	5	1	5	1	4	4	1		24
,, 12 ,, 13	1		2	4	3	3	5	6	1	1			26
,, 13 ,, 14	3		3	2	2	2	2	4	1	3			22
,, 14 ,, 15		1		1	1	1	3	3	1		1		12
,, 15 ,, 16	2	1	3	2	2	2	1	1		1			15
,, 16 ,, 17	1			2		2	1	1		3			10
,, 17 ,, 18		1	2	1	1				1	1			7
,, 18 ,, 19			1				1	2	2		1	2	9
,, 19 ,, 20	1		1										2
,, 20 ,, 21	1	1			1				1	1			5
,, 21 ,, 22		1							1		1		3
,, 22 ,, 23		1	2					1					4
,, 23 ,, 24			1			1		1			1		4
,, 24 ,, 25	1								1				2
,, 25 ,, 26		1					1						2
,, 26 ,, 27												1	1
,, 27 ,, 28													0
,, 28 ,, 29		1			1	1							3
,, 29 ,, 30													0
,, 30 ,, 35		1		3					1	1	1		7
,, 35 ,, 40	1										1	1	3
,, 40 ,, 43		2		1									3
,, 65 ,, 66							1						1
,, 83 ,, 84							1						1

From the last column of this table we collect, that for 14 days the daily arc described by the magnet was less than 5′; that for 234 days the arc was between 5′ and 17′; and that on 38 days it was between 17′ and 26′. There were 19 other days in which the described arc was greater than 26′, and these were days of disturbance. The arc most commonly described is between 10′ and 11′, and those on both sides of it are more frequent than any others.

TABLE XI.—Mean Westerly Declination of the Magnet at every Even Hour of Göttingen Mean Time, deduced from all the Observations taken at that Hour in each Month.

1842. Hour, Göttingen Mean Time.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sep.	Oct.	Nov.	Dec.
	23°	23°	23°	23°	23°	23°	23°	23°	23°	23°	23°	23°
h	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″
14	12. 3	11. 57	8. 11	8. 2	9. 32	12. 28	13. 55	13. 19	11. 26	16. 18	16. 18	16. 23
16	11. 39	13. 2	8. 11	8. 39	9. 31	12. 11	13. 26	12. 6	11. 51	16. 41	16. 43	16. 53
18	12. 2	13. 36	8. 43	10. 11	7. 55	11. 48	15. 59	12. 9	12. 21	16. 36	16. 46	16. 38
20	11. 54	15. 0	8. 13	8. 49	6. 47	10. 43	13. 12	11. 45	13. 2	16. 13	17. 7	17. 21
22	12. 58	15. 50	11. 37	11. 17	10. 12	12. 29	16. 33	15. 17	15. 52	17. 27	17. 55	17. 58
0	14. 52	18. 40	14. 54	14. 36	16. 8	16. 43	21. 17	20. 22	20. 23	22. 33	20. 45	20. 22
2	15. 19	20. 46	16. 41	17. 52	18. 3	19. 47	24. 11	22. 7	20. 56	24. 5	21. 35	20. 36
4	12. 51	19. 25	14. 33	15. 16	15. 50	18. 53	22. 23	19. 12	16. 55	21. 37	18. 46	18. 47
6	11. 55	17. 0	11. 43	12. 16	12. 18	15. 55	19. 45	15. 49	13. 48	18. 34	17. 35	16. 55
8	10. 16	14. 34	10. 6	9. 25	12. 16	13. 28	17. 26	14. 21	11. 14	16. 37	16. 19	15. 53
10	8. 4	13. 31	6. 35	8. 19	11. 17	12. 51	14. 23	12. 53	11. 42	14. 30	14. 30	15. 5
12	8. 51	11. 15	7. 38	7. 20	10. 0	10. 54	14. 21	12. 42	10. 44	15. 42	15. 4	15. 30

The westerly declination is, without exception, greater at 2^h than at any other hour: the excess in the winter months over that at 0^h is very small, particularly in December. Starting from 2^h, the movement is continuous towards the East, until 8^h, 10^h, or 12^h, when the magnet returns towards the West, and reaches a second westerly limit; then a second movement towards the East takes place, which limit is generally attained late in the morning. From this time the return is continuous towards the West. The next table is so formed as to exhibit these times, and the amount of the changes.

TABLE XII.—Hours of Göttingen Mean Solar Time (Astronomical Reckoning) at which the Greatest and Least Declinations occur in different Months, as inferred from the Monthly Means of the Two-hourly Observations, with the Values of the Declinations and the Amount of the Changes.

1842, Month.	Times at which the marked end of the Declination Magnet was in its First extreme Positions.		Interval of Time in which the Magnet is moving from its First extreme West Position to its First extreme East Position.	Mean Westerly Declination when the Magnet was in its First extreme Position.		Difference between the First Extremes.	Times at which the marked end of the Declination Magnet was in its Second extreme Positions.		Interval of Time in which the Magnet is moving from its Second extreme West Position to its Second extreme East Position.	Mean Westerly Declination when the Magnet was in its Second extreme Position.		Difference between the Second Extremes.	Times at which the marked end of the Declination Magnet was in its Third extreme Positions.		Interval of Time in which the Magnet is moving from its Third extreme West Position to its Third extreme East Position.	Mean Westerly Declination when the Magnet was in its Third extreme Position.		Difference between the Third Extremes.	Difference between the Greatest and Least Readings, or Mean Daily Range.
	West.	East.		West.	East.		West.	East.		West.	East.		West.	East.		West.	East.		
				23°	23°					23°	23°					23°	23°		
	h m	h m	h m	′ ″	′ ″	′ ″	h m	h m	h m	′ ″	′ ″	′ ″	h m	h m	h m	′ ″	′ ″	′ ″	′ ″
Jan.	2. 0	10. 0	8. 0	15. 19	8. 4	7. 15	14. 0	16. 0	2. 0	12. 3	11. 39	0. 24	18. 0	20. 0	2. 0	12. 2	11. 54	0. 8	7. 15
Feb.	2. 0	12. 0	10. 0	20. 46	11. 15	9. 31													9. 31
March	2. 0	10. 0	8. 0	16. 41	6. 35	10. 6	18. 0	20. 0	2. 0	8. 43	8. 13	0. 30							10. 6
April	2. 0	12. 0	10. 0	17. 52	7. 20	10. 32	18. 0	20. 0	2. 0	10. 11	8. 49	1. 22							10. 32
May	2. 0	20. 0	18. 0	18. 3	6. 47	11. 16													11. 16
June	2. 0	12. 0	10. 0	19. 47	10. 54	8. 53	14. 0	20. 0	6. 0	12. 28	10. 43	1. 45							9. 4
July	2. 0	16. 0	14. 0	24. 11	13. 26	10. 45	18. 0	20. 0	2. 0	15. 59	13. 12	2. 47							10. 59
August	2. 0	12. 0	10. 0	22. 7	12. 42	9. 25	14. 0	16. 0	2. 0	13. 19	12. 6	1. 13	18. 0	20. 0	2. 0	12. 9	11. 45	0. 24	10. 22
Sep.	2. 0	8. 0	6. 0	20. 56	11. 14	9. 42	10. 0	12. 0	2. 0	11. 42	10. 44	0. 58							10. 12
Oct.	2. 0	10. 0	8. 0	24. 5	14. 30	9. 35	16. 0	20. 0	4. 0	16. 41	16. 13	0. 28							9. 35
Nov.	2. 0	10. 0	8. 0	21. 35	14. 30	7. 5													7. 5
Dec.	2. 0	10. 0	8. 0	20. 36	15. 5	5. 31	16. 0	18. 0	2. 0	16. 53	16. 38	0. 15							5. 31

From this table we collect the following particulars:—The marked end of the magnet has, in every month of the year without exception, reached its extreme westerly position at 2^h, or rather at 2^h it has been more westerly than at any other hour of observation. The diurnal movement consists of a double or triple maximum and minimum, except in the months of February, May, and November, in which months the magnet has at once moved from one extreme position to the other. This was particularly the case in February: in May, however, the checked motion of the magnet is very strongly marked about 6^h and 8^h, the mean declination deduced from the latter time being only 2″ less than that from the former time. During the whole month of May, the declinations were, at these times, almost always alike; the exceptions were on the 5th, 9th, 23rd, and 25th days, when the declinations at 8^h were less than those at 6^h by 1′. 54″, 1′. 22″, 1′. 48″, and 3′. 23″ respectively; and on the 10th, 17th, and 19th days, when the declinations at 8^h were 3′. 5″, 3′. 3″, and 2′. 51″ greater respectively than those at 6^h. After June 2nd, the magnet moved as usual, the declination at 8^h being nearly always smaller than at 6^h. In November the motion of the magnet was interrupted at about 16^h and 18^h, the declination at the latter time being only 3″ larger than at the former. The marked end of the magnet has reached its extreme easterly positions at different hours in different seasons; in the winter months at about 8^h, in the summer months at about 10^h. Two exceptions to the latter take place in the summer, in the months of May and July: the exception in May is doubtless owing to the remarkable circumstance before referred to, of the magnet not describing any arc between 6^h and 8^h; that of July is to be attributed to the very great disturbances which took place on the 2nd, 3rd, and 4th days. The times at which the second extreme positions have taken place are, except in September, all in the morning; the interval of time between the second position is 2^h, except in June and October, when the intervals are 6^h and 4^h respectively. A third maximum and minimum took place in January and August. The first extreme westerly position was always more westerly than the other extremes: the first extreme easterly position was more easterly than the second extreme in the winter months, and less in the summer months. The arc described by the magnet between its second westerly and easterly positions has a much more decided character in the summer than in the winter months. The arc described between the third extreme positions is insignificant in amount. The last column of the table shews that the daily change in the positions of the magnet is less in the winter than in the summer.

The next table is formed by taking the means of the numbers in Table XI., corresponding to the same hour for several months: January, February, March, October, November, and December are grouped together for winter, the remaining months from April to September for summer.

TABLE XIII.—Mean Westerly Declination at every Even Hour of Göttingen Mean Solar Time in the Summer, in the Winter, and for the Year.

Hour of Göttingen Time.	Mean Westerly Declination.		
	Summer.	Winter.	Mean.
h	° ′ ″	° ′ ″	° ′ ″
14	23. 11. 27	23. 13. 22	23. 12. 24
16	11. 17	13. 52	12. 34
18	11. 44	14. 4	12. 54
20	10. 43	14. 18	12. 31
22	13. 37	15. 38	14. 37
0	18. 15	18. 41	18. 28
2	20. 29	19. 50	20. 10
4	18. 5	17. 40	17. 52
6	14. 59	15. 37	15. 18
8	13. 2	13. 58	13. 30
10	11. 54	12. 3	11. 58
12	11. 0	12. 20	11. 40

The greatest westerly declination occurred both in the summer and in the winter at 2^h; the least occurred in summer at 12^h, in winter at 10^h. In summer there were three maxima and three minima; in winter but one maximum and one minimum. The times are:—

In Summer.	In Winter.
h	h
The maximum at 2.	The maximum at 2.
The minimum at 11.	The minimum at 10.
A maximum at 14.	
A minimum at 16.	
A maximum at 18.	
A minimum at 20.	

The last column shews the mean at each hour for the year, and a double maximum and minimum are exhibited, viz.:—

The maximum at 2^h
The minimum at 12
A maximum at 18
A minimum at 20

The mean westerly declination for summer was 23°. 13′. 53″, and for winter it was 23°. 15′. 7″. In the year 1841, it was 23°. 17′. 25″ in summer, and in winter 23°. 14′. 51″; so that actually the western declination in the winter half year of 1842 was greater than in the corresponding period of 1841. In the summer half year of 1842, it was less by 3′. 32″ than in the same period of the preceding year. In 1842, the mean for the whole year was 23°. 14′. 30″; in 1841, it was 23°. 16′. 8″; and the decrease for the year was 1′. 38″, but from what has proceeded, this is entirely attributable to the summer period.

Comparing the numbers of the last column with the mean westerly declination for the year, or 23°. 14′. 30″, the following results are obtained:—

The mean position at	14	is more easterly than the mean position of the year by		2. 6
,,	16	,,	,,	1.56
,,	18	,,	,,	1.36
,,	20	,,	,,	1.59
The mean position at	22	is more westerly than the mean position of the year by		0. 7
,,	0	,,	,,	3.58
,,	2	,,	,,	5.40
,,	4	,,	,,	3.22
,,	6	,,	,,	0.48
The mean position at	8	is more easterly than the mean position of the year by		1. 0
,,	10	,,	,,	2.32
,,	12	,,	,,	2.50

TABLE XIV.—Excess of the Westerly Declination in every Month, at each Even Hour of Göttingen Mean Solar Time (as deduced from the Monthly Means of the Observations at each Hour), above the Mean Westerly Declination for the Month (as found from the Mean of all the Two-hourly Observations for that Month).

1842, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″
14	+0. 9	−3. 26	−2. 24	−2. 58	−2. 7	−1. 31	−3. 19	−1. 51	−2. 45	−1. 46	−2. 4	−0. 59
16	−0. 15	−2. 21	−2. 24	−2. 21	−2. 8	−1. 48	−3. 48	−3. 4	−2. 20	−1. 23	−0. 39	−0. 29
18	+0. 8	−1. 47	−1. 52	−0. 49	−3. 44	−2. 11	−1. 15	−3. 1	−1. 50	−1. 28	−0. 36	−0. 44
20	0. 0	−0. 23	−2. 22	−2. 11	−4. 52	−3. 16	−4. 2	−3. 25	−1. 9	−1. 51	−0. 15	−0. 1
22	+1. 4	+0. 27	+1. 2	+0. 17	−1. 27	−1. 30	−0. 41	+0. 7	+1. 41	−0. 37	+0. 33	+0. 36
0	+2. 58	+3. 17	+4. 19	+3. 36	+4. 29	+2. 44	+4. 3	+5. 12	+6. 12	+4. 29	+3. 23	+3. 0
2	+3. 25	+5. 23	+6. 6	+6. 52	+6. 24	+5. 48	+6. 57	+6. 57	+6. 45	+6. 1	+4. 13	+3. 14
4	+0. 57	+4. 2	+3. 58	+4. 16	+4. 11	+4. 54	+5. 9	+4. 2	+2. 44	+3. 33	+1. 24	+1. 25
6	+0. 1	+1. 37	+1. 8	+1. 16	+0. 39	+1. 56	+2. 31	+0. 39	−0. 23	+0. 30	+0. 13	−0. 27
8	−1. 38	−0. 49	−0. 29	−1. 35	+0. 37	−0. 31	+0. 12	−0. 49	−2. 57	−1. 27	−1. 3	−1. 29
10	−3. 50	−1. 52	−4. 0	−2. 41	−0. 22	−1. 8	−2. 51	−2. 17	−2. 29	−3. 34	−2. 52	−2. 17
12	−3. 3	−4. 8	−2. 57	−3. 40	−1. 39	−3. 5	−2. 53	−2. 28	−3. 27	−2. 22	−2. 18	−1. 52

TABLE XV.—Number of Hours for each Day of every Month, deduced from the Monthly Means, during which the Declination Magnet was on each side of the Mean Position for that Month.

Month.	The marked end of the Declination Magnet was East of the Magnetic Meridian from	The marked end of the Declination Magnet was West of the Magnetic Meridian from	The Length of Time the marked end of Magnet was East of the Meridian.	The Length of Time the marked end of Magnet was West of the Meridian.
	h h	h h	h	h
January	Before 8 to after 20	Before 22 to after 6	12 +	8 +
February	Before 8 to after 20	Before 22 to after 6	12 +	8 +
March	Before 8 to after 20	Before 22 to after 6	12 +	8 +
April	Before 8 to after 20	Before 22 to after 6	12 +	8 +
May	Before 10 to after 22	Before 0 to after 8	12 +	8 +

TABLE XV.—*continued.*

Month.	The marked end of the Declination Magnet was East of the Magnetic Meridian from	The marked end of the Declination Magnet was West of the Magnetic Meridian from	The Length of Time the marked end of Magnet was East of the Meridian.	The Length of Time the marked end of Magnet was West of the Meridian.
	h h	h h	h	h
June	Before 8 to after 22	Before 0 to after 6	14 +	6 +
July	Before 10 to after 22	Before 0 to after 8	12 +	8 +
August	Before 8 to after 20	Before 22 to after 6	12 +	8 +
September	Before 6 to after 20	Before 22 to after 4	14 +	6 +
October	Before 8 to after 22	Before 0 to after 6	14 +	6 +
November	Before 8 to after 20	Before 22 to after 6	12 +	8 +
December	Before 6 to after 20	Before 22 to after 4	14 +	6 +

This table shews that the magnet is in the magnetic meridian twice every day: in the winter months, at about 6^h or 8^h, and again at 20^h or 22^h, but generally at the former time; in the summer months, at about 8^h or 10^h, and again at 20^h or 22^h, but generally at the latter time. The table also shews that the marked end of the magnet was from 4^h to 8^h longer to the East of the meridian than it was to the West.

TABLE XVI.—Table exhibiting the Differences in the Mean Positions of the Declination Magnet between every Pair of Consecutive Observation-hours in every Month, estimated positive when the Declination was greater at the latter Hour, *for the year* 1841 (obtained by taking the Difference between the consecutive Numbers in each Month, contained in Table VI. of the Volume for 1841).

1841, Hours, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h h	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″
Between 14 & 16	+0. 16	+2. 56	−1. 7	+1. 2	−0. 14	+0. 56	+0. 45	+1. 34	+0. 17	−0. 11	+0. 7	+0. 37
,, 16 & 18	−0. 1	+0. 3	+0. 36	+0. 19	−0. 59	−1. 20	+0. 30	−1. 7	+1. 53	+0. 34	+2. 48	−0. 15
,, 18 & 20	+0. 47	+0. 23	+0. 25	−2. 7	−2. 13	−1. 39	−0. 52	+0. 13	−0. 47	+0. 41	−0. 4	+0. 54
,, 20 & 22	+0. 4	+0. 27	+2. 47	+1. 47	+2. 43	+3. 26	+2. 32	+1. 54	+3. 17	−0. 8	+0. 5	−0. 14
,, 22 & 0	+2. 47	+4. 25	+2. 32	+6. 5	+5. 36	+6. 40	+4. 52	+5. 15	+2. 3	+3. 52	+3. 0	+2. 4
,, 0 & 2	+2. 17	+2. 35	+2. 6	+4. 24	+2. 47	+2. 11	+1. 54	+3. 8	+2. 8	+1. 0	+1. 19	+1. 0
,, 2 & 4	−1. 34	−1. 8	−2. 20	−2. 59	−2. 33	−1. 54	−1. 33	−2. 43	−3. 47	−2. 31	−2. 33	−1. 45
,, 4 & 6	−2. 29	−3. 34	−3. 43	−4. 30	−2. 36	−3. 29	−2. 54	−3. 35	−1. 46	−3. 39	−2. 11	−1. 38
,, 6 & 8	−1. 57	−3. 31	−1. 13	−1. 17	−2. 5	−1. 25	−2. 4	−1. 42	−3. 50	−3. 44	−2. 43	−1. 21
,, 8 & 10	−1. 59	−0. 43	−3. 19	−1. 8	−1. 0	−1. 6	−0. 56	−2. 4	−1. 27	+1. 7	+0. 47	−1. 58
,, 10 & 12	−0. 0	−1. 40	+0. 56	−1. 57	−0. 13	−0. 40	−0. 39	−1. 5	+0. 15	+0. 36	−0. 4	+0. 41
,, 12 & 14	+1. 52	−0. 13	+2. 20	+0. 21	+0. 47	−1. 40	−1. 35	+0. 2	+1. 44	+2. 23	−0. 31	+1. 55

TABLE XVII.—Table exhibiting the Differences in the Mean Positions of the Declination Magnet between every Pair of Consecutive Observation-hours in every Month, estimated positive when the Declination was greater at the latter Hour, for the year 1842 (obtained by taking the Difference between the consecutive Numbers in each Month, contained in Table XI or XIV.).

1842, Hours, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h h	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″
Between 14 & 16	−0. 24	+1. 5	0. 0	+0. 37	−0. 1	−0. 17	−0. 29	−1. 13	+0. 25	+0. 23	+1. 25	+0. 30
,, 16 & 18	+0. 23	+0. 34	+0. 32	+1. 32	−1. 36	−0. 23	+2. 33	+0. 3	+0. 30	−0. 5	+0. 3	−0. 15
,, 18 & 20	−0. 8	+1. 24	−0. 30	−1. 22	−1. 8	−1. 5	−2. 47	−0. 24	+0. 41	−0. 23	+0. 21	+0. 43
,, 20 & 22	+1. 4	+0. 50	+3. 24	+2. 28	+3. 25	+1. 46	+3. 21	+3. 32	+2. 50	+1. 14	+0. 48	+0. 37
,, 22 & 0	+1. 54	+2. 50	+3. 17	+3. 19	+5. 56	+4. 14	+4. 44	+5. 5	+4. 31	+5. 6	+2. 50	+2. 24
,, 0 & 2	+0. 27	+2. 6	+1. 47	+3. 16	+1. 55	+3. 4	+2. 54	+1. 45	+0. 33	+1. 32	+0. 50	+0. 14
,, 2 & 4	−2. 28	−1. 21	−2. 8	−2. 36	−2. 13	−0. 54	−1. 48	−2. 55	−4. 1	−2. 28	−2. 49	−1. 49
,, 4 & 6	−0. 56	−2. 25	−2. 50	−3. 0	−3. 32	−2. 58	−2. 38	−3. 23	−3. 7	−3. 3	−1. 11	−1. 52
,, 6 & 8	−1. 39	−2. 26	−1. 37	−2. 51	−0. 2	−2. 27	−2. 19	−1. 28	−2. 34	−1. 57	−1. 16	−1. 2
,, 8 & 10	−2. 12	−1. 3	−3. 31	−1. 6	−0. 59	−0. 37	−3. 3	−1. 28	+0. 28	−2. 7	−1. 49	−0. 48
,, 10 & 12	+0. 47	−2. 16	+1. 3	−0. 59	−1. 17	−1. 57	−0. 2	−0. 11	−0. 58	+1. 12	+0. 34	+0. 25
,, 12 & 14	+3. 12	+0. 42	+0. 33	+0. 42	−0. 28	+1. 34	−0. 26	+0. 37	+0. 42	+0. 36	+0. 14	+0. 53

The following table is formed by taking the means of the numbers contained in the two preceding tables (without regard to their signs), which correspond to the same pair of hours. January, February, March, October, November, December, are grouped together for Winter: the remaining months, from April to September, are grouped together for Summer.

TABLE XVIII.

Between what Hours.	Amount of Difference of Mean Position of the Declination Magnet.		Character of the Changes.	
			1841.	1842.
	1841.	1842.	The Westerly Declination was, at the latter hour,	
SUMMER PERIOD.				
h h	′ ″	′ ″		
14 to 16	0. 48	0. 30	Generally larger, except in May.	Generally smaller, except in April and Sep.
16 to 18	1. 1	1. 6	Larger in April, July, and September; and smaller in May, June, and August.	Larger, except in May and June.
18 to 20	1. 19	1. 15	Smaller, except in August.	Smaller, except in September.
20 to 22	2. 37	2. 54	Always larger.	Always larger.
22 to 0	5. 5	4. 38	,,	,,
0 to 2	2. 45	2. 15	,,	,,
2 to 4	2. 35	2. 25	Always smaller.	Always smaller.
4 to 6	3. 8	3. 6	,,	,,
6 to 8	2. 4	1. 57	,,	,,
8 to 10	1. 17	1. 17	,,	,,
10 to 12	0. 48	0. 54	Always smaller, except in September.	Always smaller, except in September.
12 to 14	1. 2	0. 45	Larger, except in June and July.	Larger, except in May and July.
WINTER PERIOD.				
14 to 16	0. 42	0. 38	Larger, except in March and October.	Larger in February, October, November, and December; and smaller in January, there being no change in March.
16 to 18	0. 43	0. 49	Larger, except in January and December.	Larger, except in October and December.
18 to 20	0. 32	0. 35	Larger, except in November.	Larger in February, November, and December; smaller in January, March, and October.
20 to 22	0. 38	1. 20	Larger, except in October and December.	Always larger.
22 to 0	3. 7	3. 4	Always larger.	,,
0 to 2	1. 43	1. 9	,,	,,
2 to 4	1. 59	2. 11	Always smaller.	Always smaller.
4 to 6	2. 52	2. 3	,,	,,
6 to 8	2. 25	1. 40	,,	,,
8 to 10	1. 39	1. 55	Smaller, except in October and November.	,,
10 to 12	0. 40	1. 3	Smaller in January, February, and November; larger in March, October, and December.	Larger, except in February.
12 to 14	1. 32	1. 2	Larger, except in February and November.	Always larger.
FOR THE YEAR.				
14 to 16	0. 50	0. 34	Sometimes the larger, and sometimes smaller.	Sometimes the larger, and sometimes the smaller.
16 to 18	0. 52	0. 42	Generally larger.	Generally larger.
18 to 20	0. 55	0. 55	Generally smaller.	Generally smaller.
20 to 22	1. 35	2. 7	Generally larger, except in Oct. and Nov.	Always larger.
22 to 0	4. 6	3. 51	Always larger.	,,
0 to 2	2. 9	1. 27	,,	,,
2 to 4	2. 17	2. 23	Always smaller.	Always smaller.
4 to 6	3. 0	2. 35	,,	,,
6 to 8	2. 14	1. 48	,,	,,
8 to 10	1. 28	1. 36	Smaller, except in October and November.	Smaller, except in September.
10 to 12	0. 41	0. 58	Generally smaller.	Generally smaller.
12 to 14	1. 17	0. 53	Generally larger.	Generally larger.

TABLE XIX.—Mean Westerly Declination of the Magnet at each Even Hour during the Month (obtained by taking the Mean of all the Declinations at the same Hour during each Month, Table XI.), diminished by the Mean Declination for the Month (Table VI.), and by the Mean Diurnal Change at each Hour (Table XIII. and following numbers).

1842, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″
14	+2. 15	−1. 20	−0. 18	−0. 52	−0. 1	+0. 35	−1. 13	+0. 15	−0. 39	+0. 20	+0. 2	+1. 7
16	+1. 41	−0. 25	−0. 28	−0. 25	−0. 12	+0. 8	−1. 52	−1. 8	−0. 24	+0. 33	+1. 17	+1. 27
18	+1. 44	−0. 11	−0. 16	+0. 47	−2. 8	−0. 35	+0. 21	−1. 25	−0. 14	+0. 8	+1. 0	+0. 52
20	+1. 59	+1. 36	−0. 23	−0. 12	−2. 53	−1. 17	−2. 3	−1. 26	+0. 50	+0. 8	+1. 44	+1. 58
22	+0. 57	+0. 20	+0. 55	+0. 10	−1. 34	−1. 37	−0. 48	0. 0	+1. 34	−0. 44	+0. 26	+0. 29
0	−1. 0	−0. 41	+0. 21	−0. 22	+0. 31	−1. 14	+0. 5	+1. 14	+2. 14	+0. 31	−0. 35	−0. 58
2	−2. 15	−0. 17	+0. 26	+1. 12	+0. 44	+0. 8	+1. 17	+1. 17	+1. 5	+0. 21	−1. 27	−2. 26
4	−2. 25	+0. 40	+0. 36	+0. 54	+0. 49	+1. 32	+1. 47	+0. 40	−0. 38	+0. 11	−1. 58	−1. 57
6	−0. 47	+0. 49	+0. 20	+0. 28	−0. 9	+1. 8	+1. 43	−0. 9	−1. 11	−0. 18	−0. 35	−1. 15
8	−0. 38	+0. 11	+0. 31	−0. 35	+1. 37	+0. 29	+1. 12	+0. 11	−1. 57	−0. 27	−0. 3	−0. 29
10	−1. 18	+0. 40	−1. 28	−0. 9	+2. 10	+1. 24	−0. 19	+0. 15	+0. 3	−1. 2	−0. 20	+0. 15
12	−0. 13	−1. 18	−0. 7	−0. 50	+1. 11	−0. 15	−0. 3	+0. 22	−0. 37	+0. 28	+0. 32	+0. 58

TABLE XX.—Monthly Sums of the Changes of Diurnal Inequality for Different Hours.

Month.	Sums of the Differences.	Month.	Sums of the Differences.
	′ ″		′ ″
January	17. 12	July	12. 43
February	8. 28	August	8. 22
March	6. 9	September	11. 26
April	6. 56	October	5. 11
May	13. 59	November	9. 59
June	10. 22	December	14. 11

From this it appears that the diurnal motion of the declination magnet agrees most nearly with its mean diurnal motion, as found from the mean of the determinations throughout the year, in March, April, and October; and departs the most from the mean in the months of January, May, and December.

TABLE XXI.—Hourly Sums of the Changes of Diurnal Inequality for different Months.

Hour.	Sums of the Differences.	Hour.	Sums of the Differences.
h	′ ″	h	′ ″
14	8. 57	2	12. 55
16	10. 0	4	14. 7
18	9. 41	6	8. 52
20	16. 29	8	8. 20
22	9. 34	10	9. 23
0	9. 46	12	6. 54

Thus 14^h, 6^h, 8^h, and 12^h, appear the most uniform, and 20^h subject to the greatest irregularity.

TABLE XXII.—The Mean Westerly Declination, deduced from all the Observations taken at $1^h.50^m$, $2^h.0^m$, and $2^h.10^m$, in each Month.

Month.	$1^h.50^m$.	$2^h.0^m$.	$2^h.10^m$.	Month.	$1^h.50^m$.	$2^h.0^m$.	$2^h.10^m$.
	° ′ ″	° ′ ″	° ′ ″		° ′ ″	° ′ ″	° ′ ″
January	23. 15. 35	23. 15. 19	23. 15. 14	July	23. 24. 16	23. 24. 11	23. 24. 6
February	20. 23	20. 46	20. 38	August	22. 30	22. 7	21. 59
March	16. 35	16. 41	17. 36	September	21. 7	20. 56	20. 49
April	17. 54	17. 52	18. 1	October	24. 3	24. 5	24. 45
May	18. 1	18. 3	17. 53	November	21. 39	21. 35	21. 25
June	19. 36	19. 47	19. 44	December	20. 33	20. 36	20. 27

	h m	° ′ ″
The mean of all for the year 1842 at	1. 50	is 23. 20. 11
,, ,,	2. 0	is 23. 20. 10
,, ,,	2. 10	is 23. 20. 13

TABLE XXIII.—The Mean Reading of the Horizontal Force Magnet, corrected for Temperature, expressed in parts of the whole Horizontal Force, as deduced from the 12 Observations taken on every Civil Day (except Sundays, Good Friday, and December 26), at the even Hours of Göttingen Mean Solar Time.

Days of the Month, 1842.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	0·030990	0·025855	0·024551	0·025003	*S*	0·018136	0·012926	0·011453	0·010514	0·009910	0·009993	0·012579
2	*S*	0·025058	0·024301	0·024246	0·016573	0·017740	0·010062	0·011747	0·010192	*S*	0·010074	0·012816
3	0·025107	0·025336	0·024766	*S*	0·016305	0·017050	*S*	0·011196	0·009579	0·010277	0·009498	0·012436
4	0·025310	0·024873	0·025057	0·023862	0·016722	0·016432	0·008163	0·011372	*S*	0·010160	0·009525	*S*
5	0·025377	0·024339	0·024802	0·024033	0·016808	*S*	0·010234	0·011095	0·009815	0·010187	0·009874	0·012715
6	0·025254	*S*	*S*	0·022607	0·017335	0·013558	0·011353	0·011081	0·009496	0·009780	*S*	0·012396
7	0·025332	0·023704	0·024396	0·021944	0·016503	0·013460	0·011029	*S*	0·009825	0·009721	0·010040	0·012232
8	0·025182	0·024461	0·024202	0·021630	*S*	0·013748	0·011975	0·010674	0·009885	0·009983	0·010117	0·012007
9	*S*	0·024921	0·024324	0·020818	0·016600	0·013893	0·011874	0·010258	0·009393	*S*	0·010073	0·011585
10	0·025121	0·025168	0·023923	*S*	0·015776	0·014053	*S*	0·010171	0·010454	0·010507	0·006823	0·011689
11	0·025540	0·024502	0·023837	0·020271	0·015017	0·013513	0·011356	0·010245	*S*	0·010009	0·005569	*S*
12	0·025596	0·024688	0·024456	0·019973	0·015657	*S*	0·011614	0·009786	0·009402	0·010437	0·005644	0·012993
13	0·025066	*S*	*S*	0·018797	0·016166	0·014147	0·011358	0·010680	0·009826	0·009599	*S*	0·013223
14	0·025830	0·025045	0·024476	0·019487	0·016340	0·012888	0·011463	*S*	0·010438	0·009237	0·008622	0·012430
15	0·025798	0·024625	0·024473	0·015383	*S*	0·013525	0·011092	0·010249	0·009726	0·009335	0·011391	0·012115
16	*S*	0·024955	0·024003	0·014507	0·015130	0·013277	0·011174	0·009757	0·009543	*S*	0·011263	0·012155
17	0·024875	0·024123	0·023776	*S*	0·014750	0·013895	*S*	0·010934	0·009942	0·008910	0·011315	0·012285
18	0·025280	0·023630	0·023907	0·016955	0·014876	0·013879	0·011401	0·010213	*S*	0·008951	0·011379	*S*
19	0·025341	0·023613	0·022894	0·016943	0·015409	*S*	0·011763	0·009528	0·009945	0·009554	0·011744	0·012526
20	0·025555	*S*	*S*	0·016757	0·016071	0·013018	0·011429	0·010257	0·009872	0·009126	*S*	0·012594
21	0·025234	0·024303	0·023949	0·016073	0·016185	0·012962	0·011921	*S*	0·009861	0·008735	0·011035	0·011774
22	0·024956	0·024671	0·023942	0·017593	*S*	0·013312	0·011955	0·009315	0·009514	0·009126	0·009835	0·010121
23	*S*	0·024767	0·024107	0·016995	0·016681	0·013006	0·011148	0·009696	0·009274	*S*	0·011385	0·009629
24	0·025033	0·024345	0·023219	*S*	0·015948	0·012480	*S*	0·009524	0·010280	0·009324	0·011438	0·009984
25	0·024861	0·023214	Good Fri.	0·016816	0·016693	0·013603	0·011377	0·009488	*S*	0·009226	0·011597	*S*
26	0·025462	0·023930	0·023691	0·015883	0·016285	*S*	0·010886	0·010363	0·010714	0·009559	0·011172	Holiday.
27	0·025672	*S*	*S*	0·016248	0·015934	0·012570	0·011028	0·010055	0·009906	0·009187	*S*	0·011477
28	0·025399	0·024695	0·023142	0·016563	0·016044	0·012188	0·011953	*S*	0·010949	0·009064	0·012582	0·010809
29	0·025592	...	0·023690	0·016397	*S*	0·012730	0·011999	0·009986	0·009820	0·009812	0·012766	0·010405
30	*S*	...	0·024077	0·016673	0·017711	0·012542	0·011201	0·010314	0·009505	*S*	0·011671	0·010559
31	0·025462	...	0·024919	...	0·018637	...	*S*	0·010094	...	0·009778	...	0·010730

The letter *S* denotes that the day was Sunday.

TABLE XXIV.—Table exhibiting the Times at which Differences greater than 0 ·000600 parts of the whole Horizontal Force took place between the Mean Positions of the Horizontal Force Magnet on two consecutive Days, estimated positive when the Force is greater on the Second Day.

January.		February.		March.		April.		May.		June.	
Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.
13 & 14	+0 ·000764	1 & 2	−0 ·000797	11 & 12	+0 ·000619	1 & 2	−0 ·000757	6 & 7	−0 ·000832	2 & 3	−0 ·000690
25 & 26	+ ·000601	7 & 8	+ ·000757	18 & 19	− ·001013	5 & 6	− ·001426	10 & 11	− ·000759	3 & 4	− ·000618
		10 & 11	− ·000666	23 & 24	− ·000888	6 & 7	− ·000663	11 & 12	+ ·000640	13 & 14	− ·001259
		16 & 17	− ·000832	30 & 31	+ ·000842	8 & 9	− ·000812	19 & 20	+ ·000662	14 & 15	+ ·000637
		24 & 25	− ·001131			12 & 13	− ·001176	23 & 24	− ·000733	16 & 17	+ ·000618
		25 & 26	+ ·000716			13 & 14	+ ·000690	24 & 25	+ ·000745	24 & 25	+ ·001123
						14 & 15	− ·004104	30 & 31	+ ·000926		
						15 & 16	− ·000876				
						20 & 21	− ·000684				
						21 & 22	+ ·001520				
						25 & 26	− ·000933				

July.		August.		September.		October.		November.		December.	
1 & 2	−0 ·002864	12 & 13	+0 ·000894	2 & 3	−0 ·000613	12 & 13	−0 ·000838	10 & 11	−0 ·001254	13 & 14	−0 ·000798
4 & 5	+ ·002071	16 & 17	+ ·001177	9 & 10	+ ·001061	18 & 19	+ ·000603	14 & 15	+ ·002769	20 & 21	− ·000820
5 & 6	+ ·001119	17 & 18	− ·000721	13 & 14	+ ·000612	28 & 29	+ ·000748	21 & 22	− ·001200	21 & 22	− ·001653
7 & 8	+ ·000946	18 & 19	− ·000685	14 & 15	− ·000712			22 & 23	+ ·001550	27 & 28	− ·000668
22 & 23	− ·000807	19 & 20	+ ·000729	23 & 24	+ ·001006			29 & 30	− ·001095		
27 & 28	+ ·000925	25 & 26	+ ·000875	26 & 27	− ·000808						
29 & 30	− ·000798			27 & 28	+ ·001043						
				28 & 29	− ·001129						

From the numbers in this table it would appear that every part of the year appears liable to great changes in the force. In the above tables there are

15	instances in which the force has changed more than 0 ·0006 parts of the whole horizontal force, and less than 0 ·0007				
14	,,	,,	·0007	,,	,, ·0008
10	,,	,,	·0008	,,	,, ·0009
4	,,	,,	·0009	,,	,, ·0010
11	,,	,,	·0010	,,	,, ·0012
4	,,	,,	·0012	,,	,, ·0015
3	,,	,,	·0015	,,	,, ·0020
1	,,	,,	·0020	,,	,, ·0025
2	,,	,,	·0025	,,	,, ·0030
1	,,	,,	·0040	,,	,, ·0045

TABLE XXV.—Mean of all the Two-hourly Readings of the Horizontal Force Magnet, corrected for Temperature, expressed in parts of the whole Horizontal Force, for those days of each Month on which, as shewn by the Mean of the Two-hourly Readings, the marked end was most drawn towards the North, or was most drawn towards the South.

Month.	Mean Daily Reading of the Horizontal Force Magnet in each Month, when the marked end of the Magnet was most drawn towards the		Greatest Difference in the Mean Position of the Magnet between any two Days in the Month.	Day of the Month on which the marked end of the Magnet was most drawn towards the		Month.	Mean Daily Reading of the Horizontal Force Magnet in each Month, when the marked end of the Magnet was most drawn towards the		Greatest Difference in the Mean Position of the Magnet between any two Days in the Month.	Day of the Month on which the marked end of the Magnet was most drawn towards the	
	North.	South.		North.	South.		North.	South.		North.	South.
Jan.	0 ·030990	0 ·024861	0 ·006129	1	25	July	0 ·012926	0 ·008163	0 ·004763	1	4
Feb.	·025855	·023214	·002641	1	25	August	·011747	·009315	·002432	2	22
March	·025057	·022894	·002163	4	19	Sep.	·010949	·009274	·001675	28	23
April	·025003	·014507	·010496	1	16	Oct.	·010507	·008735	·001772	10	21
May	·018637	·014750	·003887	31	17	Nov.	·012766	·005569	·007197	29	11
June	·018136	·012188	·005948	1	28	Dec.	·013223	·009629	·003594	13	23

From this table it appears that the mean daily horizontal force was greater on January 1 than on any other day in the year, and less on November 11 than on any other day in the year. The difference between these numbers is 0 ·025421, and it represents the yearly range of the mean daily values of the horizontal forces on the Magnet in the year.

TABLE XXVI.—Mean Readings of the Horizontal Force Magnet corrected for Temperature, expressed in parts of the whole Horizontal Force in each Month, deduced from the Mean of all the Two-hourly Observations in each Month.

Month, 1842.	Mean for each Month.	Month, 1842.	Mean for each Month.
January	0·025548	July	0·011286
February	024535	August	010361
March	024120	September	009908
April	018940	October	009594
May	016227	November	010244
June	013886	December	011774

The mean of the monthly results is 0·015535; the mean for 1841 was 0·032932; so that the force has decreased in the year by 0·017397 parts of the whole horizontal force. The force was almost constantly decreasing from January to October inclusive; beginning with November, the force increased and continued to increase to the end of 1842.

TABLE XXVII.—Readings of the Horizontal Force Magnet, corrected for Temperature, expressed in parts of the whole Horizontal Force, in Single Observations, when the marked end of the Magnet was most drawn towards the North, and when it was most drawn towards the South, for Daily, Term-day, and Extraordinary Observations in each Month.

Month, 1842.	Readings of the Horizontal Force Magnet when the marked end of the Magnet was most drawn towards the						Range of the Magnet in the Month.	Day and Hour when the marked end of the Magnet was most drawn towards the					
	North.	South.	North.	South.	North.	South.		North.	South.	North.	South.	North.	South.
	Daily Observations.		Term-Day Observations.		Extraordinary Observations.			Daily Observations.		Term-Day Observations.		Extraordinary Observations.	
								d h m s	d h m s	d h m	d h m	d h m s	d h m s
Jan.	0·033095	0·022227	0·026418	0·024717	0·033095	0·020755	0·012340	1. 12. 2. 30	24. 10. 2. 30	19. 12. 40	19. 11. 30	1. 12. 2. 30	24. 10 {23. 0 / 27. 0
Feb.	0·028989	0·018216	0·025831	0·023444	0·029037	0·016340	0·012697	1. 12. 2. 30	24. 12. 2. 30	25. 10. 0	26. 4. 0	1. 12. 23. 56	24. 13. 30. 0
March	0·027795	0·020162	0·027126	0·019660	0·027760	0·020093	0·008100	21. 10. 2. 30	28. 0. 2. 30	24. 8. 40	23. 22. 20	5. 9. 54. 0	16. 10. 20. 0
April	0·027498	0·011453	0·018658	0·013350	0·022532	0·009578	0·017920	1. 1. 52. 30	15. 16. 2. 30	20. 12. 20	21. 0. 20	12. 12. 2. 30	15. 12. 48. 0
May	0·020526	0·012059	0·017110	0·011540	0·013847	0·010889	0·009654	30. 2. 12. 30	16. 1. 52. 30	27. 13. 10	28. 0. 0	16. 20. 2. 30	17. 0. 2. 30
June	0·021284	0·009584	0·016218	0·010349	0·021284	0·011118	0·011700	4. 6. 2. 30	24. 0. 2. 30	22. 12. 50	22. 21. 40	4. 6. 2. 30	6. 22. 16. 0
July	0·015338	0·002012	0·013389	0·010375	0·016734	9·997114	0·019620	0. 16. 2. 30	3. 20. 2. 30	20. 12. 50	20. 17. 20	2. 7. 11. 0	3. 15. 27. 0
August	0·014538	0·005533	0·011832	0·008018	0·011630	0·005136	0·009402	20. 10. 2. 30	11. 22. 2. 30	26. 12. 10	26. 22. 0	19. 1. 52. 30	11. 22. 6. 0
Sep.	0·013519	0·005958	0·013024	0·006540	0·013519	0·007661	0·007561	20. 8. 2. 30	29. 0. 2. 30	21. 13. 10	21. 22. 30	20. 8. 2. 30	12. 12. 15. 30
Oct.	0·013140	0·006571	0·012210	0·006795	0·014136	0·009540	0·007565	8. 10. 2. 30	7. 22. 2. 30	20. 10. 10	21. 0. 50	8. 9. 39. 0	8. 10. 22. 23
Nov.	0·013633	0·001872	0·012154	0·010464	0·017350	0·001872	0·015478	28. 18. 2. 30	10. 4. 2. 30	25. 10. 10	25. 22. 15	21. 15. 53. 0	10. 4. 2. 30
Dec.	0·014165	0·008953	0·010602	0·009893	0·012907	0·007537	0·006628	1. 2. 2. 30	23. 0. 2. 30	21. 19. 10	22. 7. 40	9. 10. 50&51	9. 10. 23. 0

The marked end of the magnet was more drawn towards the North on January 1, at $12^h.\ 2^m.\ 30^s$, than at any other time during the year, and its reading was 0·033095; it was more drawn towards the South on July 3, at $15^h.\ 27^m$, and its reading was 9·997114: the difference of these numbers is 0·035981, and it represents the extreme yearly range of the horizontal force, as deduced from the observations.

TABLE XXVIII.—Mean Reading of the Horizontal Force Magnet, corrected for Temperature, expressed in parts of the whole Horizontal Force, at every Even Hour of Göttingen Mean Time, deduced from all the Observations taken at those Hours in each Month.

1842. Hour, Göttingen Mean Time.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sep.	Oct.	Nov.	Dec.
h	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0
14	25293	24469	24353	19454	16165	14240	11363	10803	10107	09854	10401	11704
16	25316	24366	24256	19172	15790	14062	11059	10434	09814	09554	10618	11954
18	25812	24694	24470	19190	15682	13861	11059	10375	09950	09517	10504	12260
20	25855	24868	24182	18779	15955	13311	10686	09798	09678	09999	10540	12331
22	25497	24413	23293	17392	15038	12649	09808	08486	08318	08671	10011	11715
0	25228	24097	22931	17058	14822	12666	09778	08871	08684	08289	09827	11663
2	25742	24351	23877	18233	15767	13533	11273	10227	09853	09090	09972	11774
4	25730	24640	24600	19512	16798	14207	11946	10939	10272	09879	10136	11726
6	25588	24758	24472	19462	17322	14679	12303	10932	10361	09953	10323	11825
8	25549	24852	24527	20004	17408	14733	12393	11148	10802	10049	10313	11370
10	25487	24483	24272	19379	17049	14444	11808	11219	10522	10163	09989	11485
12	25427	24426	24202	19646	16943	14348	11941	11095	10529	10108	10292	11477

To ascertain the times of greatest change and the amounts of the changes contained in this table, the next table is formed, by considering that minimum which occurs nearest to 0^h as the first minimum: then that number which follows 0^h and immediately precedes a less reading, as the first maximum; and so on successively.

TABLE XXIX.—Hours of Göttingen Mean Solar Time at which the extreme Positions of the Horizontal Force Magnet occur in different Months, as inferred from the Monthly Means of the Two-hourly Observations, with the Readings and Amount of the Changes: the Correction for Temperature having been applied.

Month, 1842.	Times of 1st extreme Positions.		Interval in Time of 1st Extremes.	Readings for 1st Extremes.		Difference for 1st Extremes.	Times of 2nd extreme Positions.		Interval in Time of 2nd Extremes.	Readings for 2nd Extremes.		Difference for 2nd Extremes.	Times of 3rd extreme Positions.		Interval in Time of 3rd Extremes.	Readings for 3rd Extremes.		Difference for 3rd Extremes.	Times of 4th extreme Positions.		Interval in Time of 4th Extremes.	Readings for 4th Extremes.		Difference for 4th Extremes.	Difference between the Greatest and least Extremes, or Mean Daily Range.
	South.	North.		South.	North.		South.	North.		South.	North.		South.	North.		South.	North.		South.	North.		South.	North.		
	h	h	h	0·0	0·0	0·0	h	h	h	0·0	0·0	0·0	h	h	h	0·0	0·0	0·0	h	h	h	0·0	0·0	0·0	0·0
Jan.	0	2	2	25228	25742	00514	14	20	6	25293	25855	00562													00627
Feb.	0	8	8	24097	24852	00755	12	14	2	24426	24469	00043	16	20	4	24366	24868	00502							00771
March	0	4	4	22931	24600	01669	6	8	2	24472	24527	00055	12	14	2	24202	24353	00151	16	18	2	24256	24470	00214	01669
April	0	4	4	17058	19512	02454	6	8	2	19462	20004	00542	10	12	2	19379	19646	00267	16	18	2	19172	19190	00018	02946
May	0	8	8	14822	17408	02586	18	20	2	15682	15955	00273													02586
June	22	8	10	12649	14733	02084																			02084
July	0	8	8	09778	12393	02615	10	12	2	11808	11941	00133													02615
Aug.	22	4	6	08486	10939	02453	6	10	4	10932	11219	00287													02733
Sep.	22	8	10	08318	10802	02484	10	12	2	10522	10529	00007	16	18	2	09814	09950	00136							02484
Oct.	0	10	10	08289	10163	01874	18	20	2	09517	09999	00482													01874
Nov.	0	6	6	09827	10323	00496	10	16	6	09989	10618	00629	18	20	2	10504	10540	00036							00791
Dec.	0	2	2	11663	11774	00111	4	6	2	11726	11825	00099	8	10	2	11370	11485	00115	12	20	8	11477	12331	00854	00961

The following particulars are exhibited by this table:—the diurnal changes of the horizontal force consist in an alternate increase and decrease of the force, forming two maxima and two minima in the months of January, May, July, August, and October; three maxima and three minima in the months of February, September, and November; four maxima and four minima in the months of March, April, and December; and only one maximum and one minimum in June, during which month the magnet appears to have passed uninterruptedly from one extreme to the other, except at 22^h and 0^h, during which period the force appears to have been nearly stationary. The circumstance of June not shewing more than one maximum and one minimum in its means, is attributable to accidental circumstances. Examining the daily observations in that month, there are ten days on which a double maximum and a double minimum took place, viz.: on the 6th, 8th, 10th, 14th, 18th, 20th, 22nd, 23rd, 27th, and 28th days; there are eleven days on which a triple maximum and a triple minimum took place, viz.: on the 1st, 3rd, 4th, 9th, 11th, 13th, 15th, 17th, 21st, 24th, and 29th days; and five days on which four maxima and four minima took place, viz.: on the 2nd, 7th, 16th, 25th, and 30th days.

The force in action at 0^h in the winter months, and at either 22^h or 0^h in the summer month, is less than at any other part of the day, except in December, when the force at the third and fourth extremes, when the marked end was most drawn towards the South, is less than it was at the first extreme. No rule is indicated with respect to the time of attaining the other extreme. The diurnal motion of the magnet is therefore nearly as follows:—an extreme northerly position is attained at 16^h, 18^h, or 20^h; the marked end of the magnet then moves towards the South without interruption till 0^h, when it is more South than at any other part of the day; it then moves towards the North, and with the checks, the one at 4^h to 8^h, the next at 10^h to 12^h, and the third at 16^h, arrives with its marked end at its first northern position at 18^h or 20^h. The whole diurnal change, as shewn in the last column, is much greater in the summer than in the winter. To ascertain the changes in the summer and in the winter, the means of the numbers at each hour in Table XXVIII. are taken in two groups; those of April to September as one group for summer, and the other six months as one group for winter; and thus the next table is formed.

TABLE XXX.—Mean Reading of the Horizontal Force Magnet, corrected for Temperature, expressed in parts of the whole Horizontal Force, at every Even Hour of Göttingen Mean Solar Time, for the Summer and Winter periods, and for the Year.

Hour of Observation.	Mean Reading of Magnet.		Mean for the Year.
	Summer.	Winter.	
h			
14	0·013689	0·017679	0·015684
16	0·013389	0·017677	0·015533
18	0·013353	0·017876	0·015615
20	0·013035	0·017963	0·015499
22	0·011949	0·017267	0·014608
0	0·011980	0·017006	0·014493
2	0·013148	0·017468	0·015308
4	0·013946	0·017785	0·015866
6	0·014177	0·017820	0·015999
8	0·014415	0·017777	0·016096
10	0·014070	0·017647	0·015859
12	0·014084	0·017655	0·015870

The maximum force in summer is indicated at 8^h, and in winter at 20^h. The minimum force is indicated in summer at 22^h, and in winter at 0^h. These times are the same as those which were indicated in the year 1841, excepting the time of maximum force in winter, which in the year 1841 was at 18^h. In summer there are two maxima and two minima; in winter there is a triple maximum and minimum. The times are:—

In Summer.	In Winter.
The maximum at 8^h	The minimum at 0^h
A minimum at 10	A maximum at 6
A maximum at 12	A minimum at 10
The minimum at 22	A maximum at 14
	A minimum at 16
	The maximum at 20

The last column shews the mean at each hour for the year, and it indicates a triple maximum and a triple minimum, viz:—

The minimum at 0^h	A maximum at 12^h
The maximum at 8	A minimum at 16
A minimum at 10	A maximum at 18

The amount of the daily changes in summer is 0·002466
The amount of the daily changes in winter is 0·000957

So that the changes in winter are less than one half of those in the summer.

The mean for the summer period is 0·013436 parts of the whole horizontal force
The mean for the winter period is 0·017635 ,,
And the mean for the year is 0·015535 ,,

Comparing the numbers in the last column with the mean for the year, or 0·015535, the following results are obtained, exhibiting the difference between the mean position for the year and the mean position for the year at that hour; and thus it appears that the mean position of the marked end of the magnet

At 14^h	is 0·000149	parts of the whole horizontal force	more North, than the mean position for the year.
16	is 0·000002	,,	more South, than the mean position for the year.
18	is 0·000080	,,	more North, than the mean position for the year.
20	is 0·000036	,,	more South, than the mean position for the year.
22	is 0·000927	,,	,, ,,
0	is 0·001042	,,	,, ,,
2	is 0·000227	,,	,, ,,
4	is 0·000331	,,	more North, than the mean position for the year.
6	is 0·000464	,,	,, ,,
8	is 0·000561	,,	,, ,,
10	is 0·000324	,,	,, ,,
12	is 0·000335	,,	,, ,,

At 16^h the mean position of the magnet is almost identical with the mean position for the year; as in this respect it differs from the results derived from the observations of 1841, it is most likely an accidental circumstance. At 20^h the mean position differs from the mean position for the year by an inconsiderable quantity, which is almost precisely the same as that deduced from the Observations for 1841; therefore, 20^h is the hour that is indicated as the best at which to determine this element from an isolated observation.

TABLE XXXI.—Excess of the Mean Reading of the Horizontal Force Magnet, expressed in parts of the whole Horizontal Force, corrected for the Effect of Temperature, in every Month, at each Even Hour of Göttingen Mean Solar Time (deduced from all the Observations made throughout each Month at the same Hour), above the Monthly Mean, deduced from the Mean of all the Observations made at all Hours throughout the Month.

1842, Hour.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	−0·000255	−0·000066	+0·000233	+0·000514	−0·000062	+0·000354	+0·000077	+0·000442	+0·000199	+0·000260	+0·000157	−0·000070
16	−0·000232	−0·000169	+0·000136	+0·000232	−0·000437	+0·000176	−0·000227	+0·000073	−0·000094	−0·000040	+0·000374	+0·000180
18	+0·000264	+0·000159	+0·000350	+0·000250	−0·000545	−0·000025	−0·000227	+0·000014	+0·000042	−0·000077	+0·000260	+0·000486
20	+0·000307	+0·000333	+0·000062	−0·000161	−0·000272	−0·000575	−0·000600	−0·000563	−0·000230	+0·000405	+0·000296	+0·000557
22	−0·000051	−0·000122	−0·000827	−0·001548	−0·001189	−0·001237	−0·001478	−0·001875	−0·001590	−0·000923	−0·000233	−0·000059
0	−0·000320	−0·000438	−0·001189	−0·001882	−0·001405	−0·001220	−0·001508	−0·001490	−0·001224	−0·001305	−0·000417	−0·000111
2	+0·000194	−0·000184	−0·000243	−0·000707	−0·000460	−0·000353	−0·000013	−0·000134	−0·000055	−0·000504	−0·000272	0·000000
4	+0·000182	+0·000105	+0·000480	+0·000572	+0·000572	+0·000321	+0·000660	+0·000578	+0·000364	+0·000285	−0·000108	−0·000048
6	+0·000040	+0·000223	+0·000352	+0·000522	+0·001095	+0·000793	+0·001017	+0·000571	+0·000453	+0·000359	+0·000079	+0·000051
8	+0·000001	+0·000317	+0·000407	+0·001064	+0·001181	+0·000847	+0·001107	+0·000787	+0·000894	+0·000455	+0·000069	−0·000404
10	−0·000061	−0·000052	+0·000152	+0·000439	+0·000822	+0·000558	+0·000522	+0·000858	+0·000614	+0·000569	−0·000249	−0·000289
12	−0·000121	−0·000109	+0·000082	+0·000706	+0·000716	+0·000470	+0·000655	+0·000734	+0·000621	+0·000514	+0·000048	−0·000297

As in the previous year, the quantities at 20^h and 22^h deserve particular attention. In the cases where there is a large difference at 20^h with a + sign, the difference is small at 22^h with a — sign. In the cases at 20^h where there is a small number with a — sign, the number at 22^h is large with the same sign; the former cases occur in the winter months, the latter in the summer months. Thus it appears, that between these two hours the magnet was in its mean position during the winter months, and that it was in its mean position before 20^h during the summer months; and (as the differences between the numbers at those two hours are greater than the differences between any other two hours), that the magnet about this time moves more rapidly than at any other time. Between 0^h and 2^h the magnet moves rapidly; between every other two hours the magnet moves slowly and the change in the force is small.

TABLE XXXII.—Mean Reading of the Horizontal Force Magnet at each Hour during each Month, obtained by taking the Means of all the Readings at the same Hour during each Month (see Table XXVIII.), diminished by the Mean Reading for the Month (Table XXVI.), and by the Mean Diurnal Change in each Hour (in the remarks following Table XXX.).

Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	−0·000404	−0·000215	+0·000084	+0·000365	−0·000211	+0·000205	−0·000072	+0·000293	+0·000050	+0·000111	+0·000008	−0·000219
16	−0·000230	−0·000167	+0·000138	+0·000234	−0·000435	+0·000178	−0·000225	+0·000075	−0·000092	−0·000038	+0·000376	+0·000182
18	+0·000184	+0·000079	+0·000270	+0·000170	−0·000625	−0·000105	−0·000307	−0·000066	−0·000038	−0·000157	+0·000180	+0·000406
20	+0·000343	+0·000369	+0·000098	−0·000125	−0·000236	−0·000539	−0·000564	−0·000527	−0·000194	+0·000441	+0·000332	+0·000593
22	+0·000876	+0·000805	+0·000100	−0·000621	−0·000262	−0·000310	−0·000551	−0·000948	−0·000663	+0·000004	+0·000694	+0·000868
0	+0·000722	+0·000604	−0·000147	−0·000840	−0·000363	−0·000178	−0·000466	−0·000448	−0·000182	−0·000263	+0·000625	+0·000931
2	+0·000421	+0·000043	−0·000016	−0·000480	−0·000233	−0·000126	+0·000214	+0·000093	+0·000172	−0·000277	−0·000045	+0·000227
4	−0·000149	−0·000226	+0·000149	+0·000241	+0·000241	−0·000010	+0·000329	+0·000247	+0·000033	−0·000046	−0·000439	−0·000379
6	−0·000424	−0·000241	−0·000112	+0·000058	+0·000631	+0·000329	+0·000553	+0·000107	−0·000011	−0·000105	−0·000385	−0·000413
8	−0·000560	−0·000244	−0·000154	+0·000503	+0·000620	+0·000286	+0·000546	+0·000226	+0·000333	−0·000106	−0·000492	−0·000965
10	−0·000385	−0·000376	−0·000172	+0·000115	+0·000498	+0·000234	+0·000198	+0·000534	+0·000290	+0·000245	−0·000573	−0·000613
12	−0·000456	−0·000444	−0·000253	+0·000371	+0·000381	+0·000135	+0·000320	+0·000399	+0·000286	+0·000179	−0·000287	−0·000632

The order of the signs in this table is different at different periods of the year, and, consequently, the daily changes in the horizontal force are different at different times of the year. The quantities at 14^h and 16^h, and at 2^h and 4^h are smaller than at any other hour; at 22^h and at 0^h they are generally larger than at any other hours. By taking the sums of all the quantities ranging with each hour, without regard to sign, the following table is formed:—

TABLE XXXIII.—Sums of the Differences of Diurnal Inequality at each Hour.

Hour of Göttingen Mean Time.	Sums of the Differences.	Hour of Göttingen Mean Time.	Sums of the Differences.
h		h	
14	0·002237	2	0·002347
16	0·002370	4	0·002489
18	0·002587	6	0·003369
20	0·004361	8	0·005035
22	0·006702	10	0·004233
0	0·005769	12	0·004143

Considering that the smallest number indicates the hour subject to the least irregularity, the hours thus shewn are 14^h, 16^h, and 2^h. At 22^h and at 0^h are the largest numbers; and these hours would therefore seem subject to the greatest irregularity.

Examining the preceding table (No. XXXII.), month by month, the quantities in January and December are large; those of March and October are small; and the other months exhibit no remarkable irregularity. The following table contains the sums of all the quantities in each month, without regard to the signs:—

TABLE XXXIV.—Monthly Sums of the Differences.

Month.	Sums of the Differences.	Month.	Sums of the Differences.
1842.		1842.	
January	0·005154	July	0·004345
February	0·003813	August	0·003983
March	0·001693	September	0·002344
April	0·004123	October	0·001972
May	0·004736	November	0·004416
June	0·002635	December	0·006428

The months of January and December depart the most from the mean annual force, and those of March and October agree most nearly with it.

TABLE XXXV.—Mean Reading of the Horizontal Force Magnet, corrected for the effect of Temperature, and expressed in parts of the whole Horizontal Force, as deduced from all the Triple Observations taken near 2^h Göttingen Mean Time on every Day in each Month.

Month, 1842.	Mean Reading at $1^h.52^m.30^s$.	Mean Reading at $2^h.2^m.30^s$.	Mean Reading at $2^h.12^m.30^s$.	Month, 1842.	Mean Reading at $1^h.52^m.30^s$.	Mean Reading at $2^h.2^m.30^s$.	Mean Reading at $2^h.12^m.30^s$.
January	0·025623	0·025743	0·025443	July	0·011089	0·011273	0·011400
February	0·024410	0·024351	0·024290	August	0·010245	0·010227	0·010292
March	0·023807	0·023877	0·024058	September	0·009720	0·009853	0·009761
April	0·018239	0·018234	0·018274	October	0·008950	0·009090	0·009049
May	0·015687	0·015767	0·015833	November	0·010012	0·009972	0·010098
June	0·013467	0·013534	0·013612	December	0·011764	0·011775	0·011754

The mean of all the observations in the year 1842, taken at $^h_1\ ^m_{52}\ ^s_{30}$, is 0·015251
,, ,, ,, $2.\ 2.30$, is 0·015308
,, ,, ,, $2.12.30$, is 0·015322

Throughout the whole of this discussion for the Horizontal Force Magnet, with the exception of the above table, the even hour of Göttingen Mean Time has been used; the true time of observation is in every case $2^m.30^s$ after the hour.

TABLE XXXVI.—The Mean Reading of the Vertical Force Magnet, corrected for Temperature, expressed in parts of the whole Vertical Force, as deduced from the 12 Observations taken on every Civil Day of the Year 1842 (except Sundays, Good Friday, and the 26th of December), at the Even Hours of Göttingen Mean Solar Time.

Days of the Month. 1842.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	0·020697	0·021263	0·018447	0·016087	*S*	0·009211	0·006704	0·005978	0·004045	0·003798	0·002758	0·002398
2	*S*	0·021060	0·018188	0·016086	(0·005377)	0·008866	0·006572	0·005811	0·004403	*S*	0·002745	0·002159
3	0·021348	0·020153	0·018435	*S*	0·009397	0·009120	*S*	0·005963	0·003976	0·003923	0·002984	0·002281
4	0·022240	0·018633	0·018291	0·016318	0·009592	0·008773	0·005915	0·005671	*S*	0·003718	0·003050	S
5	0·021849	0·018775	0·018216	0·016307	0·009846	*S*	0·006859	0·005602	0·004187	0·003857	0·003098	0·002397
6	0·021682	*S*	*S*	0·016262	0·010150	0·008385	0·006975	0·005422	0·004228	0·004136	*S*	0·002287
7	0·021856	0·018799	0·018108	0·015974	0·010288	0·008137	0·007062	*S*	0·004241	0·003932	0·003148	0·002297
8	0·021839	0·018647	0·017085	0·015825	*S*	0·007995	0·007013	0·005597	0·004000	0·003897	0·002741	0·002446
9	*S*	0·018795	0·016543	0·015804	0·010699	0·007824	0·006750	0·005609	0·004287	*S*	0·002734	0·002635
10	0·021554	0·018685	0·016689	*S*	0·010597	0·007700	*S*	0·005559	0·004268	0·003775	0·002777	0·002584
11	0·021608	0·018459	0·016886	0·015691	0·010147	0·007466	0·006942	0·005262	*S*	0·003648	0·002687	*S*
12	0·021601	0·017431	0·016743	0·015898	0·010035	*S*	0·006765	0·005396	0·004258	0·003525	0·002694	0·002401
13	0·021364	*S*	*S*	0·015884	0·010069	0·007413	0·006583	0·005239	0·004247	0·003886	*S*	0·001526
14	0·021429	0·017897	0·016482	0·015904	0·009673	0·007162	0·006710	*S*	0·004270	0·003821	0·002637	0·001558
15	0·021291	0·017655	0·016644	0·015225	*S*	0·006981	0·006582	0·005408	0·004109	0·003804	0·002583	0·002056
16	*S*	0·018323	0·016588	0·015425	0·009882	0·007189	0·006376	0·004687	0·004257	*S*	0·003516	0·002646
17	0·021238	0·018436	0·016517	*S*	0·009644	0·007285	*S*	0·004424	0·004237	0·003345	0·003643	0·002469
18	0·021228	0·018351	0·016572	0·016035	0·009635	0·007108	0·006446	0·004515	*S*	0·002808	0·003607	*S*
19	0·021122	0·018545	0·016345	0·016094	0·009741	*S*	0·006093	0·004343	0·004433	0·002920	0·003509	0·002595
20	0·021030	*S*	*S*	0·015986	0·009926	0·007241	0·005934	0·004285	0·004308	0·003764	*S*	0·002402
21	0·020979	0·018606	0·016448	0·015401	0·009724	0·006928	0·007056	*S*	0·004406	0·003658	0·003200	0·003085
22	0·020863	0·018358	0·016723	0·015478	*S*	0·006982	0·006285	0·004557	0·004277	0·003768	0·002763	0·002856
23	*S*	0·018643	0·016429	0·015113	0·009367	0·006925	0·006208	0·005101	0·004352	*S*	0·003286	0·002870
24	0·021142	0·019072	0·016599	*S*	0·009385	0·006948	*S*	0·004460	0·004303	0·003375	0·002981	0·002928
25	0·020985	0·018661	GoodFriday	0·013908	0·009455	0·006836	0·006148	0·004197	*S*	0·003589	0·002913	*S*
26	0·020851	0·018651	0·016458	(0·014984)	0·009301	*S*	0·006023	0·004432	0·004137	0·003378	0·002904	Holiday.
27	0·020822	*S*	*S*	...	0·009240	0·007041	0·005862	0·004216	0·003882	0·003305	*S*	0·002052
28	0·020698	0·018478	0·016234	...	0·009072	0·007041	0·006089	*S*	0·003885	0·003061	0·002794	0·001210
29	0·020392	...	0·015901	...	*S*	0·006920	0·005717	0·004131	0·003867	0·003246	0·002459	0·001271
30	*S*	...	0·015883	...	0·008916	0·006704	0·005797	0·004141	0·003942	*S*	0·002505	0·001437
31	0·021530	...	0·015878	...	0·009363	...	*S*	0·004077	...	0·003154	...	0·001236

The letter *S* denotes that the day was Sunday.

The quantity in brackets on April 26 is the mean of six observations, taken between 14^h and 24^h, and the quantity in brackets on May 2 is the mean of six observations taken between 2^h and 12^h.

After April $26^d.\ 0^h$ the adjustment of the instrument required alteration, and the numbers beginning with May 2^d are of a new series. Various methods were tried to connect the two series, of which the best appeared to be as follows:—To take the mean of all the observations in each week for some weeks, both previously to and subsequently to the change, and to determine the probable weekly change; then, by application of this change to infer what the numbers would have been had the adjustments been unaltered in the first week of the second series: the difference between these numbers and those obtained by observation, would then be the correction to be applied to the second series, thus:—

Mean of all the observations taken in the week ending March 26, was	0 ·016531
,, ,, April 2, was	0 ·016012
,, ,, ,, 9, was	0 ·016082
,, ,, ,, 16, was	0 ·015671
,, ,, ,, 23, was	0 ·015685
And the mean weekly decrease from these, is	0 ·000212

Again, the mean of all the observations taken in the week ending May 7, was	0 ·009855
,, ,, ,, 14, was	0 ·010203
,, ,, ,, 21, was	0 ·009759
,, ,, ,, 28, was	0 ·009303
,, ,, June 4, was	0 ·009042

And the mean weekly decrease is 0 ·000203, being nearly the same as that deduced before the change.

The mean of these two results is 0 ·000208, which may be considered to be the actual decrease at the time of the alteration in the adjustments.

Therefore, the inferred change of force from April 23 to May 7, was — 0 ·000416.

Now, the mean reading for the week ending April 23, was	0 ·015685
Decrease of force from April 23 to May 7, was	0 ·000416
Therefore, the inferred mean for the week ending May 7, was	0 ·015269
And, the mean observed for the week ending May 7, was	0 ·009855

The difference between these numbers is 0 ·005414, to be applied additively to all numbers after May 2, to reduce them to what they most probably would have been had no change in the adjustments been needed. This correction must be received with caution, as it is impossible to say that the force, in the mean time, was uniformly decreasing, but it is deduced as a means of comparing the results together at different periods of the year; it may be remarked, however, that observations were taken at every two hours as usual, between April 26 and May 2, but which, from the circumstance of frequent adjustment being necessary, could not be reduced; they indicate, however, a general decrease of force during the time.

TABLE XXXVII.—Table exhibiting the Times at which Differences greater than 0 ·0003, took place between the Mean Positions of the Vertical Force Magnet on Two consecutive Days, estimated positive when the Vertical Force is greater on the Second Day.

1842.											
January.		February.		March.		April.		May.		June.	
Between what Days.	Difference.	Between what days.	Difference.	Between what days.	Difference.	Between what days.	Difference.	Between what days.	Difference.	Between what days.	Difference.
3 & 4	+ ·000892	2 & 3	— ·000907	8 & 9	— ·000542	14 & 15	— ·000679	5 & 6	+ ·000304	1 & 2	— ·000345
4 & 5	— ·000391	3 & 4	— ·001520	28 & 29	— ·000333	19 & 20	— ·000585	10 & 11	— ·000450	3 & 4	— ·000347
28 & 29	— ·000306	11 & 12	— ·001028			21 & 22	— ·000365	13 & 14	— ·000396	20 & 21	— ·000313
		15 & 16	+ ·000668			25 & 26	+ ·001076	30 & 31	+ ·000447		
		23 & 24	+ ·000429								
		24 & 25	— ·000411								

TABLE XXXVII.—*continued.*

1842.												
July.		August.		September.		October.		November.		December.		
Between what days.	Difference.	Between what days.	Difference.	Between what days.	Difference.	Between what days.	Difference.	Between what days.	Difference.	Between what days.	Difference.	
4 & 5	+ ·000944	15 & 16	— ·000721	1 & 2	+ ·000358	12 & 13	+ ·000361	7 & 8	— ·000407	12 & 13	— ·000875	
18 & 19	— ·000353	22 & 23	+ ·000544	2 & 3	— ·000427	17 & 18	— ·000537	15 & 16	+ ·000933	14 & 15	+ ·000498	
20 & 21	+ ·001122	23 & 24	— ·000641			19 & 20	+ ·000844	21 & 22	— ·000437	15 & 16	+ ·000590	
21 & 22	— ·000771					31 & 32	— ·000396	22 & 23	+ ·000523	20 & 21	+ ·000683	
28 & 29	— ·000372							23 & 24	— ·000305	27 & 28	— ·000842	
								28 & 29	— ·000335			

From the numbers in this table it appears there are—

16	instances in which the force has changed	more that	0 ·0003	parts of the whole vertical force, and less than	0 ·0004
8	,,	,,	0 ·0004	,,	,,	0 ·0005
6	,,	,,	0 ·0005	,,	,,	0 ·0006
4	,,	,,	0 ·0006	,,	,,	0 ·0007
2	,,	,,	0 ·0007	,,	,,	0 ·0008
4	,,	,,	0 ·0008	,,	,,	0 ·0009
3	,,	,,	0 ·0009	,,	,,	0 ·0010
3	,,	,,	0 ·0010	,,	,,	0 ·0015
1	,,	,,	0 ·0015	,,	,,	0 ·0016

TABLE XXXVIII.—Mean of all the Two-hourly Readings of the Vertical Force Magnet, corrected for Temperature, expressed in parts of the whole Vertical Force, for those Days of each Month on which, as shewn by the Mean of the Two-hourly Readings, the marked end was most drawn towards the Nadir, or was most drawn towards the Zenith.

Month, 1842.	Mean Daily Reading of the Vertical Force Magnet in each Month, when the marked end of the Magnet was most drawn towards the		Greatest Difference in the extreme Positions of the Magnet between any Two Days in the Month.	Day on which the marked end of the Magnet was most drawn towards the	
	Nadir.	Zenith.		Nadir.	Zenith.
January	0 ·022240	0 ·020392	0 ·001848	4	29
February	0 ·021263	0 ·017431	0 ·003832	1	12
March	0 ·018447	0 ·015878	0 ·002569	1	31
April	0 ·016318	0 ·013908	0 ·002410	4	25
May	0 ·016113	0 ·014330	0 ·001783	9	30
June	0 ·014625	0 ·012118	0 ·002507	1	30
July	0 ·012476	0 ·011131	0 ·001345	7	29
August	0 ·011392	0 ·009491	0 ·001901	1	31
September	0 ·009847	0 ·009281	0 ·000566	19	29
October	0 ·009550	0 ·008222	0 ·001328	6	18
November	0 ·009057	0 ·007873	0 ·001184	17	29
December	0 ·008499	0 ·006624	0 ·001875	21	28

This table was formed from Table XXXVI., by selecting the greatest and least numbers in each month, increasing those numbers, beginning with May, by 0 ·005414. The largest number contained in the table is in January on the 4th day, shewing that the force in action throughout the whole day was greater on this day than on any other day in the year. The smallest number is in December, on the 28th day. The difference between these numbers is 0 ·015616; and it represents the yearly range of the mean daily values of the vertical forces on the magnet.

TABLE XXXIX.—Readings of the Vertical Force Magnet, corrected for Temperature, expressed in parts of the whole Vertical Force, in Single Observations, when the marked End of the Magnet was most drawn towards the Nadir, and when it was most drawn towards the Zenith, for the Daily, Term-Day, and Extraordinary Observations in each Month. The numbers beginning with May have been increased by 0·005414.

Month, 1842.	Readings of the Vertical Force Magnet when the marked end of the Magnet was most drawn towards the						Range of the Magnet in the Month.	Day and Hour when the marked end of the Magnet was most drawn towards the					
	Nadir.	Zenith.	Nadir.	Zenith.	Nadir.	Zenith.		Nadir.	Zenith.	Nadir.	Zenith.	Nadir.	Zenith.
	Daily Observations.		Term-Day Observations.		Extraordinary Observations.			Daily Observations.		Term-Day Observations.		Extraordinary Observations.	
								d h m s	d h m s	d h m s	d h m s	d h m s	d h m s
Jan.	0·022979	0·019683	0·021355	0·020778	0·021883	0·020356	0·003296	6. 23. 57. 30	29. 1. 57. 30	19. 11. 57. 30	19. 13. 30. 0	24. 10. 48. 0	25. 11. 57. 30
Feb.	0·021895	0·016200	0·019076	0·018039	0·021723	0·015905	0·005990	1. 3. 57. 30	11. 19. 57. 30	26. 4. 47. 30	25. 10. 10. 0	2. 1. 57. 30	11. 18. 46. 0
Mar.	0·019162	0·014540	0·017306	0·015116	0·018825	0·015534	0·004622	7. 3. 57. 30	30. 17. 57. 30	24. 6. 7. 30	23. 12. 57. 30	5. 5. 57. 30	16. 10. 46. 0
Apr.	0·017447	0·009806	0·016604	0·014331	0·017335	0·009010	0·008437	13. 3. 57. 30	14. 17. 57. 30	21. 4. 27. 30	20. 16. 0. 0	6. 1. 57. 30	14. 18. 8. 30
May	0·016718	0·009400	0·011860	0·014171	0·016274	0·014434	0·007318	8. 7. 57. 30	2. 9. 57. 30	28. 6. 7. 30	28. 0. 50. 0	16. 3. 57. 30	16. 23. 57. 30
June	0·015111	0·011399	0·012963	0·011971	0·014749	0·013225	0·003712	2. 21. 57. 30	13. 13. 57. 30	23. 5. 57. 30	22. 18. 0. 0	4. 7. 57. 30	6. 22. 46. 0
July	0·014284	0·007481	0·011990	0·010933	0·014146	0·005001	0·009283	4. 2. 7. 30	3. 17. 57. 30	20. 19. 0. 0	20. 12. 7. 30	2. 6. 54. 0	3. 14. 19. 0
Aug.	0·012218	0·008777	0·010379	0·008777	0·011306	0·009437	0·003441	1. 2. 7. 30	26. 13. 57. 30	27. 5. 57. 30	26. 13. 57. 30	12. 1. 57. 30	23. 57. 30. 0
Sep.	0·010857	0·009063	0·010078	0·008920	0·010215	0·008856	0·002001	2. 3. 57. 30	5. 13. 57. 30	22. 7. 27. 30	21. 13. 47. 30	2. 8. 4. 30	28. 19. 6. 0
Oct.	0·009830	0·007655	0·009604	0·008600	0·009604	0·008365	0·002175	8. 3. 57. 30	18. 15. 57. 30	21. 1. 57. 30	20. 13. 47. 30	8. 9. 34. 0	26. 9. 24. 0
Nov.	0·009216	0·005709	0·008541	0·008077	0·009202	0·005223	0·003993	18. 1. 57. 30	21. 17. 57. 30	26. 7. 57. 30	25. 11. 57. 30	10. 4{14. 45 / 16. 45	21. 16. 9. 43
Dec.	0·008743	0·006164	0·008821	0·008052	0·009042	0·007526	0·002878	20. 13. 57. 30	27. 19. 57. 30	22. 2. 57. 30	21. 13. 57. 30	9. 8. 52. 0	9. 11. 46. 0

The largest number contained in this table is in January, on the 7th day, at 0^h. The smallest number is in July, on the 3rd day, at $14^h.\ 19^m$; and the difference between the numbers is 0·017978 which was the yearly range of the vertical force, as deduced from the observations.

TABLE XL.—Mean Reading of the Vertical Force Magnet, corrected for Temperature, and expressed in parts of the whole Vertical Force, for the Mean of all the Two-hourly Observations in each Month; each Mean beginning with May being increased by 0·005414.

Month, 1842.	Mean for each Month.	Month, 1842.	Mean for each Month.
January	0·021292	July	0·011852
February	0·018764	August	0·010387
March	0·016875	September	0·009600
April	0·015698	October	0·008998
May	0·015081	November	0·008352
June	0·012937	December	0·007642

The mean of the monthly results is 0·013123.

TABLE XLI.—Mean Reading of the Vertical Force Magnet, corrected for Temperature, expressed in parts of the whole Vertical Force, at every Even Hour of Göttingen Mean Time; deduced from all the Observations taken at that Hour in each Month. (Beginning with May, the numbers have all been increased by 0·005414.)

1842, Hour, Gottingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	Sep.	Oct.	Nov.	Dec.
h	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0	0·0
14	21122	18541	16561	15244	14723	12494	11328	09963	09252	08690	08147	07380
16	21112	18595	16548	15145	14915	12567	11776	09968	09340	08749	08126	07550
18	21122	18541	16520	15019	15268	12776	11444	10105	09448	08828	08187	07547
20	21127	18496	16697	15299	15488	12970	11683	10103	09454	08875	08248	07601
22	21225	18546	16733	15635	15563	13352	11851	10286	09554	09097	08359	07688
0	21449	18816	16935	15722	15301	13168	11934	10380	09682	09185	08500	07778
2	21512	19092	17240	16297	15177	13299	12250	10787	09922	09328	08599	07979
4	21510	19191	17531	16652	15135	13305	12327	10942	10032	09304	08668	07782
6	21403	19052	17237	16234	15120	13251	12320	10920	09794	09113	08471	07693
8	21420	18956	17078	15986	14903	13077	12114	10535	09715	09007	08409	07683
10	21303	18826	16888	15744	14638	12716	11701	10571	09572	08886	08345	07588
12	21213	18554	16674	15347	14625	12540	11468	09987	09392	08779	08166	07458

The numbers contained in this table are all small at 12^h, 14^h, and 16^h, and they are large about 0^h to 6^h, shewing that the marked end of the magnet dips least at the former times and most at the latter times. To ascertain more clearly the times and the amounts of the changes, the following table is formed, by considering that number which is the smallest about 12^h as denoting the first extreme position towards the Zenith; then, the last of the following increasing numbers as denoting the first extreme towards the Nadir; then, the next smallest number as denoting the second extreme towards the Zenith, and so on successively.

TABLE XLII.—Hours of Göttingen Mean Solar Time at which the Extreme Positions of the Vertical Force Magnet occur in different Months, as inferred from the Monthly Means of the Two-hourly Observations, with the Readings, and the Amount of the Changes: the Correction for Temperature being applied.

Month, 1842.	Times of 1st extreme Positions towards		Interval in Time of 1st Extremes.	Readings for 1st Extremes towards		Difference between the 1st Extremes.	Times of 2nd extreme Positions towards		Interval in Time of 2nd Extremes.	Readings for 2nd Extremes towards		Difference between the 2nd Extremes.	Times of 3rd extreme Positions towards		Interval in Time of 3rd Extremes.	Readings for 3rd Extremes towards		Difference between the 3rd Extremes.	Difference between the Greatest and Least Extremes, or Mean Daily Range.
	Zen.	Nad.		Zenith.	Nadir.		Zen.	Nad.		Zenith.	Nadir.		Zen.	Nad.		Zenith.	Nadir.		
	h	h	h				h	h	h				h	h	h				
Jan.	16	2	8	0·021112	0·021512	0·000400	6	10	4	0·021403	0·021420	0·000017	12	14	2	0·021213	0·021222	0·000009	0·000400
Feb.	14	16	2	0·018541	0·018595	0·000054	20	4	8	0·018496	0·019191	0·000695							0·000695
March	18	4	8	0·016520	0·017531	0·001011													0·001011
April	18	4	8	0·015019	0·016652	0·001633													0·001633
May	12	22	10	0·014625	0·015563	0·000938													0·000938
June	14	22	8	0·012494	0·013352	0·000358	0	4	4	0·013168	0·013305	0·000137							0·000358
July	14	16	2	0·011328	0·011776	0·000448	18	4	10	0·011444	0·012327	0·000883							0·000999
Aug.	14	18	4	0·009963	0·010105	0·000142	20	4	8	0·010103	0·010942	0·000839	8	10	2	0·010535	0·010571	0·000036	0·000979
Sep.	14	4	14	0·009252	0·010032	0·000780													0·000780
Oct.	14	2	12	0·008690	0·009328	0·000638													0·000638
Nov.	16	4	12	0·008126	0·008668	0·000542													0·000542
Dec.	14	16	2	0·007380	0·007550	0·000170	18	2	8	0·007547	0·007979	0·000432							0·000599

This table shews that the diurnal changes of the vertical force consist, during six months of the year, in an alternate increase and decrease of force. In January and August, a triple maximum and a triple minimum took place; in February, June, July, and December, a double maximum and a double minimum took place. In the other six months, the change consists in a simple movement from one extremity of the range and back, there being no decided indication of checked motion at any intermediate time, except, perhaps, in March at 16^h and 18^h, and in October at 18^h and 20^h, and the change between each of these times is small.

The force in action from 14^h to 18^h in the winter months, and from 12^h or 14^h in the summer months, is less than at any other time

time of the day, except in February, where the force at the second extreme is less than that at the first. The time of attaining the maximum force is more variable, but a longer period of observation is requisite for a satisfactory conclusion on this point. The whole diurnal change, as shewn in the last column, is greater in the Spring and Autumn than at the other periods of the year.

By taking the means of the numbers in Table XLI. for the same hour between April and September for Summer, and for the same hour in the other months for Winter, the following table is formed:—

TABLE XLIII.—Mean Reading of the Vertical Force Magnet, corrected for Temperature, and expressed in parts of the whole Vertical Force, at every Even Hour of Göttingen Mean Solar Time for the Summer and Winter periods, and for the Year.

Hour of Observation.	Mean Position of Magnet.		Mean.
	Summer.	Winter.	
h			
14	0·012167	0·013407	0·012787
16	0·012285	0·013447	0·012866
18	0·012343	0·013458	0·012901
20	0·012500	0·013507	0·013004
22	0·012707	0·013608	0·013158
0	0·012698	0·013777	0·013238
2	0·012955	0·013958	0·013457
4	0·013066	0·013998	0·013532
6	0·012940	0·013828	0·013384
8	0·012722	0·013759	0·013241
10	0·012490	0·013639	0·013065
12	0·012227	0·013474	0·012851

The minimum force is indicated at 14^h, both in the summer and in the winter period. The maximum force is indicated at 4^h in both periods. In summer there are two maxima and two minima; in winter and for the year there is only one maximum and one mimimum. The times are:—

In Summer.	In Winter.	For the Year.
The maximum at 4^h	The maximum at 4^h	The maximum at 4^h
The minimum at 14	The minimum at 14	The minimum at 14
A maximum at 22		
A minimum at 0		

The amount of the daily changes in summer is 0·000899

The amount of the daily changes in winter is 0·000591

So that the changes in the winter are about two-thirds of those in the summer.

The mean for the summer period is 0·012592 parts of the whole vertical force
The mean for the winter period is 0·013655 ,,
And the mean for the year is 0·013124 ,,

Comparing the numbers in the last column with the mean for the year, or 0·013124, the following results are obtained, exhibiting the difference between the mean position for the year at that hour, and the mean position for the year; and thus it appears that the mean position of the marked end of the magnet

At 14^h was 0·000337 parts of the whole vertical force less drawn downwards, than the mean position for the year.
16 was 0·000258 ,, ,, ,,
18 was 0·000223 ,, ,, ,,
20 was 0·000120 ,, ,, ,,
22 was 0·000034 ,, more drawn downwards, than the mean position for the year.
0 was 0·000114 ,, ,, ,,
2 was 0·000333 ,, ,, ,,
4 was 0·000408 ,, ,, ,,
6 was 0·000260 ,, ,, ,,
8 was 0·000117 ,, ,, ,,
10 was 0·000059 ,, less drawn downwards, than the mean position for the year.
12 was 0·000273 ,, ,, ,,

TABLE XLIV.—Excess of the Mean Reading of the Vertical Force Magnet corrected for Temperature, expressed in parts of the whole Vertical Force, in every Month, at each Even Hour of Göttingen Mean Solar Time (deduced from all the Observations made in each Month at the same Hour), above the Monthly Mean (deduced from the Mean of all the Observations made at all Hours throughout the Month).

1842, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	−0·000170	−0·000223	−0·000314	−0·000454	−0·000358	−0·000443	−0·000524	−0·000424	−0·000348	−0·000308	−0·000205	−0·000262
16	−0·000180	−0·000169	−0·000327	−0·000553	−0·000166	−0·000370	−0·000076	−0·000419	−0·000260	−0·000249	−0·000226	−0·000092
18	−0·000170	−0·000223	−0·000355	−0·000679	+0·000187	−0·000161	−0·000408	−0·000282	−0·000152	−0·000170	−0·000165	−0·000095
20	−0·000165	−0·000268	−0·000178	−0·000399	+0·000407	+0·000033	−0·000169	−0·000284	−0·000146	−0·000123	−0·000104	−0·000041
22	−0·000067	−0·000218	−0·000142	−0·000063	+0·000482	+0·000415	−0·000001	−0·000101	−0·000046	+0·000099	+0·000007	+0·000046
0	+0·000157	+0·000052	+0·000060	+0·000024	+0·000220	+0·000231	+0·000082	−0·000007	+0·000082	+0·000187	+0·000148	+0·000136
2	+0·000220	+0·000328	+0·000365	+0·000599	+0·000096	+0·000362	+0·000398	+0·000400	+0·000322	+0·000330	+0·000247	+0·000337
4	+0·000218	+0·000427	+0·000656	+0·000954	+0·000054	+0·000368	+0·000475	+0·000555	+0·000432	+0·000306	+0·000316	+0·000140
6	+0·000111	+0·000288	+0·000362	+0·000536	+0·000039	+0·000314	+0·000468	+0·000533	+0·000194	+0·000115	+0·000119	+0·000051
8	+0·000128	+0·000192	+0·000203	+0·000288	−0·000178	+0·000140	+0·000262	+0·000148	+0·000115	+0·000009	+0·000057	+0·000041
10	+0·000011	+0·000062	+0·000013	+0·000046	−0·000443	−0·000221	−0·000151	+0·000184	−0·000028	−0·000112	−0·000007	−0·000054
12	−0·000079	−0·000210	−0·000201	−0·000351	−0·000456	−0·000397	−0·000384	−0·000400	−0·000208	−0·000219	−0·000186	−0·000184

This table exhibits the following particulars. In cases where there is a + sign at 0^h, the number at 2^h is much larger also with a + sign, except in the month of May. In August the sign at 0^h is — with a small number, at 2^h it is + with a large number. In cases at 10^h where there is a small number with a + sign, at 12^h the number is large with a — sign; in the cases where there is a number with a — sign at 10^h, the number at 12^h is much larger with the same sign, except in the month of May where the increase is small. Thus it appears, that between 0^h and 2^h, and between 10^h and 12^h, the magnet was in its mean position; and (as the difference between the numbers at 0^h and 2^h is greater than the differences between any other two hours, and the differences between the numbers at 10^h and 12^h are the next in order of magnitude) that the magnet between 0^h and 2^h moves more rapidly than at any other time, and the next time in order of quick movement is between 10^h and 12^h. The mean change between 0^h and 2^h is 0·000219, the force at 2^h being the greater by this amount; and the mean change between 10^h and 12^h is 0·000214, the force at 12^h being less by this amount. The times of least change are between 12^h and 18^h. The mean change for two hours is 0·000124.

In the months of January, February, March, April, October, November, and December, there are six + signs and six — signs, shewing in those months that the marked end of the magnet was as long above, as it was below its mean position; in the months of May and June there are five — signs and seven + signs, shewing that the marked end of the magnet in those months was longer below its mean position than it was above it. In the months of July, August, and September, there are seven — signs and five + signs, and therefore the magnet in these months was longer above its mean position than it was below it. The turning points in this table are strongly marked and agree very closely with each other; the months which deviate from the general order are May and June.

TABLE XLV.—Mean Reading of the Vertical Force Magnet at each Hour during each Month, obtained by taking the Means of all the Readings at the same Hour during each Month (see Table XLI.), diminished by the Mean Reading for the Month (Table XL.), and by the Mean Diurnal Change in each Hour (in the remarks following Table XLIII.).

1842, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	+0·000167	+0·000114	+0·000023	−0·000117	−0·000021	−0·000106	−0·000187	−0·000087	−0·000011	+0·000029	+0·000132	+0·000075
16	+0·000078	+0·000089	−0·000069	−0·000295	+0·000092	−0·000112	+0·000182	−0·000161	−0·000002	+0·000009	+0·000032	+0·000166
18	+0·000053	0·000000	−0·000132	−0·000456	+0·000410	+0·000062	−0·000185	−0·000059	+0·000071	+0·000053	+0·000058	+0·000128
20	−0·000045	−0·000148	−0·000058	−0·000279	+0·000527	+0·000153	−0·000049	−0·000164	−0·000026	−0·000003	+0·000016	+0·000079
22	−0·000101	−0·000252	−0·000176	−0·000097	+0·000448	+0·000381	−0·000035	−0·000135	−0·000080	+0·000065	−0·000027	+0·000012
0	+0·000043	−0·000062	−0·000054	−0·000090	+0·000106	+0·000117	−0·000032	−0·000121	−0·000032	+0·000073	+0·000034	+0·000022
2	−0·000113	−0·000005	+0·000032	+0·000266	−0·000237	+0·000029	+0·000065	+0·000067	−0·000011	−0·000003	−0·000086	+0·000004
4	−0·000190	+0·000019	+0·000248	+0·000546	−0·000354	−0·000010	+0·000069	+0·000147	+0·000024	−0·000102	−0·000092	−0·000268
6	−0·000149	+0·000028	+0·000102	+0·000276	−0·000221	+0·000054	+0·000208	+0·000273	−0·000066	−0·000145	−0·000141	−0·000209
8	+0·000011	+0·000075	+0·000086	+0·000171	−0·000295	+0·000023	+0·000145	+0·000031	−0·000002	−0·000108	−0·000060	−0·000076
10	+0·000070	+0·000121	+0·000072	+0·000105	−0·000384	−0·000162	−0·000092	+0·000243	+0·000031	−0·000053	+0·000052	+0·000005
12	+0·000194	+0·000063	+0·000072	−0·000078	−0·000183	−0·000124	−0·000111	−0·000127	+0·000065	+0·000054	+0·000087	+0·000089

No simple law exists in this table relatively to the order of the signs. It appears, however, that the order of the signs in the summer and the winter periods, is different; and, consequently, the daily changes in the vertical force are different at different times of the year. Examining the table hour by hour, the quantities do not differ very much. Those at 0^h and 2^h are smaller than the rest. Inspecting the quantities month by month, those in April appear larger, and those in September are generally smaller than the rest. By taking the means of all the quantities ranging with each hour, without regard to sign, the following table is formed:—

TABLE XLVI.—Sums of the Differences of Diurnal Inequality at Each Hour.

Hour of Göttingen Mean Time.	Sums of the Differences.	Hour of Göttingen Mean Time.	Sums of the Differences.
h		h	
14	0·001069	2	0·000918
16	0·001287	4	0·002099
18	0·001667	6	0·001872
20	0·001547	8	0·001083
22	0·001809	10	0·001390
0	0·000786	12	0·001247

Considering that the smallest number indicates the hour subject to the least irregularity, and the largest the hour subject to the greatest irregularity: thus 0^h has the smallest number, and therefore appears the most uniform; and the next in order is 2^h. At 4^h the largest number appears, and this hour would therefore appear subject to the greatest irregularity. The following table contains the sums of all the quantities in each month, in Table XLV., without regard to their signs.

TABLE XLVII.—Monthly Sums of the Differences of Diurnal Inequality.

Month.	Sums of the Differences.	Month.	Sums of the Differences.
January	0·001214	July	0·001360
February	0·000976	August	0·001615
March	0·001124	September	0·000421
April	0·002776	October	0·000697
May	0·003278	November	0·000817
June	0·001363	December	0·001133

From this table it appears, that the diurnal motion of the vertical force magnet agrees most nearly with its mean diurnal motion, as found from the mean of the determinations throughout the year, in September and October, and departs the most from the mean in April and May.

TABLE XLVIII.—Mean Reading of the Vertical Force Magnet, corrected for temperature, and expressed in parts of the whole Vertical Force, as deduced from all the Triple Observations taken near 2^h Göttingen Mean Solar Time, on every Day in each Month.

Month.	Mean Reading at $1^h.47^m.30^s$.	$1^h.57^m.30^s$.	$2^h.7^m.30^s$.
January	0·026948	0·026926	0·027197
February	0·024530	0·024507	0·024473
March	0·022670	0·022654	0·022632
April	0·021751	0·021711	0·021668
May	0·015235	0·015177	0·015132
June	0·013355	0·013300	0·013243
July	0·012284	0·012250	0·012236
August	0·010833	0·010787	0·010746
September	0·009941	0·009922	0·009902
October	0·009373	0·009328	0·009283
November	0·008620	0·008600	0·008588
December	0·007997	0·007979	0·007955

The mean of all the observations in the year 1842, taken at $1^h.47^m.30^s$ is 0·015295
,, ,, $1.57.30$ is 0·015262
,, ,, $2.7.30$ is 0·015255

Throughout the whole of this discussion for the Vertical Force Magnet, with the exception of the above table, the even hour of Göttingen Mean Time has been used; the true time of observation is in every case $2^m.30^s$ before the hour.

ROYAL OBSERVATORY, GREENWICH.

ABSTRACTS

OF THE

RESULTS

OF THE

METEOROLOGICAL OBSERVATIONS.

1842.

TABLE I.—Mean Height of the Barometer, as deduced from the Twelve Observations taken on every Civil Day of the Year 1842 (except Sundays, Good Friday, and December 26), at the Even Hours of Göttingen Mean Time.

Days of the Month, 1842.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1	30·110	30·014	29·267	29·190	*S*	30·054	29·664	30·142	29·873	30·132	30·081	29·923
2	*S*	30·104	29·599	29·535	29·892	30·077	29·727	29·996	29·992	*S*	29·994	29·963
3	29·897	30·303	29·750	*S*	29·788	30·135	*S*	29·816	30·086	29·949	29·868	30·153
4	29·870	30·326	29·842	30·095	29·766	29·943	29·606	29·740	*S*	29·962	29·979	*S*
5	29·960	30·153	29·917	30·227	29·648	*S*	29·600	29·796	30·031	30·100	30·037	30·185
6	30·111	*S*	*S*	29·988	29·290	29·841	29·961	29·799	29·823	30·177	*S*	30·124
7	30·360	29·676	29·560	29·755	29·176	30·069	29·902	*S*	29·630	30·163	30·026	30·222
8	30·342	29·731	29·377	29·986	*S*	30·109	29·616	29·910	29·350	30·286	29·983	30·308
9	*S*	29·686	29·385	30·215	29·837	30·062	29·561	29·849	29·403	*S*	29·655	30·270
10	30·000	29·841	29·451	*S*	30·019	29·982	*S*	29·569	29·369	30·335	29·505	30·122
11	29·919	29·906	29·857	30·088	29·814	30·054	29·544	29·803	*S*	30·232	29·012	*S*
12	29·944	29·942	29·910	29·949	29·820	*S*	29·786	30·145	29·716	30·171	29·156	29·775
13	29·732	*S*	*S*	29·863	29·926	30·117	30·058	30·275	29·970	30·141	*S*	29·924
14	29·516	30·325	30·154	29·858	30·058	29·944	30·220	*S*	30·059	30·114	29·570	29·983
15	29·836	30·368	30·252	29·948	*S*	29·905	30·210	30·074	30·018	30·158	29·527	30·014
16	*S*	30·408	30·160	30·013	30·244	29·878	30·006	30·039	29·929	*S*	29·666	29·917
17	30·011	30·253	29·921	*S*	30·111	29·952	*S*	29·964	29·679	29·832	30·160	29·937
18	30·293	30·251	29·581	30·079	29·891	29·869	29·714	29·791	*S*	29·276	30·419	*S*
19	30·320	30·229	29·361	30·065	29·648	*S*	29·685	29·765	29·461	29·237	30·019	30·381
20	30·043	*S*	*S*	30·030	29·552	29·593	29·601	29·864	29·397	29·563	*S*	30·283
21	29·939	29·682	29·832	29·998	29·593	29·520	29·643	*S*	29·378	29·803	29·683	30·182
22	29·605	29·618	29·966	29·849	29·629	29·621	29·896	29·809	29·366	29·380	29·334	29·973
23	*S*	29·254	29·996	29·784	29·698	29·690	30·067	29·768	29·338	*S*	29·294	29·530
24	29·684	29·023	30·098	*S*	29·709	29·581	*S*	29·686	29·274	29·188	28·809	29·598
25	29·408	29·142	Good Frid.	29·915	29·739	29·598	29·792	29·595	*S*	29·413	28·799	*S*
26	29·280	29·345	29·482	29·926	29·681	*S*	29·874	29·710	29·733	29·488	29·040	Holiday.
27	29·584	*S*	*S*	29·875	29·809	30·050	30·019	29·816	29·787	29·585	*S*	29·341
28	29·770	29·424	29·622	29·929	29·902	30·100	29·888	*S*	29·934	29·540	28·906	29·937
29	29·925	...	29·771	29·890	*S*	29·929	29·763	29·848	29·957	29·722	29·405	30·057
30	*S*	...	29·760	29·716	29·866	29·752	29·915	29·879	30·043	*S*	29·643	30·087
31	29·956	...	29·565	...	30·013	...	*S*	30·018	...	30·130	...	29·992

The letter *S* denotes that the day was Sunday.

TABLE II.—Table exhibiting the Times at which Differences greater than $0^{in}\cdot250$ took place between the Mean Heights of the Barometer on Two consecutive Days, with the amount of the Differences, estimated positive when the Height on the second Day is the greater.

January.		February.		March.		April.		May.		July.	
Between what Days	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.
	in.		in.		in.		in.		in.		in.
14 & 15	+ 0·320	22 & 23	— 0·364	1 & 2	+ 0·332	1 & 2	+ 0·345	5 & 6	— 0·358	5 & 6	+ 0·361
17 & 18	+ 0·282			10 & 11	+ 0·406					7 & 8	— 0·286
19 & 20	— 0·277			17 & 18	— 0·340					12 & 13	+ 0·272
21 & 22	— 0·334			31 & 32	— 0·375					21 & 22	+ 0·253
24 & 25	— 0·276										
26 & 27	+ 0·304										

TABLE II.—*continued.*

August.		September.		October.		November.		December.	
Between what days.	Difference.	Between what days.	Difference.	Between what days.	Difference.	Between what days.	Difference.	Between what days.	Difference.
	in.		in.		in.		in.		in.
9 & 10	− 0·280	7 & 8	− 0·280	17 & 18	− 0·556	8 & 9	− 0·328	22 & 23	− 0·443
11 & 12	+ 0·342	12 & 13	+ 0·254	19 & 20	+ 0·326	10 & 11	− 0·493	27 & 28	+ 0·596
		16 & 17	− 0·250	21 & 22	− 0·423	16 & 17	+ 0·494		
						17 & 18	+ 0·259		
						18 & 19	− 0·400		
						21 & 22	− 0 349		
						23 & 24	− 0·485		
						28 & 29	+ 0·499		
						30 & 31	+ 0·280		

The above table shews, that out of 311 cases there were 36 in which the difference in the mean height of the barometer between two consecutive days exceeded a quarter of an inch: of these, eleven took place between April and September, and the remaining twenty-five in the other months of the year. In the winter half-year there were:—

5	instances in which the difference	exceeded	in. 0·25	between two consecutive days.
10	,,	,,	0·30	,,
8	,,	,,	0·40	,,
2	,,	,,	0·50	,,

In the summer half-year there were:—

7	instances in which the difference	exceeded	in. 0·25	between two consecutive days.
4	,,	,,	0·30	,,

It appears from these numbers that the differences of the height of the barometer on consecutive days are much larger and more numerous in the winter than in the summer.

TABLE III.—Table exhibiting the Times at which the Greatest and Least Difference took place in each Month, between the Mean Heights of the Barometer on Two consecutive Civil Days, with the amount of the Difference, estimated positive when the Mean Height was greater on the second Day.

Month, 1842.	Difference between the Mean Heights of the Barometer on consecutive Days.		Days of the Month between which the Difference of the Mean Heights of the Barometer took place.	
	Greatest.	Least.	Greatest.	Least.
	in.	in.	d d	d d
January	− 0·334	− 0·018	21 & 22	7 & 8
February	− 0·364	− 0·002	22 & 23	17 & 18
March	− 0·406	− 0·008	10 & 11	8 & 9
April	+ 0·345	+ 0·005	1 & 2	13 & 14
May	− 0·358	+ 0·006	5 & 6	11 & 12
June	+ 0·228	+ 0·017	6 & 7	24 & 25
July	+ 0·361	− 0·006	5 & 6	4 & 5
August	+ 0·342	+ 0·003	11 & 12	5 & 6
September	− 0·280	− 0·012	7 & 8	21 & 22
October	− 0·556	+ 0·013	17 & 18	3 & 4
November	+ 0·499	− 0·010	28 & 29	24 & 25
December	+ 0·596	+ 0·020	27 & 28	16 & 17

TABLE IV.—Mean of all the Two-Hourly Heights of the Barometer for those Days in each Month, in which (as deduced from the Mean of the Two-Hourly Observations) the Barometer was highest or lowest.

Month, 1842.	Mean Daily Heights of the Barometer in the Month.		Difference.	Day of the Month on which the Mean Height of the Barometer was	
	Highest.	Lowest.		Highest.	Lowest.
	in.	in.	in.		
January	30·360	29·280	1·080	7	26
February	30·408	29·023	1·385	16	24
March	30·252	29·267	0·985	15	1
April	30·227	29·190	1·037	5	1
May	30·244	29·176	1·068	16	7
June	30·135	29·520	0·615	3	21
July	30·220	29·544	0·676	14	11
August	30·275	29·569	0·706	13	10
September	30·086	29·274	0·812	3	24
October	30·335	29·188	1·147	10	24
November	30·419	28·799	1·620	18	25
December	30·381	29·341	1·040	19	27

The highest and the lowest daily means were both in November, and therefore the range of the barometer for the whole year was the same as the range in this month, viz. 1in·620. It is remarkable that the two days on which the barometer was highest throughout the whole day, and lowest throughout the whole day, were separated by an interval of only seven days.

TABLE V.—The Highest and Lowest Readings of the Barometer in the simple Two-Hourly Observations in each Month.

Month, 1842.	Reading in the Month.		Range.	The Day and Hour in each Month when the Reading of the Barometer was	
	Highest.	Lowest.		Highest.	Lowest.
	in.	in.	in.	d h	d h
January	30·401	29·009	1·392	7. 16	26. 6
February	30·440	28·993	1·447	16. 8	23. 18
March	30·272	29·120	1·152	15. 10	0. 22
April	30·268	29·001	1·267	4. 22 9. 12	0. 16
May	30·284	29·070	1·214	15. 20	7. 12
June	30·198	29·485	0·713	2. 20	25. 8
July	30·276	29·468	0·808	14. 22	8. 16
August	30·301	29·451	0·850	13. 0	10. 12
September	30·113	29·223	0·890	3. 0	23. 18
October	30·373	28·918	1·455	9. 22	23. 14
November	30·470	28·733	1·737	17. 22	23. 18
December	30·410	29·149	1·261	19. 0	26. 18

In every month the barometer has risen above 30 inches:

		in.
In January, February, November, and December,	it rose higher than	30·4
In August and October,	it rose higher than	30·3
In March, April, May, and July,	it rose higher than	30·2
In June and September,	it rose higher than	30·1

and thus the highest readings occur in the winter months. From March to September, both inclusive, the reading was never below 29 inches, and it was below 29 inches in three out of the remaining months; and thus it appears, that in the winter the barometer rises higher and sinks lower than in the summer. The highest and lowest readings during the year at the two-hourly observations were in November. The lowest reading for the year took place in October at $22^{d}.\ 23^{h}.\ 40^{m}$ in extra observations, and it was $28^{in}{\cdot}681$; and the range in the year was $1^{in}{\cdot}789$. In the winter half-year the range of the barometer appears to be about $1\frac{1}{2}$ inch, and in the summer half-year about 1 inch.

TABLE VI.—The Mean Height of the Barometer in each Month, deduced from the Mean of all the Two-Hourly Observations in each Month.

Month, 1842.	Mean Height of the Barometer.	Month, 1842.	Mean Height of the Barometer.	Month, 1842.	Mean Height of the Barometer.
	in.		in.		in.
January	29·901	May	29·782	September	29·715
February	29·876	June	29·901	October	29·849
March	29·747	July	29·820	November	29·599
April	29·914	August	29·869	December	30·007

The mean of all the monthly results is $29{\cdot}832$ in.

TABLE VII.—Diurnal Range of the Barometer, as deduced from the 12 Observations on every Civil Day of the Year 1842 (except Sundays, Good Friday, and the 26th of December), at the Even Hours of Göttingen Mean Time.

Days of the Month, 1842.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1	0·060	0·214	0·399	0·368	*S*	0·098	0·216	0·064	0·256	0·129	0·096	0·055
2	*S*	0·135	0·182	0·287	0·042	0·188	0·070	0·216	0·191	*S*	0·104	0·104
3	0·116	0·153	0·140	*S*	0·132	0·139	*S*	0·114	0·059	0·112	0·087	0·281
4	0·127	0·096	0·132	0·282	0·062	0·194	0·195	0·073	*S*	0·149	0·198	*S*
5	0·075	0·170	0·131	0·081	0·366	*S*	0·273	0·066	0·185	0·106	0·072	0·105
6	0·263	*S*	*S*	0·333	0·095	0·242	0·305	0·065	0·094	0·056	*S*	0·036
7	0·114	0·134	0·278	0·131	0·236	0·140	0·378	*S*	0·473	0·058	0·047	0·132
8	0·163	0·048	0·091	0·277	*S*	0·036	0·210	0·051	0·246	0·157	0·167	0·054
9	*S*	0·093	0·744	0·137	0·362	0·095	0·151	0·155	0·183	*S*	0·310	0·109
10	0·133	0·249	1·376	*S*	0·093	0·078	*S*	0·269	0·267	0·081	0·206	0·105
11	0·084	0·060	0·247	0·112	0·207	0·080	0·214	0·589	*S*	0·089	0·525	*S*
12	0·087	0·112	0·139	0·116	0·113	*S*	0·440	0·146	0·234	0·068	0·486	0·188
13	0·294	*S*	*S*	0·048	0·117	0·152	0·148	0·082	0·176	0·034	*S*	0·053
14	0·266	0·251	0·168	0·118	0·224	0·115	0·078	*S*	0·031	0·046	0·370	0·094
15	0·163	0·043	0·053	0·069	*S*	0·058	0·136	0·143	0·058	0·036	0·071	0·057
16	*S*	0·072	0·221	0·103	0·082	0·053	0·208	0·053	0·154	*S*	0·226	0·135
17	0·305	0·178	0·428	*S*	0·175	0·091	*S*	0·165	0·179	0·463	0·525	0·303
18	0·170	0·121	0·134	0·035	0·228	0·252	0·086	0·140	*S*	0·416	0·129	*S*
19	0·133	0·227	0·352	0·091	0·151	*S*	0·107	0·087	0·044	0·398	0·650	0·090
20	0·276	*S*	*S*	0·063	0·108	0·056	0·056	0·122	0·070	0·189	*S*	0·108
21	0·053	0·166	0·485	0·108	0·052	0·085	0·191	*S*	0·032	0·222	0·136	0·066
22	0·752	0·226	0·230	0·147	0·061	0·060	0·280	0·034	0·046	0·920	0·474	0·371
23	*S*	0·424	0·221	0·049	0·159	0·075	0·052	0·044	0·162	*S*	0·367	0·276
24	0·255	0·052	0·053	*S*	0·094	0·095	*S*	0·157	0·114	0·558	0·189	0·198
25	0·486	0·256	GoodFriday	0·098	0·073	0·214	0·030	0·059	*S*	0·329	0·158	*S*
26	0·670	0·244	0·069	0·047	0·109	*S*	0·185	0·147	0·297	0·202	0·265	Holiday.
27	0·437	*S*	*S*	0·044	0·076	0·265	0·078	0·069	0·119	0·089	*S*	0·463
28	0·158	0·254	0·072	0·099	0·167	0·149	0·224	*S*	0·097	0·045	0·476	0·469
29	0·181	...	0·190	0·157	*S*	0·112	0·157	0·040	0·088	0·290	0·171	0·072
30	*S*	...	0·135	0·113	0·141	0·265	0·108	0·070	0·044	*S*	0·471	0·036
31	0·245	...	0·589	...	0·119	...	*S*	0·121	...	0·067	...	0·157

The letter *S* denotes that the day was Sunday.

TABLE VIII.—The Greatest and Least Daily Ranges of the Barometer in each Month, with the Days on which they occurred.

Month, 1842.	Daily Range of the Barometer in the Month.		Day on which occurred the	
	Greatest.	Least.	Greatest.	Least.
	in.	in.	d	d
January	0·752	0·053	22	21
February	0·424	0·043	23	15
March	1·376	0·053	10	15 & 24
April	0·368	0·035	1	18
May	0·366	0·042	5	2
June	0·265	0·036	27 & 30	8
July	0·440	0·030	12	25
August	0·589	0·034	11	22
September	0·473	0·031	7	14
October	0·920	0·034	22	13
November	0·650	0·047	19	7
December	0·469	0·036	28	6 & 30

The greatest daily range of the barometer was on March 10, being $1^{in}·376$, and the next in order were October 22, January 22, November 19, August 11, &c. The least daily range was on July 25, being $0^{in}·030$, and the next in order were September 14, October 13, &c.

TABLE IX.—The Mean Diurnal Range of the Barometer in each Month, in Quarterly Periods and for the Year.

Month, 1842.	Mean Diurnal Range.	Mean Diurnal Range in				
		Spring.	Summer.	Autumn.	Winter.	Year.
	in.	in.	in.	in.	in.	in.
December	0·158					
January	0·233				0·185	
February	0·165					
March	0·279					
April	0·135	0·185				
May	0·142					
June	0·134					0·181
July	0·176		0·145			
August	0·124					
September	0·150					
October	0·204			0·207		
November	0·268					

TABLE X.—Table exhibiting the Number of Cases in each Month, and during the Year, in which the Daily Range of the Barometer was within certain Limits.

The Diurnal Range was	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Whole Number of Cases in the Year.
	Number of Cases in												
Greater than in. 0·03 and less than in. 0·04				1		1	1	1	2	2		2	10
,, 0·04 ,, 0·05		2		4	1			2	3	2	1		15
,, 0·05 ,, 0·06	1	1	2		1	3	2	3	2	2		4	21
,, 0·06 ,, 0·07	1	1	1	2	2	1		4		2		1	15
,, 0·07 ,, 0·08	1	1	1		2	2	3	2	1		2	1	16
,, 0·08 ,, 0·09	2			1	1	2	1	2	1	3	1		14
,, 0·09 ,, 0·10		2	1	3	3	4			2		1	2	18
,, 0·10 ,, 0·11				2	2		2			1	1	5	13
,, 0·11 ,, 0·12	2	1		4	3	2		1	2	1			16
,, 0·12 ,, 0·13	1	1						2		1	1		6
,, 0·13 ,, 0·14	2	2	5	2	1	1	1				1	2	17
,, 0·14 ,, 0·15			1	1	1	2	1	4		1			11
,, 0·15 ,, 0·16	1	1		1	2	1	2	2	1	1	1	1	14
,, 0·16 ,, 0·17	2	1	1		1			1	1		1		8
,, 0·17 ,, 0·18	1	2			1				2		1		7
,, 0·18 ,, 0·19	1		1			1	1		2	1	1	1	9
,, 0·19 ,, 0·20			1			1	2		1		1	1	7
,, 0·20 ,, 0·25	1	5	4		4	2	5	1	2	2	2		28
,, 0·25 ,, 0·30	5	3	1	3		3	2	1	3	1	1	2	25
,, 0·30 ,, 0·40	1		2	2	2		2			2	3	2	16
,, 0·40 ,, 0·50	2	1	2				1		1	2	4	2	15
,, 0·50 ,, 0·60			1					1		1	2		5
,, 0·60 ,, 0·70	1										1		1
,, 0·70 ,, 0·80	1		1										2
,, 0·80 ,, 0·90													0
,, 0·90 ,, 1·00										1			1
,, 1·30 ,, 1·40			1										1

From this table we collect the following particulars: that on 109 days out of 311 days the daily range of the barometer was less than $0^{in.}\cdot1$; that on

108	days out of 311	the daily range of the barometer was greater than	in. 0·1	and less than	in. 0·2
53	,,	,,	,,	0·2	,,	0·3
16	,,	,,	,,	0·3	,,	0·4
15	,,	,,	,,	0·4	,,	0·5
5	,,	,,	,,	0·5	,,	0·6
4	,,	,,	,,	0·6	,,	1·0
1	,,	,,	,,	1·3	,,	1·4

TABLE XI.—The Mean Height of the Barometer, at every Even Hour of Göttingen Mean Time, deduced from all the Observations taken at that Hour in each Month.

1842, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
14	29·908	29·869	29·715	29·910	29·788	29·909	29·803	29·862	29·725	29·847	29·598	29·994
16	29·905	29·866	29·717	29·898	29·778	29·902	29·798	29·858	29·714	29·841	29·589	29·989
18	29·894	29·863	29·740	29·900	29·785	29·908	29·805	29·868	29·710	29·841	29·594	29·981
20	29·899	29·870	29·763	29·917	29·796	29·919	29·818	29·881	29·717	29·854	29·591	29·990
22	29·913	29·885	29·779	29·929	29·796	29·925	29·828	29·889	29·727	29·865	29·602	30·009
0	29·913	29·891	29·779	29·927	29·789	29·920	29·832	29·884	29·719	29·863	29·601	30·012
2	29·895	29·878	29·763	29·915	29·783	29·905	29·828	29·874	29·709	29·848	29·592	30·000
4	29·897	29·863	29·752	29·899	29·769	29·885	29·821	29·861	29·700	29·835	29·587	30·006
6	29·897	29·873	29·748	29·897	29·770	29·879	29·815	29·851	29·701	29·839	29·595	30·014
8	29·899	29·883	29·750	29·916	29·771	29·881	29·819	29·859	29·713	29·848	29·612	30·024
10	29·900	29·887	29·741	29·928	29·782	29·890	29·830	29·871	29·721	29·852	29·617	30·033
12	29·887	29·880	29·723	29·931	29·783	29·888	29·840	29·870	29·726	29·855	29·614	30·033

The mean height at 22^h or at 0^h is generally higher than at any other hour during the month, taking therefore that mean height in each month, which is the highest about 0^h, and calling it the first maximum; then, that mean height following it, which immediately precedes a greater, and calling it the first minimum; then, that mean height which follows and immediately precedes a smaller mean height, and calling it the second maximum, the next table is formed:—

TABLE XII.—Hours of Göttingen Mean Solar Time (Astronomical Reckoning), at which the Greatest and Least Heights of the Barometer occur in different Months, as inferred from the Monthly Means of the Two-Hourly Observations; with the actual Heights and the Amounts of the Changes.

Month.	Hour of the		Height of the Barometer.		Interval of Time between the 1st Max. and the 1st Min.	Difference between the 1st Max. and the 1st Min.	Hour of the		Height of the Barometer.		Interval of Time between the 1st Min. and the 2nd Max.	Difference between the 1st Min. and the 2nd Max.	Interval of Time between the 2nd Max. and the 2nd Min.	Difference between the 2nd Max. and the 2nd Min.
	1st Max.	1st Min.	1st Max.	1st Min.			2nd Max.	2nd Min.	2nd Max.	2nd Min.				
			in.	in.	h	in.			in.	in.	h	in.	h	in.
January	22 & 0	2	29·913	29·895	4	0·018	10	12	29·900	29·887	8	0·005	2	0·013
February	0	4	29·891	29·863	4	0·028	10	18	29·887	29·863	6	0·024	8	0·024
March	22 & 0	6	29·779	29·748	8	0·031	8	14	29·750	29·715	2	0·002	6	0·035
April	22	6	29·929	29·897	8	0·032	12	16	29·931	29·898	6	0·034	4	0·033
May	20 & 22	4	29·796	29·769	8	0·027	14	16	29·788	29·778	10	0·019	2	0·010
June	22	6	29·925	29·879	8	0·046	10	12	29·890	29·888	4	0·011	2	0·002
July	0	6	29·832	29·815	6	0·017	12	16	29·840	29·798	6	0·025	4	0·042
August	22	6	29·889	29·851	8	0·038	10	16	29·871	29·858	4	0·020	6	0·013
September	22	4	29·727	29·700	6	0·027	12	18	29·726	29·710	8	0·026	6	0·016
October	22	4	29·865	29·835	6	0·030	12	16 & 18	29·855	29·841	8	0·020	5	0·014
November	22	4	29·602	29·587	6	0·015	10	16	29·617	29·589	6	0·030	6	0·028
December	0	2	30·012	30·000	2	0·012	10 & 12	18	30·033	29·981	8	0·033	6	0·052

TABLE XII.—*continued.*

Month.	Hour of the		Height of the Barometer.		Interval of Time between the 2nd Min. and 3rd Max.	Difference between the 2nd Min. and the 3rd Max.	Interval of Time between the 3rd Max. and the 3rd Min.	Difference between the 3rd Max. and the 3rd Min.	Interval of Time between the last Min. and the 1st Max.	Difference between the last Min. and the 1st Max.	Whole Sum of the Differences.	Greatest Maximum — the Smallest Minimum.
	3rd Max	3rd Min.	3rd Max.	3rd Min.								
			in.	in.	h	in.	h	in.	h	in.	in.	in.
January	14	18	29·908	29·894	2	0·021	4	0·014	4	0·019	0·076	0·026
February									6	0·028	0·104	0·028
March									8	0·064	0·132	0·064
April									6	0·031	0·130	0·034
May									4	0·018	0·074	0·027
June	14	16	29·909	29·902	2	0·021	2	0·007	6	0·023	0·103	0·046
July									4	0·034	0·118	0·042
August									6	0·031	0·160	0·038
September									4	0·017	0·086	0·027
October									4	0·014	0·079	0·030
November	18	20	29·594	29·591	2	0·005	2	0·003	2	0·011	0·092	0·030
December									6	0·031	0·128	0·052

A triple maximum pressure and a triple minimum have taken place in three months, viz., in January, June, and November, and a double maximum and a double minimum occurred in the remaining nine months. In eight of the months that maximum which takes place at 22^h or at 0^h is greater than either of the other maxima, the second maximum being greater than it in the months of April, July, November, and December. In seven months that minimum which takes place at 4^h or at 6^h is smaller than the other minima; in the month of February it is the same as the second; and in the months of March, July, and December, the second was smaller than the first; in the month of January, the second and the third minima were both smaller than the first. No order, therefore, appears in the successive maxima and minima as to their amounts, except that generally the first maximum and minimum are respectively the greatest and the smallest. The interval of time between the first maximum and the first minimum is about 4^h in the winter months, and about 6^h or 8^h in the summer months, the minimum at the latter period occurring later than at the former period.

The mean of the numbers in Table XI. are taken for March, April, and May, for the period of Spring.
,, ,, June, July, and August, ,, Summer.
,, ,, September, October, and November, ,, Autumn.
,, ,, December, January, and February, ,, Winter.

And thus the following table is formed:—

TABLE XIII.—Mean Height of the Barometer at every even Hour of Göttingen Mean Time, in Quarterly Periods.

1842.	Mean Height of the Barometer.				Mean.
	Spring.	Summer.	Autumn.	Winter.	
h	in.	in.	in.	in.	in.
14	29·804	29·858	29·723	29·924	29·826
16	29·798	29·853	29·715	29·920	29·822
18	29·808	29·860	29·715	29·913	29·824
20	29·825	29·873	29·721	29·920	29·835
22	29·835	29·881	29·731	29·936	29·846
0	29·832	29·879	29·728	29·939	29·845
2	29·820	29·869	29·716	29·924	29·832
4	29·807	29·856	29·707	29·922	29·823
6	29·805	29·848	29·712	29·928	29·823
8	29·812	29·853	29·724	29·935	29·830
10	29·817	29·864	29·730	29·940	29·838
12	29·812	29·866	29·732	29·933	29·836

From this table it appears that a double maximum and a double minimum have taken place in each period of the year.

In spring	the minima took place at	h 16 and at	h 6,	the former being	in. 0·007 lower than the latter.
,,	the maxima ,,	22 and at	10,	,,	0·018 higher than the latter.
In summer	the minima ,,	16 and at	6,	,,	0·005 ,,
,,	the maxima ,,	22 and at	12,	,,	0·015 ,,
In autumn	the minima ,,	16 and at	4,	,,	0·008 ,,
,,	the maxima ,,	22 and at	12,	,,	0·001 lower than the latter.
In winter	the minima ,,	18 and at	4,	,,	0·009 ,,
,,	the maxima ,,	0 and at	10,	,,	0·001 ,,
For the year,	the minima ,,	16 and at	4 and 6,	,,	0·001 ,,
,,	the maxima ,,	22 and at	10,	,,	0·008 higher than the latter.

The range of the height is different at the different periods.

	in.
In spring it is	0·037
In summer it is	0·033
In autumn it is	0·025
In winter it is	0·027
For the year it is	0·024

The daily motion differs at the different periods of the year.

Between 14^h and 16^h a fall at all periods.

16 and 18 a moderate rise in spring, a large rise in summer, stationary in autumn, and a moderate fall in winter.

18 and 20 a rise throughout the year, but larger in spring and summer.

Between 20h and 22h a rise throughout, moderate in spring, in summer, and in autumn, and large in winter.
22 and 0 nearly stationary, but with a tendency to fall, except in the winter.
0 and 2 a fall at all periods; large in the winter.
2 and 4 the fall continues in spring, summer, and autumn, but in the winter the barometer is nearly stationary.
4 and 6 a fall in the spring and summer, a rise in the autumn and winter.
6 and 8 a rise throughout, but larger in the autumn than at the other periods.
8 and 10 a rise at all periods, but larger in the summer than at the other periods.
10 and 12 a small fall in spring and winter, and a very small rise in summer and autumn.
12 and 14 a fall at all periods.

		in.
The mean height of the barometer in	spring was	29·815
,,	summer was	29·863
,,	autumn was	29·721
,,	winter was	29·928
,,	for the whole year was	29·832

By taking the differences between the mean for the year, and the numbers in the last column of the above table, the following results are deduced:

At 14h	the mean height of the barometer is	lower	than the mean of the year by	0in·006
16	,,	lower	,,	0·010
18	,,	lower	,,	0·008
20	,,	higher	,,	0·003
22	,,	higher	,,	0·014
0	,,	higher	,,	0·013
2	the mean height of the barometer is the same as the mean of the year.			
4	the mean height of the barometer is	lower	than the mean of the year by	0·009
6	,,	lower	,,	0·009
8	,,	lower	,,	0·002
10	,,	higher	,,	0·006
12	,,	higher	,,	0·004

The mean height deduced from all the observations taken at 2h, is the same as the mean of the year; the same result was obtained from the observations of 1841. If, therefore, this element be determined by an isolated observation each day, the hour indicated as the best is 2h. The mean height deduced from the observations at 20h, requires 0in·003 to be subtracted to reduce it to the mean of all the observations in the year. In 1841 the correction was 0in·001 to be added; the mean correction, therefore, from the two years' observations, is 0in·001 to be taken away. The mean height as deduced from the observations at 8h, is very nearly the same as the mean of the year.

TABLE XIV.—Excess of the Mean Height of the Barometer in every Month, at each Even Hour of Göttingen Mean Time (as deduced from the Monthly Means of the Observations at each Hour) above the Mean Height for the Month (as found from the Mean of all the Two-Hourly Observations for that Month).

1842. Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
14	+0·007	−0·007	−0·032	−0·004	+0·006	+0·008	−0·017	−0·007	+0·010	−0·002	−0·001	−0·013
16	+0·004	−0·010	−0·030	−0·016	−0·004	+0·001	−0·022	−0·011	−0·001	−0·008	−0·010	−0·018
18	−0·007	−0·013	−0·007	−0·014	+0·003	+0·007	−0·015	−0·001	−0·005	−0·008	−0·005	−0·026
20	−0·002	−0·006	+0·016	+0·003	+0·014	+0·018	−0·002	+0·012	+0·002	+0·005	−0·008	−0·017
22	+0·012	+0·009	+0·032	+0·015	+0·014	+0·024	+0·008	+0·020	+0·012	+0·016	+0·003	+0·002
0	+0·012	+0·015	+0·032	+0·013	+0·007	+0·019	+0·012	+0·015	+0·004	+0·014	+0·002	+0·005
2	−0·006	+0·002	+0·016	+0·001	+0·001	+0·004	+0·008	+0·005	−0·006	−0·001	−0·007	−0·007
4	−0·004	−0·013	+0·005	−0·015	−0·013	−0·016	+0·001	−0·008	−0·015	−0·014	−0·012	−0·001
6	−0·004	−0·003	+0·001	−0·017	−0·012	−0·022	−0·005	−0·018	−0·014	−0·010	−0·004	+0·007
8	−0·002	+0·007	+0·003	+0·002	−0·011	−0·020	−0·001	−0·010	−0·002	−0·001	+0·013	+0·017
10	−0·001	+0·011	−0·006	+0·014	0·000	−0·011	+0·010	+0·002	+0·006	+0·003	+0·018	+0·026
12	−0·014	+0·004	−0·024	+0·017	+0·001	−0·013	+0·020	+0·001	+0·011	+0·006	+0·015	+0·026

TABLE XV.—Mean Height of the Barometer at each Even Hour during each Month (Table XI.), diminished by the Mean Height for the Month (Table VI.), and by the Mean Diurnal Change at each Hour (Table XIII., and following numbers).

1842, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
14	+0·013	−0·001	−0·026	+0·002	+0·012	+0·014	−0·011	−0·001	+0·016	+0·004	+0·005	−0·007
16	+0·014	0·000	−0·020	−0·006	+0·006	+0·011	−0·012	−0·001	+0·009	+0·002	0·000	−0·008
18	+0·001	−0·005	+0·001	−0·006	+0·011	+0·015	−0·007	+0·007	+0·003	0·000	+0·003	−0·018
20	−0·005	−0·009	+0·013	0·000	+0·011	+0·015	−0·005	+0·009	−0·001	+0·002	−0·011	−0·020
22	−0·002	−0·005	+0·018	+0·001	0·000	+0·010	−0·006	+0·006	−0·002	+0·002	−0·011	−0·012
0	−0·001	+0·002	+0·019	0·000	−0·006	+0·006	−0·001	+0·003	−0·009	+0·001	−0·011	−0·008
2	−0·006	+0·002	+0·016	+0·001	+0·001	+0·004	+0·008	+0·005	−0·006	−0·001	−0·007	−0·007
4	+0·005	−0·004	+0·014	−0·006	−0·004	−0·007	+0·010	+0·001	−0·006	−0·005	−0·003	+0·008
6	+0·005	+0·006	+0·010	−0·008	−0·003	−0·013	+0·004	−0·009	−0·005	−0·001	+0·005	+0·016
8	0·000	+0·009	+0·005	+0·004	−0·009	−0·018	+0·001	−0·008	0·000	+0·001	+0·015	+0·019
10	−0·007	+0·005	−0·012	+0·008	−0·006	−0·017	+0·004	−0·004	0·000	−0·003	+0·012	+0·020
12	−0·018	0·000	−0·028	+0·003	−0·003	−0·017	+0·016	−0·003	+0·007	+0·002	+0·011	+0·022

The order of the signs in this table being different at different times of the year, proves that the daily change of the pressure of the atmosphere is different at different times of the year.

TABLE XVI.—Hourly Sums of the Changes of Diurnal Inequality for different Months.

Hour.	Sum of the Differences.	Hour.	Sum of the Differences.
h	in.	h	in.
14	0·112	2	0·064
16	0·089	4	0·073
18	0·077	6	0·085
20	0·101	8	0·089
22	0·075	10	0·098
0	0·067	12	0·130

These numbers indicate that at 0^h, and at two hours before and after it, the pressure of the atmosphere in any particular month, departs less from its mean state at that hour than at any other hour; and that at midnight it departs the most from its mean state at that hour; or that the pressure of the atmosphere is most uniform throughout the year at 0^h, and is subject to the greatest irregularity about midnight.

TABLE XVII.—Monthly Sums of the Changes of Diurnal Inequality at different Hours.

1842.	Mean Difference.	Sum of the Differences.	1842.	Mean Difference.	Sum of the Differences.
	in.	in.		in.	in.
January	0·006	0·077	July	0·007	0·085
February	0·004	0·048	August	0·005	0·057
March	0·015	0·182	September	0·005	0·064
April	0·004	0·045	October	0·002	0·024
May	0·006	0·072	November	0·008	0·094
June	0·012	0·147	December	0·014	0·165

These numbers indicate, that in October the daily motion of the barometer agreed very nearly with its mean motion, and the diurnal motion in the months of March, December, and June, departed the most from the mean of the year.

On the Influence of the Moon on the Barometer.

The following tables have been arranged by considering that observation of the barometer which was made the nearest to the time of the meridian passage of the Moon to correspond to 0^h of the Moon's hour-angle, and the five preceding and following observations to correspond to 2^h, 4^h, 6^h, 8^h, and 10^h of the Moon's East and West hour-angles respectively. The sixth observation following that at 0^h of hour-angle, is considered to correspond to 12^h of hour-angle, or to the time of the lower meridian passage of the Moon. The means of the numbers thus collected have been taken for every month; and are exhibited in the following table:—

TABLE XVIII.—Monthly Means of the corrected Barometer Readings, arranged by Hour-Angles of the Moon.

Lunation.		Mean Monthly Corrected Barometer Readings at the Time of Observation.											
		5th.	4th.	3rd.	2nd.	1st.	Nearest to the Passage of the Moon.	1st.	2nd.	3rd.	4th.	5th.	Nearest to the lower Passage of the Moon.
Commencing	Ending	Before the nearest to the Passage of the Moon.						After the nearest to the Passage of the Moon.					
d h	d h	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Jan. 10. 0	Feb. 6. 22	29·903	29·896	29·892	29·893	29·900	29·896	29·890	29·873	29·900	29·895	29·899	29·898
Feb. 8. 0	Mar. 8. 22	29·737	29·734	29·736	29·745	29·732	29·745	29·749	29·747	29·732	29·727	29·725	29·704
Mar. 10. 0	Apr. 7. 22	29·782	29·791	29·817	29·825	29·831	29·843	29·815	29·808	29·797	29·813	29·824	29·830
Apr. 9. 0	May 7. 22	29·878	29·875	29·872	29·874	29·871	29·865	29·860	29·859	29·858	29·855	29·849	29·848
May 9. 0	June 5. 22	29·864	29·862	29·878	29·865	29·861	29·863	29·868	29·869	29·888	29·900	29·875	29·879
June 7. 0	July 5. 22	29·835	29·830	29·830	29·829	29·843	29·842	29·844	29·844	29·857	29·852	29·854	29·851
July 7. 0	Aug. 3. 22	29·862	29·864	29·877	29·874	29·872	29·859	29·861	29·861	29·851	29·848	29·849	29·860
Aug. 5. 0	Sep. 1. 22	29·860	29·867	29·868	29·869	29·867	29·867	29·861	29·867	29·880	29·859	29·860	29·867
Sep. 3. 0	Oct. 1. 22	29·711	29·708	29·712	29·706	29·723	29·722	29·719	29·715	29·713	29·717	29·718	29·716
Oct. 3. 0	Oct. 30. 22	29·823	29·830	29·835	29·836	29·840	29·840	29·842	29·835	29·835	29·860	29·840	29·837
Nov. 1. 0	Nov. 29. 22	29·623	29·612	29·605	29·597	29·588	29·585	29·589	29·582	29·584	29·587	29·583	29·588
Dec. 1. 0	Dec. 28. 22	30·011	30·015	29·989	29·997	29·993	30·007	30·004	30·005	30·002	30·000	30·007	30·013

The next table is formed from the preceding, by dividing each of the vertical columns into two groups, and taking the mean of each group: thus from April to September, both inclusive, for the summer period; and the remaining six months for the winter period; and by taking the mean of each of the vertical columns for the yearly period.

TABLE XIX.—The Mean Height of the Barometer at every Two Hours of the Moon's Hour-Angle in the Year 1842, for the Year.

Hour-angle of the Moon.		Mean Height of the Barometer.	Mean of the Heights corresponding to the Hour-angles, 10h to 2h East. / 2h to 10h West.	Mean of the Heights corresponding to the Hour-angles, 8h West to 8h East. / 4h East to 4h West.
	h	in.	in.	in.
East	12	29·8243		29·8244
	10	29·8241	29·8253	
	8	29·8237		
	6	29·8259		
	4	29·8258		29·8255
	2	29·8268		
	0	29·8278		
West	2	29·8252	29·8244	
	4	29·8221		
	6	29·8248		
	8	29·8261		
	10	29·8236		

The general fact of a diurnal lunar tide in the atmospheric pressure is here indicated, though its maximum seems to occur at or before the Moon's transit in winter, and some hours later in the summer.

The following table is based upon the mean daily results in Table I. The mean heights on all the days at which the Moon's North declination was the greatest have been collected, and their mean taken: then the mean heights on all the days next following them, and so on.

TABLE XX.—Mean Daily Heights of the Barometer, arranged with Reference to the Moon's Declination, 1842.

Days after the Moon's greatest North Declination.	Mean Height of the Barometer.	No. of Observations.	Days after the Moon was in the Equator, the Moon going South.	Mean Height of the Barometer.	No. of Observations.	Days after the Moon's greatest South Declination.	Mean Height of the Barometer.	No. of Observations.	Days after the Moon was in the Equator, the Moon going North.	Mean Height of the Barometer.	No. of Observations.
d	in.		d	in.		d	in.		d	in.	
0	29·872	10	0	29·706	10	0	29·861	10	0	29·810	11
1	29·799	10	1	29·799	11	1	29·838	11	1	29·824	9
2	29·801	12	2	29·765	12	2	29·825	11	2	29·761	12
3	29·726	11	3	29·797	12	3	29·893	11	3	29·833	11
4	29·827	12	4	29·839	13	4	29·868	11	4	29·868	12
5	29·736	11	5	29·898	12	5	29·859	12	5	29·895	12
6	(29·581)	4	6	30·017	7	6	29·834	12	6	29·880	11
						7	(29·984)	4	7	(30·039)	2

The mean of each of the columns respectively gives the mean height of the barometer when the

	in.
Moon's declination was North, and going South,	29·7933
Moon's declination was South, and going South,	29·8317
Moon's declination was South, and going North,	29·8538
Moon's declination was North, and going North,	29·8387

The numbers in brackets have not been used, in consequence of the few observations on which they depend.

And, combining the mean height of the barometer when the Moon was in the equator, or at her extreme declinations, with the height of the barometer on the three preceding and three following days, we have

The mean height of the barometer, when the Moon was	in.
at or near her greatest North declination,	29·8343
in or near the Equator, and moving southward,	29·7650
at or near her greatest South declination,	29·8814
in or near the Equator, and moving northward,	29·8272

From these numbers it seems that the mean height of the barometer is increased by the Moon's position in South declination.

The following table is also based upon the daily results in Table I. The mean heights on all the days at which the Moon was in Perigee have been collected, and their mean taken; then the mean heights on all the days next following them, and so on:—

TABLE XXI.—Mean Daily Heights of the Barometer, with reference to the Moon's Parallax.

Days after Perigee.	Mean Height of the Barometer.	No. of Observations.	Days after Apogee.	Mean Height of the Barometer.	No. of Observations.
d	in.		d	in.	
0	29·783	11	0	29·806	12
1	29·749	12	1	29·780	10
2	29·797	14	2	29·712	12
3	29·892	9	3	29·734	12
4	29·849	12	4	29·744	11
5	29·861	14	5	29·974	10
6	29·855	11	6	29·958	12
7	29·929	11	7	29·924	12
8	29·911	13	8	29·895	10
9	29·892	14	9	29·862	12
10	29·932	10	10	29·768	12
11	29·825	12	11	29·770	11
12	29·834	10	12	29·608	7
13	29·841	7	13	29·714	7

The variation of the distance of the Moon seems to have but little effect: the numbers increase and decrease from day to day without any order. Dividing each of the above columns into two groups of seven days, and taking the mean of each group, we have the mean height of the barometer—

	in.
$3\frac{1}{2}$ days after the Moon was in Perigee,	29·8266
$10\frac{1}{2}$ days after the Moon was in Perigee,	29·8806
$3\frac{1}{2}$ days after the Moon was in Apogee,	29·8154
$10\frac{1}{2}$ days after the Moon was in Apogee,	29·7919

And the mean of all between Perigee and Apogee, was 29·8536
,, Apogee and Perigee, was 29·8037

And, combining the mean height of the barometer when the Moon was at or near her mean distance, and at her greatest and least distances, with the heights of the barometer on the three preceding and three following days, we find that

			in.
The mean height of the barometer, when the Moon is	at or near Perigee, was		29·7590
,, ,,	at or near her mean distance and going from the Earth, was		29·8899
,, ,,	at or near Apogee, was		29·7903
,, ,,	at or near her mean distance and coming nearer the Earth, was		29·8750

These numbers seem to indicate, that when the Moon is at her mean distance from the Earth, the mean height of the barometer is the greatest, and that it is the least when the Moon is nearest to the Earth.

The following table is formed in the same manner as the last two :—

TABLE XXII.—Mean Daily Heights of the Barometer, arranged with reference to the relative positions of the Sun and Moon.

Days after New Moon.	Mean Height of the Barometer.	No. of Observations.	Days after the Moon enters First Quarter.	Mean Height of the Barometer.	No. of Observations.	Days after Full Moon.	Mean Height of the Barometer.	No. of Observations.	Days after the Moon enters Third Quarter.	Mean Height of the Barometer.	No. of Observations.
d	in.		d	in.		d	in.		d	in.	
0	29·913	10	0	29·957	11	0	29·645	11	0	29·733	13
1	29·953	10	1	29·934	10	1	29·714	10	1	29·808	10
2	29·947	10	2	29·875	10	2	29·762	9	2	30·014	9
3	29·911	11	3	29·866	10	3	29·721	12	3	29·784	12
4	29·935	10	4	29·840	10	4	29·682	9	4	29·821	11
5	29·965	9	5	29·723	11	5	29·668	11	5	29·812	12
6	29·940	11	6	29·621	10	6	29·640	10	6	29·877	9
7	30·067	3	7	29·772	5	7	29·785	5	7	29·931	6

The mean of each column, omitting the last in the first column, on account of the small number of observations on which it depends, gives the mean height of the barometer—

	in.
When the Moon was between new and first quarter,	29·9377
,, first quarter and full,	29·8235
,, full and third quarter,	29·7022
,, third quarter and new,	29·8475

By taking the mean of the mean heights on the day of each change, and on the three days preceding and following—

	in.
The mean height of the barometer, at or near new Moon, was	29 9063
,, at or near first quarter, was	29·9246
,, at or near full Moon, was	29·7083
,, at or near third quarter, was	29·7760

It would seem, therefore, that the barometer is highest when the Moon is about three days old.

TABLE XXIII.—Mean Daily Temperature, as deduced from the Mean of the Twelve Observations with the Dry Thermometer, taken on every Civil Day (except Sundays, Good Friday, and the 26th day of December), at the Even Hours of Göttingen Mean Time.

Days of the Month, 1842.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	°	°	°	°	°	°	°	°	°	°	°	°
1	33·7	39·1	45·8	44·2	*S*	61·4	57·6	60·0	58·5	49·8	44·5	49·7
2	*S*	42·4	44·2	38·6	52·5	60·8	58·1	60·6	68·4	*S*	45·1	51·9
3	30·8	42·1	51·2	*S*	51·8	59·8	*S*	66·8	62·9	49·1	40·9	47·9
4	29·5	35·2	44·1	38·9	52·6	63·8	64·8	67·8	*S*	47·6	37·0	*S*
5	31·9	33·4	41·8	39·0	52·1	*S*	60·1	67·9	60·6	42·5	39·6	44·0
6	33·3	*S*	*S*	40·8	52·1	64·3	58·1	62·5	59·8	48·1	*S*	38·4
7	30·2	34·5	43·1	44·7	51·0	63·2	55·8	*S*	59·9	51·5	41·6	36·9
8	29·1	38·8	48·6	43·3	*S*	66·1	58·3	64·5	57·9	51·6	40·6	35·4
9	*S*	43·5	40·9	39·5	47·2	63·9	58·4	68·9	59·3	*S*	43·0	39·3
10	28·7	46·5	40·9	*S*	48·1	65·2	*S*	73·2	56·8	52·6	46·9	37·0
11	31·9	47·9	45·9	40·2	54·1	68·2	65·8	62·3	*S*	51·2	48·8	*S*
12	32·3	49·1	44·8	38·9	47·6	*S*	62·9	63·8	57·6	50·5	49·8	51·8
13	31·5	*S*	*S*	38·2	53·9	66·7	63·9	65·4	56·7	49·8	*S*	52·9
14	33·6	41·6	45·1	41·1	54·8	68·5	61·7	*S*	60·9	48·0	45·6	49·1
15	32·5	44·6	49·5	41·7	*S*	63·2	63·1	69·8	60·4	50·7	44·3	47·9
16	*S*	43·6	49·1	41·4	55·5	62·0	60·3	69·1	57·5	*S*	42·4	50·3
17	35·9	40·8	48·3	*S*	52·1	59·8	*S*	66·1	61·9	49·7	39·3	47·0
18	30·8	35·4	45·8	43·6	50·3	57·3	65·5	74·3	*S*	48·4	37·5	*S*
19	30·8	34·0	41·2	43·4	50·8	*S*	63·3	66·5	54·9	40·4	44·3	39·6
20	30·8	*S*	*S*	46·6	52·2	62·6	58·9	63·5	50·3	36·2	*S*	46·2
21	32·3	38·8	40·4	45·9	53·7	62·5	55·8	*S*	51·3	35·6	39·1	51·1
22	33·7	41·7	38·8	50·1	54·3	62·1	56·4	67·4	49·0	39·0	36·3	49·4
23	*S*	44·1	35·7	56·6	55·4	59·4	59·2	67·3	50·4	*S*	40·6	44·1
24	28·3	42·9	38·0	*S*	52·6	62·2	*S*	63·9	53·3	38·7	44·1	35·4
25	35·1	38·4	Good Frid.	55·2	52·7	60·1	61·7	63·5	*S*	40·5	42·8	Chr. Day & S.
26	37·5	37·2	42.5	51·3	55·9	*S*	60·3	65·6	54·6	37·7	42·5	Holiday.
27	38·1	*S*	*S*	50·2	58·5	60·7	59·4	64·3	51·3	42·9	*S*	41·7
28	36·1	43·4	50·1	53·2	57·0	64·2	62·5	*S*	51·5	41·4	48·4	34·5
29	34·3	...	51·1	52·2	*S*	66·1	57·1	63·9	51·6	38·8	44·8	46·8
30	*S*	...	50·0	56·5	59·8	60·9	56·0	62·0	49·3	*S*	43·4	51·4
31	41·1	...	49·8	...	58·4	...	*S*	54·6	...	47·1	...	50·2

The letter *S* denotes that the day was Sunday.

TABLE XXIV.—Table exhibiting the Times at which Differences greater than 5° took place between the Mean Temperatures on two consecutive Days, with the Amount of the Differences, estimated positive when the Temperature on the second Day is the higher.

January.		February.		March.		April.		May.		June.	
Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.
	°		°		°		°		°		°
17 & 18	− 5·1	3 & 4	− 6·9	2 & 3	+ 7·0	1 & 2	− 5·6	10 & 11	+ 6·0	29 & 30	− 5·2
24 & 25	+ 6·8	17 & 18	− 5·4	3 & 4	− 7·1	22 & 23	+ 6·5	11 & 12	− 6·5		
				7 & 8	+ 5·5			12 & 13	− 6·3		
				8 & 9	− 7·7						
				10 & 11	+ 5·0						
				31 & 32	− 5·6						

July.		August.		September.		October.		November.		December.	
28 & 29	− 5·4	2 & 3	+ 6·2	1 & 2	+ 9·9	4 & 5	− 5·1	18 & 19	+ 6·8	5 & 6	− 5·6
		5 & 6	− 5·4	2 & 3	− 5·5	5 & 6	+ 5·6	30 & 31	+ 6·3	19 & 20	+ 6·6
		10 & 11	−10·9			18 & 19	− 8·0			22 & 23	− 5·3
		17 & 18	+ 8·2			26 & 27	+ 5·2			23 & 24	− 8·7
		18 & 19	− 7·8							27 & 28	− 7·2
		30 & 31	− 7·4							28 & 29	+12·3

The table contains 37 instances in the year out of 311, in which the mean temperature of one day was at least 5° different from the mean temperature of the next day; of these there are

15	instances	in which the difference exceeded	5°	and was less than	6°
10	,,	,,	6	,,	7
6	,,	,,	7	,,	8
3	,,	,,	8	,,	9
1	instance	,,	9	,,	10
1	,,	,,	10	,,	11
1	,,	,,	12	,,	13

TABLE XXV.—Mean of all the Two-Hourly Readings of the Dry Thermometer, for those Days in each Month, in which (as deduced from the Mean of the Two-Hourly Observations) the Thermometer was highest or lowest.

Month, 1842.	Mean Daily Temperature in the Month.		Greatest Difference between the Highest and the Lowest Mean Daily Temperature in the Month.	Day of the Month on which the Mean Temperature for the Day was	
	Highest.	Lowest.		Highest.	Lowest.
	°	°	°		
January	41·1	28·3	12·8	31	24
February	49·1	33·4	15·7	12	5
March	51·2	35·7	15·5	3	23
April	56·6	38·2	18·4	23	13
May	59·8	47·2	12·6	30	9
June	68·5	57·3	11·2	14	18
July	65·8	55·8	10·0	11	21 & 7
August	74·3	54·6	19·7	18	31
September	68·4	49·0	19·4	2	22
October	52·6	35·6	17·0	10	21
November	49·8	36·3	13·5	12	22
December	52·9	34·5	18·4	13	28

The yearly mean daily range was 46°·0, being the difference between the lowest daily mean in the year, viz. 28°·3, on January 24; and the highest daily mean in the year, viz. 74°·3, on August 18.

TABLE XXVI.—The Highest and Lowest Readings shewn by the Maximum and Minimum Self-Registering Thermometer.

Month, 1842.	Reading of the Thermometer in the Month.		Range of the Thermometer in the Month.	Day of the Month on which the Thermometer was	
	Highest.	Lowest.		Highest.	Lowest.
	°	°	°		
January	46·8	23·2	23·6	31	23
February	53·2	26·4	26·8	15	18
March	60·5	29·9	30·6	28	23
April	73·7	28·0	45·7	24	5
May	74·7	36·4	38·3	29	10
June	87·4	44·7	42·7	12	2
July	78·8	45·5	33·3	18	6
August	90·5	47·5	43·0	10	30
September	75·8	41·1	34·7	2	21
October	60·9	28·3	32·6	8	20
November	55·9	31·1	24·8	12	5
December	58·2	30·8	27·4	13	27

The range of the thermometer was large in the months of April, June, and August, being in each month greater than 40°. The yearly range was 67° ·3, being the difference between the minimum reading in January, and the maximum reading in August.

TABLE XXVII.—Mean Height of the Thermometer in each Month, deduced from the Mean of all the Two-hourly Observations in each Month.

Month, 1842.	Mean Temperature.	Month, 1842.	Mean Temperature.
	°		°
January	32·9	July	60·2
February	40·8	August	65·4
March	44·9	September	56·4
April	45·2	October	45·4
May	53·2	November	42·8
June	62·9	December	45·0

The mean of the monthly results is 49°·6.

TABLE XXVIII.—Table exhibiting the Diurnal Range of the Thermometer on every Civil Day throughout the Year (Sundays, Good Friday, and the 26th of December excepted).

Days of the Month, 1842.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	°	°	°	°	°	°	°	°	°	°	°	°
1	7·4	10·7	13·2	13·2	*S*	26·1	17·0	16·5	12·7	14·3	9·8	11·5
2	*S*	13·2	14·3	6·1	19·0	20·3	13·5	22·9	11·7	*S*	11·7	9·1
3	8·1	7·5	6·9	*S*	29·1	27·9	*S*	26·0	11·0	17·8	11·1	11·0
4	5·1	9·3	7·1	8·6	13·9	28·5	18·3	26·8	*S*	12·8	7·2	*S*
5	3·9	3·6	14·3	14·9	20·3	*S*	16·9	16·2	17·4	16·2	8·6	8·8
6	3·6	*S*	*S*	21·2	10·2	25·8	20·4	12·1	17·7	19·5	*S*	2·5
7	5·0	9·7	18·7	18·7	14·0	24·6	17·5	*S*	19·3	15·8	8·0	2·4
8	1·3	15·5	10·7	16·8	*S*	26·8	13·7	23·6	9·4	9·8	5·7	3·7
9	*S*	11·6	10·2	11·2	10·0	28·0	16·3	27·2	12·5	*S*	5·9	7·8
10	2·2	6·9	10·9	*S*	20·4	28·8	*S*	28·0	8·0	8·6	7·7	4·9
11	4·9	5·5	15·8	11·5	18·3	34·9	22·6	13·3	*S*	15·9	13·4	*S*
12	3·4	4·3	17·5	6·5	6·0	*S*	19·7	21·7	11·9	8·0	7·4	11·2
13	4·0	*S*	*S*	5·4	19·7	29·1	20·9	17·3	13·5	11·8	*S*	8·5
14	7·1	13·8	9·2	11·0	23·4	24·4	20·3	*S*	16·9	13·4	4·1	9·5
15	6·7	10·4	6·6	11·3	*S*	15·6	23·2	31·1	16·5	9·3	2·5	9·9
16	*S*	4·4	4·7	14·6	21·7	19·7	23·2	29·0	19·2	*S*	5·7	7·0
17	10·1	14·2	10·3	*S*	19·9	16·5	*S*	14·6	20·0	7·0	5·8	12·0
18	5·0	11·6	9·6	6·3	9·3	9·7	20·6	29·5	*S*	15·2	9·8	*S*
19	7·5	18·5	7·9	14·1	19·7	*S*	10·0	10·5	14·7	13·9	12·0	5·5
20	6·0	*S*	*S*	24·2	18·1	19·5	16·2	12·3	14·4	15·8	*S*	9·2
21	1·7	14·3	8·3	18·7	10·9	16·6	10·3	*S*	17·1	15·5	9·1	6·0
22	5·3	13·9	10·1	19·2	18·0	18·9	14·1	26·1	15·4	16·7	3·2	6·7
23	*S*	6·7	10·0	26·5	15·3	23·4	16·9	26·8	12·6	*S*	11·6	14·0
24	9·5	7·8	12·2	*S*	10·5	14·2	*S*	25·9	3·5	10·1	4·7	7·6
25	10·6	10·8	GoodFriday	24·6	17·7	10·4	18·9	14·9	*S*	14·2	4·8	*S*
26	12·6	13·7	9·6	17·9	14·8	*S*	23·0	17·5	10·8	13·6	8·5	Holiday.
27	6·6	*S*	*S*	18·9	15·0	18·7	18·3	16·6	3·1	10·7	*S*	11·4
28	6·8	11·0	14·2	26·9	15·1	30·6	18·4	*S*	7·3	12·7	10·8	8·0
29	9·2	...	7·0	24·4	*S*	25·0	13·4	16·3	7·4	16·4	7·6	12·5
30	*S*	...	11·7	26·3	22·1	12·4	15·6	12·6	8·5	*S*	7·8	4·3
31	11·9	...	11·7	...	19·7	...	*S*	12·8	...	7·6	...	9·3

The letter *S* denotes that the day was Sunday.

TABLE XXIX.—Greatest and Least Daily Ranges of the Thermometer in each Month, as deduced from the Two-hourly Observations.

Month, 1842.	Daily Range of the Thermometer.		Difference of Greatest and Least.	Day at which occurred	
	Greatest.	Least.		Greatest.	Least.
	°	°	°	d	d
January	12·6	1·3	11·3	26	8
February	18·5	3·6	14·9	19	5
March	18·7	4·7	14·0	7	16
April	26·9	5·4	21·5	28	13
May	29·1	6·0	23·1	3	12
June	34·9	9·7	25·2	11	18
July	23·2	10·0	23·2	15 & 16	19
August	31·1	10·5	20·6	15	19
September	20·0	3·1	16·9	17	27
October	19·5	7·0	12·5	6	17
November	13·4	2·5	10·9	11	15
December	14·0	2·4	11·6	23	7

TABLE XXX.—Mean Daily Range of the Thermometer in each Month, in Quarterly Periods, and for the Year.

Month, 1842.	Mean Monthly Daily Range.	Mean Daily Range in				
		Spring.	Summer.	Autumn.	Winter.	Year.
	°	°	°	°	°	°
December	8·2					
January	6·4				8·3	
February	10·4					
March	10·9					
April	16·1	14·6				
May	16·7					
June	22·2					13·6
July	17·7		20·1			
August	20·3					
September	12·8					
October	13·2			11·3		
November	7·9					

TABLE XXXI.—Table exhibiting the Number of Cases in each Month, and during the Year, in which the Daily Range of the Thermometer was within certain Limits.

The Daily Range was				Number of Cases in												Whole Number of Cases in the Year.
	°		°	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	
Greater than	1	and less than	2	2												2
,,	2	,,	3	1										1	2	4
,,	3	,,	4	3	1							2		1	1	8
,,	4	,,	5	2	2	1								3	2	10
,,	5	,,	6	4	1		1							4	1	11
,,	6	,,	7	4	2	2	3	1							2	14
,,	7	,,	8	3	2	3						2	2	5	3	20
,,	8	,,	9	1		1	1					2	2	3	3	13
,,	9	,,	10	2	2	3		1	1			1	2	3	5	20
,,	10	,,	11	2	3	6		4	1	2	1	1	2	1		23
,,	11	,,	12	1	3	2	4					3	1	3	4	21
,,	12	,,	13	1		1			1		4	3	2	1	2	15
,,	13	,,	14		4	1	1	1		3	1	1	3	1		16
,,	14	,,	15		2	3	3	2	1	1	2	2	2		1	19
,,	15	,,	16		1	1		3	1	1		1	5			13
,,	16	,,	17				1		2	4	4	2	3			16
,,	17	,,	18			1	1	1		2	2	3	1			11
,,	18	,,	19		1	1	3	3	2	4						14
,,	19	,,	20				1	5	2	1		2	1			12
,,	20	,,	21					2	1	4		1				8
,,	21	,,	22				1	1			1					3
,,	22	,,	25				3	2	3	4	2					14
,,	25	,,	30				3	1	9		9					22
,,	30	,,	35						2		1					3

Fom the last column of this table we find, that, on

24 days out of 311 the daily range of the thermometer was less than 5°
78 ,, ,, greater than 5 and less than 10°
93 ,, ,, ,, 10 ,, 15
66 ,, ,, ,, 15 ,, 20
25 ,, ,, ,, 20 ,, 25
22 ,, ,, ,, 25 ,, 30
3 ,, ,, ,, 30 ,, 35

TABLE XXXII.—The Mean Temperature at every Even Hour of Göttingen Mean Time, deduced from all the Observations taken at that Hour in each Month.

1842, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	31·7	38·6	42·9	39·8	46·6	54·0	54·0	58·2	52·6	41·7	41·2	43·7
16	31·2	38·6	41·9	39·3	46·2	52·6	53·0	57·4	52·2	40·9	41·3	43·8
18	31·3	38·2	41·2	39·2	46·8	53·9	53·7	57·3	51·8	40·8	41·5	43·9
20	31·3	38·1	41·7	42·7	50·9	61·2	58·7	61·9	53·5	41·4	41·4	43·9
22	32·4	40·2	45·1	47·4	55·9	67·4	63·2	68·2	58·1	45·5	43·5	44·7
0	34·1	43·5	47·3	50·6	59·5	70·5	66·4	72·9	61·4	50·0	45·8	47·2
2	35·2	45·6	49·7	52·9	61·3	72·7	67·3	75·4	62·3	51·6	46·1	48·2
4	35·1	45·1	49·2	52·5	60·1	72·4	67·2	74·6	60·9	50·9	45·2	47·2
6	33·8	42·5	47·3	49·6	58·0	69·5	65·1	71·6	59·1	48·2	43·1	45·6
8	32·9	40·4	44·6	45·1	54·3	64·3	61·1	65·8	56·4	46·4	42·1	44·8
10	32·8	39·7	43·9	42·4	50·6	59·6	57·7	61·7	54·9	44·4	41·3	44·0
12	32·4	38·9	43·3	40·5	48·3	56·4	55·1	59·6	53·8	42·6	41·4	43·3

The highest temperature in every month appears to happen nearer to the observation at 2^h than to any other. The time when the lowest temperatures take place is more variable. In every month the temperature passes uninterruptedly from one extreme to the other. To ascertain the times and the amount of the changes, the next table is formed.

TABLE XXXIII.—Hours of Göttingen Mean Time (Astronomical Reckoning) at which the Greatest and Least Heights of the Thermometer occur in different Months, as inferred from the Monthly Means of the Two-hourly Observations, with the Actual Heights and the Amounts of the Changes.

Month, 1842.	Even Hour at which the Mean Temperature was		Interval of Time between the Highest and Lowest.	Mean Temperature		Difference.
	Highest.	Lowest.		Highest.	Lowest.	
	h	h	h	°	°	°
January	2	16	14	35·2	31·2	4·0
February	2	20	18	45·6	38·1	7·5
March	2	18	16	49·7	41·2	8·5
April	2	18	16	52·9	39·2	13·7
May	2	16	14	61·3	46·2	15·1
June	2	16	14	72·7	52·6	20·1
July	2	16	14	67·3	53·0	14·3
August	2	18	16	75·4	57·3	18·1
September	2	18	16	62·3	51·8	10·3
October	2	18	16	51·6	40·8	10·8
November	2	14	12	46·1	41·2	4·9
December	2	12	10	48·2	43·3	4·9

From this table it appears that the maximum temperature in every month happens nearer to the observation at 2^h than to any other, and that the minimum temperature is generally at that hour of observation which happens the nearest to the time of the Sun rising. In January, November, and December, the times of the minimum temperature, as exhibited by this table, are some time before the time of Sun rise; but by reference to the preceding table, it will be found that the difference between the numbers at 16^h, 18^h, and 20^h, in January is only 0°·1; in November, the difference between the numbers at 14^h, 16^h, 18^h, and 20^h, is 0°·3; in December, the difference between the number at 12^h and that at 14^h, is 0°·4, but between 14^h and 20^h, the difference is only 0°·2.

The numbers in the last column exhibit the greatest difference between the mean temperatures at any two even hours in the month. This difference is largest in June and smallest in January.

The differences from March to August are twice as great as they are in the two preceding, and the two following months, and they are three times as great as they are in January, November, and December.

In the following table Spring means the months of March, April, and May.
,, Summer ,, June, July, and August.
,, Autumn ,, September, October, and November.
,, Winter ,, January, February, and December.

TABLE XXXIV.—MeanTemperature at every even Hour, Göttingen Mean Time, Quarterly Periods.

Hour of Observation.	1842.				Mean.
	Spring.	Summer.	Autumn.	Winter.	
h	°	°	°	°	°
14	43·1	55·4	45·2	38·0	45·4
16	42·5	54·3	44·8	37·9	44·9
18	42·4	55·0	44·7	37·8	45·0
20	45·1	60·6	45·4	37·8	47·2
22	49·5	66·3	49·0	39·1	51·0
0	52·5	69·9	52·4	41·6	54·1
2	54·6	71·8	53·3	43·0	55·7
4	53·9	71·4	52·3	42·5	55·0
6	51·6	68·7	50·1	40·6	52·8
8	48·0	63·7	48·3	39·4	49·8
10	45·6	59·7	46·9	38·8	47·8
12	44·0	57·0	45·9	38·2	46·3

From this table it appears, that in Spring the maximum temperature took place at 2^h and the minimum temperature at 18^h

Summer	,,	2	,,	16
Autumn	,,	2	,,	18
Winter	,,	2	,,	18 and 20^h

The difference between the maximum and the minimum was in Spring $12^\circ \cdot 2$

,,	,,	Summer	$17^\circ \cdot 5$
,,	,,	Autumn	$8^\circ \cdot 6$
,,	,,	Winter	$5^\circ \cdot 2$

The mean temperature for Spring was $47^\circ \cdot 6$

,,	Summer	was $62^\circ \cdot 8$
,,	Autumn	was $48^\circ \cdot 2$
,,	Winter	was $39^\circ \cdot 6$
,,	for the year	was $49^\circ \cdot 6$

By taking the difference between the mean temperature of the year, and the mean temperature of each even hour for the year, as contained in the last column of the above table, the following results are deduced:—

The mean temperature at	14^h	was below the mean temperature of the year by		$4^\circ \cdot 2$
,,	16	,,	,,	$4^\circ \cdot 7$
,,	18	,,	,,	$4^\circ \cdot 6$
,,	20	,,	,,	$2^\circ \cdot 4$
,,	22	was above the mean temperature of the year by		$1^\circ \cdot 4$
,,	0	,,	,,	$4^\circ \cdot 5$
,,	2	,,	,,	$6^\circ \cdot 1$
,,	4	,,	,,	$5^\circ \cdot 4$
,,	6	,,	,,	$3^\circ \cdot 2$
,,	8	,,	,,	$0^\circ \cdot 2$
,,	10	was below the mean temperature of the year by		$1^\circ \cdot 8$
,,	12	,,	,,	$3^\circ \cdot 3$

The mean temperature from all the observations taken at 8^h is higher by $0^\circ \cdot 2$ than the mean of the year; in the previous year there was no difference. If, therefore, this element were to be determined by an isolated observation daily, the hour indicated is 8^h, and the mean correction from two years' observations, is $0^\circ \cdot 1$ to be taken away.

If the mean temperature be determined from two observations taken daily, the hours as shewn above are 16^h and 0^h; or, 18^h and 0^h; or, 6^h and 12^h; and the mean in each case from the two years' observations is the same as the mean of the year; the same element as deduced from 22^h and 10^h, as exhibited above, is $0^\circ \cdot 2$ too low: in the previous year it was $0^\circ \cdot 25$ too low; therefore, from the two years' observations the correction to be added to observations taken at 22^h and 20^h, is $0^\circ \cdot 2$.

In the following table, the mean temperature is deduced from the maximum and minimum readings, by taking a simple arithmetical mean. The maximum and minimum readings are found from the daily maximum and mimimum readings, by taking the mean of each month.

TABLE XXXV.—Mean Temperature of each Month, deduced from the Maximum and Minimum Self-Registering Thermometer.

Month, 1842.	Mean of all the Maximum Readings in each Month.	Mean of all the Minimum Readings in each Month.	Mean Temperature, as deduced from Max. and Min. Thermometer.	Month, 1842.	Mean of all the Maximum Readings in each Month.	Mean of all the Minimum Readings in each Month.	Mean Temperature, as deduced from Max. and Min. Thermometer.
	°	°	°		°	°	°
January	36·6	29·3	33·0	July	71·2	52·1	61·7
February	46·6	36·0	41·3	August	78·1	56·3	67·2
March	51·8	39·2	45·5	September	64·3	49·8	57·0
April	54·7	37·3	46·0	October	53·4	39·3	46·4
May	64·5	45·0	54·8	November	48·1	39·0	43·6
June	75·2	52·2	63·7	December	49·4	40·2	44·8

And the Mean of the Monthly Results is $50^\circ \cdot 4$.

TABLE XXXVI.—Approximations to the Mean Temperature of each Month from various combinations.

Month, 1842.	Mean Temperature in each Month, obtained						True Mean for Month.	Errors of the Mean Temperature in each Month, obtained					
	from Maximum and Minimum Thermometer.	from combining observations taken at						from Maximum and Minimum Thermometer.	from observations taken at				
		16h & 0h.	18h & 0h.	22h & 10h.	6h & 12h.	8h.			16h & 0h.	18h & 0h.	22h & 10h.	6h & 12h.	8h.
	°	°	°	°	°	°	°	°	°	°	°	°	°
January	33·0	32·7	32·7	32·6	33·1	32·9	32·9	+ 0·1	−0·2	−0·2	−0·3	+0·2	0·0
February	41·3	41·1	40·9	40·0	40·7	40·4	40·8	+ 0·5	+0·3	+0·1	−0·8	−0·1	−0·4
March	45·5	44·6	44·3	44·5	45·3	44·6	44·9	+ 0·6	−0·3	−0·6	−0·4	+0·4	−0·3
April	46·0	45·0	44·9	44·9	45·1	45·1	45·2	+ 0·8	−0·2	−0·3	−0·3	−0·1	−0·1
May	54·8	52·9	53·2	53·3	53·2	54·3	53·2	+ 1·6	−0·3	0·0	+0·1	0·0	+1·1
June	63·7	61·6	62·2	63·5	63·0	64·3	62·9	+ 0·8	−1·3	−0·7	+0·6	+0·1	+1·4
July	61·7	59·7	60·1	60·5	60·1	61·1	60·2	+ 1·5	−0·5	−0·1	+0·3	−0·1	+0·9
August	67·2	65·2	65·1	65·0	65·6	65·8	65·4	+ 1·8	−0·2	−0·3	−0·4	+0·2	+0·4
September	57·0	56·8	56·6	56·5	56·5	56·4	56·4	+ 0·6	+0·4	+0·2	+0·1	+0·1	0·0
October	46·4	45·5	45·4	45·0	45·4	46·4	45·4	+ 1·0	+0·1	0·0	−0·4	0·0	+1·0
November	43·6	43·6	43·7	42·4	42·3	42·1	42·8	+ 0·8	+0·8	+0·9	−0·4	−0·5	−0·7
December	44·8	45·5	45·6	44·4	44·5	44·8	45·0	− 0·2	+0·5	+0·6	−0·6	−0·5	−0·2

By taking the means of the errors in each column we obtain:—

That the mean temperature of the year, derived from the max. and min. thermometer, is too high by 0°·8

,, obtained from observations at 16h and 0h is too low by 0·07

,, ,, at 18 and 0 is the true mean

,, ,, at 22 and 10 is too low by 0·2

,, ,, at 6 and 12 is the true mean

,, ,, at 8 is too high by 0·2

And thus it would appear, that the result obtained from the maximum and minimum temperature departs more from the true mean than that obtained by any other of the above combinations.

TABLE XXXVII.—Excess of the Monthly Mean Temperature at each Even Hour, above the Mean Temperature of the Month.

1842. Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	− 1·2	− 2·2	− 2·0	− 5·4	− 6·6	− 8·9	− 6·2	− 7·2	− 3·8	− 3·7	− 1·6	− 1·3
16	− 1·7	− 2·2	− 3·0	− 5·9	− 7·0	−10·3	− 7·2	− 8·0	− 4·2	− 4·5	− 1·5	− 1·2
18	− 1·6	− 2·6	− 3·7	− 6·0	− 6·4	− 9·0	− 6·5	− 8·1	− 4·6	− 4·6	− 1·3	− 1·1
20	− 1·6	− 2·7	− 3·2	− 2·5	− 2·3	− 1·7	− 1·5	− 3·5	− 2·9	− 4·0	− 1·4	− 1·1
22	− 0·5	− 0·6	+ 0·2	+ 2·2	+ 2·7	+ 4·5	+ 3·0	+ 2·8	+ 1·7	+ 0·1	+ 0·7	− 0·3
0	+ 1·2	+ 2·7	+ 2·4	+ 5·4	+ 6·3	+ 7·6	+ 6·2	+ 7·5	+ 5·0	+ 4·6	+ 3·0	+ 2·2
2	+ 2·3	+ 4·8	+ 4·8	+ 7·7	+ 8·1	+ 9·8	+ 7·1	+10·0	+ 5·9	+ 6·2	+ 3·3	+ 3·2
4	+ 2·2	+ 4·3	+ 4·3	+ 7·3	+ 6·9	+ 9·5	+ 7·0	+ 9·2	+ 4·5	+ 5·5	+ 2·4	+ 2·2
6	+ 0·9	+ 1·7	+ 2·4	+ 4·4	+ 4·8	+ 6·6	+ 4·9	+ 6·2	+ 2·7	+ 2·8	+ 0·3	+ 0·6
8	0·0	− 0·4	− 0·3	− 0·1	+ 1·1	+ 1·4	+ 0·9	+ 0·4	0·0	+ 1·0	− 0·7	− 0·2
10	− 0·1	− 1·1	− 1·0	− 2·8	− 2·6	− 3·3	− 2·5	− 3·7	− 1·5	− 1·0	− 1·5	− 1·0
12	− 0·5	− 1·9	− 1·6	− 4·7	− 4·9	− 6·5	− 5·1	− 5·8	− 2·6	− 2·8	− 1·4	− 1·7

TABLE XXXVIII.—Mean Height of the Thermometer at each Even Hour during each Month (Table XXXII.), diminished by the Mean Height for the Month (Table XXVII.), and by the Mean Diurnal Change at each Hour (Table XXXIV. and following Numbers).

1842, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	+ 3·0	+ 2·0	+ 2·2	− 1·2	− 2·4	− 4·7	− 2·0	− 3·0	+ 0·4	+ 0·5	+ 2·6	+ 2·9
16	+ 3·0	+ 2·5	+ 1·7	− 1·2	− 2·3	− 5·6	− 2·5	− 3·3	+ 0·5	+ 0·2	+ 3·2	+ 3·5
18	+ 3·0	+ 2·0	+ 0·9	− 1·4	− 1·8	− 4·4	− 1·9	− 3·5	0·0	0·0	+ 3·3	+ 3·5
20	+ 0·8	− 0·3	− 0·8	− 0·1	+ 0·1	+ 0·7	+ 0·9	− 1·1	− 0·5	− 1·6	+ 1·0	+ 1·3
22	− 1·9	− 2·0	− 1·2	+ 0·8	+ 1·3	+ 3·1	+ 1·6	+ 1·4	+ 0·3	− 1·3	− 0·7	− 1·7
0	− 3·3	− 1·8	− 2·1	+ 0·9	+ 1·8	+ 3·1	+ 1·7	+ 3·0	+ 0·5	+ 0·1	− 1·5	− 2·3
2	− 3·8	− 1·3	− 1·3	+ 1·6	+ 2·0	+ 3·7	+ 1·0	+ 3·9	− 0·2	+ 0·1	− 2·8	− 2·9
4	− 3·2	− 1·1	− 1·1	+ 1·9	+ 1·5	+ 4·1	+ 1·6	+ 3·8	− 0·9	+ 0·1	− 3·0	− 3·2
6	− 2·3	− 1·5	− 0·8	+ 1·2	+ 1·6	+ 3·4	+ 1·7	+ 3·0	− 0·5	− 0·4	− 2·9	− 2·6
8	− 0·2	− 0·6	− 0·5	− 0·3	+ 0·9	+ 1·2	+ 0·7	+ 0·2	− 0·2	+ 0·8	− 0·9	− 0·4
10	+ 1·7	+ 0·7	+ 0·8	− 1·0	− 0·8	− 1·5	− 0·7	− 1·9	+ 0·3	+ 0·8	+ 0·3	+ 0·8
12	+ 2·8	+ 1·4	+ 1·7	− 1·4	− 1·6	− 3·2	− 1·8	− 2·5	+ 0·7	+ 0·5	+ 1·9	+ 1·6

From the circumstance of the order of the signs contained in this table being different at different times of the year, it is shewn that the daily change of temperature is different at different times of the year. By taking the sum of all the numbers hour by hour, without regard to the sign, the following table is formed, in which those hours which have the smallest numbers opposite to them will shew the hours at which the relation of the temperature to the mean daily temperature is the most uniform throughout the year, and the largest numbers will shew those hours subject to the greatest irregularity.

TABLE XXXIX.—Hourly Sums of the Changes of Diurnal Inequality for different Months.

Hour, Göttingen Mean Time.	Sum of the Differences.	Hour, Göttingen Mean Time.	Sum of the Differences.
h	°	h	°
14	26·9	2	24·6
16	29·5	4	25·5
18	25·7	6	21·9
20	9·2	8	6·9
22	17·3	10	11·3
0	22·1	12	21·1

These numbers shew that at 20^h and at 8^h, the relation of the temperature to the mean temperature for the day is subject to less irregularity than at any other hours. Those at 14^h, 16^h, 18^h, and 4^h, are the most irregular: considering the numbers contained in Table XXXVIII., month by month, they differ much. To ascertain the months subject to the greatest and the least irregularity, the sums of all the numbers in each month are taken, without regard to their signs, and the following table is formed:—

TABLE XL.—Monthly Sums of the Changes of Diurnal Inequality for different Hours.

1842.	Sums of the Differences.	1842.	Sums of the Differences.
	°		°
January	29·1	July	18·0
February	17·3	August	30·5
March	15·2	September	5·1
April	13·1	October	6·3
May	18·0	November	24·2
June	38·6	December	26·8

The numbers indicate that September and October are more uniform than any other months; and that January, June, August, and December, are subject to the greatest irregularity, and depart the most from the mean of the year.

TABLE XLI.—Abstract of the Results of the Observations of Radiation.

Month, 1842.	Monthly Mean of the: Observations of the Thermometer whose Bulb is in the full rays of the Sun.	Monthly Mean of the: Observations of the Thermometer whose Bulb is in the Focus of a Metallic Reflector exposed to the Sky.	Month, 1842.	Monthly Mean of the: Observations of the Thermometer whose Bulb is in the full rays of the Sun.	Monthly Mean of the: Observations of the Thermometer whose Bulb is in the Focus of a Metallic Reflector exposed to the Sky.
	°	°		°	°
January	40·7	24·0	July	92·4	46·3
February	54·3	31·1	August	102·2	51·2
March	64·2	34·7	September	81·7	46·5
April	72·1	32·2	October	68·6	33·1
May	82·1	40·0	November	55·1	32·2
June	98·9	45·1	December	54·0	35·6

The mean of all the observations of the thermometer, whose bulb was in the full rays of the Sun, is 72°·2; and the mean of all the observations by the other thermometer, is 37°·7. The mean of all the observations for the same time of the maximum temperature, is 57°·9; and that of the minimum temperature, is 43°·0.

TABLE XLII.—Mean Daily Temperature of Evaporation, as deduced from the Mean of the Twelve Observations of the Wet-bulb Thermometer, taken on every Civil Day (except Sundays, Good Friday, and the 26th day of December), at the Even Hours of Göttingen Mean Time, corrected by the Difference 0°·2, between the Readings of the Dry and Wet Thermometers, when under the same circumstances.

Days of the Month, 1842.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	°	°	°	°	°	°	°	°	°	°	°	°
1	32·8	37·9	44·3	42·1	*S*	55·2	54·4	56·4	58·2	48·4	43·8	48·9
2	*S*	41·0	43·3	37·3	45·8	56·1	53·7	57·2	65·8	*S*	44·5	49·4
3	30·4	41·8	49·4	*S*	47·3	53·6	*S*	62·8	61·7	47·8	40·0	47·3
4	28·5	34·9	41·8	36·4	47·8	56·5	59·6	61·3	*S*	45·9	36·3	*S*
5	31·2	32·2	39·9	36·0	49·5	*S*	55·6	63·5	58·3	41·4	38·0	43·8
6	32·0	*S*	*S*	37·3	50·4	57·4	52·1	61·0	57·2	46·8	*S*	38·3
7	28·5	33·9	42·0	42·4	48·6	57·8	52·9	*S*	58·3	49·7	40·1	37·0
8	27·8	38·9	45·8	40·3	*S*	60·3	54·7	59·8	56·4	51·0	39·0	35·3
9	*S*	42·4	40·0	36·3	44·4	57·9	54·9	61·6	58·5	*S*	41·2	39·1
10	28·1	45·8	37·4	*S*	44·3	57·9	*S*	65·5	54·7	50·8	45·9	36·9
11	31·2	46·8	44·8	37·1	48·0	61·7	61·2	57·8	*S*	50·1	48·1	*S*
12	31·3	48·4	42·0	35·3	46·6	*S*	57·0	59·5	55·0	49·5	48·2	51·3
13	30·3	*S*	*S*	36·2	49·8	60·7	59·8	63·3	54·8	48·0	*S*	51·3
14	33·1	39·5	43·7	38·6	51·3	62·5	55·4	*S*	58·9	46·5	44·6	48·2
15	31·7	42·8	48·9	38·5	*S*	58·6	55·8	63·8	58·7	48·8	44·1	46·4
16	*S*	43·3	48·1	37·3	51·0	56·3	55·5	63·1	56·4	*S*	41·4	49·0
17	34·6	39·8	46·5	*S*	48·8	55·0	*S*	63·2	59·6	48·6	37·4	45·6
18	30·7	34·1	42·6	41·4	48·5	54·5	60·4	66·8	*S*	46·5	35·8	*S*
19	31·0	33·7	38·2	41·2	48·4	*S*	60·7	63·5	53·7	38·6	42·7	39·5
20	30·2	*S*	*S*	43·2	48·6	59·0	56·4	59·4	48·7	34·8	*S*	45·9
21	31·8	38·0	38·6	43·7	51·3	59·7	53·5	*S*	49·9	33·8	37·7	50·5
22	32·8	40·9	35·9	48·3	50·5	56·4	51·8	62·2	48·1	38·6	35·7	47·9
23	*S*	42·5	35·0	52·1	50·4	54·4	54·4	62·7	49·7	*S*	39·9	43·1
24	27·6	41·6	36·0	*S*	51·3	59·3	*S*	58·2	52·7	37·3	42·8	34·4
25	33·8	36·7	Good Friday	50·6	49·6	56·9	58·0	62·1	*S*	40·0	41·8	*S*
26	36·3	35·0	39·4	46·2	53·9	*S*	55·1	62·0	53·5	35·3	40·6	Holiday
27	35·6	*S*	*S*	45·2	50·7	53·1	57·0	61·8	50·4	40·8	*S*	40·9
28	34·9	41·6	47·8	48·0	51·2	57·2	58·8	*S*	50·1	39·9	47·1	33·8
29	33·6	...	48·6	48·7	*S*	57·9	53·9	62·4	49·4	37·6	43·6	45·4
30	*S*	...	47·0	50·4	52·8	57·6	50·9	60·6	46·9	*S*	43·0	50·0
31	40·4	...	48·9	...	52·2	...	*S*	50·0	...	45·9	...	48·8

The letter *S* denotes that the day was Sunday.

Taking the difference between the numbers contained in this table, and the numbers contained in Table XXIII., the next table is formed.

TABLE XLIII.—True Difference between the Mean Daily Temperature, as shewn by the Dry-bulb Thermometer, and the Mean Daily Temperature of Evaporation, as shewn by the Wet-bulb Thermometer.

Days of the Month, 1842.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	°	°	°	°	°	°	°	°	°	°	°	°
1	0·9	1·2	1·5	2·1	*S*	6·2	3·2	3·6	0·3	1·4	0·7	0·8
2	*S*	1·4	0·9	1·3	6·7	4·7	4·4	3·4	2·6	*S*	0·6	2·5
3	0·4	0·3	1·8	*S*	4·5	6·2	*S*	4·0	1·2	1·3	0·9	0·6
4	1·0	0·3	2·3	2·5	4·8	7·3	5·2	6·5	*S*	1·7	0·7	*S*
5	0·7	1·2	1·9	3·0	2·6	*S*	4·5	4·4	2·3	1·1	1·6	0·2
6	1·3	*S*	*S*	3·5	1·7	6·9	6·0	1·5	2·6	1·3	*S*	0·1
7	1·7	0·6	1·1	2·3	2·4	5·4	2·9	*S*	1·6	1·8	1·5	— 0·1
8	1·3	— 0·1	2·8	3·0	*S*	5·8	3·6	4·7	1·5	0·6	1·6	0·1
9	*S*	1·1	0·9	3·2	2·8	6·0	3·5	7·3	0·8	*S*	1·8	0·2
10	0·6	0·7	3·5	*S*	3·8	7·3	*S*	7·7	2·1	1·8	1·0	0·1
11	0·7	1·1	1·1	3·3	6·1	6·5	4·6	4·6	*S*	1·1	0·7	*S*
12	1·0	0·7	2·8	3·6	1·0	*S*	5·9	4·3	2·6	1·0	1·6	0·5
13	1·2	*S*	*S*	2·0	4·1	6·0	4·1	2·1	1·9	1·8	*S*	1·6
14	0·5	2·1	1·4	2·5	3·5	6·0	6·3	*S*	2·0	1·5	1·0	0·9
15	0·8	1·8	0·6	3·2	*S*	4·6	7·3	6·0	1·7	1·9	0·2	1·5
16	*S*	0·3	1·0	4·1	4·5	5·7	4·8	6·0	1·1	*S*	1·0	1·3
17	1·3	1·0	1·8	*S*	3·3	4·8	*S*	2·9	2·3	1·1	1·9	1·4
18	0·1	1·3	3·2	2·2	1·8	2·8	5·1	7·5	*S*	1·9	1·7	*S*
19	— 0·2	0·3	3·0	2·2	2·4	*S*	2·6	3·0	1·2	1·8	1·6	0·1
20	0·6	*S*	*S*	3·4	3·6	3·6	2·5	4·1	1·6	1·4	*S*	0·3
21	0·5	0·8	1·8	2·2	2·4	2·8	2·3	*S*	1·4	1·8	1·4	0·6
22	0·9	0·8	2·9	1·8	3·8	5·7	4·6	5·2	0·9	0·4	0·6	1·5
23	*S*	1·6	0·7	4·5	5·0	5·0	4·8	4·6	0·7	*S*	0·7	1·0
24	0·7	1·3	2·0	*S*	1·3	2·9	*S*	5·7	0·6	1·4	1·3	1·0
25	1·3	1·7	Good Friday	4·6	3·1	3·2	3·7	1·4	*S*	0·5	1·0	*S*
26	1·2	2·2	3·1	5·1	2·0	*S*	5·2	3·6	1·1	2·6	1·9	Holiday
27	2·5	*S*	*S*	5·0	7·8	7·6	2·4	2·5	0·9	2·1	*S*	0·8
28	1·2	1·8	2·3	5·2	5·8	7·0	3·7	*S*	1·4	1·5	1·3	0·7
29	0·7	...	2·5	3·5	*S*	8·2	3·2	1·5	2·2	1·2	1·2	1·4
30	*S*	...	2·0	6·1	7·0	3·3	5·1	1·4	2·4	*S*	0·4	1·4
31	0·7	...	0·9	...	6·2	...	*S*	4·6	...	1·2	...	1·4

The letter *S* denotes that the day was Sunday.

Those numbers to which a — is affixed, shew that on those days the mean reading of the Wet-bulb Thermometer was higher than the mean reading of the Dry-bulb Thermometer. It is considered that on those days the air was saturated with moisture during the day, and they are so treated in all the subsequent calculations.

The numbers contained in this table being multiplied into the factors following Table L., according to the mean temperature of the day, the next table is formed.

TABLE XLIV.—The true Difference between the Mean Daily Temperature and the Mean Daily Temperature of the Dew-Point, as found by multiplying the Numbers contained in the last Table into the Factors following Table L.

Days of the Month, 1842.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	°	°	°	°	°	°	°	°	°	°	°	°
1	2·5	3·0	3·2	4·6	*S*	10·5	5·4	6·1	0·5	2·9	1·5	1·7
2	*S*	3·1	2·0	3·3	13·4	8·0	7·5	5·8	4·2	*S*	1·3	5·0
3	1·6	0·7	3·6	*S*	9·0	10·5	*S*	6·4	2·0	2·7	2·0	1·3
4	5·2	0·8	5·1	6·3	9·6	12·4	8·8	10·4	*S*	3·6	1·8	*S*
5	2·9	3·4	4·2	7·5	5·2	*S*	7·7	7·0	3·9	2·4	4·0	0·4
6	3·6	*S*	*S*	7·7	3·4	11·7	10·2	2·6	4·4	2·7	*S*	0·3
7	7·0	1·7	2·4	5·1	4·8	9·2	4·9	*S*	2·7	3·6	3·3	0·0
8	6·8	0·0	5·9	6·6	*S*	9·3	6·1	8·0	2·6	1·2	3·5	0·3
9	*S*	2·2	2·0	8·0	5·9	10·3	6·0	11·7	1·4	*S*	4·0	0·5
10	3·1	1·5	7·7	*S*	8·0	11·7	*S*	11·6	3·6	3·6	2·1	0·3

The letter *S* denotes that the day was Sunday.

TABLE XLIV.—*continued.*

Days of the Month, 1842.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	°	°	°	°	°	°	°	°	°	°	°	°
11	2·9	2·3	2·3	6·7	12·2	10·4	7·4	7·8	*S*	2·2	1·5	*S*
12	2·8	1·5	6·2	9·0	2·1	*S*	10·0	7·3	4·4	2·0	3·4	1·0
13	4·9	*S*	*S*	5·0	8·2	9·6	7·0	3·4	3·2	3·8	*S*	3·2
14	1·4	4·6	2·9	5·5	7·0	9·6	10·7	*S*	3·4	3·2	2·1	1·9
15	2·2	4·0	1·3	7·0	*S*	7·8	12·4	9·6	2·9	3·8	0·4	3·2
16	*S*	0·7	2·1	9·0	7·7	9·7	8·2	9·6	1·9	*S*	2·2	2·6
17	3·3	2·2	3·8	*S*	6·6	8·2	*S*	4·6	3·9	2·3	4·8	2·9
18	0·4	3·3	6·7	4·4	3·6	4·8	8·2	11·3	*S*	4·0	4·3	*S*
19	0·0	0·8	6·6	4·8	4·8	*S*	4·4	4·8	2·4	4·0	3·5	0·3
20	2·5	*S*	*S*	7·1	7·2	6·1	4·3	7·0	3·2	3·5	*S*	0·6
21	1·4	2·0	4·0	4·6	4·8	4·8	3·9	*S*	2·8	4·5	3·5	1·2
22	2·5	1·8	7·3	3·6	8·0	9·7	7·8	8·3	1·9	1·0	1·5	3·2
23	*S*	3·5	1·8	7·7	8·5	8·5	8·2	7·4	1·4	*S*	1·5	2·2
24	3·6	2·9	5·0	*S*	2·6	4·9	*S*	9·7	1·2	3·5	2·9	2·5
25	3·3	4·3	Good Friday	7·8	6·2	5·4	6·3	2·4	*S*	1·1	2·2	*S*
26	3·0	5·5	6·8	10·2	3·4	*S*	8·8	5·8	2·2	6·5	4·2	...
27	6·3	*S*	*S*	10·0	13·3	12·9	4·1	4·3	1·8	4·6	*S*	1·8
28	3·0	4·0	4·6	10·4	9·9	11·9	6·3	*S*	2·8	3·3	2·7	2·0
29	2·0	...	5·0	6·2	*S*	13·1	5·4	2·6	4·4	3·0	2·6	2·9
30	*S*	...	4·0	10·4	11·9	5·6	8·7	2·4	5·0	*S*	0·9	2·8
31	1·5	...	1·9	...	10·5	...	*S*	9·2	...	2·5	...	2·8

The letter *S* denotes that the day was Sunday.

By subtracting these numbers from the numbers contained in Table XXIII., the next table is formed.

TABLE XLV.—Mean Daily Temperature of the Dew-Point as calculated from Tables XXIII. and XLIV.

Days of the Month, 1842.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	°	°	°	°	°	°	°	°	°	°	°	°
1	31·2	36·1	42·6	39·6	*S*	50·9	52·2	53·9	58·0	46·9	43·0	48·0
2	*S*	39·3	42·2	35·3	39·1	52·8	50·6	54·8	64·2	*S*	43·8	46·9
3	29·2	41·4	47·6	*S*	42·8	49·3	*S*	60·4	60·9	46·4	38·9	46·6
4	24·3	34·4	39·0	32·6	43·0	51·4	56·0	57·4	*S*	44·0	35·2	*S*
5	29·9	33·0	37·6	31·5	46·9	*S*	52·4	60·9	56·7	40·1	35·6	43·6
6	29·7	*S*	*S*	33·1	48·7	52·6	47·9	59·9	55·4	45·4	*S*	38·1
7	23·2	32·8	40·7	39·6	46·2	54·0	50·9	*S*	57·2	47·9	38·3	36·9
8	22·3	38·8	42·7	36·7	*S*	56·8	52·2	56·5	55·3	50·4	37·1	35·1
9	*S*	41·3	38·9	31·5	41·3	53·6	52·4	57·2	57·9	*S*	39·0	38·8
10	25·6	45·0	33·2	*S*	40·1	53·5	*S*	61·6	53·2	49·0	44·8	36·7
11	29·0	45·6	43·6	33·5	41·9	57·8	58·4	54·5	*S*	49·0	47·3	*S*
12	29·5	47·6	38·6	29·9	45·5	*S*	52·9	56·5	53·2	48·5	46·4	50·8
13	26·6	*S*	*S*	33·2	45·7	57·1	56·9	62·1	53·5	46·0	*S*	49·7
14	32·2	37·0	42·2	35·6	47·8	58·9	51·0	*S*	57·5	44·8	43·5	47·2
15	30·3	40·6	48·2	34·7	*S*	55·4	50·7	60·2	57·5	46·9	43·9	44·7
16	*S*	42·9	47·0	32·4	47·8	52·3	52·1	59·5	55·6	*S*	40·2	47·7
17	32·6	38·6	44·5	*S*	45·5	51·6	*S*	61·5	58·0	47·4	34·5	44·1
18	30·4	32·1	39·1	39·2	46·7	52·5	57·3	63·0	*S*	44·4	33·2	*S*
19	30·8	33·2	34·6	38·6	46·0	*S*	58·9	61·7	52·5	36·4	40·8	39·3
20	28·3	*S*	*S*	39·5	45·0	56·5	54·6	56·5	47·1	32·7	*S*	45·6
21	30·9	36·8	36·4	41·3	48·9	57·7	51·9	*S*	48·5	31·1	35·6	49·9
22	31·2	39·9	31·5	46·5	46·3	52·4	48·6	59·1	47·1	38·0	34·8	46·2
23	*S*	40·6	33·9	48·9	46·9	50·9	51·0	59·9	49·0	*S*	39·1	41·9
24	24·7	40·0	33·0	*S*	50·0	57·3	*S*	54·2	52·1	35·2	41·2	32·9
25	31·8	34·1	Good Friday.	47·4	46·5	54·7	55·4	61·1	*S*	39·4	40·6	*S*
26	34·5	31·7	35·7	41·1	52·5	*S*	51·5	59·8	52·4	31·2	38·3	Holiday.
27	31·8	*S*	*S*	40·2	45·2	47·8	55·3	60·0	49·5	38·3	*S*	39·9
28	33·1	39·4	45·5	42·8	47·1	52·3	56·2	*S*	48·7	38·1	45·7	32·5
29	32·3	...	46·1	46·0	*S*	53·0	51·7	61·3	47·2	35·8	42·2	43·9
30	*S*	...	46·0	46·1	47·9	55·3	47·3	59·6	44·3	*S*	42·7	48·6
31	39·6	...	47·9	...	47·9	...	*S*	45·4	...	44·6	...	47·4

The letter *S* denotes that the day was Sunday.

TABLE XLVI.—Mean Temperature of Evaporation, at every Even Hour of Göttingen Mean Time in every Month. (The Difference 0°·2, between the Readings of the Dry and Wet Thermometers, has been applied.)

1842. Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	Sep.	Oct.	Nov.	Dec.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	30·7	38·0	41·9	38·9	45·5	52·2	52·9	57·2	52·1	41·3	40·3	43·1
16	30·4	38·0	40·9	38·4	45·1	51·2	52·1	56·8	51·1	40·5	40·5	43·2
18	30·6	37·6	40·3	38·2	45·8	52·3	52·6	56·7	51·5	40·4	40·8	43·4
20	30·6	37·7	40·3	40·7	49·0	57·3	55·6	59·9	53·0	40·9	40·7	43·4
22	31·6	39·4	42·6	43·4	51·5	60·1	57·5	63·2	56·3	44·0	42·5	44·2
0	32·9	41·8	44·6	45·6	53·2	61·4	59·0	65·2	57·8	47·5	43·9	45·8
2	33·9	43·3	46·1	46·7	53·8	62·2	59·3	66·0	58·2	48·4	44·2	46·5
4	33·7	42·7	45·9	46·1	53·5	62·3	59·3	65·6	57·8	48·0	43·5	45·9
6	32·9	41·0	44·5	44·2	52·1	61·1	57·9	64·1	56·6	46·2	41·9	44·7
8	32·1	39·6	43·0	41·4	50·1	58·9	56·6	61·6	55·1	44·8	41·0	44·2
10	31·9	39·1	42·6	40·0	47·9	56·0	55·1	59·5	54·2	43·5	40·4	43·1
12	31·7	38·5	42·4	38·9	46·7	54·1	53·4	58·1	53·3	41·9	40·5	42·5

By taking the differences between the numbers contained in this table, and the numbers contained in Table XXXII., the next table is formed.

TABLE XLVII.—True Difference between the Mean Temperature of the Air, as shewn by the Dry-bulb Thermometer, and the Mean Temperature of Evaporation, as shewn by the corrected Wet-bulb Thermometer, at every Even Hour of Göttingen Mean Time, in each Month.

1842. Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	Sep.	Oct.	Nov.	Dec.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	1·0	0·6	1·0	0·9	1·1	1·8	1·1	1·0	0·5	0·4	0·9	0·6
16	0·8	0·6	1·0	0·9	1·1	1·4	0·9	0·6	1·1	0·4	0·8	0·6
18	0·7	0·6	0·9	1·0	1·0	0·6	1·1	0·6	0·3	0·4	0·7	0·5
20	0·7	0·4	1·4	2·0	1·9	3·9	3·1	2·0	0·5	0·5	0·7	0·5
22	0·8	0·8	2·5	4·0	4·4	7·3	5·5	5·0	1·8	1·5	1·0	0·5
0	1·2	1·7	2·7	5·0	6·3	9·1	7·4	7·7	3·6	2·5	1·9	1·4
2	1·3	2·3	3·6	6·2	7·5	10·5	8·0	9·4	4·1	3·2	1·9	1·7
4	1·4	2·4	3·3	6·4	6·6	10·1	7·9	9·0	3·1	2·9	1·7	1·3
6	0·9	1·5	2·8	5·4	5·9	8·4	7·2	7·5	2·5	2·0	1·2	0·9
8	0·8	0·8	1·6	3·7	3·2	5·4	4·5	4·2	1·3	1·6	1·1	0·6
10	0·9	0·6	1·3	2·4	2·7	3·6	2·6	2·2	0·7	0·9	0·9	0·9
12	0·7	0·4	0·9	1·6	1·6	2·3	1·7	1·1	0·5	0·7	0·9	0·8

The numbers contained in this table being multiplied by the factors following Table L., which correspond to the mean temperature of the hour in that month, the next table is formed.

TABLE XLVIII.—The Difference between the Mean Daily Temperature and the Mean Daily Temperature of the Dew-Point, as found by multiplying the Numbers contained in the last Table by the Numbers following Table L.

1842. Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	Sep.	Oct.	Nov.	Dec.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	4·1	1·5	2·2	2·3	2·3	3·6	2·2	1·7	1·0	0·9	2·0	1·3
16	3·3	1·5	2·2	2·3	2·3	2·8	1·8	1·0	2·2	0·9	1·7	1·3
18	2·9	1·5	2·0	2·5	2·1	1·2	2·2	1·0	0·6	0·9	1·5	1·1
20	2·9	1·0	3·1	4·4	3·8	6·6	5·3	3·4	1·0	1·1	1·5	1·1
22	2·2	1·8	5·3	8·4	7·5	11·7	9·4	8·0	3·1	3·3	2·2	1·1
0	3·3	3·7	5·7	10·0	10·7	13·7	11·8	11·6	6·1	5·0	4·0	2·9
2	3·3	4·8	7·6	12·4	12·8	15·8	12·8	14·1	7·0	6·4	4·0	3·6
4	3·5	5·0	6·9	12·8	11·2	15·2	12·6	13·5	5·3	5·8	3·6	2·7
6	2·5	3·3	5·9	11·3	10·0	13·4	11·5	11·3	4·3	4·2	2·6	1·9
8	2·2	1·8	3·5	7·8	6·4	9·2	7·7	6·7	2·2	3·4	2·4	1·3
10	2·5	1·5	2·9	5·3	5·4	6·1	4·4	3·7	1·4	2·0	2·0	2·0
12	2·0	1·0	2·0	3·5	3·4	3·9	2·9	1·9	1·0	1·5	2·0	1·8

By taking these numbers from the numbers in Table XXXII., the next table is formed.

TABLE XLIX.—Mean Temperature of the Dew Point, at every Even Hour of Göttingen Mean Time in each Month, as found by subtracting the Numbers contained in the last Table from the Numbers in XXXII.

1842. Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	Sep.	Oct.	Nov.	Dec.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	27·6	37·1	40·7	37·5	44·3	50·4	51·8	56·5	51·6	40·8	39·2	42·4
16	27·9	37·1	39·7	37·0	43·9	49·8	51·2	56·4	50·0	40·0	39·6	42·5
18	28·4	36·7	39·3	36·7	44·7	52·7	51·5	56·3	51·2	39·9	40·0	42·8
20	28·4	37·1	38·6	38·3	47·1	54·6	53·4	58·5	52·5	40·3	39·9	42·8
22	30·2	38·4	39·8	39·0	48·4	55·7	53·8	60·2	55·0	42·2	41·3	43·6
0	30·8	39·8	41·6	40·6	48·8	56·8	54·6	61·3	55·3	45·0	41·8	44·3
2	31·9	40·8	42·1	40·5	48·5	56·9	54·5	61·3	55·3	45·2	42·1	44·6
4	31·6	40·1	42·3	39·7	48·9	57·2	54·6	61·1	55·6	45·1	41·6	44·5
6	31·3	39·2	41·4	38·3	48·0	56·1	53·6	60·3	54·8	44·0	40·5	43·7
8	30·7	38·6	41·1	37·3	47·9	55·1	53·4	59·1	54·2	43·0	39·7	43·5
10	30·3	38·2	41·0	37·1	45·2	53·5	53·3	58·0	53·5	42·4	39·3	42·0
12	30·4	37·9	41·3	37·0	44·9	52·5	52·2	57·7	52·8	41·1	39·4	41·5

The next table contains the comparison of the differences between the evaporation-temperature and the air-temperature, with the differences between the dew-point and the air-temperature, arranged in the order of the degrees of air-temperature, and deduction of the value of the fraction

$$\frac{\text{Difference between dew-point and air-temperature}}{\text{Difference between evaporation-temperature and air-temperature,}}$$

and comparison of the observed dew-point, with the deduced dew-point by Dr. Apjohn's formula, and also with the deduced Greenwich factors.

In the pursuit of this investigation, the numbers in 1841 as well as those in 1842 have been used. In every month, the observations of the dew-point have been divided into groups, according to every five degrees of air-temperature, except at about the freezing point, when it was necessary, from the rapid change in the relations of the numbers, to take out the numbers within narrower limits; at every observation of the dew-point, the observations of the dry thermometer, of the wet thermometer, and of the barometer, were copied, and then their respective means were taken in each group, and in this way the first division of the next table was formed; the headings of the columns of the other divisions explain themselves. The auxiliary tables by which the "Elastic Force of Vapour," and the "Dew-Point by Dr. Apjohn's Formula," are obtained, will be found in the Introduction. The "Greenwich Factors" are at the end of the present table.

TABLE L.

Year.	Month.	Between what Temperatures.	Mean Temperature of			Mean Height of the Barometer.	No. of Obs.	Evaporation Temperature below Air Temp.	Mean, giving Weight according to No. of Obs.	Dew Point Temperature below Air Temp.	Mean, giving Weight according to No. of Obs.	Factor.	Elastic Force of Vapour at Temperature of Evaporation.	$\frac{d}{96}\times\frac{h}{30}$ / $\frac{d}{88}\times\frac{h}{30}$	Elastic Force of Vapour at Temperature of Dew Point.	Dew Point by Dr. Apjohn's Formula.	Error of Dew Point as deduced from Dr. Apjohn's Formula.	Mean Error, giving Weight according to the No. of Obs.	Diff. of Dry and Wet Therm. × by Green^{h}. Factor.	Dew Point as deduced by using the Greenwich Factors.	Error of Dew Point as deduced by using the Greenwich Factors.
		° °	Air. °	Evaporation. °	Dew Point. °	in.		°	°	°	°		in.	in.	in.	°	°	°	°	°	°
1842	Jan.	20 to 25	24·1	23·7	20·5	29·760	1	0·4		3·6		9·0	0·148	0·004	0·144	23·0	+2·5		3·6	20·5	0·0
1841	Nov.	25 to 30	28·5	28·1	25·9	29·627	5	0·4		2·6			0·173	0·004	0·169	27·4	+1·5		2·1	26·4	+0·5
	Dec.		27·9	27·4	26·7	29·431	3	0·5		1·2			0·169	0·005	0·164	26·6	−0·1		2·6	25·3	−1·4
1842	Jan.		28·5	27·9	25·3	30·048	22	0·6	0·55	3·2	2·85	5·2	0·172	0·006	0·166	26·9	+1·6	+1·4	3·1	25·4	+0·1
	Oct.		29·7	29·3	28·5	29·487	1	0·4		1·2			0·181	0·004	0·177	28·7	−0·2		2·1	27·6	−0·9
1841	Nov.	30 to 32	31·0	30·6	30·2	29·554	4	0·4		0·8			0·190	0·004	0·186	30·1	−0·1		1·6	29·4	−0·8
	Dec.		30·8	30·1	28·1	29·444	11	0·7		2·7			0·186	0·008	0·178	28·8	+0·7		2·9	27·9	−0·2
1842	Jan.		30·9	30·4	28·8	29·962	24	0·5		2·1			0·188	0·005	0·183	29·6	+0·8		2·1	28·8	0·0
	Feb.		30·9	30·7	29·4	29·955	5	0·2	0·49	1·5	2·01	4·1	0·190	0·002	0·188	30·4	+1·0	+0·7	0·8	30·1	+0·7
	April		30·2	29·9	29·0	30·127	1	0·3		1·2			0·185	0·003	0·182	29·5	+0·5		1·2	29·0	0·0
	Oct.		30·2	30·0	29·0	29·754	2	0·2		1·2			0·186	0·002	0·184	29·8	+0·8		0·8	29·4	+0·4
1841	March	32 to 35	34·4	32·8	30·0	29·807	1	1·6		4·4			0·205	0·018	0·187	30·2	+0·2		4·5	29·9	−0·1
	April		34·1	33·7	32·6	29·723	4	0·4		1·5			0·212	0·004	0·208	33·2	+0·6		1·1	33·0	+0·4
	Oct.		33·3	32·2	29·8	30·058	1	1·1		3·5			0·201	0·013	0·188	30·4	+0·5		3·1	30·2	+0·4
	Nov.		33·7	33·0	31·5	29·382	9	0·7		2·2			0·207	0·008	0·199	32·0	+0·5		2·0	31·7	+0·2
	Dec.		33·4	32·5	30·4	29·832	12	0·9		3·0			0·203	0·010	0·195	31·1	+0·7		2·5	30·9	+0·5
1842	Jan.		33·2	32·2	30·7	29·910	35	1·0	0·83	2·5	2·32	2·8	0·201	0·011	0·190	30·7	0·0		2·8	30·4	−0·3
	Feb.		33·7	32·9	31·6	29·994	15	0·8		2·1			0·206	0·009	0·197	31·7	+0·1		2·4	31·3	−0·3
	March		32·5	32·1	29·1	30·015	3	0·4		3·4			0·200	0·005	0·195	31·4	+2·3	+0·2	1·1	31·4	+2·3
	April		34·4	33·1	32·0	30·192	3	1·3		2·4			0·207	0·015	0·192	31·0	−1·0		3·6	30·8	−1·2
	Oct.		33·4	32·7	31·3	29·610	5	0·7		2·1			0·204	0·008	0·196	31·5	+0·2		2·0	31·4	+0·1
	Nov.		34·0	33·2	32·5	29·678	3	0·8		1·5			0·208	0·009	0·199	32·0	−0·5		2·4	31·6	−0·9
	Dec.		33·6	33·3	32·5	29·896	8	0·3		1·1			0·209	0·003	0·206	32·9	+0·4		0·8	32·8	+0·3
1841	March	35 to 40	38·3	37·1	34·2	29·864	8	1·2		4·1			0·239	0·014	0·225	35·4	+1·2		3·0	35·3	+1·1
	April		38·8	38·2	37·0	29·695	11	0·6		1·8			0·248	0·007	0·241	37·4	+0·4		1·5	37·3	+0·3
	Oct.		37·0	36·3	34·3	29·640	2	0·7		2·7			0·232	0·008	0·224	35·3	+1·0		1·8	35·2	+0·9
	Nov.		37·4	36·5	35·2	29·568	12	0·9		2·2			0·234	0·010	0·224	35·3	+0·1		2·3	35·1	−0·1
	Dec.		37·6	36·7	35·1	29·814	17	0·9		2·5			0·235	0·010	0·225	35·4	+0·3		2·3	35·3	+0·2
1842	Jan.		36·6	35·3	33·3	29·738	15	1·3	1·04	3·3	2·56	2·5	0·224	0·015	0·209	33·3	0·0	+0·1	3·3	33·3	0·0
	Feb.		37·4	36·8	35·7	29·810	20	0·6		1·7			0·236	0·007	0·229	35·9	+0·2		1·5	35·9	+0·2
	March		38·3	36·5	34·8	29·755	17	1·8		3·5			0·234	0·020	0·214	34·0	−0·8		4·5	33·8	−1·0
	April		37·5	35·7	33·8	29·918	23	1·8		3·7			0·227	0·020	0·207	33·1	−0·7		4·5	33·0	−0·8
	Oct.		37·8	36·7	35·3	29·577	17	1·1		2·5			0·235	0·012	0·223	35·2	−0·1		2·8	35·0	−0·3
	Nov.		38·0	37·0	35·1	29·825	22	1·0		2·9			0·238	0·011	0·227	35·7	+0·6		2·5	35·5	+0·4
	Dec.		37·6	37·3	36·8	30·130	23	0·3		0·8			0·240	0·003	0·237	36·9	+0·1		0·8	36·8	0·0
1841	March	40 to 45	42·6	41·5	39·9	29·815	24	1·1		2·7			0·279	0·013	0·266	40·2	+0·3		2·4	40·2	+0·3
	April		42·6	41·4	38·9	29·677	31	1·2		3·7			0·278	0·014	0·264	40·0	+1·1		1·6	41·0	+1·1
	May		42·5	42·2	41·3	29·936	6	0·3		1·2			0·285	0·003	0·282	41·9	+0·6		0·7	41·8	+0·5
	June		43·0	42·6	41·2	29·884	6	0·4		1·8			0·289	0·004	0·285	42·2	+1·0		0·9	42·1	+0·9
	Aug.		44·9	44·6	42·5	29·801	1	0·3		2·4			0·310	0·003	0·307	44·3	+1·8		0·7	44·2	+1·7
	Sep.		42·8	42·5	41·2	29·742	3	0·3		1·6			0·288	0·003	0·285	42·2	+1·0		0·7	42·1	+0·9
	Oct.		42·7	41·3	40·0	29·586	16	1·4		2·7			0·277	0·016	0·261	39·6	−0·4	+0·1	3·1	39·6	−0·4

TABLE L. —*continued.*

Year.	Month.	Between what Temperatures.	Mean Temperature of			Mean Height of the Barometer.	No. of Obs.	Evaporation Temperature below Air Temp.	Mean, giving Weight according to No. of Obs.	Dew Point Temperature below Air Temp.	Mean, giving Weight according to No. of Obs.	Factor.	Elastic Force of Vapour at Temperature of Evaporation.	$\frac{d}{88} \times \frac{h}{30}$	Elastic Force of Vapour at Temperature of Dew Point.	Dew Point by Dr. Apjohn's Formula.	Error of Dew Point as deduced from Dr. Apjohn's Formula.	Mean Error, giving Weight according to the No. of Obs.	Diff. of Dry and Wet Therm. × by Green's Factor.	Dew Point as deduced by using the Greenwich Factors.	Error of Dew Point as deduced by using the Greenwich Factors.
		° °	Air.	Evaporation.	Dew Point.	in.		°	°	°	°		in.	in.	in.	°	°	°	°	°	°
1841	Nov.		42·6	41·6	40·4	29·798	24	1·0	1·30	2·2	3·02	2·2	0·280	0·011	0·269	40·5	+0·1		2·2	40·4	0·0
	Dec.		41·9	40·6	39·7	29·633	26	1·3		2·2			0·270	0·015	0·255	39·0	−0·7		2·9	39·0	−0·7
1842	Jan.		41·1	38·5	35·8	29·523	6	2·6		5·3			0·251	0·029	0·222	35·0	−0·8		5·7	35·4	−0·4
	Feb.		42·2	41·2	39·6	29·851	31	1·0		2·6			0·276	0·011	0·265	40·1	+0·5		2·2	40·0	+0·4
	March		42·3	40·2	38·6	29·712	28	2·1		3·7			0·266	0·024	0·242	37·5	−1·1		4·6	37·7	−0·9
	April		42·3	40·1	38·1	29·893	35	2·2		4·2			0·265	0·025	0·240	37·2	−0·9		4·8	37·5	−0·6
	May		43·6	42·6	41·6	29·813	12	1·0		2·0			0·289	0·011	0·278	41·4	−0·2		2·2	41·4	−0·2
	Sep.		41·7	41·9	42·0																
	Oct.		42·5	41·0	38·8	29·615	20	1·5		3·7			0·274	0·017	0·257	39·2	+0·4		3·3	39·2	+0·4
	Nov.		42·6	41·4	39·3	29·605	49	1·2		3·3			0·278	0·014	0·264	40·0	+0·7		1·4	41·2	+1·9
	Dec.		42·3	41·7	40·8	29·994	14	0·6		1·5			0·281	0·007	0·274	41·0	+0·2		1·3	41·0	+0·2
1841	March	45 to 50	47·0	45·4	42·8	29·743	31	1·6		4·2			0·319	0·018	0·301	43·7	+0·9		3·4	43·6	+0·8
	April		47·1	44·2	41·3	29·664	29	2·9		5·8			0·306	0·033	0·273	40·9	−0·4		6·1	41·0	−0·3
	May		48·1	47·2	45·5	29·652	19	0·9		2·6			0·339	0·010	0·329	46·3	+0·8		1·9	46·2	+0·7
	June		47·7	46·5	44·9	29·827	14	1·2		2·8			0·331	0·014	0·317	45·2	+0·3		2·5	45·2	+0·3
	July		47·7	46·9	45·4	29·554	7	0·8		2·3			0·336	0·009	0·327	46·1	+0·7		1·7	46·0	+0·6
	Aug.		49·5	48·3	47·1	29·805	4	1·2		2·4			0·352	0·014	0·338	47·1	0·0		2·5	47·0	−0·1
	Sep.		47·0	46·6	45·1	29·621	5	0·4		1·9			0·332	0·004	0·328	46·2	+1·1		0·8	46·2	+1·1
	Oct.		47·5	46·3	44·9	29·426	38	1·2		2·6			0·329	0·014	0·315	45·0	+0·1		2·5	45·0	+0·1
	Nov.		47·3	46·3	44·7	29·895	31	1·0		2·6			0·329	0·011	0·318	45·3	+0·6		2·1	45·2	+0·5
	Dec.		47·6	46·6	45·6	29·390	26	1·0		2·0			0·332	0·011	0·321	45·6	0·0		2·1	45·5	−0·1
1842	Jan.		45·5	44·5	43·0	29·915	2	1·0	1·44	2·5	3·01	2·1	0·309	0·011	0·298	43·4	+0·4		2·1	43·4	+0·4
	Feb.		47·2	45·6	44·3	29·826	23	1·6		2·9			0·321	0·018	0·303	43·9	−0·4	+0·1	3·4	43·8	−0·5
	March		47·7	45·8	44·5	29·777	31	1·9		3·2			0·323	0·021	0·302	43·8	−0·7		4·0	43·7	−0·8
	April		46·8	43·2	40·6	29·953	16	3·6		6·2			0·296	0·041	0·255	39·0	−0·6		7·6	39·2	−1·4
	May		47·9	46·1	44·8	29·741	22	1·8		3·1			0·327	0·020	0·307	44·3	−0·5		3·8	44·1	−0·7
	June		47·7	46·5	46·3	30·098	5	1·2		1·4			0·331	0·014	0·317	45·2	−0·1		2·5	45·2	−1·1
	July		48·2	47·6	46·4	29·876	6	0·6		1·8			0·344	0·007	0·337	47·0	+0·6		1·3	46·9	+0·5
	Aug.		49·6	48·5	47·0	30·012	2	1·1		2·6			0·355	0·013	0·342	47·4	+0·4		2·3	47·3	+0·3
	Sep.		47·3	46·5	46·4	29·643	11	0·8		0·9			0·331	0·009	0·322	45·7	−0·7		1·7	45·6	−0·8
	Oct.		47·5	46·5	45·2	29·990	30	1·0		2·3			0·331	0·011	0·322	45·7	+0·5		2·1	45·4	+0·2
	Nov.		46·9	45·7	44·3	29·532	21	1·2		2·6			0·322	0·014	0·308	44·4	+0·1		2·5	44·4	+0·1
	Dec.		47·7	46·8	45·6	29·978	30	0·9		2·1			0·335	0·010	0·325	45·9	+0·3		1·9	45·8	+0·2
1841	March	50 to 55	52·0	49·4	46·4	29·723	21	2·6		5·6			0·366	0·029	0·337	47·0	+0·6		5·2	46·8	+0·4
	April		51·8	47·5	43·0	29·777	14	4·3		8·8			0·343	0·049	0·294	43·1	+0·1		8·6	43·2	+0·2
	May		52·3	51·0	49·6	29·644	19	1·3		2·7			0·386	0·014	0·372	49·9	+0·3		2·6	49·7	+0·1
	June		52·1	50·3	48·3	29·783	25	1·8		3·8			0·377	0·020	0·357	48·7	+0·4		3·6	48·5	+0·2
	July		52·7	51·4	50·1	29·700	25	1·3		2·6			0·392	0·015	0·377	50·3	+0·2		2·6	50·1	0·0
	Aug.		52·4	51·2	50·2	29·771	12	1·2		2·2			0·389	0·014	0·375	50·1	−0·1		2·4	50·0	−0·2
	Sep.		52·3	51·3	50·3	29·613	18	1·0		2·0			0·390	0·011	0·379	50·4	+0·1		2·0	50·3	0·0
	Oct.		52·1	50·2	48·8	29·377	29	1·9		3·3			0·376	0·021	0·355	48·5	−0·3		3·6	48·5	−0·3
	Nov.		52·5	50·8	49·9	29·402	13	1·7		2·6			0·383	0·019	0·364	49·3	−0·6		3·4	49·1	−0·8
	Dec.		50·6	48·8	47·7	29·170	6	1·8		2·9			0·358	0·020	0·338	47·1	−0·6		3·6	47·0	−0·7
1842	Feb.		50·2	47·8	46·0	30·061	3	2·4		4·2			0·346	0·027	0·319	45·4	−0·6	+0·1	4·8	45·4	−0·6
	March		51·1	49·4	47·8	29·699	18	1·7	1·70	3·3	3·41	2·0	0·366	0·019	0·347	47·9	+0·1		3·4	47·7	−0·1

TABLE L. — *continued.*

Year.	Month.	Between what Temperatures.	Mean Temperature of			Mean Height of the Barometer.	No. of Obs.	Evaporation Temperature below Air Temp.	Mean, giving Weight according to No. of Obs.	Dew Point Temperature below Air Temp.	Mean, giving Weight according to No. of Obs.	Factor.	Elastic Force of Vapour at Temperature of Evaporation.	$\frac{d}{88} \times \frac{h}{30}$	Elastic Force of Vapour at Temperature of Dew Point.	Dew Point by Dr. Apjohn's Formula.	Error of Dew Point as deduced from Dr. Apjohn's Formula.	Mean Error, giving Weight according to the No. of Obs.	Diff. of Dry and Wet Therm. × by Greenh. Factor.	Dew Point as deduced by using the Greenwich Factors.	Error of Dew Point as deduced by using the Greenwich Factors.
		° °	Air. °	Evaporation. °	Dew Point. °	in.		°	°	°	°		in.	in.	in.	°	°	°	°	°	°
1842	April		51·5	46·7	43·1	29·754	8	4·8		8·4			0·333	0·054	0·279	41·5	−1·6		9·6	41·9	−1·2
	May		51·6	49·4	48·2	29·738	29	2·2		3·4			0·366	0·025	0·341	47·4	−0·8		4·4	47·2	−1·0
	June		52·2	50·8	49·3	29·897	16	1·4		2·9			0·383	0·014	0·369	49·6	+0·3		2·8	49·4	+0·1
	July		52·5	51·4	50·4	29·824	15	1·1		2·1			0·392	0·013	0·379	50·4	0·0		2·2	50·3	−0·1
	Aug.		53·2	52·1	50·7	29·946	6	1·1		2·5			0·401	0·012	0·389	51·2	+0·5		2·2	51·0	−0·7
	Sep.		52·6	51·6	50·3	29·668	37	1·0		2·3			0·394	0·011	0·383	50·8	+0·5		2·0	50·6	+0·3
	Oct.		52·2	50·2	48·0	30·072	23	2·0		4·2			0·376	0·023	0·353	48·4	+0·4		4·0	48·2	+0·2
	Nov.		51·9	50·6	49·2	28·949	7	1·3		2·7			0·381	0·014	0·367	49·5	+0·3		2·6	49·3	+0·1
	Dec.		52·2	51·2	49·5	29·985	29	1·0		2·7			0·389	0·011	0·378	50·4	+0·9		2·0	50·2	+0·7
1841	March	55 to 60	58·1	51·8	47·1	30·029	8	6·3		11·0			0·397	0·072	0·325	46·0	−1·1		10·7	47·4	+0·3
	April		57·6	53·8	52·6	29·926	8	3·8		5·0			0·425	0·043	0·382	50·7	−1·9		6·5	51·1	−1·1
	May		57·7	54·1	51·8	29·662	25	3·6		5·9			0·429	0·041	0·388	51·1	−0·7		6·1	51·6	−0·2
	June		57·0	54·0	51·8	29·776	29	3·0		5·2			0·428	0·034	0·394	51·6	−0·2		4·5	52·5	+0·7
	July		57·4	54·2	53·0	29·711	38	3·2		4·4			0·431	0·036	0·395	51·6	−1·4		5·4	52·0	−1·0
	Aug.		57·7	56·1	55·0	29·668	31	1·6		2·7			0·459	0·018	0·441	54·9	−0·1		2·7	55·0	0·0
	Sep.		57·3	55·9	54·8	29·579	34	1·4		2·5			0·456	0·016	0·440	54·8	0·0		2·3	55·0	+0·2
	Oct.		56·9	54·6	53·1	29·389	16	2·3		3·8			0·437	0·026	0·411	52·8	−0·3		3·7	53·2	+0·1
	Nov.		55·3	54·7	53·5	30·018	3	0·6	2·72	1·8	4·49	1·7	0·438	0·007	0·431	54·2	+0·7	−0·4	1·0	54·3	+0·8
1842	March		56·0	51·0	48·0	29·766	5	5·0		8·0			0·386	0·055	0·331	46·5	−1·5		8·5	47·5	−0·5
	April		57·4	50·7	47·6	29·867	11	6·7		9·8			0·382	0·074	0·308	44·4	−3·2		11·4	46·0	−1·6
	May		57·3	53·1	50·0	29·778	25	4·2		7·3			0·415	0·045	0·370	49·7	−0·3		7·1	50·2	+0·2
	June		57·8	55·5	53·6	29·794	21	2·3		4·2			0·450	0·026	0·424	53·7	+0·1		3·9	53·9	+0·3
	July		56·6	54·4	53·0	29·792	32	2·2		3·6			0·434	0·025	0·409	52·7	−0·3		3·7	52·9	−0·1
	Aug.		57·6	56·6	55·4	29·893	21	1·0		2·2			0·467	0·011	0·456	55·9	+0·5		1·7	55·9	+0·5
	Sep.		56·7	55·3	53·7	29·700	25	1·4		3·0			0·447	0·016	0·431	54·2	+0·5		2·4	54·3	+0·6
	Oct.		57·1	54·4	51·5	30·166	7	2·7		5·6			0·434	0·031	0·403	52·2	+0·7		4·6	52·5	+1·0
1841	March	60 to 65	61·5	54·2	47·8	29·928	5	7·3		13·7			0·431	0·083	0·348	47·9	+0·1		12·4	49·1	+1·3
	April		63·4	59·8	56·8	30·009	2	3·6		6·6			0·520	0·041	0·479	57·4	+0·6		6·1	57·3	+0·5
	May		62·1	57·3	54·2	29·813	20	4·8		7·9			0·478	0·054	0·424	53·7	−0·5		8·2	53·9	−0·3
	June		62·7	56·9	54·2	29·850	18	5·8		8·5			0·472	0·066	0·406	52·5	−1·7		9·9	52·8	−1·4
	July		62·3	58·2	55·9	29·720	23	4·1		6·4			0·493	0·046	0·447	55·3	−0·6		7·0	55·3	−0·6
	Aug.		62·5	59·7	58·3	29·802	29	2·8		4·2			0·518	0·032	0·486	57·8	−0·5		4·8	57·7	−0·6
	Sep.		62·5	59·5	58·2	29·609	27	3·0	4·00	4·3	6·7	1·7	0·515	0·034	0·481	57·5	−0·7	−0·5	5·1	57·4	−0·8
1842	April		60·9	55·3	54·2	29·863	3	5·6		6·7			0·447	0·063	0·384	50·9	−3·1		9·5	51·4	−2·8
	May		62·3	54·3	48·4	29·829	14	8·0		13·9			0·432	0·090	0·342	47·4	−0·9		13·6	48·7	+0·3
	June		62·7	57·0	53·5	29·921	18	5·7		9·2			0·473	0·064	0·409	52·7	−0·8		9·7	53·0	−0·5
	July		62·3	57·3	53·3	29·815	22	5·0		9·0			0·478	0·056	0·422	53·6	+0·3		8·5	53·8	+0·5
	Aug.		62·2	60·3	58·4	29·840	28	1·9		3·8			0·528	0·021	0·507	59·1	+0·7		3·2	59·0	+0·6
	Sep.		62·6	61·2	59·6	29·751	19	1·4		3·0			0·544	0·016	0·528	60·3	+0·7		2·4	60·2	+0·6
1841	April	65 to 70	65·5	58·0	49·5	29·989	2	7·5		16·0			0·489	0·085	0·404	52·3	+2·8		12·0	53·5	+4·0
	May		68·0	61·2	57·6	29·950	9	6·8		10·4			0·544	0·077	0·467	56·6	−1·0		10·9	57·1	−0·5
	June		67·9	58·7	51·3	29·877	10	9·2		16·6			0·501	0·104	0·397	51·8	+0·5		14·7	53·2	−0·9
	July		66·9	61·2	59·0	29·863	8	5·7		7·9			0·544	0·065	0·480	57·4	−1·6		9·1	57·8	−1·2
	Aug.		67·5	61·8	60·2	29·761	16	5·7		7·3			0·555	0·064	0·491	58·1	−2·1		9·1	58·4	−1·8

TABLE L. — *concluded.*

Year.	Month.	Between what Temperatures.	Mean Temperature of			Mean Height of the Barometer.	No. of Obs.	Evaporation Temperature below Air Temp.	Mean, giving Weight according to No. of Obs.	Dew Point Temperature below Air Temp.	Mean, giving Weight according to No. of Obs.	Factor.	Elastic Force of Vapour at Temperature of Evaporation.	$\frac{d}{88} \times \frac{h}{30}$	Elastic Force of Vapour at Temperature of Dew Point.	Dew Point by Dr. Apjohn's Formula.	Error of Dew Point as deduced from Dr. Apjohn's Formula.	Mean Error, giving Weight according to the No. of Obs.	Diff. of Dry and Wet Therm. × by Green^{h}. Factor.	Dew Point as deduced by using the Greenwich Factors.	Error of Dew Point as deduced by using the Greenwich Factors.
		° °	Air.	Evaporation.	Dew Point.	in.		°	°	°	°		in.	in.	in.	°	°	°	°	°	°
1841	Sep.		66·7	61·6	59·7	29·716	12	5·1	6·47	7·0	10·42	1·6	0·552	0·057	0·495	58·3	−1·4		8·2	58·5	−1·2
1842	April		67·7	55·4	48·5	29·835	4	12·3		19·2			0·449	0·139	0·310	44·6	−3·9	−0·6	19·7	46·0	−2·5
	May		66·3	56·3	50·0	29·937	7	10·0		16·3			0·462	0·113	0·349	48·0	−2·0		16·0	50·3	+0·3
	June		67·5	60·3	55·2	29·879	21	7·2		12·3			0·528	0·082	0·446	55·2	0·0		11·5	56·0	+0·8
	July		67·5	59·7	55·2	29·842	19	7·8		12·3			0·518	0·088	0·430	54·2	−1·0		12·5	55·0	−0·2
	Aug.		67·4	63·1	60·0	29·890	20	4·3		7·4			0·580	0·049	0·531	60·4	+0·4		6·9	60·5	+0·5
	Sep.		65·5	63·8	60·9	29·933	9	1·7		4·6			0·593	0·019	0·574	62·8	+1·9		2·7	62·8	+1·9
1841	May	70 to 75	73·6	65·4	61·9	29·823	4	8·2		11·7			0·626	0·093	0·533	60·6	−1·3		12·3	61·3	−0·6
	June		70·4	60·6	54·0	29·737	2	9·8		16·4			0·534	0·110	0·424	53·7	−0·3		14·7	55·7	+1·7
	July		72·2	66·0	65·5	29·937	2	6·2		6·7			0·638	0·070	0·568	62·5	−3·0		9·3	62·9	−2·6
	Aug.		72·5	66·3	65·9	30·095	4	6·2		6·6			0·644	0·070	0·574	62·8	−3·1		9·3	63·2	−2·7
	Sep.		73·6	68·6	68·7	29·777	3	5·0		4·9			0·695	0·056	0·639	66·1	−2·6		7·5	67·1	−1·6
1842	April		70·5	59·8	56·5	29·763	1	10·7	8·06	14·0	12·09	1·5	0·520	0·120	0·400	52·0	−4·5	−0·8	16·0	54·5	−2·0
	June		71·9	62·0	55·4	29·916	14	9·9		16·5			0·559	0·112	0·447	55·3	−0·1		14·5	57·4	+2·0
	July		72·3	63·1	58·4	29·807	8	9·2		13·9			0·580	0·104	0·476	57·2	−1·2		13·8	58·5	+0·1
	Aug.		72·8	66·0	62·6	29·902	16	6·8		10·2			0·638	0·075	0·563	62·2	−0·4		10·2	62·6	0·0
	Sep.		70·4	63·6	59·0	30·002	1	6·8		11·4			0·590	0·077	0·513	59·4	+0·4		10·2	60·2	+1·2
1841	May	75 to 80	77·9	69·1	67·7	29·816	2	8·8		10·2			0·706	0·099	0·607	64·5	−3·2		13·2	64·7	−3·0
	June		77·3	64·1	51·9	29·572	2	13·2		15·4			0·599	0·148	0·451	55·5	+3·6		12·8	57·5	+5·6
	Aug.		77·2	68·7	67·8	29·859	3	8·5		9·4			0·697	0·096	0·601	64·2	−3·6		12·7	64·5	−3·3
1842	June		77·0	65·0	55·3	29·994	7	12·0	10·53	21·7	16·20	1·5	0·617	0·136	0·481	57·5	+2·2	+0·3	18·0	59·0	−3·7
	July		75·3	62·9	53·0	29·947	2	12·4		22·3			0·576	0·141	0·435	54·5	+1·5		18·6	56·7	+3·7
	Aug.		76·8	67·0	61·8	29·777	7	9·8		15·0			0·659	0·111	0·548	61·4	−0·4		14·7	62·1	+0·3
	Sep.		75·4	69·7	67·5	30·009	1	5·7		7·9			0·730	0·065	0·665	67·3	−0·2		8·5	66·9	−0·6
1842	June	80 to 85	81·5	68·7	61·8	30·011	3	12·8	13·24	19·7	20·70	1·6	0·697	0·146	0·551	61·6	−0·2	+0·1	19·2	62·3	+0·5
	Aug.		81·9	68·4	60·6	29·744	5	13·5		21·3			0·690	0·152	0·538	60·8	+0·2		20·3	61·6	+1·0
1842	Aug.	85 to 90	87·7	70·9	58·5	29·902	2	16·8	16·80	29·2	29·20	1·7	0·748	0·190	0·558	61·9	+3·4		25·2	62·5	+4·0

The numbers in the column headed "Factor" are obtained by dividing the mean difference between the dew-point-temperature and the air-temperature by the mean difference between the evaporation-temperature and the air-temperature.

Therefore, the values of the fraction $\frac{\text{Difference between dew-point-temperature and air-temperature}}{\text{Difference between evaporation-temperature and air-temperature}}$ result as follows:—

When the temperature of the air is between 20° and 25° the fraction = 9·0 from 1 observation.
,, 25 and 30 ,, 5·2 ,, 31 observations.
,, 30 and 32 ,, 4·1 ,, 47 ,,
,, 32 and 35 ,, 2·8 ,, 99 ,,
,, 35 and 40 ,, 2·5 ,, 187 ,,
,, 40 and 45 ,, 2·2 ,, 332 ,,
,, 45 and 50 ,, 2·1 ,, 403 ,,
,, 50 and 55 ,, 2·0 ,, 373 ,,

When the temperature of the air is between 55° and 60° the fraction = 1·7 from 339 observations.

,,	60 and 65	,,	1·7	,,	228	,,
,,	65 and 70	,,	1·6	,,	137	,,
,,	70 and 75	,,	1·5	,,	55	,,
,,	75 and 80	,,	1·5	,,	24	,,
,,	80 and 85	,,	1·6	,,	8	,,
,,	85 and 90	,,	1·7	,,	2	,,

The numbers contained in the last column of the preceding tables represent the errors of the dew-points inferred by using these factors; and they are in the greater number of the cases identical with the errors found by using Dr. Apjohn's formula. The errors are generally very small.

TABLE LI.—Mean Daily Elastic Force of Vapour for every Civil Day in the Year, except Sundays, Good Friday, and the 26th day of December.

Days of the Month, 1842.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1	0·194	0·231	0·289	0·261	*S*	0·385	0·402	0·426	0·489	0·336	0·293	0·349
2	*S*	0·258	0·285	0·224	0·256	0·411	0·381	0·440	0·601	*S*	0·302	0·336
3	0·180	0·278	0·344	*S*	0·291	0·365	*S*	0·530	0·539	0·330	0·254	0·332
4	0·152	0·217	0·255	0·204	0·293	0·392	0·458	0·480	*S*	0·304	0·223	*S*
5	0·185	0·207	0·243	0·196	0·336	*S*	0·405	0·539	0·469	0·265	0·227	0·300
6	0·184	*S*	*S*	0·207	0·357	0·408	0·348	0·521	0·449	0·319	*S*	0·247
7	0·145	0·205	0·271	0·261	0·328	0·428	0·385	*S*	0·476	0·348	0·249	0·237
8	0·141	0·253	0·290	0·235	*S*	0·470	0·402	0·465	0·447	0·379	0·239	0·223
9	*S*	0·277	0·254	0·196	0·277	0·422	0·405	0·476	0·488	*S*	0·255	0·253
10	0·158	0·315	0·208	*S*	0·265	0·421	*S*	0·552	0·416	0·361	0·312	0·235
11	0·179	0·321	0·300	0·210	0·282	0·486	0·496	0·435	*S*	0·361	0·340	*S*
12	0·182	0·344	0·252	0·185	0·320	*S*	0·412	0·465	0·416	0·355	0·330	0·383
13	0·164	*S*	*S*	0·208	0·322	0·475	0·472	0·561	0·421	0·326	*S*	0·370
14	0·201	0·238	0·285	0·227	0·346	0·504	0·386	*S*	0·481	0·312	0·299	0·339
15	0·188	0·270	0·351	0·219	*S*	0·449	0·382	0·527	0·481	0·336	0·303	0·311
16	*S*	0·292	0·337	0·202	0·346	0·404	0·401	0·515	0·452	*S*	0·266	0·345
17	0·204	0·252	0·309	*S*	0·320	0·394	*S*	0·550	0·489	0·342	0·218	0·305
18	0·188	0·200	0·256	0·257	0·333	0·407	0·478	0·578	*S*	0·308	0·208	*S*
19	0·191	0·208	0·219	0·252	0·326	*S*	0·504	0·554	0·407	0·233	0·272	0·258
20	0·175	*S*	*S*	0·260	0·315	0·465	0·437	0·465	0·338	0·204	*S*	0·321
21	0·192	0·236	0·233	0·277	0·360	0·485	0·398	*S*	0·355	0·193	0·227	0·372
22	0·194	0·263	0·196	0·331	0·329	0·405	0·356	0·508	0·338	0·246	0·220	0·328
23	*S*	0·270	0·213	0·360	0·336	0·385	0·386	0·521	0·361	*S*	0·256	0·282
24	0·153	0·264	0·207	*S*	0·373	0·478	*S*	0·431	0·401	0·223	0·276	0·206
25	0·198	0·215	Good Frid.	0·342	0·331	0·438	0·449	0·543	*S*	0·259	0·270	*S*
26	0·218	0·197	0·227	0·275	0·407	*S*	0·393	0·520	0·405	0·194	0·249	Holiday.
27	0·198	*S*	*S*	0·266	0·317	0·346	0·447	0·523	0·367	0·249	*S*	0·263
28	0·207	0·259	0·320	0·291	0·338	0·404	0·461	*S*	0·357	0·247	0·322	0·203
29	0·201	...	0·327	0·326	*S*	0·414	0·396	0·546	0·339	0·228	0·285	0·303
30	*S*	...	0·326	0·327	0·348	0·447	0·340	0·516	0·307	*S*	0·290	0·356
31	0·261	...	0·348	...	0·348	...	*S*	0·319	...	0·310	...	0·342

The letter *S* denotes that the day was Sunday.

TABLE LII.—Mean Elastic Force of Vapour for those Days in each Month in which the Force was the Greatest and the Least.

Month, 1842.	Mean Elastic Force of Vapour.		Days of the Month when the Mean Elastic Force was		Month, 1842.	Mean Elastic Force of Vapour.		Days of the Month when the Mean Elastic Force was	
	Greatest.	Least.	Greatest.	Least.		Greatest.	Least.	Greatest.	Least.
	in.	in.	d	d		in.	in.	d	d
January	0·261	0·141	31	8	July	0·504	0·340	19	30
February	0·344	0·197	12	26	August	0·578	0·319	18	31
March	0·351	0·196	15	22	September	0·601	0·307	2	30
April	0·360	0·185	23	12	October	0·379	0·193	8	21
May	0·407	0·256	26	2	November	0·340	0·208	11	18
June	0·504	0·346	14	27	December	0·383	0·203	12	28

The mean elastic force was greater on September 2 than on any other day in the year, being $0^{in}\cdot 601$; and it was less on January 8 than on any other day, being $0^{in}\cdot 141$.

TABLE LIII.—Mean Elastic Force of Vapour in each Month, deduced from the Mean of all the Two-hourly Observations in each Month.

Month, 1842.	Mean Elastic Force of Vapour.	Month, 1842.	Mean Elastic Force of Vapour.
	in.		in.
January	0·186	July	0·416
February	0·250	August	0·505
March	0·272	September	0·421
April	0·248	October	0·288
May	0·334	November	0·268
June	0·433	December	0·295

The mean of all the monthly results is $0^{in}\cdot 326$.

The suddenness of the diminution of the force from September to October is remarkable.

TABLE LIV.—The Mean Elastic Force of Vapour at every Even Hour of Göttingen Mean Time in each Month.

1842, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
14	0·170	0·239	0·271	0·242	0·307	0·379	0·397	0·465	0·394	0·272	0·257	0·287
16	0·172	0·239	0·262	0·238	0·303	0·371	0·389	0·464	0·373	0·264	0·261	0·288
18	0·175	0·235	0·257	0·235	0·311	0·409	0·393	0·462	0·389	0·263	0·264	0·291
20	0·175	0·239	0·252	0·241	0·338	0·437	0·419	0·498	0·407	0·267	0·263	0·291
22	0·187	0·250	0·263	0·255	0·354	0·453	0·425	0·527	0·442	0·285	0·277	0·300
0	0·191	0·263	0·280	0·270	0·358	0·470	0·437	0·546	0·447	0·315	0·282	0·307
2	0·199	0·272	0·284	0·269	0·355	0·472	0·435	0·546	0·447	0·317	0·284	0·310
4	0·197	0·265	0·286	0·262	0·360	0·476	0·437	0·543	0·452	0·316	0·280	0·309
6	0·194	0·257	0·278	0·249	0·349	0·459	0·422	0·528	0·440	0·304	0·269	0·301
8	0·190	0·252	0·275	0·240	0·348	0·444	0·419	0·508	0·431	0·293	0·262	0·299
10	0·188	0·248	0·274	0·239	0·317	0·421	0·418	0·489	0·421	0·287	0·258	0·283
12	0·188	0·246	0·277	0·238	0·313	0·407	0·402	0·485	0·411	0·275	0·259	0·279

The differences between the numbers contained in this table in the months of September and October at the same hours, are very large. The hours in each month at which the force exceeded that of the mean force for the month, were—

		h	h	h	h	h	h	h	h
In January	at	22,	0,	2,	4,	6,	8,	10, and	12.
February	at		0,	2,	4,	6, and	8.		
March	at		0,	2,	4,	6,	8,	10, and	12.
April	at	22,	0,	2,	4, and	6.			
May	at	20,	22,	0,	2,	4,	6, and	8.	
June	at	20,	22,	0,	2,	4,	6, and	8.	
July	at	20,	22,	0,	2,	4,	6,	8, and	10.
August	at		22,	0,	2,	4,	6, and	8	
September	at		22,	0,	2,	4,	6, and	8.	
October	at			0,	2,	4,	6, and	8.	
November	at		22,	0,	2,	4, and	6.		
December	at		22,	0,	2,	4,	6, and	8.	

And at the remaining hours in each month the force was less than the mean force for the month.

The times at which the force is about the mean force for the month are, in the winter months, 20^h and 22^h, and again, 6^h and 8^h; in the summer months, 20^h or before 20^h, and 8^h or after 8^h.

TABLE LV.—Hours of Göttingen Mean Time at which the Greatest and the Least Elastic Force of Vapour occurred in different Months, as inferred from the Monthly Means of the Two-hourly Observations; with the Forces and the Amount of the Changes.

Month, 1842.	Hour of the		Difference.	Elastic Force of Vapour.		Difference.	Hour of the		Difference.	Elastic Force of Vapour.		Difference.	Hour of the		Difference.	Elastic Force of Vapour.		Difference.	Greatest Maximum — the Smallest mum.
	1st Max.	1st Min.		1st Max.	1st Min.		2nd Max.	2nd Min.		2nd Max.	2nd Min.		3rd Max.	3rd Min.		3rd Max.	3rd Min.		
	h	h	h	in.	in.	in.	h	h	h	in.	in.	in.	h	h	h	in.	in.	in.	in.
January	2	16	14	0·199	0·172	0·027													0·027
February	2	18	16	0·272	0·235	0·037													0·037
March	4	20	16	0·286	0·252	0·034													0·034
April	0	12	12	0·270	0·238	0·032	14	18	4	0·242	0·235	0·007							0·035
May	4	16	12	0·360	0·303	0·057													0·057
June	4	16	12	0·476	0·371	0·105													0·105
July	4	16	12	0·437	0·389	0·048	0	2	2	0·437	0·435	0·002							0·048
August	0 & 2	18	18	0·546	0·462	0·084													0·084
Septemb.	4	16	12	0·452	0·373	0·079													0·079
October	2	18	16	0·317	0·263	0·054													0·054
Novemb.	2	10	8	0·284	0·258	0·026	12	14	2	0·259	0·257	0·002	18	20	2	0·264	0·263	0·001	0·027
Decemb.	2	12	10	0·310	0·279	0·031													0·031

This table shews that in every month a maximum force takes place at 0^h, 2^h, or 4^h; and a minimum generally at 16^h or 18^h. In three months, viz: April, June, and November, more than one maximum and one minimum took place, but their differences were very small.

The mean of the numbers in Table LIV are taken for March, April, and May, and called Spring;
,, ,, June, July, and August, and called Summer;
,, ,, September, October, and November, and called Autumn;
,, ,, December, January, and February, and called Winter; and thus the following Table is formed:—

TABLE LVI.—Mean Elastic Force of Vapour at every Even Hour of Göttingen Mean Time in Quarterly Periods.

Hour of Göttingen Mean Time.	1842.				Mean.
	Spring.	Summer.	Autumn.	Winter.	
h	in.	in.	in.	in.	in.
14	0·273	0·414	0·308	0·232	0·307
16	0·268	0·408	0·299	0·233	0·302
18	0·268	0·421	0·305	0·234	0·307
20	0·277	0·451	0·312	0·235	0·321
22	0·291	0·468	0·335	0·246	0·335
0	0·303	0·484	0·348	0·254	0·347
2	0·303	0·484	0·349	0·260	0·349
4	0·303	0·485	0·349	0·257	0·348
6	0·292	0·470	0·338	0·251	0·338
8	0·288	0·457	0·329	0·247	0·330
10	0·277	0·443	0·322	0·240	0·321
12	0·276	0·431	0·315	0·238	0·315

From this table it appears that the force is nearly constant in the Spring, the Summer, and the Autumn, between 0^h and 4^h, at which times the maximum force takes place; the times at which the minimum force occurs vary from 16^h to 20^h, and the force varies but little during these times except in the Summer period.

The mean force in Spring, was 0·285 in.
,, Summer, was 0·451
,, Autumn, was 0·326
,, Winter, was 0·244
,, for the year, was 0·327

And the mean force at 14h was less than the mean force for the year by 0·020 in.
,, 16 ,, ,, 0·025
,, 18 ,, ,, 0·020
,, 20 ,, ,, 0·006
,, 22 was greater than the mean force for the year by 0·008
,, 0 ,, ,, 0·020
,, 2 ,, ,, 0·022
,, 4 ,, ,, 0·021
,, 6 ,, ,, 0·011
,, 8 ,, ,, 0·003
,, 10 was less than the mean force for the year by 0·006
,, 12 ,, ,, 0·012

The mean elastic form of vapour at 8h is therefore nearly the same as the mean elastic force for the year.

TABLE LVII.—Mean Weight in Grains Troy of Vapour in a Cubic Foot of Air, for every Civil Day in the Year, except Sundays, Good Friday, and the 26th day of December.

Days of the Month, 1842.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.
1	2·3	2·7	3·4	3·0	*S*	4·4	4·6	4·8	5·5	3·9	3·4	4·0
2	*S*	3·0	3·3	2·6	2·9	4·6	4·3	4·9	6·6	*S*	3·5	3·7
3	2·2	3·2	3·9	*S*	3·3	4·1	*S*	5·9	6·0	3·8	3·0	3·8
4	1·8	2·6	3·0	2·4	3·4	4·4	5·1	5·3	*S*	3·5	2·6	*S*
5	2·2	2·5	2·8	2·3	3·8	*S*	4·6	6·0	5·3	3·1	2·7	3·5
6	2·2	*S*	*S*	2·4	4·1	4·6	3·9	5·8	5·0	3·7	*S*	2·9
7	1·7	2·4	3·1	3·0	3·7	4·8	4·3	*S*	5·3	4·0	2·9	2·8
8	1·7	3·0	3·3	2·7	*S*	5·2	4·5	5·2	5·0	4·3	2·8	2·6
9	*S*	3·2	3·0	2·3	3·2	4·7	4·6	5·3	5·5	*S*	3·0	3·0
10	1·9	3·6	2·4	*S*	3·1	4·7	*S*	6·0	4·7	4·1	3·6	2·8
11	2·1	3·7	3·5	2·5	3·2	5·4	5·5	4·9	*S*	4·1	3·9	*S*
12	2·2	3·9	2·9	2·2	3·7	*S*	4·6	5·1	4·7	4·1	3·8	4·4
13	2·0	*S*	*S*	2·5	3·7	5·3	5·3	6·2	4·8	3·7	*S*	4·2
14	2·4	2·8	3·3	2·6	3·9	5·6	4·3	*S*	5·4	3·6	3·5	3·9
15	2·2	3·1	4·0	2·6	*S*	5·1	4·3	5·8	5·4	3·8	3·5	3·6
16	*S*	3·4	3·9	2·4	3·9	4·5	4·5	5·7	5·1	*S*	3·1	3·9
17	2·4	2·9	3·6	*S*	3·7	5·4	*S*	6·1	5·5	3·9	2·6	3·5
18	2·2	2·4	3·0	3·0	3·8	4·6	5·3	6·3	*S*	3·5	2·5	*S*
19	2·3	2·5	2·6	2·9	3·7	*S*	5·6	6·1	4·6	2·7	3·1	3·0
20	2·1	*S*	*S*	3·0	3·6	5·2	4·9	5·2	3·9	2·4	*S*	3·7
21	2·3	2·8	2·7	3·2	4·1	5·4	4·5	*S*	4·1	2·3	2·7	4·3
22	2·3	3·1	2·3	3·8	3·8	4·5	4·0	5·6	3·9	2·9	2·6	3·8
23	*S*	3·1	2·5	4·1	3·8	4·3	4·4	5·8	4·1	*S*	3·0	3·3
24	1·8	3·1	2·4	*S*	4·3	5·3	*S*	4·8	4·6	2·6	3·2	2·4
25	2·3	2·5	GoodFriday	3·9	3·8	4·9	5·0	6·1	*S*	3·0	3·1	*S*
26	2·5	2·3	2·7	3·1	4·6	*S*	4·4	5·8	4·6	2·3	2·9	Holiday.
27	2·3	*S*	*S*	3·1	3·6	3·9	5·0	5·8	4·2	2·9	*S*	3·1
28	2·5	3·0	3·7	3·3	3·8	4·5	5·1	*S*	4·1	2·9	3·7	2·4
29	2·4	...	3·3	3·7	*S*	4·6	4·5	6·1	3·9	2·7	3·3	3·5
30	*S*	...	3·7	3·7	3·9	5·0	3·9	5·8	3·5	*S*	3·4	4·1
31	3·0	...	3·9	...	3·9	...	*S*	5·6	...	3·6	...	3·9

The letter *S* denotes that the day was Sunday.

TABLE LVIII.—Mean Weight in Grains Troy of Vapour in a Cubic Foot of Air, for those Days in each Month when the Mean Weight was the Greatest or the Least.

Month, 1842.	Mean Weight in Grains Troy of a Cubic Foot of Vapour.		Difference.	Day of the Month when the Mean Weight was	
	Greatest.	Least.		Greatest.	Least.
	gr.	gr.	gr.	d	d d
January	3·0	1·7	1·3	31	7 & 8
February	3·9	2·3	1·6	12	26
March	4·0	2·4	1·6	15	10 & 24
April	4·1	2·2	1·9	23	12
May	4·6	2·9	1·7	26	2
June	5·6	3·9	1·7	14	27
July	5·6	3·9	1·7	19	6 & 30
August	6·3	4·8	1·5	18	1 & 24
September	6·6	3·5	1·1	2	30
October	4·3	2·3	2·0	8	21 & 26
November	3·9	2·5	1·4	11	18
December	4·4	2·4	2·0	12	24 & 28

The day in the year on which the mean weight of vapour in a cubic foot of air was the greatest was September 2nd, the weight being 6·6 grains troy; and the days on which the weight was less than on any other days during the year were January 7th and 8th, the weight being 1·7 grains troy.

TABLE LIX. — Mean Weight in Grains Troy of Vapour in a Cubic Foot of Air in each Month, deduced from the Mean of all the Two-hourly Observations in each Month.

Month, 1842.	Mean Weight of Vapour.	Month, 1842.	Mean Weight of Vapour.	Month, 1842.	Mean Weight of Vapour.
	gr.		gr.		gr.
January	2·2	May	3·8	September	4·8
February	2·9	June	4·8	October	3·3
March	3·2	July	4·7	November	3·1
April	2·9	August	5·6	December	3·4

The mean of all the monthly results is 3·7 grains.

TABLE LX. — Mean Weight in Grains Troy of Vapour in a Cubic Foot of Air, at every Even Hour of Göttingen Mean Time in each Month.

1842, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	Sep.	Oct.	Nov.	Dec.
h	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.
14	2·0	2·8	3·2	2·8	3·5	4·3	4·5	5·2	4·5	3·2	3·0	3·3
16	2·0	2·8	3·1	2·8	3·5	4·2	4·4	5·2	4·3	3·1	3·0	3·4
18	2·1	2·8	3·0	2·8	3·6	4·7	4·5	5·2	4·4	3·1	3·1	3·4
20	2·1	2·8	2·9	2·9	3·9	4·9	4·7	5·6	4·6	3·1	3·1	3·4
22	2·2	2·9	3·1	2·9	4·0	5·0	4·7	5·8	5·0	3·3	3·2	3·5
0	2·3	3·1	3·2	3·1	4·0	5·2	4·8	6·0	5·0	3·6	3·3	3·5
2	2·4	3·1	3·3	3·1	4·0	5·2	4·8	6·0	5·0	3·6	3·3	3·6
4	2·3	3·1	3·2	3·0	4·0	5·2	4·8	5·9	5·1	3·6	3·2	3·6
6	2·3	3·0	3·2	2·8	3·9	5·1	4·7	5·8	5·0	3·5	3·2	3·5
8	2·3	2·9	3·2	2·8	3·9	5·0	4·7	5·7	4·9	3·4	3·0	3·4
10	2·2	2·9	3·2	2·8	3·6	4·7	4·7	5·5	4·8	3·3	3·0	3·3
12	2·2	2·9	3·2	2·8	3·6	4·6	4·6	5·4	4·7	3·3	3·0	3·2

The means of the numbers contained in this table are taken for March, April, and May, and called Spring;
for June, July, and August, and called Summer;
for September, October, and November, and called Autumn;
for December, January, and February, and called Winter;

and thus the following table is formed :—

TABLE LXI.—Mean Weight in Grains Troy of Vapour in a Cubic Foot of Air, at every Even Hour of Göttingen Mean Time in Quarterly Periods.

Hour, Göttingen Mean Time.	1842.				Mean.
	Spring.	Summer.	Autumn.	Winter.	
h	gr.	gr.	gr.	gr	gr.
14	3·2	4·7	3·6	2·7	3·6
16	3·1	4·6	3·5	2·7	3·5
18	3·1	4·8	3·5	2·8	3·5
20	3·2	5·1	3·6	2·8	3·7
22	3·3	5·2	3·8	2·9	3·8
0	3·4	5·3	4·0	3·0	3·9
2	3·5	5·3	4·0	3·0	4·0
4	3·4	5·3	4·0	3·0	3·9
6	3·3	5·2	3·9	2·9	3·8
8	3·3	5·1	3·8	2·9	3·8
10	3·2	5·0	3·7	2·8	3·7
12	3·2	4·9	3·7	2·8	3·6

The mean weight of vapour in a cubic foot of air in Spring, was 3·3 grains
,, ,, Summer, was 5·0 ,,
,, ,, Autumn, was 3·8 ,,
,, ,, Winter, was 2·9 ,,
,, ,, for the year, was 3·7 ,,

TABLE LXII.—Mean additional Weight of Vapour in Grains Troy, required for complete Saturation of a Cubic Foot of Air, on every Civil Day of the Year, except Sundays, Good Friday, and the 26th day of December.

Days of the Month, 1842.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.
1	0·31	0·29	0·39	0·52	*S*	1·78	0·89	1·09	0·09	0·40	0·18	0·25
2	*S*	0·33	0·23	0·32	1·72	1·42	1·23	1·05	0·98	*S*	0·16	0·82
3	0·00	0·08	0·51	*S*	1·21	1·73	*S*	1·39	0·41	0·36	0·21	0·18
4	0·34	0·07	0·57	0·59	1·30	2·24	1·75	2·19	*S*	0·46	0·17	*S*
5	0·16	0·03	0·45	0·69	0·75	*S*	1·34	1·55	0·73	0·27	0·40	0·04
6	0·30	*S*	*S*	0·74	0·51	2·17	1·61	0·53	0·81	0·35	*S*	0·00
7	0·49	0·15	0·28	0·58	0·68	1·71	0·87	*S*	0·52	0·52	0·36	0·00
8	0·45	0·00	0·74	0·70	*S*	1·89	1·02	1·58	0·44	0·17	0·36	0·03
9	*S*	0·26	0·21	0·75	0·73	1·93	1·02	2·49	0·27	*S*	0·44	0·05
10	0·22	0·19	0·75	*S*	0·97	2·26	*S*	2·79	0·60	0·54	0·26	0·03
11	0·23	0·30	0·29	0·65	1·66	2·20	1·52	1·45	*S*	0·33	0·20	*S*
12	0·23	0·21	0·71	0·82	0·27	*S*	1·82	1·43	0·70	0·30	0·46	0·15
13	0·38	*S*	*S*	0·46	1·17	1·97	1·38	0·72	0·53	0·52	*S*	0·48
14	0·11	0·49	0·33	0·56	1·07	2·08	1·86	*S*	0·66	0·41	0·25	0·26
15	0·19	0·46	0·18	0·71	*S*	1·41	2·20	2·16	0·56	0·54	0·06	0·42
16	*S*	0·08	0·29	0·77	1·23	1·73	1·42	2·11	0·33	*S*	0·24	0·38
17	0·30	0·24	0·49	*S*	0·93	0·41	*S*	1·00	0·76	0·33	0·47	0·37
18	0·05	0·30	0·78	0·53	0·51	0·81	1·68	2·81	*S*	0·52	0·40	*S*
19	0·00	0·06	0·66	0·53	0·67	*S*	0·89	1·06	0·38	0·40	0·41	0·03
20	0·19	*S*	*S*	0·82	1·00	1·17	0·75	1·36	0·45	0·32	*S*	0·07

The letter *S* denotes that the day was Sunday.

TABLE LXII.—*continued.*

Days of the Month, 1842.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.
21	0·10	0·22	0·40	0·56	0·73	0·94	0·64	*S*	0·41	0·39	0·35	0·17
22	0·21	0·20	0·67	0·50	1·16	1·73	1·21	1·78	0·27	0·11	0·15	0·44
23	*S*	0·40	0·18	1·21	1·27	1·42	1·37	1·60	0·22	*S*	0·16	0·25
24	0·25	0·33	0·46	*S*	0·39	0·95	*S*	1·83	0·18	0·34	0·34	0·23
25	0·30	0·41	Good Friday	1·18	0·90	0·96	1·18	0·50	*S*	0·12	0·25	*S*
26	0·33	0·50	0·71	1·32	0·56	*S*	1·52	1·24	0·36	0·58	0·46	Holiday.
27	0·58	*S*	*S*	1·25	1·99	2·12	0·73	0·90	0·27	0·51	*S*	0·20
28	0·27	0·44	0·62	1·42	1·53	2·18	1·21	*S*	0·41	0·35	0·36	0·18
29	0·18	...	1·10	0·87	*S*	2·51	0·88	0·54	0·63	0·30	0·32	0·37
30	*S*	...	0·55	0·57	1·93	1·02	2·33	0·49	0·66	*S*	0·10	0·41
31	0·16	...	0·38	...	1·66	...	*S*	0·33	...	0·32	...	0·40

The letter *S* denotes that the day was Sunday.

TABLE LXIII.—Mean additional Weight of Vapour in Grains Troy, required for complete Saturation of a Cubic Foot of Air, in each Month, deduced from the Mean of all the Two-hourly Observations in each Month.

Month, 1842.	Mean additional Weight of Vapour.	Month, 1842.	Mean additional Weight of Vapour.
	gr.		gr.
January	0·24	July	1·33
February	0·26	August	1·47
March	0·50	September	0·52
April	0·83	October	0·36
May	1·02	November	0·28
June	1·74	December	0·21

The mean of all the monthly results is 0·73 grains.

TABLE LXIV.—The Mean additional Weight of Vapour in Grains Troy, required for complete Saturation of a Cubic Foot of Air, at every Even Hour of Göttingen Mean Time in each Month.

1842. Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	Sep.	Oct.	Nov.	Dec.
h	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.
14	0·34	0·15	0·25	0·23	0·29	0·56	0·35	0·30	0·16	0·10	0·22	0·14
16	0·27	0·15	0·23	0·23	0·29	0·43	0·28	0·19	0·33	0·08	0·20	0·14
18	0·23	0·15	0·21	0·25	0·28	0·18	0·35	0·17	0·09	0·08	0·17	0·12
20	0·23	0·09	0·34	0·48	0·55	1·22	0·92	0·66	0·16	0·10	0·18	0·12
22	0·19	0·19	0·60	0·99	1·17	2·38	1·77	1·74	0·54	0·40	0·25	0·13
0	0·27	0·40	0·70	1·27	1·78	2·95	2·34	2·75	1·13	0·68	0·49	0·17
2	0·28	0·57	0·98	1·63	2·17	3·52	2·56	3·48	1·31	0·81	0·49	0·47
4	0·31	0·57	0·94	1·65	1·87	3·38	2·53	3·29	0·97	0·80	0·44	0·35
6	0·19	0·36	0·73	1·38	1·60	2·81	2·21	2·58	0·76	0·55	0·26	0·24
8	0·18	0·19	0·41	0·87	1·06	1·77	1·38	1·38	0·37	0·42	0·27	0·16
10	0·21	0·16	0·37	0·56	0·74	1·07	0·74	0·72	0·23	0·24	0·22	0·23
12	0·17	0·10	0·23	0·36	0·44	0·64	0·48	0·36	0·16	0·11	0·22	0·21

The means of the numbers contained in this table are taken for March, April, and May, and called Spring;
for June, July, and August, and called Summer;
for September, October, and November, and called Autumn;
for December, January, and February, and called Winter;

and thus the following table is formed :—

TABLE LXV.—Mean additional Weight of Vapour in Grains Troy, required for complete Saturation of a Cubic Foot of Air, at every Even Hour of Göttingen Mean Time in Quarterly Periods.

Hour, Göttingen Mean Time.	1842.				Mean.
	Spring.	Summer.	Autumn.	Winter.	
h	gr.	gr.	gr.	gr.	gr.
14	0·26	0·40	0·16	0·21	0·26
16	0·25	0·30	0·20	0·19	0·24
18	0·25	0·23	0·11	0·17	0·19
20	0·46	0·93	0·15	0·15	0·42
22	0·92	1·96	0·40	0·17	0·86
0	1·25	2·68	0·77	0·28	1·24
2	1·59	3·19	0·87	0·44	1·52
4	1·49	3·07	0·74	0·41	1·43
6	1·24	2·53	0·52	0·26	1·14
8	0·78	1·51	0·35	0·18	0·71
10	0·56	0·84	0·23	0·20	0·46
12	0·34	0·49	0·16	0·16	0·29

The mean additional weight required in Spring, was 0·78 grains.
,, ,, Summer, was 1·51 ,,
,, ,, Autumn, was 0·39 ,,
,, ,, Winter, was 0·24 ,,
,, ,, for the year, was 0·73 ,,

TABLE LXVI.—Mean Degree of Humidity (complete Saturation = 1), for every Day in the Year, except Sundays, Good Friday, and the 26th day of December.

Days of the Month, 1842.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	0·917	0·903	0·896	0·853	*S*	0·716	0·833	0·814	0·984	0·906	0·949	0·941
2	*S*	0·901	0·935	0·891	0·629	0·764	0·777	0·824	0·871	*S*	0·956	0·820
3	1·000	0·976	0·885	*S*	0·734	0·703	*S*	0·811	0·936	0·913	0·934	0·955
4	0·843	0·974	0·839	0·802	0·720	0·661	0·744	0·708	*S*	0·884	0·939	*S*
5	0·932	0·988	0·860	0·769	0·836	*S*	0·773	0·794	0·878	0·919	0·868	0·989
6	0·879	*S*	*S*	0·766	0·889	0·677	0·709	0·917	0·861	0·913	*S*	0·990
7	0·780	0·942	0·918	0·839	0·846	0·737	0·831	*S*	0·911	0·884	0·890	1·000
8	0·791	1·000	0·819	0·797	*S*	0·734	0·817	0·766	0·919	0·962	0·886	0·981
9	*S*	0·925	0·934	0·753	0·813	0·709	0·817	0·678	0·949	*S*	0·871	0·983
10	0·896	0·950	0·764	*S*	0·759	0·673	*S*	0·684	0·887	0·884	0·933	0·989
11	0·903	0·925	0·923	0·791	0·660	0·710	0·783	0·770	*S*	0·928	0·951	*S*
12	0·904	0·949	0·804	0·723	0·932	*S*	0·717	0·784	0·871	0·931	0·892	0·967
13	0·837	*S*	*S*	0·842	0·758	0·727	0·792	0·896	0·900	0·878	*S*	0·893
14	0·906	0·850	0·908	0·825	0·786	0·728	0·700	*S*	0·891	0·898	0·933	0·937
15	0·921	0·872	0·959	0·783	*S*	0·783	0·660	0·728	0·905	0·877	0·983	0·895
16	*S*	0·977	0·930	0·754	0·762	0·723	0·760	0·729	0·939	*S*	0·928	0·912
17	0·888	0·924	0·879	*S*	0·797	0·930	*S*	0·859	0·875	0·920	0·844	0·905
18	0·980	0·887	0·791	0·848	0·882	0·850	0·759	0·692	*S*	0·871	0·860	*S*
19	1·000	0·976	0·794	0·847	0·847	*S*	0·863	0·853	0·924	0·872	0·885	0·990
20	0·917	*S*	*S*	0·786	0·782	0·816	0·868	0·792	0·897	0·883	*S*	0·981
21	0·960	0·992	0·872	0·851	0·849	0·852	0·876	*S*	0·908	0·854	0·883	0·962
22	0·917	0·939	0·774	0·883	0·764	0·724	0·769	0·759	0·935	0·963	0·945	0·898
23	*S*	0·887	0·933	0·771	0·750	0·753	0·761	0·783	0·950	*S*	0·949	0·929
24	0·900	0·903	0·841	*S*	0·916	0·849	*S*	0·724	0·962	0·883	0·903	0·914
25	0·810	0·860	Good Friday.	0·766	0·807	0·837	0·809	0·924	*S*	0·962	0·927	Christmas-Day and Sunday
26	0·890	0·823	0·788	0·704	0·891	*S*	0·744	0·823	0·927	0·797	0·863	Holiday.
27	0·800	*S*	*S*	0·709	0·646	0·647	0·873	0·866	0·939	0·850	*S*	0·939
28	0·829	0·873	0·855	0·700	0·713	0·674	0·810	*S*	0·909	0·892	0·911	0·930
29	0·930	...	0·752	0·810	*S*	0·647	0·836	0·918	0·860	0·899	0·912	0·904
30	*S*	...	0·872	0·702	0·669	0·831	0·743	0·922	0·842	*S*	0·971	0·908
31	0·950	...	0·911	...	0·703	...	*S*	0·945	...	0·918	...	0·907

The letter *S* denotes that the day was Sunday.

In this table there are four days in which the air was completely saturated with moisture throughout the day; viz. January 3rd and 19th, Feb. 8th, and December 7th. Besides these, there are 26 days in which the air was nearly in the same state, viz., January 18th, 21st; February 3rd, 4th, 5th, 16th, 19th, 21st; March 15th; September 1st; October 8th, 22nd, 25th; November 2nd, 15th, 30th; December 3rd, 5th, 6th, 8th, 9th, 10th, 12th, 19th, 20th, and 21st.

TABLE LXVII.—Mean Degree of Humidity (complete Saturation = 1) on those Days in each Month when the Mean Degree of Humidity was the Greatest or Least.

Month, 1842.	Mean Degree of Humidity.		Extreme Range of the Daily Mean Degree of Humidity in each Month.	Day of the Month when the Mean Degree of Humidity is	
	Greatest.	Least.		Greatest.	Least.
				d d	d
January	1·000	0·780	0·220	3 & 19	7
February	1·000	0·823	0·177	8	26
March	0·959	0·752	0·207	15	29
April	0·891	0·700	0·191	2	28
May	0·932	0·629	0·303	12	2
June	0·930	0·647	0·283	17	27 & 29
July	0·876	0·660	0·216	21	15
August	0·945	0·678	0·267	31	9
September	0·984	0·842	0·142	1	30
October	0·963	0·797	0·166	22	26
November	0·983	0·844	0·139	15	17
December	1·000	0·820	0·180	7	2

The day on which the degree of humidity was less than on any other day in the year was May 2nd, it then being 0·629; the difference between this and unity represents the yearly range of the mean daily degree of moisture in the atmosphere, viz. 0·371.

TABLE LXVIII.—Mean Degree of Humidity (complete Saturation = 1) in each Month, deduced from the Mean of all the Two-hourly Observations in each Month.

Month, 1842.	Mean Degree of Humidity.	Month, 1842.	Mean Degree of Humidity.
January	0·896	July	0·794
February	0·923	August	0·819
March	0·869	September	0·909
April	0·794	October	0·908
May	0·805	November	0·918
June	0·762	December	0·937

The mean of all the monthly results is, 0·861.

TABLE LXIX.—The Mean Degree of Humidity (complete Saturation being 1) at every Even Hour of Göttingen Mean Time in each Month.

1842. Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	Sep.	Oct.	Nov.	Dec.
h												
14	0·881	0·949	0·927	0·925	0·924	0·885	0·928	0·946	0·966	0·969	0·931	0·960
16	0·883	0·949	0·930	0·924	0·923	0·908	0·941	0·965	0·928	0·975	0·938	0·960
18	0·901	0·948	0·934	0·917	0·928	0·963	0·927	0·975	0·980	0·975	0·948	0·966
20	0·901	0·969	0·896	0·858	0·875	0·800	0·802	0·894	0·967	0·969	0·944	0·966
22	0·921	0·939	0·837	0·748	0·773	0·678	0·728	0·770	0·903	0·892	0·928	0·964
0	0·894	0·884	0·807	0·709	0·692	0·637	0·673	0·685	0·816	0·841	0·869	0·898
2	0·800	0·846	0·769	0·653	0·645	0·594	0·653	0·631	0·793	0·804	0·870	0·883
4	0·880	0·844	0·775	0·644	0·683	0·607	0·656	0·643	0·839	0·818	0·880	0·910
6	0·924	0·893	0·814	0·673	0·711	0·643	0·680	0·692	0·867	0·863	0·924	0·909
8	0·927	0·939	0·886	0·762	0·784	0·741	0·773	0·804	0·929	0·889	0·918	0·955
10	0·914	0·948	0·895	0·832	0·830	0·815	0·864	0·884	0·954	0·933	0·932	0·935
12	0·929	0·963	0·962	0·885	0·891	0·878	0·905	0·938	0·967	0·967	0·932	0·939

This table shews that at 2^h generally, the atmosphere is in its driest state, and that it continues in that state, with but slight variations, till 6^h; after this hour it becomes more charged with moisture, which increases till 12^h, 14^h, or later, about which times the air is most saturated; the changes during the night hours are small.

The degree of humidity is less than the mean degree for the month in January at 0^h, 2^h, and 4^h, and slightly so at 14^h and 16^h.

,, ,, in February at 0^h, 2^h, 4^h, and 6^h.

,, ,, in March at 22^h, 0^h, 2^h, 4^h, and 6^h.

,, ,, from April to August at 22^h, 0^h, 2^h, 4^h, 6^h, and 8^h.

,, ,, in September at 22^h, 0^h, 2^h, and 4^h.

,, ,, in October at 22^h, 0^h, 2^h, 4^h, and 6^h.

,, ,, in November at 0^h, 2^h, and 4^h.

,, ,, in December at 0^h, 2^h, 4^h, and 6^h, and very slightly so at 10^h.

At the remaining hours in each month the degree of humidity exceeds the mean degree for the month.

In January, February, November, and December, the atmosphere is in its mean state of humidity between 22^h and 0^h; and again between 4^h and 8^h. In the remaining eight months the atmosphere is in its mean state of humidity two hours earlier, or between 20^h and 22^h, and again between 6^h and 8^h.

TABLE LXX.—Hours of Göttingen Mean Time at which the Greatest and the Least Degree of Humidity took place (complete Saturation being 1), as inferred from the Monthly Means of the Two-hourly Observations, with the Degrees and the Amount of the Changes.

Month, 1842.	Hour of the		Difference.	Degree of Humidity.		Difference.	Hour of the		Difference.	Degree of Humidity.		Difference.	Hour of the		Difference.	Degree of Humidity.		Difference.	Greatest Maximum — the Smallest Minimum.
	1st Min.	1st Max.		1st Min.	1st Max.		2nd Min.	2ndMax.		2nd Min.	2nd Max.		3rd Min.	3rd Max.		3rd Min.	3rd Max.		
	h	h	h				h	h	h				h	h	h				
January	2	8	6	0·800	0·927	0·127	10	12	2	0·914	0·929	0·015	14	22	8	0·881	0·921	0·040	0·129
February	4	12	8	0·844	0·963	0·119	18	20	2	0·948	0·969	0·021							0·125
March	2	12	10	0·769	0·962	0·193	14	18	4	0·927	0·934	0·007							0·193
April	4	14	10	0·644	0·925	0·281													0·281
May	2	14	10	0·645	0·924	0·279	16	18	2	0·923	0·928	0·005							0·283
June	2	18	16	0·594	0·963	0·369													0·369
July	2	16	14	0·653	0·941	0·288													0·288
August	2	18	16	0·631	0·975	0·344													0·344
September	2	12	10	0·793	0·967	0·174	16	18	2	0·928	0·980	0·052							0·187
October	2	16 & 18	14 & 16	0·804	0·975	0·171													0·171
November	0	6	6	0·869	0·924	0·055	8	10	2	0·918	0·932	0·014	14	18	4	0·931	0·948	0·017	0·079
December	2	4	2	0·883	0·910	0·027	6	8	2	0·909	0·955	0·046	10	18	8	0·935	0·966	0·031	0·083

From this table it appears, that with the exception of April, June, July, August, and October, the degree of moisture in the atmosphere is subject to an alternate increase and decrease, and the last column shews that the changes are much larger in the summer than at any other period.

The means of the numbers in Table LXIX. are taken for March, April, and May, and called Spring;
,, for June, July, and August, and called Summer;
,, for September, October, and November, and called Autumn;
,, for December, January, and February, and called Winter;
and thus the following table is formed:—

TABLE LXXI.—Mean Degree of Humidity (complete Saturation being 1), at every Even Hour of Göttingen Mean Time in Quarterly Periods.

Hour, Göttingen Mean Time.	1842.				Mean.
	Spring.	Summer.	Autumn.	Winter.	
h					
14	0·925	0·920	0·955	0·930	0·933
16	0·926	0·938	0·947	0·931	0·935
18	0·926	0·955	0·968	0·938	0·947
20	0·876	0·832	0·960	0·945	0·903
22	0·786	0·725	0·908	0·941	0·840
0	0·736	0·665	0·842	0·892	0·784
2	0·689	0·626	0·822	0·843	0·745
4	0·701	0·635	0·846	0·878	0·765
6	0·733	0·672	0·885	0·909	0·800
8	0·811	0·773	0·912	0·940	0·859
10	0·852	0·854	0·940	0·932	0·895
12	0·913	0·907	0·955	0·944	0·930

Thus, it appears that at 2^h the least degree of humidity prevails, and at about 18^h the greatest, in all periods of the year.

The mean degree of humidity in Spring, is 0·823
,, Summer, is 0·792
,, Autumn, is 0·912
,, Winter, is 0·919
,, for the year, is 0·861

Comparing this last number with those contained in the last column, we find that

h
At 14 the degree of humidity is 0·072 greater than the mean of the year.
16 ,, 0·074 ,,
18 ,, 0·086 ,,
20 ,, 0·042 ,,
22 ,, 0·021 less than the mean of the year.
0 ,, 0·077 ,,
2 ,, 0·116 ,,
4 ,, 0·096 ,,
6 ,, 0·061 ,,
8 ,, 0·002 ,,
10 ,, 0·034 greater than the mean of the year.
12 ,, 0·069 ,,

And thus it appears, that the degree of humidity at 8^h is very nearly the same as the degree of humidity for the year.

TABLE LXXII.—Mean Weight in Grains Troy of a Cubic Foot of Air, for every Civil Day in the Year, except Sundays, Good Friday, and the 26th day of December.

Days of the Month, 1842.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.
1	561·4	553·3	532·2	532·6	*S*	529·1	525·5	531·3	528·3	542·9	547·9	539·6
2	*S*	551·0	540·2	545·6	536·7	530·1	526·7	528·5	519·6	*S*	546·1	537·4
3	561·4	555·1	534·9	*S*	535·1	531·9	*S*	518·0	527·1	540·4	548·9	545·5
4	562·7	564·0	543·3	555·4	527·7	524·4	517·4	519·2	*S*	542·8	555·7	*S*
5	561·3	562·8	548·4	558·0	531·7	*S*	522·4	526·0	528·9	550·8	553·2	551·1
6	561·9	*S*	*S*	551·5	525·6	521·8	531·2	522·3	526·2	546·4	*S*	555·1
7	571·4	552·5	540·8	543·9	524·3	527·1	532·4	*S*	522·7	542·5	550·8	560·1
8	572·1	548·5	531·0	548·5	*S*	524·3	524·8	522·8	519·6	543·7	551·5	553·1
9	*S*	542·5	540·1	557·4	540·6	526·3	523·1	520·2	518·0	*S*	542·7	557·3
10	565·4	541·2	541·5	*S*	543·0	524·0	*S*	507·9	521·5	543·4	534·9	557·8
11	560·8	541·2	542·5	553·8	532·6	521·5	514·5	523·2	*S*	543·2	524·7	*S*
12	560·3	540·3	543·0	552·7	540·0	*S*	522·6	527·8	527·0	543·0	525·6	534·5
13	557·5	*S*	*S*	551·6	535·4	523·7	525·9	518·1	532·7	542·7	*S*	536·0
14	550·9	556·6	548·8	548·2	536·4	519·1	531·9	*S*	529·0	545·0	537·9	541·4
15	557·9	553·4	545·8	549·3	*S*	524·1	530·0	519·6	528·5	542·4	539·3	543·0
16	*S*	554·9	546·2	550·8	538·7	525·2	529·1	519·9	530·6	*S*	543·4	539·0
17	557·1	555·6	540·9	*S*	539·9	528·0	*S*	521·7	521·2	537·5	555·3	542·9
18	568·7	562·2	537·9	548·1	538·6	530·1	518·1	510·2	*S*	529·4	562·9	*S*
19	569·3	563·7	539·4	549·4	533·2	*S*	520·0	517·6	525·3	537·5	547·1	559·1
20	563·8	*S*	*S*	545·2	530·6	519·6	523·4	525·7	529·3	548·7	*S*	549·6
21	560·3	547·4	548·5	545·3	529·3	518·1	527·4	*S*	526·4	551·9	547·3	542·1
22	552·5	542·9	553·3	537·7	529·4	520·3	531·9	517·4	530·2	541·7	544·4	541·2
23	*S*	532·8	557·7	529·5	529·4	524·8	529·2	517·0	528·0	*S*	538·8	538·6
24	560·1	531·3	556·4	*S*	532·0	519·2	*S*	519·9	523·7	539·0	525·5	550·4
25	547·6	538·1	Good Friday	533·3	532·8	524·2	524·6	518·1	*S*	540·5	526·9	*S*
26	541·9	543·5	539·5	538·4	529·6	*S*	527·0	517·7	530·3	541·8	531·7	Holiday
27	550·8	*S*	*S*	540·5	527·8	530·1	529·7	520·8	535·1	541.9	*S*	538·0
28	552·6	537·9	543·8	536·2	531·3	526·7	527·8	*S*	537·6	542·3	522·8	557·6
29	557·9	...	545·2	537·0	*S*	522·1	528·2	521·9	537·6	547·7	535·6	545·3
30	*S*	...	536·2	528·4	537·9	515·6	532·4	525·0	541·9	*S*	541·4	540·4
31	549·7	...	534·2	...	531·4	...	*S*	534·1	...	546·0	...	540·2

The letter *S* denotes that the day was Sunday.

TABLE LXXIII.—Mean Weight in Grains Troy of a Cubic Foot of Air, for those days in each Month when the Mean Weight was the Greatest and the Least.

Month, 1842.	Mean Weight in grains Troy of a Cubit Foot of Air.		Difference.	Day of the Month when the Mean Weight was the	
	Greatest.	Least.		Greatest.	Least.
	gr.	gr.	gr.	d	d
January	572·1	541·9	30·2	8	26
February	564·0	531·3	32·7	4	24
March	557·7	531·0	26·7	23	8
April	558·0	528·4	29·6	5	30
May	543·0	524·3	18·7	10	7
June	531·9	515·6	26·3	3	30
July	532·4	514·5	17·9	7 & 30	11
August	534·1	507·9	26·2	31	10
September	541·9	518·0	23·9	30	9
October	551·9	529·4	22·5	21	18
November	562·9	522·8	40·1	18	28
December	560·1	534·5	25·6	7	12

The day in the year on which the mean weight of a cubic foot of air was the greatest, was in January, on the 8th day; and the day when it was the least was in August, on the 10th day; the weights were respectively 572·1 grains and 507·9 grains: the difference of these numbers is 64·2 grains.

TABLE LXXIV.—Mean Weight in Grains Troy of a Cubic Foot of Air in each Month, deduced from the Mean of all the Two-hourly Observations in each Month.

Month, 1842.	Mean Weight.	Month, 1842.	Mean Weight.
	gr.		gr.
January	559·1	July	525·9
February	549·1	August	521·0
March	542·0	September	528·1
April	545·0	October	543·2
May	533·1	November	541·7
June	524·8	December	546·3

The mean of all the monthly results is 538·3 grains.

TABLE LXXV.—Mean Weight in Grains Troy of a Cubic Foot of Air, at every Even Hour of Göttingen Mean Time in each Month.

1842, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.
14	561·7	551·6	543·8	550·7	540·5	534·3	532·0	528·2	533·5	547·3	543·6	548·0
16	561·1	551·6	544·9	551·3	540·5	535·8	533·1	529·2	532·4	548·2	543·4	547·6
18	560·9	551·5	545·7	550·4	540·3	534·2	532·3	529·7	532·8	548·4	543·2	546·9
20	561·0	552·1	545·8	548·0	535·7	526·9	527·6	524·8	531·1	547·7	543·3	547·5
22	559·6	550·2	541·9	542·8	530·3	520·5	522·8	518·6	526·4	543·5	540·9	546·5
0	557·6	546·5	539·5	539·2	526·5	517·2	519·5	513·3	522·9	537·9	538·3	543·7
2	556·4	543·5	536·8	536·4	524·1	514·5	518·6	510·8	521·4	535·8	538·0	542·6
4	556·4	543·5	537·3	536·7	525·3	514·8	518·7	511·2	522·9	536·9	539·0	543·7
6	557·9	547·0	539·5	539·8	528·6	517·2	520·9	514·2	524·8	539·9	541·3	545·6
8	559·0	549·4	542·4	545·4	531·5	522·6	525·0	520·2	527·6	542·0	542·5	546·9
10	559·1	550·8	542·7	548·4	535·6	528·1	528·5	525·0	529·9	544·2	544·0	547·9
12	558·6	551·2	543·2	550·5	538·1	531·5	531·9	527·2	531·1	546·2	543·3	548·8

This table shews that the mean weight of a cubic foot of air is less than the mean weight for the month:

In January	at	0h,	2h,	4h,	6h,	8h,	10h, and 12h.
February, March, and April	at	0,	2,	4, and 6.			
May, June, July, August, and September	at 22,	0,	2,	4,	6, and 8.		
October	at	0,	2,	4,	6, and 8.		
November	at 22,	0,	2,	4, and 6.			
December	at	0,	2,	4, and 6;			

and at the other hours in each month the weight exceeded that of the mean for the month.

In the first three months, and also in the last three months, the hours at which the mean weight nearly agrees with the mean weight for the month, are 22^h and 8^h; in the six middle months, between 20^h and 22^h and between 8^h and 10^h, except in April, when the mean weight at 8^h is very nearly the same as that for the month.

TABLE LXXVI.—Hours of Göttingen Mean Time at which the Weight of a Cubic Foot of Air was the Greatest and the Least in different Months, as inferred from the Monthly Means of the Two-hourly Observations, with the Weight and the Amount of the Changes.

Month, 1842.	Hour of the		Difference.	Weight of a Cubic Foot of Air.		Difference.	Hour of the		Difference.	Weight of a Cubit Foot of Air.		Difference.	Hour of the		Difference.	Weight of a Cubic Foot of Air.		Difference.	Greatest Maximum — the Smallest Minimum.
	1st Min.	1st Max.		1st Min.	1st Max.		2nd Min.	2nd Max.		2nd Min.	2nd Max.		3rd Min.	3rd Max.		3rd Min.	3rd Max.		
	h	h	h	gr.	gr.	gr.	h	h	h	gr.	gr.	gr.	h	h	h	gr.	gr.	gr.	gr.
January	2 & 4	6	4 & 2	556·4	557·9	1 5	8	10	2	559·0	559·1	0·1	18	20	2	560·9	561·0	0·1	4·6
February	2 & 4	14 & 16	12	543·5	551·6	8·1	18	20	2	551·5	552·1	0·6							8·6
March	2	20	18	536·8	545·8	9·0													9·0
April	0	2	2	539·2	542·7	3·5	4	16	12	536·7	551·3	14·6							14·6
May	2	14 & 16	12 & 14	524·1	540·5	6·4													6·4
June	0	16	16	514·5	535·8	21·3													21·3
July	2	16	14	518·6	533·1	14·5													14·5
August	2	18	16	510·8	529·7	18·9													18·9
September	2	14	12	521·4	533·5	12·1	16	18	2	532·4	532·8	0·4							12·1
October	2	18	16	535·8	548·4	12·6													12·6
November	2	10	8	538·0	544·0	6·0	12	14	2	543·3	543·6	0·3	18	20	2	543·2	543·3	0·1	6·0
December	2	12	10	542·6	548·8	6·2	18	20	2	546·9	547·5	0·6							6·2

This table exhibits that at 0^h occasionally, at 2^h generally, and at 4^h occasionally, the weight of a cubic foot of air was less than at any other time in the day; and that at 16^h and 18^h the weight of a cubic foot of air was the greatest. In six of the months one maximum and one minimum are shewn; in the other six there are more than one.

The means of the numbers in Table LXXV, are taken for March, April, and May, and called Spring;
" " " for June, July, and August, and called Summer;
" " " for September, October, and November, and called Autumn;
" " " for December, January, and February, and called Winter;

and thus the following table is formed:—

TABLE LXXVII.—Mean Weights in Grain Troy of a Cubic Foot of Air, at every Even Hour of Göttingen Mean Time in Quarterly Periods.

Hour of Göttingen Mean Time.	1842.				
	Spring.	Summer.	Autumn.	Winter.	Mean.
h	gr.	gr.	gr.	gr.	gr.
14	545·0	531·5	541·5	553·8	543·0
16	545·6	532·7	541·3	553·4	543·3
18	545·5	532·1	541·5	553·1	543·1
20	543·2	526·4	540·7	553·5	540·9
22	538·3	520·6	536·9	552·1	537·0
0	535·1	516·7	533·0	549·3	533·5
2	532·4	514·6	531·7	547·5	531·6
4	533·1	514·9	532·9	547·9	532·2
6	536·0	517·4	535·3	550·2	534·7
8	539·8	522·6	537·4	551·8	537·9
10	542·2	527·2	539·3	552·6	540·3
12	543·9	530·2	540·2	552·9	541·8

The even hour here shewn as that at which the mean weight of a cubic foot of air is the least, is 2^h at all periods of the year; and the hours at which it is the greatest are 16^h in Spring and in Summer, from 14^h to 18^h in Autumn, and 14^h in the Winter.

The mean weight in Spring, is 540·0 grains.
,, Summer, 523·9 ,,
,, Autumn, 537·6 ,,
,, Winter, 551·5 ,,
,, for the year, 538·3 ,,

The mean weight at	14h	exceeds	the mean weight for the year by	4·7 gr.
,,	16	,,	,,	5·0
,,	18	,,	,,	4·8
,,	20	,,	,,	2·6
,,	22	is less than	the mean weight for the year by	1·3
,,	0	,,	,,	4·8
,,	2	,,	,,	6·7
,,	4	,,	,,	6·1
,,	6	,,	,,	3·6
,,	8	,,	,,	0·4
,,	10	exceeds	the mean weight for the year by	2·0
,,	12	,,	,,	3·5

At 8h the difference from the yearly mean is small.

Abstracts of the Anemometer-Results.

In every month, the mean force of the wind and its direction (supposing the circumference divided into 16 equal parts) at every hour was copied from the anemometer sheets as recorded by the anemometer, when the pressure on a square foot was more than a quarter of a pound. From this summary a first abstract was formed, by collecting at each hour all the cases in which the wind had blown in each of those 16 directions, with the forces at the corresponding times. A second abstract was formed, by taking the sums of the forces of the wind in each direction at every hour, as inserted in the first abstract; and the number of hours during which the wind blew in that direction, at that hour in the month, was inserted opposite to the sum of the forces.

Adding together the numbers in each month for every hour, the following table was formed:—

TABLE LXXVIII.—Sums of the Pressures of the Winds for different Directions in every Month, without Distinction of Hours; and the Number of Hours during which it blew in each Direction with a recorded Pressure greater than ¼lb. to the square foot; and the general Range of Hours during which the Wind blew in each Direction, the Directions being referred to Sixteen Points of the Azimuthal Circle.

1842.	N.			N.N.E			N.E.			E.N.E.		
	Sums of Forces.	No. of Hours.	General Range of Hours.	Sums of Forces.	No. of Hours.	General Range of Hours.	Sums of Forces.	No. of Hours.	General Range of Hours.	Sums of Forces.	No. of Hours.	General Range of Hours.
	lbs.	h	h h	lbs.	h	h h	lbs.	h	h h	lbs.	h	h h
January	10½	15	from 0 to 9									
February												
March	41	18	from 12 to 2, & at 8	22	15	from 16 to 7	1	1	at 4			
April	31½	19	at 14 & 15, & from 23 to 12	14½	14	from 14 to 16, 19 to 1, & at 5	86¾	68	at all hours except 17	39¼	32	from 19 to 9
May	3	1	at 1	4½	5	from 0 to 5	4½	6	from 0 to 4	4	4	at 20, 21, 2, & 3
June							7	5	from 22 to 3	13½	9	from 1 to 6
July	10½	8	from 18 to 20, at 23, & from 2 to 4	3	5	from 21 to 2				2	1	at 2
August	1¼	2	at 7 & 8									
September	68½	44	at all hours.	20½	16	from 11 to 21, & 3 to 6	38¾	18	from 21 to 5	39	16	from 23 to 12
October	3¾	5	from 1 to 4, & at 7	2	3	at 23 & 0						
November	4½	6	from 17 to 22	4½	5	from 20 to 21	11¼	12	at 16, 17, & 23, & from 2 to 10	4	3	at 18, 23, & 0
December												

TABLE LXXVIII.—*continued.*

1842.	E.			E. S. E.			S. E.			S. S. E.		
	Sums of Forces.	No. of Hours.	General Range of Hours.	Sums of Forces.	No. of Hours.	General Range of Hours.	Sums of Forces.	No. of Hours.	General Range of Hours.	Sums of Forces.	No. of Hours.	General Range of Hours.
	lbs.	h	h h	lbs.	h	h h	lbs.	h	h h	lbs.	h	h h
January							$5\frac{1}{2}$	4	from 6 to 8, & at 22	$31\frac{3}{4}$	16	from 9 to 12, & from 15 to 23
February										$4\frac{1}{2}$	3	at 7, 8, & 22
March							13	2	at 10 & 11	9	2	at 9 & 12
April	$13\frac{1}{2}$	21	from 21 to 6	$\frac{1}{4}$	1	at 5						
May	4	2	from 22 & 23							$6\frac{1}{2}$	5	from 0 to 4
June	$5\frac{1}{2}$	5	from 2 to 5									
July	$18\frac{1}{2}$	13	from 19 to 6									
August												
September	8	8	from 1 to 8									
October												
November	24	14	from 13 to 3	1	2	at 1 & 2	$1\frac{1}{2}$	3	from 7 to 9	$10\frac{1}{2}$	7	from 12 to 15
December										$6\frac{1}{4}$	7	at 7 & 8, & from 17 to 21

1842.	S.			S. S. W.			S. W.			W. S. W.		
	lbs.	h	h h	lbs.	h	h h	lbs.	h	h h	lbs.	h	h h
January	20	2	at 23 & 0	13	4	from 0 to 2	$91\frac{3}{4}$	34	at all hours, except 23	78	16	from 7 to 14, & from 23 to 2
February	$21\frac{1}{2}$	12	from 6 to 10, & 21 to 0	$60\frac{1}{2}$	32	at all hours, except 6, 7, & 8	$118\frac{1}{2}$	56	at all hours	$42\frac{3}{4}$	28	from 16 to 5
March	$19\frac{1}{2}$	19	from 22 to 13	$66\frac{1}{2}$	34	at all hours, except 0 & 4	315	101	at all hours	262	95	at all hours
April							27	4	from 13 to 16	8	1	at 17
May	28	17	at 12 & 13, & from 20 to 6	50	37	at all hours, except 8, 9, 12, 13, 15, & 16	109	43	at all hours, except 17, 18, & 20	$61\frac{3}{4}$	20	from 14 to 4
June				1	1	at 10	$98\frac{1}{2}$	43	at all hours, except 9	$43\frac{1}{2}$	22	from 12 to 22, & at 2, 8 & 9
July	$10\frac{1}{2}$	6	at 22 & 23, & from 6 to 9	$37\frac{3}{4}$	27	at 14, & from 20 to 8	$59\frac{1}{2}$	31	at all hours, except 8, 9, 19, 20, & 21	71	35	from 18 to 12
August				$1\frac{1}{2}$	3	from 2 to 5	3	2	from 22 & 1	$13\frac{1}{4}$	12	at 17, & from 22 to 4
September	2	3	at 23, 0, & 12	$11\frac{1}{2}$	11	at 19, & from 22 to 3	$49\frac{1}{4}$	20	at all hours, except 4, 5, 8, 9, 10, 13, & 15	33	22	from 19 to 10
October				26	8	from 21 to 3, & from 8 to 9	$11\frac{3}{4}$	8	from 20 to 23, & from 5 to 9	61	40	at all hours, except 21
November	29	20	at all hours, except 0, 2, 5, 7, 8, 10, & 11	$79\frac{1}{4}$	38	at all hours, except 12, 13, 14, 18, & 19	$124\frac{1}{4}$	50	at all hours	$53\frac{3}{4}$	18	from 1 to 14
December	$8\frac{1}{2}$	7	from 19 to 0, & at 3, 7, & 8	$53\frac{1}{4}$	39	at all hours, except 20 & 21	137	89	at all hours	91	39	at all hours

TABLE LXXVIII.—*concluded.*

1842.	W.			W.N.W.			N.W.			N.N.W.		
	Sums of Forces.	No. of Hours.	General Range of Hours.	Sums of Forces.	No. of Hours.	General Range of Hours.	Sums of Forces.	No. of Hours.	General Range of Hours.	Sums of Forces.	No. of Hours.	General Range of Hours.
	lbs.	h	h h	lbs.	h	h h	lbs.	h	h h	lbs	h	h h
January	8	3	at 23 & 0	$10\frac{1}{2}$	3	at 1 & 2	10	4	from 1 to 3	6	5	from 3 to 8
February	$9\frac{1}{2}$	3	at 23, 0, & 4									
March	$50\frac{1}{2}$	21	at 14, 15, 19, 21, from 0 to 5, & at 9 & 10	68	16	from 17 to 7	37	14	from 20 to 5, & at 11	$11\frac{1}{2}$	8	from 22 to 5, & at 12
April	$4\frac{1}{2}$	3	at 18, 21, & 22	1	1	at 19				$63\frac{1}{2}$	26	at all hours
May	$9\frac{1}{2}$	3	at 21, 22, & 4	2	2	at 5 & 6						
June	$43\frac{1}{4}$	11	from 19 to 1, & from 4 to 9	$9\frac{1}{2}$	5	from 20 to 2						
July	22	12	from 20 to 4, & at 7	$2\frac{1}{2}$	4	at 20, 1, & 6				$2\frac{1}{2}$	5	from 0 to 4
August	9	10	from 16 to 21, & 0 to 6	$\frac{1}{2}$	1	at 13				$3\frac{1}{4}$	2	at 23 & 8
September	$4\frac{1}{2}$	7	at 21, 0, & 1, & from 6 to 9				1	1	at 3			
October	4	4	from 1 to 4	$8\frac{1}{2}$	3	at 5 & 11	9	6	from 18 to 21, & from 3 to 4	10	5	at 22 & 2
November										$5\frac{1}{2}$	6	from 23 to 5
December	$60\frac{1}{2}$	19	at all hours, except from 4 to 8				7	4	from 9 to 12			

No very large numbers appear in this table: the greatest is that ranging with March and under S. W.; the next in order is the W. S. W., and also in March. The greater part of these pressures was recorded in the gale beginning on February 27th and ending March 3rd, at 16^h. Between March $1^d.20^h$ and March $3^d.12^h$, there was a constant pressure of 3lbs. to 5lbs., and occasionally pressures varying from 10lbs. to 17lbs: the mean pressure for the time was about 5lbs. [For the character of this gale see page (34) and the foot-note on page (35).] A gale of wind took place on January 26th, in which a pressure of 18lbs. took place; the gale was of short duration. [See page (16) for an account of it.] In this gale the greater part of the pressure under S. W. for January took place. Another gale occurred which began March $8^d.14^h$, partly from W. S. W., then from S. W., and afterwards from W. N. W. In this gale is recorded a pressure of 21lbs. on the square foot, being the greatest recorded pressure in the year. [For some particulars of this gale see page (38) and foot-note on page (39).] There was a strong wind from the W., W. S. W., and S. W., though scarcely amounting to a gale, beginning March $17^d.4^h$ and ending March 21^d. [See page (44) and foot-note.] The mean pressure recorded between March $18^d.20^h$ and March $19^d.12^h$, was about 5lbs. on the square foot. A strong wind blew on March 30th from the S. W., and a gale on March 31st from the same quarter; for some hours the mean pressure was about 7lbs., and once, on March $31^d.18^h.15^m$, it was 13lbs. A moderate gale from the S.W. took place on May 6th and 7th, and a pressure of 13lbs. is once recorded. [See page (70).] The next strong wind for any duration was on June 23rd, 24th, and 25th, from the S. W. [See page (96).] On July 4th and 5th the wind blew strongly from the W.S.W. and S.W. [See page (102).] After this no wind blew to any large amount till September 8th; the direction was S. W. and W. S. W.; at $8^d.0^h.10^m$ a pressure of 10lbs. took place, and at $0^h.45^m$ a pressure of 12lbs. is recorded: the record of those pressures was omitted on page (138), where the other particulars of the gale will be seen. The next strong wind occurred on December 25th, beginning at 2^h, from the S. W., and it blew with a pressure of 3lbs. to 5lbs. till Dec. $26^d.20^h$: no great pressures occurred.

Then, beginning Dec. 28th, at 16^h, pressures of 3lbs. to 5lbs. took place from S. W. and W. S. W. till the end of the year, with very slight lulls. From this account it appears, that no strong wind during the whole year has blown from any other quarter than the S. W., W. S. W., or N. W. The columns in the preceding table under the head of E. S. E. and S. E. being nearly blank, it appears that those winds throughout the year were insignificant in amount.

By adding together all the quantities for each wind, we find that in the year the

N.	wind blew	118	hours, recording	a pressure of	174½ lbs.
N. N. E.	,,	68	,,	,,	78 lbs.
N. E.	,,	114	,,	,,	155¾ lbs.
E. N. E.	,,	61	,,	,,	93¾ lbs.
E.	,,	58	,,	,,	68 lbs.
E. S. E.	,,	3	,,	,,	1¼ lbs.
S. E.	,,	9	,,	,,	20 lbs.
S. S. E.	,,	40	,,	,,	68½ lbs.
S.	,,	86	,,	,,	139 lbs.
S. S. W.	,,	234	,,	,,	400¼ lbs.
S. W.	,,	481	,,	,,	1244 lbs.
W. S. W.	,,	348	,,	,,	819 lbs.
W.	,,	96	,,	,,	224¼ lbs.
W. N. W.	,,	35	,,	,,	102½ lbs.
N. W.	,,	29	,,	,,	64 lbs.
N. N. W.	,,	57	,,	,,	102¼ lbs.

The sum of all the forces is 3755, the number of the hours 1837. The S. W. wind has by far the greatest number, and the next in order of magnitude are the W. S. W., the S. S. W., and the W.

Resolving the sum of forces for each direction of wind into two component forces in the two cardinal directions between which it is included, according to the usual rules of mechanics (by multiplying each force by the cosine of the angle which its direction makes with the cardinal direction), the following results are obtained :—

TABLE LXXIX.

Direction of Wind.	Whole recorded Pressure.	Resolved parts in the Direction of N.	E.	S.	W.
	lbs.	lbs.	lbs.	lbs.	lbs.
N.	174·5	174·5			
N. N. E.	78·0	72·1	29·9		
N. E.	155·8	110·1	110·1		
E. N. E.	93·8	35·9	86·6		
E.	68·0		68·0		
E. S. E.	1·3		1·2	0·5	
S. E.	20·0		14·1	14·1	
S. S. E.	68·5		26·2	63·3	
S	139·0			139·0	
S. S. W.	400·3			369·8	153·2
S. W.	1244·0			879·7	879·7
W. S. W.	819·0			313·4	756·7
W.	224·3				224·3
W. N. W.	102·5	39·2			94·7
N. W.	64·0	45·3			45·3
W. N. W.	102·3	94·5			39·1
	Sums...	571·6	336·1	1779·8	2193·0

And these sums represent the sums of the forces due to each cardinal point, or are related to the proportion of volumes of air which have passed from those quarters.

TABLE LXXX.—Sums of the Forces of the Wind at every Hour, Greenwich Mean Time (Astronomical Reckoning), independently of Direction; and Numbers of Hours of its Duration in each Month, when a Pressure of more than $\frac{1}{4}$ lb. was recorded by the Anemometer.

1842.	13h		14h		15h		16h		17h		18h		19h		20h		21h	
	Sum of Forces.	No. of Hours.	Sum of Forces.	No. of Hours.	Sum of Forces.	No. of Hours.	Sum of Forces.	No. of Hours.	Sum of Forces.	No. of Hours.	Sum of Forces.	No. of Hours.	Sum of Forces.	No. of Hours.	Sum of Forces.	No. of Hours.	Sum of Forces.	No. of Hours.
January	7	3	4½	2	8½	3	7	3	6	3	4½	3	5½	4	5½	4	9½	4
February	3½	2	3½	2	2	2	2½	3	5½	3	4½	3	5½	4	7¼	4	12½	6
March	37½	15	40	14	32½	13	35	15	26	12	30½	12	28	13	39	15	44½	15
April	7½	3	11½	6	10¼	7	14¼	5	10½	2	5½	3	4	5	8	6	14½	9
May	8	3	6	3	5¼	2	7½	3	5	3	3	2	6	3	8	5	15½	7
June	4	2	6½	3	4	2	2½	2	4	2	5½	4	4	3	7	4	8½	4
July	½	1	4½	2	3	2	3½	2	3½	2	5	3	10½	4	18½	10	15	9
August	½	1					½	1	1	2	1	1	1	1	2	1	1	1
September	4	4	3½	4	3½	3	4¼	4	3	4	6½	4	8½	6	12½	6	13	9
October	1	1	1½	1	1½	1	3	1	3	1	3	2	5	2	5½	3	1½	2
November	18½	7	17	8	13½	7	12	6	6½	6	5½	5	5	4	8¼	8	9½	8
December	22½	8	15½	6	18	8	19	9	23½	11	23½	9	15¾	9	13	7	18	8

1842.	22h		23h		0h		1h		2h		3h		4h		5h		6h	
January	10½	4	22	5	26½	8	24½	9	16½	8	11	6	22	4	14	4	15	5
February	21½	9	24	6	23	10	20½	10	18	11	20	9	13	7	8½	6	7	4
March	43	14	24	7	55½	18	47	17	57	17	38½	17	44	18	40	17	42½	17
April	17¼	12	18½	11	16½	12	18¾	14	27	14	26	14	17¾	14	20¼	14	9½	12
May	21½	11	16	10	26	15	33	13	20¾	12	19¾	12	19	12	13	6	11	6
June	10	5	12	5	21	6	16½	5	22½	9	15½	9	20¾	8	13½	7	14	5
July	18½	7	16	8	17	9	18	13	22½	14	17¼	12	14¾	9	16½	9	11½	9
August	5	2	3½	3	½	1	1½	2	3	4	4	5	2	2	1¼	2	¾	1
September	20½	9	25	10	31½	12	30¼	14	21¼	10	18½	12	18½	9	14½	8	9	8
October	8½	5	11½	7	12½	7	11	7	15	6	11½	6	7	6	2½	4	1	2
November	15½	7	20¼	11	19½	11	17½	11	16	8	22½	11	23½	8	13½	6	19	7
December	17½	7	20	10	28½	10	21	10	19¾	9	21	10	19½	9	22	7	17½	7

1842.	7h		8h		9h		10h		11h		12h		Whole Sum of Forces.	Whole Number of Hours.
January	15	5	17¼	6	9	4	9½	3	8	3	6¼	3	285	106
February	12	7	12	6	10	6	7½	5	7½	4	6	5	257¼	134
March	29	15	33	12	36½	14	36	15	41½	11	35½	13	916	346
April	8½	7	6	6	4	4	5½	4	5	3	3¼	3	289¾	190
May	5½	3	5	2	8½	3	7½	4	5	2	11	3	286¾	145
June	9	4	6	2	5	3	4½	3	3	2	2½	2	221¾	101
July	7¾	6	2½	3	1	2	5½	3	3	5	3½	3	239¼	147
August			3¼	2									31¾	32
September	5½	7	7½	6	4½	5	2½	3	3¾	4	4½	5	276	166
October	3¼	4	6½	3	7¾	4	2	2	9½	3	1½	2	136	82
November	18½	7	16¼	9	16¾	8	12½	7	12	6	14	8	353	184
December	16½	8	17	8	18	8	16	8	20½	9	20	9	463½	204

In every month, except March, November, and December, there is a marked difference between the sums of the pressures between 6^h and 20^h, and the sums of the pressures at the other hours, those at the former times being nearly alike and small in amount, and those at the latter times being both different and larger in amount. During the month of August the sums are very small, particularly those between 6^h and 20^h, and this, therefore, was the calmest period in the year; indeed, the whole month was remarkably calm. During the month of March the numbers are all large, and this was the most stormy month in the year. At all periods of the year the sums of the pressures are smallest at or near the rising and the setting of the Sun. After 20^h the pressures increase, and continue their increase until about 2^h; in February the greatest sum is at 23^h, and in August at 22^h, but the sums at the following 2^h or 3^h differ but very little from them; in November the greatest sum is at 4^h, and it differs much from that at 2^h, which is remarkably small.

The ratio of the maximum pressure to the minimum pressure was in		January	6 to 1
,,	,,	February	12 to 1
,,	,,	March	2·4 to 1
,,	,,	April	8 to 1
,,	,,	May	11 to 1
,,	,,	June	9 to 1
,,	,,	July	45 to 1
,,	,,	August	nearly alike, and calm.
,,	,,	September	15 to 1
,,	,,	October	15 to 1
,,	,,	November	5 to 1
,,	,,	December	2·2 to 1

The ratios which most nearly approach to equality are those of March, November, and December, and therefore in those months the strength of the wind was more uniform throughout the whole of the day than in any other months. The ratios of greatest inequality are those of April to October, and therefore the nights of those months may be considered as among the calmest in the year.

By adding together the quantities between 6^h and 20^h, and also the quantities between 21^h and 5^h, in each month, we find that

In January, the sum of the pressures between 6^h and 20^h was			lbs. $128\frac{1}{2}$,	number of hours of wind	54,	number of hours in the period	465
February	,,	,,	$96\frac{1}{4}$,	,,	60,	,,	420
March	,,	,,	$522\frac{1}{2}$,	,,	206,	,,	465
April	,,	,,	$113\frac{1}{4}$,	,,	76,	,,	450
May	,,	,,	$102\frac{1}{4}$,	,,	47,	,,	465
June	,,	,,	$81\frac{1}{2}$,	,,	43,	,,	450
July	,,	,,	$83\frac{3}{4}$,	,,	57,	,,	465
August	,,	,,	10,	,,	10,	,,	465
September	,,	,,	83,	,,	73,	,,	450
October	,,	,,	55,	,,	32,	,,	465
November	,,	,,	$195\frac{1}{4}$,	,,	103,	,,	450
December	,,	,,	$276\frac{1}{4}$,	,,	124,	,,	465

The sum of all the pressures between 6^h and 20^h was $1747\frac{1}{4}$ lbs.; the number of hours of wind was 885 out of 5475, or, for one hour out of $6^h.17^m$, the pressure was equal to or greater than $\frac{1}{4}$lb. on the square foot.

In January, the sum of the pressures between 21^h and 5^h was			lbs. $156\frac{1}{2}$,	number of hours of wind	52,	number of hours in the period	279
February	,,	,,	161,	,,	74,	,,	252
March	,,	,,	$393\frac{1}{2}$,	,,	140,	,,	279
April	,,	,,	$176\frac{1}{2}$,	,,	114,	,,	270
May	,,	,,	$184\frac{1}{2}$,	,,	98,	,,	279
June	,,	,,	$140\frac{1}{4}$,	,,	58,	,,	270
July	,,	,,	$155\frac{1}{4}$,	,,	90,	,,	279
August	,,	,,	$21\frac{3}{4}$,	,,	22,	,,	279
September	,,	,,	193,	,,	93,	,,	270
October	,,	,,	81,	,,	50,	,,	279
November	,,	,,	$157\frac{3}{4}$,	,,	81,	,,	270
December	,,	,,	$187\frac{1}{4}$,	,,	80,	,,	279

The sum of all the pressures between 21^h and 5^h was $2008\frac{1}{4}$ lbs.; the number of hours of wind was 952 out of 3285, or, for one hour out of $3^h.27^m$, the pressure was equal to or greater than $\frac{1}{4}$lb. on the square foot.

By taking the sum of all the quantities at each hour, we obtain, that

At	13h	whole sum of pressure was	114½ lbs.	number of hours of wind	50,	mean strength	2·2 lbs.
	14	,,	114,	,,	51,	,,	2·2
	15	,,	102,	,,	50,	,,	2·0
	16	,,	111,	,,	54,	,,	2·1
	17	,,	97½,	,,	51,	,,	1·9
	18	,,	98,	,,	51,	,,	1·9
	19	,,	98¾,	,,	58,	,,	1·5
	20	,,	134½,	,,	73,	,,	1·8
	21	,,	163,	,,	82,	,,	1·3
	22	,,	209¼,	,,	92,	,,	2·3
	23	,,	212¾,	,,	93,	,,	2·3
	0	,,	278,	,,	119,	,,	2·3
	1	,,	259½,	,,	125,	,,	2·1
	2	,,	259¼,	,,	122,	,,	2·1
	3	,,	225½,	,,	123,	,,	1·9
	4	,,	221¾,	,,	106,	,,	2·1
	5	,,	179½,	,,	90,	,,	2·0
	6	,,	157¾,	,,	83,	,,	1·9
	7	,,	130½,	,,	73,	,,	1·8
	8	,,	132¼,	,,	65,	,,	2·0
	9	,,	121,	,,	61,	,,	2·0
	10	,,	109,	,,	57,	,,	1·9
	11	,,	118¾,	,,	52,	,,	2·3
	12	,,	108,	,,	56,	,,	1·9

Therefore there is a minimum sum from 17h to 19h, and a maximum sum at 0h.

The sum of all the pressures for the whole year is 3756 lbs. The number of hours is 1837. The number of hours during which the wind is blowing between 6h and 20h is less than the half of the number during which it is blowing between 21h and 5h; and this is the reason that the sums of the pressures at the latter hours are so much larger than at the former. The mean strength of the wind, as shewn in the last column, is nearly the same at all hours.

The observations here discussed are spread over a period of 8760 hours; therefore, during 6923 hours, the strength of the wind was less than to cause a pressure of a quarter of a pound on the square foot. The instrument still fails to register all light winds.

From the numbers in Table LXXX. the following table is immediately formed:—

TABLE LXXXI.—Mean Pressure of the Wind in every Month, at each Hour, independently of Direction, when the Wind blew so as to record a Pressure of more than a Quarter of a Pound on the Square Foot.

1842.	13h	14h	15h	16h	17h	18h	19h	20h	21h	22h	23h	0h	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	12h
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
January	2·3	2·3	2·8	2·3	2·0	1·5	1·4	1·4	2·4	2·6	4·4	3·2	2·7	2·1	1·8	5·8	3·5	3·0	3·0	2·9	2·3	3·2	2·7	2·1
February	1·8	1·8	1·0	0·8	1·8	1·5	1·4	1·8	2·1	2·4	4·0	2·3	2·1	1·6	2·2	1·9	1·4	1·8	1·7	2·0	1·7	1·5	1·9	1·2
March	2·5	2·9	2·6	2·3	2·2	2·5	2·2	2·6	3·0	3·1	3·4	3·1	2·8	3·3	2·3	2·4	2·4	2·5	1·9	2·8	2·6	2·4	3·8	2·7
April	2·5	1·9	1·5	2·9	5·3	1·8	0·8	1·3	1·6	1·4	1·7	1·4	1·3	1·9	1·9	1·3	1·4	0·8	1·2	1·0	1·0	1·4	1·7	1·1
May	2·7	2·0	2·6	2·5	1·7	1·5	2·0	1·6	2·2	2·0	1·6	1·7	2·5	1·7	1·6	1·6	2·2	1·8	1·8	2·5	2·8	1·9	2·5	3·7
June	2·0	2·2	2·0	1·3	2·0	1·4	1·3	1·8	2·1	1·8	2·4	3·5	3·3	2·5	1·7	2·6	1·9	2·8	2·3	3·0	1·7	1·5	1·5	1·2
July	0·5	2·3	1·5	1·8	1·8	1·7	2·6	1·9	1·7	2·6	2·0	1·9	1·4	1·6	1·4	1·6	1·8	1·3	1·3	0·8	0·5	1·8	0·6	1·2
August	0·5	...	...	0·5	0·5	1·0	1·0	2·0	1·0	2·5	1·2	0·5	0·8	0·8	0·8	1·0	0·7	0·8	...	1·7	...	...	...	...
September	1·0	0·9	1·2	1·1	0·8	1·6	1·4	2·1	1·4	2·3	2·5	2·6	2·2	2·1	1·5	2·1	1·8	1·1	0·8	1·3	0·9	0·8	0·9	0·9
October	1·0	1·5	1·5	3·0	3·0	1·5	2·5	1·8	0·8	1·7	1·6	1·8	1·6	2·5	1·9	1·2	0·6	0·5	0·8	2·2	1·9	1·0	3·2	0·8
November	2·6	2·1	1·9	2·0	1·1	1·1	1·2	1·0	1·2	2·2	1·8	0·9	1·6	2·0	2·0	2·9	2·3	2·7	2·6	1·8	2·1	1·8	2·0	1·8
December	2·8	2·6	2·3	1·1	2·1	2·6	1·8	1·9	2·3	2·5	2·0	2·9	2·1	2·2	2·1	2·2	3·1	2·5	2·1	2·1	2·2	1·8	2·3	2·2

From the numbers in Table LXXVIII. the following table is readily formed:—

TABLE LXXXII.—Mean Pressure of each Wind, estimated in Pounds on the Square Foot, in every Month.

1842.	N.	N.N.E.	N.E.	E.N.E.	E.	E.S.E.	S.E.	S.S.E.	S.	S.S.W.	S.W.	W.S.W.	W.	W.N.W.	N.W.	N.N.W.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
January	0·7						1·3	2·0	10·0	3·3	2·7	4·9	2·7	3·5	2·5	1·2
February								1·5	1·8	1·9	2·1	1·5	3·2			
March	2·3	1·5	1·0				6·5	4·5	1·0	1·9	3·1	2·8	2·4	4·3	2·6	1·4
April	1·7	1·0	1·3	1·2	0·6	0·3					6·8	8·0	1·5	1·0		2·4
May	3·0	0·9	0·8	1·0	2·0			1·3	1·8	1·4	2·6	3·1	3·2	1·0		
June		1·4	1·5	1·1						1·0	2·3	2·0	3·8	1·9		
July	1·3	0·6		2·0	1·4				1·8	1·4	1·9	2·0	1·8	0·6		0·5
August	0·6									0·5	1·5	1·1	0·9	0·5		1·6
September	1·5	1·3	2·2	2·4	1·0				0·7	1·0	2·5	1·5	0·6		1·0	
October	0·8	0·7								3·3	1·5	1·5	1·0	2·8	1·5	2·0
November	0·8	0·9	0·9	1·3	1·7	0·5	0·5	1·5	1·5	2·2	2·5	3·0				0·9
December								0·9	1·2	1·4	2·7	2·3	3·2		1·8	

Adding together the numbers in the second abstract for all months, the following table is formed :—

TABLE LXXXIII.—Sums of the Pressures of each Wind at every Hour, Greenwich Mean Time (Astronomical Reckoning); and Number of Hours during which it blew with a recorded Pressure not less than a Quarter of a Pound on the Square Foot, for the Year 1842.

Direction of Wind.	13h		14h		15h		16h		17h		18h		19h		20h	
	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.
	lbs.		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.	
N.	5	5	5½	5	2¾	4	5	3	4¾	5	5	5	10	5	10	5
N.N.E.	1	1	1	2	4¼	3	2½	4	1¼	2	2½	2	2	3	8	6
N.E.	½	1	1½	2	¾	2	3½	2	½	1	½	1	½	1	4	2
E.N.E.											2	1	½	1	2	2
E.	2½	2	2	1	1½	1	2	1	1	1			3	2	6	4
E.S.E.																
S.E.																
S.S.E.	3	1	3	2	6	3	2½	1	2½	2	3½	2	2¾	3	3½	3
S.	5½	3	2½	2	1	1	2	1	1	1	½	1	2	2	4	4
S.S.W.	9	5	6½	5	10½	5	12½	8	13	9	5	4	6½	5	9¾	6
S.W.	57	20	62½	18	41½	19	45½	20	28	15	35½	17	31	16	28½	13
W.S.W.	25	9	23	11	27¼	9	28½	11	32	12	23½	12	21	11	32¾	18
W.	3½	1	5½	2	4½	2	4½	2	5	1	7½	3	5½	4	5½	3
W.N.W.	½	1							6	1	10	1	10	3	15	4
N.W.											½	1	2½	1	4	2
N.N.W.	2	1	1	1	2	1	2½	1	2½	1	2	1	1½	1	1½	1

Direction of Wind.	21h		22h		23h		0h		1h		2h		3h		4h	
N.	7½	3	9½	4	8½	4	13	5	18½	8	14½	8	13	8	10¼	8
N.N.E.	10	8	1	1	4½	4	7¼	7	3¾	4	6	3	5½	4	1	1
N.E.	8½	4	21½	10	13½	8	18	10	6¼	8	16¼	8	17½	10	10¼	10
E.N.E.	3	1	1	1	9¾	5	8½	5	18½	9	14¾	10	7	6	13½	6
E.	7	5	9¾	5	6	4	3¼	3	3¼	4	2½	3	7¾	9	7¼	7
E.S.E.									½	1	½	1				
S.E.			1½	1												
S.S.E.	7½	3	6½	2	3	1	½	1	2	1	1	1			3	2
S.	11½	8	23½	11	21	7	17½	7	1½	2	1	2	3	4	10½	3
S.S.W.	12	7	18	10	27	16	49	23	46½	24	37¾	22	32½	21	13½	10
S.W.	34½	13	54	18	57½	17	76½	23	58¾	23	63	23	56½	23	73½	23
W.S.W.	27½	15	33½	17	30¾	17	35	15	54½	20	52½	24	49½	20	48½	21
W.	15	8	14	5	17	4	35	12	18	9	21	7	17	8	15¼	7
W.N.W.	11½	2	8	2	½	1	1	1	10½	5	7½	3			3	1
N.W.	4	3	½	1	5	1	6	2	7	2	10½	3	8	5	6½	2
N.N.W.	3½	2	7	4	8¾	4	7½	5	10	5	10½	4	8¼	5	5¾	5

TABLE LXXXIII—*continued.*

Direction of Wind.	5h		6h		7h		8h		9h		10h		11h		12h	
	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.
	lbs.		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.	
N.	6	5	$4\frac{1}{2}$	5	4	5	$6\frac{1}{4}$	6	$2\frac{1}{2}$	4	$1\frac{1}{2}$	2	$3\frac{1}{2}$	2	$3\frac{1}{2}$	4
N. N. E.	$5\frac{1}{2}$	4	$2\frac{1}{2}$	2	1	1							$\frac{1}{2}$	1		
N. E.	$9\frac{1}{4}$	7	$3\frac{3}{4}$	7	5	5	$4\frac{1}{4}$	4	$\frac{3}{4}$	2	2	3	$\frac{1}{2}$	1	$\frac{1}{4}$	1
E. N. E.	$8\frac{3}{4}$	5	$4\frac{1}{2}$	4	$2\frac{1}{4}$	2	$1\frac{1}{4}$	2	$1\frac{1}{4}$	2	1	1	$\frac{3}{4}$	1	$1\frac{1}{2}$	1
E.	$4\frac{1}{2}$	5	$2\frac{1}{4}$	4	$\frac{1}{2}$	1	$1\frac{1}{2}$	1								
E. S. E.	$\frac{1}{4}$	1														
S. E.			1	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	2	$\frac{1}{2}$	1	4	1	9	1		
S. S. E.					$1\frac{1}{2}$	2	$3\frac{1}{2}$	2	$5\frac{1}{2}$	2	$\frac{1}{2}$	1	$\frac{1}{2}$	1	$6\frac{3}{4}$	4
S.	$4\frac{1}{2}$	2	6	5	2	3	$1\frac{1}{2}$	2	6	5	$2\frac{1}{2}$	5	1	1	$7\frac{1}{2}$	4
S. S. W.	12	11	$9\frac{1}{2}$	6	$9\frac{1}{4}$	6	12	6	$11\frac{1}{2}$	5	$14\frac{1}{2}$	8	$11\frac{1}{2}$	6	10	6
S. W.	69	23	64	24	$53\frac{1}{2}$	25	$50\frac{1}{4}$	21	49	21	$50\frac{1}{2}$	22	55	23	50	21
W. S. W.	38	15	$46\frac{1}{2}$	17	$42\frac{1}{2}$	15	$44\frac{3}{4}$	15	34	13	$23\frac{1}{2}$	10	24	10	21	11
W.	$8\frac{1}{4}$	3	$6\frac{1}{4}$	3	4	3	$\frac{1}{2}$	1	6	4	3	2	$\frac{1}{2}$	1	3	1
W. N. W.	6	4	5	4	1	1							7	1		
N. W,	2	1							1	1	3	1	$2\frac{1}{2}$	2	1	1
N. N. W.	$5\frac{1}{2}$	4	2	1	$2\frac{1}{2}$	2	4	3	3	1	3	1	$2\frac{1}{2}$	1	$3\frac{1}{2}$	2

TABLE LXXXIV.—Mean Pressure of each Wind, for every Hour of Greenwich Mean Time (Astronomical Reckoning), during the whole of the Year 1842.

Direction of Wind.	13h	14h	15h	16h	17h	18h	19h	20h	21h	22h	23h	0h
	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
N.	1·0	1·0	0·8	1·7	1·0	1·0	2·0	2·0	2·5	2·4	2·1	2·6
N. N. E.	1·0	0·5	1.4	0·6	0·6	1·3	0·7	1·3	1·3	1·0	1·1	1·0
N. E.	0·5	0·8	0·4	1·8	0·5	0·5	0·5	2·0	2·1	2·2	1·7	1·8
E. N. E.						2·0	0·5	1·0	3·0	1·0	2·0	1·7
E.	2·2	2·0	1·5	2·0	1·0		1·5	1·5	1·4	2·0	1·5	1·1
E. S. E.										1·5		
S. E.												
S. S. E.	3·0	1·5	2·0	2·5	1·2	1·8	0·9	1·2	2·5	3·2	3·0	0·5
S.	1·8	1·3	1·0	2·0	1·0	0·5	1·0	1·0	1·4	2·1	3·0	2·5
S. S. W.	1·8	1·2	2·1	1·9	1·4	1·3	1·3	1·6	1·7	1·8	1·7	2·1
S. W.	2·9	3·5	2·0	2·3	1·9	2·1	1·9	2·2	2·7	3·0	3·4	3·3
W. S. W.	2·8	2·1	3·0	2·6	2·6	2·0	1·9	1·8	1·8	2·0	1·8	2·3
W.	3·5	2·8	2·2	2·3	5·0	2·5	1·4	1·8	1·9	2·8	4·3	2·9
W. N. W.	0·5				6·0	10·0	3·3	3·8	3·3	4·0	0·5	1·0
N. W.						0·5	2·5	2·0	1·3	0·5	5·0	3·0
N. N. W.	2·0	1·0	2·0	2·5	2·5	2·0	1·5	1·5	1·8	1·8	2·2	1·9

Direction of Wind.	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	12h
N.	2·3	1·8	1·6	1·3	1·2	0·9	0·8	1·0	0·6	0·7	1·7	0·8
N. N. E.	1·0	2·0	1·4	1·0	1·4	1·2	1·0				0·5	
N. E.	0·8	2·0	1·8	1·0	1·3	0·5	1·0	1·1	0·4	0·7	0·5	0·3
E. N. E.	2·1	1·5	1·2	2·3	1·7	1·1	1·1	0·6	0·6	1·0	0·8	1·5
E.	0·8	0·8	0·8	1·0	0·9	0·6	0·5	1·5				
E. S. E.	0·5	0·5			0·3							
S. E.						1·0	0·7	1·2	0·5	4·0	9·0	
S. S. E.	2·0	1·0		1·5			0·5	0·5	2·7	0·5	0·5	0·8
S.	0·8	0·5	0·8	3·5	2·3	1·2	0·7	0·7	1·2	0·5	1·0	1·9
S. S. W.	1·9	1·7	1·5	1·4	1·1	1·6	1·5	2·0	2·2	1·8	1·9	1·7
S. W.	2·6	2·7	2·5	3·2	3·0	2·7	2·1	2·4	2·2	2·3	2·4	2·4
W. S. W.	2·7	2·2	2·5	2·3	2·7	2·7	2·8	3·0	2·6	2·3	2·4	2·0
W.	2·0	3·0	2·1	2·2	2·7	2·1	1·3	0·5	1·5	1·5	0·5	3·0
W. N. W.	3·0	2·5		3·0	1·5	1·2	1·0				7·0	
N. W.	3·5	3·5	1·6	3·2	2·0				1·0	3·0	2·0	1·0
N. N. W.	2·0	2·6	1·6	1·2	1·4	2·0	1·2	1·3	2·0	3·0	1·7	1·7

Sums of the Forces of the Wind by Estimation in the Year 1842.

The remarks applying to the formation of the abstracts of results deduced from the records of the self-registering anemometer (Introduction to Table LXXVIII), apply in every respect to the formation of the results obtained by estimation. It will be remarked, however, that the force and direction of the wind have been estimated only at every even hour of Göttingen mean time, whereas the readings of the anemometer record have been taken for every hour of Greenwich mean time; and thus the estimation-results are only half as numerous as those registered by the anemometer, and do not exactly correspond with any of them. It will also be remarked, that the proportion which the force by estimation bears to the pressure as recorded by the anemometer, is not the same for great and for small pressures.

TABLE LXXXV.—Sums of the Forces of the Winds for different Directions in every Month, without Distinction of Hours; and Number of Two-hourly Periods during which it blew in each Direction, the Directions being referred to Sixteen Points of the Azimuthal Circle.

1842.	N.		N.N.E.		N.E.		E.N.E.		E.		E.S.E.		S.E.		S.S.E.	
	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.
January	5	20	3	11	7	25							2	2	2¼	5
February									3¼	11	1¼	5	½	2	½	2
March	12¾	30			½	2										
April	7¾	15	6¼	20	36	93	12½	39	21½	74	1¼	5				
May	7	23	½	2	2¼	9	4	12	¼	1			¼	1	1	4
June	7	15	2½	9	4¾	18	2½	10	11¾	42	½	2	¼	1		
July	9¾	32	1	2	3	11	1½	6	3¾	14	3½	10	¼	1		
August	2¼	8	¼	1	7	21	2½	7	11¾	41	3¾	7	1¼	3	¾	2
September	22¾	39	5	7	14¾	27	7	18	3¼	12	¼	1	1¼	3	1	4
October	12¾	39	3¼	11	2½	9										
November	6¼	20	9	21	4¾	12	4¼	13	11¼	24	½	1	¾	2	2¾	6
December																

1842.	S.		S.S.W.		S.W.		W.S.W.		W.		W.N.W.		N.W.		N.N.W.	
January	4	10	10¾	16	16	24	24½	18	6	21	3	9			2½	6
February	8½	28	25¼	31	21	41	9½	23	7¾	20					½	1
March	4	12	11¼	21	22¾	37	65	78	21¼	29	19¼	16	¾	1	3¾	6
April					5½	2			2	1	1½	5	1¼	4	2½	6
May	15½	46	9¼	28	25	58	4	10	8¾	34	1½	6	2½	8	2	8
June	¾	3	4¾	18	32¾	46	12¼	25	10¾	29	4¾	7	3¾	6	1½	5
July	7	12	6¾	17	27	40	27¼	38	15½	36	1¾	5	2¾	5	9¾	16
August	6½	19	5½	17	15½	41	11¼	24	12½	24	½	1	2¼	3	3	7
September	6¾	22	12½	14	14¼	31	16½	23	9¾	20	2	3	4½	7	½	1
October	½	2	4½	7	8¾	16	23¾	56	12¾	23	2	4	7	8	4½	11
November	20	29	15½	27	37¼	56	14¾	27	7½	12	¾	2			1½	4
December	19¾	57	12¼	20	41	66	44¼	74	7¾	20	½	1	¼	1		

By adding together the quantities for each wind, we obtain that during the year, excepting Sundays, Good Friday, and the 26th day of December, the

N.	wind blew during	241	two-hourly periods, and the whole sum of the estimated forces was		$93\frac{1}{4}$
N. N. E.	,,	84	,,	,,	$30\frac{3}{4}$
N. E.	,,	227	,,	,,	$82\frac{1}{2}$
E. N. E.	,,	105	,,	,,	$34\frac{1}{4}$
E.	,,	219	,,	,,	$66\frac{3}{4}$
E. S. E.	,,	31	,,	,,	11
S. E.	,,	15	,,	,,	$6\frac{1}{2}$
S. S. E.	,,	23	,,	,,	$8\frac{1}{4}$
S.	,,	240	,,	,,	$93\frac{1}{4}$
S. S. W.	,,	216	,,	,,	$118\frac{1}{4}$
S. W.	,,	458	,,	,,	$266\frac{3}{4}$
W. S. W.	,,	396	,,	,,	253
W.	,,	269	,,	,,	$122\frac{1}{4}$
W. N. W.	,,	59	,,	,,	$37\frac{1}{2}$
N. W.	,,	43	,,	,,	25
N. N. W.	,,	71	,,	,,	32

The sums of all the estimated forces is $1281\frac{1}{4}$; the whole number of two-hourly periods 2697.

Resolving these expressions for estimated forces into the cardinal directions, as in page 78, we have

TABLE LXXXVI.

Direction of Wind.	Whole estimated Force.	Resolved parts in the Direction of N.	E.	S.	W.
N.	93·3	93·3			
N. N. E.	30·8	28·5	11·8		
N. E.	82·5	58·3	58·3		
E. N. E.	34·3	13·1	31·7		
E.	66·8		66·8		
E. S. E.	11·0		10·0	4·2	
S. E.	6·5		4·6	4·6	
S. S. E.	8·3		3·2	7·6	
S.	93·3			93·3	
S. S. W.	118·3			109·3	45·3
S. W.	266·8			188·7	187·7
W. S. W.	253·0			96·8	232·7
W.	122·3				122·3
W. N. W.	37·5	14·4			34 6
N. W.	25·0	17·7			17·7
N. N. W.	32·0	29·6			12·5
	Sums.....	254·9	186·4	504·5	652·8

TABLE LXXXVII.—Sums of the Forces of the Wind at every Even Hour of Göttingen Mean Time, independently of Direction; and Number of Hours of its Duration for each Month in the Year 1842.

1842.	14h		16h		18h		20h		22h		0h		2h		4h		6h		8h		10h		12h		The Sum of all the Forces.	The Sum of all the Two-hourly Periods.
	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.		
January	$8\frac{3}{4}$	11	$7\frac{1}{2}$	11	$7\frac{3}{4}$	11	$6\frac{1}{4}$	10	$4\frac{1}{2}$	12	$6\frac{1}{4}$	19	$6\frac{1}{4}$	19	$8\frac{1}{2}$	19	$5\frac{3}{4}$	18	$8\frac{1}{4}$	15	$8\frac{1}{4}$	12	8	10	86	167
February	$5\frac{1}{4}$	11	4	11	$5\frac{3}{4}$	12	6	13	$6\frac{3}{4}$	15	$7\frac{1}{2}$	16	8	17	$8\frac{3}{4}$	20	$8\frac{3}{4}$	18	7	16	5	8	$5\frac{1}{4}$	7	78	164
March	$13\frac{3}{4}$	19	14	19	$11\frac{1}{2}$	19	$11\frac{1}{2}$	20	$11\frac{3}{4}$	21	$3\frac{3}{4}$	6	$16\frac{3}{4}$	24	$16\frac{1}{2}$	21	14	24	$13\frac{1}{4}$	20	$15\frac{1}{2}$	19	19	20	$161\frac{1}{4}$	232
April	$8\frac{1}{2}$	21	$8\frac{3}{4}$	20	$7\frac{1}{2}$	20	$6\frac{1}{4}$	21	8	23	9	24	$9\frac{1}{4}$	24	$9\frac{3}{4}$	24	$11\frac{1}{4}$	25	8	24	$6\frac{1}{2}$	20	$5\frac{1}{4}$	18	98	264

TABLE LXXXVII.—*continued.*

1842.	14h		16h		18h		20h		22h		0h		2h		4h		6h		8h		10h		12h		The Sum of all the Forces.	The Sum of all the Two-hourly Periods.
	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.		
May	5	16	$5\frac{1}{2}$	19	$5\frac{1}{2}$	21	6	22	7	23	$9\frac{1}{4}$	26	$9\frac{1}{2}$	26	$8\frac{1}{2}$	24	$8\frac{3}{4}$	25	$7\frac{1}{4}$	20	6	16	$5\frac{1}{2}$	12	$83\frac{3}{4}$	250
June	$5\frac{3}{4}$	17	6	17	$3\frac{3}{4}$	12	$5\frac{1}{2}$	18	$8\frac{3}{4}$	21	11	24	$10\frac{3}{4}$	25	$11\frac{1}{4}$	23	12	23	11	22	$7\frac{3}{4}$	20	7	14	$100\frac{1}{2}$	236
July	$8\frac{1}{2}$	18	7	17	$6\frac{1}{2}$	17	$7\frac{1}{2}$	19	$15\frac{1}{2}$	21	14	24	$13\frac{3}{4}$	25	$11\frac{3}{4}$	23	$13\frac{1}{2}$	23	$8\frac{3}{4}$	23	$8\frac{1}{4}$	20	$5\frac{1}{2}$	15	$120\frac{1}{2}$	245
August	$5\frac{1}{2}$	13	$6\frac{1}{2}$	14	$5\frac{1}{4}$	13	$5\frac{1}{2}$	13	$6\frac{3}{4}$	19	$9\frac{3}{4}$	24	11	25	$9\frac{1}{4}$	26	$7\frac{1}{2}$	22	7	23	$6\frac{1}{2}$	18	6	16	$86\frac{1}{2}$	226
September	7	15	$7\frac{1}{4}$	15	$6\frac{3}{4}$	16	$7\frac{1}{4}$	13	$10\frac{3}{4}$	19	16	25	$15\frac{1}{4}$	26	$13\frac{1}{2}$	23	$12\frac{1}{4}$	25	$10\frac{1}{4}$	21	$9\frac{1}{4}$	19	$6\frac{1}{2}$	15	122	232
October	$4\frac{3}{4}$	13	$4\frac{1}{4}$	11	$4\frac{3}{4}$	12	$4\frac{3}{4}$	14	7	19	$8\frac{3}{4}$	19	$9\frac{1}{2}$	21	$10\frac{3}{4}$	19	$7\frac{1}{2}$	18	$6\frac{1}{2}$	12	$6\frac{3}{4}$	14	7	14	$82\frac{1}{4}$	186
November	13	19	$9\frac{1}{2}$	21	11	18	$11\frac{1}{4}$	19	10	22	$12\frac{1}{2}$	27	$10\frac{3}{4}$	23	$10\frac{1}{2}$	24	$10\frac{1}{4}$	20	$14\frac{1}{2}$	22	13	25	$10\frac{1}{2}$	16	$136\frac{3}{4}$	256
December	$11\frac{3}{4}$	19	13	20	$13\frac{1}{2}$	20	$11\frac{1}{4}$	20	$9\frac{3}{4}$	21	10	21	$10\frac{1}{2}$	21	10	22	$9\frac{1}{4}$	20	8	18	$9\frac{1}{4}$	19	$9\frac{1}{2}$	18	$125\frac{3}{4}$	239

By taking the sums of the quantities at each hour, we obtain that

At 14^h	the whole sum of the estimated forces was		$97\frac{1}{2}$,	the number of hours	192
16	,,	,,	$93\frac{1}{4}$,	,,	195
18	,,	,,	$89\frac{1}{2}$,	,,	191
20	,,	,,	89,	,,	202
22	,,	,,	$106\frac{1}{2}$,	,,	236
0	,,	,,	$117\frac{3}{4}$,	,,	255
2	,,	,,	$131\frac{1}{4}$,	,,	276
4	,,	,,	129,	,,	268
6	,,	,,	$120\frac{3}{4}$,	,,	261
8	,,	,,	$109\frac{3}{4}$,	,,	236
10	,,	,,	102,	,,	210
12	,,	,,	95,	,,	175

The whole number of two-hourly periods over which the observations are spread is 3732. As there were 2697 observations indicating that air was in motion at those times, it follows that there were 1035 instances of calm, of which 190 occurred in spring, 241 in summer, 262 in autumn, and 342 in winter; and

119	instances occurred at	14^h,	of which	22	were in spring,	31	were in summer,	31	were in autumn,	and 35	were in winter.
116	,,	16,	,,	20	,,	31	,,	31	,,	34	,,
120	,,	18,	,,	18	,,	37	,,	32	,,	33	,,
109	,,	20,	,,	15	,,	29	,,	32	,,	33	,,
75	,,	22,	,,	11	,,	18	,,	18	,,	28	,,
56	,,	0,	,,	22	,,	7	,,	7	,,	20	,,
35	,,	2,	,,	4	,,	4	,,	8	,,	19	,,
43	,,	4,	,,	9	,,	7	,,	12	,,	15	,,
50	,,	6,	,,	4	,,	11	,,	15	,,	20	,,
75	,,	8,	,,	14	,,	11	,,	23	,,	27	,,
101	,,	10,	,,	23	,,	21	,,	20	,,	37	,,
136	,,	12,	,,	28	,,	34	,,	33	,,	41	,,

Spring is here used for March, April, May; Summer for June, July, August; Autumn for September, October, November; Winter for December, January, February.

Now dividing the 24 hours into two periods, that between 18^h and 6^h for the day period, and that between 6^h and 18^h for the night period, we find that there were—

In Spring	65	cases of calm during the day out of	468,	and 125	cases during the night out of	468
In Summer	76	,,	,,	474,	165	,,	474
In Autumn	92	,,	,,	468,	170	,,	468
In Winter	135	,,	,,	456,	207	,,	456

Therefore in Spring, during the day one hour in 7ʰ. 12ᵐ was calm,
,, during the night one hour in 3. 45 was calm.
In Summer, during the day one hour in 6. 14 was calm,
,, during the night one hour in 2 ·52 was calm.

In Autumn, during the day one hour in 5ʰ. 5ᵐ was calm,
,, during the night one hour in 2. 45 was calm.
In Winter, during the day one hour in 3. 23 was calm,
,, during the night one honr in 2. 12 was calm.

Or, for the whole year, there were 368 cases of calm out of 1866, during the day period,
and 667 cases of calm out of 1866, during the night period.
Therefore, for the whole year, one hour out of 5^h. 4^m was calm during the day,
and one hour out of 2^h. 48^m was calm during the night.

TABLE LXXXVIII.—Sums of the Forces of each Wind at every even Hour of Göttingen Mean Time, and Numbers of Two-hourly Periods of its Duration about that time, for the year 1842.

Direction of Wind.	14^h		16^h		18^h		20^h		22^h		0^h		2^h		4^h		6^h		8^h		10^h		12^h	
	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.	Sums of Forces.	No. of Two-hourly Periods.
N.	6½	16	6½	18	7½	19	6½	21	7¼	21	7¾	18	10½	27	9¼	22	8	21	8½	21	7	18	8	19
N. N. E.	2¼	6	2½	6	1¾	6	2¼	7	2¼	7	5	12	4	11	3	8	2½	7	2½	5	1¾	5	1	4
N. E.	5	16	5	17	5¼	17	6½	22	9	24	8¼	19	9	23	8¼	18	10¼	20	6	18	5	15	5	18
E. N. E.	1¼	5	½	2	¾	3	1½	6	4½	13	6¼	21	5¼	12	4¼	15	3	8	3	9	3¼	8	¾	3
E.	3¾	11	3	10	2¼	7	3	7	4	15	5¾	19	7¼	23	9¼	30	9¼	32	9¼	30	6	22	4	13
E. S. E.	¼	1	¼	1			½	2	¼	1	1	3	1	4	1½	4	½	2	2¾	7	2¾	5	¼	1
S. E.	½	2	¾	2					½	2	¾	2	½	1	¾	2	½	1	1	1	1¼	2		
S. S. E.	1¾	5	1¾	5	1	3	1	3			¾	3			¼	1	¾	1					1	2
S.	7¾	18	7	21	9	21	8¾	23	8¾	25	8¾	23	8¾	22	7¾	18	7¼	17	4½	14	7¼	16	7¾	22
S. S. W.	10½	16	6½	14	5¾	16	6	12	12	20	14	20	15½	24	13	25	12	20	7½	15	10	23	5½	11
S. W.	24	38	27¾	43	25½	47	24½	41	18	33	18¾	34	25½	41	22½	39	15¾	39	22	36	17¼	32	25¼	35
W.S.W.	26¾	36	24¼	34	22¾	33	15½	32	19¾	38	22	39	18½	35	21½	34	18	32	18¼	31	19	23	26¾	29
W.	3¼	9	4	12	5½	12	6	15	10	22	10¼	23	15	36	13¼	31	18	38	17¼	34	16	27	3¾	10
W.N.W.	½	2	1	3	¾	3	4¼	4	1½	3	1½	4	5¼	6	7¼	9	6¼	10	4¼	7	3¼	6	1¾	2
N.W.	1½	4	1½	3	1	2	1½	3	1½	3	4¾	9	2½	6	4	5	2¼	2	1	2	¼	1	3¼	3
N.N.W.	2	7	1	4	¾	2	1¼	4	7¼	9	2¼	6	2¾	5	3¼	7	6½	11	2	6	2	7	1	3

TABLE LXXXIX.—Comparison of the estimated Forces of the Wind, where the Limits are 0 and 6, with the corresponding Pressures on the Square Foot, as shewn by the Anemometer, and Deduction of the Rule for comparing the Results obtained by the two Methods.

1842.	ESTIMATED FORCE.																	
	½		1		1½		2		2½		3		4		4½		5	
	Number of Observations of estimated Force.	Sum of the Pressures at the Anemometer in lbs. on the Square Foot.	Number of Observations of estimated Force.	Sum of the Pressures at the Anemometer in lbs. on the Square Foot.	Number of Observations of estimated Force.	Sum of the Pressures at the Anemometer in lbs. on the Square Foot.	Number of Observations of estimated Force.	Sum of the Pressures at the Anemometer in lbs. on the Square Foot.	Number of Observations of estimated Force.	Sum of the Pressures at the Anemometer in lbs. on the Square Foot.	Number of Observations of estimated Force.	Sum of the Pressures at the Anemometer in lbs. on the Square Foot.	Number of Observations of estimated Force.	Sum of the Pressures at the Anemometer in lbs. on the Square Foot.	Number of Observations of estimated Force.	Sum of the Pressures at the Anemometer in lbs. on the Square Foot.	Number of Observations of estimated Force.	Sum of the Pressures at the Anemometer in lbs. on the Square Foot.
		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.
Jan.	17	5	22	26	5	13			1	4	2	14½	5	43	2	25	2	33
Feb.	18	11	32	41	12	36	5	22	1	5								
March	34	17	62	92	16	54	6	23	7	39	4	34	2	27				
April	57	25	16	13			1	5	1	5	2	16						
May	33	17	17	16	4	12	4	19	3	23								
June	28	3	26	17	7	13	5	20	2	9								
July	43	9	54	37	6	14	3	13										
Aug.	55	4	21	4	3	4												
Sep.	57	8	51	45	11	30	5	22	3	20								
Oct.	35	8	25	18	9	25	2	9	3	21								
Nov.	48	12	42	34	16	45	6	25	2	10								
Dec.	39	11	59	64	24	63	7	31	4	24								
Sums	464	130	427	404	113	309	44	189	27	160	8	65	7	70	2	25	2	33
Mean pressure in pounds for corresponding estimation.	lbs. 0·3		lbs. 0·9+		lbs. 2·8		lbs. 4·3		lbs. 5·9		lbs. 8·1		lbs. 10·0		lbs. 12·5		lbs. 16·5	

The connexion indicated here as existing between the estimated force and the pressure at the anemometer in lbs. on the square foot, is confirmatory of that indicated in the discussion of the previous year, viz.: that the square of the force by estimation represents approximately the number of lbs. pressure on the square foot. If the above numbers be combined with the corresponding numbers in the volume for 1841, we have—

Estimated force	½,	464	observations,	130	lbs. pressure;	mean pressure in lbs.	0·3
,,	1,	874	,,	981	,,	,,	1·1
,,	1½,	269	,,	768	,,	,,	2·9
,,	2,	147	,,	580	,,	,,	4·0
,,	2½,	67	,,	424	,,	,,	6·3
,,	3,	34	,,	261	,,	,,	7·7
,,	3½,	6	,,	65	,,	,,	10·8
,,	4,	9	,,	92	,,	,,	10·2
,,	4½,	2	,,	25	,,	,,	12·5
,,	5,	4	,,	74	,,	,,	18·5

And the error arising from assuming that the square of the estimated force corresponds with the pressure in lbs. on the square foot, as follows:—

The force by estimation	½,	the error is	0·5	lb.	in excess.
,,	1,	,,	0·1	,,	,,
,,	1½	,,	0·6	,,	,,
,,	2,	,,	0·0	,,	,,
,,	2½,	,,	0·0	,,	,,
,,	3,	,,	1·3	,,	in defect.
,,	3½,	,,	1·4	,,	,,
,,	4,	,,	5·8	,,	,,
,,	4½,	,,	7·5	,,	,,
,,	5,	,,	6·5	,,	,,

With respect to the forces 4 and 5, the estimations are of gusts in gales, and they are so few in amount as to be of little value, and cannot be considered as of much weight. Considering the strength of the wind by estimation to be reduced to pressures on the square foot, by the above rule—

¼	by estimation is	1	oz.	pressure on	the square foot.
½	,,	4	,,	,,	
¾	,,	9	,,	,,	
1	,,	1	lb.	,,	
1½	,,	2¼	,,	,,	
2	,,	4	,,	,,	
2½	,,	6¼	,.	,,	
3	,,	9	,,	,,	
3½	,,	12¼	,,	,,	
4	,,	16	,,	,,	
4½	,,	20¼	,,	,,	
5	,,	25	,,	,,	
6	,,	36	,,	,,	

During this investigation it was found that there were 1721 cases of estimated force of ¼, and that in 1553 of these cases there was no pressure shewn at the anemometer, while the sum of the pressures in the other 168 cases amounted to 78 lbs.; and that there were 274 cases of estimated force of ½, 75 cases of ¾, 10 of 1, and 1 of 1½, in which no pressures were shewn at the anemometer. There is little doubt that with respect to the 168 cases of ¼, the observers were generally under some wrong impression as to the real strength of the wind, and have to a certain extent recorded it erroneously. With respect to all the other cases, it appears that a wind may frequently blow with a pressure of ½ lb. on the square foot, and yet no pressure may be shewn at the anemometer; and that in a few cases even a pressure of 1 lb. has not been registered by the instrument.

On the Changes of the Direction of the Wind in 1842.

By *direct* motion, in the following statements, is meant that the change of the direction of the wind was in the order N., E., S., W., N., &c.; by *retrograde*, is meant in the order N., W., S., E. N., &c. In the investigation, changes of less than 22½° are not noticed.

TABLE XC.

Month, 1842.	Day and Hour.		DIRECT MOTION.				RETROGRADE MOTION.				Duration of calm Periods with slight Changes.
			DIRECTION.		Arc described by the Vane.	Time occupied by the Change.	DIRECTION.		Arc described by the Vane.	Time occupied by the Change.	
	Before Change.	After Change.	Before Change.	After Change.			Before Change.	After Change.			
	d h	d h			° ′	d h			° ′	d h	d h
January	2. 0	3. 10	N	N E	45. 0	1. 10					
	3. 10	3. 16					N E	N	45. 0	0. 6	
	3. 16	5. 16	Calm								2. 0
	5. 16	5. 22					N	N N W	22. 30	0. 6	
	5. 22	6. 2	N N W	N E	67. 30	0. 4					
	6. 2	6. 4					N E	N	45. 0	0. 2	
	6. 4	6. 10	N	N E	45. 0	0. 6					
	6. 10	6. 22	N E steadily								
	6. 22	7. 2					N E	N	45. 0	0. 4	
	7. 2	10. 2	Slight variations								3. 0
	10. 2	10. 12					W	S S E	112. 30	0. 10	
	10. 12	10. 20	Slight variations								0. 8
	10. 20	11. 14	S	S S W	22. 30	0. 18					
	11. 16	12. 12					S S W	S S E	45. 0	0. 20	
	12. 12	13. 12	Slight changes								1. 0
	13. 12	14. 0	E S E	W S W	225. 0	0. 12					
	14. 0	15. 0	Generally calm								1. 0
	15. 0	15. 16					W S W	S S E	90. 0	0. 16	
	15. 16	16. 0	Calm								0. 8
	16. 0	16. 2	S S E	S W	67. 30	0. 2					
	16. 2	16. 22	Slight variations								0. 20
	16. 22	17. 2	S W	W N W	67. 30	0. 4					
	17. 2	17. 6					W N W	W S W	45. 0	0. 2	
	17. 6	23. 0	Generally calm								5. 18
	23. 0	23. 4	W	N N W	67. 30	0. 4					
	23. 4	23. 12	N N W steadily								
	23. 12	23. 22					N N W	W S W	90. 0	0. 10	
	23. 22	24. 0	W S W	W	22. 30	0. 2					
	24. 2	24. 8					W	S E	135. 0	0. 6	
	24. 8	24. 18	S E steadily								
	24. 18	25. 0	S E	N N W	157. 30	0. 6					
	25. 0	25. 6					N N W	W N W	45. 0	0. 6	
	25. 6	25. 18	Generally calm								0. 12
	25. 18	27. 0	S E	W S W	112. 30	1. 6					
	27. 0	27. 4	W S W steadily								
	27. 4	27. 6					W S W	S S W	45. 0	0. 2	
	27. 6	27. 22	Slight changes								0. 16
	27. 22	28. 4	S S W	N W	112. 30	0. 6					
	28. 4	28. 8					N W	S W	90. 0	0. 4	
	28. 8	29. 0	Slight changes	and calm							0. 16
	29. 0	29. 8	S W	N	135. 0	0. 8					
	29. 8	29. 18					N	W N W	67. 30	0. 10	
	29. 18	30. 2	Slight changes								0. 8
	30. 2	30. 4					N W	S W	90. 0	0. 2	
	30. 4	31. 12	Calm and slight	changes							1. 8
February	0. 14	0. 20					N N W	W S W	90. 0	0. 6	
	0. 22	1. 2	W S W	NW	67. 30	0. 4					
	1. 2	2. 16	Calm and slight	changes							1. 14
	2. 16	3. 2	S W	E	225. 0	0. 10					
	3. 2	4. 10	Calm and slight	changes							1. 8
	4. 10	4. 12					E	NE	45. 0	0. 2	
	4. 12	4. 18	Calm								0. 6
	4. 18	5. 2	N E	E S E	67. 30	0. 8					
	5. 2	6. 2	Calm								1. 0
	6. 2	6. 4	N E	E	45. 0	0. 2					
	6. 4	7. 2	Calm								0. 22
	7. 2	7. 6	S W	W	45. 0	0. 4					
	7. 6	7. 8					W	SW	45. 0	0. 2	
	7. 8	9. 0	Generally calm								1. 16
	9. 0	9. 20	S S E	S W	67. 30	0. 20					
	9. 20	10. 4	Slight changes								0. 8
	10. 4	10. 8					S W	S	45. 0	0. 4	

TABLE XC. — *continued.*

Month, 1842.	Day and Hour.		DIRECT MOTION.				RETROGRADE MOTION.				Duration of calm Periods with slight Changes.
			DIRECTION.		Arc described by the Vane.	Time occupied by the Change.	DIRECTION.		Arc described by the Vane.	Time occupied by the Change.	
	Before Change.	After Change.	Before Change.	After Change.			Before Change.	After Change.			
	d h	d h			° ′	d h			° ′	d h	d h
February	10. 8	12. 16	Slight changes								2. 8
	12. 16	12. 22					S W	S S E	67. 30	0. 4	
	12. 22	13. 6	S S E	S W	67. 30	0. 8					
	13. 6	15. 18	S W steadily								2. 12
	15. 18	17. 18	Generally calm								2. 0
	17. 22	18. 4	S W	W	45. 0	0. 6					
	18. 4	21. 4	Calm and slight	variations							3. 0
	21. 4	21. 6	S W	W N W	67. 30	0. 2					
	21. 6	21. 16	Generally calm								0. 10
	21. 16	21. 18					S S W	S E	67. 30	0. 2	
	21. 20	22. 2	S E	S S W	67. 30	0. 6					
	22. 2	22. 10	Slight changes								0. 8
	22. 10	22. 16					S S W	S E	67. 30	0. 6	
	22. 16	22. 22	S E	S	45. 0	0. 6					
	22. 22	23. 16	Calm and slight	changes							0. 18
	23. 16	23. 22	S S E	S S W	45. 0	0. 6					
	23. 22	24. 14	Calm and slight	changes							0. 16
	24. 14	25. 0	E S E	W	157. 30	0. 10					
	25. 0	25. 6	Slight changes								0. 6
	25. 6	25. 16					W	S S W	67. 30	0. 10	
	25. 16	25. 20	S S W steadily								
	25. 20	26. 0	S S W	W S W	45. 0	0. 4					
	26. 0	26. 10	W S W steadily								
	26. 10	26. 18					W S W	S	67. 30	0. 8	
	26. 18	26. 22	S steadily								
	26. 22	27. 6	S	W S W	67. 30	0. 8					
	27. 6	27. 22	Slight changes								0. 16
	27. 22	28. 8					W S W	S S E	90. 0	0. 10	
	28. 8	28. 14	S S E	S W	67. 30	0. 6					
March	0. 14	0. 22	S S W constant								
	0. 22	1. 0	S S W	W N W	90. 0	0. 2					
	1. 0	1. 6					W N W	W S W	45. 0	0. 6	
	1. 6	1. 16	W S W constant								
	1. 16	1. 22					W S W	S S W	45. 0	0. 6	
	1. 22	2. 8	S S W	W S W	45. 0	0. 10					
	2. 8	2. 20	W S W constant								
	2. 22	4. 2	Slight changes								1. 4
	4. 4	4. 6					W S W	S S W	45. 0	0. 2	
	4. 8	4. 12	S W constant								
	4. 14	4. 20	Calm								0. 6
	4. 22	5. 6	W S W	N N	90. 0	0. 8					
	5. 6	5. 8					N N W	S	157. 30	0. 2	
	5. 8	6. 22	Calm and slight	changes							1. 14
	6. 22	7. 0	S E	S	45. 0	0. 2					
	7. 0	7. 14	S W steadily								
	7. 16	7. 22	S S W steadily								
	8. 8	8. 14	S S W	W S W	45. 0	0. 6					
	8. 14	8. 22	W S W steadily								
	8. 22	9. 10					W S W	S S E	90. 0	0. 12	
	9. 12	10. 0	S S E	N W	157. 30	0. 12					
	10. 2	10. 18					N W	S	135. 0	0. 16	
	10. 18	11. 2	S steadily								
	11. 2	11. 14	S	N W	135. 0	0. 12					
	11. 14	11. 16					N W	W	45. 0	0. 2	
	11. 20	12. 4					W S W	S S W	45. 0	0. 8	
	12. 6	12. 16	Slight changes								
	12. 16	12. 20	S S W	N W	112. 30	0. 4					0. 10
	12. 22	13. 0					N W	W	45. 0	0. 2	
	13. 2	13. 4	W	N W	45. 0	0. 2					
	13. 4	13. 18					N W	S	135. 0	0. 14	
	13. 20	14. 22	Slight changes								1. 2
	14. 22	15. 4	S	W S W	67. 30	0. 6					

TABLE XC.—*continued.*

Month, 1842.	Day and Hour.		DIRECT MOTION.				RETROGRADE MOTION.				Duration of calm Periods with slight Changes.
			DIRECTION.		Arc described by the Vane.	Time occupied by the Change.	DIRECTION.		Arc described by the Vane.	Time occupied by the Change.	
	Before Change.	After Change.	Before Change.	After Change.			Before Change.	After Change.			
	d h	d h			° ′	d h			° ′	d h	d h
March	15. 6	15. 8	S W	W	45. 0	0. 2					
	15. 10	15. 22	Calm								0. 12
	16. 0	16. 14	S S W	W S W	45. 0	0. 14					
	16. 16	16. 22	S W	W N W	67. 30	0. 6					
	16. 22	17. 4					W N W	S S W	90. 0	0. 6	
	17. 4	17. 20	S S W	W S W	45. 0	0. 16					
	17. 22	18. 10	S W	W	45. 0	0. 12					
	18. 10	19. 18	Slight changes								1. 8
	19. 18	20. 0	W S W	N	112. 30	0. 6					
	20. 0	21. 14	Slight changes								1. 14
	21. 14	21. 22	Calm								0. 8
	22. 0	23. 22	Slight changes								1. 22
	24. 0	24. 2					N	W	90. 0	0. 2	
	24. 2	25. 14	Calm and slight	changes							1. 10
	25. 14	25. 16	S W	W	45. 0	0. 2					
	25. 18	26. 2	W S W	W N W	45. 0	0. 8					
	26. 2	26. 8					N N W	W S W	45. 0	0. 6	
	26. 10	26. 14	W S W	N W	67. 30	0. 4					
	26. 14	27. 8	Calm and slight	changes							0. 18
	27. 8	27. 14					W	S S W	67. 30	0. 6	
	28. 0	28. 18	Slight changes								0. 18
	28. 18	28. 22	S W	N W	90. 0	0. 4					
	28. 22	29. 8					N W	S S W	112. 30	0. 10	
	29. 12	30. 4	S S W	W S W	45. 0	0. 16					
	30. 4	31. 12	Slight changes								1. 8
April	0. 14	0. 22	S W	N W	90. 0	0. 8					
	0. 22	1. 4	N W steadily								
	1. 6	1. 12	W N W	N	67. 30	0. 6					
	1. 12	1. 18					N	W	90. 0	0. 6	
	1. 20	2. 10	W	N	90. 0	0. 14					
	2. 14	4. 8	N N W	N E	67. 30	1. 18					
	4. 12	4. 20					N E	N	45. 0	0. 8	
	4. 20	5. 6	N	E S E	112. 30	0. 10					
	5. 10	7. 10	Calm and slight	changes							2. 0
	7. 10	7. 12					N E	N	45. 0	0. 2	
	7. 12	7. 20	N steady								
	7. 20	8. 0	N	E	90. 0	0. 4					
	8. 0	12. 22	Slight changes								4. 22
	13. 0	13. 4					N E	N	45. 0	0. 4	
	13. 4	13. 6	N	N E	45. 0	0. 2					
	13. 6	13. 8					N E	N	45. 0	0. 12	
	13. 18	14. 2	N	E N E	67. 30	0. 8					
	14. 4	17. 22	Slight changes								3. 18
	17. 22	18. 10	N N E	E N E	45. 0	0. 12					
	18. 12	19. 2	Slight changes								0. 14
	19. 2	19. 4	N E	E	45. 0	0. 2					
	19. 4	20. 2	Calm and slight	changes							0. 22
	20. 10	20. 16					S E	N E	90. 0	0. 6	
	20. 18	20. 20	N E	E	45. 0	0. 2					
	20. 22	21. 8					E	N E	45. 0	0. 10	
	21. 8	22. 2	N E constant								
	22. 2	22. 6	N E	E	45. 0	0. 4					
	23. 0	23. 4					N N E	N N W	45. 0	0. 4	
	23. 0	24. 0	Calm								1. 0
	24. 0	24. 2					E	N E	45. 0	0. 2	
	24. 2	24. 4	N E	E S E	67. 30	0. 2					
	24. 10	24. 12	E	S E	45. 0	0. 2					
	24. 12	24. 14					S E	E N E	67. 30	0. 2	
	24. 18	25. 20					E	N N E	67. 30	1. 2	
	25. 20	26. 2	N N E	E N E	45. 0	0. 6					
	26. 2	26. 16	Slight changes								0. 14
	26. 16	26. 18					E N E	N N E	45. 0	0. 2	

TABLE XC.—*continued.*

Month, 1842.	Day and Hour.		DIRECT MOTION.				RETROGRADE MOTION.				Duration of calm Periods with slight Changes.
			DIRECTION.		Arc described by the Vane.	Time occupied by the Change.	DIRECTION.		Arc described by the Vane.	Time occupied by the Change.	
	Before Change.	After Change.	Before Change.	After Change.			Before Change.	After Change.			
	d h	d h			° ′	d h			° ′	d h	d h
April	26. 18	26. 22	N N E	E	67. 30	0. 4					
	26. 22	27. 14					E	N E	45. 0	0. 16	
	27. 14	27. 22	N E constant								
	27. 22	28. 2	N E	E	45. 0	0. 4					
	28. 2	28. 12	E steady								
	28. 12	28. 20					E	N N E	67. 30	0. 8	
	28. 20	29. 0	N N E	E	67. 30	0. 4					
	29. 2	29. 8	E N E	E S E	45. 0	0. 6					
	29. 8	29. 14					E S E	N E	67. 30	0. 6	
	29. 14	30. 12	Slight changes								0. 22
May	0. 12	1. 4	N N E	E N E	45. 0	0. 16					
	1. 4	1. 14					E N E	N N E	45. 0	0. 10	
	1. 14	1. 22	N N E	E	67. 30	0. 8					
	1. 22	3. 0	Calm and slight	changes							1. 2
	3. 0	3. 6					N W	S W	90. 0	0. 6	
	3. 6	3. 14	S W	N N W	112. 30	0. 8					
	3. 14	3. 18					N N W	W N W	45. 0	0. 4	
	3. 20	4. 10					N W	S	135. 0	0. 14	
	4. 10	4. 12	S	W S W	67. 30	0. 2					
	4. 12	4. 18					W S W	S	67. 30	0. 6	
	4. 18	5. 0	S	S W	45. 0	0. 6					
	5. 2	5. 16	S S W constant								
	5. 18	6. 4	S S W	W S W	45. 0	0. 10					
	6. 4	6. 18					W S W	S S W	45. 0	0. 14	
	6. 18	7. 2	S S W	W S W	45. 0	0. 8					
	7. 4	8. 12	Slight changes								1. 8
	8. 14	8. 22	S W	W N W	67. 30	0. 8					
	9. 0	9. 2	W	N	90. 0	0. 2					
	9. 2	9. 6					N	N W	45. 0	0. 4	
	9. 10	9. 20					N N W	W S W	90. 0	0. 10	
	9. 20	9. 22	W S W	W N W	45. 0	0. 2					
	9. 22	10. 4					W N W	S S W	90. 0	0. 6	
	10. 4	10. 10	Slight changes								0. 6
	10. 10	10. 18					S W	S S E	67. 30	0. 8	
	10. 18	11. 8	Slight changes								0. 14
	11. 10	12. 0	W	N	90. 0	0. 14					
	12. 0	14. 20	Calm and slight	changes							2. 20
	14. 20	15. 2					E S E	E N E	45. 0	0. 6	
	15. 2	15. 6	E N E	E S E	45. 0	0. 4					
	15. 6	16. 4	Slight changes								0. 22
	16. 4	16. 8	N E	E	90. 0	0. 4					
	16. 10	18. 20	Calm and slight	changes							2. 10
	18. 22	19. 0					S S W	S S E	45. 0	0. 2	
	19. 0	19. 6	S S E	W	112. 30	0. 6					
	19. 6	19. 8					W	S S W	67. 30	0. 2	
	19. 8	20. 12	Slight changes								1. 4
	20. 12	20. 22					S W	S	45. 0	0. 10	
	20. 22	22. 18	Slight changes								1. 20
	22. 18	23. 6	S S E	S S W	45. 0	0. 12					
	23. 8	23. 16	Calm								0. 8
	23. 18	23. 22	E	S S W	112. 30	0. 4					
	24. 4	24. 8	N	S E	135. 0	0. 4					
	24. 8	24. 12					S E	S S W	67. 30	0. 4	
	24. 14	24. 22	S constant								
	24. 22	25. 14					S	S E	45. 0	0. 16	
	25. 14	26. 2	S E	S W	90. 0	0. 12					
	26. 2	27. 16	Slight changes								1. 14
	27. 16	27. 22	W	N	90. 0	0. 6					
	28. 6	28. 12					N W	W S W	67. 30	0. 6	
	28. 12	30. 0	Calm and slight	changes							1. 12
	30. 0	30. 6	S W	W N W	67. 30	0. 6					
	30. 6	30. 10					W N W	W S W	45. 0	0. 4	
	30. 10	31. 12	Calm and slight	changes							1. 2

TABLE XC.—*continued.*

Month, 1842.	Day and Hour.		DIRECT MOTION.				RETROGRADE MOTION.				Duration of Calm Periods with slight Changes.
			DIRECTION.		Arc described by the Vane.	Time occupied by the Change.	DIRECTION.		Arc described by the Vane.	Time occupied by the Change.	
	Before Change.	After Change.	Before Change.	After Change.			Before Change.	After Change.			
	d h	d h			° ′	d h			° ′	d h	d h
June	0. 14	0. 20	Calm								0. 6
	0. 22	1. 2	S	W S W	67. 30	0. 4					
	1. 2	1. 18	Slight changes								0. 16
	1. 18	2. 12	W S W	S S E	270. 0	0. 18					
	2. 14	2. 20	Calm								0. 6
	2. 22	3. 0	S W	W	45. 0	0. 2					
	3. 8	3. 22	S S W	W	67. 30	0. 14					
	4. 0	4. 6	W S W	E N E	180. 0	0. 6					
	4. 8	4. 20	Calm								0. 12
	5. 4	5. 6	S	S W	45. 0	0. 2					
	5. 6	5. 8					S W	S	45. 0	0. 2	
	5. 8	5. 20	Calm								0. 12
	5. 22	6. 10	N E	E	45. 0	0. 12					
	6. 14	6. 20	Calm								0. 6
	6. 22	7. 2	N E	E S E	67. 30	0. 4					
	7. 2	7. 18	Slight changes								0. 16
	7. 10	9. 14	Generally N E								
	9. 14	9. 18					E N E	N	67. 30	0. 4	
	9. 18	10. 8	N	E N E	67. 30	0. 14					
	10. 8	10. 20					E N E	N N E	45. 0	0. 12	
	10. 20	11. 8	N N E	E	67. 30	0. 12					
	11. 10	11. 22	Slight changes								0. 12
	11. 22	12. 10	N N E	E	67. 30	0. 12					
	12. 10	13. 2	Slight changes								0. 16
	13. 2	13. 6	N E	S E	90. 0	0. 4					
	13. 6	14. 12	Calm and slight changes								1. 6
	14. 12	14. 14	S W	N N W	112. 30	0. 2					
	14. 14	14. 16					N N W	W N W	45. 0	0. 2	
	14. 16	15. 4	W N W	N N E	90. 0	0. 12					
	15 4	15. 12	Slight changes								0. 8
	15 12	16. 2	S S E	N N W	180. 0	0. 14					
	16. 2	17. 2	Slight changes								1. 0
	17. 2	18. 0	N E	S E	90. 0	0. 22					
	18. 4	18. 8	N E	S	45. 0	0. 4					
	18. 8	18. 20	Calm								0. 12
	18. 20	19. 14	S	W	90. 0	0. 18					
	19. 14	19. 18					W	S S W	67. 30	0. 4	
	19. 18	21. 2	Slight changes								1. 8
	21. 2	21. 22	S	W	90. 0	0. 20					
	21. 22	22. 0					W	S W	45. 0	0. 2	
	22. 0	23. 2	Slight changes								1. 2
	23. 4	25. 20	Generally S W								
	25. 20	25. 22	W S W	W N W	45. 0	0. 2					
	25. 22	26. 16					W N W	W S W	45. 0	0. 18	
	26. 16	26. 22	W S W	N W	67. 30	0. 6					
	26. 22	27. 10	Slight changes								0. 12
	27. 10	27. 16					N W	S W	90. 0	0. 6	
	27. 16	28. 12	Slight changes								0. 20
	28. 12	28. 22	S S W	W	67. 30	0. 10					
	29. 4	29. 8	W S W	N W	67. 30	0. 4					
	29. 10	29. 18	Calm								0. 8
	29. 20	30. 4	N E	E	45. 0	0. 8					
	30. 4	30. 6					E	N E	45. 0	0. 2	
July	0. 22	1. 0					N	N W	45. 0	0. 2	
	1. 0	1. 16	Slight changes								0. 16
	1. 16	1. 22	S W	W	45. 0	0. 6					
	1. 22	3. 8	Slight changes								1. 10
	3. 8	3. 22					S W	S	45. 0	0. 14	
	4. 0	4. 10	S S W constant								
	4. 10	4. 22	S	W S W	67. 30	0. 12					
	5. 0	5. 10	S W constant								
	5. 10	5. 22	S W	N W	90. 0	0. 12					

TABLE XC.—*continued.*

Month, 1842.	Day and Hour.		DIRECT MOTION.				RETROGRADE MOTION.				Duration of calm Periods with slight Changes.
			DIRECTION.		Arc described by the Vane.	Time occupied by the Change.	DIRECTION.		Arc described by the Vane.	Time occupied by the Change.	
	Before Change.	After Change.	Before Change.	After Change.			Before Change.	After Change.			
	d h	d h			° ′	d h			° ′	d h	d h
July	5. 22	6. 0					N W	W	45. 0	0. 2	
	6. 0	6. 4	W	N W	45. 0	0. 4					
	6. 4	6. 16					N W	S S W	112. 30	0. 12	
	6. 16	7. 12	Slight changes								0. 20
	7. 12	7. 18	S W	W	45. 0	0. 6					
	7. 18	8. 8					W	S	90. 0	0. 14	
	8. 8	8. 22	S	W S W	67. 30	0. 14					
	8. 22	10. 10	Generally S W								
	10. 10	10. 14					S	S E	45. 0	0. 4	
	10. 14	10. 22	S E	S S W	67. 30	0. 8					
	10. 22	11. 10	S S W constant								
	11. 10	11. 22	S S W	W N W	90. 0	0. 12					
	11. 22	12. 0					W N W	W S W	45. 0	0. 2	
	12. 0	12. 8	W S W	W N W	45. 0	0. 8					
	12. 8	12. 14					W N W	S S W	90. 0	0. 6	
	12. 14	12. 22	S S W	W S W	45. 0	0. 8					
	12. 22	13. 18	Slight changes								0. 20
	13. 18	13. 22	S W	W	45. 0	0. 4					
	13. 22	14. 8	Slight changes								0. 10
	14. 8	14. 10					N W	W	45. 0	0. 2	
	14. 10	14. 12	W	N	90. 0	0. 2					
	14. 12	17. 22	Calm and slight	changes							3. 10
	17. 22	18. 0	W	N W	45. 0	0. 2					
	18. 0	18. 8					N W	S W	90. 0	0. 8	
	18. 10	18. 20	Calm								0. 10
	18. 22	19. 4	E N E	S S W	135. 0	0. 6					
	19. 4	20. 8	Generally calm								1. 4
	20. 8	21. 22	Generally	N N W							
	21. 22	22. 12	N N W	N E	67. 30	0. 14					
	22. 12	28. 2	Generally calm								5. 14
	28. 2	28. 14	W	N	90. 0	0. 12					
	28. 14	28. 18					N	W	90. 0	0. 4	
	28. 18	28. 20	W	N	90. 0	0. 2					
	28. 20	29. 12	N constant								
	29. 12	30. 14	Slight changes								1. 2
	30. 14	31. 8	N	N E	45. 0	0. 18					
August	0. 14	3. 2	Generally calm								2. 12
	3. 2	3. 4	N E	E	45. 0	0. 2					
	3. 4	4. 0	Generally calm								0. 20
	4. 2	4. 18	W constant								
	4. 22	5. 4					W	S W	45. 0	0. 6	
	5. 6	5. 12					W S W	S S W	45. 0	0. 6	
	5. 12	5. 20	S S W	W S W	45. 0	0. 8					
	5. 20	6. 0					W S W	S S W	45. 0	0. 4	
	6. 0	6. 4	S S W	W S W	45. 0	0. 4					
	6. 4	8. 8	Calm and slight	changes							2. 4
	8. 8	8. 18					S S W	S S E	45. 0	0. 10	
	8. 18	9. 0	S S E	S S W	45. 0	0. 6					
	9. 0	10. 4	Calm and slight	changes							1. 4
	10. 4	10. 6	S	W S W	67. 30	0. 2					
	10. 6	11. 2	Generally W								
	11. 2	11. 14					W	S	90. 0	0. 12	
	11. 14	16. 0	Calm and slight	changes							4. 10
	16. 0	16. 2	N E	E	45. 0	0. 2					
	16. 2	16. 14	E constant								
	16. 16	16. 22	E N E constant								
	17. 0	18. 8	Calm and slight	changes							1. 8
	18. 8	18. 20	E	W S W	157. 30	0. 12					
	19. 2	19. 12					S W	S	45. 0	0. 10	
	19. 12	19. 14	S	S W	45. 0	0. 2					
	19. 14	20. 12	Generally S W								
	20. 12	20. 22					S W	S	45. 0	0. 10	

TABLE XC.—*continued.*

Month, 1842.	Day and Hour.		DIRECT MOTION.				RETROGRADE MOTION.				Duration of calm Periods with slight Changes.
			DIRECTION.		Arc described by the Vane.	Time occupied by the Change.	DIRECTION.		Arc described by the Vane.	Time occupied by the Change.	
	Before Change.	After Change.	Before Change.	After Change.			Before Change.	After Change.			
	d h	d h			° ′	d h			° ′	d h	d h
August	20. 22	21. 0	S	S W	45. 0	0. 2					
	21. 0	24. 4	Calm								3. 4
	24. 4	24. 14					N E	N	45. 0	0. 10	
	24. 14	25. 8	N	E	90. 0	0. 18					
	25. 8	25. 10					E	N E	45. 0	0. 2	
	25. 12	25. 14	N E	E	45. 0	0. 2					
	25. 14	25. 22	Calm								0. 8
	26. 0	26. 2	E	S E	45. 0	0. 2					
	26. 2	26. 4					S E	N E	90. 0	0. 2	
	26. 6	27. 8	Generally N								
	27. 8	27. 10	N	N E	45. 0	0. 2					
	27. 10	27. 20	Calm								0. 10
	27. 20	28. 12	N E	E S E	67. 30	0. 16					
	28. 12	28. 20	Calm								0. 8
	28. 20	29. 4					E	N E	45. 0	0. 8	
	29. 6	29. 20	Calm								0. 14
	29. 20	30. 4					W	S W	45. 0	0. 8	
	30. 4	30. 10	S W	N	135. 0	0. 6					
	30. 10	30. 14					N	W N W	67. 30	0. 4	
	30. 14	31. 12	Generally N W								
Septemb.	0. 18	1. 6	S	W	90. 0	0. 12					
	1. 8	5. 6	Calm and slight	changes							3. 22
	5. 6	5. 8					S W	S	45. 0	0. 2	
	5. 8	7. 14	Calm and slight	changes							2. 6
	7. 14	8. 10	S	W S W	67. 30	0. 20					
	8. 10	11. 4	Slight changes								2. 18
	11. 4	11. 10	W	N N W	67. 30	0. 6					
	11. 12	11. 20	Calm								0. 8
	11. 22	12. 8	N W	N	45. 0	0. 10					
	12. 8	16. 22	Generally calm								4. 14
	17. 0	17. 6	S	S W	45. 0	0. 6					
	17. 6	18. 22	Generally calm								1. 16
	19. 0	19. 4	S	S W	45. 0	0. 4					
	19. 4	19. 22	Calm								0. 18
	20. 0	20. 8					S W	S	45. 0	0. 8	
	20. 8	21. 20	Generally calm								1. 12
	21. 22	22. 4	S W	N	135. 0	0. 6					
	22. 4	23. 10					N	S S E	202. 30	1. 6	
	23. 12	23. 18	Calm								0. 6
	23. 20	24. 8					E	N N E	67. 30	0. 12	
	24. 8	24. 22	Calm								0. 14
	25. 0	25. 2	N N E	E N E	45. 0	0. 2					
	25. 2	25. 14					E N E	N	67. 30	0. 12	
	25. 16	25. 20	Generally calm								0. 4
	25. 22	26. 0	N N E	E	67. 30	0. 2					
	26. 0	26. 8					E	N	90. 0	0. 8	
	26. 8	28. 12	Generally N								
	28. 12	29. 2	N	E N E	67. 30	0. 14					
	29. 2	30. 12	Calm and slight	changes							1. 10
October	0. 14	6. 20	Calm and slight	changes							6. 6
	6. 20	6. 22	W S W	N N W	90. 0	0. 2					
	6. 22	7. 22	Calm and slight	changes							1. 0
	7. 22	8. 0	N N W	E N E	90. 0	0. 2					
	8. 6	14. 2	Calm and slight	changes							5. 20
	14. 2	14. 4	W S W	N W	67. 30	0. 2					
	14. 6	18. 0	Calm and slight	changes							3. 18
	18. 0	18. 2					W S W	S S W	45. 0	0. 2	
	18. 4	18. 12	Generally N								
	18. 14	18. 16					N N W	W	67. 30	0. 2	
	18. 16	18. 18	W	N W	45. 0	0. 2					
	18. 18	19. 6	Generally N W								

TABLE XC.—*continued.*

Month, 1842.	Day and Hour.		DIRECT MOTION.				RETROGRADE MOTION.				Duration of calm Periods with slight Changes.
			DIRECTION.		Arc described by the Vane.	Time occupied by the Change.	DIRECTION.		Arc described by the Vane.	Time occupied by the Change.	
	Before Change.	After Change.	Before Change.	After Change.			Before Change.	After Change.			
	d h	d h			° ′	d h			° ′	d h	d h
October	19. 6	19. 8	N W	N	45. 0	0. 2					
	19. 10	20. 2	Calm								0. 16
	20. 2	20. 4					W	S W	45. 0	0. 2	
	20. 6	20. 20	Calm								0. 14
	20. 22	21. 0	N W	N	45. 0	0. 2					
	21. 0	21. 6					N	N W	45. 0	0. 6	
	21. 8	21. 20	Calm								0. 12
	21. 22	22. 8	S S W	W S W	45. 0	0. 10					
	22. 8	22. 20					W S W	S S W	45. 0	0. 12	
	22. 20	23. 4	S S W	W	67. 30	0. 8					
	23. 4	24. 6	Calm and slight	hanges							1. 2
	24. 6	24. 22					W	S S E	112. 30	0. 18	
	25. 0	25. 6	Calm								0. 6
	25. 8	25. 12	S S W	W N W	90. 0	0. 4					
	25. 12	25. 20					W N W	S S W	90. 0	0. 8	
	25. 22	26. 2	S S W	W S W	45. 0	0. 4					
	26. 2	29. 0	Calm and W S	W							2. 22
	29. 2	29. 16					N	W	90. 0	0. 14	
	29. 22	31. 12	Generally W S	W							
Novemb.	0. 14	3. 18	Calm and slight	changes							3. 4
	3. 18	4. 6	N N W	S	202. 30	0. 12					
	4. 12	4. 22	N W	N	45. 0	0. 10					
	4. 22	12. 4	Calm and slight	changes							7. 6
	12. 4	13. 2					W S W	S S W	45. 0	0. 22	
	13. 2	13. 16	S S W	W N W	90. 0	0. 14					
	13. 16	13. 18					W N W	W S W	45. 0	0. 2	
	13. 20	14. 8	Calm								0. 12
	14. 8	15. 2	E N E	E S E	45. 0	0. 18					
	15. 8	15. 18	Calm								0. 10
	15. 20	16. 0					E	N E	45. 0	0. 4	
	16. 2	17. 0	N E steadily								
	17. 2	18. 8	Calm and slight	changes							1. 6
	18. 8	19. 18	S	N	180. 0	1. 10					
	19. 18	21. 14	Calm								1. 20
	21. 18	22. 2					S S E	E	67. 30	0. 8	
	22. 4	23. 16					E	S E	315. 0	1. 12	
	23. 16	23. 20	S E	S W	90. 0	0. 4					
	24. 2	24. 10					S W	S	45. 0	0. 8	
	24. 22	25. 0	S	S W	45. 0	0. 2					
	25. 2	27. 0	S W steady								
	27. 0	27. 4					S	S E	45. 0	0. 4	
	27. 8	28. 8	S E	W S W	112. 30	1. 0					
	28. 12	28. 16					W S W	S	67. 30	0. 4	
	28. 16	30. 12	Calm and slight	changes							1. 20
Decemb.	0. 14	2. 22	Slight changes								2. 8
	2. 22	3. 0	S S W	W S W	45. 0	0. 2					
	3. 0	4. 0	Calm								1. 0
	4. 0	4. 4	S	S W	45. 0	0. 4					
	4. 4	4. 6					S W	S	45. 0	0. 2	
	4. 6	4. 10	S	S W	45. 0	0. 4					
	4. 10	10. 18	Calm and slight	changes							6. 8
	10. 18	10. 20	S E	S	45. 0	0. 2					
	10. 20	10. 22					S	S E	45. 0	0. 2	
	10. 22	11. 22	S E	S	45. 0	1. 0					
	11. 22	12. 12	S	S W	45. 0	0. 14					
	12. 12	12. 20					S W	S	45. 0	0. 8	
	12. 20	15. 18	Calm and slight	changes							2. 22
	15. 18	16. 22	S	W	90. 0	1. 4					
	16. 22	20. 16	Generally S W								
	20. 16	21. 0	S W	N W	90. 0	0. 8					
	21. 0	21 8					N W	S W	90. 0	0. 8	

TABLE XC. —*concluded.*

Month, 1842.	Day and Hour.		DIRECT MOTION.				RETROGRADE MOTION.				Duration of Calm Periods with slight Changes.
			DIRECTION.		Arc described by the Vane.	Time occupied by the Change.	DIRECTION.		Arc described by the Vane.	Time occupied by the Change.	
	Before Change.	After Change.	Before Change.	After Change.			Before Change.	After Change.			
	d h	d h			° ′	d h			° ′	d h	d h
Decemb.	21. 8	23. 6	S. W. steadily								
	23. 6	23. 8	S. W.	W.	45. 0	0. 2					
	23. 8	25. 0					W.	S. S. W.	67. 30	1. 16	
	25. 0	26. 20	S. S. W.	W. S. W.	45. 0	1. 20					
	26. 20	28. 14	Calm and slight	changes.							1. 18
	28. 14	30. 12	S. S. W.	W.	67. 30	1. 22					
	30. 12	31. 12	W.	N. N. W.	67. 30	1. 0					

The following are some of the particulars which may be collected from the preceding tables:—The changes in the direct motion are much more frequent than those in the retrograde motion, and the angles are generally larger with the direct motion than with the retrograde motion; nevertheless, the largest angle described in one direction was retrograde, occurring in November, between $22^d.4^h$ and $23^d.16^h$, the angle being 315°, so that there was no instance during the year in which the vane moved quite round in one direction without moving in the contrary direction for some intermediate time. It sometimes happens that the anemometer vane, on a sudden gust of wind arising at times when the air is scarcely in motion, will go quite round; those angles have not been noticed.

The next table is formed from the preceding by taking the sums of the vertical columns in each month.

TABLE XCI.—Angle described by the Anemometer Vane in every Month of the Year 1842.

Month, 1842.	DIRECT MOTION.		RETROGRADE MOTION.		Sum of the Durations of light Winds and calm Periods in each Month.
	Arc described by the Anemometer Vane.	Sum of the Times occupied by the Changes.	Arc described by the Anemometer Vane.	Sum of the Times occupied by the Changes.	
	° ′	d h	° ′	d h	d h
January	1147. 30	5. 16	1012. 30	4. 10	17. 18
February	1192. 30	4. 14	652. 30	2. 6	20. 0
March	1485. 0	6. 10	1192. 30	4. 4	14. 10
April	1192. 30	5. 22	855. 0	4. 18	14. 16
May	1507. 30	5. 22	1147. 30	5. 12	16. 22
June	2020. 0	9. 10	495. 0	2. 4	11. 10
July	1215. 0	6. 6	742. 30	2. 22	16. 22
August	967. 30	3. 14	697. 30	3. 20	17. 6
September	675. 0	3. 10	517. 30	3. 0	20. 4
October	630. 0	1. 14	540. 0	2. 16	22. 20
November	810. 0	4. 22	675. 0	3. 16	16. 6
December	675. 0	8. 10	292. 30	2. 12	14. 8

From this table it appears that the arc described by the vane in its direct motion, exceeds that described in its retrograde motion, in every month without exception: the former for the year is 13517°. 30′, and the latter is 8820°. 30′; the excess,

therefore, of the whole direct motion over the whole retrograde motion, is 4697°, or 13·1 revolutions. The whole time occupied by the direct changes was equal to $66^d.2^h$, or to 1586 hours; the rate of change was, therefore, about 9° per hour: and the whole time occupied by the retrograde changes was equal to $41^d.20^h$, or to 1004 hours; the rate of the retrograde changes was therefore about 9° per hour. The last column of the table shews in each month the sum of the times of calm periods, and when the air has been in gentle motion; the whole sum is equal to $202^d.22^h$, or to more than one half of the period of observations. The difference between the sum of the three last-mentioned periods and the whole year, viz. 54 days, would very nearly represent the sum of the durations of steady winds, and of strong winds with slight changes of direction, during the year.

Amount of Clouds in the Year 1842.

TABLE XCII.—Mean Amount of Cloud, as deduced from the Twelve Observations taken daily at the Even Hours of Göttingen Mean Time, for every Day in the Year (except Sundays, Good Friday, and the 26th day of December). The number 10 denotes that the Sky was perfectly covered with Clouds.

Days of the Month, 1842.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	8·8	3·9	6·7	8·6	*S*	2·2	8·3	5·3	9·9	6·6	2·9	8·1
2	*S*	9·5	7·3	7·1	0·2	4·0	4·8	2·5	5·3	*S*	8·5	7·5
3	5·4	8·2	9·0	*S*	4·7	0·2	*S*	6·7	5·9	8·7	6·1	5·3
4	8·4	9·2	9·2	8·0	5·7	1·6	7·7	3·9	*S*	6·0	5·7	*S*
5	9·4	8·3	3·1	3·5	7·0	*S*	5·8	5·9	6·7	1·1	7·7	6·5
6	8·7	*S*	*S*	0·2	8·1	3·3	3·9	9·2	4·8	7·3	*S*	10·0
7	6·0	9·1	7·0	5·9	7·4	3·3	7·7	*S*	5·3	5·7	9·2	10·0
8	9·7	9·8	8·5	2·3	*S*	2·2	8·8	2·5	7·4	6·9	9·9	10·0
9	*S*	5·9	7·4	2·7	6·8	0·2	6·2	0·9	8·0	*S*	10·0	10·0
10	10·0	9·3	5·3	*S*	3·3	0·0	*S*	5·1	6·1	10·0	10·0	9·6
11	9·9	9·1	9·7	5·6	5·8	0·1	6·1	4·4	*S*	3·7	9·3	*S*
12	8·8	9·8	3·3	8·8	9·6	*S*	5·3	1·0	6·1	7·7	5·2	10·0
13	10·0	*S*	*S*	10·0	2·9	2·5	6·2	5·7	3·9	9·2	*S*	4·9
14	9·8	1·4	10·0	9·6	2·9	7·9	0·8	*S*	6·5	10·0	9·0	3·3
15	5·0	6·4	10·0	6·6	*S*	5·1	1·3	0·3	4·1	9·6	10·0	2·4
16	*S*	9·8	9·7	3·9	5·1	7·0	0·3	0·9	5·4	*S*	9·1	9·1
17	2·7	6·6	9·2	*S*	3·7	8·1	*S*	4·2	7·6	9·9	8·3	4·6
18	8·5	4·1	6·6	9·9	9·4	9·1	7·3	3·4	*S*	8·7	8·3	*S*
19	10·0	3·1	5·8	5·3	5·4	*S*	9·8	8·8	6·6	5·2	10·0	4·9
20	10·0	*S*	*S*	0·1	6·8	6·8	8·0	7·4	3·4	2·8	*S*	10·0
21	10·0	7·7	6·3	5·3	9·9	7·9	6·8	*S*	4·6	0·2	7·0	9·8
22	9·2	9·5	8·0	5·0	6·2	5·0	8·3	4·9	6·4	6·1	9·2	6·4
23	*S*	9·1	2·8	4·5	4·0	6·3	5·0	1·3	7·7	*S*	7·2	8·3
24	2·6	8·9	8·9	*S*	7·8	9·6	*S*	4·6	10·0	4·8	6·8	0·2
25	7·1	6·8	Good Friday	0·6	5·0	9·9	2·8	9·2	*S*	8·4	6·1	*S*
26	6·3	3·5	3·4	0·0	6·8	*S*	1·5	4·9	8·2	4·2	3·8	Holiday.
27	2·9	*S*	*S*	0·4	9·3	2·1	8·9	7·0	9·7	5·7	*S*	5·8
28	5·8	7·6	7·9	0·3	5·5	1·9	6·2	*S*	5·5	3·9	7·0	0·6
29	8·5	...	8·0	1·0	*S*	1·3	7·3	6·6	8·9	0·5	4·9	10·0
30	*S*	...	6·1	0·8	4·3	9·0	5·2	9·4	4·9	*S*	5·3	9·2
31	9·5	...	9·4	...	3·6	...	*S*	5·0	...	8·3	...	8·8

The spaces in which the letter *S* is inserted correspond to Sunday.

In this table the first day that may be considered cloudless was April 6, the next April 20, and from April 25 to May 2 the sky was very nearly cloudless; and this was the longest clear period in the year; the remaining clear days were June 3, 9, 10, and 11; July 16; August 15; October 21; and December 24; therefore, there were eighteen clear days in the year. There were twenty-two days quite cloudy, viz. January 10, 13, 19, 20, and 21; March 14 and 15; April 13; September 24; October 10 and 14; November 9, 10, 15, and 19; December 6, 7, 8, 9, 12, 20, and 29. Besides these there were twenty-five days that may be considered totally cloudy, viz. January 8, 11, 14, and 31; February 2, 8, 12, 16, and 22; March 11 and 16; April 14 and 18; May 12 and 21; June 24 and 25; July 19; September 1 and 27; October 15 and 17; November 8; December 10 and 21; or there were forty-seven cloudy days in the year.

The mean amount of cloud from all the observations is 6·3.

TABLE XCIII.—The Mean Amount of Cloud at every Even Hour of Göttingen Mean Time, deduced from all the Observations taken at that Hour in each Month.

Hour, Göttingen Mean Time.	1842.												Mean.
	January.	February.	March.	April.	May.	June.	July.	August.	Sep.	Oct.	Nov.	Dec.	
h													
14	8·2	8·1	8·0	4·9	5·7	3·7	6·2	4·4	5·4	5·1	7·9	7·6	6·3
16	7·0	8·9	6·7	5·2	6·3	4·2	6·2	5·4	7·3	5·8	8·0	7·6	6·4
18	7·5	7·9	6·1	5·3	6·0	4·1	6·1	6·1	7·2	6·4	8·6	8·0	6·6
20	7·9	8·0	7·3	5·2	6·8	4·1	6·0	6·2	6·8	5·9	8·4	8·1	6·7
22	8·4	8·2	7·9	5·8	5·9	4·6	6·7	5·1	6·6	6·1	7·9	7·3	6·7
0	7·8	6·8	8·3	5·3	6·6	4·5	6·5	5·4	7·6	5·7	7·4	6·5	6·6
2	7·8	7·1	7·7	3·9	5·8	4·8	6·5	5·1	7·1	6·6	7·5	6·8	6·4
4	7·5	6·3	7·4	3·3	6·6	4·7	6·4	4·7	7·1	7·5	7·4	6·8	6·3
6	8·0	6·5	6·8	2·7	5·7	4·6	5·5	4·5	6·1	7·3	7·5	6·2	6·0
8	7·2	7·2	6·5	3·0	5·3	4·9	4·5	4·2	6·2	6·9	6·7	6·9	5·8
10	8·4	5·7	6·7	4·0	4·4	5·2	4·6	3·6	5·3	5·8	6·5	6·3	5·5
12	8·2	7·3	7·8	4·4	4·2	4·5	4·3	3·5	5·3	5·0	6·5	7·5	5·7
Mean of all the two-hourly results.	7·8	7·3	7·3	4·4	5·8	4·5	5·8	4·8	6·5	6·2	7·5	7·1	6·3

The greatest quantity of cloud is found in the months from September to March, and the least in the other months. The suddenness of the diminution in the clouds from March to April is remarkable.

With respect to the hours at which the greatest and least quantity of cloud prevails, it appears that, upon the mean of the year, the greatest amount is about noon or a little before, and the smallest about midnight or before. Generally, the largest quantities appear to be between 18^h and 6^h, and the least quantities occur between 6^h and 18^h; but, that this is not true in each individual month, will be seen from the following table:—

TABLE XCIV.—Hours of the Day in different Months, at which the Greatest and the Least Amounts of Cloud prevailed, with the Amounts of Cloud at those Hours.

Month, 1842.	Hour at which prevailed the		Amount of Cloud 0—10.		Difference.
	Most Cloud.	Least Cloud.	Greatest.	Least.	
	h h	h			
January	22 & 10	16	8·4	7·0	1·4
February	16	10	8·9	5·7	3·2
March	0	18	8·3	6·1	2·2
April	22	6	5·8	2·7	3·1
May	20	12	6·8	4·2	2·6
June	10	14	5·2	3·7	1·5
July	22	12	6·7	4·3	2·4
August	20	12	6·2	3·5	2·7
September	0	10 & 12	7·6	5·3	2·3
October	4	12	7·5	5·0	2·5
November	18	10 & 12	8·6	6·5	2·1
December	20	6	8·1	6·2	1·9

The times of the greatest quantity of cloud were during the nights in February and June, and during the day in the other months; and the times at which the least quantity of cloud prevailed were always between 6^h and 18^h; and, therefore, the times of least clouds were invariably in the night. The quantity of cloud during the summer half-year was about two-thirds of the quantity in the winter half-year.

Records of the Rain-gauges.

TABLE XCV.—Amount of Rain collected in each Month in the several Gauges.

Month, 1842.	Monthly Amount of the Rain collected in the Gauge.				Month, 1842.	Monthly Amount of the Rain collected in the Gauge.			
	At the Anemometer.	On the Top of the Library.	Crosley's.	Cylinder partly sunk in the Ground.		At the Anemometer.	On the Top of the Library.	Crosley's.	Cylinder partly sunk in the Ground.
	in.	in.	in.	in.		in.	in	in.	in.
January	0·50	0·75	0·917	1·02	July	1·73	2·45	2·670	2·96
February	0·50	0·69	0·818	1·05	August	1·29	1·95	1·880	1·78
March	0·90	1·38	1·854	1·90	September	2·28	3·55	3·810	3·99
April	0·45	0·81	0·652	0·43	October	0·79	1·27	1·340	1·41
May	1·18	2·01	2·169	2·09	November	2·06	3·61	3·855	4·25
June	0·57	0·98	0·865	0·95	December	0·38	0·58	0·615	0·74

Taking the sums of the quantities in December, January, and February, for Winter; those in March, April, and May, for Spring; those in June, July, and August, for Summer; and those in September, October, and November, for Autumn; the following table is formed:—

TABLE XCVI.—Quarterly Amount of Rain.

1842.	At the Anemometer.	On the Top of the Library.	Crosley's.	Cylinder partly sunk in the Ground.
	in	in.	in.	in.
Spring	2·53	4·20	4·675	4·42
Summer	3·59	5·38	5·415	5·69
Autumn	5·13	8·43	9·005	9·65
Winter	1·38	2·02	2·350	2·81

The receiving surface of the anemometer-gauge is about 50 feet above the ground; that of the gauge on the top of the library is about 24 feet above the ground; that of Crosley's gauge is 1 foot 11 inches above the ground; and that of the cylindrical gauge is $5\frac{1}{2}$ inches above the ground. The proportions of the sums collected are—

	Anemometer.	Top of Library.	Crosley's.	Cylindrical.
In Spring	57	95	106	100
In Summer	63	95	95	100
In Autumn	53	87	93	100
In Winter	50	72	84	100

Between the two lowest gauges there is, very nearly, a ratio of equality. The numbers at the upper stations differ most from those at the lower in winter and in autumn, less in spring, and least of all in summer. Occasional observations have been made on the temperature of rain, and it has been always found that when the rain has been warm, with respect to the temperature of the air at the time, no differences have existed in the quantities of rain collected at the different heights; and that, when the temperature of the air has been higher than the temperature of the rain, a difference has always existed; from this it appears probable that the differences in the quantity of water collected at different heights are owing, at least in part, to the great condensation of the vapour in the atmosphere from being brought into contact with the relatively cold rain.

The sums of the amounts fallen at each gauge during the year are as follow:—

		ft. in.		in.
At the Anemometer-gauge, whose receiving surface is		205. 6	above the mean level of the sea,	12·63
At the gauge above the Library	,,	177. 2	,,	20·03
At Crosley's gauge	,,	156. 6	,,	21·44
At the Cylindrical gauge	,,	155. 3	,,	22·57

The relation existing between the numbers contained in these results is, that for a point about 24 feet above the ground, the ratio of the sums collected is 88 : 100, and that, for a point 50 feet above the ground, the ratio is 56 : 100.

TABLE XCVII.

Month and Day, 1842.	Greenwich Mean Astronomical Time.	Altitude of the Sun.	Mean Radiation per Minute, in Parts of the Scale.	GENERAL REMARKS.	Kind of Cloud, &c., and Time of its Continuance.	Number of Divisions by which the Cloud, &c., caused the Readings to be less.	Number of Divisions that would have been shewn by the Instrument, had the Sky been clear, &c., during the time of continuance of the Cloud.	Approximate Proportion of the whole Rays cut off by the Cloud, &c.
	h m s	°	d			d	d	
Jan. 26	22. 7. 10	16	10·78	Cloudless.				
	22. 53. 47	19	16·79	,,				
	23. 37. 11	20	21·53	,,				
28	21. 48. 0	15	10·84	Cloudless, and nearly calm.				
	23. 24. 30	20	10·37	Cirri and haze prevalent.				
Feb. 26	22. 28. 6	27	25·07	Cloudless.				
	22. 37. 6	28	22·30	Passing thin strati.	Passing thin strati.	6	28	$\frac{1}{5}$ of the whole.
	22. 43. 6	28	31·74	Cloudless.				
	22. 49. 6	28	24·87	Loose passing cumuli: the shadow cast by the sun is bright and faint alternately.	Loose cumuli.	7	31	$\frac{1}{4}$,,
	22. 54. 21	28	27·98	Cloudless, but the wind is rather strong.	Strong wind.	4	31	$\frac{1}{8}$,,
	23. 43. 6	30	24·40	Loose cumuli or scud passing before the sun.	Loose cumuli.	7	30	$\frac{1}{4}$,,
	23. 53. 36	30	30·14	Cloudless.				
27	0. 6. 21	30	22·17	The Sun was obscured, in the first Sun observation, by a cumulus for 31^s; in the second Sun observation, by a cumulo-stratus 3^s; and in the third by a cumulo-stratus for 13^s; and in the shade observation by 10^s and 15^s respectively.	The Sun obscured one-fifth of the whole time by cumuli or cumulo-strati.	8	8	The whole.
28	22. 54. 38	29	21·45	Cloudless.				
	23. 2. 53	29	15·80	The Sun partially obscured by thin clouds: haze and cirri.	Haze and cirri.	6	21	$\frac{1}{3}$ of the whole.
Apr. 28	23. 45. 54	53	30·13	Cloudless: between 23^h. 52^m. 54^s and 23^h. 53^m. 54^s the Sun was in a thin cloud, causing the rise to be 33^d·7 instead of 38^d·9 in the minute.	A thin cloud.	5·2	39	$\frac{1}{7}$ of the whole.
29	0. 0. 54	53	32·48	Cloudless.				
	0. 13. 39	53	36·34	,,				
29	23. 20. 54	53	32·14	Cloudless.				
	23. 29. 54	53	34·50	,,				
30	0. 9. 54	53	33·12	,,				
	1. 9. 54	51	29·78	,,				
May 26	22. 12. 25	53	25·73	Cloudless: between 5^m. 55^s and 6^m. 55^s the Sun was obscured for 25^s by a thin white cumulus; the effect of which was to cause the increase in the readings, in one minute, to be 25^d instead of 37^d: between 8^m. 55^s and 9^m. 55^s, and 14^m. 55^s and 15^m. 55^s, the Sun was in a white cloud for 10^s and 12^s respectively; the increase in the readings in one minute was 29^d and 27^d respectively, instead of 37^d.	Cumuli for 25^s. White cumulous cloud for 10^s. White cumulous cloud for 12^s.	12 8 10	15 6 8	$\frac{4}{5}$ of the whole. $\frac{3}{4}$ of the whole. $\frac{4}{5}$ of the whole.
	22. 19. 55	54	27·46	Cloudless: between 23^m. 55^s and 24^m. 55^s a thin cloud covered the Sun for 40^s; the increase per minute was 29^d instead of 32^d.	A thin cloud for 40^s.	3	22	$\frac{1}{7}$ of the whole.
	22. 28. 55	55	25·84	Cloudless: between 32^m. 55^s and 33^m. 55^s the Sun was obscured by a cumulus for 20^s; the increase in the minute was 24^d instead of 35^d.	Cumuli for 20^s.	11	12	The whole.

TABLE XCVII—*continued.*

Month and Day, 1842.	Greenwich Mean Astronomical Time.	Altitude of the Sun.	Mean Radiation per Minute in Parts of the Scale.	GENERAL REMARKS.	Kind of Cloud, &c., and Time of its Continuance.	Number of Divisions by which the Cloud, &c., caused the Readings to be less.	Number of Divisions that would have been shewn by the Instrument, had the Sky been clear, &c., during the time of continuance of the cloud.	Approximate proportion of the whole Rays cut off by the Cloud, &c.
	h m s	°	d			d	d	
May 29	22. 38. 5	57	28·05	Cloudless: between 42m. 50s and 43m. 50s the Sun was in cirri for 25s, and the increase of the readings in one minute was 37d instead of 41d; and, between 45m. 50s and 46m. 50s, cumuli were about the place of the Sun, and the increase of the readings was 20d instead of 41d.	Cirri for 25s.	4	17	¼ of the whole.
					Cumuli about the Sun.	21	41	½ ,,
	22. 57. 20	58	31·67	Cloudless.				
30	22. 57. 50	58	27·34	Cloudless.				
July 7	16. 53. 27	8	− 0·20	Cloudy.				
	17. 17. 27	11	+ 0·30	,,				
	17. 28. 27	13	+ 0·57	,,				
	17. 37. 27	14	+ 0·20	,,				
	17. 47. 27	16	+ 0·63	,,				
	17. 55. 27	17	− 0·23	,,				
	18. 9. 27	19	+ 0·43	,,				
	18. 24. 27	22	+ 0·53	,,				
	18. 34. 27	25	0·00	,,				
	19. 3. 27	29	+ 0·47	,,				
15	23. 4. 32	58	34·49	Cloudless.				
16	23. 35. 2	59	39·26	Cloudless.				
	23. 54. 32	60	40·41	,,				
17	0. 14. 2	60	41·09	,,				
25	0. 10. 58	58	30·85	Cloudless: between 20m. 13s and 21m. 13s the Sun was in a loose cumulous cloud; the increase of the readings in one minute was 15d instead of 38d: between 35m. 13s and 36m. 13s, the Sun was obscured by loose cumuli for some time, but the length of time was not noticed; the increase in the readings was 23d in the minute instead of 40d.	Loose cumuli.	23	38	⅔ of the whole.
					,,	17	40	⅘ ,,
	0. 40. 13	57	34·36	Cloudless.				
	0. 49. 58	57	35·59	Nearly cloudless.				
Aug. 1	23. 34. 52	56	31·43	Cloudless.				
	23. 43. 52	56	27·16	The Sun was shining through light cirri.				
2	0. 0. 22	56	34·96	Cloudless: between 13m. 22s and 14m. 22s the Sun was shining through light cirri; the increase was 31d instead of 37d.	Light cirri.	6	37	⅙ of the whole.
	0. 26. 37	56	37·32	Cloudless: between 40m. 22s and 41m. 22s the Sun was shining through light cirri; the increase was 21d instead of 34d.	,,	13	34	⅓ ,,
	0. 43. 52	55	36·43	Cloudless.				
	0. 54. 22	55	37·09	Cloudless: between 1h. 4m. 22s and 5m. 22s the Sun was dimly shining through a cumulous cloud; the increase per minute was 3d·6 instead of 35d.	Cumulus.	31	35	⅘ ,,
	1. 9. 22	54	38·00	Cloudless: between 13m. 22s and 14m. 22s the Sun was shining through a cumulous cloud; the increase was 11d instead of 35d.	,,	24	35	⅔ ,,

TABLE XCVII.—*concluded.*

Month and Day, 1842.	Greenwich Mean Astronomical Time.	Altitude of the Sun.	Mean Radiation per Minute, in Parts of the Scale.	GENERAL REMARKS.	Kind of Cloud, &c., and Time of its Continuance.	Number of Divisions by which the Cloud, &c., caused the Readings to be less.	Number of Divisions that would have been shewn by the Instrument, had the Sky been clear, &c., during the time of continuance of the Cloud.	Approximate Proportion of the whole Rays cut off by the Cloud, &c.
	h m s	°	d			d	d	
Aug. 2	1. 17. 37	53	39·40	Cloudless.				
	4. 3. 52	32	29·60	Cloudless: the weather unfavourable: currents of air sweeping over the instrument.				
	4. 22. 22	29	30·92	The same.				
Nov. 21	0. 6. 30	19	18·22	Cloudless.				
	0. 33. 15	18	10·07	The Sun frequently obscured by cumuli.				
Dec. 4	23. 50. 0	16	20·24	Cloudless.				
5	0. 7. 15	16	20·03	Light cirri prevalent.				
	0. 14. 0	16	22·10	Cloudless: between $18^m.0^s$ and $19^m.0^s$ the Sun was obscured by cumuli for 55^s, and he shone faintly for 5^s; the increase in the readings was $2^d.5$ instead of 22^d: between 21^m and 22^m the Sun was wholly obscured by a cumulo-stratus cloud; the increase in the readings was $0^d.1$ instead of 22^d.	Cumuli for 55^s. Cumulo-stratus.	20 22	20 22	The whole. ,,
14	22. 59. 30	14	23·95	Cloudless.				
	23. 13. 15	15	21·52	A cirrus cloud of rather a close texture covered the Sun.	Cirri.	2	24	$\frac{1}{12}$ of the whole.

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