MAGNETICAL AND METEOROLOGICAL OBSERVATIONS

MADE AT

THE ROYAL OBSERVATORY, GREENWICH,

IN THE YEARS

1840 AND 1841:

UNDER THE DIRECTION OF

GEORGE BIDDELL AIRY, ESQ. M.A.

ASTRONOMER ROYAL.

PUBLISHED BY ORDER OF THE BOARD OF ADMIRALTY,

IN OBEDIENCE TO HER MAJESTY'S COMMAND.

LONDON:

PRINTED BY PALMER AND CLAYTON, CRANE COURT, FLEET STREET,

AND

SOLD BY J. MURRAY, ALBEMARLE STREET.

M.DCCC.XLIII.

ERRATA.

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xiv In the column under Mean, *for* 0·744 *read* −0·744.

xxx Line 9 from the top, *for* log. $(a+F_{,}$ in 1″) *read* log. $(a+F$ sin. 1″).

lxxxiii After line 9 from the top, *insert* "The quantity of water registered by this gauge, between 22h of one day and 22h 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 Jan. 1."

After line 14 from the top, *insert* "The quantity of water collected in this gauge is measured every day at 22h, and the amount in inches is inserted in the column whose heading is 'Reading of rain-gauge No. 2.'"

Before the 6th line from the bottom, *insert* "This gauge is read every day at 22h, and its readings are inserted in the column whose heading is 'Stand of rain-gauge No. 3.' The quantities represent the amount of rain fallen from Jan. 1."

[5] In the foot-notes, Dec. 21d. 12h to Dec. 21d. 22h, *for* previouly *read* previously.

[12] Foot-note March 1d. 22h, *for* east *read* west.

[13] The last word of the foot-note March 13d. 22h, *for* east *read* west.

[14] ,, ,, March 21d. 10h, — east — west.

(98) Dec. 30d. 8h. Barometer corrected, *for* 30·065 *read* 30·165.

(104) Jan. 14d. 22h. Stand of rain-gauge No. 1, *for* 0·26 *read* 0·41.

(120) Feb. 12d. 22h. Reading of rain-gauge No. 2, *for* 0·04 *read* 0·00.
And for Stand of rain-gauge No. 3, — 2·204 — 2·244.

(128) *Insert* in the foot-notes:

"Feb. 26d. 19h. 10m. The wind suddenly subsided; no pressure was recorded at the Anemometer till 21h. 15m, when suddenly a pressure of 4lbs. on the square foot was registered.

"Feb. 26d. 22h. 30m. The wind in gusts with a pressure of 5lbs. on the square foot.

"Feb. 27d. 6h. 30m. The wind suddenly blew with a pressure of 3lbs. on the square foot, and this pressure continued constant for seven minutes."

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(136) March 12d. 16h. Barometer corrected, *for* 20·208 *read* 30·208.

(140) March 22d. 8h. Dry Thermometer, *for* 43·8 *read* 44·0.
Wet Thermometer, — 44·0 — 42·5.
Wet Thermometer below Dry, *for* −0·2 *read* 1·5.

(140) March 22d. 10h. Amount of Clouds, *for* 1 *read* 0.

(141) *Dele* the foot note corresponding to March 22d. 8h.

(168) May 13d. 4h. Dew Point below Dry Thermometer, *for* 7·3 *read* 17·3.

(170) May 18d. 2h. Wet Thermometer, *for* 51·5 *read* 56·5.
Wet Thermometer below Dry, *for* 13·8 *read* 8·8.

(177) May 27d. 10h. General Remarks, *for* 8h. 10m *read* 8h. 50m.

(184) June 10d. 10h. Barometer corrected, *for* 39·556 *read* 29·556.

(203) Foot-note, *for* 15d. 0h *read* 15d. 0h. 5m.

(206) July 19d. 4h. Dew Point below Dry Thermometer, *for* 0·7 *read* 10·7.

(212) *Insert* in the foot-notes:

"July 29d. 22h. The difference between the readings of the Dry and Wet Thermometers is greater than between the readings of the Dry Thermometer and the Dew Point: it is probable that an error of 5° was made in the reading of the latter, and, if so, its reading would have been 47°·0, and the Dew Point below the Dry Thermometer would have been 9°·3. No note upon the anomalous readings was made at the time of the observation."

(218) Aug. 11d. 4h. Dew Point below Dry Thermometer, *for* 10·8 *read* 0·8.

(234) *Dele* the foot-note corresponding to Sep. 7d. 22h, and *insert* the following: "The reading of the self-registering minimum thermometer is undoubtedly 10° too small: it should be 50°·7."

(288) Dec. 15d. 16h. Barometer corrected, *for* 24·372 *read* 29·372.

(304) *Insert* in the foot-notes the same notes as are required to be inserted on page (128).

26 Table IV. November, *for* 30·302 *read* 30·324.
And range, — 1·543 — 1·565.

34 Table XIX. December 27, — 32·2 — 32·4.

42 Table XXXIV. December 27, — 32·3 — 31·8.

43 Table XXXV. December 27, — −0·3 — 0·4.

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) 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 now (1842) 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 rests a drum (having a covering of glass), within which the magnet vibrates. This drum is now (1842) 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 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 string (changed, 1840, Dec. 21, 3^h, for 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. Two such bars were mounted, for convenience of use, in different positions of the magnet. Experiments, to be detailed below, have given reason to think that one of them is not free from magnetic action: it has consequently been laid aside.

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

1. Determination of the inequality of the pivots of the theodolite-telescope.

1838, June 6. The theodolite was clamped, so that the transit axis was at right angles to the Astronomical meridian. The illuminated end of the axis of the telescope was first to the East; the level was applied and its scale was read; the level was then reversed, and its scale was again read; then it was again reversed, and again read; and so on successively six times. The illuminated end of the telescope was then placed to the West, and the level was applied and read as before. The above process was repeated six times and the following are the results. Observer, Mr. Glaisher.

The West end of axis, in the successive observations, was apparently the highest by the following quantities:

	div.		div.
Illuminated end East	− 6·21	Illuminated end East	− 2·19
Illuminated end West.....	+ 0·69	Illuminated end West.....	+ 2·41
Illuminated end East	− 5·49	Illuminated end East.....	− 2·72
Illuminated end West.....	+ 3·08	Illuminated end West.....	+ 2·85
Illuminated end East.....	− 4·74	Illuminated end East.....	− 3·65
Illuminated end West	+ 2·94	Illuminated end West.....	+ 2·87

		div.
Hence that end of the level which is placed on the illuminated end is too high.....	by 1st and 2nd sets	3·45
ditto	by 3rd and 4th sets	4·29
ditto	by 5th and 6th sets	3·84
ditto	by 7th and 8th sets	2·30
ditto	by 9th and 10th sets	2·79
ditto	by 11th and 12th sets	3·26

The mean of these numbers is $3^{div}\cdot32$, which appears to be the quantity by which that end of the level which was placed upon the illuminated end was too high. The angles of the level-forks and those of the Y's are nearly 90°; therefore we may conclude that, when the level indicates the axis to be horizontal, the axis at the illuminated end is really too low by $1^{div}\cdot66$. 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.

1838, June 7. The object selected was the edge of the stone coping on the Library of the Royal Observatory. The micrometer was placed in different positions, and the theodolite was then turned till the micrometer-wire bisected the selected object. Observer, Mr. Glaisher.

Micrometer set at 92, Reading of Theodolite 246. 21. 49·3 Micrometer set at 113, Reading of Theodolite 246. 54. 42·3	Difference for 21 rev.	32. 53·0	Corresponding value for 1 rev. 1. 33·95
Micrometer set at 92, Reading of Theodolite 246. 21. 58·7 Micrometer set at 113, Reading of Theodolite 246. 54. 41·0	Difference for 21 rev.	32. 42·3	Corresponding value for 1 rev. 1. 33·44
Micrometer set at 92, Reading of Theodolite 246. 21. 59·7 Micrometer set at 113, Reading of Theodolite 246. 54. 33·3	Difference for 21 rev.	32. 33·6	Corresponding value for 1 rev. 1. 33·03
Micrometer set at 92, Reading of Theodolite 246. 21. 52·7 Micrometer set at 113, Reading of Theodolite 246. 54. 39·7	Difference for 21 rev.	32. 47·0	Corresponding value for 1 rev. 1. 33·67

Therefore, the mean value of one revolution is $1'.33''{\cdot}520$.

1838, Dec. 21. The magnet was made to rest on blocks, and the collimator-cross was used as a fixed mark. Observer, Mr. Main.

Microm. set at 95, Read^{s} of Theodolite 245. 33. 0·7	
Microm. set at 100, Read^{s} of Theodolite 245. 24. 58·0	Diff. for 5 rev. 8. 2·7, Cor. value for 1 rev. 1. 36·54
Microm. set at 105, Read^{s} of Theodolite 245. 17. 11·7	Diff. for 5 rev. 7. 46·3, Cor. value for 1 rev. 1. 33·26
Microm. set at 110, Read^{s} of Theodolite 245. 9. 29·7	Diff. for 5 rev. 7. 42·0, Cor. value for 1 rev. 1. 32·40
Microm. set at 114, Read^{s} of Theodolite 245. 2. 59·3	Diff. for 4 rev. 6. 30·4, Cor. value for 1 rev. 1. 37·60

Therefore, the mean value of one revolution appeared to be $1'.34''{\cdot}737$.

1838, Dec. 26. The collimator-cross was used as before. Observer, Mr. Main.

Microm. set at 94, Read^{s} of Theodolite 245. 15. 21·0	
Microm. set at 95, Read^{s} of Theodolite 245. 17. 5·3	Diff. for 1 rev. 1. 44·3, Cor. value for 1 rev. 1. 44·30
Microm. set at 100, Read^{s} of Theodolite 245. 24. 56·7	Diff. for 5 rev. 7. 51·4, Cor. value for 1 rev. 1. 34·28
Microm. set at 105, Read^{s} of Theodolite 245. 32. 45·0	Diff. for 5 rev. 7. 48·3, Cor. value for 1 rev. 1. 33·66
Microm. set at 110, Read^{s} of Theodolite 245. 40. 31·7	Diff. for 5 rev. 7. 46·7, Cor. value for 1 rev. 1. 33·34
Microm. set at 115, Read^{s} of Theodolite 245. 48. 22·3	Diff. for 5 rev. 7. 50·6, Cor. value for 1 rev. 1. 34·12

The mean value of one revolution was considered to be $1'.33''{\cdot}952$.

The mean of the three preceding determinations is $1'.34''\cdot07$, and this value has been used as the value of one revolution to the end of 1841. Special tables are formed of the multiples of this adopted value for every $0^r\cdot01$ between 91^r and 115^r; the micrometer comb-plate having an extent of 9 revolutions of the micrometer on the right side of its zero, as viewed through the telescope, and an extent of 16 revolutions on the left side of its zero, as viewed through the telescope. All readings of the micrometer are read too great by 100 revolutions; and all readings of the micrometer thus read, are converted into arc at once by the use of the above table, for every value to 0·01 of a revolution.

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

1840, July 30^d. 23^h. The vertical axis of the theodolite was adjusted to verticality, and the transit axis was made horizontal. The declination magnet was dropped on blocks so that it rested entirely on them, 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.

Illuminated end of Axis, or, Micrometer Head	Micrometer Reading	Illuminated end of Axis, or, Micrometer Head	Micrometer Reading
	r		r
E	99.691	E	99·750
W	100·471	W	100·453
E	99·750	E	99·755
W	100·476	W	100·445
E	99·776	E	99·763
W	100·490	W	100·443
E	99·695	E	99·780
W	100·461	W	100·472
E	99·750	E	99·770
W	100·462	W	100·471

The mean of these, or $100^r\cdot106$, is the reading for the true line of collimation, and this is used from 1840, Nov. 9, to 1840, Dec. 10^d, 2^h.

1840, Dec. 10^d. 2^h. A quadrant and spirit level, for setting to any required star, were affixed to the theodolite-telescope, the micrometer first being removed. On the micrometer being again fixed, the following observations were taken for the line of collimation. Observations taken as on July 30. Observer, Mr. Glaisher.

Illuminated end of Axis		
	E	99·612
	W	100·572
	E	99·378
	W	100·778
	E	99·319
	W	100·775
	E	99·290
	W	100·635
	E	99·192
	W	100·741

Illuminated end of Axis		
	E	99·272
	W	100·774
	E	99·265
	W	100·775
	E	99·240
	W	100·780
	E	99·170
	W	100·756
	E	99·233
	W	100·778

From these observations, the reading for the line of collimation is 100r·016; and this number is used from Dec. 10d. 4h to Dec. 11d. 0h, when the micrometer was again disturbed to make some alteration in the quadrant and spirit level.

1840, Dec. 11d. 23h. The following observations taken in the usual way for the line of collimation. Observer, Mr. Glaisher.

Illuminated end of Axis		
	E	101·105
	W	99·042
	E	101·100
	W	98·972
	E	101·061
	W	99·049
	E	101·107

Illuminated end of Axis		
	W	99·005
	E	101·081
	W	99·010
	E	101·060
	W	99·011
	E	101·022
	W	99·038

The line of collimation from these observations is 100r·048, and this is used from Dec. 11d. 4h to Dec. 14d. 22h.

1840, Dec. 14d. 22h. The quadrant and spirit-level were again fixed to the telescope, and a ring clamp applied for pinching the eye-tube. The following observations for the line of collimation were taken in the usual way. Observers, Messrs. Glaisher and Hind.

Illuminated end		
	E	99·562
	W	100·868
	E	99·621
	W	100·725
	E	99·661
	W	100·800
	E	99·681

Illuminated end		
	W	100·670
	E	99·709
	W	100·739
	E	99·707
	W	100·650
	E	99·778
	W	100·750

Illuminated end	E	100r·072	Illuminated end	E	100r·090
	W	100·351		W	100·200
	E	100·071		E	100·043
	W	100·320		W	100·395
	E	99·920		E	100·031
	W	100·350		W	100·277

The mean of these is 100r·194, and this number is used as the reading for the line of collimation from 1840, Dec. 15d. 0h, to 1841, Dec. 31d.

1841, Aug. 15d. 4h. The following observations for the line of collimation were taken in the usual way. Observer, Mr. Dunkin.

Illuminated end	W	99r·150	Illuminated end	W	99r·035
	E	101·476		E	101·305
	W	99·080		W	99·060
	E	101·216		E	101·293
	W	99·186		W	98·970
	E	101·129		E	101·404
	W	99·083		W	99·538
	E	101·096		E	100·715
	W	99·542		W	99·270
	E	101·178		E	101·138
	W	99·232		W	99·456
	E	100·690		E	101·210
	W	99·462		W	99·130
	E	100·773		E	101·235
	W	99·237		W	99·330
	E	101·246		E	101·354
	W	99·088		W	99·043
	E	101·349		E	101·232

The mean of these is 100r·192; the previous determination was 100r·194. No change was made in the constant of reduction on account of this small difference.

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

1840, July 31d. 0h. The magnet was made to rest entirely on blocks. The micrometer head of the telescope was to the East. The plane glass has the word "top" engraved on it, and this word was always kept upwards. When the glass is so placed that the marked side is outside of the box, it is called its usual position. The cross wires carried by the collimator of the magnet were observed with the marked side of the glass alternately inside and outside of the box. Observer, Mr. Glaisher.

	Micrometer Reading.		Micrometer Reading.
Marked side of glass out of the box	100·140	Marked side of glass out of the box	100·160
in the box	99·989	in the box	99·970
out of the box	100·131	out of the box	100·151
in the box	99·978	in the box	99·960
out of the box	100·161	out of the box	100·175
in the box	99·961	in the box	99·960
out of the box	100·143	out of the box	100·140
in the box	99·957	in the box	99·930
out of the box	100·151	out of the box	100·140
in the box	99·968	in the box	99·960

The mean of all the readings when the marked side of the glass was outside of the box, is $100^{r}\cdot149$, and the mean of all the readings when the marked side of the glass was inside of the box, is $99^{r}\cdot963$. Half of the difference is $0^{r}\cdot093$, which is the error of collimation for the plane glass in front of the box.

Therefore with the micrometer head of the telescope to the East, and the glass with its marked side out of the box, the observations require a subtractive correction of $0^{r}\cdot093$, or, expressed in arc, of $8''\cdot75$. The telescope and the glass were kept in these positions in 1840 and 1841, 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.

1840, Nov. 4d. A magnet of the same size was suspended on a tripod in the Octagon-room: a reflector was attached to its center: and a telescope with a wire in its focus was directed to the reflector. A scale was fixed just below the object-glass of the telescope. The following observations were taken for the purpose of ascertaining the time of its vibration:

Day, 1840.	Chronometer Time of Scale-Division passing the Wire in the Eye-Piece.	Intervals in Sidereal Time.	Day, 1840.	Chronometer Time of Scale-Division passing the Wire in the Eye-Piece.	Intervals in Sidereal Time.
	s	s		s	s
Nov. 3	56·2		Nov. 3	12·5	
	15·0	18·8		32·5	20·0
	39·5	24·5		55·2	22·7
	0·7	21·2		16·5	21·3
	23·5	22·8		38·5	22·0
	43·0	19·5		0·8	22·3
	8·2	25·2		25·0	24·2
	28·0	19·8		45 1	20·1
	49·3	21·3		8·0	22·9
		23·2			

From these observations, the time of vibration of the temporary magnet was $21^{s}\cdot9$. The distance of the scale from the reflector was $7^{ft}.7^{in}\cdot4$: each division of the scale $= \frac{12}{31}$ inch, and, consequently, the value of one division of the scale was $436''\cdot88$, or was equal to $4^{r}\cdot644$ of the micrometer of the magnetic theodolite. One observer, Mr. Dunkin, observed the magnet in the Octagon-room at intervals of 22^{s}; while another, Mr. Glaisher, observed the declination magnet in the magnetic observatory at intervals of 30^{s}, then reversed it in its stirrup, and again observed it, and so on. The illuminated end of the axis of the telescope was to the East. The results are contained in the following table:—

Day, 1840.	Position of Cross of Collimator.	Mean Micrometer Reading.	Mean Reading of Scale for Temporary Magnet.	Equivalents in Revolutions of the Micrometer — 260r.	Micrometer Readings for Collimator diminished by Equivalents of Temporary Magnet.	Reading of Micrometer, Cross Wire W —Reading, Cross Wire E.
		r	d	r	r	r
Nov. 4	W	96·457	57·923	8·995	87·462	— 5·324
	E	101·925	57·954	9·139	92·786	
	W	96·064	57·903	8·902	87·162	— 5·548
	E	100·929	57·756	8·219	92·710	
	W	96·235	58·027	9·478	86·757	— 5·444
	E	101·715	58·035	9·514	92·201	
	W	97·647	58·117	9·895	87·752	— 4·897
	E	102·586	58·126	9·937	92·649	

The mean of the numbers in the last column is $5^{r}\cdot303$, the half of which is the error of collimation, $2^{r}\cdot651$.

Therefore, with the illuminated end of the telescope to the East:—

When the collimator is East, the micrometer reading is too great by $2^{r}\cdot651$ or $4'.9''\cdot37$.

When the collimator is West, the micrometer reading is too small by $2^{r}\cdot651$.

During the year 1840, and the year 1841, the telescope was always used with the micrometer head East, and the collimator of the magnet was always West of the magnet. Therefore $4'.9''\cdot37$ has been added to all observations.

6. Observations to determine the effect of the oval copper bars, or dampers, on the meridional magnet.

Observations for the effect of the bar No. 2 (which has been used exclusively, from 1840, Nov. 7, to the end of 1841).

1840, Nov. 4^{d}, 21^{h}. Observers, Messrs. Glaisher and Dunkin.

The time of vibration of the temporary magnet in the Octagon-room was 22^{s}. The distance of the scale from the reflector was 7^{ft}.8^{in}·3, and the resulting value of 1^{d} of the scale was 432″·54, or was equal to 4′·600 of the theodolite micrometer.

Day, 1840.	Position of Cross of Collimator.	Position of Bar.	Mean Micrometer Reading.	Mean Reading of Scale for Temporary Magnet.	Equivalents in Revolutions of the Micrometer — 300^{r}.	Micrometer Reading diminished by Equivalents of Temporary Magnet.
			r	r	r	r
Nov. 4	East	Usual position	98·528	57·756	8·194	90·334
		North end moved 1½ inch West	97·833	57·723	8·066	89·767
		South end moved 1½ inch West	97·657	57·730	8·098	89·559
		The whole bar moved 1½ in. West	97·614	57·898	8·878	88·736
Nov. 5	East	Usual position	102·603	66·941	7·929	94·674
		North end moved 1½ inch West	101·536	66·889	7·689	93·847
		South end moved 1½ inch West	101·049	66·778	7·179	93·870
		The whole bar moved 1½ in. West	101·332	66·878	7·639	93·693

Therefore this bar has little or no effect on the magnet.

Observations for the effect of the copper bar, No. 1 (that used in 1839). Observers, Messrs. Glaisher and Dunkin.

Day, 1840.	Position of Cross of Collimator.	Position of Bar.	Mean Micrometer Reading.	Mean Reading of Scale for Temporary Magnet.	Equivalents in Revolutions of the Micrometer — 300^{r}.	Micrometer Reading diminished by Equivalents of Temporary Magnet.
			r	r	r	r
Nov. 5	East	North end moved 1½ inch West	99·168			
		South end moved 1½ inch West	105·599			
		The whole bar moved 1½ in. West	103·296			
		Usual position	104·238			
Nov. 7	West	Usual position	99·194	66·530	6·038	93·156
		North end moved 1½ inch East	99·574	66·628	6·489	93·085
		South end moved 1½ inch East	96·291	66·388	5·385	90·906
		The whole bar moved 1½ in. East	98·045	66·212	4·575	93·470

Therefore this bar has a sensible effect on the magnet.

After these observations were made, the bar was carried by one observer near to the magnet, while the cross of the collimator was watched by the other, and it had a very sensible effect.

The bar No. 1 after this time was entirely taken away from the Magnetic-house.

7. Determination of the effect of the fire-grate in the ante-room of the magnetic observatory, on the declination magnet. Observer, Mr. Glaisher.

The magnet was nearly stationary at the times at which the following observations were made. The micrometer of the theodolite was first read corresponding to the position of the cross of the magnet when the grate was away; next when the grate was in its place; then again when it was away, and so on successively. The following table contains the results:

Day, 1840.	Grate removed or in its place.	Mean Micrometer Reading of the Theodolite.	Mean of Micrometer Readings, the one preceding and the other following the Readings for Grate in its place.	Reading with Grate removed — Reading with Grate in its place.	Mean.
		r	r	r	r
Nov. 9	Removed	97·515			
	In its place	97·593	97·525	— 0·068	
	Removed	97·534			
	In its place	97·485	97·874	+ 0·389	
	Removed	98·214			+ 0·046
	In its place	98·175	98·265	+ 0·090	
	Removed	98·315			
	In its place	98·285	98·057	— 0·228	
	Removed	97·798			
Nov. 10	Removed	100·412			
	In its place	100·381	100·372	— 0·009	
	Removed	100·331			
	In its place	100·418	100·400	— 0·018	+ 0·005
	Removed	100·468			
	In its place	100·323	100·364	+ 0·041	
	Removed	100·259			

Considering that the mean of those readings when the grate was removed, which immediately preceded and followed the reading when the grate was in its place, would give the true micrometer reading for the magnet when not under the influence of the grate at that time, the last column but one of the above table is formed. The mean of the numbers in the last column is $0^{r}{\cdot}025$, or in arc $2''{\cdot}40$, as the effect of the grate. It is not taken into account in the reduction of the observations.

8. Determination of the effect of the mean-time clock on the declination magnet. Observers, Messrs. Glaisher and Hind.

The clock was put in its place; the micrometer of the theodolite was read, corresponding to the position of the cross carried by the magnet; the clock was then removed, and the micrometer was again read for the corresponding position of the cross, and so on successively. The following table contains the results:—

Day, 1840.	Clock Removed or in its place.	Mean Micrometer Reading of the Theodolite.	Mean of Micrometer Readings, the one preceding and the other following that for Clock in its place.	Reading with Clock away — Reading with Clock in its place.	Mean.
		r	r	r	r
Dec. 2	Removed	99·627			
	In its place	99·454	99·637	+ 0·183	
	Removed	99·647			
	In its place	99·477	99·582	+ 0·105	
	Removed	99·517			
	In its place	99·539	99·592	+ 0·053	
	Removed	99·668			
	In its place	99·495	99·616	+ 0·121	
	Removed	99·564			
	In its place	99·451	99·506	+ 0·055	
	Removed	99·448			
	In its place	99·426	99·546	+ 0·120	+ 0·080
	Removed	99·645			
	In its place	99·524	99·554	+ 0·030	
	Removed	99·463			
	In its place	99·442	99·528	+ 0·086	
	Removed	99·594			
	In its place	99·565	99·666	+ 0·101	
	Removed	99·738			
	In its place	99·915	99·843	− 0·072	
	Removed	99·948			
	In its place	99·831	99·927	+ 0·096	
	Removed	99·906			
Dec. 3	Removed	100·485			
	In its place	100·663	100·544	− 0·119	
	Removed	100·603			
	In its place	100·548	100·604	+ 0·056	
	Removed	100·606			
	In its place	100·484	100·694	+ 0·210	
	Removed	100·783			
	In its place	100·559	100·867	+ 0·308	+ 0·159
	Removed	100·951			
	In its place	100·444	100·903	+ 0·459	
	Removed	100·855			
	In its place	100·301	100·510	+ 0·219	
	Removed	100·165			
	In its place	100·265	100·248	− 0·017	
	Removed	100·356			

On Dec. 2, during the time of the experiments no magnetic change was going forward; but on Dec. 3 a change was going on, and the result is not entitled to more than one fourth the weight of that of Dec. 2: under these circumstances it is considered that $0^r{\cdot}1$ is very near the truth. Now as the effect of the clock is to cause the micrometer reading to be too small, the correction is additive, and therefore $9''{\cdot}41$ has been added to every observation.

9. Determination of the effect of the horizontal force magnet, when placed at different inclinations to the magnetic meridian, on the declination magnet. Observers, Messrs. Glaisher and Hind.

The horizontal force magnet was alternately laid in its box at different angles of inclination to the magnetic meridian specified beneath, and then removed to a place where it had no effect on the declination magnet. The angles of inclination are reckoned from the North magnetic meridian, round by the East, the point of reference of the magnet being its marked end; and the experiments are placed according to this order.

Day, 1840.	Inclination of Horizontal Force Magnet to Magnetic Meridian.	Horizontal Force Magnet away or in its place.	Mean Micrometer Reading of Theodolite.	Mean of Readings, the one preceding and the other following that for the Horizontal Force Magnet in its place.	Reading with the Horizontal Force Magnet away —Reading with the Horizontal Force Magnet in its place.	Mean.
	°		r	r	r	r
Nov. 13	76	Away	98·137			
		In its place	98·517	98·026	− 0·491	
		Away	97·914			
		In its place	98·423	97·744	− 0·679	
		Away	97·575			
		In its place	98·470	97·648	− 0·822	
		Away	97·721			
		In its place	98·666	97·719	− 0·947	
		Away	97·717			−0·744
		In its place	98·373	97·722	− 0·651	
		Away	97·726			
		In its place	98·328	97·697	− 0·631	
		Away	97·668			
		In its place	98·407	97·586	− 0·821	
		Away	97·503			
		In its place	98·352	97·442	− 0·910	
		Away	97·380			
Nov. 12	90	Away	98·991			
		In its place	98·799	98·991	+ 0·192	
		Away	98·992			
		In its place	98·793	98·922	+ 0·129	+ 0·125
		Away	98·851			
		In its place	98·821	98·876	+ 0·055	
		Away	98·900			
Nov. 13	90	Away	97·104			
		In its place	97·080	97·143	+ 0·063	
		Away	97·181			
		In its place	97·215	97·242	+ 0·027	
		Away	97·302			
		In its place	97·261	97·240	− 0·021	+ 0·045
		Away	97·167			
		In its place	97·008	97·097	+ 0·089	
		Away	97·026			
		In its place	96·884	96·954	+ 0·070	
		Away	96·881			

Day, 1840.	Inclination of Horizontal Force Magnet to Magnetic Meridian.	Horizontal Force Magnet away or in its place.	Mean Micrometer reading of Theodolite.	Mean of Readings, the one preceding and the other following that for the Horizontal Force Magnet in its place.	Reading with the Horizontal Force Magnet away —Reading with the Horizontal Force Magnet in its place.	Mean.
	°		r	r	r	r
Nov. 13	104	Away	97·380			
		In its place	96·893	97·483	+ 0·590	
		Away	97·585			
		In its place	96·700	97·508	+ 0·808	
		Away	97·430			
		In its place	96·642	97·454	+ 0·812	
		Away	97·477			
		In its place	96·658	97·535	+ 0·877	+ 0·862
		Away	97·593			
		In its place	96·578	97·494	+ 0·916	
		Away	97·395			
		In its place	96·553	97·435	+ 0·882	
		Away	97·475			
		In its place	96·138	97·286	+ 1·148	
		Away	97·095			
Nov. 13	256	Away	98·205			
		In its place	97·775	98·604	+ 0·829	
		Away	99·002			
		In its place	97·957	98·825	+ 0·868	
	—	Away	98·648			
		In its place	98·309	98·526	+ 0·217	
		Away	98·404			+ 0·756
		In its place	97·497	98·114	+ 0·617	
		Away	97·826			
		In its place	97·270	98·102	+ 0·832	
		Away	98·378			
		In its place	97·103	98·277	+ 1·174	
		Away	98·176			
Nov. 12	270	Away	99·023			
		In its place	99·015	99·023	+ 0·008	
		Away	99·023			
		In its place	99·190	98·987	— 0·203	— 0·017
		Away	98·951			
		In its place	98·814	98·959	+ 0·145	
		Away	98·966			
Nov. 13	270	Away	96·881			
		In its place	97·072	96·972	— 0·100	
		Away	97·053			
		In its place	97·046	97·055	+ 0·009	
		Away	97·057			
		In its place	97·257	97·083	— 0·174	— 0·109
		Away	97·108			
		In its place	97·300	97·097	— 0·203	
		Away	97·087			
		In its place	97·152	97·074	— 0·078	
		Away	97·060			

Day, 1840.	Inclination of Horizontal Force Magnet to Magnetic Meridian.	Horizontal Force Magnet away or in its place.	Mean Micrometer reading of Theodolite.	Mean of Readings, the one preceding and the other following that for the Horizontal Force Magnet in its place.	Reading with the Horizontal Force Magnet away —Reading with the Horizontal Force Magnet in its place.	Mean.
	°		r	r	r	r
Nov. 13	284	Away	99·582			
		In its place	100·339	98·966	— 1·373	
		Away	98·349			
		In its place	99·100	98·563	— 0·537	
		Away	98·777			
		In its place	99·195	98·570	— 0·625	
		Away	98·364			— 0·952
		In its place	99·533	98·663	— 0·870	
		Away	98·961			
		In its place	99·639	98·728	— 0·911	
		Away	98·495			
		In its place	99·748	98·350	— 1·398	
		Away	98·205			

From the numbers contained in the last columns of this table it appears, that

When the horizontal force magnet is inclined to the north magnetic meridian	The marked end of the declination magnet approaches the
76° with its marked end to the East,	East by 0r·744, or in arc 1′ 9″·99
104 with its marked end to the West,	West by 0r·952, or in arc 1′ 29″·55
90 with its marked end to the East,	East by 0r·076, or in arc 6″·96
90 with its marked end to the West,	West by 0r·075, or in arc 7″·06
104 with its marked end to the East,	East by 0r·862, or in arc 1′ 21″·09
76 with its marked end to the West,	West by 0r·756, or in arc 1′ 11″·11

From these numbers we may infer, that if the declination magnet had been in the magnetic meridian, and the horizontal force magnet had been strictly placed at right angles to it, the latter would not have had any effect on the former. It also appears that the effect of the horizontal force magnet upon the declination magnet, in positions separated by 180°, is the same, or nearly the same, in amount, but with opposite effects.

10. Determination of the effect of the vertical force magnet on the declination magnet.

1841, May 10, May 18, and May 21. The vertical force magnet was placed in its Y's, with its marked end to the East, and when the micrometer observation was completed, it was removed to such a distance that it had no effect on the declination magnet. All parts of the experiments, connected with the vertical force magnet, were performed by Mr. Glaisher, who raised it out of its Y's and dropped it into them with the greatest care. In the other parts of the observations he was assisted by Mr. Hind, on May 10, and on

May 21, and by Mr. Dunkin on May 18. The reading of the micrometer of the theodolite, corresponding to the position of the cross of the declination magnet, was registered for each position of the vertical force magnet. The results are contained in the following table:—

Day, 1841.	Vertical Force Magnet away or in its place.	Reading of Micrometer of the Theodolite.	Mean of Readings, the one preceding and the other following that for the Vertical Force Magnet in its place.	Reading with the Vertical Force Magnet away—Reading with the Vertical Force Magnet in its place.	Mean.
		r	r	r	r
May 10	Away	93·372			
	In its place	93·746	93·535	— 0·211	
	Away	93·697			
	In its place	93·466	93·762	+ 0·296	
	Away	93·826			
	In its place	93·555	93·652	+ 0·097	
	Away	93·478			
	Away	94·226			
	In its place	94·277	94·233	— 0·044	
	Away	94·240			
	In its place	93·999	94·204	+ 0·205	
	Away	94·168			
	In its place	94·373	94·301	— 0·072	
	Away	94·433			
	In its place	93·998	94·279	+ 0·281	+ 0·086
	Away	94·124			
	Away	93·611			
	In its place	93·813	93·596	— 0·217	
	Away	93·581			
	In its place	93·059	93·400	+ 0·341	
	Away	93·219			
	In its place	93·034	93·258	+ 0·224	
	Away	93·296			
	Away	94·231			
	In its place	93·384	94·319	— 0·065	
	Away	94·406			
	In its place	94·284	94·485	+ 0·201	
	Away	94·564			
May 18	Away	100·108			
	In its place	99·666	100·199	+ 0·533	
	Away	100·290			
	In its place	100·298	100·355	+ 0·057	
	Away	100·420			+ 0·030
	In its place	100·663	100·228	— 0·435	
	Away	100·035			
	In its place	100·143	100·106	— 0·037	
	Away	100·176			
May 21	Away	100·032			
	In its place	99·607	99·975	+ 0·368	
	Away	99·918			
	In its place	99·742	99·667	— 0·075	
	Away	99·415			

Day, 1841.	Vertical Force Magnet away or in its place.	Reading of Micrometer of the Theodolite.	Mean of Readings, the one preceding and the other following that for the Vertical Force Magnet in its place.	Reading with the Vertical Force Magnet away—Reading with the Vertical Force Magnet in its place.	Mean.
		r	r	r	r
May 21	In its place	99·542	99·070	− 0·472	
	Away	98·725			
	In its place	99·251	99·064	− 0·187	
	Away	99·402			
	In its place	98·687	99·563	+ 0·876	+ 0·115
	Away	99·723			
	In its place	98·728	99·229	+ 0·501	
	Away	98·735			
	In its place	98·551	98·566	+ 0·015	
	Away	98·396			
	In its place	98·469	98·544	+ 0·075	
	Away	98·692			
	In its place	98·544	98·538	− 0·006	
	Away	98·384			
	In its place	98·378	98·436	+ 0·058	
	Away	98·487			

The numbers in the last column shew, that the vertical force magnet causes the marked end of the declination magnet to approach the West on May 10 by $0^r{\cdot}086$ from 12 results, on May 18 by $0^r{\cdot}030$ from 4 results, on May 21 by $0^r{\cdot}115$ from 10 results; the mean of these, giving weights proportional to the number of results, is $0^r{\cdot}088$, and would require all micrometer readings to be increased by this amount. This correction is not used, the vertical force magnet never having been, at the time of observation, in the Observatory, when the horizontal force magnet was out of it. The compound effect of both magnets on the declination magnet, is determined in the next set of experiments.

11. Determination of the compound effect of the vertical force magnet and the horizontal force magnet on the declination magnet.

The vertical force magnet was placed in its Y's with its marked end to the East: the horizontal force magnet was placed transverse to the magnetic meridian with its marked end towards the West. While they were thus placed, the micrometer reading of the theodolite, corresponding to the position of the cross of the declination magnet, was registered by Mr. Paul. The vertical force magnet and the horizontal force magnet were then simultaneously removed to places where they had no effect on the declination magnet: the former by Mr. Glaisher, who was very careful in raising it out of, and dropping it into, its Y's: the latter by Mr. Hind. The micrometer reading was again registered

for the corresponding position of the cross, and again when the two magnets were placed as before, and so on successively. The results are inserted in the following table:—

Day, 1841.	The Horizontal and Vertical Force Magnets away or in their places.	Micrometer Reading of the Theodolite.	Mean of Readings, the one preceding and the other following that for the Horizontal and Vertical Force Magnets in their places.	Reading with the Horizontal and Vertical Force Magnets away — Reading with the Horizontal and Vertical Force Magnets in their places.	Mean.
		r	r	r	r
May 26	Away	100·641			
	In their places	100·583	100·440	— 0·143	
	Away	100·239			
	In their places	100·512	100·176	— 0·336	
	Away	100·112			
	In their places	100·317	99·898	— 0·419	
	Away	99·683			
	In their places	100·020	99·483	— 0·537	
	Away	99·282			
	In their places	99·823	99·217	— 0·606	
	Away	99·151			
	In their places	99·824	99·171	— 0·653	
	Away	99·190			
	In their places	99·913	99·173	— 0·740	
	Away	99·156			
	In their places	99·843	99·109	— 0·734	— 0·587
	Away	99·062			
	In their places	99·722	99·164	— 0·558	
	Away	99·266			
	In their places	99·674	98·991	— 0·683	
	Away	98·715			
	In their places	99·655	98·800	— 0·855	
	Away	98·884			
	In their places	99·691	98·880	— 0·811	
	Away	98·876			
	In their places	99·299	98·873	— 0·426	
	Away	98·869			
	In their places	99·216	98·679	— 0·537	
	Away	98·488			
	In their places	99·287	98·537	— 0·750	
	Away	98·586			
	In their places	99·105	98·495	— 0·610	
	Away	98·403			

The compound effect is to cause the marked end of the declination magnet to approach the east by $0^r{\cdot}587$, or in arc $55''{\cdot}22$. As the effect is to increase all micrometer readings, the correction is subtractive; and therefore from all observations $55''{\cdot}22$ has been subtracted, beginning with the observation of 1841, May 31^d. 14^h.

12. Calculation of constants used in the reductions of the observations of the Declination Magnetometer

	° ′ ″
Line of collimation 100r·106. Micrometer equivalent	— 2. 36. 56·97
Micrometer head of the theodolite East. Correction for the plane glass in the front of the box, in its usual position.....	— 8·75
	— 2. 37. 5·72
Cross wire of the collimator West. Correction for the error of collimation of the magnet collimator.....	+ 4. 9·37
	— 2. 32. 56·35

This was used from 1840, Nov. 9^d, to 1840, Dec. 3^d. 2^h. 10^m.

After Dec. 3^d. 2^h. 10^m, the mean time clock was fixed in its place, the correction for which is + 9″·41, and this alters the above constant to − 2°. 32′. 46″·94. This was used from Dec. 3^d. 4^h to Dec. 10^d. 2^h. 10^m.

	° ′ ″
After this time the micrometer was disturbed, and the reading for the line of collimation was 100r·016. Micrometer equivalent.....	— 2. 36. 48·50
The micrometer head of the theodolite to the East. Correction for the plane glass in front of the box, in its usual position	— 8·75
	— 2. 36. 57·25
Cross wire of the collimator west of the magnet. Correction for error of collimation.....	+ 4. 9·37
	— 2. 32. 47·88
Correction for the effect of the mean time clock	+ 9·41
	— 2. 32. 38·47

This was used from Dec. 10^d. 4^h to Dec. 11^d. 0^h, when the micrometer was again disturbed. The reading for the line of collimation was afterwards found to be 100r·048, the micrometer equivalent for which is − 2°. 36′. 51″·51, and the constant is altered to − 2°. 32′. 41″·48, which was used from Dec. 11^d. 1^h. 50^m to Dec. 14^d. 2^h. 10^m. After that time the micrometer was disturbed, and the line of collimation in consequence became 100r·194; the micrometer equivalent for which is − 2°. 37′. 5″·25, and the constant was in consequence altered to − 2°. 32′. 55″·22; this was used from Dec. 14^d. 4^h to Dec. 20^d. 20^h. The mean time clock was then removed, and the constant became − 2°. 33′. 4″·63; and this was used from 1840, Dec. 20^d. 22^h to 1841, Feb. 7^d. 20^h, at which time the mean time clock was again fixed in its place, and the constant became the same as before it was removed, viz., − 2°. 32′. 55″·22, which was used from Feb. 7^d. 22^h to May 25^d. 22^h. Before May 26^d. 0^h, the vertical force magnet was placed in its Y's, and left there. The correction due to the compound effect of the vertical force magnet and the horizontal force

magnet on the declination magnet, was found to be $-55''{\cdot}22$, and the constant in consequence became $-2^{\circ}.33'.50''{\cdot}44$, and this was used from May $26^{d}.0^{h}$ to the end of 1841.

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

Observer, Mr. Main.

Day, 1839.	Clock Time of Collimator Cross passing the Micrometer Wire.	Intervals in Sidereal Time.	Day, 1839.	Clock Time of Collimator Cross passing the Micrometer Wire.	Intervals in Sidereal Time.
	m s	s		m s	s
Jan. 28	29. 17 ·3		Jan. 29	52. 45 ·8	31 ·0
	29. 47 ·6	30 ·3		53. 15 ·4	29 ·6
	30. 18 ·3	30 ·7		53. 48 ·2	32 ·8
	30. 48 ·3	30 ·0		54. 16 ·8	28 ·6
	31. 19 ·1	30 ·8		54. 48 ·6	31 ·8
	31. 48 ·9	29 ·8		55. 18 ·1	29 ·5
	32. 19 ·2	30 ·3			
	32. 49 ·3	30 ·1	Jan. 30	25. 18 ·6	
	33. 19 ·7	30 ·4		25. 49 ·2	30 ·6
	33. 50 ·0	30 ·3		26. 17 ·9	28 ·7
	34. 20 ·6	30 ·6		26. 50 ·3	32 ·4
	34. 50 ·4	29 ·8		27. 21 ·4	31 ·1
				27. 53 ·1	31 ·7
Jan. 29	49. 42 ·5			28. 23 ·0	29 ·9
	50. 13 ·0	30 ·5		28. 56 ·3	33 ·3
	50. 43 ·7	30 ·7		29. 26 ·3	30 ·0
	51. 14 ·0	30 ·3		29. 58 ·3	32 ·0
	51. 45 ·0	31 ·0		30. 27 ·8	29 ·5
	52. 14 ·8	29 ·8		30. 59 ·3	31 ·5

From these it appears that 30^{s} may in practice be used as the time of vibration of the magnet. In the course of the year 1841, a few observations of the time of vibration were taken several times, and no reason appearing for departing from the above determination, 30^{s} was used as the time of vibration to the end of 1841.

14. Determination of the fraction, expressing the proportion of the torsion-force to the earth's magnetic force.

1840, August 28^{d}. A twist of $2\frac{1}{2}$ revolutions in the suspension thread caused the magnet to deflect 5°; from which it appears that the force of torsion was $\frac{1}{180}$ of the earth's magnetic force.

1840, October 31^{d}. Observer, Mr. Glaisher.

	m s
The time of semi-oscillation of the brass bar was.....	3. 48
The time of semi-oscillation of the magnet was	0. 15

Therefore the torsion-force was $\frac{1}{225}$ of the earth's magnetic force.

Again, 1840, October 31^{d}. Observer, Mr. Glaisher.

	m s
The time of semi-oscillation of the brass bar was.....	3. 32
The time of semi-oscillation of the magnet was	0. 15

Therefore the torsion-force was $\frac{1}{196}$ of the earth's magnetic force.

1840, December 11^{d}. An alteration of 4°·7 in the position of the magnet was produced by a change in the torsion circle of 736°. Therefore the force of torsion was $\frac{1}{157}$ of the earth's magnetic force.

1840, December 25^{d}. Observer, Mr. Glaisher.

	m s
The time of semi-oscillation of the bar was.....	3. 30
The time of semi-oscillation of the magnet was	0. 15

Therefore the force of torsion was $\frac{1}{196}$ of the earth's magnetic force.

1841, Jan. 15^{d}. 23^{h}. Observer, Mr. Glaisher.

	m s
The time of semi-oscillation of the brass bar was.....	3. 19
The time of semi-oscillation of the magnet was	0. 15

Therefore the torsion-force was $\frac{1}{178}$ of the earth's magnetic force.

1841, Jan. 24^{d}. 23^{h}. Observer, Mr. Glaisher.

	m s
The time of semi-oscillation of the brass bar was.....	3. 10
The time of semi-oscillation of the magnet was	0. 15

Therefore the torsion-force was $\frac{1}{161}$ of the earth's magnetic force.

1841, March 22^{d}. 22^{h}. Observer, Mr. Glaisher.

	m s
The time of semi-oscillation of the brass bar was.....	2. 38
The time of semi-oscillation of the magnet was	0. 15

Therefore the torsion force was $\frac{1}{110}$ of the earth's magnetic force.

1841, April 10^{d}. Observer, Mr. Glaisher.

	m s
The time of semi-oscillation of the brass bar was.....	2. 53
The time of semi-oscillation of the magnet was	0. 15

Therefore the torsion-force was $\frac{1}{135}$ of the earth's magnetic force.

1841, June 13d. 22h. Observer, Mr. Glaisher.

	m s
The time of semi-oscillation of the brass bar was.....	2. 48
The time of semi-oscillation of the magnet was	0. 15

Therefore the torsion-force was $\frac{1}{123}$ of the earth's magnetic force.

1841, December 5d. Observer, Mr. Glaisher.

	m s
The time of semi-oscillation of the brass bar was	1. 49
The time of semi-oscillation of the magnet was	0. 15

Therefore the torsion-force was $\frac{1}{53}$ of the earth's magnetic force.

1841, December 20d. Observer, Mr. Glaisher.

	m s
The time of semi-oscillation of the brass bar was.....	2. 24
The time of semi-oscillation of the magnet was	0. 15

Therefore the torsion-force was $\frac{1}{93}$ of the earth's magnetic force.

1841, December 22d. Observer, Mr. Glaisher.

	m s
The time of semi-oscillation of the brass bar was.....	4. 9
The time of semi-oscillation of the magnet was	0. 15

Therefore the torsion-force was $\frac{1}{176}$ of the earth's magnetic force.

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

With the torsion-circle reading 317°, the skein was without twist. The torsion circle was then turned through angles of nearly 90° on both sides of this reading, and the theodolite was read for the position of the cross in each position of the torsion circle.

	°		° ′ ″		′ ″
With torsion circle	reading 237,	reading of theodolite	249. 11. 20	Difference for 80°,	22. 31
,,	317	,,	249. 33. 51	Difference for 170,	52. 10
,,	147	,,	248. 41. 41	Difference for 90,	30. 18
,,	237	,,	249. 11. 59		

Therefore from the 1st pair the torsion force was $\frac{1}{213}$ of the earth's magnetic force.
,, 2nd ,, $\frac{1}{1993}$ of the earth's magnetic force.
,, 3rd ,, $\frac{1}{1778}$ of the earth's magnetic force.

1842, May 16d. Observer, Mr. Glaisher.

The reading of the torsion circle when the brass bar rested in the magnetic meridian was 206°: the following observations were taken as on February 1.

	°		° ′ ″		′ ″
Torsion circle reading	206,	reading of theodolite	249. 19. 26	Difference for 90°,	31. 53
,,	116	,,	248. 47. 33	Difference for 180,	56. 21
,,	296	,,	249. 43. 54	Difference for 90,	27. 39
,,	206	,,	249. 16. 15		

Therefore from the 1st pair the torsion force was $\frac{1}{161}$ of the earth's magnetic force.
,, 2nd ,, $\frac{1}{195}$ of the earth's magnetic force.
,, 3rd ,, $\frac{1}{193}$ of the earth's magnetic force.

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

The reading of the torsion circle when the brass bar rested in the magnetic meridian was 193°.

	°		° ′ ″		′ ″
Torsion circle reading	193,	reading of theodolite	249. 13. 35	Difference for 90°,	32. 15
,,	103	,,	248. 41. 20	Difference for 180,	67. 41
,,	283	,,	249. 49. 1	Difference for 90,	38. 37
,,	193	,,	249. 10. 24		

Therefore from the 1st pair the torsion force was $\frac{1}{167}$ of the earth's magnetic force.
,, 2nd ,, $\frac{1}{161}$ of the earth's magnetic force.
,, 3rd ,, $\frac{1}{140}$ of the earth's magnetic force.

1843, January 13d. Observers, Messrs. Glaisher and Dunkin.

The suspension-skein was without torsion, when the torsion-circle read 232°. The observations were taken as before.

	°		° ′ ″		′ ″
With the torsion circle reading	232,	theodolite reading	249. 11. 55	Difference for 90°,	25. 53
,,	322	,,	249. 37. 48	Difference for 180,	56. 51
,,	142	,,	248. 40. 52	Difference for 90,	29. 16
,,	232	,,	249. 10. 8	Difference for 90,	28. 44
,,	322	,,	249. 38. 52	Difference for 90,	28. 0
,,	232	,,	249. 10. 52	Difference for 90,	28. 30
,,	142	,,	248. 42. 22	Difference for 90,	28. 30
,,	232	,,	249. 10. 52		

Therefore from the 1st pair the torsion force is $\frac{1}{209}$ of the earth's magnetic force.
,, 2nd ,, $\frac{1}{190}$ of the earth's magnetic force.
,, 3rd ,, $\frac{1}{183}$ of the earth's magnetic force.
,, 4th ,, $\frac{1}{189}$ of the earth's magnetic force.
,, 5th ,, $\frac{1}{192}$ of the earth's magnetic force.
,, 6th ,, $\frac{1}{190}$ of the earth's magnetic force.
,, 7th ,, $\frac{1}{190}$ of the earth's magnetic force.

The results obtained statically for the value of $\frac{\text{torsion force}}{\text{earth's magnetic force}}$ are:—

1840, August 28 = $\frac{1}{180}$.
1840, Dec. 11 = $\frac{1}{157}$.
1842, Feb. 1 = $\frac{1}{183}$, $\frac{1}{193}$, and $\frac{1}{170}$.
1842, May 16 = $\frac{1}{161}$, $\frac{1}{164}$, and $\frac{1}{193}$.
1842, May 23 = $\frac{1}{167}$, $\frac{1}{161}$, and $\frac{1}{140}$.
1843, Jan. 13 = $\frac{1}{200}$, $\frac{1}{190}$, $\frac{1}{185}$, $\frac{1}{189}$, $\frac{1}{194}$, $\frac{1}{190}$, and $\frac{1}{190}$.

And the mean of the whole gives the torsion force $\frac{1}{183}$ of the earth's magnetic force.

The mean of all the results for the value of $\frac{\text{torsion force}}{\text{earth's magnetic force}}$ obtained by the times of vibration is $\frac{1}{157}$. This determination is considered to be of but little value.

Occasional Adjustments of the Suspension Apparatus, 1840 and 1841.

1840, August 28.

On examining the meridian magnet preparatory to making the Term Observations, it was found that the position of rest of the magnet (as nearly as could be judged by the eye) was 5° different from its usual position of rest. The only probable cause which suggested itself being a torsion of the silk skein, the magnet was taken out of the stirrup and replaced by the brass bar. This was carried round with considerable force and finally settled about $2\frac{1}{2}$ revolutions from its first position. From this it appears that the force of torsion when the silk skein is turned through 900°, is equivalent to the magnetic force which would draw the magnet 5° from its position of rest.

1840, October 29.

The vertical suspension-bar was taken down for the purpose of having fixed to it, near the top, where the free suspension begins, two projecting pieces of wood, through which a pin passes, which pin also passes between the two divisions of the silk skein, to prevent any torsion being communicated from the opposite side. Two similar pieces of wood were also fixed on the opposite side (which carries the small windlass), three feet from the top, near the junction of the silk skein and the string; and a

pin passes through them, and between the two divisions of the skein, in order to prevent the string communicating any twist to the silk.

1840, October 30.

From experiments made this day, it appeared that the silk skein, when loaded with the brass bar, did not take any definite position of rest, but settled sometimes in one position and sometimes in another.

1840, October 31.

Mr. Glaisher, assisted by Mr. Dunkin, mounted a new skein of silk, connected with the string by a copper-double-hook, a little above which is the pin passing between the two divisions of the silk; the two divisions of the skein were then tied together (by passing a thread round them), a little above and below the pin; also a little above and below the pin on the opposite side, and likewise close to the hook connected with the stirrup; so that from top to bottom the two divisions form but one cord of parallel fibres. The torsion bar was then inserted, and allowed to take its position of rest. On examining the suspension-skein, its fibres were found parallel from the top six feet downwards; in the remainder was a twist of about $\frac{1}{4}$ of a revolution. In less than an hour it was found that the string had stretched $\frac{3}{4}$ of an inch; the magnet was therefore raised by this quantity.

1840, November 2.

It was found that the magnet had dropped $\frac{1}{8}$ of an inch: it was raised by that quantity.

1840, November 4.

It was found that the magnet had dropped $\frac{1}{2}$ an inch: it was raised.

1840, November 5. Observer, Mr. Glaisher.

Took the magnet out and inserted the brass bar, which rested very nearly in the magnetic meridian. Torsion-circle reading 182°: it therefore appears that the raising of the magnet two inches has not affected the angle of torsion.

The adjustments of the torsion circle, after this time, which are always determined by the position of rest assumed by the brass bar, are recorded in the notes in the inner margin of the section "Daily Observations of Magnetometers."

1840, November 30. Observations by Mr. Glaisher.

In about half an hour after the insertion of the brass bar, it settled North about 15° West; the bar was then brought to the meridian by turning the torsion circle through an angle of 15°, the circle then reading 167°. After half an hour it was found without motion, the North end being some degrees East of the meridian. Several unsuccessful trials were made to determine the reading of the torsion circle when the bar was in the magnetic meridian, until, the time of observation of the magnet drawing near, it became necessary to insert the magnet. The brass bar apparently would not take any definite position.

1840, December 8. Observer, Mr. Glaisher.

After oscillating about half an hour, the brass bar settled with its North end about 15° West of the magnetic meridian, in which situation it remained ten minutes; without any apparent cause it again moved; and twenty minutes after this, it was about 14° East of the meridian, and remained some minutes without the slightest motion; again it moved, and finally settled about 2° East of the magnetic meridian. The magnet was then inserted without altering the reading of the torsion circle, which was 183°.

1840, December 11.

On Mr. Hind attempting to take the observation at 2^h Göttingen mean time, he could not see the cross carried by the magnet. Mr. Glaisher examined the magnet, and found the marked end deflected about one inch from the meridian. A workman had been engaged in fixing an adjusting-screw to the vertical bar which carries the suspension work, but it is difficult to conceive how any twist could have been communicated by this. The detorsion bar, on being inserted, immediately turned through one revolution; it was then checked, and, on being left free, turned through another revolution; it was again checked, and when again left to itself it settled about 20° West of North. The torsion circle was then turned through an angle of about 20°; and the torsion circle was left reading 198°. 50′, when the bar was in the meridian. On examining the suspension thread it was found parallel from the top, and six feet downwards; in the remainder was a left-handed twist of $\frac{1}{4}$ of a revolution: this was exactly its situation when first put up. By the above process the torsion was got rid of as nearly as possible, and the magnet was replaced for the observation at 4^h.

1840, December 12. Observer, Mr. Glaisher.

The detorsion bar would not, during nearly two hours, come to a state of rest, but

oscillated some degrees on each side of the meridian: when the time had arrived for the observation, the magnet was inserted, the torsion circle still reading 198°. 50′.

1841, February 22. Observer, Mr. Glaisher.

With the torsion-circle reading 255°, in ¼ of an hour the North end of the brass bar settled about 45° East. After several trials, it was found that the bar would not take any definite position, it remaining for ¼ of an hour in a position without motion, then moving without any apparent cause to another position, remaining stationary, and moving again. The time for observation of the magnet approaching, the torsion circle was left reading 229°: not at all satisfactory.

These are the only observations which present very remarkable anomalies. The determinations of the position 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, 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 part 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.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, was in the earlier observations computed from tables of double entry, the arguments of which were the hour angle of the star and its north polar distance. In the later observations it has been computed independently in every observation, by the following method, which is found much more convenient, and which involves a principle that may be found advantageous for application in many other instances.

The star is supposed to be so near to the meridian, that the fifth and higher powers of its hour angle are insensible. The star is supposed also to be near the upper meridian; but the investigation will be made to apply to the neighbourhood of the lower meridian, by changing the sign of the north polar distance.

Put a for the star's polar distance, b for the co-latitude; A for the azimuthal angle, C for the hour angle. Then,

$$\tan A = \frac{\text{sin. } a \text{ sin. } C}{\text{cos. } a \text{ sin. } b - \text{cos. } b \text{ sin. } a \text{ cos. } C}.$$

Putting for sin. C and cos. C their expressions in series, to the extent above mentioned, this becomes

$$\text{tan. } A = \frac{\text{sin. } a\,(C - \frac{C^3}{6})}{\text{cos. } a \text{ sin. } b - \text{cos. } b \text{ sin. } a\,(1 - \frac{C^2}{2})}$$

$$= \frac{C \text{ sin. } a}{\text{sin. } (b-a)} \times \left\{1 - \frac{C^2}{6} - \frac{\text{cos. } b \text{ sin. } a}{\text{sin. } (b-a)} \cdot \frac{C^2}{2}\right\}$$

and $A = \text{tan. } A - \frac{1}{3} \text{tan. }^3 A =$

$$\frac{C \text{ sin. } a}{\text{sin. } (b-a)} \sqrt{\left\{1 - \frac{C^2}{3} \cdot \frac{\text{sin. } b \text{ sin. } a}{\text{sin. } (b-a)} \left(\text{cot. } a + 2 \text{ cot. } (b-a)\right)\right\}}$$

Let the number of seconds of arc contained in a be $a_{''}$; the number of seconds of arc contained in A be $A_{''}$: and let the number of seconds of time contained in C be C_s; so that we may use indifferently,

a or $a_{''}$ sin. $1''$
A or $A_{''}$ sin. $1''$
C or C_s 15 sin. $1''$.

Then the last equation becomes

$$A_{''} \text{ sin. } 1'' = C_s \text{ 15 sin. } 1'' \cdot \frac{\text{sin. } a}{\text{sin. } (b-a)} \sqrt{\left\{1 - \frac{C_s^2 \, 15^2 \text{ sin.}^2 1''}{3} \cdot \frac{\text{sin. } b \text{ sin. } a}{\text{sin. } (b-a)} (\text{cot. } a + 2 \text{ cot. } \overline{b-a})\right\}}$$

$$\text{Make sin. } \phi = C_s \text{ 15 sin. } 1'' \sqrt{\left\{\frac{\text{sin. } b \text{ sin. } a}{3 \text{ sin. } (b-a)} \times (\text{cot. } a + 2 \text{ cot. } \overline{b-a})\right\}}.$$

$$\text{Then } A_{''} = C_s \frac{15 \text{ sin. } a}{\text{sin. } (b-a)} \text{ cos. } \phi.$$

The variations of cos. ϕ depending on the small changes in a are utterly insignificant, ϕ therefore may be regarded as depending on C_s only. A small table of log. cos. ϕ is therefore prepared, of which the argument is C_s.

In the computation of $\log. \frac{15 \text{ sin. } a}{\text{sin. } (b-a)}$, the peculiarity of principle, to which I have above alluded, is introduced. It proceeds on this assumption:—"when the variations of $a_{''}$ are so small that their squares may be neglected, any function whatever of $a_{''}$ may be expressed in the form

$$E \times (a_{''} + F)$$

where E and F are constants."

This will be proved, and the values of E and F in the instance before us will be determined, by the following process:—

Let the general value of a be expressed by $a^\circ + \delta a$, where a° is constant. Then for the assumed equation,

$$\frac{15 \sin. a}{\sin.(b-a)} = E \times (a_{''} + F) = \frac{E}{\sin. 1''} \times (a + F \sin. 1'')$$

$$\text{or, h. log. } 15 + \text{h. log. sin. } a - \text{h. log. sin. } (b-a) =$$

$$\text{h. log. } \frac{E}{\sin. 1''} + \text{h. log. } (a + F \sin 1'')$$

we may put

$$\text{h. log. } 15 + \text{h. log. sin. } (a^\circ + \delta a) - \text{h. log. sin. } (b - a^\circ - \delta a) =$$

$$\text{h. log. } \frac{E}{\sin. 1''} + \text{h. log. } (a^\circ + F \sin. 1'' + \delta a).$$

Expanding both sides to the first power of δa,

$$\left.\begin{array}{l} \text{h. log. } 15 \\ + \text{h. log. sin. } a^\circ \quad + \text{cotan. } a^\circ \, \delta a \\ - \text{h. log. sin. } (b-a^\circ) + \text{cotan. } (b-a^\circ) \, \delta a \end{array}\right\} = \left\{\begin{array}{l} \text{h. log. } \dfrac{E}{\sin. 1''} \\ + \text{h. log. } (a^\circ + F \sin. 1'') + \dfrac{\delta a}{a^\circ + F \sin. 1''}, \end{array}\right.$$

an equation which is evidently possible; since, by comparing the terms independent of δa and the terms multiplying δa, two equations are formed for determining the two quantities E and F.

The comparison of the terms multiplying δa gives,

$$\text{cotan. } a^\circ + \text{cotan. } (b-a^\circ) = \frac{1}{a^\circ + F \sin. 1''}$$

$$\text{or } \frac{\sin. b}{\sin. a^\circ \sin. (b-a^\circ)} = \frac{1}{\sin. 1''} \cdot \frac{1}{a^\circ_{''} + F}$$

$$\text{whence } a^\circ_{''} + F = \frac{\sin. a^\circ \sin. (b-a^\circ)}{\sin. b \sin. 1''}, \text{ and } F = \frac{\sin. a^\circ \sin. (b-a^\circ)}{\sin. b \sin. 1''} - a^\circ_{''}.$$

The comparison of the terms independent of δa, reverting from the logarithmic equation to the equation between the numbers, gives,

$$\frac{15 \sin. a^\circ}{\sin. (b-a^\circ)} = \frac{E (a^\circ + F \sin. 1'')}{\sin. 1''} = E (a^\circ_{''} + F)$$

$$\text{whence } E = \frac{15 \sin. a^\circ}{(a^\circ_{''} + F) \sin. (b-a^\circ)} = \frac{15 \sin. b \sin. 1''}{\sin.^2 (b-a^\circ)}$$

The mean value of a may be used for a° in the computations of E and F, and the computation of the azimuthal reduction in any instance is effected by the formula

$$\text{log. } A_{''} = \text{log. } C_s + \text{log. cos. } \phi + \text{log. } E + \text{log. } (a_{''} + F)$$

The following table contains the values of these various quantities, as they have been used in the reduction of some of the observations near the end of 1841, and of subsequent observations :—

Tabulated Values of Log. Cos. ϕ, for different Values of C_s, and of the Quantities Log. E and F for the Stars Polaris and δ Ursæ Minoris.

Hour Angle.	Log. Cos. ϕ for			
	Polaris.	δ Ursæ Minoris.	Polaris S. P.	δ Ursæ Min. S.P.
m				
1	9·99999	9·99999	9·99999	9·99999
2	999	999	999	999
3	999	999	999	999
4	998	998	998	998
5	996	996	997	997
6	994	994	996	996
7	992	992	994	995
8	990	989	992	993
9	988	986	990	991
10	985	983	988	989
11	981	979	985	987
12	978	975	982	984
13	974	971	979	981
14	970	966	975	978
15	966	961	972	975
16	961	955	968	971
17	956	950	964	968
18	951	944	959	964
19	945	937	955	960
20	939	930	950	956
21	932	923	945	951
22	926	915	939	946
23	919	908	933	941
24	912	900	928	936
25	904	891	922	930
26	896	882	915	925
27	888	873	909	919
28	880	863	902	913
29	871	853	894	906
30	9·99862	9·99843	9·99887	9·99900
Log. E	6·09721	6·13638	−6·03899	−6·00617
F	−186″·79	−944″·71	+181″·57	+886″·86

Then log. $A_{\prime\prime}$ = log. C_s + log. E + log. $(a_{\prime\prime} + F)$ + log. cos. ϕ,

where $A_{\prime\prime}$ = seconds in arc of azimuth,

C_s = seconds in time of hour-angle,

$a_{\prime\prime}$ = seconds of N.P.D. for the day of observation.

The following table contains the whole of the operations for determining the readings for the astronomical meridian in 1840 and 1841 :—

Observations with the Magnetic Theodolite at the Royal Observatory, Greenwich, for ascertaining the Reading of its Horizontal Circle corresponding to the Astronomical Meridian, in the years 1840 and 1841.

Day.	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.
1840.		r	° ′ ″	″	″	° ″ ′	h m s	h m s	h m s	° ′ ″	′ ″	° ′ ″	° ′ ″	″	″	° ′ ″	
Nov. 7	Polaris.....	100·106	90. 7.90	44	55	90. 8. 3·0	0.38.10·0	0.38. 7·0	1. 2.51	1.32. 5	−16.29·0	89.51.34·0					G
			90. 5.72	25	25	90. 5.40·7	0.41.43·5	0.41.40·5			−14. 6·3	89.51.34·4					G
			90. 1.70	30	30	90. 1.43·3	0.47.54·0	0.47.51·0			− 9.59·9	89.51.43·4					G
			89.59.55	20	15	89.59.30·0	0.50.59·0	0.50.56·0			− 7.57·1	89.51.32·9	89.51.37·7	− 2·9	− 4·0	89.51.33·6	G
			89.57.98	52	45	89.58. 5·0	0.53.20·0	0.53.17·0			− 6.23·1	89.51.41·9					G
			89.55.90	50	45	89.56. 1·7	0.56.38·0	0.56.35·0			− 4.11·0	89.51.50·7					G
			89.53.46	5	3	89.53.18·0	1. 0. 7·0	1. 0. 4·0			− 1.51·5	89.51.26·5					G
Nov. 21	Polaris.....	100·106	89.56.92	40	63	89.57. 5·0	0.54.17	0.55. 0	1. 2.46	1.32. 1	− 5.10·8	89.51.54·2					G
			89.55.35	0	5	89.55.13·3	0.57.29	0.58.12			− 3. 2·8	89.52.10·5					G
			89.53.75	30	38	89.53.47·7	0.58.33	0.59.19			− 2.18·3	89.51.29·4					G
			89.53.45	0	10	89.53.18·3	0.59.51	1. 0.37			− 1.27·0	89.51.51·3					G
			89.52.60	12	25	89.52.32·3	1. 1. 4	1. 1.50			− 0.37·8	89.51.54·6	89.51.50·3	− 1·3	− 1·9	89.51.48·4	G
			89.51.60	23	30	89.51.37·7	1. 2.28	1. 3.14			+ 0.18·7	89.51.56·4					G
			89.50.40	10	10	89.50.20·0	1. 3.57	1. 4.43			+ 1.18·1	89.51.38·1					JH
			89.48.92	67	58	89.49.12·3	1. 5.54	1. 6.40			+ 2.36·0	89.51.48·4					JH
Dec. 3	Polaris.....	100·106	89.58.75	35	50	89.58.53·3	0.51.45	0.52. 7	1. 2.40	1.31.58	− 7. 6·6	89.51.46·7					G
			89.57.42	0	10	89.57.17·3	0.53.55	0.54.17			− 5.39·0	89.51.38·3					G
			89.55.81	37	40	89.55.52·7	0.55.55	0.56.17			− 4.18·1	89.51.34·6	89.51.42·2	+ 3·3	+ 4·6	89.51.46·8	G
			89.54.98	52	50	89.55. 6·7	0.57.18	0.57.40			− 3.22·1	89.51.44·6					G
			89.53.90	40	40	89.53.56·7	0.59. 5	0.59.27			− 2.10·0	89.51.46·7					G
Dec. 22	Polaris.....	100·194	89.57.65	25	30	89.57.40·0	0.53. 5	0.53.33	1. 2.27	1.31.54	− 5.55·7	89.51.44·3					G
			89.56.65	10	17	89.56.30·7	0.54.44	0.55.12			− 4.49·8	89.51.40·9					G
			89.55.40	12	20	89.55.24·0	0.56.30	0.56.58			− 3.39·2	89.51.44·9	89.51.46·6	+11·5	+16·0	89.52. 2·6	G
			89.54.75	35	50	89.54.53·3	0.57.34	0.58. 2			− 2.56·5	89.51.56·8					G
			89.52.100	58	68	89.53.15·3	0.59.45	1. 0.13			− 1.29·3	89.51.46·1					G
Dec. 23	Polaris.....	100·194	90.11.94	50	57	90.12. 7·0	0.31.49	0.32.21	1. 2.27	1.31.54	−19.59·4	89.52. 7·6					JH
			90. 9.70	45	56	90. 9.57·0	0.34.24	0.34.56			−18.17·3	89.51.39·7					JH
			90. 8.50	6	11	90. 8.22·3	0.37.36	0.38. 8			−16.10·5	89.52.11·8					JH
			90. 6.60	25	17	90. 6.34·0	0.39.47	0.40.19			−14.43·7	89.51.50·4					JH
			90. 4.70	35	36	90. 4.47·0	0.42.29	0.43. 1			−12.56·4	89.51.50·7					JH
			90. 2.91	54	64	90. 3. 9·7	0.44.47	0.45.19			−11.24·4	89.51.45·2	89.51.55·2	+ 8·8	+12·4	89.52. 7·6	JH
			90. 1.51	19	15	90. 1.28·3	0.47.21	0.47.53			− 9.42·0	89.51.46·3					JH
			89.54.70	40	35	89.54.48·3	0.57.31	0.58. 3			− 2.55·9	89.51.52·4					JH
			89.52.95	50	48	89.53. 4·3	1. 0.26	1. 0.58			− 0·59·3	89.52. 5·0					JH
			89.50.75	46	45	89.50.55·3	1. 3.20	1. 3.52			+ 0.56·4	89.51.51·9					JH
			89.49.66	24	45	89.49.45·0	1. 5.27	1. 5.59			+ 2.21·3	89.52. 6·2					JH
1841.																	
Jan. 20	Polaris.....	100·194	90. 0.100	55	56	90. 1.10·3	0.49.12	0.48.38	1. 2. 5	1.31.52	− 8.57·2	89.52.13·1					JH
			89.59.60	20	35	89.59.38·3	0.51·39	0.51. 5			− 7.19·4	89.52.18·8					JH
			89.57.90	50	54	89.58. 4·7	0.53.44	0.53.10			− 5.56·2	89.52. 8·4	89.52. 8·6	+12·3	+17·3	89.52.25·9	JH
			89.56.60	22	30	89.56.37·3	0.55.52	0.55.18			− 4.31·0	89.52. 6·3					JH
			89.55.40	5	10	89.55.18·3	0.57.36	0.57. 2			− 3.21·8	89.51.56·5					JH

Nov. 21. The times of observation are all doubtful to 2^s or 3^s or more: the star appeared to cling to the wire.

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, 1841.	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. 21	Polaris S.P...	100·194	89.40.45	8	10	89.40.21·0	12.43.13	12.42.43	1. 2. 4	1.31.52	+12. 2·3	89.52.23·3					D
			89.42.50	10	15	89.42.25·0	12.46.32	12.46. 2			+ 9.56·5	89.52.21·5					D
			89.43.95	45	50	89.44. 0·0	12.49.25	12.48.55			+ 8.11·2	89.52.11·2					D
			89.45.75	40	45	89.45.53·3	12.52.39	12.52. 9			+ 6.10·5	89.52. 3·8					D
			89.47.72	30	35	89.47.45·7	12.55.33	12.55. 3			+ 4.24·2	89.52. 9·9	89.52.13·2	+12·7	+15·9	89.52.29·1	D
			89.49.60	15	25	89.49.33·3	12.58.15	12.57.45			+ 2.41·3	89.52.14·6					D
			89.50.88	45	50	89.51. 1·0	13. 0.42	13. 0.12			+ 1. 9·8	89.52.10·8					D
			89.52.65	23	25	89.52.37·7	13. 3.18	13. 2.48			− 0.27·4	89.52.10·3					D
Jan. 23	Polaris.....	100·194	89.59.75	60	40	89.59.58·3	0.51. 8	0.50.39	1. 2. 3	1.31.52	− 7.37·4	89.52.21·0					G
			89.58.50	25	0	89.58.25·0	0.53.40	0.53.11			− 5.54·2	89.52.30·8					G
			89.57.45	12	0	89.57.19·0	0.55.25	0.54.56			− 4.44·4	89.52.34·7					G
			89.55.100	70	55	89.56.15·0	0.56.57	0.56.28			− 3.43·1	89.52.32·0					G
			89.54.80	60	48	89.55. 2·7	0.58.43	0.58.14			− 2.32·5	89.52.30·1	89.52.30·3	+ 1·3	+ 1·5	89.52.31·8	G
			89.53.75	40	30	89.53.48·3	1. 0.37	1. 0. 8			− 1.16·6	89.52.31·7					G
			89.52.60	30	12	89.52.34·0	1. 2.27	1. 1.58			− 0. 3·3	89.52.30·7					G
			89.50.72	55	40	89.50.55·7	1. 4.45	1. 4.16			+ 1.28·6	89.52.24·3					G
			89.48.72	50	35	89.48.52·3	1. 8.10	1. 7.41			+ 3.45·1	89.52.37·4					G
Mar. 8	Polaris S.P....	100·194	89.41.85	43	52	89.42. 0·0	12.46.15	12.45.27	1. 1.36	1.32. 0	+10. 3·9	89.52. 3·9					D
			89.43.83	40	48	89.43.57·0	12.49.22	12.48.34			+ 8. 7·4	89.52. 4·4					D
			89.45.63	18	23	89.45.34·7	12.51.58	12.51.10			+ 6.30·2	89.52. 4·8					D
			89.47.45	3	10	89.47.19·3	12.54.40	12.53.52			+ 4.49·2	89.52. 8·6					D
			89.48.60	14	23	89.48.32·3	12.56.43	12.55.55			+ 3.32·6	89.52. 4·9	89.52. 6·0	+15·9	+19·9	89.52.26·0	D
			89.49.85	45	55	89.50. 1·7	12.59. 5	12.58.17			+ 2. 4·1	89.52. 5·7					D
			89.51.53	10	15	89.51.26·0	13. 1.20	13. 0.32			+ 0.39·9	89.52. 5·9					D
			89.52.80	30	40	89.52.50·0	13. 3.30	13. 2.42			− 0.41·2	89.52. 8·9					D
			89.54.55	12	28	89.54.31·7	13. 6.16	13. 5.28			− 2.24·6	89.52. 7·0					D
Mar. 9	Polaris S.P...	100·194	89.47.75	45	45	89.47.55·0	12.55. 5	12.54.17	1. 1.36	1.32. 0	+ 4.33·7	89.52.28·7					G
			89.49.48	5	0	89.49.17·7	12.57.11	12.56.23			+ 3.15·1	89.52.32·8					G
			89.50.65	20	25	89.50.36·7	12.59.27	12.58 39			+ 1.50·3	89.52.27·0					G
			89.51.80	45	50	89.51.58·3	13. 1.38	13. 0.50			+ 0.28·7	89.52.27·0	89.52.27·8	0·0	0·0	89.52.27·8	G
			89.53.54	20	25	89.53.33·0	13. 4.13	13. 3.25			− 1. 8·0	89.52.25·0					G
			89.54.90	45	50	89.55. 1·7	13. 6.33	13. 5.45			− 2.35·2	89.52.26·5					G
Mar. 15	Polaris S.P...	100·194	89.54.50	5	10	89.54.21·7	13. 5.25	13. 4.33	1. 1.34	1.32. 2	− 1.51·6	89.52.30·1					D
			89.55.70	25	30	89.55.41·7	13. 7.30	13. 6.38			− 3. 9·6	89.52.32·1					D
			89.57.35	0	5	89.57.13·3	13. 9.56	13. 9. 4			− 4.40·6	89.52.32·7	89.52.31·2	− 2·6	− 3·2	89.52.27·9	D
			89.58.70	30	35	89.58.45·0	13.12.25	13.11.33			− 6.13·5	89.52.31·5					D
			89.59.75	40	45	89.59.53·3	13.14.18	13.13.26			− 7.23·9	89.52.29·4					D
Mar. 26	Polaris S.P...	100·194	89.41.60	15	23	89.41.32·7	12.45.34	12.44.21	1. 1.32	1.32. 6	+10.43·2	89.52.15·8					G
			89.43.70	30	35	89.43.45·0	12.48.52	12.47.39			+ 8.39·7	89.52.24·7					G
			89.44.67	33	35	89.44.45·0	12.50.39	12.49.26			+ 7.32·9	89.52.17·9	89.52.19·3	+ 1·3	+ 1·7	89.52.21·0	G
			89.45.65	30	37	89.45.44·0	12.52. 4	12.50.51			+ 6.39·9	89.52.23·9					G

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, 1841.	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	° ′ ″	′ ″	° ′ ″	° ′ ″	″	″	° ′ ″	
Mar. 26	Polaris S.P...	100·194	89. 46. 85	45	50	89. 47. 0·0	12. 54. 22	12. 53. 9	1. 1. 32	1. 32. 6	+ 5. 13·9	89. 52. 13·9					G
			89. 48. 55	10	15	89. 48. 26·7	12. 56. 32	12. 55. 19			+ 3. 52·9	89. 52. 19·5					G
April 15	Polaris S.P...	100·194	89. 55. 62	17	30	89. 55. 36·3	13. 9. 3	13. 6. 50	1. 1. 33	1. 32. 11	− 3. 17·8	89. 52. 18·5					J H
			89. 57. 75	25	35	89. 57. 45·0	13. 12. 24	13. 10. 11			− 5. 23·5	89. 52. 21·5					J H
			90. 0. 60	14	17	90. 0. 30·3	13. 16. 36	13. 14. 23			− 8. 0·8	89. 52. 29·5	89. 52·25·4	+ 1·0	+ 1·3	89. 52. 26·7	J H
			90. 3. 5	0	3	90. 3. 2·7	13. 20. 13	13. 18. 0			−10. 16·3	(89. 52. 46·4)					J H
			90. 3. 85	53	59	90. 4. 5·7	13. 22. 17	13. 20. 4			−11. 33·6	89. 52. 32·1					J H
April 19	Polaris S.P...	100·194	90. 3. 95	53	50	90. 4. 6·0	13. 22. 46	13. 20. 16	1. 1. 34	1. 32. 13	−11. 40·7	89. 52. 25·3	89. 52. 20·6	+ 6·7	+ 8·4	89. 52. 29·0	D
			90. 5. 48	3	0	90. 5. 17·0	13. 24. 55	13. 22. 25			−13. 1·1	89. 52. 16·0					D
April 30	Polaris S.P...	100·194	89. 47. 45	2	9	89. 47. 18·7	12. 54. 3	12. 53. 45	1. 1. 38	1. 32. 16	+ 4. 55·6	89. 52. 14·3					J H
			89. 48. 73	29	20	89. 48. 40·7	12. 56. 13	12. 55. 55			+ 3. 34·4	89. 52. 15·1					J H
			89. 49. 110	57	63	89. 50. 16·7	12. 58. 50	12. 58. 32			+ 1. 56·3	89. 52. 13·0	89. 52. 12·5	+ 5·0	+ 6·3	89. 52. 18·8	J H
			89. 51. 82	40	42	89. 51. 54·7	13. 1. 38	13. 1. 20			+ 0. 11·3	89. 52. 5·9					J H
			89. 53. 60	19	24	89. 53. 34·3	13. 4. 4	13. 3. 46			− 1. 20·0	89. 52. 14·3					J H
May 1	Polaris S.P...	100·194	89. 56. 53	12	17	89. 56. 27·3	13. 9. 5	13. 7. 27	1. 1. 38	1. 32. 16	− 4. 25·1	89. 52. 2·3					D
			89. 57. 77	30	37	89. 57. 48·0	13. 11. 12	13. 10. 49			− 5. 44·4	89. 52. 3·6					D
			89. 58. 77	34	42	89. 58. 51·0	13. 12. 53	13. 12. 30			− 6. 47·5	89. 52. 3·5					D
			90. 0. 44	3	8	90. 0. 18·3	13. 15. 1	13. 14. 38			− 8. 7·5	89. 52. 10·8	89. 52. 4·8	+ 5·5	+ 6·8	89. 52. 11·6	D
			90. 0. 102	55	62	90. 1. 13·0	13. 16. 35	13. 16. 12			− 9. 6·2	89. 52. 6·8					D
			90. 1. 90	47	53	90. 2. 3·3	13. 18. 3	13. 17. 40			−10. 1·2	89. 52. 2·1					D
May 12	Polaris S.P...	100·194	89. 50. 52	14	20	89. 50. 28·7	13. 0. 13	12. 59. 19	1. 1. 44	1. 32. 18	+ 1. 30·7	89. 51. 59·4					D
			89. 52. 42	0	7	89. 52. 16·3	13. 2. 50	13. 1. 56			− 0. 7·5	89. 52. 8·8					D
			89. 52. 90	53	60	89. 53. 7·7	13. 4. 14	13. 3. 20			− 1. 0·1	89. 52. 7·6					D
			89. 54. 52	10	17	89. 54. 26·3	13. 6. 14	13. 5. 20			− 2. 15·1	89. 52. 11·2	89. 52. 6·1	+ 6·3	+ 7·9	89. 52. 14·1	D
			89. 55. 45	7	12	89. 55. 21·3	13. 7. 47	13. 6. 53			− 3. 13·3	89. 52. 8·0					D
			89. 56. 47	0	8	89. 56. 18·3	13. 9. 28	13. 8. 34			− 4. 16·5	89. 52. 1·8					D
May 20	Polaris S.P...	100·194	89. 45. 90	30	48	89. 45. 56·0	12. 52. 54	12. 51. 45	1. 1. 48	1. 32. 20	+ 6. 17·2	89. 52. 13·2					G
			89. 47. 55	0	12	89. 47. 22·3	12. 54. 59	12. 53. 50			+ 4. 59·0	89. 52. 21·4					G
			89. 47. 105	58	70	89. 48. 17·7	12. 56. 32	12. 55. 23			+ 4. 0·9	89. 52. 18·5					G
			89. 49. 40	0	17	89. 49. 19·0	12. 58. 24	12. 57. 15			+ 2. 50·8	89. 52. 9·8	89. 52. 12·2	+ 3·6	+ 4·5	89. 52. 16·7	G
			89. 49. 98	50	60	89. 50. 9·3	12. 59. 45	12. 58. 36			+ 2. 0·1	89. 52. 9·5					G
			89. 50. 90	50	60	89. 51. 6·7	13. 1. 30	13. 0. 21			+ 0. 54·5	89. 52. 1·1					G
June 3	Polaris S.P...	100·194	89. 48. 72	25	32	89. 48. 43·0	12. 58. 5	12. 56. 17	1. 1. 59	1. 32. 22	+ 3. 34·0	89. 52. 17·0					D
			89. 49. 72	28	33	89. 49. 44·3	12. 59. 50	12. 58. 2			+ 2. 28·3	89. 52. 12·6					D
			89. 50. 68	20	25	89. 50. 37·7	13. 1. 15	12. 59. 27			+ 1. 35·1	89. 52. 12·8					D
			89. 51. 72	32	37	89. 51. 47·0	13. 3. 7	13. 1. 19			+ 0. 25·0	89. 52. 12·0	89. 52. 15·0	+ 8·6	+10·9	89. 52. 25·9	D
			89. 52. 78	38	42	89. 52. 52·7	13. 4. 41	13. 2. 53			− 0. 33·8	89. 52. 18·9					D
			89. 53. 78	38	44	89. 53. 53·3	13. 6. 16	13. 4. 28			− 1. 33·2	89. 52. 20·1					D
			89. 54. 72	33	38	89. 54. 47·7	13. 7. 56	13. 6. 8			− 2. 35·8	89. 52. 11·9					D
June 16	δ Ursæ Minoris.	100·194	89. 52. 72	35	40	89. 52 49·0	18. 24. 12	18. 23. 27	18. 23. 45	3. 24. 37	− 0. 27·9	89. 52. 21·1					D

April 15. The star was very tremulous, and the times of observation are consequently doubtful to 2^s or 3^s. There is something wrong about the fourth observation: it is omitted in the mean.

May 20. The readings of Verniers B and C in the first observation were recorded one minute too great.

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, 1841.	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.
		p	° ′ ″	″	″	° ′ ″	h m s	h m s	h m s	° ′ ″	′ ″	° ′ ″	° ′ ″	″	″	° ′ ″	
June 16	δ Ursæ Minoris.	100·194	89. 49. 77	43	49	89. 49. 56·3	18. 26. 2	18. 25. 17	18. 23. 45	3. 24. 37	+ 2. 23·0	89. 52. 19·3					D
			89. 46. 82	50	55	89. 47. 2·3	18. 27. 53	18. 27. 8			+ 5. 15·5	89. 52. 17·8	89. 52. 15·7	+ 5·7	+ 8·5	89. 52. 24·2	D
			89. 43. 60	12	16	89. 43. 29·3	18. 30. 4	18. 29. 19			+ 8. 38·9	89. 52. 8·2					D
			89. 40. 60	20	25	89. 40. 35·0	18. 31. 55	18. 31. 10			+ 11. 31·1	89. 52. 6·1					D
			89. 37. 60	25	30	89. 37. 38·3	18. 33. 59	18. 33. 14			+ 14. 43·2	89. 52. 21·5					D
July 13	δ Ursæ Minoris.	100·194	89. 50. 93	55	60	89. 51. 9·3	18. 26. 15	18. 24. 36	18. 23. 43	3. 24. 28	+ 1. 22·3	89. 52. 31·6					D
			89. 47. 78	37	43	89. 47. 52·7	18. 28. 15	18. 26. 36			+ 4. 28·6	89. 52. 21·2					D
			89. 45. 60	18	22	89. 45. 33·3	18. 29. 52	18. 28. 13			+ 6. 58·6	89. 52. 31·9	89. 52. 27·2	+ 5·6	+ 8·4	89. 52. 35·5	D
			89. 42. 93	55	62	89. 43. 10·0	18. 31. 23	18. 29. 44			+ 9. 20·1	89. 52. 30·1					D
			89. 40. 32	5	8	89. 40. 15·0	18. 33. 12	18. 31. 33			+ 12. 8·6	89. 52. 23·6					D
			89. 37. 37	0	6	89. 37. 14·3	18. 35. 9	18. 33. 30			+ 15. 10·1	89. 52. 24·4					D
Aug. 9	Polaris	100·194	90. 5. 55	12	30	90. 5. 32·3	0. 43. 43	0. 41. 48	1. 2. 52	1. 32. 17	− 14. 4·9	89. 51. 27·4					J H
			90. 3. 77	35	45	90. 3. 52·3	0. 46. 18	0. 44. 23			− 12. 21·5	89. 51. 30·8					J H
			90. 2. 54	10	22	90. 2. 28·7	0. 48. 33	0. 46. 38			− 10. 51·3	89. 51. 37·4	89. 51. 32·8	+ 2·7	+ 3·8	89. 51. 36·6	J H
			90. 0. 75	30	40	90. 0. 48·3	0. 50. 51	0. 48. 56			− 9. 19·1	89. 51. 29·2					J H
			89. 59. 60	35	45	89. 59. 46·7	0. 52. 38	0. 50. 43			− 8. 7·6	89. 51. 39·1					J H
Aug. 11	δ Ursæ Minoris.	100·194	90. 34. 55	20	25	90. 34. 33·3	17. 57. 48	17. 55. 53	18. 23. 36	3. 24. 20	− 42. 44·9	89. 51. 48·4					D
			90. 31. 45	12	15	90. 31. 24·0	17. 59. 50	17. 57. 55			− 39. 39·5	89. 51. 44·5	89. 51. 49·4	+ 0·8	+ 1·3	89. 51. 50·7	D
			90. 28. 55	15	23	90. 28. 31·0	18. 1. 50	17. 59. 55			− 36. 35·6	89. 51. 55·4					D
Aug. 12	Polaris	100·194	89. 58. 85	50	70	89. 59. 8·3	0. 53. 56	0. 52. 1	1. 2. 54	1. 32. 16	− 7. 16·7	89. 51. 51·7					J H
			89. 57. 45	15	23	89. 57. 27·7	0. 56. 20	0. 54. 25			− 5. 40·5	89. 51. 47·2	89. 51. 50·0	+ 2·9	+ 3·9	89. 51. 53·9	J H
			89. 55. 75	45	60	89. 56. 0·0	0. 58. 37	0. 56. 42			− 4. 8·8	89. 51. 51 2					J H
Aug. 14	δ Ursæ Minoris.	100·194	89. 58. 85	45	50	89. 59. 0·0	18. 20. 52	18. 18. 55	18. 23. 35	3. 24. 19	− 7. 14·1	89. 51. 45·9					P
			89. 55. 100	55	63	89. 56. 12·7	18. 22. 47	18. 20. 50			− 4. 16·1	89. 51. 56·6					P
			89. 52. 65	25	35	89. 52. 41·7	18. 24. 52	18. 22. 55			− 1. 2·0	89. 51. 39·7	89. 51. 44·9	+ 4·8	+ 7·2	89. 51. 52·1	P
			89. 50. 40	0	5	89. 50. 15·0	18. 26. 26	18. 24. 29			+ 1. 23·6	89. 51. 38·6					P
			89. 46. 65	20	35	89. 46. 40·0	18. 28. 48	18. 26. 51			+ 5. 3·7	89. 51. 43·7					P
Sep. 5	Polaris	100·194	89. 57. 75	45	35	89. 57. 51·7	0. 56. 16	0. 54. 29	1. 3. 8	1. 32. 8	− 5. 46·6	89. 52. 5·1					P
			89. 54. 90	60	45	89. 55. 5·0	1. 0. 24	0. 58. 37			− 3. 1·0	89. 52. 4·0					P
			89. 51. 100	65	55	89. 52. 13·3	1. 3. 20	1. 1. 33			− 1. 3·4	89. 52. 9·9	89. 52. 6.3	− 1·2	− 1·6	89. 52. 4·7	P
			89. 50. 55	20	25	89. 50. 33·3	1. 7. 12	1. 5. 25			+ 1. 31·5	89. 52. 4·8					P
			89. 40. 80	55	45	89. 49. 0·0	1. 9. 36	1. 7. 49			+ 3. 7·7	89. 52. 7·8					P
Sep. 6	Polaris	100·194	90. 3. 40	10	5	90. 3. 18·3	0. 47. 11	0. 45. 23	1. 3. 8	1. 32. 8	− 11. 51·0	89. 51. 27·4					J H
			90. 1. 80	56	53	90. 2. 3·0	0. 49. 1	0. 47. 13			− 10. 37·5	89. 51. 25·5					J H
			90. 0. 75	50	45	90. 0. 56·7	0. 50. 48	0. 49. 0			− 9. 26·2	89. 51. 30·5	89. 51. 28·2	+ 3·4	+ 4·8	89. 51. 33·0	J H
			89. 59. 70	48	44	89. 59. 54·0	0. 52. 32	0. 50. 44			− 8. 16·8	89. 51. 37·2					J H
			89. 58. 52	13	9	89. 58. 24·7	0. 54. 35	0. 52. 37			− 7. 1·4	89. 51. 23·3					J H
			89. 57. 40	3	0	89. 57. 14·3	0. 56. 13	0. 54. 25			− 5. 49·3	89. 51. 25·1					J H
Sep. 13	Polaris	100·194	89. 53. 105	55	52	89. 54. 10·7	1. 0. 57	0. 59. 27	1. 3. 11	1. 32. 6	− 2. 29·6	89. 51. 41·1					J H
			89. 52. 90	50	45	89. 53. 1·7	1. 2. 47	1. 1. 17			− 1. 16·1	89. 51. 45·6					J H
			89. 51. 60	15	13	89. 51. 29·3	1. 5. 2	1. 3. 32			+ 0. 14·0	89. 51 43·4	89. 51. 42·2	0·0	0·0	89. 51. 42·2	J H

Sept. 5. The minute of Vernier A in the second observation was recorded one minute too small.

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, 1841.	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	° ′ ″	′ ″	° ′ ″	° ′ ″	″	″	° ′ ″	
Sept. 13	Polaris.....	100·194	89. 49. 93	50	48	89. 50. 3·7	1. 7. 3	1. 5.33	1. 3.11	1.32. 6	+ 1.34·8	89.51.38·5					JH
			89. 48. 60	20	18	89. 48. 32·7	1. 9.25	1. 7.55			+ 3. 9·6	89.51.42·3					JH
Oct. 12	Polaris.....	100·194	89.53.100	50	55	89. 54. 8·3	1. 0.15	0.59.47	1. 3.17	1.31.55	− 2.19·9	89.51.48·4					G
			89.51.80	25	35	89.51.46·7	1. 3.40	1. 3.12			− 0. 3·3	89.51.43·3					G
			89.50.75	25	25	89.50.41·7	1. 5.35	1. 5. 7			+ 1.13·3	89.51.55·0					G
			89.47.65	20	15	89.47.33·3	1.10. 7	1. 9.39			+ 4.14·5	89.51.47·9	89.51.49·5	+ 6·3	+ 8·9	89.51.58·4	G
			89.46.45	0	10	89.46.18·3	1.12. 3	1.11.35			+ 5.31·8	89.51.50·1					G
			89.43.85	30	40	89.43.51·7	1.15.47	1.15.19			+ 8. 0·9	89.51.52·6					G
Oct. 15	Polaris.....	100·194	89.49.45	0	10	89.49.18·3	1. 7.20	1. 6.55	1. 3.17	1.31.54	+ 2.25·3	89.51.43·6					G
			89.46.80	25	35	89.46.46·7	1.11.15	1.10.50			+ 5. 1.8	89.51.48·5					G
			89.45.90	45	50	89.46. 1·7	1.12.15	1.11.50			+ 5.41·7	89.51.43·4	89.51.44·3	+ 3·8	+ 5·4	89.51.49·7	G
			89.44.83	45	60	89.45. 2·7	1.13.35	1.13.10			+ 6.35·0	89.51.37·6					G
			89.43.85	40	55	89.44. 0·0	1.15.25	1.15. 0			+ 7.48·2	89.51.48·2					G
Nov. 5	Polaris.....	100·194	89.46.52	7	14	89.46.24·3	1.10.52	1.11.13	1. 3.15	1.31.46	+ 5.17·9	89.51.42·3					D
			89.44.90	55	60	89.45. 8·3	1.13. 0	1.13.21			+ 6.43·0	89.51.51·4					D
			89.43.92	47	57	89.44. 5·3	1.14.37	1.14.58			+ 7·47·5	89.51.52·8					D
			89.42.75	40	47	89.42.54·0	1.16.17	1.16.38			+ 8.54·0	89.51.48·0	89.51.47·0	+ 5·5	+ 7·7	89.51.54·7	D
			89.41.75	42	50	89.41.55·7	1.17.40	1.18. 1			+ 9.49·1	89.51.44·8					D
			89.40.73	35	42	89.40.50·0	1.19.16	1.19.37			+10.52·8	89.51.42·8					D
			89.39.70	30	35	89.39.45·0	1.21. 0	1.21.21			+12. 2·0	89.51.47·0					D
Nov. 6	Polaris.....	100·194	89.37.95	58	55	89.38. 9·3	1.23. 3	1.23.24	1. 3.15	1.31.46	+13.23·7	89.51.33·1					JH
			89.36.78	47	45	89.36.56·7	1.24.41	1.25. 2			+14.28·6	89.51.25·2					JH
			89.35.90	50	50	89.36. 3·3	1.26. 6	1.26.27			+15.24·7	89.51.28·0	89.51.29·7	− 2·7	− 3·7	89.51.26·0	JH
			89.35.36	0	0	89.35.12·0	1.27.31	1.27.51			+16.20·4	89.51.32·4					JH
Nov. 24	Polaris.....	100·194	89.46.75	45	48	89.46.56·0	1. 9. 6	1.10. 6	1. 3. 8	1.31.40	+ 4.37·8	89.51.33·8					D
			89.45.80	45	40	89.45.55·0	1.10.56	1.11.56			+ 5.50·8	89.51.45·8					G
			89.43.60	25	30	89.43.38·3	1.14.32	1.15.32			+ 8.14·2	89.51.52·5	89.51.45·2	+ 5·1	+ 7·1	89.51.52·3	D
			89.42.30	0	5	89.42.11·7	1.16.37	1.17.37			+ 9.37·1	89.51.48·8					G
Dec. 3	δ Ursæ Min. S.P.	100·194	89.58.70	35	30	89.58.45·0	6.26.32	6.28. 7	18.22.53	3.24.23	− 6.58·8	89.51.46·2					G
			90. 2.60	15	10	90. 2.28·3	6.29.15	6.30.50			−10.36·2	89.51.52·1					G
			90. 4.80	30	30	90. 4.46·7	6.31. 8	6.32.43			−13. 6·9	89.51.39·7	89.51.49·8	+ 6·3	+ 7·4	89.51.57·2	G
			90. 7.90	50	50	90. 8. 3·3	6.33.20	6.34.55			−16. 3·0	89.52. 0·3					G
			90. 9.75	35	30	90. 9.46·7	6.34.45	6.36.20			−17.55·8	89.51.50·9					G
Dec. 6	δ Ursæ Min. S.P.	100·194	90. 7.57	33	28	90. 7.39·3	6.32.46	6.34.34	18.22.52	3.24.24	−15.36·1	89.52. 3 3					JH
			90. 9.93	57	54	90.10. 8·0	6.34.41	6.36.29			−18. 9·2	89.51.58 8					JH
			90.12.55	23	23	90.12.33·7	6.36.32	6.38.20			−20.37·1	89.51.56·6	89.51.57·3	+ 1·7	+ 2·0	89.51.59·3	JH
			90.14.92	58	56	90.15. 8·7	6.38.30	6.40.18			−23.14·2	89.51.54·5					JH
			90.17.40	12	9	90.17.20·3	6.40.10	6.41.58			−25.27·2	89.51.53·1					JH
Dec. 13	Polaris.....	100·194	89.55.90	50	55	89.56. 5·0	0 57.16	0.56.32	1. 2.57	1.31.35	− 4.15·6	89.51.49·4					D
			89.54.75	37	40	89.54.50·7	0.59. 3	0.58.19			− 3. 4·6	89.51.46·1					D
			89.53.60	23	30	89.53.37·7	1. 1. 1	1. 0.17			− 1.46·2	89.51.51·4	89.51.49·9	+ 9·3	+13·0	89.52. 2·9	D

Nov. 6. The star was exceedingly tremulous: there was a heavy vapour in the air. The observations are very indifferent.

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, 1841.	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	° ′ ″	′ ″	° ′ ″	° ′ ″	ft	″	° ′ ″	
Dec. 13	Polaris	100·194	89. 52. 57	18	23	89. 52. 32·7	1. 2. 35	1. 1. 51	1. 2. 57	1. 31. 35	− 0. 43·8	89. 51. 48·9					D
			89. 51. 47	10	15	89. 51. 24·0	1. 4. 19	1. 3. 35			+ 0. 25·2	89. 51. 49·2					D
			89. 49. 90	57	70	89. 50. 12·3	1. 6. 15	1. 5. 31			+ 1. 42·25	89. 51. 54·6					D
Dec. 30	Polaris S.P....	100·194	89. 56. 110	50	55	89. 57. 11·7	13. 11. 30	13. 11. 53	1. 2. 44	1. 31. 32	− 5. 40·6	89. 51. 31·0					O
			89. 58. 95	50	50	89. 59. 5·0	13. 14. 19	13. 14. 42			− 7. 25·4	89. 51. 39·6					O
			89. 59. 80	35	30	89. 59. 48·3	13. 15. 44	13. 16. 7			− 8. 18·1	89. 51. 30·2					O
			90. 0. 80	30	35	90. 0. 48·3	13. 17. 19	13. 17. 42			− 9. 17·0	89. 51. 31·3	89. 51. 34·9	+ 6·0	+ 7·5	89. 51. 42·4	O
			90. 1. 90	45	45	90. 2. 0·0	13. 19. 13	13. 19. 36			−10. 27·6	89. 51. 32·4					O
			90. 2. 90	50	55	90. 3. 5·0	13. 20. 50	13. 21. 13			−11. 27·6	89. 51. 37·4					O
			90. 3. 85	50	60	90. 4. 5·0	13. 22. 12	13. 22. 35			−12. 18·4	89. 51. 46·7					O
			90. 4. 72	30	20	90. 4. 40·7	13. 23. 36	13. 23. 59			−13. 10·3	89. 51. 30·4					O

A monthly mean 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 are deduced; and thus the following are formed, except in the month of November, two of whose results (those on the 6th and on the 8th) differ from the preceding and succeeding results, and also differ from a result obtained on the 15th, by means of the fixed mark which gave 89°.51′.53″. The observations on these days appear good; but perhaps the foot screws of the theodolite may have taken a temporary different bearing in their grooves. The mean of the month was obtained by combining the results of November 5 and of November 24.

Adopted Mean Readings for Astronomical South Meridian.

	° ′ ″
1840. November	269. 51. 42
December	269. 52. 2
1841. January	269. 52. 30
February	269. 52. 27
March	269. 52. 25
April	269. 52. 24
May	269. 52. 14
1841. June	269. 52. 24
July	269. 52. 36
August	269. 51. 48
September	269. 51. 46
October	269. 51. 55
November	269. 51. 55
December	269. 51. 55

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 every 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, or occasionally in the term observations.

The mean of each pair of adjacent readings of the micrometer is taken (giving three means), and the mean of these three is taken; and this mean 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 adopted result is converted into arc, supposing $1^r = 1'.34''.07$, and the quantity thus produced is added to the mean of verniers. From this is subtracted the constant given above in Article 12 of the permanent adjustments; and thus the number printed in the tabular observations is produced.

In the Extraordinary Observations, the micrometer frequently has not been used at all (its wire being retained in a definite position, and the theodolite being turned to follow the movements of the magnet); and the observations frequently have been single observations, and not pairs, or greater numbers of observations, separated 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 two upper pairs, however, have been used. 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, the distance between them is $0^{in}.92$ if they pass under the first pair of rollers, and about $1^{in}.3$ if they pass under the second.

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.

1840, Dec. $4^{d}.\ 2^{h}.$ An observation was made by Mr. Glaisher for the determination of the angle of torsion when the magnet was suspended by the highest pair of rollers (or those whose centers are nearest together) which are attached to the torsion circle. The result of this observation will be found below. After this, the silk suspending-skeins were placed under the second pair of rollers.

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

1840, Dec. 4^{d}. 2^{h}. Observations by Mr. Glaisher.

The torsion circle was first adjusted so that the magnet should be transverse to the estimated magnetic meridian when inserted in the stirrup with its marked end towards the East, and was then adjusted so that the magnet should be transverse to the meridian when inserted with its marked end towards the West. The difference of readings of the torsion circle was 54° + : the angle of torsion, therefore, was 27°.

The magnet, in both these observations, was made parallel to the north wall of the East cross of the Observatory.

1840, Dec. 5^{d}. Observations by Mr. Glaisher.

The brass bar was inserted in the stirrup, and made parallel to the north wall.

The division of the scale bisected by the vertical wire of the telescope was	^{d} 53·7	Torsion-circle reading	$^{\circ}$ ′ 0. 40

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

The division bisected by the wire was	^{d} 54·0	Torsion-circle reading	$^{\circ}$ ′ 331. 40

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

The division bisected by the wire was	^{d} 53·6	Torsion-circle reading	$^{\circ}$ ′ 29. 55

From these—

The torsion-circle reading when the marked end of magnet was towards the West —the torsion-circle reading when the brass bar was inserted = —	$^{\circ}$ ′ 29. 0
And the torsion-circle reading when the marked end of the magnet was towards the East—the torsion-circle reading when the brass bar was inserted = +	$^{\circ}$ ′ 29. 15

Therefore, the angle of torsion = 29°. 7′.

On inserting the magnet again with its marked end to the West, it was found necessary to turn the torsion circle so that its reading should be 333°.40′, in order that the division 54 of the scale should coincide with the vertical wire of the telescope; and on inserting the brass bar and making it parallel to the wall, the torsion circle read 2°.10′. It would therefore seem that the mirror had been touched, so as to give a circular motion to it to the amount of 2°.

1840, Dec. 6d. Observations by Mr. Glaisher.

The mirror was re-adjusted, leaving every screw certainly tight.

The brass bar was inserted, and made parallel to the North wall.

The division of the scale bisected by the vertical wire of the telescope was	51·3	Torsion-circle reading	2. 30

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

The division bisected by the wire was	51·3	Torsion-circle reading	334. 40

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

The division bisected by the wire was	51·0	Torsion-circle reading	30. 0

From these the angle of torsion appears to be 27°.40′.

1840, Dec. 6d.

When the brass bar was inserted, and made parallel to the North wall, the two suspension-threads were in a plane parallel to the North wall. By continuing the plane passing through them until it cut the East wall, a mark was made on the East wall, by means of which the magnet or brass bar was afterwards placed in the position supposed to be at right angles to the magnetic meridian.

With the marked end of the magnet to the East, the torsion circle read	25. 0
With the marked end of the magnet to the West, the torsion circle read	328. 10

The half difference is 28°.25′ for the angle of torsion.

1840, Dec. 6d.

The brass bar at right angles to the magnetic meridian.

The division of the scale bisected by the vertical wire of the telescope was	51·5	Torsion-circle reading	355. 50

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

The division bisected by the wire was	51·3	Torsion-circle reading	327. 40

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

The division bisected by the wire was	51·5	Torsion-circle reading	23. 20

From these the angle of torsion is 27°.50′.

1840, Dec. 19d. Observations by Messrs. Main and Glaisher.

The brass bar was inserted, and made to hang in a plane at right angles to the magnetic meridian.

The division of the scale bisected by the vertical wire of the telescope was	d 62·6	Torsion-circle reading	° ′ 356. 10

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

The division bisected by the wire was	d 62·7	Torsion-circle reading	° ′ 327. 40

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

The division bisected by the wire was	d 62·7	Torsion-circle reading	° ′ 24. 35

From these the angle of torsion is 28°.27′.

1840, Dec. 26d. Observations by Messrs. Main and Glaisher.

The brass bar was inserted, and at right angles to the magnetic meridian.

The division of the scale bisected by the vertical wire of the telescope was	d 61·40	Torsion-circle reading	° ′ 355. 58

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

The division bisected by the wire was	d 63·20	Torsion-circle reading	° ′ 327. 15

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

The division bisected by the wire was	d 63·18	Torsion-circle reading	° ′ 24. 45

From these the angle of torsion was considered to be about 28°.45′.

2. Determination of the angle of torsion when the magnet is suspended from the first pair of rollers.

1840, Dec. 4d. 2h. Observation by Mr. Glaisher.

The torsion circle was first adjusted so that the magnet should be transverse to the estimated magnetic meridian when inserted with marked end East, and again so that the magnet should take the same position when inserted with marked end West. The difference of readings of the torsion circle was 82°, and the angle of torsion therefore was 41°.

The suspending-skeins were then passed under the second pair of rollers, and the observations were made which have been given in detail. On 1841, Jan. 1, the skeins were again passed under the first pair of rollers, and the following observations were made :—

1841, Jan. 1d. Observations by 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.

The division of the scale bisected by the vertical wire of the telescope was	d 59·5	Torsion-circle reading	° ′ 356. 0

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

The division bisected by the wire was	d 59·2	Torsion-circle reading	° ′ 313. 55

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

The division bisected by the wire was	d 59·8	Torsion-circle reading	° ′ 35. 58

From this set of experiments the angle of torsion is 41°.1¼′.

1841, Jan. 1d. The brass bar was again 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 59·3	Torsion-circle reading	° ′ 356. 0

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

The division bisected by the wire was	d 58·9	Torsion-circle reading	° ′ 314. 0

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

The division bisected by the wire was	d 59·5	Torsion-circle reading	° ′ 36. 5

From this set of experiments, the angle of torsion is 41°. 2½′.

The magnet was then placed transverse to the magnetic meridian, by means of the mark on the East wall.

With its marked end to the West, the torsion circle read	° ′ 313. 55
With its marked end to the East, the torsion circle read	35. 50

The difference of the readings is 81°. 55′, the half of which is 40°. 58′ for the angle of torsion.

1841, Jan. 16d. Observations by 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 59·6	Torsion-circle reading	° ′ 356. 3

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

The division bisected by the wire.....	58·5	Torsion-circle reading	313. 55
,, ,, again.....	60·6	Torsion-circle reading	313. 58

From these it appears that 313°.56′ is very near the truth.

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

The division bisected by the wire was.....	59·8	Torsion-circle reading	36. 5

From this set of experiments the angle of torsion is 41°.4½′.

1841, March 2d. Observations by Mr. Glaisher.

The brass bar was inserted, and placed at right angles to the magnetic meridian.

The division of the scale bisected by the vertical wire of the telescope was.....	60·3	Torsion-circle reading	356. 0

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

The division bisected by the wire was.....	60·0	Torsion-circle reading	313. 30

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

The division bisected by the wire was.....	60·4	Torsion-circle reading	36. 28

The angle of torsion from this set of experiments is 41°.29′.

3. Determination of the time of vibration of the horizontal force magnet, when suspended from the second pair of rollers, and with its marked end to the West.

Observer, Mr. Glaisher. The reading of the torsion-circle was 327°.40′.

Day, 1840.	Clock Time of Division passing the Wire in the Eye-piece.	Intervals in Sidereal Time.	Mean.	Day, 1840.	Clock Time of Division passing the Wire in the Eye-piece.	Intervals in Sidereal Time.	Mean.
	s	s	s		s	s	s
Dec. 6d. 1h	4·7			Dec. 6d. 1h	32·0		
	21·0	16·3		*continued.*	47·5	15·5	
	37·2	16·2			4·8	17·3	16·3
	53·8	16·6			20·4	15·6	
	9·4	15·5			37·0	16·6	
	26·5	17·1			53·0	16·0	
	42·4	15·9			10·0	17·0	
	59·0	16·6			25·9	15·9	
	15·1	16·1			42·8	16·9	
		16·9			58·4	15·6	
						16·6	

Day, 1840.	Clock Time of Division passing the Wire in the Eye-piece.	Intervals in Sidereal Time.	Mean.	Day, 1840.	Clock Time of Division passing the Wire of the Eye-piece.	Intervals in Sidereal Time.	Mean.
	′	′	′		′	′	′
Dec. 6d. 1h *concluded.*	15·0 30·5	15·5		Dec. 6d. 7h *continued.*	45·0 3·0 19·0 34·0 50·2	15·6 18·0 16·0 15·0 16·2	16·2
Dec. 6d. 7h	57·0 13·0 29·4	16·0 16·4					

From these observations 16ˢ was used as the time of vibration.

4. Determination of the time of vibration of the horizontal force magnet, when suspended from the first pair of rollers.

Observer, Mr. Glaisher. The reading of the torsion-circle when the marked end was West, was 315°. 56′; and when the marked end was East, 36°. 5′.

Day, 1841.	Position of Marked End.	Clock Times of Extremes of Vibration.	Intervals in Mean Time.	Mean.	Position of Marked End.	Clock Times of Extremes of Vibration.	Intervals in Mean Time.	Mean.
		′	′	′		′	′	′
Jan. 1	West	30·5 53·0 14·5 35·0 57·0 18·0 40·0 1·5 22·5 43·5 5·5 26·0 48·0	22·5 21·5 20·5 22·0 21·0 22·0 21·5 21·0 21·0 22·0 20·5 22·0	21·50				
Jan. 15	West	59·0 19·8 40·5 1·0 23·5 45·3 5·5 28·4 50·0 11·0 33·5 55·0	20·8 20·7 20·5 22·5 21·8 20·2 22·9 21·6 21·0 22·5 21·5	21·45	East	40·0 59·0 18·5 37·8 57·5 17·2 36·0 55·8 16·0 36·2 55·0 15·0	19·0 19·5 19·3 19·7 19·7 18·8 19·8 20·2 20·2 18·8 20·0	19·55

Day, 1841.	Position of Marked End.	Clock Times of Extremes of Vibration.	Intervals of Mean Time.	Mean.	Position of Marked End.	Clock Times of Extremes of Vibration.	Intervals in Mean Time.	Mean.
		s	s	s		s	s	
March 2	West	20·8			East	50·0		
			21·7				20·5	
		42·5	22·1			10·5	19·7	
		4·6	21·2			30·2	18·7	
		25·8	21·9			48·9	20·1	
		47·7	22·1			9·0	20·3	
		9·8	21·1			29·3	19·6	
		30·9	21·8			48·9	19·1	
		52·7	21·3	21·71		8·0	19·9	19·73
		14·0	22·6			27·9	20·2	
		36·6	21·3			48·1	19·7	
		57·9	22·1			7·8	19·0	
		20·0	21·3			26·8	19·9	
		41·3				46·7		
March 8	West	51·0			East	7·3		
			22·6				19·7	
		13·6	21·9			27·0	19·8	
		35·5	20·5			46·8	19·2	
		56·0	22·3			6·0	20·0	
		18·3	22·5			26·0	19·2	
		40·8	20·2	21·64		45·2	20·6	19·65
		1·0	22·6			5·8	18·7	
		23·6	21·4			24·5	19·5	
		45·0	21·8			44·0	19·6	
		6·8	21·2			3·6	20·4	
		28·0	22·0			24·0	19·5	
		58·0				43·5		

On Jan. 15 the time of vibration was found to be 2s less when the marked end of the magnet was towards the East than when it was towards the West. On March 2 the same difference was found. On March 8 the meridian magnet was removed from the Observatory, and the difference was found to be the same; so that it was not at all owing to the meridian magnet. In consequence of this difference, experiments were made on the times of vibration and on the different readings of the scale for different readings of the torsion circle. The results are contained in the following tables. Observer, Mr. Glaisher.

Day, 1841.	Magnet Suspended from First Pair of Rollers with Its Marked End West.				Its Marked End East.			
	Torsion-Circle Reading.	Scale Reading.	Difference of Scale Reading for 1° of Torsion Circle.	Mean Times of Vibration.	Torsion-Circle Reading.	Scale Reading.	Difference of Scale Reading for 1° of Torsion Circle.	Mean Times of Vibration.
	°	d	d	s	°	d	d	s
March 14	312	48·78		21·70	33	29·71		19·17
			7·94				9·42	
	313	56·72	9·78	21·58	34	39·13	9·38	19·24
	314	66·50	8·72	21·45	35	48·51	6·64	19·30
	315	75·22	10·28	21·34	36	55·15	8·47	19·47
	316	85·50		21·00	37	63·62	9·81	19·65
					38	73·43		20·07

Day, 1841.	Magnet Suspended from First Pair of Rollers with Marked End West. Torsion-Circle Reading.	Scale Reading.	Difference of Scale Reading for 1° of Torsion Circle.	Mean Times of Vibration.	Marked End East. Torsion-Circle Reading.	Scale Reading.	Difference of Scale Reading for 1° of Torsion Circle.	Mean Times of Vibration.
	°	d	d	s	°	d	d	s
March 21	307	− 4·87		22·90	30	3·98		18·72
	308	+ 3·46	+ 8·33	22·80	31	12·26	8·28	18·73
	309	13·85	10·39	22·74	32	19·07	6·81	19·08
	310	24·23	10·38	22·50	33	28·25	9·18	19·20
	311	35·10	10·87	22·00	34	36·22	7·97	19·40
	312	44·97	9·87	21·84	35	45·08	8·86	19·52
	313	53·47	8·50	21·64	36	54·92	9·84	19·40
	314	64·03	10·56	21·58	37	64·13	9·21	19·80
	315	73·79	9·76	21·24	38	74·47	10·34	19·90
	316	83·11	9·32	21·35	39	80·59	6·12	19·88
	317	91·78	8·67	20·78	40	91·12	10·53	20·23

From both these sets of experiments it appeared, that with a reading of 317° of the torsion-circle when the marked end was West, and of 40° when the marked end was East, the time of vibration was nearly the same; and from the 2nd set it appears that the reading of the scale was the same with those readings. It was therefore determined to alter the reading of the torsion circle to 317°. The cause of the difference of the times of vibration before this alteration was, that the magnet was not truly transverse to the magnetic meridian.

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 in the 1st set of experiments, was..... 9·18 d
in the 2nd set of experiments, was..... 9·67
and when the marked end was East in the 1st set of experiments, was..... 8·74
in the 2nd set of experiments, was..... 8·71

March 31d. After the observation at 12h the reading of the torsion circle was changed from 313°. 56′ to 317°. With 313°. 56′ immediately before the change, the reading of the scale was 64d· 2−. With 317°, the mirror was so adjusted that the scale reading was 64d· 0 +, and in consequence of the experiments on March 21, the time of vibration was used as 20s· 8 after March 31d. 12h. Previous to this, the time of vibration in observation had been considered 21s· 5.

5. Determination of the effect of the declination magnet when placed at different inclinations to the magnetic meridian, on the horizontal force magnet when suspended from the second pair of rollers and with its marked end towards the West.

The declination magnet was first placed in its position, and was then removed to such

a distance that it had no effect on the horizontal force magnet. The division of the scale of the horizontal force magnet bisected by the vertical wire in the telescope was registered, both when the declination magnet was in its place and when it was removed. The angles of inclination are reckoned from the North magnetic meridian round by the East, the point of reference of the declination magnet being its marked end.

Observations by Messrs. Glaisher and Hind.

Day, 1840.	Inclination of Declination Magnet to Magnetic Meridian.	Declination Magnet 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 Declination Magnet in its place.	Reading with the Declination Magnet away — Reading with the Declination Magnet in its place.	Mean.
	°		d	d	d	d
Dec. 8	0	Away	55·24			
		In its place	55·49	55·50	+ 0·01	
		Away	55·75			
		In its place	55·80	55·43	− 0·37	
		Away	55·11			
		In its place	55·58	55·14	− 0·44	
		Away	55·17			− 0·240
		In its place	55·01	55·09	+ 0·08	
		Away	55·00			
		In its place	55·50	55·10	− 0·40	
		Away	55·19			
		In its place	55·55	55·23	− 0·32	
		Away	55·26			
	14	Away	55·26			
		In its place	55·50	55·32	− 0·18	
		Away	55·37			
		In its place	55·53	55·31	− 0·22	
		Away	55·25			
		In its place	55·55	55·24	− 0·31	
		Away	55·22			− 0·258
		In its place	55·51	55·18	− 0·33	
		Away	55·13			
		In its place	55·51	55·17	− 0·34	
		Away	55·21			
		In its place	55·35	55·18	− 0·17	
		Away	55·15			
	166	Away	55·40			
		In its place	55·12	55·25	+ 0·13	
		Away	55·10			
		In its place	54·76	55·08	+ 0·32	
		Away	55·05			
		In its place	55·08	55·09	+ 0·01	
		Away	55·13			+ 0·157
		In its place	55·04	55·16	+ 0·12	
		Away	55·20			
		In its place	54·95	55·14	+ 0·19	
		Away	55·08			
		In its place	55·05	55·22	+ 0·17	
		Away	55·35			

Day, 1840.	Inclination of Declination Magnet to Magnetic Meridian.	Declination Magnet 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 Declination Magnet in its place.	Reading with the Declination Magnet away—Reading with the Declination Magnet in its place.	Mean.
	°		d	d	d	d
Dec. 8 *continued.*	180	Away	55·13			
		In its place	54·98	55·28	+ 0·30	
		Away	55·42			
		In its place	54·98	55·38	+ 0·40	
		Away	55·33			
		In its place	54·75	55·22	+ 0·47	
		Away	55·11			+ 0·348
		In its place	55·02	55·30	+ 0·28	
		Away	55·49			
		In its place	54·94	55·24	+ 0·30	
		Away	54·98			
		In its place	54·85	55·19	+ 0·34	
		Away	55·40			
	194	Away	55·35			
		In its place	54·95	55·30	+ 0·35	
		Away	55·25			
		In its place	54·95	55·26	+ 0·31	
		Away	55·27			
		In its place	54·85	55·25	+ 0·40	
		Away	55·23			+ 0·320
		In its place	54·80	55·21	+ 0·41	
		Away	55·19			
		In its place	54·88	55·14	+ 0·26	
		Away	55·08			
		In its place	54·88	55·07	+ 0·19	
		Away	55·05			
	346	Away	55·15			
		In its place	55·35	55·17	− 0·18	
		Away	55·20			
		In its place	55·35	55·19	− 0·16	
		Away	55·18			
		In its place	55·30	55·16	− 0·14	
		Away	55·14			− 0·145
		In its place	55·30	55·22	− 0·08	
		Away	55·29			
		In its place	55·32	55·20	− 0·12	
		Away	55·10			
		In its place	55·30	55·11	− 0·19	
		Away	55·12			

From the numbers contained in the last column of this table it appears, that

When the declination magnet is inclined to the North magnetic meridian	The marked end of the horizontal force magnet approaches the
0° with its marked end to the North,	North by 0·240 of the scale,
180 with its marked end to the South,	South by 0·348 of the scale,
14 with its marked end to the North,	North by 0·258 of the scale,
194 with its marked end to the South,	South by 0·320 of the scale,
166 with its marked end to the South,	South by 0·157 of the scale,
346 with its marked end to the North,	North by 0·145 of the scale,

As the declination magnet is always about 0°, and the horizontal force magnet was always with its marked end to the West, it may be considered that all readings of the latter are too large by $0^{d}\cdot 2$. This has not been taken into account in the reductions: it will apply from 1840, Dec. 7, to 1840, Dec. 31.

6. Determination of the effect of the declination magnet when placed at different inclinations to the magnetic meridian, on the horizontal force magnet when suspended from the first pair of rollers, and with its marked end towards the West.

The observations were made as on 1840, Dec. 8: the results are contained in the following table.

Observations by Messrs. Glaisher and Hind.

Day, 1841.	Inclination of Declination Magnet to Magnetic Meridian.	Declination Magnet away or in its place.	Readings of Scale.	Mean of Readings, the one preceding and the other following that for the Declination Magnet in its place.	Reading with the Declination Magnet away — Reading with the Declination Magnet in its place.	Mean.
	°		d	d	d	d
Jan. 30	0	Away	60·943			
		In its place	61·405	60·944	— 0·461	
		Away	60·945			
		In its place	61·160	60·928	— 0·232	
		Away	60·910			
		In its place	61·452	60·905	— 0·547	— 0·388
		Away	60·900			
		In its place	61·225	60·924	— 0·301	
		Away	60·948			
		In its place	61·275	60·878	— 0·397	
		Away	60·808			
	14	Away	60·808			
		In its place	61·360	60·873	— 0·487	
		Away	60·938			
		In its place	61·430	60·894	— 0·536	
		Away	60·850			
		In its place	61·443	60·984	— 0·459	— 0·517
		Away	61·118			
		In its place	61·323	60·917	— 0·405	
		Away	60·715			
		In its place	61·413	60·714	— 0·699	
		Away	60·713			
	166	Away	60·713			
		In its place	60·503	60·633	+ 0·130	
		Away	60·553			
		In its place	60·478	60·619	+ 0·141	
		Away	60·685			
		In its place	60·435	60·680	+ 0·245	+ 0·180
		Away	60·675			
		In its place	60·420	60·663	+ 0·243	
		Away	60·650			
		In its place	60·485	60·628	+ 0·143	
		Away	60·605			

Day, 1841.	Inclination of Declination Magnet to Magnetic Meridian.	Declination Magnet away or in its place.	Readings of Scale.	Mean of Readings, the one preceding and the other following that for the Declination Magnet in its place.	Reading with the Declination Magnet away — Reading with the Declination Magnet in its place.	Mean.
	°		d	d	d	d
Jan. 30 *continued.*	180	Away	60·530			
		In its place	60·277	60·529	+ 0·252	
		Away	60·528			
		In its place	60·305	60·614	+ 0·309	
		Away	60·700			
		In its place	60·288	60·602	+ 0·314	+ 0·277
		Away	60·505			
		In its place	60·088	60·415	+ 0·327	
		Away	60·325			
		In its place	60·200	60·382	+ 0·182	
		Away	60·440			
	194	Away	60·605			
		In its place	60·218	60·620	+ 0·402	
		Away	60·635			
		In its place	60·163	60·679	+ 0·516	
		Away	60·723			
		In its place	60·083	60·660	+ 0·577	+ 0·466
		Away	60·598			
		In its place	60·085	60·570	+ 0·485	
		Away	60·543			
		In its place	60·200	60·550	+ 0·350	
		Away	60·558			
	346	Away	60·558			
		In its place	60·870	60·589	− 0·281	
		Away	60·620			
		In its place	60·830	60·570	− 0·260	
		Away	60·520			
		In its place	60·875	60·559	− 0·316	− 0·264
		Away	60·598			
		In its place	60·800	60·608	− 0·192	
		Away	60·618			
		In its place	60·845	60·574	− 0·271	
		Away	60·530			

7. Determination of the effect of the declination magnet, when placed at different inclinations to the magnetic meridian, on the horizontal force magnet when suspended from the first pair of rollers, and with its marked end towards the East.

Observations by Messrs. Glaisher and Hind.

The experiments were made exactly as in the last set.

Day, 1841.	Inclination of Declination Magnet to Magnetic Meridian.	Declination Magnet away or in its place.	Readings of Scale.	Mean of Readings, the one preceding and the other following that for the Declination Magnet in its place.	Reading with the Declination Magnet away — Reading with the Declination Magnet in its place.	Mean.
	°		d	d	d	d
Jan. 30	0	Away	56·470			
		In its place	56·143	56·501	+ 0·358	
		Away	56·533			
		In its place	56·075	56·471	+ 0·396	
		Away	56·410			
		In its place	56·128	56·424	+ 0·296	+ 0·229
		Away	56·438			
		In its place	56·038	56·149	+ 0·011	
		Away	55·860			
		In its place	55·925	56·007	+ 0·082	
		Away	56·155			
	14	In its place	56·155			
		Away	55·905	56·234	+ 0·329	
		In its place	56·313			
		Away	55·975	56·332	+ 0·357	
		In its place	56·350			
		Away	55·900	56·313	+ 0·413	+ 0·382
		In its place	56·275			
		Away	55·950	56·275	+ 0·325	
		In its place	56·275			
		Away	55·850	56·338	+ 0·488	
		In its place	56·400			
	166	Away	56·400			
		In its place	56·475	56·300	− 0·175	
		Away	56·200			
		In its place	56·450	56·288	− 0·162	
		Away	56·375			
		In its place	56·350	56·259	− 0·091	− 0·170
		Away	56·143			
		In its place	56·440	56·122	− 0·318	
		Away	56·100			
		In its place	56·200	56·094	− 0·106	
		Away	56·088			
	180	In its place	56·088			
		Away	56·340	56·104	− 0·236	
		In its place	56·120			
		Away	56·200	56·122	− 0·078	
		In its place	56·125			
		Away	56·300	56·000	− 0·300	− 0·218
		In its place	55·875			
		Away	56·238	55·950	− 0·288	
		In its place	56·025			
		Away	56·275	55·888	− 0·387	
		In its place	55·750			
	194	Away	55·750			
		In its place	56·100	56·025	− 0·075	
		Away	56·300			

Day, 1841.	Inclination of Declination Magnet to Magnetic Meridian.	Declination Magnet away or in its place.	Readings of Scale.	Mean of Readings, the one preceding and the other following that for the Declination Magnet in its place.	Reading with the Declination Magnet away — Reading with the Declination Magnet in its place.	Mean.
	°		d	d	d	d
Jan. 30 *continued.*	194	In its place	56·125	56·100	− 0·025	
		Away	55·900			
		In its place	56·200	56·100	− 0·100	− 0·175
		Away	56·300			
		In its place	56·400	56·087	− 0·313	
		Away	55·875			
		In its place	56·250	55·888	− 0·362	
		Away	55·900			
	346	Away	55·900			
		In its place	55·700	55·925	+ 0·225	
		Away	55·950			
		In its place	55·688	55·875	+ 0·187	
		Away	55·800			
		In its place	55·475	55·900	+ 0·425	+ 0·222
		Away	56·000			
		In its place	55·625	55·900	+ 0·275	
		Away	55·800			
		In its place	55·800	55·800	0·000	
		Away	55·800			

From the numbers contained in the last columns of the two preceding sets of experiments, it appears, that when

The marked end of the declination magnet was inclined to the north magnetic meridian (the angles being reckoned from the North round by the East)	The marked end of the horizontal force magnet being to the West, it approached the	The marked end of the horizontal force magnet being to the East, it approached the
°	d	d
0 with its marked end North,	North by 0·388 of the scale,	North by 0·229 of the scale,
180 with its marked end South,	South by 0·277 of the scale,	South by 0·218 of the scale,
14 with its marked end North,	North by 0·517 of the scale,	North by 0·382 of the scale,
194 with its marked end South,	South by 0·466 of the scale,	South by 0·175 of the scale,
166 with its marked end South,	South by 0·180 of the scale,	South by 0·170 of the scale,
346 with its marked end North.	North by 0·264 of the scale.	North by 0·222 of the scale.

Now as the declination magnet is always about 0°, and the horizontal force magnet has always been with its marked end to the West, it may be considered that the declination magnet has always caused the horizontal force magnet to read too large by $0^{d}\cdot3$. By the numbers in this abstract it appears that the effect is greater when the marked end

of the declination magnet is East of its mean place than when it is West of it. The correction has not been taken into account in the reductions; it applies from 1841, Jan. 1, to the time when the vertical force magnet was placed in the Observatory.

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

The marked end of the vertical force magnet was towards the East; it was first placed in its Y's, and was then taken a considerable distance from the Observatory by Mr. Glaisher, who was assisted in the other parts of the experiments, on May 10 and May 17 by Mr. Dunkin, and on May 21 by Mr. Paul. The reading of the scale of the horizontal force magnet corresponding to the division bisected by the vertical wire of the telescope, was registered every time the vertical force magnet was in its place and every time it was away. The results are contained in the following table :—

Day, 1841.	Vertical Force Magnet 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 Vertical Force Magnet in its place.	Reading with the Vertical Force Magnet away — Reading with the Vertical Force Magnet in its place.	Mean.
		d	d	d	d
May 10	Away	59·228			
	In its place	58·980	59·229	+ 0·249	
	Away	59·230			
	In its place	59·333	59·460	+ 0·127	
	Away	59·690			
	In its place	60·088	59·778	− 0·310	
	Away	59·865			
	Away	60·278			
	In its place	59·850	60·296	+ 0·446	+ 0·115
	Away	60·313			
	In its place	60·380	60·437	+ 0·057	
	Away	60·560			
	In its place	60·425	60·562	+ 0·137	
	Away	60·563			
	In its place	60·340	60·444	+ 0·104	
	Away	60·325			
May 17	Away	60·200			
	In its place	60·025	60·138	+ 0·113	
	Away	60·075			
	In its place	60·138	60·107	− 0·031	
	Away	60·138			
	In its place	59·938	60·172	+ 0·234	
	Away	60·205			
	In its place	60·062	60·113	+ 0·051	
	Away	60·020			+ 0·100
	In its place	60·005	60·024	+ 0·019	

Day, 1841.	Vertical Force Magnet 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 Vertical Force Magnet in its place.	Reading with the Vertical Force Magnet away — Reading with the Vertical Force Magnet in its place.	Mean.
		d	d	d	d
May 17 *continued.*	Away	60·028			
	In its place	59·875	60·127	+ 0·252	
	Away	60·225			
	In its place	60·000	60·207	+ 0·207	
	Away	60·188			
	In its place	60·195	60·147	− 0·048	
	Away	60·105			
May 21	Away	59·600			
	In its place	59·495	59·505	+ 0·010	
	Away	59·410			
	In its place	59·480	59·400	− 0·080	
	Away	59·390			
	In its place	59·510	59·408	− 0·102	
	Away	59·425			
	In its place	59·400	59·384	− 0·016	
	Away	59·343			
	In its place	59·375	59·339	− 0·036	
	Away	59·335			− 0·032
	In its place	59·410	59·409	− 0·001	
	Away	59·483			
	In its place	59·483	59·442	− 0·041	
	Away	59·400			
	In its place	59·468	59·465	− 0·003	
	Away	59·530			
	In its place	59·495	59·480	− 0·015	
	Away	59·430			
	In its place	59·475	59·438	− 0·037	
	Away	59·445			

On May 10 magnetic changes were going on during the experiments. On May 18 circumstances were more favourable; and on May 21 every circumstance was favourable. Giving, therefore, a weight of $\frac{1}{4}$ to the first set, $\frac{1}{2}$ to the second, and of 1 to the third set, the mean is + 0·027.

Therefore, the mean effect of the vertical force magnet is to diminish the scale readings by 0·03, or to cause the marked end of the magnet to approach the South by the corresponding angle. It may be considered that the vertical force magnet has no effect on the horizontal force magnet.

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

When the magnets were in their places, the marked end of the vertical force magnet

was towards the East, that of the declination magnet towards the North. While they were in this situation, that division of the scale was registered which coincided with the vertical wire in the telescope. The magnets were then removed to some distance from the Observatory, the division of the scale again registered, and so on successively. All parts of the experiments connected with the vertical force magnet were performed by Mr. Glaisher. Messrs. Dunkin and Hind assisted in the other parts of the experiments.

Day, 1841.	Vertical Force and Declination Magnets away or in their places.	Mean Reading of the Scale of the Horizontal Force Magnet.	Mean of Readings, the one preceding and the other following that for the Vertical Force and Declination Magnets in their places.	Reading with the Vertical Force and Declination Magnets away — Reading with the Vertical Force and Declination Magnets in their places.	Mean.
		d	d	d	d
May 23	Away	58·315			
	In their places	58·590	58·218	— 0·372	
	Away	58·120			
	In their places	58·340	57·948	— 0·392	
	Away	57·775			
	In their places	58·590	57·870	— 0·720	
	Away	57·965			— 0·487
	In their places	58·640	58·065	— 0·575	
	Away	58·165			
	In their places	58·520	58·139	— 0·381	
	Away	58·113			
	In their places	58·713	58·229	— 0·484	
	Away	58·345			

The mean compound effect of the two magnets, from the number in the last column, is 0·487 division of the scale, by which the scale readings are increased, or by which the marked end is made to approach the North: the correction is therefore subtractive. From all observations taken between May $26^d.\ 2^h$ and June $2^d.\ 2^h.\ 10^m$, $0^d{\cdot}487$ has been deducted. After June $2^d.\ 2^h.\ 10^m$ the scale was moved, so that all readings of it are less by $0^d{\cdot}5$ than they would have been if it had remained unmoved.

10. 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 disturbs the magnet through one division of the scale.

1840, Dec. 21^d.

Mr. Main very carefully measured the distance between the division 40 on the scale and the center of the mirror, as follows:

	ft. in.
The distance from 40^d on the scale to the glass in front of the box and opposite to the center of the mirror	= 8.0·7
The distance from the glass to the center of the face of the mirror	4·0

Therefore, the whole distance = $8^{ft}.\ 4^{in}{\cdot}7$.

Mr. Main also measured two feet on the scale, and found that 61·8 divisions of the scale corresponded exactly to two feet.

1840, Dec. 24^d.

Mr. Glaisher measured the distance between the division 40 of the scale and the center of the mirror in the following manner:—A small weight was suspended by a thread; the thread was then moved until it just touched the center of the face of the mirror; the lid of the box was then moved, so as just to touch the thread, and a mark was made on it. This mark was therefore in the vertical, touching the mirror in the center of its face. The distance of this mark upwards, from the center of the mirror, was then measured, and a mark was made on the wall immediately above the division 40 of the scale, at an elevation equal to this vertical distance, as measured from the center of the figures on the scale. The distance was then measured on a line joining these two points between the point on the lid of the box and a perpendicular just touching the face of the scale = $8^{ft}.\ 5^{in}\cdot 2-$.

Next, the distance between the division 40 on the scale and the glass in front of the box, in the vertical plane passing through the mark on the lid of the box and the mark on the wall, was = $8^{ft}.\ 0^{in}\cdot 8$.

	in.
And the distance in the same plane between the glass and the mirror, was.....	4·3

Therefore, the whole distance was $8^{ft}.\ 5^{in}\cdot 1$.

Each division of the scale = $\frac{12}{10\cdot 5}$ inch, and consequently, the value of one division of the scale was $13'.12''\cdot 32$, or for one division of the scale, the mirror is turned through an arc of $6'.36''\cdot 16$.

With the second pair of rollers, the adopted angle of torsion was $28°.30'$; 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 0·0035374. This was the number to be used to 1840, Dec. 31^d. 12^h.

With the first pair of rollers, the adopted angle of torsion was $41°.2'.50''$; from which the inferred value of one division of the scale in terms of the whole horizontal force is 0·0022057. And this was applicable from 1841, Jan. 1, to 1841, Dec. 31.

In consequence of trifling errors, the numbers actually used are 0·003551 and 0·002214.

11. Determination of the correction for the effect of temperature on the horizontal force magnet.

In the month of April 1843 an apparatus was erected for observation of deflexions in the form proposed by Dr. Lamont. A graduated circle (formerly used as the setting-circle of the transit instrument) is attached to a fixed tripod stand, with its plane hori-

zontal; upon a pin in the center turns horizontally a plank; upon the center of the plank is fixed the box and suspension-apparatus for the magnet which is to be deflected (the magnet carrying a mirror); at one end of the plank is fixed a telescope (with a wire in its focus) and a short scale, to be viewed by reflection in the mirror (only one adopted division, however, of the scale being used); and on the other end is placed, at arbitrary distances, a copper trough, having a proper resting-place for the deflecting magnet, which trough can be filled with water of any desired temperature. Thus (in turning the plank) the deflecting magnet, the telescope, the scale, and the suspending-skein, all turn together; and, the observation being always made by turning the plank till the adopted division of the scale is seen under the wire of the telescope, the relative position of the magnets and the torsion of the skein are always the same. It is evident that several causes of doubt, both theoretical and practical, are thus entirely removed. The deflexion of the magnet, or (which is the same thing) the angular movement of the plank, is measured by means of two micrometer-microscopes, fixed to the plank and reading the divisions of the graduated circle.

The proportion of the deflecting force of the magnet to the directive force of terrestrial horizontal magnetism, is evidently the same as that of the sine of the angle of deflexion to radius.

In the following observations, the deflecting magnet was always placed with its end towards the deflected magnet, and was on its Eastern side (sometimes North of the East and sometimes South of the East). The position of the deflected magnet for no deflecting force was determined from time to time by making similar observations when the deflecting magnet was removed. The changes of position for no deflection do not correspond exactly with those of the declination magnet. The adopted readings for no deflecting force at each observation were found by interpolation between those observed, on the supposition that their changes were proportional to the time.

Observations of the Deflection of a 2-Feet Magnet by the Horizontal Force Magnet, at Different Temperatures, in Lamont's Method.

Day, 1843.	Position of marked End of Horizontal Force Magnet.	Distance of Centers of Magnets.	Temperature of Horizontal Force Magnet.	Circle Reading.	Adopted Reading for no Deflecting Force.	Deflection.	Its Natural Sine.
		ft. in.	°	° ′ ″	° ′ ″	° ′ ″	
April 20	Away	...	....	24. 16. 16·6			
	W	4. 0	67·7	49. 17. 17·9	24. 16. 56·8	25. 0. 21·1	0·42258
	W	4. 0	67·7	49. 17. 1·2	24. 17. 37·1	24. 59. 24·1	
	W	4. 0	118·8	48. 58. 58·5	24. 18. 17·3	24. 40. 41·2	0·41750
	W	4. 0	103·0	49. 1. 41·0	24. 18. 57·5	24. 42. 43·5	0·41806
	W	4. 0	76·7	49. 9. 6·9	24. 19. 37·7	24. 49. 29·2	0·41985
	Away	...	....	24. 20. 17·9			

Day, 1843.	Position of marked End of Horizontal Force Magnet.	Distance of Centers of Magnets.	Temperature of Horizontal Force Magnet.	Circle Reading.	Adopted Reading for no Deflecting Force.	Deflection.	Its Natural Sine.
		ft. in.	°	° ′ ″	° ′ ″	° ′ ″	
April 21	Away	...	....	24. 14. 16·7			
	W	4. 0	55·2	49. 7. 5·1	24. 14. 56·1	24. 52. 9·0	0·42055
	W	4. 0	126·8	48. 44. 40·8	24. 15. 35·6	24. 29. 5.2	0·41447
	W	4. 0	106·3	48. 48. 2·8	24. 16. 15·0	24. 31. 47·8	0·41517
	W	4. 0	91·0	48. 50. 45·9	24. 16. 54·4	24. 33. 51·5	0·41570
	W	4. 0	73·4	48. 58. 39·1	24. 18. 13·3	24. 40. 25·8	0·41745
	Away	...	....	24. 18. 52·7			
April 29	Away	...	....	24. 32. 2·9			
	W	4. 0	54·8	49. 24. 45·2	24. 32. 59·2	24. 51. 46·0	0·42045
	Away	...	....	24. 34. 51·7			
	W	4. 0	139·0	49. 4. 35·0	24. 35. 32·4	24. 29. 2·6	0·41444
	W	4. 0	126·0	49. 8. 54·3	24. 36. 53·9	24. 32. 0·4	0·41522
	Away	...	....	24. 38. 15·4			
	W	4. 0	54·0	49. 20. 21·9	24. 38. 45·5	24. 41. 36·4	0·41776
	Away	...	....	24. 39. 45·8			
	W	4. 0	140·0	49. 2. 56·5	24. 39. 38·9	24. 23. 17·6	0·41292
	Away	...	....	24. 39. 25·2			
April 20	Away	...	....	24. 20. 17·9			
	W	4. 6	123·0	41. 33. 16·1	24. 20. 52·5	17. 12. 23·6	0·29578
	W	4. 6	115·0	41. 38. 2·6	24. 21. 9·9	17. 16. 52·7	0·29705
	W	4. 6	79·5	41. 42. 50·9	24. 22. 1·8	17. 20. 49·1	0·29816
	W	4. 6	58·0	41. 45. 24·1	24. 22. 53·8	17. 22. 30·3	0·29863
	Away	...	....	24. 23. 11·3			
April 29	Away	...	....	24. 32. 2·9			
	E	4. 0	57·6	1. 2. 40·3	24. 33. 55·4	23. 31. 15·1	0·39908
	Away	...	....	24. 34. 51·7			
	E	4. 0	133·0	1. 28. 35·3	24. 36. 13·2	23. 7. 37·9	0·39277
	E	4. 0	120·7	1. 24. 31·5	24. 37. 34·7	23. 13. 3·2	0·39422
	Away	...	....	24. 38. 15·4			
	E	4. 0	54·0	1. 12. 6·3	24. 39. 15·7	23. 27. 9·4	0·39799
	Away	...	....	24. 39. 45·8			
	E	4. 0	132·7	1. 31. 47·7	24. 39. 32·1	23. 7. 44·4	0·39281
	Away	...	....	24. 39. 25·2			

The difference between the deflections with marked end East and marked end West, may arise from unsymmetrical distribution of the magnetism of the deflecting bar, or from a small error in the horizontal adjustments of the apparatus, which allowed the magnet to swing nearer to the deflecting bar in one position than in the other. It is unimportant in this investigation.

From these observations we obtain the following results (the observation at temperature 91°·0 on April 21 being omitted, and the mean of the two observations at temperatures 139°·0 and 140°·0 on April 29 being used as a single observation):

Marked end West, distance 4 feet.

The mean of 6 observations at low temperatures gives

At temperature 63°·63, the nat. sine of deflexion = 0·419773

The mean of 6 observations at high temperatures, distributed in the same manner over the same days of observation, gives

At temperature 120°·07, the nat. sine of deflexion = 0·415683

Therefore,

Change of natural sine for 56°·44 = 0·004090
Change of natural sine for 1° = 0·00007246

Referring to 55° as the temperature to which the estimation of small changes of force nearly applies,

Natural sine expressing whole force = 0·42 nearly.

Hence, $\frac{\text{change of force for } 1^\circ}{\text{whole force.}} = 0{\cdot}0001725.$

Marked end West, distance $4^{ft}.\ 6^{in}$.

The mean of 2 observations at low temperatures gives

At temperature 68°·75, the nat. sine of deflexion = 0·298395

The mean of 2 observations at high temperatures gives

At temperature 119°·0, the nat. sine of deflexion = 0·296415

Therefore,

Change for 50°. 25 ..... = 0·001980
Change for 1° ..... = 0·00003940

Also,

Natural sine expressing whole force at temp. 55° = 0·2987

Hence, $\frac{\text{change of force for } 1^\circ}{\text{whole force}} = 0{\cdot}0001324.$

Marked end East, distance 4 feet.

The mean of 2 observations at low temperatures gives

At temperature 55°·8, the nat. sine of deflexion = 0·398535

The mean of 3 observations at high temperatures gives

At temperature 128°·8, the nat. sine of deflexion = 0·393267

Therefore,

Change for 73° ..... = 0·005268
Change for 1° ..... = 0·00007217

Also,

Natural sine expressing whole force at temp. 55° = 0·3980

Hence, $\frac{\text{change of force for } 1^\circ}{\text{whole force}} = 0{\cdot}0001813.$

Giving to the three determinations the weights 12, 3, and 5, the mean result for $\frac{\text{change of force for } 1^\circ}{\text{whole force}} = 0{\cdot}0001686.$ The number adopted in the Abstracts, &c., is 0·00017. This is *not* applied in the various sections of observations.

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 that the magnet carries. On looking into the telescope, the graduations of the fixed scale are seen; and, in 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 determination is to be adopted (usually $2^m.\ 30^s$ after the time for the determination with the declination magnet) having been calculated, the first observation is made 30^s before that time, and three others are then made, following at 20^s, 40^s, and 60^s after the first. The observation consists simply in noting the division which is seen under the wire at the pre-arranged instant. After 1840, Dec. $21^d.\ 2^h.\ 10^m$, a different method was adopted: the observer applied his eye to the telescope 10^s earlier than the earliest of these times, and then observed the four next extreme points of vibration of the scale. The mean of these is adopted in the same manner as for the declination observations. From this mean the constant 50·000 is subtracted (50·487 being used from May $26^d.\ 2^h$ to June $2^d.\ 2^h.\ 10^m$, for the reason given in Art. 9 of the adjustment above), and the remainder is converted into number expressing the proportion of the variable force to the mean horizontal force by the numbers obtained in Article 10.

§ 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 the 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 of the scale (as seen with the fixed telescope) denote an increasing vertical force.

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

1. Determination of the effect of the declination magnet, when placed at different inclinations to the magnetic meridian, on the vertical force magnet with its marked end towards the East.

The declination magnet was alternately placed in its box, and then taken some distance from the Observatory. That division of the scale for the vertical force magnet, which coincided with the horizontal wire in the telescope, was recorded for every position of the declination magnet when it was away, and when it was in its box. The angles of inclination of the declination magnet are reckoned from the North magnetic meridian round by the East. The point of reference of the declination magnet was its marked end.

Observers, Messrs. Glaisher and Paul.

Day, 1841.	Inclination of Declination Magnet to Magnetic Meridian.	Declination Magnet 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 Declination Magnet in its place.	Reading with the Declination Magnet away — Reading with the Declination Magnet in its place.	Mean.
	°		d	d	d	d
May 22	0	Away	34·643			
		In its place	34·433	34·453	+ 0·020	
		Away	34·363			
		In its place	34·260	34·293	+ 0·033	
		Away	34·223			
		In its place	34·218	34·217	— 0·001	— 0·008
		Away	34·213			
		In its place	34·130	34·082	— 0·048	
		Away	33·950			
		In its place	33·920	33·875	— 0·045	
		Away	33·800			

Day, 1841.	Inclination of Declination Magnet to Magnetic Meridian.	Declination Magnet 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 Declination Magnet in its place.	Reading with the Declination Magnet away—Reading with the Declination Magnet in its place.	Mean.
	°		d	d	d	d
May 22 *continued.*	14	Away	31·675			
		In its place	31·603	31·643	+ 0·040	
		Away	31·610			
		In its place	31·558	31·580	+ 0·022	+ 0·026
		Away	31·550			
		In its place	31·490	31·505	+ 0·015	
		Away	31·460			
	166	Away	33·395			
		In its place	33·360	33·339	− 0·021	
		Away	33·283			
		In its place	33·198	33·237	+ 0·039	+ 0·029
		Away	33·190			
		In its place	33·100	33·170	+ 0·070	
		Away	33·150			
	180	Away	33·603			
		In its place	33·598	33·543	− 0·055	
		Away	33·483			− 0·052
		In its place	33·488	33·439	− 0·049	
		Away	33·395			
	194	Away	33·150			
		In its place	32·918	33·000	+ 0·082	
		Away	32·850			
		In its place	32·810	32·810	0·000	+ 0·041
		Away	32·770			
		In its place	32·720	32·760	+ 0·040	
		Away	32·750			
	346	Away	31·875			
		In its place	31·800	31·833	+ 0·033	
		Away	31·790			
		In its place	31·750	31·745	− 0·005	+ 0·005
		Away	31·700			
		In its place	31·700	31·688	− 0·012	
		Away	31·675			

The numbers in the last column of this table indicate, that

When the declination magnet is inclined to the North magnetic meridian	The marked end of the vertical force magnet approaches the
° 0 with its marked end North,	Nadir by d 0·008 divisions of the scale,
180 with its marked end South,	Nadir by 0·052 divisions of the scale,
14 with its marked end North,	Zenith by 0·026 divisions of the scale,
194 with its marked end South,	Zenith by 0·041 divisions of the scale,
166 with its marked end South,	Zenith by 0·029 divisions of the scale,
346 with its marked end North,	Zenith by 0·005 divisions of the scale,

but the numbers are all so small that it is most likely that the declination magnet has no effect.

2. Determination of the effect of the horizontal force magnet when placed at various inclinations to the North magnetic meridian, upon the vertical force magnet with its marked end to the East.

The horizontal force magnet was taken some distance from the Observatory, so that the vertical force magnet was under the influence of the earth's magnetism alone, and that reading of the scale was then registered which coincided with the horizontal wire in the telescope. The horizontal force magnet was next placed in its box in the Observatory, and the corresponding scale reading was recorded, and so on successively. The angles of inclination are reckoned from the North magnetic meridian, round by the East, the marked end of the magnet being its point of reference.

Observations by Messrs. Glaisher and Dunkin.

Day, 1841.	Inclination of Horizontal Force Magnet to Magnetic Meridian.	Horizontal Force Magnet 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 Horizontal Force Magnet in its place.	Reading with the Horizontal Force Magnet away — Reading with the Horizontal Force Magnet in its place.	Mean.
	°		d	d	d	d
May 22	76	Away	29·310			
		In its place	29·183	29·259	+ 0·076	
		Away	29·208			
		In its place	29·113	29·222	+ 0·109	+ 0·079
		Away	29·235			
		In its place	29·200	29·252	+ 0·052	
		Away	29·268			
	90	Away	28·875			
		In its place	28·675	28·773	+ 0·098	
		Away	28·670			
		In its place	28·863	29·018	+ 0·155	+ 0·059
		Away	29·365			
		In its place	29·413	29·338	— 0·075	
		Away	29·310			
	104	Away	29·268			
		In its place	29·130	29·219	+ 0·089	
		Away	29·170			
		In its place	29·165	29·203	+ 0·038	+ 0·071
		Away	29·235			
		In its place	29·073	29·158	+ 0·085	
		Away	29·080			
	256	Away	29·080			
		In its place	29·153	29·084	— 0·069	
		Away	29·088			— 0·052
		In its place	29·088	29·054	— 0·034	
		Away	29·020			

Day, 1841.	Inclination of Horizontal Force Magnet to Magnetic Meridian.	Horizontal Force Magnet 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 Horizontal Force Magnet in its place.	Reading with the Horizontal Force Magnet away — Reading with the Horizontal Force Magnet in its place.	Mean.
	°		d	d	d	d
May 22 *continued.*	270	Away	29·343			
		In its place	29·338	29·291	— 0·047	
		Away	29·238			
		In its place	29·320	29·238	— 0·082	— 0·047
		Away	(29·608)			
		In its place	28·888	28·875	— 0·013	
		Away	28·875			
	284	Away	24·575			
		In its place	24·500	24·432	— 0·068	
		Away	24·288			— 0·061
		In its place	24·223	24·169	— 0·054	
		Away	24·050			

With the angle of inclination 270°, the 3rd reading, when the magnet was away, is different from the preceding and following readings when the magnet was away: it would seem, therefore, that some magnetic change took place; and that observation is consequently not used. The 2nd reading, when the magnet was in its place, is compared with the preceding reading; and the 3rd reading, when the magnet was in its place, is compared with the following reading.

The numbers in the last column, representing the effect in each position, are all insignificant; they indicate that

When the horizontal force magnet is inclined to the North magnetic meridian	The marked end of the vertical force magnet approaches the
76° with its marked end East,	Nadir by 0·079 divisions of the scale,
104 with its marked end West,	Zenith by 0·052 divisions of the scale,
90 with its marked end East,	Nadir by 0·059 divisions of the scale,
90 with its marked end West,	Zenith by 0·047 divisions of the scale,
104 with its marked end East,	Nadir by 0·071 divisions of the scale,
76 with its marked end West,	Zenith by 0·061 divisions of the scale,

Therefore, when the marked end of the horizontal force magnet is to the East, it causes the marked end of the vertical force magnet to dip $0^{d}\cdot05$ of the scale, and when it is to the West it has a contrary effect to the same amount.

3. Determination of the compound effect of the declination magnet and of the horizontal force magnet on the vertical force magnet.

Both magnets were first taken some distance from the Observatory, and the reading

of the scale was recorded, which coincided with the horizontal wire in the telescope. The magnets were then placed in their boxes, the marked end of the declination magnet being to the North, and the marked end of the horizontal force to the West: the division of the scale was again recorded. The magnets were again taken away, and so on successively.

Observers, Messrs. Glaisher, Hind, and Dunkin.

Day, 1841.	Position of Declination and Horizontal Force Magnets.	Declination and Horizontal Force Magnets away or in their places.	Mean Reading of the Scale of the Vertical Force Magnet.	Mean of Readings, the one preceding and the other following that for the Declination and Horizontal Force Magnets in their places.	Reading with Declination and Horizontal Force Magnets away — Reading with Declination and Horizontal Force Magnets in their places.	Mean.
			d	d	d	d
May 23	Marked end of Declination Magnet N.	Away	33·750			
		In their places	35·763	36·563	+ 0·800	
		Away	39·375			
		In their places	42·775	41·949	— 0·826	
		Away	44·523			
	Marked end of Horizontal Force Magnet W.	In their places	44·775	44·012	— 0·763	— 0·148
		Away	43·500			
		In their places	41·175	41·388	+ 0·213	
		Away	39·275			
		In their places	38·900	38·738	— 0·162	
		Away	38·200			

An inspection of the numbers contained in the first column of this table when the magnets were away, will shew that no satisfactory result can be deduced from them. It would be necessary for this that the readings preceding and following the reading when the magnets were in their places, should be very nearly the same; in the table they differ very much. In consequence, the number in the last column can only be considered as shewing that the compound effect is very small. In the two preceding sets of experiments it is clearly shewn, that neither magnet has individually much effect.

4. Measure of the distance from the mirror carried by the vertical force magnet to the face of the scale.

1841, May 28d.

Mr. Glaisher measured the distance between the center of the mirror and the scale, as follows:—The magnet was raised from the agate planes and rested entirely in its Y's; it was then horizontal, and the plane of the mirror was perpendicular to the horizon. A small weight was suspended by a thread; the thread was then moved until it touched the reflector; a piece of wood resting on the sides of the box was then moved until it just touched the thread, and was left there, a mark being made on it where it was touched by the thread. The distance between this mark and the center of the mirror was

measured, and laid off from the center of the scale upwards, so that the two marks were in the same horizontal plane; the distance between the marks was found to be, from three measures, $12^{ft}.7^{in}\cdot2$. Mr. Main afterwards measured the distance between the mirror and the scale, and found it exactly the same, viz., $12^{ft}.7^{in}\cdot2$.

5. Measure of the angle at which the mirror is inclined to the magnet.

1841, May 29d.

Mr. Glaisher took off the lid of the box in which the magnet is inclosed, and made a mark on each end of the box in the plane of the magnet produced. From these marks perpendiculars were dropped upon the floor; through the points thus determined a line was drawn on the floor; it was therefore in the same vertical plane as the magnet. Another line was then drawn on the floor in a plane passing through the axis of the telescope. The angle at the intersection of these two lines was then measured, and it was found to be $36°.5'$. The scale is placed between the telescope and the magnet, a small distance on one side of the telescope. The distance between the scale and the object-glass subtends at the mirror a horizontal angle of about $10'$. The half of this, or $5'$, is therefore to be taken away from $36°.5'$ to get the true angle between the vertical plane passing through the magnet, and the vertical plane passing through the centre of the mirror and bisecting the horizontal angle subtended by the scale and the object-glass. This angle is therefore 36°, and consequently, the angle at which the mirror is inclined to the magnet is 54°.

6. Determination of the time of vibration of the magnet in the horizontal plane.

1841, May 31d.

The magnet was suspended from a tripod in the octagon room, the broad side of it being in a plane parallel to the horizon; therefore its momentum of inertia was the same as when it is in observation. The sun was shining, and the observations were taken as follows:—One observer was seated at some distance from the magnet; another observer was at a less distance; the latter watched the cast shadow of the magnet, counting the beats of the chronometer, and the former recorded the times of the extremes of vibration as given to him. The following are the observations:—

1st Set.			2nd Set.			3rd Set.		
Chronometer Times of the Extremes of Vibration.	Intervals in Solar Time.	Mean.	Chronometer Times of the Extremes of Vibration.	Intervals in Solar Time.	Mean.	Chronometer Times of the Extremes of Vibration.	Intervals in Solar Time.	Mean.
s	s		s	s		s	s	
20·0			0·0			43·0		
	26·0			25·0			24·5	
46·0			25·0			7·5		
	22·0			28·0			25·0	
8·0			53·0			32·5		

1st Set—*continued.*			2nd Set—*continued.*			3rd Set—*continued.*		
Chronometer Times of the Extremes of Vibration.	Intervals in Solar Time.	Mean.	Chronometer Times of the Extremes of Vibration.	Intervals in Solar Time.	Mean.	Chronometer Times of the Extremes of Vibration.	Intervals in Solar Time.	Mean.
s	s	s	s	s	s	s	s	s
	25·5			24·0			24·5	
33·5	26·0		17·0	24·0		57·0	26·0	
59·5	23·0		41·0	22·5		23·0	23·5	
22·5	25·5		3·5	24·5		46·5	23·0	
48·0	22·0		28·0	25·5		9·5	25·0	
10·0	22·0	24·4	53·5	24·5	24·7	34·5	24·5	24·3
32·0	28·0		18·0	22·0		59·0	24·5	
0·0	24·0		40·0	25·0		23·5	22·5	
24·0	24·0		5·0	26·5		45·5	22·5	
48·0	23·0		31·5	24·5		8·0	25·0	
11·0	24·0		56·0	26·0		33·0	26·5	
35·0	23·0		22·0	23·0		59·5	23·5	
58·0	27·0		45·0	24·0		23·0	24·0	
25·0			9·0			47·0		

In the 1st and the 3rd sets the observations were by Mr. Glaisher; in the 2nd set by Mr. Hind. Previous to the 3rd set, an attempt was made to protect the magnet better from currents of air, and that result is considered the best.

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

1841, May 27.

Three different sets of observations were taken for the time of vibration of the magnet, the results were $30^s{\cdot}5$, $30^s{\cdot}1$, and $29^s{\cdot}8$. From these 30^s was adopted, and used in the Term Observations of May 27 and 28.

In the month of June, the magnet had been in all positions for the scale to read between 43^d and 60^d, and the times of vibration 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 Time of Vibration in Solar Time.	Number of Mean Results.	Division of Scale.	Mean Time of Vibration in Solar Time.	Number of Mean Results.
d	s		d	s	
43	27·80	1	52	27·81	9
44	27·37	2	53	28·33	10
45	27·66	2	54	28·49	4
46	27·25	1	55	28·87	5
47	27·46	2	56	29·26	7
48	27·36	12	57	29·39	3
49	27·32	8	58	29·99	4
50	27·80	5	59	30·43	2
51	27·33	6	60	30·83	2

As the magnet is horizontal when the scale reads 50^d, the number $27^s \cdot 5$ was adopted from the above table as the mean time of vibration.

8. 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 $= \frac{12}{30 \cdot 9}$ inches. Hence the angle which one division subtends, as seen from the mirror, is $8'.49''.79$; 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 $4'.24''.90$.

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, $5'.27''.43$.

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 $69°.12'$.

To 1841, May 31, T′ is assumed..... $= 24^s \cdot 4$, $T = 30^s \cdot 0$
From 1841, June 1 to Dec. 31, T′ is assumed $= 24^s \cdot 3$, $T = 27^s \cdot 5$

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 the end of May 1841..... 0·000398
From the beginning of June to the end of December 1841 0·000471

These are the numbers that have been used in the reductions.

It is proper to remark, that the dip used here was obtained by means of a very imperfect instrument, and that later observations with a very fine dipping-needle give for the mean value of the dip an angle differing little from $69°.0'$.

9. Investigation of the temperature-correction of the vertical force magnet.

The following observations for the effect of temperature on the vertical force magnet were made in the same manner as those for the horizontal force magnet, page lviii:—

Day, 1843.	Position of marked End of Vertical Force Magnet.	Distance of Centers of Magnets.	Temperature of Vertical Force Magnet.	Circle Reading.	Adopted Reading for no Deflecting Force.	Deflection.	Its Natural Sine.
		ft. in.	°	° ′ ″	° ′ ″	° ′ ″	
April 22	Away	...	....	24. 18. 52·7			
	W	4. 0	54·0	41. 0. 38·8	24. 18. 55·0	16. 41. 43·8	0·28728
	W	4. 0	127·0	40. 47. 20·0	24. 18. 57·2	16. 28. 22·8	0·28356
	W	4. 0	89·2	40. 56. 40·3	24. 19. 4·0	16. 37. 36·3	0·28613
	W	4. 0	71·3	40. 59. 48·5	24. 19. 6·2	16. 40. 42·3	0·28698
	Away	...	....	24. 19. 10·8			
April 26	Away	...	....	24. 18. 8·9			
	W	4. 0	50·5	40. 49. 34·7	24. 19. 16·7	16. 30. 18·0	0·28409
	Away	...	....	24. 21. 32·3			
	W	4. 0	124·0	40. 30. 55·9	24. 21. 58·4	16. 8. 57·5	0·27814
	Away	...	....	24. 22. 50·6			
	W	4. 0	50·2	40. 49. 50·5	24. 23. 10·6	16. 26. 39·9	0·28309
	Away	...	....	24. 23. 50·5			
	W	4. 0	124·8	40. 28. 56·3	24. 23. 40·5	16. 5. 15·8	0·27711
	Away	...	....	24. 23. 20·5			
	W	4. 0	50·3	40. 49. 31·7	24. 22. 46·2	16. 26. 45·5	0·28311
	Away	...	....	24. 21. 37·7			
	W	4. 0	134·0	40. 15. 42·1	24. 20. 38·1	15. 55. 4·0	0·27426
	W	4. 0	121·8	40. 17. 23·7	24. 19. 38·4	15. 57. 45·3	0·27501
	Away	...	....	24. 19. 8·6			
April 27	Away	...	....	24. 14. 15·8			
	W	4. 0	50·5	40. 28. 21·5	24. 16. 1·4	16. 12. 20·1	0·27908
	Away	...	....	24. 19. 32·5			
	W	4. 0	135·0	40. 8. 59·9	24. 19. 45·5	15. 49. 14·4	0·27263
	W	4. 0	119·0	40. 13. 8·0	24. 20. 11·6	15. 52. 56·4	0·27366
	Away	...	....	24. 20. 37·7			
	W	4. 0	52·0	40. 28. 40·3	24. 21. 6·7	16. 7. 33·6	0. 27775
	Away	...	....	24. 22. 4·8			
April 23	Away	...	....	24. 13. 1·6			
	W	5. 0	55·5	32. 43. 12·9	24. 13. 53·4	8. 29. 19·5	0·14762
	W	5. 0	122·0	32. 37. 18·5	24. 16. 29·0	8. 20. 49·5	0·14517
	W	5. 0	95·0	32. 41. 52·1	24. 17. 20·8	8. 24. 31·3	0·14623
	W	5. 0	75·0	32. 46. 5·6	24. 19. 56·3	8. 26. 9·3	0·14670
	Away	...	....	24. 20. 48·2			
April 22	Away	...	....	24. 18. 52·7			
	E	4. 0	118·0	8. 2. 31·0	24. 18. 59·5	16. 16. 28·5	0·28022
	E	4. 0	95·5	7. 58. 7·6	24. 19. 1·7	16. 20. 54·1	0·28147
	E	4. 0	70·0	7. 54. 35·9	24. 19. 8·5	16. 24. 32·6	0·28249
	Away	...	....	24. 19. 10·8			
April 26	Away	...	....	24. 18. 8·9			
	E	4. 0	51·2	8. 6. 16·4	24. 20. 24·5	16. 14. 8·1	0·27958
	Away	...	....	24. 21. 32·3			
	E	4. 0	116·1	8. 24. 36·4	24. 22. 24·5	15. 57. 54·1	0·27505
	Away	...	....	24. 22. 50·6			
	E	4. 0	50·3	8. 12. 32·8	24. 23. 30·5	16. 10. 57·7	0·27871
	Away	...	....	24. 23. 50·5			
	E	4. 0	119·0	8. 27. 39·8	24. 23. 30·5	15. 55. 50·7	0·27447
	Away	...	....	24. 23. 20·5			

Day, 1843.	Position of marked End of Vertical Force Magnet.	Distance of Centers of Magnets.	Temperature of Vertical Force Magnet.	Circle Reading.	Adopted Reading for no Deflecting Force.	Deflection.	Its Natural Sine.
		ft. in.	°	° ′ ″	° ′ ″	° ′ ″	
April 26	E	4. 0	50·5	8. 14. 52·2	24. 22. 12·0	16. 7. 19·8	0·27768
continued.	Away	...	....	24. 21. 37·7			
	E	4. 0	138·2	8. 42. 5·3	24. 21. 7·9	15. 39. 2·6	0·26977
	E	4. 0	127·8	8. 40. 47·1	24. 20. 8·2	15. 39. 21·1	0·26985
	Away	...	....	24. 19. 8·6			
April 27	Away	...	....	24. 14. 15·8			
	E	4. 0	52·0	8. 21. 33·1	24. 17. 47·0	15. 56. 13·9	0·27458
	Away	...	....	24. 19. 32·5			
	E	4. 0	125·5	8. 44. 38·7	34. 19. 58·5	15. 35. 19·8	0·26873
	E	4. 0	114·2	8. 41. 8·6	24. 20. 24·6	15. 39. 16·0	0·26983
	Away	...	....	24. 20. 37·7			
	E	4. 0	52·0	8. 28. 31·1	24. 21. 35·7	15. 53. 4·6	0·27309
	Away	...	....	24. 22. 4·8			
April 23	Away	...	....	24. 13. 1·6			
	E	5. 0	55·5	15. 47. 56·2	24. 14. 45·3	8. 26. 49·1	0·14690
	E	5. 0	129·0	16. 2. 55·4	24. 15. 37·1	8. 12. 41·7	0·14283
	E	5. 0	94·5	15. 58. 8·1	24. 18. 12·6	8. 20. 4·5	0·14495
	E	5. 0	76·0	15. 58. 5·5	24. 19. 4·5	8. 20. 59·0	0·14522
	Away	...	....	24. 20. 48·2			

Grouping the two last observations W., 4 feet, April 26, and also the two last observations E., 4 feet, April 26; omitting the second result E., 4 feet, April 22; and dividing each day's results remaining into two equal groups for high and low temperature, we have—

Marked end West, distance 4 feet.

For temperature 54°·11, nat. sine of deflexion = 0·283054
For temperature 120°·99, nat. sine of deflexion = 0·277980
Difference for 66°·88 = 0·005074
Difference for 1° = 0·00007586

Adopting 55° as the temperature of reference, for which the nat. sine = 0·283.

$$\frac{\text{Change of force for } 1^\circ}{\text{Whole force}} = 0{\cdot}0002681.$$

Marked end West, distance 5 feet.

For temperature 65°·25, nat. sine of deflexion = 0·14716
For temperature 108°· 5, nat. sine of deflexion = 0·14570
Difference for 43°·25 = 0·00146
Difference for 1° = 0·0000337
Natural sine for 55° = 0·148

$$\frac{\text{Change of force for } 1^\circ}{\text{Whole force}} = 0{\cdot}0002277.$$

Marked end East, distance 4 feet.

For temperature 54°·33, nat. sine of deflexion = 0·277788
For temperature 120°·97, nat. sine of deflexion = 0·273018
Difference for 66°·64 = 0·004770
Difference for 1° = 0·00007157
Natural sine for 55° = 0·2777

$$\frac{\text{Change of force for } 1^\circ}{\text{Whole force}} = 0{\cdot}0002577.$$

Marked end East, distance 5 feet.

For temperature 65°·75, nat. sine of deflexion = 0·14606
For temperature 111°·75, nat. sine of deflexion = 0·14389
Difference for 46°·00 = 0·002170
Natural sine for 55° = 0·147

$$\frac{\text{Change of force for } 1^\circ}{\text{Whole force}} = 0{\cdot}0003217.$$

Giving to these four results the respective weights 10, 1, 10, 1, the mean value of $\frac{\text{change of force for } 1^\circ}{\text{whole force}}$ is $= 0{\cdot}00026397$. The number used in the Abstracts, &c., is 0·000264. This is *not* applied in the various sections of observations.

The method of observing with the vertical force magnet is precisely similar to the second of those with 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 is first directed to the telescope 55^s before that time, and that the constant subtracted from the mean is 40·000.

§ 4. *Meteorological Instruments.*

BAROMETERS.

The barometer used from 1840, Nov. 9, to 1840, Dec. 18, is one by Newman, fixed in the Circle room. The raising of the index by which the upper surface of the mercury is read, depresses a plunger in the cistern of mercury, for the purpose of making the elevation of the surface in the cistern invariable. The scale is a short piece of metal fixed on wood, divided to $0^{in}{\cdot}05$; this is subdivided by means of a vernier to $0^{in}{\cdot}002$.

The tube is about $0^{in}{\cdot}3$ in diameter; the mercury was boiled: therefore, a correction of $+0^{in}{\cdot}014$ is required for capillarity.

The height of its cistern above the level of the sea is $156^{ft}.4^{in}$. This element is founded upon the determinations 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 $2^{ft}.6^{in}$.

From 1840, Dec. 18d. 12h (midnight Göttingen mean time), a standard barometer by Newman, fixed in the magnetic house, has been used. The graduated scale, which measures the height of the mercury, is made of brass, and slides up and down by means of a slow-motion screw, so that its lower end, which is a conical point of ivory, is made just to touch the surface of the mercury in the cistern. The scale is divided to 0in·05.

The vernier sub-divides the scale divisions to 0in·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 0·565 of an inch in diameter; the effect of capillary attraction is therefore only + 0in·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 level of the sea is 159 feet: this measure is obtained by reference to the same mark as that above cited.

The following comparison of the Greenwich standard barometer with the standard barometers of the Royal Society, was made by Mr. Roberton, assistant secretary of the Royal Society:—

Royal Observatory Standard Barometer Corrected.	Royal Society's Standard Flint Glass Barometer Corrected.	Royal Society's Standard Crown Glass Barometer Corrected.	Royal Society's Flint Glass — Royal Observatory Standard.	Royal Society's Crown Glass — Royal Observatory Standard.
in.	in.	in.	in.	in.
30·270	30·266	30·258	— 0·004	— 0·012
30·234	30·232	30·224	— 0·002	— 0·010
30·129	30·128	30·120	— 0·001	— 0·009
29·957	29·959	29·951	+ 0·002	— 0·006
29·773	29·761	29·755	— 0·012	— 0·018
29·782	29·780	29·774	— 0·002	— 0·008

The mean of the numbers in the last column but one seems to shew that the Royal Observatory standard reads more than the Royal Society's flint-glass standard by 0in·003, and the mean of the numbers in the last column shews that it reads more than the Royal Society's crown-glass standard by 0in·013. The difference between the circle-room barometer and the Royal Society's barometer was ascertained by the intermediation of the Royal Observatory standard, using as its difference from the Royal Society's flint-glass standard 0in·003. Previously to the reductions of the observations taken by the standard barometer, the numbers contained in the above table were again considered, and there appeared to be no doubt that an error of 0in·01 had been made in the reading of the Royal Observatory standard barometer at the fifth comparison, as the difference

between its reading and the reading of each of the other barometers is different from the other comparisons by this amount. This comparison was therefore omitted in the mean; and the resulting difference between the Royal Observatory barometer and the Royal Society's flint-glass standard barometer was $0^{in.}\cdot001$, the Royal Observatory barometer reading higher by this amount. No correction has been applied on account of this small difference.

All observations of this barometer have been corrected for the difference of temperature of the mercury in the tube at the time of 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 Report of the Committee of Physics and Meteorology approved by the Royal Society.)

The following is a comparison of the barometer in the circle-room with the standard barometer of the Royal Observatory:—

Day and Hour, 1840 and 1841.	Royal Observatory Standard Barometer Corrected.	Circle-room Barometer Corrected.	Royal Observatory Standard—Circle-room Barometer.
d h m	in.	in.	in.
Dec. 17. 23. 0	29·483	29·473	+ 0·010
18. 1. 0	29·435	29·418	+ 0·017
18. 23. 0	29·498	29·487	+ 0·011
Jan. 3. 17. 0	28·811	28·804	+ 0·007
4. 21. 0	29·223	29·199	+ 0·024
4. 23. 0	29·195	29·176	+ 0·019
5. 0. 0	29·198	29·182	+ 0·016
5. 0. 40	29·195	29·182	+ 0·013
5. 21. 0	29·443	29·423	+ 0·020
7. 23. 0	29·805	29·787	+ 0·018
8. 22. 0	29·605	29·607	− 0·002
8. 23. 0	29·606	29·588	+ 0·018

The mean of the numbers in the last column is $0^{in.}\cdot014$, and the circle-room barometer reads lower than the standard barometer by this amount, and therefore requires an additive correction of $0^{in.}\cdot014$ to reduce its readings to those of the Royal Observatory's standard barometer.

The constant to be applied to all readings of the circle-room barometer to reduce them to readings which would have been given by the Royal Society's standard flint-glass barometer, is thus computed:—

	in.
Correction for capillarity	+ 0·014
Correction to reduce readings to Greenwich standard readings	+ 0·014
Correction to reduce readings by Greenwich standard to readings by the Royal Society's flint-glass standard	− 0·003
Sum	+ 0·025

This correction, $0^{in}\cdot025$, has been added to all readings by the circle-room barometer.

The readings have all been further corrected for the difference of the temperature of the mercury in the tube at the time of observation from the standard temperature of 32° Fahrenheit, by the application of the quantities contained in Table III., page 84, of the Report of the Committee of Physics and Meteorology of the Royal Society, entitled, "Correction to be applied to Barometers, the scale of which is engraven on glass."

DRY THERMOMETERS.

From 1840, Nov. 9, to 1841, Feb. 28, a mercurial thermometer, by Watkins and Hill, was used. The following are comparisons of Watkins and Hill's thermometer with the standard thermometer of the Royal Observatory and with the dry-bulb thermometer:—

On February 3 and 4, 18 comparisons were made, the temperature ranging between 15° and 30°; the result was, that Watkins and Hill's thermometer read lower than the Royal Observatory standard thermometer by 0°·1, and required an additive correction.

On April 5, from 7 ,, 12, from 12 ,, 19, from 12 ,, 27, from 13	comparisons with dry-bulb thermometer	between 41° and 52°, the reading was the same. between 38 and 45, the reading was the same. between 38 and 52, the dry thermometer below Watkins and Hill's by 0·4. between 55 and 74, the dry thermometer above Watkins and Hill's by 0·2.

Therefore between 38° and 72° there is no decided difference. Now, as the dry-bulb thermometer between 22° and 50° requires an additive correction of 0°·1, and above 60° a correction of 0°·2 (from comparisons to be detailed hereafter), to reduce its readings to readings by Mr. Simms's standard thermometer, Watkins and Hill's thermometer requires the same corrections.

The standard, by Newman, is a mercurial thermometer; its scale is divided to 0°·5.

The following is a comparison of the Royal Observatory standard thermometer with Mr. Simms's standard thermometer.

Mr. Simms's standard was in a glass case, and it was fixed on the revolving stand, parallel with and close to the Royal Observatory standard.

Between Aug. 23 and Aug. 30, the Royal Observatory standard was found to read

From 7 comparisons between 40° and 50°, higher than Mr. Simms's standard by 0°·2.
From 40 comparisons between 50 and 60, the same as Mr. Simms's standard.
From 52 comparisons between 60 and 70, lower than Mr. Simms's standard by 0·6.
From 27 comparisons above 70, lower than Mr. Simms's standard by 1·9.

In consequence of these great differences, Mr. Simms's standard was taken out of its case, and between Aug. 30 and Sept. 18 the Royal Observatory standard was found to read—

From 31 comparisons between 40° and 50°, higher than Mr. Simms's standard by 0°·2.
From 76 comparisons between 50 and 60, higher than Mr. Simms's standard by 0·2.
From 75 comparisons between 60 and 70, higher than Mr. Simms's standard by 0·3.
From 15 comparisons between 70 and 80, higher than Mr. Simms's standard by 0·2.

And these quantities it is necessary to apply subtractively to the Royal Observatory standard thermometer, to reduce its readings to those which would have been given by Mr. Simms's standard thermometer.

By comparisons of the results obtained when Mr. Simms's thermometer was in its case and when it was out of its case, the effect of the glass case was—

Between 40° and 50°, nothing.
Between 50 and 60, very slight.
Between 60 and 70, to cause the readings to be too high by 0°·9.
Between 70 and 80, to cause the readings to be too high by 2·1.

DRY-BULB THERMOMETER.

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

Day, 1841.	Dry Thermometer reads less than Greenwich Standard.	Range of Temperature.	Number of Comparisons.	Mean Temperature.	Day, 1841.	Dry Thermometer reads less than Greenwich Standard.	Range of Temperature.	Number of Comparisons.	Mean Temperature.
	°	° °		°		°	° °		°
Feb. 1, 2	0·2	15 to 33	24	26	July 19	0·5	51 to 71	12	60
					26	0·5	52 to 72	12	60
3	0·5	15 to 34	9	19	Aug. 3	0·6	51 to 66	12	58·5
4	0·0	19 to 27	12	25	10	0·2	51 to 66	12	57
5	0·2	24 to 31	12	25	17	0·7	52 to 73	12	61
6	0·4	23 to 28	5	27	24	0·5	52 to 67	12	58
7	0·0	24 to 28	6	26	31	0·7	55 to 76	12	64
8	0·4	25 to 31	12	26					
9	0·1	26 to 32	12	28	Sept. 6	0·4	37 to 60	12	48
					13	0·2	57 to 75	12	66
April 5	0·8	41 to 51	8	47	20	0·3	59 to 70	12	62
12	0·6	33 to 44	12	39	27	0·2	51 to 63	12	56
19	1·0	37 to 51	12	47					
27	0·9	55 to 72	12	64	Oct. 4	0·3	49 to 60	12	54
					11	0·1	48 to 60	12	54
May 3	0·7	43 to 50	12	47	18	0·1	45 to 51	12	49
10	1·2	50 to 62	12	56	25	0·3	39 to 52	12	44
17	1·1	47 to 64	12	54					
24	1·3	49 to 70	12	60	Nov. 1	0·4	45 to 47	12	46
31	1·2	51 to 75	12	63	8	0·3	40 to 50	12	44
					15	0·1	28 to 37	12	32
June 7	0·9	42 to 57	12	49	22	0·2	40 to 56	12	52
14	0·5	42 to 69	12	57	29	0·4	49 to 56	12	53
21	0·3	52 to 70	12	59					
28	0·5	49 to 59	12	56·5	Dec. 6	0·3	40 to 51	12	45
					13	0·3	41 to 51	12	47
July 5	0·6	52 to 71	12	61	20	0·1	30 to 34	12	31
12	0·5	48 to 61	12	55	27	0·1	30 to 34	12	32

The Royal Observatory standard was in a glass case from Feb. 1 to June 7. After this time it was taken out of its case. The effect of the case when the temperature was below 40° is considered as insensible; above 40° the effect appears to have been about half a degree, the case causing the reading to be too high by this amount. The comparisons, therefore, between April 5 and June 7, are not used. All the other comparisons are collected and arranged according to the order of temperature in the following table:—

Day, 1841.	Dry Therm. reads less than Greenwich Standard below 32°.	Mean.	Day, 1841.	Dry Therm. reads less than Greenwich Standard between 32° and 50°.	Mean.	Day, 1841.	Dry Therm. reads less than Greenwich Standard between 50° and 60°.	Mean.	Day, 1841.	Dry Therm. reads less than Greenwich Standard above 60°.	Mean.
	°	°		°	°		°	°		°	°
Feb. 1	0·2		Sept. 6	0·4		June 14	0·5		July 5	0·6	
2						21	0·3		19	0·5	
3	0·5		Oct. 18	0·1		28	0·5		26	0·5	
4	0·0		25	0·3							
5	0·2					July 12	0·5		Aug. 17	0·7	0·5
6	0·4	0·2	Nov. 1	0·4					31	0·7	
7	0·0		8	0·3	0·3	Aug. 3	0·6				
8	0·4		15	0·1		10	0·2	0·4	Sept. 13	0·2	
9	0·1					24	0·5		20	0·3	
			Dec. 6	0·3							
Dec. 20	0·1		13	0·3		Sept. 27	0·2				
			27	0·1							
						Oct. 4	0·3				
						11	0·1				
						Nov. 22	0·2				
						29	0·4				

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

Below	32°	°	0·2
Between	32 and	50	0·3
Between	50 and	60	0·4
Above	60		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°.

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

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

A piece of muslin was wrapped round the bulb of the dry thermometer (the maker conceiving that it would thus be placed under the same circumstances, moisture excepted, as the wet-bulb thermometer), and remained on it to the end of February. The readings taken during this time are rejected, and those of Watkins and Hill's thermometer are substituted for them. After this time the muslin was taken off, and it was considered trustworthy.

WET-BULB THERMOMETER.

The wet-bulb thermometer is mercurial; its scale is divided to 0°·5. The following is a comparison of the dry thermometer with the wet-bulb thermometer when both thermometers were under the same circumstances; and the difference between the readings of the wet-bulb thermometer and the Royal Observatory's standard thermometer:—

Between Feb. 5^{d} and Feb. 10^{d}, 79 comparisons were made, the temperature varying between 15° and 30°, from which it appeared that the wet-bulb thermometer read less than the dry-bulb thermometer by 0°·2; and as the dry thermometer does not require correction at these temperatures, the wet-bulb reads less than the standard by 0°·2.

Between Feb. 2^{d} and 3^{d}, 8 comparisons were made between the wet-bulb thermometer and the Royal Observatory's standard between 16° and 30°; the result was, that the wet-bulb thermometer read less than the standard by 0°·3.

Several comparisons (not recorded) were made in water of different temperatures; the result of which was, that the wet-bulb thermometer generally read too low by about 0°·3.

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 attraction, 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. In the earlier observations, this method was not fully understood by the assistants, and the wet-bulb readings are consequently lost.

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 enclosed, with a small thermometer plunged in it; on the other a linen rag is wrapped, by dropping ether on which, the vapour of the inclosed ether passing from the first bulb is condensed, and the ether itself is cooled until dew is deposited on the bulb, when the reading of the inclosed thermometer is taken. This is sometimes done at the appearance of the moisture, some-

times at its disappearance; but it is found that when care is used there is no certain discordance in the results.

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

The thermometer used in determining the temperature of the dew-point reads—

On Feb. 2, from	6 comparisons	between 17° and 20°,	lower than standard	by 0°·4
On Oct. 10, from	5 comparisons	between 56 and 58,	higher than standard	by 0·1
On Oct. 11, from	12 comparisons	between 48 and 60,	higher than standard	by 0·1
On Oct. 17, from	12 comparisons	between 45 and 50,	the same as standard.	
On Oct. 24, from	12 comparisons	between 39 and 51,	lower than standard	by 0·1
On Oct. 31, from	12 comparisons	between 45 and 48,	lower than standard	by 0·1
On Nov. 7, from	12 comparisons	between 40 and 50,	the same as standard.	
On Nov. 14, from	12 comparisons	between 27 and 36,	lower than standard	by 0·2
On Nov. 21, from	12 comparisons	between 40 and 56,	lower than standard	by 0·1
On Nov. 28, from	12 comparisons	between 50 and 57,	higher than standard	by 0·1
On Dec. 6, from	12 comparisons	between 40 and 50,	higher than standard	by 0·2
On Dec. 13, from	12 comparisons	between 42 and 52,	lower than standard	by 0·1
On Dec. 20, from	12 comparisons	between 30 and 32,	lower than standard	by 0·4
On Dec. 27, from	12 comparisons	between 39 and 34,	lower than standard	by 0·3

From these it appears that when the temperature is below 30° the thermometer reads less than the standard by 0°·4; that between 30° and 40° it reads less than the standard by 0°·1; that between 40° and 50° it reads the same as the standard; that above 50° it reads more than the standard by 0°·1.

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 ¼ of a degree.

The dew-point observation was made at 3^h, 9^h, 15^h, and 21^h, Greenwich mean time, every day, to 1840, Nov. 28. Since that day the adopted hours are 4^h, 10^h, 16^h, and 22^h, Göttingen mean time.

MAXIMUM AND MINIMUM SELF-REGISTERING THERMOMETER.

The maximum and minimum thermometer is one of Six's construction, the fluid being spirit 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.

During December 1840, and January and February 1841, there were several instances of differences between the temperature as shewn by Six's maximum and minimum thermometer, and the temperature as shewn by the other instruments; this difference sometimes was nearly a degree. On February 2^d and February 3^d, the difference amounted to 1°·2 and 1°·5 respectively, and these quantities were applied subtractively to the

maximum reading at February $2^d.22^h$ and February $3^d.22^h$. Beginning with the month of March, the maximum and minimum thermometer was usually compared twice on every day, with the Royal Observatory standard thermometer: once at the time of the maximum temperature, and once about the time of the minimum temperature. The mean of all the differences of the minimum temperature in each month has been applied to every observation in that month. With respect to the maximum, it was found necessary, whenever the temperature rose to 70°, to group all the differences at that temperature and above it for one index error to apply to those readings, and to group all the others for another index error to apply to all readings below 70°. In this way the following quantities have been obtained, and the temperatures, as inserted 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:—

March.	Subtract	0·7 from all maximum readings.
		0·5 from all minimum readings.
April.	Subtract	2·2 from all maximum readings above 70°.
		0·7 from all maximum readings below 70°.
		0·2 from all minimum readings.
May.	Subtract	1·5 from all maximum readings above 70°.
		0·5 from all maximum readings below 70°.
		0·5 from all minimum readings.
June.	Subtract	2·3 from all maximum readings above 70°.
		1·6 from all maximum readings below 70°.
		0·9 from all minimum readings.
July.	Subtract	1·7 from all maximum readings above 70°.
		1·1 from all maximum readings below 70°.
		0·9 from all minimum readings.
August.	Subtract	1·9 from all maximum readings above 70°.
		1·2 from all maximum readings below 70°.
		1·0 from all minimum readings.
September.	Subtract	2·4 from all maximum readings above 70°.
		1·2 from all maximum readings below 70°.
		0·9 from all minimum readings.
October.	Subtract	0·9 from all maximum readings.
		0·8 from all minimum readings.
November.	Subtract	0·4 from all maximum readings.
		0·1 from all minimum readings.
December.	Subtract	0·4 from all maximum readings.
		0·2 from all minimum readings.

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; its readings are higher than those of the standard thermometer by 0°·6. It is read every day at 21ʰ.

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; its readings are lower than the readings of the standard thermometer by 0°·8. It is read every day at 21ʰ.

POSITION OF THE THERMOMETERS.

The positions of the thermometers, during the latter part of 1840 and the beginning of 1841, are given in the notes to the Observations. In the beginning of March 1841, a post was planted in the ground 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 was placed for carrying the thermometers. The frame consists of a horizontal board as base, with a vertical board projecting upwards from it connected with one edge of the horizontal board, and with two parallel inclined boards (separated about 2 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 4 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. This arrangement commenced on 1841, March 10, after 0ʰ.

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 successively 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 is applied to this instrument at 23^h mean solar time (11 in the morning, civil reckoning), every day.

RAIN-GAUGES.

The rain-gauge No. 1 (Osler's) is connected with the anemometer. It is $205^{ft}.6^{in}$ 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 one 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 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 $3^{in}{\cdot}25$, and therefore $3^{in}{\cdot}4$ in this corresponds to 1 inch of rain. This gauge is $177^{ft}.2^{in}$ above the mean level of the sea.

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 vertical partition whose plane passes through the axis of motion. The pipe from the rain-receiver descends 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, $156^{ft}.6^{in}$ above the mean level of the sea.

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 13¼ 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 1¼ inch in length; three quarters of an inch of this tube is straight,

and the remaining half inch 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 of 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 $155^{ft}.3^{in}$; 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.

PERSONAL ESTABLISHMENT.

The number of persons regularly employed in the Magnetic and Meteorological Observations is three, namely—

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

In cases of illness or absence of one of these persons, it is 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, three complete days' work 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.

END OF THE INTRODUCTION TO MAGNETIC AND METEOROLOGICAL OBSERVATIONS.

ROYAL OBSERVATORY, GREENWICH.

DAILY OBSERVATIONS

OF

MAGNETOMETERS.

1840 and 1841.

Daily Observations from November 8 to 21.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Observers.
d h m	° ′ ″		d h m	° ′ ″		d h m	° ′ ″		d h m	° ′ ″	
Nov. 8. 14. 0	246. 29. 17	G	Nov. 11. 14. 0	246. 31. 20	G	Nov. 15. 14. 0	246. 27. 33	G	Nov. 18. 14. 0	246. 28. 6	G
16. 0	29. 40		16. 0	29. 14		16. 0	26. 38		16. 0	29. 17	
18. 0	29. 40		18. 0	29. 43		18. 0	25. 45		18. 0	28. 32	
20. 0	25. 9	G	20. 0	30. 17	G	20. 0	23. 7	G	20. 0	28. 34	
22. 0	27. 50	D	22. 0	29. 50	D	22. 0	18. 31	D	22. 0	27. 34	D
Nov. 9. 0. 0	246. 18. 56	D	Nov. 12. 0. 0	246. 26. 14	D	Nov. 16. 0. 0	246. 17. 54	D	Nov. 19. 0. 0	246. 24. 1	D
1. 50	...		1. 50	...		1. 50	...		1. 50	...	
2. 0	18. 55	G	2. 0	25. 19	D	2. 0	21. 56	G	2. 0	23. 49	D
2. 10	...		2. 10	...		2. 10	...		2. 10	...	
4. 0	22. 51		4. 0	26. 5	G	4. 0	26. 33		4. 0	26. 2	G
6. 0	27. 8		6. 0	28. 38		6. 0	28. 8		6. 0	30. 17	
8. 0	30. 23		8. 0	29. 33		8. 0	29. 56		8. 0	28. 30	
10. 0	39. 27	G	10. 0	31. 56	G	10. 0	35. 10	G	10. 0	28. 59	G
12. 0	34. 24	D	12. 0	30. 20	J H	12. 0	24. 54	D	12. 0	28. 21	D
14. 0	35. 1		14. 0	30. 7	D	14. 0	27. 49		14. 0	28. 9	
16. 0	26. 47		16. 0	29. 3		16. 0	26. 44		16. 0	27. 41	
18. 0	28. 44		18. 0	29. 39		18. 0	26. 20		18. 0	27. 29	
20. 0	29. 18	D	20. 0	29. 20	D	20. 0	28. 1	D	20. 0	25. 19	D
22. 0	30. 37	J H	22. 0	29. 9	J H	22. 0	29. 42	J H	22. 0	27. 50	J H
Nov. 10. 0. 0	246. 26. 0	J H	Nov. 13. 0. 0	246. 23. 32	J H	Nov. 17. 0. 0	246. 26. 3	J H	Nov. 20. 0. 0	246. 23. 41	J H
1. 50	...		1. 50	...		1. 50	...		1. 50	...	
2. 0	25. 19	J H	2. 0	25. 13	J H	2. 0	24. 34	J H	2. 0	18. 43	J H
2. 10	...		2. 10	...		2. 10	...		2. 10	...	
4. 0	26. 24	D	4. 0	26. 25	D	4. 0	26. 16	D	4. 0	22. 27	D
6. 0	28. 39		6. 0	28. 44		6. 0	28. 11		6. 0	23. 48	
8. 0	29. 41		8. 0	27. 57		8. 0	35. 7		8. 0	28. 38	
10. 0	31. 56	D	10. 0	34. 27	D	10. 0	31. 56	D	10. 0	28. 35	D
12. 0	32. 16	J H	12. 0	35. 52	J H	12. 0	29. 50	J H	12. 0	35. 51	J H
14. 0	34. 22		14. 0	29. 10		14. 0	27. 35		14. 0	26. 34	
16. 0	31. 4		16. 0	27. 23		16. 0	29. 30		16. 0	32. 52	
18. 0	30. 52		18. 0	30. 10		18. 0	28. 2		18. 0	20. 13	
20. 0	29. 24	J H	20. 0	28. 17	J H	20. 0	27. 15	J H	20. 0	24. 18	J H
22. 0	29. 42	G	22. 0	25. 51	G	22. 0	25. 32	G	22. 0	23. 20	G
Nov. 11. 0. 0	27. 24	G	Nov. 14. 0. 0	246. 21. 51	G	Nov. 18. 0. 0	246. 21. 46	G	Nov. 21. 0. 0	246. 16. 11	G
1. 50	...		1. 50	...		1. 50	...		1. 50	...	
2. 0	24. 40	D	2. 0	22. 44	G	2. 0	21. 44	G	2. 0	21. 59	G
2. 10	...		2. 10	...		2. 10	...		2. 10	...	
4. 0	25. 14	J H	4. 0	25. 37	J H	4. 0	23. 56	J H	4. 0	30. 1	J H
6. 0	26. 34		6. 0	26. 4		6. 0	26. 57		6. 0	33. 12	
8 0	27. 53		8. 0	27. 1		8. 0	29. 26		8. 0	41. 39	
10. 0	29. 26	J H	10. 0	32. 54	J H	10. 0	29. 43	J H	10. 0	41. 15	J H
12. 0	29. 31	G	12. 0	29. 37	G	12. 0	28. 48	G	12. 0	28. 41	G

Theodolite reading for Astronomical Meridian, 269°. 51′. 42″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 182°.

Nov. 7. The declination magnet was prepared for observation, the cross-wire carried by the magnet being west of it. The micrometer reading for the line of collimation of the telescope of the theodolite, 100°·106. The glass in the front of the box in its usual position. Time of vibration 30°. The micrometer head on the same side of the telescope as the illuminated end of the axis. The illuminated end of the axis of the telescope to the east.

Nov. 12^{d}. 6^{h}. Experiments were made to determine the effect of the Bifilar magnet on the declination magnetometer.

Nov. 12^{d}. 22^{h} Experiments were continued to determine the effect of the Bifilar magnet on the declination magnetometer.

Nov. 12^{d}. 22^{h}. A heavy gale of wind began to blow, and continued till 13^{d}. 23^{h}. The declination needle was frequently watched, and was not affected by it even at the times of the heaviest gusts.

Nov. 16^{d}. 12^{h}. The theodolite reading was less by 10′+ than at the preceding observation.

Nov. 17^{d}. 6^{h}. A severe gale of wind: no effect on the declination magnet.

Nov. 21^{d}. 3^{h}. 23^{m}. The needle was in a position requiring the theodolite to read 246°. 38′.

Nov. 21^{d}. 7^{h}. 30^{m}. Several auroral streamers seen: the needle was agitated.

Nov. 21^{d}. 12^{h}. The theodolite reading was less by 12′+ than at 10^{h}.

Daily Observations from November 22 to December 5.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Observers.
d h m	° ′ ″		d h m	° ′ ″		d h m	° ′ ″		d h m	° ′ ″	
Nov. 22. 14. 0	246. 29. 19	G	Nov. 25. 14. 0	246. 25. 32	G	Nov. 29. 14. 0	246. 33. 45	G	Dec. 2. 14. 0	246. 32. 48	G
16. 0	24. 32		16. 0	33. 7		16. 0	29. 7		16. 0	33. 44	
18. 0	28. 4		18. 0	31. 14		18. 0	29. 29		18. 0	32. 53	
20. 0	27. 54	G	20. 0	29. 1	G	20. 0	28. 44	G	20. 0	30. 18	G
22. 0	24. 35	D	22. 0	29. 19	D	22. 0	27. 47	D	22. 0	30. 47	D
Nov. 23. 0. 0	246. 24. 1	D	Nov. 26. 0. 0	246. 27. 44	D	Nov. 30. 0. 0	246. 25. 31	D	Dec. 3. 0. 0	246. 26. 15	D
1. 50	22. 2		1. 50	25. 18		1. 50	24. 46		1. 50	26. 17	
2. 0	21. 55		2. 0	24. 38		2. 0	25. 14		2. 0	26. 16	
2. 10	22. 1	D	2. 10	24. 22	D	2. 10	25. 14	D	2. 10	26. 31	D
4. 0	31. 15	G	4. 0	26. 13	G	4. 0	29. 42	G	4. 0	29. 32	G
6. 0	25. 37		6. 0	26. 38		6. 0	30. 42		6. 0	27. 53	
8. 0	29. 11		8. 0	27. 24		8. 0	31. 6		8. 0	31. 7	
10. 0	48. 55	G	10. 0	28. 32	G	10. 0	31. 25	G	10. 0	32. 23	G
12. 0	30. 35	D	12. 0	32. 23	D	12. 0	31. 10	D	12. 0	27. 10	D
14. 0	29. 18		14. 0	28. 53		14. 0	31. 57		14. 0	32. 24	
16. 0	27. 29		16. 0	28. 17		16. 0	31. 33		16. 0	31. 58	
18. 0	26. 7		18. 0	28. 27		18. 0	31. 6		18. 0	32. 38	
20. 0	26. 9	D	20. 0	28. 33	D	20. 0	29. 50	D	20. 0	31. 16	D
22. 0	26. 31	G	22. 0	29. 29	J H	22. 0	29. 46	J H	22. 0	29. 46	J H
Nov. 24. 0. 0	246. 25. 49	J H	Nov. 27. 0. 0	246. 25. 35	J H	Dec. 1. 0. 0	246. 28. 1	J H	Dec. 4. 0. 0	246. 28. 57	J H
1. 50	20. 53		1. 50	23. 42		1. 50	26. 35		1. 50	26. 50	
2. 0	22. 2		2. 0	23. 44		2. 0	26. 42		2. 0	26. 39	
2. 10	22. 10	J H	2. 10	23. 49	J H	2. 10	27. 1	J H	2. 10	26. 56	J H
4. 0	25. 36	D	4. 0	25. 34	D	4. 0	28. 25	D	4. 0	26. 21	D
6. 0	40. 43		6. 0	25. 32		6. 0	29. 19		6. 0	35. 47	
8. 0	29. 21		8. 0	27. 28	D	8. 0	30. 45		8. 0	34. 19	
10. 0	33. 37	D	10. 0	32. 26	G	10. 0	32. 19	D	10. 0	31. 15	D
12. 0	30. 2	J H	12. 0	31. 31	G	12. 0	33. 18	J H	12. 0	36. 35	J H
14. 0	27. 38		14. 0	28. 22	D	14. 0	31. 52		14. 0	31. 20	
16. 0	27. 47		16. 0	27. 28	J H	16. 0	31. 6		16. 0	32. 33	
18. 0	27. 45		18. 0	28. 4	W R	18. 0	31. 10		18. 0	30. 0	
20. 0	27. 11	J H	20. 0	29. 17	R	20. 0	31. 7	J H	20. 0	31. 42	J H
22. 0	28. 31	G	22. 0	29. 28	E	22. 0	30. 34	G	22. 0	29. 34	G
Nov. 25. 0. 0	246. 26. 28	D	Nov. 28. 0. 0	246. 25. 16	H	Dec. 2. 0. 0	246. 28. 57	G	Dec. 5. 0. 0	246. 26. 5	G
1. 50	23. 44	G	1. 50	25. 32	M	1. 50	25. 4		1. 50	26. 30	
2. 0	23. 28		2. 0	25. 16		2. 0	24. 25		2. 0	26. 22	
2. 10	23. 47	G	2. 10	22. 43	M	2. 10	24. 34	G	2. 10	25. 24	G
4. 0	25. 47	J H	4. 0	23. 12	G	4. 0	27. 59	J H	4. 0	29. 6	J H
6. 0	26. 2		6. 0	27. 40	G	6. 0	27. 46		6. 0	30. 14	
8. 0	29. 25		8. 0	31. 59	D	8. 0	31. 4		8. 0	30. 49	
10. 0	36. 43	J H	10. 0	.....		10. 0	42. 4	J H	10. 0	42. 15	J H
12. 0	31. 43	G	12. 0	31. 37	J H	12. 0	36. 46	G	12. 0	32. 57	G

Theodolite reading for Astronomical Meridian, 269°. 51′. 42″; Dec. 1, 269°. 52′. 2″.

Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 182°; Nov. 30^{d}. 4^{h}, 183°. (NOTE.—The magnet is always mounted, after each examination by means of the Brass Bar, with the reading of the Torsion-Circle determined by means of the Brass Bar.)

Nov. 23^{d}. 8^{h}. The needle without vibration.

Nov. 23^{d}, 10^{h}. The marked end of the needle was nearly 20′ more easterly than at the preceding observation; at the next observation it had moved back 18′.

Nov. 24^{d}. 6^{h}. The marked end of the needle was 15′ and 11′ more easterly than at the preceding and succeeding observations respectively.

Nov. 28^{d}. 10^{h}. The observation inadvertently omitted: the observation at 9^{h}. 55′ will be found in the Term-day Observations.

Dec. 2^{d}. 2^{h}+. Experiments were made to determine the effect of the mean time clock on the declination magnetometer.

Dec. 2^{d}. 10^{h}. The theodolite reading was 11′ greater than at the observation at 8^{h}.

Dec. 2^{d}. 22^{h}. Experiments were repeated to determine the effect of the mean time clock on the declination magnetometer.

Dec. 3^{d}. After the observation at 2^{h}. 10^{m}, the mean time clock was fixed in its place.

Dec. 5^{d}. 10^{h}. The theodolite reading was 11′ greater than at 8^{h}, and 9′ less than at 12^{h}.

Daily Observations from December 6 to 16.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°	
Dec. 6. 14. 0	246. 31. 3			
16. 0	32. 0			
18. 0	31. 48			
20. 0	31. 43			
22. 0	30. 29			
Dec. 7. 0. 0	246. 27. 37			
1. 50	27. 29			
2. 0	27. 34			
2. 10	27·50			
4. 0	29. 24			
6. 0	30. 17			
8. 0	31. 5			
10. 0	31. 20	0·019709	37·0	G
12. 0	30. 56	019709	37. 0	D
14. 0	32. 41	019780	36·0	
16. 0	32. 48	019993	36·0	
18. 0	32. 46	019993	35·0	
20. 0	32. 48	019993	36·0	D
22. 0	30. 59	020348	36·5	JH
Dec. 8. 0. 0	246. 29. 46	0·018785	38·0	JH
1. 50	27. 13	019602		
2. 0	27. 15	019567	39·2	
2. 10	27. 18	019567		JH
4. 0	29. 26	019851	41·6	D
6. 0	32. 2	021902	41·0	
8. 0	29. 49	020856	41·7	
10. 0	32. 32	020979	42·0	D
12. 0	31. 39	020969	41·8	JH
14. 0	31. 55	021424	41·4	
16. 0	32. 16	021821	39·2	
18. 0	32. 13	022148	38·9	
20. 0	32. 47	022041	38·5	JH
22. 0	30. 38	018396	38·7	G
Dec. 9. 0. 0	246. 26. 37	0·022300	39·0	G
1 50	27. 59	022141		
2. 0	28. 1	022183	42·0	
2. 10	27. 54	022307		G
4. 0	27. 8	022158	44·5	JH
6. 0	28. 50	022123	43·6	
8. 0	32. 21	022336	42·0	
10. 0	32. 35	022666	41·4	JH
12. 0	32. 53	022389	39·8	G

Göttingen Mean Time(Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°	
Dec. 9. 14. 0	246. 31. 15	0·022911	39·2	G
16. 8	30. 59	023164	38·1	
18. 0	30. 39	023484	38·2	
20. 0	30. 44	023235	38·5	G
22. 0	29. 44	023935	38·8	D
Dec. 10. 0. 0	246. 27. 48	0·023448	40·8	D
1. 50	27. 52	021618		
2. 0	27. 45	021786	42·7	
2. 10	27. 46	022194		D
4. 0	29. 13	023136	47·2	G
6. 0	29. 34	023995	47·3	
8. 0	29. 42	023136	47·0	
10. 0	32. 25	025319	44·9	G
12. 0	32. 44	025791	47·9	D
14. 0	34. 25	027390	45·0	
16. 0	41. 1	027442	43·5	
18. 0	34. 3	029349	42·5	
20. 0	32. 9	028561	41·8	D
22. 0	28. 6	027084	42·1	G
Dec. 11. 0. 0	246. 24. 9	0·028302	42·6	JH
1. 50	...	027113		
2. 0	...	026196	42·0	
2. 10	...	025418		JH
4. 0	29. 50	029615	44·9	D
6. 0	37. 36	027492	44·6	
8. 0	39. 43	028149	45·8	
10. 0	43. 21	032162	44·0	D
12. 0	41. 30	033024	42·1	JH
14. 0	30. 16	035553	42·0	
16. 0	37. 52	036121	41·1	
18. 0	34. 0	036674	40·7	
20. 0	36. 54	035415	40·3	JH
22. 0	31. 26	032378	42·0	G
Dec. 12. 0. 0	246. 27. 12	0·024918	45·0	G
1. 50	26. 6	028053		
2. 0	29. 59	029580	43·0	
2. 10	31. 17	027816		G
4. 0	31. 15	027404	43·4	JH
6. 0	33. 59	027858	42·7	
8. 0	41. 40	028231	44·5	
10. 0	41. 35	031558	43·0	JH
12. 0	51. 8	031292	42·5	G

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°	
Dec. 13. 14. 0	246. 44. 3	0·031154	34·0	G
16. 0	38. 18	032261	35·0	
18. 0	34. 55	030422	35·7	
20. 0	36. 51	028185	39·3	G
22. 0	36. 53	033194	36·2	D
Dec. 14. 0. 0	246. 39. 15	0·033049	35·0	D
1. 50	34. 6	025567		
2. 0	34. 14	031487	37·7	
2. 10	34. 16	033024		D
4. 0	36. 23	032474	39·0	G
6. 0	38. 57	033230	38·3	
8. 0	38. 18	034225	36 2	
10. 0	40. 26	034445	36·5	G
12. 0	38. 14	034002	35·5	D
14. 0	38. 20	033973	36·2	
16. 0	37. 39	034402	35·1	
18. 0	38. 15	034605	34·6	
20. 0	38. 56	034967	34·0	D
22. 0	38. 34	034066	34·4	JH
Dec. 15. 0. 0	246. 51. 10	0·032787	36·4	JH
1. 50	48. 40	032183		
2. 0	49. 8	030539	39·0	
2. 10	49. 17	031083		JH
4. 0	49. 45	034942	41·2	D
6. 0	50. 45	033052	39·0	
8. 0	51. 49	033753	38·1	
10. 0	54. 35	034544	37·0	D
12. 0	52. 21	034090	35·4	JH
14. 0	51. 8	034385	34·0	
16. 0	51. 31	034339	33·6	
18. 0	50. 45	033991	33·0	
20. 0	51. 29	034563	32·0	JH
22. 0	54. 8	035805	32·0	G
Dec. 16. 0. 0	246. 47. 35	0·030245	34·2	G
1. 50	47. 32	030709		
2. 0	46. 18	029917	42·0	
2. 10	47. 17	028313		G
4. 0	49. 27	030610	46·0	JH
6. 0	51. 40	038174	42·0	
8. 0	52. 18	036671	40 8	
10. 0	54. 30	036515	39·8	JH
12. 0	54. 6	033763	42·1	G

The time of observation of the Horizontal Force Magnetometer is $2^m.30^s$ after the time of observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 2″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 183°; Dec. $8^d.0^h$, 183°; Dec. $11^d.4^h$, 198°. 50′; Dec. $15^d.0^h$, 238°. 10′.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 327°.40′. Reading for Brass Bar in the same position, 356°. 10′.
Time of Vibration of Horizontal Force Magnetometer, $16^s.2$.

Dec. 7^d. After the observation at 8^h, the Bifilar magnetometer was mounted: the second pair of rollers used.
Dec. 7^d. After the observation at 22^h the declination magnet was disturbed for the purpose of ascertaining its effect on the Bifilar magnetometer.
Dec. 9^d. A workman from Mr. Simms put a quadrant and spirit-level to the telescope of the theodolite.
Dec. 10^d. After the observation at 2^h the same person took the micrometer off, for the purpose of clearing the eye-tube of dust; on replacing it, he reversed the micrometer-head, leaving it on the same side as the unilluminated end of the telescope. This was not discovered until the observer began to take the observation at 4^h; he immediately changed it, and took the observation as soon afterwards as possible; this is the cause of the observation being 8 minutes late. The horizontal force magnetometer was, however, observed at its proper time. Dec. $10^d.22^h$. Line of collimation 100r·016.
Dec. 11^d. The micrometer again disturbed by Mr. Simms' workman taking the quadrant and the spirit-level off; the eye-tube being fixed by the screws of the quadrant passing through the tube.
Dec. $11^d.1^h$, An adjusting screw was fixed on the upright of the suspension of the declination magnetometer, for the more ready moving of the point of suspension.
Dec. $11^d.2^h$. Mr. Hind found the cross carried by the magnet deflected out of the field; Mr. Glaisher, on examining the magnet, found the north end of the needle about one inch east of the meridian. On inserting the brass bar, it immediately turned north end round by east one revolution; it was then checked, and when left it turned round another complete revolution, and it was again checked; it *then* continued to move in the same direction, then oscillated, and finally settled some degrees west of the north. By the above process the torsion was got rid of as nearly as possible, and the magnet was replaced for the 4^h observation. The angle through which the skein was twisted $(735°.50')$ drew the end of the magnet about 1 inch, or 4°. 7′, therefore the torsion force is $\frac{4\cdot7}{735\cdot8} = \frac{1}{157}$ of earth's magnetic force nearly.
Dec. $11^d.22^h$. Determined the line of collimation of the telescope 100r·048.
Dec. $14^d.2^h.10^m$. After this observation the quadrant and the spirit-level were again fixed on the telescope, and also a ring-clamp on the eye-end of the telescope, for pinching the eye-tube.
Dec. $14^d.22^h$. Line of collimation 100r·194.
Dec. $15^d.0^h$. The theodolite reading was 12′ + greater than at the preceding observation: the position of the torsion circle had been altered between the observations.

Daily Observations from December 16 to 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.	Observers.
d h m	° ′ ″		°	
Dec. 16. 14. 0	246. 52. 57	0·033202	45·1	G
16. 0	51. 13	035074	44·8	
18. 0	52. 31	040091	42·0	
20. 0	52. 22	039196	41·0	G
22. 0	52. 7	037232	44·8	D
Dec. 17. 0. 0	246. 44. 36	0·039956	45·5	D
1. 50	42. 36	040891		
2. 0	44. 55	040901	44·8	
2. 10	46. 35	040606		D
4. 0	45. 59	041115	45·0	G
6. 0	50. 54	041796	43·0	
8. 0	52. 20	043305	41·0	
10. 0	246. 55. 49	043234	40·0	G
12. 0	247. 4. 12	043578	35·7	D
14. 0	246. 56. 12	044424	34·3	
16. 0	51. 37	043511	33·2	
18. 0	53. 10	044327	31·8	
20. 0	49. 37	042960	32·0	D
21. 0	51. 58	042552	33·1	J H
Dec. 18. 0. 0	246. 48. 56	0·039061	35·0	J H
1. 50	45. 46	038412		
2. 0	45. 59	038734	39·8	
2. 10	46. 18	038966		J H
4. 0	49. 37	040173	40·2	D
6. 0	50. 55	038121	39·0	
8. 0	51. 37	038777	38·8	
10. 0	52. 23	040233	39·0	D
12. 0	52. 46	047583	43·3	J H
14. 0	50. 48	038504	41·2	
16. 0	52. 53	039477	41·3	
18. 0	53. 38	039239	39·5	
20. 0	50. 23	039416	37·8	J H
22. 0	52. 40	040038	38·8	D
Dec. 19. 0. 0	246. 29. 1	0·045010	40·0	D
1. 50	37. 39	038884		
2. 0	38. 5	040009	47·5	
2. 10	35. 7	040126		D
4. 0	25. 4	043560	49·3	J H
6. 0	29. 38	040837	47·5	
8. 0	33. 59	044981	45·0	
10. 0	45. 45	030777	43·5	J H
12. 0	36. 39	048767	43·0	G

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°	
Dec. 20. 14. 0	246. 19. 8	0·050755	35·0	G
16. 0	5. 30	047062	36·1	
18. 0	17. 15	047292	42·0	
20. 0	27. 44	045116	44·0	G
22. 0	21. 26	043404	43·1	D
Dec. 21. 0. 0	246. 22. 27	0·040187	41·9	D
1. 50	19. 1	046046		
2. 0	22. 10	045336	48·8	
2. 10	22. 52	045159		D
4. 0	1. 36	047523	47·0	G
6. 0	6. 9	051589	46·0	
8. 0	3. 7	042992	46·0	
10. 0	22. 8	041512	42·0	G
12. 0	13. 16	048588	42·0	D
14. 0	12. 10	047512	39·2	
16. 0	12. 16	049679	39·0	
18. 0	12. 12	045855	39·8	
20. 0	12. 13	050069	39·0	D
22. 0	12. 15	049600	40·9	J H
Dec. 22. 0. 0	246. 28. 2	0·050158	41·9	J H
1. 50	0. 59	050371		
2. 0	0. 56	050307	44·8	
2. 10	0. 57	050187		J H
4. 0	2. 36	050630	15·0	D
6. 0	4. 25	051622	42·0	
8. 0	3. 29	051551	39·0	
10. 0	10. 53	052065	40·2	D
12. 0	9. 55	053975	38·0	J H
14. 0	8. 51	053975	37·2	
16. 0	9. 50	054568	36·7	
18. 0	10. 22	053738	34·0	
20. 0	11. 10	055639	34·0	J H
22. 0	9. 24	054881	33·8	D
Dec. 23. 0. 0	246. 2. 40	0·051906	35·0	G
1. 50	245. 58. 40	052697		
2. 0	245. 59. 21	052314	39·7	
2. 10	246. 0. 17	052370		G
4. 0	0. 44	052864	42·1	J H
6. 0	4. 44	050680	41·7	
8. 0	5. 4	053265	39·6	
10. 0	8. 10	052332	36·7	J H
12. 0	14. 56	051710	36·0	G

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°	
Dec. 23. 14. 0	246. 15. 2	0·051977	36·0	G
16. 0	13. 53	051668	34·2	
18. 0	10. 18	052768	34·2	
20. 0	9. 11	053674	34·2	G
22. 0	9. 43	052971	35·0	D
Dec. 24. 0. 0	246. 3. 36	0·051358	37·8	D
1. 50	0. 8	053283		
2. 0	1. 51	053496	41·0	D
2 10	2. 23	053489		J H
4. 0	5. 50	050680	46·0	G
6. 0	10. 47	051802	43·0	
8. 0	14. 54	052886	42·0	
10. 0	14. 27	051703	43·0	G
12. 0	12. 26	051710	41·0	D
14. 0	10. 21	052637	38·3	
16. 0	9. 23	052946	36·2	
18. 0	11. 15	053414	34·5	
20. 0	11. 50	053432	34·2	D
22. 0	11. 1	052761	33·0	G
Dec. 25. 0. 0	246. 3. 52	0·052200	34·5	G
1. 50	4. 44	052441		J H
2. 0	4. 11	052420	37·3	
2. 10	4. 7	052271		
4. 0	7. 55	051799	41·3	
6. 0	10. 40	051515	41·8	J H
8. 0	12. 26	052378	38·5	D
10. 0	13. 39	052491	36·0	D
12. 0	15. 31	053379	34·1	J H
14. 0	13. 33	053418	30·0	
16. 0	11. 53	053113	30·0	
18. 0	12. 19	053301	32·0	
20. 0	10. 7	053276	32·0	J H
22. 0	12. 43	052094	33·3	G
Dec. 26. 0. 0	246. 29. 52	0·051454	35·0	G
1. 50	28. 15	050364		D
2. 0	28. 3	051046	37·8	
2. 10	28. 1	051017		D
4. 0	29. 14	052971	37·4	J H
6. 0	32. 1	050868	37·0	
8. 0	32. 15	050875	36·5	
10. 0	34. 13	051785	36·2	J H
12. 0	33. 39	051216	36·5	G

The time of observation of the Horizontal Force Magnetometer is $2^m.30^s$ after the time of observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 2″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 238°. 10′; Dec. $19^d.0^h$, 182°; Dec. $26^d.0^h$, 246°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 327°. 40′. Reading for Brass Bar in the same position, 356°. 10′.
Time of Vibration of Horizontal Force Magnetometer, $16^s.2$.

Dec. $18^d.23^h$. Observations were made to determine the angle of torsion of the horizontal force magnetometer.
Dec. 19^d. The theodolite reading is less by 23′ than at the preceding observation: a great change of 56° in the reading of the torsion-circle had been made between the observations.
Dec. $19^d.10^h$. The horizontal force magnetometer had a very large swing, causing the observation to be rather doubtful: both needles unsteady.
Dec. 20^d. After the observation at 20^h, the mean time clock was removed.
Dec. 21^d. After the observation at $2^h.10^m$, the string connecting the silk-skein and the windlass, at the back of the upright carrying the suspension of the declination magnetometer, was taken away, and a piece of flat leather used instead of it.
Dec. 21^d. After the observation at $2^h.10^m$, in observations of the horizontal force magnetometer, the divisions of the scale at the extremities of the vibration were observed: all observations previous to this have been taken, by recording the division passing the vertical wire at pre-computed times.
From Dec. $21^d.12^h$ to Dec. $21^d.22^h$, the declination magnet was unusually steady, being almost without vibration: it had previously been very unsteady for several hours.
Dec. 22^h. Between the observations at noon and at $1^h.50^m$, a change of 27′ in the reading of the theodolite.
Dec. $23^d.14^h$. The horizontal force magnet had a very great swing, extending beyond the scale; there was no apparent cause for this: the mean reading, however, was not [altered.
Dec. $25^d.23^h$. The angle of torsion of the horizontal force magnetometer was determined.

Daily Observations from December 27 to January 6.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°	
Dec. 27. 14. 0	246. 33. 30	0·050431	34·0	G
16. 0	32. 44	050371	37·0	
18. 0	32. 56	051134	37·0	
20. 0	33. 44	051099	37·0	G
22. 0	33. 18	049892	37·6	D
Dec. 28. 0. 0	246. 30. 59	0·046366	43·8	D
1. 50	29. 37	047289		
2. 0	29. 35	046934	44·2	
2. 10	29. 23	048081		D
4. 0	30. 42	049015	42·0	G
6. 0	31. 0	050016	45·0	
8. 0	29. 21	049952	44·0	
10. 0	31. 46	051561	41·0	G
12. 0	36. 28	051046	38·6	D
14. 0	36. 22	050194	36·2	
16. 0	36. 49	049810	34·8	
18. 0	34. 30	050822	34·0	
20. 0	27. 26	051537	34·0	D
22. 0	24. 21	050627	35·4	JH
Dec. 29. 0. 0	246. 19. 17	0·049260	35·8	JH
1. 50	22. 30	048692		
2. 0	25. 14	048117	36·2	
2. 10	25. 28	048472		JH
4. 0	24. 51	047914	38·0	D
6. 0	31. 45	048000	37·8	
8. 0	38. 40	048834	36·6	
10. 0	33. 59	049104	38·8	D
12. 0	37. 10	048426	38·0	JH
14. 0	38. 35	048589	37·0	
16. 0	33. 52	048532	36·0	
18. 0	34. 31	050613	34·5	
20. 0	34. 26	050556	34·0	JH
22. 0	32. 34	050833	34·5	G
Dec. 30. 0. 0	246. 31. 31	0·049881	34·0	G
1. 50	29. 24	049761		D
2. 0	29. 39	049508	37·5	
2. 10	29. 46	049562		D
4. 0	30. 9	049775	40·0	JH
6. 0	31. 41	050041	38·7	
8. 0	26. 29	048266	38·0	
10. 0	37. 14	048195	37·0	JH
12. 0	35. 1	049899	38·0	G

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°	
Dec. 30. 14. 0	246. 38. 17	0·048767	38·0	G
16. 0	41. 5	048720	39·5	
18. 0	35. 11	050478	40·0	
20. 0	29. 43	049253	40·0	G
22. 0	32. 32	048887	42·3	D
Dec. 31. 0. 0	246. 29. 28	0·049103	42·8	D
1. 50	29. 17	048731		
2. 0	29. 26	048976	44·0	
2. 10	29 11	048408		D
4. 0	30. 51	048692	46·0	G
6. 0	33. 50	048507	47·0	
8. 0	33. 52	046565	50·0	
10. 0	37. 25	050062	47·5	G
12. 0	44. 34	050726	45·2	D
14. 0	39. 32	048838	43·8	
16. 0	34. 36	050282	44·3	
18. 0	34. 24	051287	42·8	
20. 0	36. 26	050665	43·0	D
22. 0	35. 29	050247	44·0	JH
Jan. 1. 0. 0	246. 31. 29	0·026495	47·5	JH
1. 50	29. 58	027546		
2. 0	29. 57	027527	49·0	
2. 10	29. 38	027527		JH
4. 0	31. 58	029546	50·0	D
6. 0	31. 19	028583	48·5	
8. 0	33. 35	028568	48·0	
10. 0	37. 5	028903	47·0	D
12. 0	39. 5	029926	47·5	JH
14. 0	39. 17	029483	48·7	
16. 0	37. 36	030516	47·0	
18. 0	36. 45	029962	46·0	
20. 0	36. 47	030356	46·0	JH
22. 0	36. 19	030383	46·2	D
Jan. 2. 0. 0	246. 44. 41	0·028930	48·0	D
1. 50	41. 44	028819		
2. 0	42. 25	028689	51·0	
2. 10	42. 56	028948		D
4. 0	45. 54	030424	50·4	JH
6. 0	49. 5	030332	51·0	
8. 0	48. 54	029373	47·8	
10. 0	52. 10	031069	47·0	JH
12. 0	51. 27	029136	48·0	G

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°	
Jan. 3. 14. 0	246. 50. 44	0·033368	35·0	G
16. 0	52. 20	032568	35·0	
18. 0	49. 45	032375	36·5	
20. 0	48. 29	032368	36·5	G
22. 0	49. 24	031822	35·2	D
Jan. 4. 0. 0	246. 46. 22	0·031217	39·3	JH
1. 50	45. 4	030365		D
2. 0	45. 26	030726	42·0	
2. 10	45. 23	030804		D
4. 0	45. 52	030775	44·0	G
6. 0	47. 24	029103	46·0	
8. 0	51. 24	030055	44·0	
10. 0	48. 33	031626	42·0	G
12. 0	49. 54	031542	42·0	D
14. 0	48. 18	030915	40·2	
16. 0	48. 33	030978	39·5	
18. 0	48. 50	031195	39·5	
20. 0	49. 38	032483	39·0	D
22. 0	49. 40	031819	37·2	JH
Jan. 5. 0. 0	246. 44. 41	0·030775	37·0	JH
1. 50	45. 39	030775		
2. 0	45. 49	030841	40·8	
2. 10	45. 44	031427		JH
4. 0	48. 22	032110	40·5	D
6. 0	48. 51	032294	40·0	
8. 0	55. 22	030465	40·8	
10. 0	49. 48	030088	43·2	D
12. 0	51. 5	031195	41·3	JH
14. 0	48. 43	032937	39·4	
16. 0	48. 45	032530	38·7	
18. 0	49. 25	032859	38·0	
20. 0	49. 26	032286	37·0	JH
22. 0	50. 43	032151	38·0	D
Jan. 6. 0. 0	246. 49. 21	0·032457	37·0	D
1. 50	46. 13	032744		G
2. 0	46. 10	032613	38·5	D
2. 10	45. 52	032516		D
4. 0	46. 56	032405	38·8	JH
6. 0	49. 0	032767	38·5	
8. 0	49. 8	032136	37·4	
10. 0	50. 27	032804	37·0	JH
12. 0	51. 39	031246	37·0	G

The time of observation of the Horizontal Force Magnetometer is $2^m.30^s$ after the time of observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 2″; Jan. 1, 269°. 52′. 30″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 246°; Jan. $2^d.0^h$, 285°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 327°, 40′; Jan. 1^d, 313°. 56′. Reading for Brass Bar in the same position, 356°. 10′; Jan. 1^d, 354°. 59′.
Time of Vibration of Horizontal Force Magnetometer, $16^s.2$; Jan. 1^d, $21^s.5$.

Dec. $31^d.22^h$. After this, the horizontal force magnetometer was suspended from the upper pair of rollers (those whose axes are nearest each other), and the angle of torsion was determined.

Jan. $2^d.18^h$. A thunder storm of unusual violence passed over the Observatory: the needles were examined, and were in a very quiescent state.

Daily Observations from January 6 to 16.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force	Observers.
d h m	° ′ ″		°	
Jan. 6. 14. 0	246. 48. 46	0·032216	39·0	G
16. 0	49. 25	033159	37·0	
18. 0	44. 22	033812	36·0	
20. 0	49. 22	034822	32·0	G
22. 0	51. 6	033280	31·0	D
Jan. 7. 0. 0	246. 46. 31	0·030147	32·0	J H
1. 50	41. 9	029852		D
2. 0	40. 53	030092	38·0	
2. 10	40. 48	029790		D
4. 0	45. 6	031476	40·0	G
6. 0	50. 29	029336	39·0	
8. 0	51. 11	031527	40·0	
10. 0	50. 48	031963	35·0	G
12. 0	50. 8	032748	34·0	D
14. 0	48. 41	031804	33·0	
16. 0	45. 0	034339	32·0	
18. 0	46. 46	034211	29·0	
20. 0	48. 47	034368	28·0	D
22. 0	46. 31	032191	27·5	J H
Jan. 8. 0. 0	246. 45. 9	0·032176	27·6	J H
1. 50	44. 1	033232		
2. 0	44. 27	033565	28·3	
2. 10	44. 21	033638		J H
4. 0	46. 37	032424	30·0	D
6. 0	46. 23	030513	31·8	
8. 0	48. 31	032900	29·0	
10. 0	55. 12	032184	29·0	D
12. 0	50. 19	033401	26·5	J H
14. 0	41. 29	035025	25·0	
16. 0	51. 19	033100	24·0	
18. 0	49. 57	035904	22·0	
20. 0	49. 1	035615	22·0	J H
22. 0	49. 11	033970	23·5	D
Jan. 9. 0. 0	246. 38. 22	0·028727	30·0	D
1. 50	37. 43	029645		
2. 0	38. 6	029586	35·0	
2. 10	37. 29	029630		D
4. 0	39. 6	029761	35·6	J H
6. 0	49. 47	029151	34·3	
8. 0	43. 31	029003	33·2	
10. 0	44. 11	030671	32·8	J H
12. 0	43. 41	028988	35·0	D

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°	
Jan. 10. 14. 0	246. 44. 0	0·031320	36·0	G
16. 0	42. 32	029114	38·0	
18. 0	43. 0	029612	39·0	
20. 0	42. 39	030110	39·0	G
22. 0	42. 20	029512	39·5	D
Jan. 11. 0. 0	246. 38. 54	0·028841	39·0	D
1. 50	37. 2	026088		
2. 0	37. 14	026343	45·0	
2. 10	37. 29	026184		D
4. 0	40. 11	027524	48·0	G
6. 0	43. 2	025719	50·0	
8. 0	41. 14	026374	51·5	
10. 0	42. 44	028055	49·0	G
12. 0	43. 28	028365	46·0	D
14. 0	41. 6	030121	43·5	
16. 0	42. 7	029716	42·0	
18. 0	42. 33	030354	41·5	
20. 0	41. 32	030483	39·6	D
22. 0	43. 36	030332	41·2	J H
Jan. 12. 0. 0	246. 43. 9	0·027668	41·4	J H
1. 50	39. 23	028401		
2. 0	39. 17	029745	43·9	
2. 10	39. 1	030172		J H
4. 0	40. 37	027343	48·0	D
6. 0	42. 16	027026	46·0	
8. 0	42. 35	027686	46·0	
10. 0	43. 36	029512	43·5	D
12. 0	43. 46	030372	42·5	J H
14. 0	42. 57	030509	41·0	
16. 0	42. 30	031095	40·3	
18. 0	40. 41	032516	39·0	
20. 0	26. 42	029553	38·0	JH
22. 0	36. 7	031025	38·5	D
Jan. 13. 0. 0	246. 34. 21	0·028058	40·0	D
1. 50	31. 49	024420		
2. 0	34. 59	024708	42·0	
2. 10	34. 42	026092		D
4. 0	40. 13	027753	43·6	J H
6. 0	42. 42	028601	42·0	
8. 0	42. 25	028590	40·6	
10. 0	43. 9	029062	40·2	J H
12. 0	44. 38	029007	39·0	G

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°	
Jan. 13. 14. 0	246. 42. 11	0·028428	39·0	G
16. 0	43. 38	028753	38·0	
18. 0	41. 41	031173	38·0	
20. 0	42. 13	030332	38·0	G
22. 0	40. 36	028859	41·0	D
Jan. 14. 0. 0	246. 36. 39	0·026243	40·0	D
1. 50	35. 44	027195		
2. 0	35. 42	027203	43·0	
2. 10	35. 35	027272		D
4. 0	35. 19	027062	44·0	G
6. 0	36. 48	028310	39·0	
8. 0	44. 27	027859	42·0	
10. 0	44. 22	029087	42·0	G
12. 0	43. 53	028804	39·0	D
14. 0	44. 23	031224	39·0	
16. 0	46. 44	028930	39·0	
18. 0	47. 30	030509	39·0	
20. 0	47. 19	029933	39·0	D
22. 0	43. 11	027476	41·6	J H
Jan. 15. 0. 0	246. 36. 2	0·027022	43·6	J H
1. 50	34. 7	026332		
2. 0	34. 9	026793	44·8	
2. 10	34. 57	026877		J H
4. 0	37. 18	027258	47·0	D
6. 0	41. 46	026010	46·0	
8. 0	44. 13	026929	44·5	
10. 0	54. 14	026232	43·0	D
12. 0	49. 23	027487	42·8	J H
14. 0	43. 44	029284	40·9	
16. 0	40. 55	029530	40·5	
18. 0	46. 9	030343	40·3	
20. 0	40. 6	030505	39·5	J H
22. 0	43. 43	028572	41·0	D
Jan. 16. 0. 0	246. 34. 36	0·025904	44·0	D
1. 50	33. 53	023940		
2. 0	32. 51	023181	46·0	
2. 10	33. 32	022701		D
4. 0	34. 46	022826	47·5	J H
6. 0	36. 55	025509	47·0	
8. 0	37. 57	025601	48·0	
10. 0	38. 39	025014	48·6	
12. 0	39. 4	024670	50·0	J H

The time of observation of the Horizontal Force Magnetometer is 2m. 30s after the time of observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 30″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 285°; Jan. 9d. 0h, 263°; Jan. 16d. 0h, 246°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 313°. 56′. Reading for Brass Bar in the same position, 354°. 59′.
Time of Vibration of Horizontal Force Magnetometer, 21s·5.

Jan. 9d. 0h. The theodolite reading was less by 11′ than at the preceding observation. The torsion circle had been moved through an angle of 22° between the observations.

Jan. 16d. 11h. The horizontal force needle was taken out of the stirrup, and observations were taken first when the brass bar was inserted; next when the magnet was inserted with its marked end towards the west; and, lastly, when the magnet was inserted, with its marked end towards the east, to determine the angle of torsion: the magnet was left for observation with marked end east.

Jan. 12d. 20h. Both needles unsteady.

Daily Observations from January 17 to 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.	Observers.
d h m	° ′ ″		°	
Jan. 17. 14. 0	246. 39. 33	0·024907	48·0	G
16. 0	39. 41	021823	49·0	
18. 0	39. 18	021981	54·0	
20. 0	39. 32	023369	53·2	G
22. 0	40. 21	023461	52·0	D
Jan. 18. 0. 0	246. 39. 32	0·022568	52·0	D
1. 50	36. 29	019988		
2. 0	35. 53	020431	55·0	
2. 10	36. 5	020302		D
4. 0	36. 13	022103	54·5	G
6. 0	39. 1	022034	55·0	
8. 0	39. 12	022129	54·0	
10. 0	39. 47	023037	54·0	G
12. 0	39. 57	023376	51·5	D
14. 0	39. 22	025204	49·0	
16. 0	40. 15	025186	48·0	
18. 0	39. 47	026557	47·0	
20. 0	39. 49	027177	45·5	D
22. 0	39. 47	026077	45·4	J H
Jan. 19. 0. 0	246. 38. 26	0·025708	48·4	J H
1. 50	32. 10	022826		
2. 0	32. 22	021948	47·5	
2. 10	31. 25	022177		J H
4. 0	31. 32	023011	48·0	D
6. 0	32. 31	020745	48·0	
8. 0	37. 38	022815	48·0	
10. 0	40. 55	023583	46·0	D
12. 0	53. 41	021225	46·0	J H
14. 0	44. 4	025097	41·5	
16. 0	43. 46	025395	40·7	
18. 0	40. 0	026329	39·8	
20. 0	40. 58	026473	39·0	J H
22. 0	38. 27	024823	40·0	D
Jan. 20. 0. 0	246. 36. 34	0·024597	41·0	D
1. 50	33. 28	023929		
2. 0	33. 27	023827	43·0	
2. 10	32. 49	023258		D
4. 0	31. 4	025125	44·0	J H
6. 0	35. 53	023841	42·9	
8. 0	42. 42	022125	40·5	J H
10. 0	50. 32	023542	40·0	G
12. 0	42. 22	021405	43·5	G

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°	
Jan. 20. 14. 0	246. 41. 40	0·021594	46·0	D
16. 0	39. 27	022562	45·0	R
18. 0	39. 3	023373	43·0	W R
20. 0	40. 50	023627	42·0	M
22. 0	40. 10	025355	39·8	J H
Jan. 21. 0. 0	246. 36. 56	0·024472	42·0	D
1. 50	34. 45	024450		D
2. 0	34. 59	024450	43·3	J H
2. 10	34. 15	024369		J H
4. 0	37. 15	023575	45·5	D
6. 0	35. 30	023074	47·5	G
8. 0	30. 44	023218	48·0	J H
10. 0	41. 37	021834	47·0	J H
12. 0	41. 15	023309	44·0	D
14. 0	46. 41	024945	42·0	
16. 0	41. 53	024483	41·5	
18. 0	40. 6	026147	40·0	
20. 0	41. 18	026465	39·0	D
22. 0	38. 6	025556	38·0	J H
Jan. 22. 0. 0	246. 40. 30	0·026435	38·2	J H
1. 50	33. 43	026354		
2. 0	32. 22	024420	39·7	
2. 10	33. 16	023137		J H
4. 0	35. 15	025443	42·0	D
6. 0	38. 51	022999	46·0	
8. 0	41. 50	021779	47·5	
10. 0	42. 10	024237	47·0	D
12. 0	40. 37	023594	48·0	J H
14. 0	40 49	023959	47·0	
16. 0	39. 29	024229	45·9	
18. 0	39. 30	023856	46·3	
20. 0	40. 8	024454	45·5	J H
22. 0	39. 59	023453	47·0	D
Jan. 23. 0. 0	246. 35. 59	0·022645	48·0	D
1. 50	36. 20	022904		
2. 0	36. 1	022966	48·5	
2. 10	36. 14	023170		D
4. 0	37. 51	023343	48·0	G
6. 0	39. 56	023627	47·0	
8. 0	39. 3	023708	47·5	
10. 0	42. 31	025439	45·2	
12. 0	42. 52	024856	42·5	G

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°	
Jan. 24. 14. 0	246. 40. 43	0·027214	34·5	J H
16. 0	39. 16	027837	35·0	
18. 0	43. 8	026391	35·2	
20. 0	39. 39	028852	35·5	J H
22. 0	39. 38	026221	37·0	D
Jan. 25. 0. 0	246. 34. 20	0·023358	39·0	D
1. 50	31. 34	024295		
2. 0	29. 32	023686	41·0	
2. 10	28. 22	023214		D
4. 0	32. 13	022974	44·0	J H
6. 0	28. 51	023254	43·1	
8. 0	33. 40	024006	41·7	
10. 0	35. 3	025251	40·6	J H
12. 0	34. 1	025163	40·0	D
14. 0	33. 15	025675	41·0	
16. 0	30. 13	024889	41·0	
18. 0	40. 8	024967	41·0	
20. 0	36. 47	023973	42·0	D
22. 0	33. 46	023059	44·7	J H
Jan. 26. 0. 0	246. 29. 41	0·023641	45·5	J H
1. 50	30. 55	022855		
2. 0	31. 54	022908	47·0	
2. 10	31. 43	022959		J H
4. 0	31. 24	022539	51·0	D
6. 0	39. 45	022350	51·0	
8. 0	47. 40	021413	53·0	
10. 0	40. 9	020340	53·0	D
12. 0	37. 23	021826	53. 0	G
14. 0	33. 7	022712	52·0	
16. 0	31. 10	023601	51·0	
18. 0	35. 21	025007	48·0	
20. 0	34. 30	023539	50·0	G
22. 0	32. 37	022111	49·0	J H
Jan. 27. 0. 0	246. 30. 47	0·019583	53·5	J H
1. 50	30. 3	020033		
2. 0	29. 16	019446	56·0	
2. 10	30. 21	019908		J H
4. 0	31. 8	021103	55·8	G
6. 0	33. 30	022881	56·0	
8. 0	36. 17	021416	57·0	
10. 0	44. 18	023258	53·0	G
12. 0	45. 29	022324	51·5	J H

The time of observation of the Horizontal Force Magnetometer is $2^m.30^s$ after the time of observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 30″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 246°; Jan $25^d.0^h$, 230½°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 313°. 56′. Reading for Brass Bar in the same position, 354°. 59′.
Time of Vibration of Horizontal Force Magnetometer, $21^s.5$.

Jan. $19^d.12^h$. The position of the declination magnetometer is 13′ different from what it was at the preceding observation, and 9′ from what it was at the subsequent observation.

Daily Observations from January 27 to February 6.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°		d h m	° ′ ″		°		d h m	° ′ ″		°	
Jan. 27. 14. 0	246. 36. 16	0·022269	47·9	J H	Jan. 31. 14. 0	246. 37. 3	0·029446	37·0	J H	Feb. 3. 14. 0	246. 30. 29	0·032370	32·4	J H
16. 0	41. 41	024355	45·7		16. 0	36. 39	030225	36·0		16. 0	30. 29	032627	31·6	
18. 0	36. 16	025101	45·3		18. 0	33. 1	032147	35·6		18. 0	30. 16	033302	31·0	
20. 0	33. 38	024535	43·5	J H	20. 0	31. 25	031926	35·6	J H	20. 0	31. 55	033753	30·4	J H
22. 0	32. 50	022678	45·0	D	22. 0	31. 54	030775	37·0	D	22. 0	31. 8	032003	30·0	D
Jan. 28. 0. 0	246. 32. 4	0·021956	46·0	D	Feb. 1. 0. 0	246. 27. 56	0·029247	37·0	D	Feb. 4. 0. 0	246. 27. 14	0·032428	30·3	P
1. 50	30. 55	023446			1. 50	25. 54	030449			1. 50	26. 12	032623		D
2. 0	29. 32	023431	49·0		2. 0	25. 52	030637	39·5		2. 0	26. 16	032594	31·5	
2. 10	29. 19	023819		D	2 10	25. 23	030084		D	2. 10	26. 29	031730		D
4. 0	31. 34	023738	48·8	J H	4. 0	26. 30	030852	40·4	J H	4. 0	29. 22	031498	34·0	J H
6. 0	34. 20	022734	49·3		6. 0	29. 31	030608	38·4		6. 0	29. 53	030427	32·5	
8. 0	34. 37	023063	51·0		8. 0	29. 45	031822	36·5		8. 0	30. 28	030128	32·7	
10. 0	35. 26	023995	49·0	J H	10. 0	30. 7	031409	36·5	J H	10. 0	30. 48	031312	33·0	J H
12. 0	37. 56	024088	47·0	D	12. 0	31. 9	030147	36·5	D	12. 0	31. 2	030619	33·0	D
14. 0	36. 38	024048	46·0		14. 0	31. 24	030841	36·0		14. 0	32. 5	031409	33·5	
16. 0	38. 53	024741	44·0		16. 0	29. 22	031387	35·0		16. 0	30. 54	031409	32·8	
18. 0	35. 28	026010	42·5		18. 0	29. 28	031877	34·0		18. 0	31. 53	033015	32·0	
20. 0	36. 16	025310	42·0	D	20. 0	29. 31	032087	33·5	D	20. 0	30. 15	031771	32·0	D
22. 0	35. 29	024277	42·5	J H	22. 0	29. 54	029220	34·0	G	22. 0	31. 32	030213	32·0	J H & P
Jan. 29. 0. 0	246. 34. 38	0·020908	45·6	J H	Feb. 2. 0. 0	246. 27. 59	0·029929	36·5	J H	Feb. 5. 0. 0	246. 31. 34	0·030405	33·0	P
1. 50	31. 26	020956			1. 50	26. 3	031977			1. 50	25. 57	029512		J H
2. 0	31. 13	021184	50·7		2. 0	26. 14	032073	36·0		2. 0	25. 29	029018	33·3	
2. 10	30. 47	021276		J H	2. 10	25. 36	031509		J H	2. 10	25. 13	029645		
4. 0	30. 47	022361	51·5	D	4. 0	26. 12	029110	39·0	D	4. 0	28. 7	029479	38·0	
6. 0	32. 59	022306	52·5		6. 0	26. 50	029380	41·0		6. 0	30. 48	030092	38·5	J H
8. 0	33. 9	021856	52·0		8. 0	30. 2	030881	40·0		8. 0	31. 39	030786	36·0	D
10. 0	35. 32	022184	51·0	D	10. 0	31. 16	030896	39·0	D	10. 0	32. 1	030819	32·0	D
12. 0	36. 29	022631	51·5	G	12. 0	31. 53	031177	38·0	G	12. 0	31. 34	031102	35·0	G
14. 0	38. 15	023295	49·0		14. 0	35. 42	030845	35·2		14. 0	31. 27	031977	34·0	
16. 0	35. 5	023922	49·0		16. 0	29. 9	031427	34·5		16. 0	31. 1	032704	34·0	
18. 0	37. 20	024376	48·0		18. 0	31. 12	032472	33. 5		18. 0	30. 34	032350	34·2	
20. 0	34. 52	025277	46·0	G	20. 0	32. 18	033225	32·0	G	20. 0	32. 15	032652	34·0	G
22. 0	36. 2	024715	45·0	D	22. 0	30. 6	032900	31·0	J H	22. 0	32. 4	031619	33·2	J H
Jan. 30. 0. 0	246. 32. 51	0·023291	46·3	J H	Feb. 3. 0. 0	246. 28. 57	0·031494	31·6	J H	Feb. 6. 0. 0	246. 28. 32	0·031608	32·8	J H
1. 50	27. 20	023827			1. 50	28. 1	030782			1. 50	26. 30	030560		
2. 0	29. 36	023096	47·0		2. 0	28. 25	030161	34·6		2. 0	27. 1	030405	33·6	
2. 10	28. 25	023918		J H	2. 10	26. 36	030232		J H	2. 10	26. 41	031511		J H
4. 0	29. 31	023708	47·0	G	4. 0	27. 14	030590	38·0	G	4. 0	27. 59	031671	34·0	G
6. 0	31. 38	023557	47·5		6. 0	30. 27	030438	40·0		6. 0	30. 47	031575	34·0	
8. 0	38. 20	023328	49·0		8. 0	31. 8	030856	37·0		8. 0	30. 22	031560	34·0	
10. 0	38. 6	024195	48·0	G	10. 0	29. 22	031752	37·0	G	10. 0	37. 35	031833	33·5	G
12. 0	38. 56	023782	47·0	J H	12. 0	30. 40	032184	34·8	J H	12. 0	33. 53	032353	30·9	J H

The time of observation of the Horizontal Force Magnetometer is $2^m.30^s$ after the time of observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 27″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 230½°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 313°. 56′. Reading for Brass Bar in the same position, 354°. 59′.
Time of Vibration of Horizontal Force Magnetometer, $21^s.5$.

Jan. $30^d.21^h$ to Jan. $31^d.1^h$. Experiments were made to determine the effect of the meridian magnet on the horizontal force magnet.

Feb. 6^d. A heavy gale of wind: no effect on the magnets.

Feb. 7^d. Between 20^h and 22^h the mean time clock was fixed in its place.

Daily Observations from February 7 to 17.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force	Thermometer of Horizontal Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°		d h m	° ′ ″		°		d h m	° ′ ″		°	
Feb. 7. 14. 0	246. 41. 7	0·028073	26·8	JH	Feb. 10. 14. 0	246. 38. 45	0·029764	35·0	JH	Feb. 14. 14. 0	246. 39. 43	0·028656	47·0	JH
16. 0	26. 51	029373	27·0		16. 0	37. 45	029069	35·3		16. 0	40. 28	026424	47·6	
18. 0	29. 11	029995	28·0		18. 0	38. 18	030472	35·7		18. 0	39. 16	029324	47·5	
20. 0	30. 43	030597	29·3	JH	20. 0	38. 43	031084	36·2	JH	20. 0	39. 43	027498	46·8	JH
22. 0	31. 36	029519	33·0	D	22. 0	39. 19	029656	37·0	D	22. 0	40. 14	029073	47·0	P
Feb. 8. 0. 0	246. 33. 16	0·024737	37·0	D	Feb. 11. 0. 0	246. 36. 34	0·027609	40·0	P	Feb. 15. 0. 0	246. 33. 58	0·027177	49·0	P
1. 50	32. 31	026347		G	1. 50	32. 48	027535		D	1. 50	30. 32	024170		
2. 0	30. 56	026870	38·0	D	2. 0	33. 23	026940	41·0		2. 0	29. 40	023099	53·0	
2. 10	28. 34	026663		D	2. 10	32. 56	027221		D	2. 10	30. 4	023159		P
4. 0	30. 21	026992	38·5	JH	4. 0	32. 59	028804	43·0	JH	4. 0	26. 26	024579	52·6	JH
6. 0	34. 8	027217	37·7		6. 0	38. 4	026840	43·2		6. 0	37. 4	026782	52·3	
8. 0	38. 34	028465	36·3	JH	8. 0	38. 26	027804	42·2		8. 0	42. 44	023185	50·7	
10. 0	40. 54	028191	36·0	P	10. 0	45. 38	026723	42·4	JH	10. 0	29. 18	023535	49·6	JH
12. 0	40. 40	029331	35·0	D	12. 0	44. 30	026358	42·0	D	12. 0	48. 55	024070	52·0	D
14. 0	39. 47	028594	37·0		14. 0	48. 31	027602	44·0		14. 0	39. 36	023827	53·0	
16. 0	37. 42	028539	35·0		16. 0	40. 21	028100	44·0		16. 0	41. 15	023597	53·5	
18. 0	39. 0	028561	38·0		18. 0	37. 39	026999	47·0		18. 0	43. 8	025255	51·0	
20. 0	38. 24	029723	38·5	D	20. 0	37. 4	026284	49·0	D	20. 0	41. 57	024431	53·0	D
22. 0	35. 26	027258	41·0	P	22. 0	37. 14	025435	50·0	JH	22. 0	33. 28	021848	54·0	P
Feb. 9. 0. 0	246. 29. 8	0·026619	43·2	P	Feb. 12. 0. 0	246. 32. 17	0·025897	51·5	D	Feb. 16. 0. 0	246. 34. 6	0·024667	54·2	P
1. 50	21. 0	028439		JH	1. 50	33. 38	025748		JH	1. 50	36. 4	025207		
2. 0	20. 23	025251	40·9		2. 0	31. 4	026103	53·1		2. 0	36. 23	025255	53·8	
2. 10	23. 45	024856		JH	2. 10	32. 13	025877		JH	2. 10	35. 38	025200		P
4. 0	32. 32	028125	40·5	D	4. 0	34. 49	025826	54·0	D	4. 0	33. 28	023490	55·5	D
6. 0	36. 1	026771	42·0		6. 0	36. 37	025384	54·0		6. 0	36. 39	025432	55·0	
8. 0	47. 35	025468	41·0		8. 0	41. 24	028224	54·0		8. 0	39. 28	024361	56·0	
10. 0	35. 32	029786	39·5	D	10. 0	42. 19	025715	53·5	D	10. 0	58. 8	024295	56·5	D
12. 0	39. 46	030103	41·0	G	12. 0	37. 46	026844	51·9	JH	12. 0	48. 11	023719	56·7	P
14. 0	36. 44	027188	40·0		14. 0	40. 31	026749	49·7		14. 0	43. 0	026796	52·7	
16. 0	39. 43	029413	39·0		16. 0	39. 40	028040	47·6		16. 0	40. 14	026192	51·8	
18. 0	38. 13	029962	38·0		18. 0	39. 46	028295	47·5		18. 0	42. 0	027409	50·0	
20. 0	40. 24	030376	36·0	G	20. 0	38. 59	028394	47·0	JH	20. 0	40. 57	027461	50·0	P
22. 0	40. 10	029380	36·9	JH	22. 0	38. 10	026162	49·0	P	22. 0	39. 41	027900	48·9	JH
Feb. 10. 0. 0	246. 35. 33	0·027151	36·0	JH	Feb. 13. 0. 0	246. 34. 54	0·025985	50·4	P	Feb. 17. 0. 0	246. 35. 11	0·028383	47·2	JH
1. 50	33. 26	027148			1. 50	32. 38	026070			1. 50	34. 24	028749		
2. 0	33. 33	027409	36·5		2. 0	32. 46	026406	50·0		2. 0	34. 43	028523	46·6	
2. 10	33. 55	026888		JH	2. 10	33. 0	026826			2. 10	34. 58	029306		JH
4. 0	34. 54	029849	39·0	G	4. 0	36. 35	027944	50·0	P	4. 0	37. 22	028903	46·3	P
6. 0	37. 17	030132	36·5		6. 0	39. 7	028066	48·5	D	6. 0	39. 46	029206	46·2	
8. 0	38. 32	030671	36·5		8. 0	40. 20	026745	48·4	P	8. 0	41. 26	027992	48·2	
10. 0	37. 27	029890	35·0	G	10. 0	41. 8	027715	47·6	P	10. 0	41. 59	027283	47·8	P
12. 0	38. 52	029730	34·7	JH	12. 0	41. 5	029073	47·0	JH	12. 0	41. 28	027996	47·2	JH

The time of observation of the Horizontal Force Magnetometer is $2^m.30^s$ after the time of observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 27″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 230½°; Feb. $8^d.0^h$, 255°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 313°.56′. Reading for Brass Bar in the same position, 354°. 59′.
Time of Vibration of Horizontal Force Magnetometer, $21^s.5$.

Feb. $7^d.16^h$. The theodolite reading was 14′ less that it was at the observation at 14^h.

Feb. $15^d.10^h$. The marked end of the declination needle was more westerly than at the preceding and succeeding observations by 13′ and 19′ respectively.

Feb. $16^d.10^h$. The marked end of the declination needle was 18′+ and 10′ more easterly than at the observations at 8^h and 10^h respectively.

Daily Observations from February 17 to 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.	Observers.
d h m	° ′ ″		°	
Feb. 17. 14. 0	246. 42. 38	0·028778	46·8	J H
16. 0	42. 43	028044	46·0	
18. 0	45. 42	028910	45·6	
20. 0	44. 55	029343	44·8	J H
22. 0	41. 41	027450	46·0	P
Feb. 18. 0. 0	246. 41. 43	0·027299	47·9	P
1. 50	34. 10	027469		
2. 0	34. 39	027166	52·5	
2. 10	35. 25	026450		P
4. 0	37. 41	026484	55·0	J H
6. 0	39. 49	027254	55·9	
8. 0	40. 51	026495	56·0	
10. 0	48. 57	027358	53·2	J H
12. 0	42. 45	025970	55·0	D
14. 0	43. 1	026608	55·0	
16. 0	42. 3	026623	53·5	
18. 0	42. 20	027819	51·8	
20. 0	42. 4	027568	52·0	D
22. 0	41. 54	027048	52·0	P
Feb. 19. 0. 0	246. 36. 58	0·027261	51·9	P
1. 50	36. 57	027715		
2. 0	36. 57	027420	53·2	
2. 10	36. 44	027343		P
4. 0	38. 15	027531	54·0	D
6. 0	39. 11	025937	56·0	
8. 0	41. 20	025897	57·0	
10. 0	44. 14	025200	57·0	D
12. 0	43. 23	025549	55·4	P
14. 0	46. 39	026645	53·8	
16. 0	42. 42	027336	50·6	
18. 0	43. 28	028317	49·0	
20. 0	42. 15	028797	46·8	P
22. 0	42. 26	027314	47·2	J H
Feb. 20. 0. 0	246. 39. 57	0·024480	50·3	J H
1. 50	39. 14	023816		
2. 0	37. 47	024347	56·3	
2. 10	37. 20	024435		J H
4. 0	35. 28	025196	57·6	P
6. 0	38. 56	025299	57·0	
8. 0	41. 14	025069	57·0	
10. 0	42. 39	024945	56·2	P
12. 0	43. 15	026922	54·0	J H

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°	
Feb. 21. 14. 0	246. 44. 45	0·028428	43·8	J H
16. 0	40. 29	030387	42·6	
18. 0	44. 41	027848	43·8	
20. 0	44. 18	028815	44·0	J H
22. 0	42. 50	027095	44·5	D
Feb. 22. 0. 0	246. 28. 25	0·027015	46·0	D
1. 50	25. 55	027686		
2. 0	26. 17	027484	47·5	
2. 10	27. 19	026988		D
4. 0	29. 50	027369	48·7	J H
6. 0	30. 16	026391	48·1	
8. 0	33. 20	027642	48·0	
10. 0	36. 38	026184	51·0	J H
12. 0	246. 59. 0	022450	49·0	D
14. 0	247. 0. 0	020694	51·0	
16. 0	246. 36. 56	024527	50·0	
18. 0	29. 31	025793	48·0	
20. 0	32. 39	025476	48·0	D
22. 0	38. 42	024564	47·3	J H
Feb. 23. 0. 0	246. 26. 1	0·027527	47·3	J H
1. 50	24. 47	024808		
2. 0	23. 51	025483	48·0	
2. 10	23. 10	025240		J H
4. 0	7. 25	025073	49·5	D
6. 0	23. 29	027133	50·0	
8. 0	30. 35	023059	51·0	
10. 0	32. 53	023199	49·0	D
12. 0	40. 55	023719	49·0	G
14. 0	37. 24	022738	48·0	
16. 0	37. 10	026129	45·0	
18. 0	33. 24	025351	44·0	
20. 0	32. 55	026221	43·0	G
22. 0	33. 32	025556	43·5	J H
Feb. 24. 0. 0	246. 28. 42	0·026708	42·6	J H
1. 50	27. 14	026800		
2. 0	25. 1	027203	43·6	
2. 10	24. 16	025782		J H
4. 0	31. 35	024037	45·0	G
6. 0	29. 13	024325	47·0	
8. 0	31. 25	024206	49·0	
10. 0	34. 19	025465	49·0	G
12. 0	37. 21	025634	48·5	J H

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°	
Feb. 24. 14. 0	246. 34. 22	0·026391	46·6	J H
16. 0	32. 10	025848	45·5	
18. 0	35. 56	025443	44·7	
20. 0	29. 14	025413	43·9	J H
22. 0	31. 9	025417	47·0	D
Feb. 25. 0. 0	246. 24. 21	0·025332		D
1. 50	19. 48	027236	47·0	
2. 0	19. 25	027236		
2. 10	19. 27	026409	47·0	D
4. 0	21. 24	025609	48·6	J H
6. 0	28. 46	025693	48·2	
8. 0	30. 41	024203	47·8	
10. 0	31. 59	024652	47·4	J H
12. 0	31. 51	026147	46·5	D
14. 0	29. 48	026476	48·0	
16. 0	31. 48	027276	46·0	
18. 0	31. 8	026966	46·0	
20. 0	30. 14	027874	45·5	D
22. 0	29. 19	026218	46·8	P
Feb. 26. 0. 0	246. 14. 14	0·022523	47·8	P
1. 50	16. 55	024217		
2. 0	16. 19	024103	51·0	
2. 10	16. 38	024003		
4. 0	19. 52	026701	49·3	P
6. 0	24. 9	024845	49·5	D
8. 0	44. 23	029302	49·5	D
10. 0	30. 29	025066	51·0	G
12. 0	35. 36	025505	52·0	W R
14. 0	37. 16	024734	50·8	J H
16. 0	34. 14	024934	50·4	P
18. 0	31. 7	025490	49·0	M
20. 0	28. 4	025977	49·0	D
22. 0	26. 58	025601	47·0	G
Feb. 27. 0. 0	246. 26. 42	0·024306	48·8	P
1. 50	21. 2	024970		D
2. 0	20. 4	025107	50·6	J H
2. 10	20. 5	025014		J H
4. 0	23. 29	025689	51·0	P
6. 0	28. 21	026007	51·5	G
8. 0	33. 52	025620	51·7	J H
10. 0	31. 10	025545	52·0	D
12. 0	31. 12	027144	49·5	D

The time of observation of the Horizontal Force Magnetometer is $2^m.30^s$ after the time of observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 27″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 255°; Feb. $22^d.0^h$, 229°; Feb. $25^d.0^h$, 218°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 313°. 56′. Reading for Brass Bar in the same position, 354°. 59′.
Time of Vibration of Horizontal Force Magnetometer, 21″·5.

Feb. 22^d and 23^h. The declination magnet was very unsteady. The reading of the theodolite at Feb. $23^d.4^h$ was less by 53′ than it was at Feb. $22^d.14^h$.

Feb. 23^d. At 16^h, found the horizontal force magnet swinging off the scale on both sides; checked by hand: there was no apparent cause for its motion. It often happens that this magnet has a large and unaccountable swing, but without any apparent effect on its mean position.

Feb. 25^d. The mean time clock was set to Göttingen mean time nearly; the observation at 4^h was taken by it. All observations before this time were taken by a sidereal clock.

Feb. 25^d and 26^d. The declination magnet unsteady: there was a considerable change in its position between Feb. $25^d.22^h$ and Feb. $26^d.0^h$, and also between Feb. $26^d.6^h$ and Feb. $26^d.10^h$.

Daily Observations from February 28 to March 10.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°		d h m	° ′ ″		°		d h m	° ′ ″		°	
Feb. 28. 14. 0	246. 23. 52	0·027974	40·5	J H	Mar. 3. 14. 0	246. 38. 3	0·030143	47·6	J H	Mar. 7. 14. 0	246. 33. 26	0·029933	51·6	J H
16. 0	25. 5	027903	40·3		16. 0	36. 37	030952	46·0		16. 0	32. 51	030117	51·3	
18. 0	23. 27	026674	40·4		18. 0	34. 36	032239	45·0		18. 0	33. 24	030628	51·2	
20. 0	29. 53	026099	42·2	J H	20. 0	35. 10	031265	43·5	J H	20. 0	35. 15	029951	51·4	J H
22. 0	28. 56	025572	46·0	D	22. 0	29 34	029668	44·5	D	22. 0	34. 15	027398	53·5	D
Mar. 1. 0. 0	246. 21. 34	0·028129	49·0	D	Mar. 4. 0. 0	246. 27. 29	0·030239	45·5	D	Mar. 8. 0. 0	246. 29. 57	0·027682	55·5	G
1. 50	28. 19	026218			1. 50	27. 35	030172			1. 50	18. 42	034189		D
2. 0	28. 38	026295	49·5		2. 0	29. 35	029794	48·5		2. 0	17. 49	034361	58·0	
2. 10	28. 35	026458		D	2. 10	28. 42	029764		D	2. 10	18. 20	034148		D
4. 0	28. 52	028173	48·4	J H	4. 0	30. 53	029649	50·0	J H	4. 0	21. 55	033764	61·3	J H
6. 0	30. 28	027391	48·2		6. 0	31. 18	029981	51·0		6. 0	23. 58	033605	61·3	
8. 0	34. 15	027343	47·3		8. 0	33. 30	030121	49·4		8. 0	23. 51	034752	60·1	
10. 0	37. 24	027376	46·8	J H	10. 0	34. 31	029555	50·9	J H	10. 0	26. 4	033720	58 2	J H
12. 0	34. 50	025874	50·0	D	12. 0	35. 11	029900	51·0	D	12. 0	23. 46	036747	56·0	D
14. 0	32. 3	026129	51·0		14. 0	36. 23	030051	49·5		14. 0	24. 35	034339	56·0	
16. 0	33. 23	028206	49·5		16. 0	35. 31	031246	47·0		16. 0	25. 22	035096	54·5	
18. 0	33. 17	029043	46·0		18. 0	36. 30	031213	46·0		18. 0	23. 45	035527	53·0	
20. 0	33. 26	028815	44·5	D	20. 0	33. 57	030967	45·5	D	20. 0	25. 26	036619	50·5	D
22. 0	30. 47	028903	44·3	J H	22. 0	29. 38	029118	47·4	J H	22. 0	25. 3	033923	49·6	J H
Mar. 2. 0. 0	246. 30. 56	0·029076	46·6	J H	Mar. 5. 0. 0	246. 28. 35	0·029258	50·6	J H	Mar. 9. 0. 0	246. 22. 51	0·034170	51·7	J H
1. 50	29. 18	030265			1. 50	27. 27	029948			1. 50	17. 22	033203		
2. 0	28. 31	029816	47·5		2. 0	27. 7	029904	51·6		2. 0	16. 49	032926	57·0	
2. 10	27. 21	029775		J H	2. 10	26. 59	029808		J H	2. 10	18. 19	032744		J H
4. 0	28. 42	029690	49·0	D	4. 0	28. 21	030453	51·5	D	4. 0	20. 4	031538	59·0	D
6. 0	31. 6	030081	50·0		6. 0	32. 16	030003	50·5		6. 0	23. 49	033875	60·0	
8. 0	29. 21	030867	47·0		8. 0	34. 29	030006	50·0		8. 0	25. 8	034174	59·0	
10. 0	31. 44	030686	47·0	D	10. 0	34. 25	030225	50·0	D	10. 0	25. 25	034420	57·0	D
12. 0	34. 48	028985	49·0	G	12. 0	34. 47	029838	50·0	G	12. 0	26. 25	034703	55·0	G
14. 0	26. 45	030236	50·0		14. 0	33. 39	030819	52·0		14. 0	24. 56	035077	54·0	
16. 0	33. 23	030305	51·0		16. 0	36. 6	030442	51·0		16. 0	25. 39	035461	53·0	
18. 0	36. 50	030793	50·0		18. 0	36. 38	031279	50·0		18. 0	25. 37	036707	48·0	
20. 0	33. 52	030967	48·5	G	20. 0	35. 0	030970	49·0	G	20. 0	25. 10	036427	48·5	G
22. 0	32. 40	030686	48·8	J H	22. 0	30. 29	030744	47·0	J H	22. 0	24. 51	034878	47·0	J H
Mar. 3. 0. 0	246. 28. 39	0·030048	47·5	J H	Mar. 6. 0. 0	246. 24. 46	0·030469	48·7	J H	Mar. 10. 0. 0	246. 21. 18	0·033635	49·2	J H
1. 50	20. 17	029738			1. 50	32. 16	029107			1. 50	16. 15	033475		
2. 0	27. 4	029313	48·9		2. 0	31. 31	028727	52·6		2. 0	18. 14	033546	55·0	
2. 10	27. 13	029258		J H	2. 10	31. 32	028833		J H	2. 10	17. 23	033779		J H
4. 0	29. 27	029652	52·0	G	4. 0	30. 40	028088	55·0	G	4. 0	20. 58	033753	58·0	G
6. 0	31. 58	029384	53·0		6. 0	31. 35	028255	57·0		6. 0	24. 41	033587	60·0	
8. 0	32. 2	028273	53·0		8. 0	32. 41	029561	56·0		8. 0	26. 32	033327	60·0	
10. 0	34. 3	030055	52·0	G	10. 0	33. 6	029594	54·0	G	10. 0	29. 30	032346	61·0	G
12. 0	39. 9	028623	50·1	J H	12. 0	36. 29	029783	53·0	J H	12. 0	27. 50	033261	59·2	J H

The time of observation of the Horizontal Force Magnetometer is $2^m.30^s$ after the time of observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 25″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 218°; March $1^d.0^h$, 230°; March $8^d.0^h$, 200°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 313°. 56′. Reading for Brass Bar in the same position, 354°. 59′.
Time of Vibration of Horizontal Force Magnetometer, $21^s.5$.

March $1^d.22^h$. Experiments were made to determine the angle of torsion of the horizontal force magnetometer; the magnet was left for observation, with its marked end ~~east~~ west.

March $7^d..23^h$. The meridian needle was removed from the Magnetic Observatory while the times of vibration were taken of the horizontal force magnet. It was inserted again by $11^h.30^m$.

Daily Observations from March 10 to 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.	Observers.
d h m	° ′ ″		°	
Mar. 10. 14. 0	246. 26. 50	0·034170	56·8	J H
16. 0	28. 36	034251	55·0	
18. 0	26. 38	036199	50·0	
20. 0	28. 18	035221	49·7	J H
22. 0	17. 53	033557	49·5	D
Mar. 11. 0. 0	246. 19. 58	0·033137	53·5	D
1. 50	16. 52	033768		
2. 0	20. 38	033415	58·0	
2. 10	18. 55	033173		D
4. 0	21. 32	034343	61·6	J H
6. 0	25. 50	033504	61·6	
8. 0	26. 57	033460	59·7	
10. 0	28. 26	033331	59·3	J H
12. 0	27. 44	033627	58·0	D
14. 0	22. 33	033122	57·0	
16. 0	28. 7	034800	54·0	
18. 0	27. 54	035848	52·0	
20. 0	25. 11	035567	50·0	D
22. 0	27. 24	034233	50·0	J H
Mar. 12. 0. 0	246. 28. 59	0·033449	55·0	J H
1. 50	17. 50	031398		
2. 0	19. 23	031534	59·5	
2. 10	20. 14	031586		J H
4. 0	21. 52	031564	64·0	D
6. 0	25. 17	031786	65·5	
8. 0	26. 40	031933	64·0	
10. 0	28. 28	032512	61·0	D
12. 0	25. 26	033313	60·0	G
14. 0	26. 40	033837	57·0	
16. 0	26. 29	034509	55·0	
18. 0	27. 13	035383	53·0	
20. 0	26. 53	034633	52·0	G
22. 0	17. 2	036084	50·7	J H
Mar. 13. 0. 0	246. 21. 56	0·032605	54·4	J H
1. 50	21. 27	031660		
2. 0	18. 56	031498	58·6	
2. 10	16. 29	031775		J H
4. 0	23. 4	031376	61·0	G
6. 0	25. 28	032364	60·5	
8. 0	26. 14	033320	58·0	
10. 0	28. 51	034225	57·0	G
12. 0	27. 28	034432	52·5	J H
Mar. 14. 14. 0	246. 27. 36	0·028025	49·0	J H
16. 0	39. 25	030985	47·8	
18. 0	28. 16	032173	47·0	
20. 0	24. 2	029365	48·2	J H
22. 0	17. 1	027291	48·0	D
Mar. 15. 0. 0	246. 19. 42	0·029328	53·0	D
1. 50	28. 13	028789		
2. 0	26. 20	029705	58·0	
2. 10	25. 57	028941		D
4. 0	24. 33	029757	64·2	J H
6. 0	42. 22	029512	65·0	
8. 0	37. 25	028664	63·3	
10. 0	36. 12	029413	62·2	J H
12. 0	38. 35	029420	61·0	D
14. 0	39. 11	029697	59·0	
16. 0	36. 33	029764	55·5	
18. 0	33. 54	030006	53·0	
20. 0	31. 23	033530	51·0	D
22. 0	24. 53	030272	52·2	J H
Mar. 16. 0. 0	246. 36. 48	0·029683	57·5	J H
1. 50	29. 49	028133		
2. 0	28. 55	028177	62·0	
2. 10	29. 16	028712		J H
4. 0	25. 59	029962	64·0	D
6. 0	29. 41	028698	64·0	
8. 0	31. 10	029384	63·0	
10. 0	47. 15	031069	61·0	D
12. 0	35. 47	031379	58·0	G
14. 0	40. 29	029745	57·5	
16. 0	36. 19	031221	55·2	
18. 0	34. 54	030985	54·0	
20. 0	35. 31	032312	53·5	G
22. 0	33. 57	030867	54·0	J H
Mar. 17. 0. 0	246. 25. 54	0·029823	56·3	J H
1. 50	27. 24	031353		
2. 0	27. 8	031372	57·2	
2. 10	27. 32	031520		J H
4. 0	30. 59	030564	58·0	G
6. 0	33. 23	030808	61·0	
8. 0	38. 7	030830	58·0	
10. 0	36. 52	032390	55·0	G
12. 0	43. 15	031405	53·0	J H
Mar. 18. 0. 0	246. 28. 4	0·030044	55·0	D
1. 50	26. 46	030350		
2. 0	26. 36	030409	57·0	
2. 10	32. 51	030465		D
4. 0	30. 46	030298	57·5	J H
6. 0	33. 20	030209	56·5	
8. 0	34. 21	030782	54·8	
10. 0	41. 52	030693	54·2	J H
12. 0	34. 33	030719	54·5	D
14. 0	33. 12	030779	53·2	
16. 0	34. 19	031202	51·5	
18. 0	35. 23	031711	50·5	
20. 0	36. 35	031279	49·0	D
22. 0	33. 3	031265	48·6	J H
Mar. 19. 0. 0	246. 28. 55	0·031509	51·6	J H
1. 50	24. 1	031102		
2. 0	23. 38	031483	53·0	
2. 10	23. 22	031420		J H
4. 0	25. 54	031106	53·2	D
6. 0	31. 0	032279	54·0	
8. 0	34. 42	032224	54·0	
10. 0	36. 5	031029	53·5	D
12. 0	37. 29	031487	53·0	G
14. 0	38. 15	031243	52·0	
16. 0	38. 21	031841	51·0	
18. 0	33. 52	032550	50·0	
20. 0	32. 44	031312	48·0	G
22. 0	21. 52	030892	49·4	J H
Mar. 20. 0. 0	246. 26. 55	0·029505	54·0	J H
1. 50	27. 13	030427		
2. 0	27. 18	030546	56·0	
2. 10	26. 20	030568		J H
4. 0	29. 48	030435	56·0	G
6. 0	32. 27	031897	54·0	
8. 0	32. 34	031425	53·0	
10. 0	41. 55	030697	52·0	G
12. 0	38. 54	033587	51·0	J H

The time of observation of the Horizontal Force Magnetometer is $2^m.30^s$ after the time of observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 25″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 200°; March $15^d.0^h$, 225°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 313°. 56′. Reading for Brass Bar in the same position, 354°. 59′.
Time of Vibration of Horizontal Force Magnetometer, $21^s.5$.

March $12^d.0^h$. After noon the horizontal force magnet was disturbed, in trying the model of a copper bar to encircle it. The torsion circle was left, reading 313°. 56′.

March $13^d.22^h$. Observations were made on the times of vibration and scale readings of the horizontal force magnetometer, corresponding to various readings of the torsion circle, with the marked end of the magnet east and with the marked end of the magnet west. The magnet was left for observation with the marked end east.

March 20^d. An aurora seen at 10^h.

Daily Observations from March 21 to 31.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°		d h m	° ′ ″		°		d h m	° ′ ″		°	
Mar. 21. 14. 0	246. 33. 40	0·033316	51·2	J H	Mar. 24. 14. 0	246. 46. 31	0·033159	53·0	D	Mar. 28. 14. 0	246. 37. 19	0·032143	51·3	J H
16. 0	39. 41	032722	51·0		16. 0	41. 24	029984	53·2	J H	16. 0	39. 20	031394	50·7	
18. 0	37. 37	033029	51·7		18. 0	41. 46	030852	53·0	P	18. 0	40. 33	032228	51·5	
20. 0	37. 35	033490	52·8	J H	20. 0	39. 24	029623	50·8	M	20. 0	42. 25	031564	51·3	J H
22. 0	36. 34	031095	54·0	D	22. 0	40. 52	027354	52·0	D	22. 0	39. 4	029719	52·0	D
Mar. 22. 0. 0	246. 26. 11	0·029683	56·0	D	Mar. 25. 0. 0	246. 34. 34	0·028125	56·2	P	Mar. 29. 0. 0	246. 31. 57	0·027911	57·0	D
1. 50	18. 5	033309			1. 50	33. 3	028501		J H	1. 50	34. 51	028568		
2. 0	20. 41	031752	57·0		2. 0	33. 42	028472	61·0		2. 0	35. 11	028822	60·0	
2. 10	19. 32	029398		D	2. 10	33. 59	028941		J H	2. 10	34. 56	028948		D
4. 0	21. 30	032674	58·0	J H	4. 0	35. 18	029387	62·5	D	4. 0	41. 22	029672	61·0	J H
6. 0	32. 9	027343	58·0		6. 0	37. 53	030394	62·6	G	6. 0	44. 46	030187	59·5	
8. 0	29. 37	029043	56·6		8. 0	39. 48	030801	59·0	P	8. 0	45. 14	030391	58·5	
10. 0	43. 38	027192	55·3	J H	10. 0	43. 48	030132	58·0	J H	10. 0	45. 42	030221	57·5	J H
12. 0	27. 2	029062	55·0	D	12. 0	41. 9	028638	61·0	D	12. 0	52. 49	029575	59·2	M
14. 0	30. 38	029010	54·0		14. 0	43. 52	029937	58·5		14. 0	51. 57	032674	52·5	
16. 0	27. 26	028561	51·0		16. 0	43. 55	029786	57·0		16. 0	50. 18	030272	51·5	
18. 0	33. 28	030697	50·0		18. 0	42. 2	029973	55·5		18. 0	49. 3	031379	50·5	M
20. 0	30. 15	028284	50·0	D	20. 0	40. 24	029741	54·0	D	20. 0	46. 57	030748	50·0	G
22. 0	31. 42	029904	49·8	J H	22. 0	41. 58	028645	54·8	J H	22. 0	43. 23	028302	50·7	J H
Mar. 23. 0. 0	246. 35. 51	0·027598	54·0	P	Mar. 26. 0. 0	246. 33. 36	0·027992	58·0	J H	Mar. 30. 0. 0	246. 38. 44	0·027524	54·6	J H
1. 50	29. 0	025726			1. 50	31. 4	028793			1. 50	36. 24	029251		
2. 0	28. 39	025926	56·2		2. 0	32. 19	028546	62·2		2. 0	36. 18	029229	57·5	
2. 10	29. 1	027291		P	2. 10	34. 37	028568		J H	2. 10	36. 15	029287		J H
4. 0	32. 54	028357	58·0	D	4. 0	35. 14	029021	64·0	D	4. 0	42. 29	028933	58·0	G
6. 0	36. 40	028505	59·0		6. 0	39. 28	029812	64·0		6. 0	43. 9	030205	58·0	D
8. 0	39. 45	029605	58·0		8. 0	41. 54	029951	61·0		8. 0	42. 56	030509	57·3	J H
10. 0	50. 25	029594	57·5	D	10. 0	43. 55	031199	60·0	D	10. 0	46. 29	029900	56.2	J H
12. 0	47. 39	029021	57·0	G	12. 0	43. 49	029501	60·0	G	12. 0	42. 6	030487	55·0	P
14. 0	37. 44	030668	56·0		14. 0	42. 3	030424	57·0		14. 0	45. 21	030608	54·0	
16. 0	42. 58	031933	53·0		16. 0	38. 37	030919	55·5		16. 0	43. 51	031323	53·0	
18. 0	41. 47	031265	53·0		18. 0	40. 29	031372	53·0		18. 0	44. 6	031952	51·6	
20. 0	40. 36	030228	52·0	G	20. 0	41. 47	032195	53·0	G	20. 0	47. 7	031210	50·0	P
22. 0	39. 36	029645	52·0	J H	22. 0	42. 49	029955	52·6	J H	22. 0	45. 58	028800	50·0	J H
Mar. 24. 0. 0	246. 32. 5	0·028018	52·0	J H	Mar. 27. 0. 0	246. 35. 23	0·028058	55·7	J H	Mar. 31. 0. 0	246. 45. 18	0·028291	54·7	J H
1. 50	32. 20	029435			1. 50	29. 27	028841			1. 50	37. 27	029306		
2. 0	32. 4	030029	53·8		2. 0	29. 50	028689	60·0		2. 0	37. 22	029464	58·0	
2. 10	31. 47	030125		J H	2. 10	29. 52	028926		J H	2. 10	38. 19	029494		J H
4. 0	33. 9	029331	54·0	G	4. 0	34. 22	029373	60·0	G	4. 0	42. 55	029999	58·0	P
6. 0	36. 22	030427	56·2	J H	6. 0	38. 6	030992	60·0		6. 0	45. 23	030498	56·2	
8. 0	45. 41	030712	57·5	P	8. 0	39. 24	030549	60·0		8. 0	42. 31	031243	54·0	
10. 0	46. 37	029867	57·0	G	10. 0	40. 35	030645	58·2	G	10. 0	42. 50	031151	53·0	P
12. 0	49. 47	031051	54·2	D	12. 0	40. 33	031505	55·2	J H	12. 0	43. 43	031427	52·0	J H

The time of observation of the Horizontal Force Magnetometer is $2^m.30^s$ after the time of observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 25.″
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 225°; March $23^d.0^h$, 242°; March $30^d.0^h$, 250°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 313°, 56′. Reading for Brass Bar in the same position, 354°. 59′.
Time of Vibration of Horizontal Force Magnetometer, $21^s.5$.

March $21^d.10^h$. Experiments were made on the scale readings and times of vibration of the horizontal force magnetometer for various angles of the torsion circle, with marked end of needle both east and west. The needle was left with marked end east.

March $22^d.10^h$. An aurora seen: the marked end of the declination magnet was drawn towards the east 14′ more than at 8^h. By 12^h it had moved back 16′.

March $32^d.10^h$. The marked end of the declination magnet was 11′ more easterly than at 8^h.

Daily Observations from March 31 to April 10.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°		d h m	° ′ ″		°		d h m	° ′ ″		°	
Mar. 31. 14. 0	246. 43. 40	0·030826	51·3	J H	Apr. 4. 14. 0	246. 45. 2	0·030128	47·6	J H	Apr. 7. 14. 0	246. 48. 41	0·028937	53·0	J H
16. 0	43. 32	030868	49·2		16. 0	45. 48	02998	47·0		16. 0	49. 48	029176	52·0	
18. 0	46. 59	031498	49·0		18. 0	45. 58	028357	47·0		18. 0	47. 55	029475	50·7	
20. 0	47. 7	030626	48·8	J H	20. 0	49. 7	029772	46·7	J H	20. 0	56. 13	029136	50·0	J H
22. 0	45. 42	028756	48·5	D	22. 0	49. 53	027701	48·0	D	22. 0	50. 18	025306	52·0	P
Apr. 1. 0. 0	246. 37. 6	0·028534	50·0	D	Apr. 5. 0. 0	246. 40. 15	0·026265	52·0	D	Apr. 8. 0. 0	246. 44. 59	0·024774	55·0	P
1. 50	34. 49	028996			1. 50	38. 59	027048			1. 50	42. 7	025870		
2. 0	35. 31	029018	52·0		2. 0	38. 50	027387	55·0		2. 0	43. 11	026096	56·0	
2. 10	35. 48	029003		D	2. 10	38. 40	027306		D	2. 10	41. 11	026184		P
4. 0	40. 48	029867	53·4	J H	4. 0	43. 24	028543	57·7	J H	4. 0	37. 27	025789	57·0	J H
6. 0	44. 18	030369	53·6		6. 0	48. 1	028239	58·0		6. 0	44. 24	028173	56·0	
8. 0	45. 43	030575	55·0		8. 0	48. 55	028561	59·5		8. 0	52. 10	028546	55·0	
10. 0	45. 51	030361	50·3	J H	10. 0	48. 30	028712	58·0	J H	10. 0	52. 5	027933	55·5	J H
12. 0	45. 24	030741	53·0	D	12. 0	48. 37	028926	57·0	D	12. 0	49. 28	028620	55·0	P
14. 0	46. 12	030494	54·0		14. 0	47. 52	029173	56·0		14. 0	49. 23	028255	54·2	
16. 0	47. 10	030626	54·0		16. 0	48. 14	029564	53·5		16. 0	48. 56	028144	53·6	
18. 0	48. 29	030937	52·0		18. 0	49. 14	029779	51·5		18. 0	49. 28	028317	51·8	
20. 0	50. 12	030029	52·0	D	20. 0	53. 14	029243	52·0	D	20. 0	54. 0	028520	49·6	P
22. 0	47. 26	027646	53·0	J H	22. 0	51. 23	026906	51·7	J H	22. 0	55. 54	026738	49·0	G
Apr. 2. 0. 0	246. 44. 3	0·027037	56·0	J H	Apr. 6. 0. 0	246. 46. 28	0·025384	55·3	J H	Apr. 9. 0. 0	246. 49. 40	0·025804	50·0	G
1. 50	34. 29	028151			1. 50	38. 35	026837			1. 50	41. 46	026154		D
2. 0	34. 8	028191	57·0		2. 0	38. 32	029162	59·2		2. 0	41. 22	026218	53·0	
2. 10	34. 52	028401		J H	2. 10	39. 17	027018		J H	2. 10	41. 0	026280		
4. 0	39. 57	029630	56·5	D	4. 0	45. 1	028531	59·5	D	4. 0	42. 57	026240	55·0	D
6. 0	43. 26	029579	56·0		6. 0	48. 58	027867	59·5		6. 0	46. 8	025310	56·0	P
8. 0	43. 58	029542	57·0		8. 0	47. 20	029147	56·5		8. 0	46. 38	027881	54·8	J H
10. 0	45. 11	029783	57·0	D	10. 0	47. 26	029158	55·5	G	10. 0	47. 14	028305	53·0	P
12. 0	44. 40	030055	54·0	G	12. 0	46. 46	029439	53·5	G	12. 0	46. 47	028516	51·5	D
14. 0	43. 39	030114	52·0		14. 0	49. 42	030026	52·0		14. 0	46. 49	028601	51·0	
16. 0	44. 23	030198	51·0		16. 0	48. 38	030302	51·0		16. 0	46. 20	028907	50·0	
18. 0	45. 52	030775	49·0		18. 0	49. 16	030546	49·2		18. 0	50. 3	028985	50·0	
20. 0	52. 54	030763	49·5	G	20. 0	50. 21	030623	48·0	G	20. 0	53. 12	028863	49·0	D
22. 0	52. 59	028866	46·6	J H	22. 0	56. 11	027671	48·0	J H	22. 0	55. 22	026351	49·5	J H
Apr. 3. 0. 0	246. 24. 44	0·027214	53·0	J H	Apr. 7. 0. 0	246. 59. 54	0·025977	52·0	J H	Apr. 10. 0. 0	246. 34. 0	0·025089	53·5	J H
1. 50	30. 52	026484			1. 50	39. 28	025328			1. 50	28. 37	025870		
2. 0	31. 16	026862	52. 0		2. 0	40. 18	025653	58·0		2. 0	28. 15	025952	53·2	
2. 10	32. 42	026641		J H	2. 10	39. 46	025977		J H	2. 10	28. 7	026329		J H
4. 0	39. 44	027332	59·0	G	4. 0	43. 16	027140	61·0	G	4. 0	28. 21	027361	54·0	D
6. 0	42. 58	028221	58·0		6. 0	48. 20	027450	60·0	J H	6. 0	31. 29	028498	55·0	
8 0	46. 59	030923	58·0		8. 0	49. 52	027874	59·0	J H	8. 0	34. 48	028833	55·0	
10. 0	46. 43	028848	55·0	G	10. 0	49. 20	027922	58·0	P	10. 0	36. 3	028642	56·0	D
12. 0	51. 8	028501	54·6	J H	12. 0	49. 26	028572	55·0	J H	12. 0	37. 40	028671	53·7	J H

The time of observation of the Horizontal Force Magnetometer is $2^m.30^s$ after the time of observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 26″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 250°; April $5^d.0^h$, 260°; April $10^d.0^h$, 222°.
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, $20^s.8$ (the adopted time having been altered in consequence of the experimental determinations of March 21).

March 31^d. Before 14^h the torsion-circle of the horizontal force magnetometer was changed from 313°. 56′ to 317°, and the mirror so adjusted that the scale reading was $64^d.01$. The reading immediately previous was $64^d.20$.

April $10^d.0^h$. The theodolite read 21′ less than it did at the preceding observation: between the observations the reading of the torsion-circle was altered from 260° to 222°.

Daily Observations from April 11 to 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.	Observers.
d h m	° ′ ″		°	
Apr. 11. 14. 0	246. 39. 49	0·029896	42·6	JH
16. 0	39. 15	028191	42·0	
18. 0	38. 25	029959	42·2	
20. 0	38. 46	030261	42·6	JH
22. 0	35. 44	026796	46·0	D
Apr. 12. 0. 0	246. 32. 6	0·026132	49·0	D
1. 50	26. 55	026981		
2. 0	26. 32	026984	52·0	
2. 10	26. 24	027073		D
4. 0	30. 38	027582	54·0	JH
6. 0	39. 7	028505	54·0	
8. 0	36. 33	027162	55·6	
10. 0	35. 23	027889	55·3	JH
12. 0	34. 39	029893	52·5	G
14. 0	37. 41	027734	51·0	
16. 0	36. 56	030305	48·0	
18. 0	35. 43	029029	46·0	
20. 0	36. 44	029468	45·0	G
22. 0	34. 52	028051	46·0	P
Apr. 13. 0. 0	246. 29. 9	0·025755	49·0	P
1. 50	24. 23	026059		
2. 0	25. 15	026070	55·0	
2. 10	24. 54	026026		P
4. 0	28. 33	027516	56·5	G
6. 0	40. 29	030294	57·0	
8. 0	34. 13	027328	57·0	
10. 0	33. 3	028047	54·8	G
12. 0	32. 52	028077	53·0	P
14. 0	33. 44	028122	51·2	
16. 0	33. 14	028605	50·0	
18. 0	34. 48	028424	52·0	
20. 0	37. 25	027542	52·2	P
22. 0	36. 23	025859	53·0	D
Apr. 14. 0. 0	246. 31. 37	0·025114	55·0	D
1. 50	28. 27	026295		
2. 0	28. 13	026346	57·0	
2. 10	28. 14	026498		D
4. 0	29. 54	027790	57·8	P
6. 0	32. 43	027616	56·0	
8. 0	34. 52	029025	56·4	
10. 0	35. 55	027675	56·4	P
12. 0	34. 37	027701	56·0	D

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force	Observers.
d h m	° ′ ″		°	
Apr. 14. 14. 0	246. 37. 46	0·028899	56·0	D
16. 0	34. 23	026469	54·5	
18. 0	36. 20	027925	54·0	
20. 0	37. 41	027660	52·0	D
22. 0	33. 52	025999	51·5	JH
Apr. 15. 0. 0	246. 33. 22	0·025439	57·0	JH
1. 50	29. 34	025697		
2. 0	29. 25	025819	60·0	
2. 10	28. 49	025985		JH
4. 0	30. 2	026287	59·7	D
6. 0	31. 55	025211	60·0	
8. 0	36. 15	028055	57·0	
10. 0	35. 14	027553	56·8	D
12. 0	36. 4	027989	53·6	JH
14. 0	35. 58	028177	50·4	
16. 0	39. 24	028601	48·0	
18. 0	38. 26	029054	46·3	
20. 0	38. 1	029874	45·2	JH
22. 0	37. 52	026586	49·0	P
Apr. 16. 0. 0	246. 40. 17	0·025730	53·0	D
1. 50	27. 33	025509		P
2. 0	27. 43	025678	59·4	
2. 10	27. 2	025999		P
4. 0	30. 31	026121	60·6	JH
6. 0	33. 6	026734	60·5	
8. 0	34. 34	027140	58·2	
10. 0	34. 43	027372	55·2	JH
12. 0	37. 46	028299	54·0	G
14. 0	40. 38	027804	53·0	
16. 0	37. 47	028122	53·0	
18. 0	39. 14	029065	53·0	
20. 0	39. 19	028180	53·0	G
22. 0	37. 9	026362	53·0	P
Apr. 17. 0. 0	246. 32. 54	0·025797	56·0	P
1. 50	27. 10	026373		
2. 0	26. 58	026107	59·0	
2. 10	26. 58	027325		P
4. 0	27. 11	027144	61·0	G
6. 0	26. 50	027631	62·0	
8. 0	33. 17	025819	63·0	
10. 0	246. 39. 7	025900	61·0	G
12. 0	7. 1. 36	024520	56·0	D

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°	
Apr. 18. 14. 0	246. 43. 31	0·027775	51·8	P
16. 0	36. 22	024645	53·6	
18. 0	37. 50	025439	56·2	
20. 0	31. 53	024531	55·0	P
22. 0	34. 47	025196	55·0	D
Apr. 19. 0. 0	246. 32. 1	0·023882	56·0	D
1. 50	33. 41	024693		
2. 0	33. 27	024737	58·0	
2. 10	32. 38	024896		D
4. 0	33. 47	024992	60·4	P
6. 0	39. 5	026140	62·2	
8. 0	40. 9	026575	59·4	
10. 0	44. 20	027206	57·5	P
12. 0	52. 57	026590	55·5	D
14. 0	44. 48	027103	54·0	
16. 0	42. 43	026487	51·0	
18. 0	40. 23	026542	49·5	
20. 0	42. 24	026442	48·0	D
22. 0	36. 50	022457	50·2	JH
Apr. 20. 0. 0	246. 29. 46	0·023229	53·3	JH
1. 50	31. 45	024900		
2. 0	29. 41	024752	56·4	
2. 10	31. 49	024560		JH
4. 0	35. 19	025114	58·0	D
6. 0	45. 31	026597	57·0	
8. 0	42. 45	025859	57·2	
10. 0	48. 49	025188	57·0	D
12. 0	51. 15	025748	54·3	JH
14. 0	43. 36	025963	52·5	
16. 0	42. 5	026176	51·6	
18. 0	37. 14	027768	49·7	
20. 0	43. 5	026634	49·0	JH
22. 0	40. 50	023601	50·4	P
Apr. 21. 0. 0	246. 37. 15	0·024266	53·0	P
1. 50	32. 32	024819		
2. 0	32. 16	024767	56·0	
2. 10	32. 10	025166		P
4. 0	34. 2	025096	56·4	JH
6. 0	47. 12	025472	55·2	
8. 0	41. 32	026502	54·3	JH
10. 0	42. 2	026550	54·0	G
12. 0	45. 23	026158	55·4	G

The time of observation of the Horizontal Force Magnetometer is $2^m.30^s$ after the time of observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 26″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 222°; April $19^d.2^h$, 235°.
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, $20^s.8$.

Between April $16^d.0^h$ and $1^h.50^m$, the declination magnet altered its position by 13′.

April $17^d.12^h$. A slight aurora seen: the marked end of the declination needle approached the east by 22′ as compared with the observation at 10^h.

Daily Observations from April 21 to May 1.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force	Thermometer of Horizontal Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°		d h m	° ′ ″		°		d h m	° ′ ″		°	
Apr. 21. 14. 0	246. 49. 47	0·024856	56·3	D	Apr. 25. 14. 0	246. 50. 18	0·026320	56·0	G	Apr. 28. 14. 0	246. 46. 32	0·023796	61·5	J H
16. 0	41. 0	024420	56·5	D	16. 0	47. 48	025889	56·0		16. 0	43. 53	024480	59·0	
18. 0	42. 11	025900	55·4	P	18. 0	40. 58	025295	57·0		18. 0	42. 34	024819	56·0	
20. 0	45. 4	024922	54·2	M	20. 0	41. 8	024925	57·0	G	20. 0	42. 0	024535	58·0	J H
22. 0	40. 3	023126	54·5	J H	22. 0	38. 2	023911	58·0	P	22. 0	40. 35	023816	58·8	P
Apr. 22. 0. 0	246. 34. 20	0·023262	56·2	P	Apr. 26. 0. 0	246. 34. 56	0·023723	60·6	P	Apr. 29. 0. 0	246. 31. 31	0·023420	61·2	P
1. 50	32. 16	024553		D	1. 50	32. 3	024118			1. 50	28. 36	023174		
2. 0	32. 10	024985	58·0	J H	2. 0	32. 15	023911	63·0		2. 0	28. 27	023066	65·2	
2. 10	32. 7	025069		J H	2. 10	32. 29	024292		P	2. 10	29. 21	024026		P
4. 0	37. 7	025911	58·2	P	4. 0	33. 34	024996	64·0	G	4. 0	32. 50	022974	73·0	J H
6. 0	40. 36	025833	58·0	D	6. 0	34. 27	025014	65·0		6. 0	36. 32	022881	72·0	
8. 0	46. 19	025915	56·0	J H	8. 0	37. 25	024981	66·0		8. 0	35. 39	023694	70·0	
10. 0	46. 5	025675	56·0	G	10. 0	38. 12	024214	65·0	G	10. 0	38. 17	024789	65·5	J H
12. 0	49. 8	025567	54·0	P	12. 0	42. 39	024133	63·4	P	12. 0	40. 18	025003	63·0	G
14. 0	45. 31	025111	54·0		14. 0	43. 26	023828	63·0		14. 0	42. 7	025579	60·2	
16. 0	42. 52	026052	52·0		16. 0	41. 58	024697	62·4		16. 0	42. 38	025346	58·0	
18. 0	40. 36	025948	52·0		18. 0	40. 29	025269	62·0		18. 0	44. 2	025889	57·0	
20. 0	48. 20	026218	51·0	P	20. 0	38. 10	025421	62·0	P	20. 0	46. 11	025092	55·0	G
22. 0	43. 53	024922	50·5	D	22. 0	36. 23	023273	63·0	D	22. 0	38. 7	023218	57·0	P
Apr. 23. 0. 0	246. 37. 11	0·024601	51·3	D	Apr. 27. 0. 0	246. 31. 45	0·021890	69·0	D	Apr. 30. 0. 0	246. 34. 33	0·022841	61·0	P
1. 50	31. 51	025793			1. 50	31. 29	020213			1. 50	28. 53	020705		
2. 0	31. 33	025974	53·5		2. 0	32. 11	020329	70·5		2. 0	28. 30	020908	64·4	
2. 10	31. 27	025752		D	2. 10	31. 43	020542		D	2. 10	29. 38	020749		P
4. 0	36. 34	026984	54·0	J H	4. 0	34. 28	020783	73·0	J H	4. 0	31. 55	022412	66·5	G
6. 0	40. 24	026358	54·0	P	6. 0	35. 29	022177	74·0	D	6. 0	36. 22	023092	67·0	
8. 0	41. 19	026453	55·0		8. 0	37. 57	022554	71·3	J H	8. 0	38. 25	024332	65·0	
10. 0	42. 7	025413	56·0	P	10. 0	37. 59	022944	70·0	G	10. 0	38. 51	024575	64·0	G
12. 0	40. 47	026180	55·0	D	12. 0	40. 29	022749	69·0	D	12. 0	37. 33	024155	60·0	P
14. 0	42. 15	027029	53·0		14. 0	39. 53	023716	67·0		14. 0	34. 58	024409	58·0	
16. 0	44. 11	027084	51·0		16. 0	42. 4	023273	65·0		16. 0	39. 59	026528	57·0	
18. 0	41. 17	027779	49·0		18. 0	39. 39	023922	64·0		18. 0	39. 50	024409	55·8	
20. 0	45. 26	026671	49·0	D	20. 0	40. 19	023867	62·0	D	20. 0	42. 41	023838	57·2	P
22. 0	42. 41	025207	51·4	P	22. 0	38. 33	022642	63·7	J H	22. 0	38. 57	021812	58·0	D
Apr. 24. 0. 0	246. 37. 19	0·023380	54·4	P	Apr. 28. 0. 0	246. 32. 31	0·022258	64·7	J H	May 1. 0. 0	246. 34. 39	0·021272	61·5	D
1. 50	32. 37	023708			1. 50	30. 20	022723			1. 50	30. 57	020520		
2. 0	32. 56	023686	57·2		2. 0	30. 22	022885	68·0		2. 0	31. 7	020092	67·5	
2. 10	32. 4	024184		P	2. 10	30. 35	022738		J H	2. 10	31. 6	020099		D
4. 0	33. 8	024604	58·7	D	4. 0	36. 23	022346	71·0	D	4. 0	31. 46	021963	70·0	P
6. 0	38. 21	025697	58·5		6. 0	37. 54	023550	72·0		6. 0	35. 55	022881	70·8	
8. 0	42. 4	026041	58·0		8. 0	37. 26	024055	71·0		8. 0	38. 25	024115	67·0	
10. 0	45. 25	025545	58·0	D	10. 0	42. 49	024040	68·0	D	10. 0	40. 40	024122	66·0	P
12. 0	48. 13	026041	55·6	P	12. 0	41. 3	023354	64·0	J H	12. 0	40. 19	024952	64·0	

The time of observation of the Horizontal Force Magnetometer is 2m. 30s after the time of observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 26″; May 1d, 269°. 52′. 14″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 235°; April 26d. 18h, 225¼°.
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.

April 29d. 20h. The north end of the declination magnet has been slowly but constantly approaching the east from April 29d. 2h. The north end generally approaches the east between 2h and 10h or 11h; then it begins to move westerly. Sometimes the westerly motion does not begin till midnight, but the magnet very rarely continues with an uninterrupted easterly motion quite through the night.

Daily Observations from May 2 to 12.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°	
May 2. 14. 0	246. 36. 11	0·025476	59·0	D
16. 0	37. 5	024837	59·0	
18. 0	39. 2	024321	58·5	
20. 0	42. 33	023805	58·0	D
22. 0	39. 27	023273	57·0	JH
May 3. 0. 0	246. 30. 56	0·024181	56·2	JH
1. 50	28. 50	025214		
2. 0	29. 13	025066	56·2	
2. 10	29. 45	024870		JH
4. 0	40. 48	025122	58·0	D
6. 0	36. 13	024896	58·0	
8. 0	37. 29	025653	56·0	
10. 0	36. 19	025730	54·5	D
12. 0	37. 0	026110	54·0	JH
14. 0	36. 40	026395	53·0	
16. 0	37. 43	026232	52·0	
18. 0	40. 51	026022	52·0	
20. 0	44. 5	025236	52·0	JH
22. 0	39. 46	023295	54·0	P
May 4. 0. 0	246. 32. 22	0·023819	56·8	P
1. 50	26. 20	023907		D
2. 0	26. 26	023701	61·0	
2. 10	26. 28	023646		D
4. 0	29. 50	023819	65·0	JH
6. 0	32. 0	022948	67·0	
8. 0	37. 17	023166	66·5	
10. 0	38. 21	023694	64·2	JH
12. 0	40. 53	024593	63·2	G
14. 0	39. 12	023417	63·0	
16. 0	40. 4	023336	61·0	
18. 0	40. 59	023730	61·0	
20. 0	41. 15	023369	60·0	G
22. 0	39. 0	022797	58·8	P
May 5. 0. 0	246. 33. 24	0·022258	60·2	P
1. 50	30. 19	023030		
2. 0	30. 11	022959	61·2	
2. 10	30. 42	022778		P
4. 0	33. 12	023126	62·0	G
6. 0	36. 2	023516	62·5	
8. 0	36. 52	024513	62·5	
10. 0	37. 59	024255	62·0	G
12. 0	46. 25	024623	60·0	P

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°	
May 5. 14. 0	246. 38. 7	0·023207	59·0	P
16. 0	35. 16	022361	58·6	
18. 0	42. 52	023320	57. 4	
20. 0	43. 56	022598	57·0	P
22. 0	38. 4	020041	58·0	JH
May 6. 0. 0	246. 33. 12	0·021915	59·5	D
1. 50	28. 15	022952		
2. 0	27. 50	023284	64·0	
2. 10	28. 7	022620		D
4. 0	30. 58	023159	65·4	P
6. 0	30. 52	022877	66·0	
8. 0	38. 2	023181	64·0	
10. 0	40. 17	021919	61·0	P
12. 0	39. 13	023137	60·0	D
14. 0	40. 48	023240	58·0	
16. 0	38. 10	024848	56·0	
18. 0	41. 19	023760	55·0	
20. 0	42. 0	022933	53·0	D
22. 0	39. 50	022627	56·6	JH
May 7. 0. 0	246. 32. 22	0·021801	62·0	JH
1. 50	29. 25	022516		
2. 0	29. 37	022620	64·3	
2. 10	30. 3	022623		JH
4. 0	33. 5	021956	66·5	D
6. 0	34. 54	022565	67·0	
8. 0	37. 22	023313	66·0	
10. 0	36. 53	023387	63·5	D
12. 0	38. 0	023472	61·6	JH
14. 0	38. 26	023362	59·5	
16. 0	38. 42	022180	58·0	
18. 0	38. 0	024328	57·0	
20. 0	39. 59	023583	57·0	JH
22. 0	40. 34	021934	59·0	P
May 8. 0. 0	246. 33. 9	0·021476	61·4	P
1. 50	34. 33	024347		
2. 0	33. 37	024476	62·1	
2. 10	34. 12	025247		P
4. 0	36. 0	023490	62·0	JH
6. 0	36. 21	024557	61·8	
8. 0	37. 52	024674	60·0	
10. 0	40. 13	024748	58·8	JH
12. 0	42. 0	023992	57·2	P

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°	
May 9. 14. 0	246. 59. 33	0·021457	55·4	P
16. 0	37. 29	021095	55·0	
18. 0	36. 46	020206	55·0	
20. 0	38. 27	017675	56·2	P
22. 0	31. 29	013421	60·0	JH
May 10. 0. 0	246. 30. 23	0·024288	62·0	JH
1. 50	32. 46	026209		
2. 0	33. 59	024494	63·0	
2. 10	33. 9	025162		JH
4. 0	30. 2	025587	64·0	P
6. 0	40. 50	027989	64·0	
8. 0	42. 28	024601	62·8	
10. 0	44. 53	023188	61·2	P
12. 0	48. 59	024181	60·5	G
14. 0	47. 41	023841	60·5	
16. 0	43. 26	024040	59·0	
18. 0	42. 26	024006	58·0	
20. 0	42. 39	024222	56·5	G
22. 0	40. 46	023347	58·0	D
May 11. 0. 0	246. 38. 43	0·023324	65·0	D
1. 50	35. 31	023254		
2. 0	36. 3	022745	65·0	
2. 10	35. 25	022977		D
4. 0	36. 32	024059	68·0	G
6. 0	36. 46	025826	68·0	
8. 0	38. 36	025870	67·0	
10. 0	39. 51	025616	66·8	G
12. 0	40. 57	024476	65·0	D
14. 0	41. 48	025133	64·0	
16. 0	39. 45	025866	61·3	
18. 0	42. 52	025882	60·5	
20. 0	47. 41	025708	60·0	D
22. 0	45. 7	024881	58·0	JH
May 12. 0. 0	246. 39. 11	0·023734	59·0	JH
1. 50	37. 21	023915		
2. 0	36. 32	025025	63·5	
2. 10	35. 19	025542		JH
4. 0	36. 7	025133	62·3	D
6. 0	38. 40	025266	62·5	
8. 0	41. 6	025229	64·0	
10. 0	44. 48	025207	62·5	D
12. 0	41. 20	025439	59·0	JH

The time of observation of the Horizontal Force Magnetometer is $2^m.30^s$ after the time of observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 14″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 225¼°; May $3^d.$ 0^h, 225¼°; May $10^d.$ 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, $20^s.8$.

May $3^d.$ $4^h.$ The position of the declination magnet has changed 11′ since the last observation.

May $9^d.$ $14^h.$ The cross of the declination magnet was found out of the field: between this and the following observation there is a change of 22′ in its position.

May $9^d.$ $22^h.$ Experiments were made to determine the effect of the vertical force magnetometer upon the Bifilar magnetometer.

Daily Observations from May 12 to 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.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°		d h m	° ′ ″		°		d h m	° ′ ″		°	
May 12. 14. 0	246. 40. 20	0·025627	57·5	J H	May 16. 14. 0	246. 40. 17	0·023340	59·0	D	May 19. 14. 0	246. 16. 49	0·023085	55·0	G
16. 0	38. 37	024723	55·0		16. 0	42. 13	024040	57·0		16. 0	29. 9	024037	53·5	
18. 0	35. 45	025531	54·0		18. 0	44. 31	023627	56·0		18. 0	31. 0	022682	55·0	
20. 0	40. 28	025704	54·8	J H	20. 0	47. 12	022273	55·0	D	20. 0	29. 59	021542	54·0	G
22. 0	44. 27	023785	57·4	P	22. 0	41. 4	020634	56·2	P	22. 0	24. 57	020760	56·0	D
May 13. 0. 0	246. 38. 11	0·023512	61·0	P	May 17. 0. 0	246. 37. 48	0·020561	58·0	J H	May 20. 0. 0	246. 23. 1	0·020768	59·0	D
1. 50	29. 42	023738			1. 50	21. 9	021358			1. 50	19. 35	025233		P
2. 0	29. 44	023457	63·2		2. 0	20. 4	021144	60·0		2. 0	19. 58	025310	62·6	
2. 10	29. 42	023519		P	2. 10	20. 55	020561		J H	2. 10	20. 13	025454		P
4. 0	38. 41	022561	64·3	J H	4. 0	21. 42	022634	61·0	D	4. 0	23. 16	024737	64·0	G
6. 0	39. 21	022476	64·0		6. 0	25. 10	022826	61·0		6. 0	25. 52	024612	63·0	
8. 0	42. 43	022539	63·0		8. 0	33. 49	022512	60·3		8. 0	27. 6	024159	62·0	
10. 0	41. 59	023115	62·5	J H	10. 0	26. 16	023037	59·0	D	10. 0	27. 3	024454	61·0	G
12. 0	38. 15	023343	60·0	P	12. 0	24. 37	023284	58·0	J H	12. 0	28. 50	024416	59·0	D
14. 0	39. 21	023542	58·0		14. 0	27. 1	023738	57·3		14. 0	28. 30	024797	57·5	
16. 0	39. 42	024343	56·0		16. 0	28. 12	023442	56·2		16. 0	28. 33	025203	55·0	
18. 0	39. 57	023904	53·2		18. 0	30. 3	022959	55·0		18. 0	31. 38	024106	54·5	
20. 0	43. 51	023789	53·2	P	20. 0	31. 23	022067	54·2	J H	20. 0	31. 1	021934	55·5	D
22. 0	46. 24	023505	55·7	J H	22. 0	27. 13	020834	56·0	P	22. 0	31. 27	021435	57·5	J H
May 14. 0. 0	246. 35. 8	0·015892	58·0	J H	May 18. 0. 0	246. 20. 57	0·021531	59·8	P	May 21. 0. 0	246. 25. 6	0·021856	64·0	J H
1. 50	37. 5	014638			1. 50	21. 40	023262			1. 50	22. 47	022811		
2. 0	37. 29	014583	61·5		2. 0	21. 45	023417	62·0		2. 0	22. 37	022756	66·7	
2. 10	37. 44	014561		J H	2. 10	22. 27	023232		P	2. 10	22. 8	023265		J H
4. 0	39. 8	015726	64·0	P	4. 0	25. 48	023962	63·6	J H	4. 0	18. 37	024641	68·5	D
6. 0	41. 12	017132	64·0		6. 0	29. 14	022372	63·2		6. 0	24. 8	023174	67·0	
8. 0	42. 46	018089	62·0		8. 0	28. 51	023148	61·4		8. 0	26. 44	023439	66·0	
10. 0	43. 48	017195	62·0	P	10. 0	27. 21	023546	60·0	J H	10. 0	23. 15	023015	64·5	D
12. 0	42. 10	017822	59·5	G	12. 0	31. 23	024350	58·0	P	12. 0	31. 4	023055	63·5	J H
14. 0	38. 6	023816	57·5		14. 0	29. 27	023115	56·2		14. 0	30. 32	023771	61·4	
16. 0	46. 34	023402	56·0		16. 0	27. 18	022133	57·2		16. 0	32. 12	024582	61·5	
18. 0	44. 2	024527	53. 5		18. 0	29. 31	022251	57·0		18. 0	28. 36	023107	61·2	
20. 0	48. 20	022217	55·7	G	20. 0	30. 23	023568	57·0	P	20. 0	31. 17	021726	61·6	J H
22. 0	46. 20	021956	57·5	D	22. 0	27. 53	023664	57·0	J H	22. 0	29. 0	022085	62·2	P
May 15. 0. 0	246. 37. 14	0·021380	63·0	D	May 19. 0. 0	246. 23. 34	0·022944	57·0	J H	May 22. 0. 0	246. 26. 5	0·022354	63·0	P
1. 50	37. 14	021037			1. 50	22. 11	022970			1. 50	21. 49	022557		
2. 0	36. 56	021420	67·0		2. 0	22. 39	022653	57·3		2. 0	20. 40	022930	64·2	
2. 10	36. 47	021361		D	2. 10	22. 13	023174		J H	2. 10	20. 9	023092		P
4. 0	39. 21	020671	68·0	G	4. 0	23. 1	024006	57·6	P	4. 0	23. 30	023188	65·0	J H
6. 0	41. 23	020812	69·0		6. 0	24. 5	023298	58·0		6. 0	26. 24	022753	65·0	
8. 0	40. 21	021697	66·5		8. 0	26. 5	022974	56·8		8. 0	30. 9	023302	64·4	
10. 0	41. 50	022133	63·5	G	10. 0	26. 54	025410	56·0	P	10. 0	30. 45	023808	63·4	J H
12. 0	41. 51	022616	62·0	D	12. 0	30. 23	023683	55·0	G	12. 0	30. 28	023616	63·0	P

The time of observation of the Horizontal Force Magnetometer is 2ᵐ. 30ˢ after the time of observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 14″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 239°; May 17ᵈ. 1ʰ. 50ᵐ, 199½°; May 22ᵈ. 0ʰ, 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, 20ˢ·8.

May 17ᵈ. 1ʰ. 50ᵐ. A change of 16′ in the position of the declination magnet from the preceding observation, was probably owing in part to the change in the position of the torsion circle between those two observations.
May 17ᵈ. 22ʰ. Experiments were made to determine the effect of the vertical force magnet on the Bifilar.
May 19ᵈ. 14ʰ. The position of the declination magnet was 13′ different (its marked end being drawn westward) from its position at the preceding and the succeeding observations.
May 22ᵈ. Experiments were made to determine the effects of the meridional needle and the Bifilar on the vertical force magnet.

Daily Observations from May 23 to 29.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m	° ′ ″		°		d h m	° ′ ″		°	
May 23. 14. 0	246. 25. 48	0·023723	63·4	P	May 26. 14. 0	246. 30. 18	0·020790	70·0	J H
16. 0	30. 43	022576	62·2		16. 0	29. 22	020792	68·0	
18. 0	32. 50	022694	58·8		18. 0	27. 21	022085	66·0	
20. 0	36. 4	022008	58·6	P	20. 0	32. 6	019391	68·3	J H
22. 0	32. 52	019402	60·0	J H	22. 0	24. 9	018356	70·2	P
May 24. 0. 0	246. 28. 22	0·019196	65·0	J H	May 27. 0. 0	246. 19. 5	0·017802	74·6	P
1. 50	24. 52	018837			1. 50	20. 48	014723		
2. 0	24. 51	018701	69·0		2. 0	22. 23	016075	78·0	
2. 10	24. 20	018930		J H	2. 10	22. 33	015885		P
4. 0	22. 29	019468	71·0	P	4. 0	25. 51	016573	80·0	J H
6. 0	26. 55	020945	70·6		6. 0	28. 3	018107	79·0	
8. 0	29. 33	021719	69·5		8. 0	30. 53	019685	76·4	
10. 0	33. 34	021671	69·0	P	10. 0	36. 23	018797	75·0	J H
12. 0	30. 22	021730	67·5	G	12. 0	28. 53	019353	73·2	P
14. 0	31. 21	021546	65·5		14. 0	29. 8	019646	71·0	
16. 0	30. 25	021748	64·0		16. 0	30. 49	019939	69·4	
18. 0	30. 48	021837	63·5		18. 0	30. 51	020138	68·0	
20. 0	33. 14	020974	64·0	G	20. 0	32. 23	020198	67·0	P
22. 0	33. 6	019590	64·0	D	22. 0	29. 50	018465	69·0	J H
May 25. 0. 0	246. 24. 22	0·020306	67·0	D	May 28. 0. 0	246. 25. 12	0·016634	72·8	J H
1. 50	20. 42	019690			1. 50	22. 53	018133		
2. 0	19. 28	020206	69·2		2. 0	23. 3	018162	76·0	
2. 10	20. 30	020213		D	2. 10	22. 47	017968		J H
4. 0	22. 34	020557	70·0	G	4. 0	35. 57	017348	77·2	P
6. 0	24. 57	021313	71·0		6. 0	39. 59	019091	77·0	
8. 0	28. 46	021848	68·0		8. 0	37. 51	019760	76·0	P
10. 0	28. 32	022273	69·0	G	10. 0	45. 9	019816	72·5	G
12. 0	30. 37	022236	67·0	D	12. 0	35. 57	019568	69·0	G
14. 0	29. 49	022140	66·0		14. 0	40. 41	019738	67·0	D
16. 0	31. 4	022147	64·0		16. 0	41. 5	020912	64·0	D
18. 0	32. 48	021978	63·0		18. 0	44. 12	021046	62·8	J H
20. 0	36. 12	021782	63·0	D	20. 0	45. 17	019198	64·0	M
22. 0	35. 12	019073	64·6	J H	22. 0	39. 31	019291	64·0	P
May 26. 0. 0	246. 26. 44	0·017004	71·7	J H	May 29. 0. 0	246. 37. 31	0·019242	65·2	G
1. 50	24. 2	019723			1. 50	35. 15	017714		D
2. 0	23. 56	017553	75·0		2. 0	35. 51	017730	69·8	
2. 10	24. 16	017615			2. 10	35. 22	018210		D
4. 0	25. 9	019109	77·5	D	4. 0	36. 28	018420	71·3	J H
6. 0	27. 12	018686	79·0		6. 0	39. 36	019948	70·5	G
8. 0	27. 22	020338	78·0		8. 0	39. 22	021289	69·2	P
10. 0	29. 58	019878	75·0		10. 0	40. 25	021212	67·5	D
12. 0	29. 54	021254	72·0	J H	12. 0	41. 36	021398	67·0	

The time of observation of the Horizontal Force Magnetometer is $2^m.30^s$ after the time of observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 14″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 218°; May $28^d.4^h$, 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, $20^s.8$.

May 23^d. Experiments were made to determine the effect of each combination of two instruments upon the third, when in their places.
May 25^d. After the observation at 22^h, experiments were made to determine the compound effect of the horizontal force and vertical force magnets on the meridional magnet: it was found that the effect was to draw the marked end of the meridional magnet 55″ towards the east.
May $26^d.12^h$. This was the first observation taken with the three magnets in their places; the correction 55″ is subtracted from this and from all subsequent observations of the declination magnetometer. The correction $-0^d.487$, is also applied to the scale readings of the Bifilar, beginning with this observation.
May $26^d.10^h$. Thunder: no effect on the magnets.
May $28^d.4^h$. The marked end of the needle approached the east by 13′ since the last observation; a change of 16° of the torsion-circle may account for part of it.

Daily Observations from May 30 to June 5.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°	
May 30. 14. 0	246. 38. 24	0·021644	64·0			D
16. 0	41. 29	020908	62·0			
18. 0	41. 21	021520	60·0			
20. 0	44. 5	019961	60·0			D
22. 0	41. 4	019430	63·3			J H
May 31. 0. 0	246. 35. 29	0·018926	67·0			J H
1. 50	33. 50	018821				
2. 0	33. 49	018774	73·0			G
2. 10	35. 14	018737				J H
4. 0	35. 52	018609	75·0			D
6. 0	41. 24	018708	76·5			
8. 0	40. 4	019406	76·0			
10. 0	40. 18	019895	71·5			D
12. 0	38. 2	020891	69·2			G
14. 0	44. 25	021804	67·0	0·015479	67·0	
16. 0	42. 56	021453	65·0	016157	65·0	
18. 0	43. 21	020420	64·0	016742	63·0	
20. 0	45. 2	020747	64·0	017245	63·5	G
22. 0	40. 52	019450	64·0	017391	63·5	J H
June 1. 0. 0	246. 34. 23	0·019529	66·0	0·016657	65·0	J H
1. 50	31. 31	020247		016148		
2. 0	31. 30	020204	69·0	016092	68·0	
2. 10	31. 47	019873		016038		J H
4. 0	34. 6	019490	70·0	015607	70·0	G
6. 0	39. 10	020719	71·0	015423	70·0	
8. 0	39. 17	020608	70·5	015258	70·0	
10. 0	42. 17	020524	69·0	015422	68·0	G
12. 0	43. 16	020226	66·0	015941	66·0	J H
14. 0	44. 0	020293	64·6	016408	64·6	
16. 0	39. 33	021157	62·7	016952	62·8	
18. 0	42. 57	020874	61·6	017382	61·2	
20. 0	42. 25	018992	65·0	017888	60·6	J H
22. 0	42. 48	018830	65·3	017405	62·8	D
June 2. 0. 0	246. 36. 26	0·017628	67·0	0·016520	65·5	D
1. 50	33. 3	019557		015847		
2. 0	33. 24	019353	69·5	015814	68·0	
2. 10	33. 39	019236		015782		D
4. 0	34. 6	020480	72·0	015230	75·0	J H
6. 0	37. 54	021106	70·0	015423	69·2	
8. 0	40. 12	020450	70·5	015320	70·0	
10. 0	41. 12	020030	69·6	015283	69·0	J H
12. 0	45. 21	021505	68·0	015145	68·0	D

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°	
June 2. 14. 0	246. 44. 8	0·020151	66·0	0·015602	66·0	D
16. 0	43. 11	020652	65·0	015983	64·8	
18. 0	43. 59	020030	64·0	016583	63·5	
20. 0	46. 46	018587	64·0	016898	64·0	D
22. 0	42. 12	018624	66·0	016685	64·0	J H
June 3. 0. 0	246. 33. 36	0·018845	67·6	0·015718	66·0	J H
1. 50	31. 54	018867		015140		G
2. 0	32. 13	019051	70·5	015084	69·0	
2. 10	32. 41	018926		014985		G
4. 0	34. 48	017771	72·8	014422	72·0	D
6. 0	37. 19	019003	72·0	014425	72·0	
8. 0	39. 6	019793	71·0	014631	70·5	
10. 0	41. 5	020132	67·2	014896	68·0	D
12. 0	38. 40	020852	65·0	015442	65·0	G
14. 0	41. 49	020473	64·0	015922	63·0	
16. 0	41. 44	021232	63·0	017010	62·0	
18. 0	43. 8	021280	62·0	017622	61·5	
20. 0	45. 28	019003	62·0	018587	57·0	G
22. 0	39. 2	018550	61·0	018769	59·0	J H
June 4. 0. 0	246. 31. 46	0·019047	62·7	0·017866	60·8	J H
1. 50	29. 4	020269		017264		
2. 0	29. 9	020332	63·3	017245	65·0	
2. 10	29. 38	020220		017180		J H
4. 0	33. 22	018789	67·0	016779	67·0	G
6. 0	39. 5	020026	68·0	016335	67·0	
8. 0	40. 2	020439	68·0	015981	67·0	
10. 0	38. 30	019731	67·0	015885	67·0	G
12. 0	46. 42	021582	64·6	015998	64·6	J H
14. 0	39. 35	020446	62·4	016508	62·5	
16. 0	41. 21	021243	60·5	017153	60·6	
18. 0	41. 44	021114	59·2	017963	59·0	
20. 0	42. 12	019786	60·0	018296	58·2	J H
22. 0	38. 45	019347	59·6	018317	59·5	D
June 5. 0. 0	246. 31. 48	0·019029	64·0	0·017438	62·8	D
1. 50	31. 7	019191		016730		
2. 0	31. 18	019439	66·5	016676	65·3	
2. 10	31. 45	018126		016582		D
4. 0	33. 53	019992	69·0	015824	68·0	J H
6. 0	38. 29	020287	69·3	015541	68·6	
8. 0	38. 47	021413	68·0	014990	67·5	
10. 0	41. 25	021708	64·6	015561	64·7	J H
12. 0	44. 55	021476	63·0	016096	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′. 14″; June 1, 269°. 52′. 24″.
Reading of Torsion-Circle for Brass Bar resting in 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, $27^s.5$.

May $31^d.14^h$. This was the first of the regular observations with the vertical force magnet.

June $2^d.4^h$. Previously to this observation the scale of the horizontal force magnet was moved $0^d.5$ nearly (so that all readings are less than before by this amount), on account of the correction due to the compound effect of the other two magnets.

Daily Observations from June 6 to 12.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
June 6. 14. 0	246. 43. 39	0·023668	57·0	0·018027	56·5	D	June 9. 14. 0	246. 28. 37	0·021886	58·0	0·018228	57·5	D
16. 0	45. 2	021926	55·0	018827	55·2		16. 0	28. 55	022357	57·0	018656	56·0	
18. 0	46. 1	022601	55·0	019346	55·0		18. 0	23. 47	022100	56·0	018992	55·5	
20. 0	42. 54	020535	55·8	019957	54·0	D	20. 0	32. 30	021022	55·5	019482	54·5	D
22. 0	41. 27	020863	55·0	019529	54·0	JH	22. 0	31. 31	020030	55·0	019369	55·0	JH
June 7. 0. 0	246. 21. 15	0·019820	56·5	0·019011	55·0	JH	June 10. 0. 0	246. 25. 28	0·019820	58·0	0·017904	58·0	JH
1. 50	18. 49	020442		018639		G	1. 50	21. 22	019240		017438		
2. 0	18. 41	020590	59·0	018598	59·0		2. 0	21. 22	019439	62·5	017391	61·0	
2. 10	18. 3	021313		018643		G	2. 10	21. 41	021893		017284		JH
4. 0	17. 38	022365	59·5	018169	58·2	D	4. 0	24. 9	020158	66·0	016158	65·0	D
6. 0	23. 15	022675	60·0	018445	59·0		6. 0	26. 52	020180	68·0	014985	67·0	
8. 0	27. 12	023365	60·0	018503	59·0		8. 0	27. 19	020228	69·6	014628	69·0	
10. 0	27. 19	022372	58·5	018496	58·0	D	10. 0	25. 25	020365	68·7	014284	67·3	D
12. 0	31. 55	021221	58·0	018244	57·0	G	12. 0	26. 11	019734	66·0	014613	65·5	G
14. 0	25. 32	022645	57·0	018479	57·0		14. 0	27. 16	020228	63·2	015331	62·5	
16. 0	30. 45	022328	57·0	018371	57·0		16. 0	27. 53	020908	61·5	016046	61·0	
18. 0	34. 6	022100	57·0	018615	56·5		18. 0	30. 40	020934	59·5	016729	59·0	
20. 0	31. 58	021631	55·5	019015	55·0	G	20. 0	30. 1	020978	58·5	017182	58·0	G
22. 0	28. 51	020561	55·4	018964	55·0	JH	22. 0	27. 18	019941	57·2	017457	57·3	JH
June 8. 0. 0	246. 22. 10	0·019284	57·0	0·018983	56·0	JH	June 11. 0. 0	246. 24. 6	0·020099	58·0	0·017261	58·0	JH
1. 50	20. 15	020243		018060			1. 50	18. 33	020550		016750		
2. 0	20. 44	020284	59·5	018004	58·5		2. 0	18. 22	020458	60·3	016718	59·7	
2. 10	20. 50	020369		017969		JH	2. 10	18. 33	020674		016714		JH
4. 0	22. 15	021919	61·5	017613	60·5	G	4. 0	21. 47	021029	61·0	017006	59·0	G
6. 0	25. 17	022383	62·0	017542	61·0		6. 0	24. 54	022092	59·7	017156	59·3	JH
8. 0	26. 26	022251	62·0	017272	61·0		8. 0	25. 16	022443	59·0	017580	58·5	D
10. 0	27. 51	022085	62·0	017331	61·0	G	10. 0	25. 55	022118	59·0	017518	58·5	D
12. 0	30. 4	022390	59·0	017408	59·0	JH	12. 0	27. 11	021870	57·8	017645	57·3	JH
14. 0	29. 29	023163	58·0	017848	57·5		14. 0	28. 50	021605	57·0	018004	56·3	
16. 0	30. 7	022855	56·6	018398	56·3		16. 0	24. 2	021804	55·0	018347	55·0	
18. 0	34. 5	022963	55·0	018889	55·5		18. 0	31. 13	022454	55·0	019001	54·5	
20. 0	30. 28	021748	54·5	019411	54·2	JH	20. 0	31. 14	021054	54·0	019550	54·0	JH
22. 0	29. 52	022026	55·0	019468	54·8	D	22. 0	29. 12	021025	56·0	019252	54·7	D
June 9. 0. 0	246. 18. 11	0·019222	56·3	0·019022	55·8	G	June 12. 0. 0	246. 25. 28	0·019992	57·0	0·018389	57·0	D
1. 50	13. 42	019827		018545		D	1. 50	22. 14	021022		018008		
2. 0	15. 14	021919	59·0	018448	58·0		2. 0	22. 8	021011	59·0	017959	58·0	
2. 10	16. 8	019893		018427		D	2. 10	21. 59	020916		017872		D
4. 0	20. 18	022191	61·3	017782	60·2	JH	4. 0	23. 34	021442	59·0	017745	58·0	JH
6. 0	25. 28	022129	62·0	017855	60·7		6. 0	27. 13	021671	59·0	017909	58·5	
8. 0	27. 12	021613	62·0	017454	61·3		8. 0	27. 30	022103	59·4	017636	59·0	
10. 0	23. 47	021287	61·0	017236	60·4	JH	10. 0	28. 19	021937	58·6	017729	58·0	JH
12. 0	24. 25	023535	60·0	017358	59·5	D	12. 0	28. 5	022531	57·0	018117	56·0	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′. 24″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 234°; June $7^d.0^h$, 200°.
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, $27^s.5$.

June $7^d.12^h$. The position of the needle was 20′ different from its place at the previous observation, but the greater part of it was probably owing to the great change in the angle of torsion.

Daily Observations from June 13 to 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.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
June 13. 14. 0	246. 33. 39	0·021336	56·0	0·017580	56·0	D	June 16. 14. 0	246. 43. 11	0·021088	61·5	0·015858	61·0	D
16. 0	30. 57	021775	54·0	018542	54·0		16. 0	44. 14	020568	59·5	016237	59·5	
18. 0	34. 27	021904	54·0	019242	53·5		18. 0	47. 17	020561	58·5	016723	58·5	
20. 0	33. 30	019749	59·7	018828	55·5	D	20. 0	48. 19	018576	61·0	016862	59·0	D
22. 0	30. 34	017564	60·0	017909	57·5	J H	22. 0	43. 6	017420	63·0	016186	61·0	J H
June 14. 0. 0	246. 24. 23	0·018093	62·5	0·016419	60·5	J H	June 17. 0. 0	246. 40. 25	0·018166	65·0	0·015247	63·0	J H
1. 50	39. 9	018243		015348			1. 50	38. 56	019155		014565		
2. 0	39. 4	018358	66 0	015254	64·3		2. 0	38. 34	019545	67·0	014449	66·0	
2. 10	38. 31	018372		015164		J H	2. 10	38. 26	019240		014364		J H
4. 0	40. 28	019129	69·5	014458	68·0	D	4. 0	41. 40	019340	69·5	014087	68·0	D
6. 0	43. 18	019926	70·5	014015	69·3		6. 0	42. 49	019291	70·8	013794	70·0	
8. 0	43. 47	019701	70·0	013686	69·0		8. 0	45. 50	019018	71·0	013583	70·3	
10. 0	43. 4	020302	69·5	013616	69·0	D	10. 0	53. 55	020180	69·5	013342	69·0	D
12. 0	42. 16	020649	66·5	014045	66·5	G	12. 0	47. 1	019944	66·5	013385	66·0	G
14. 0	44. 24	020513	63·8	014750	64·0		14. 0	46. 58	021203	65·0	013991	64·0	
16. 0	46. 8	020391	62·2	015235	62·5		16. 0	39. 48	018494	61·0	014499	60·0	G
18. 0	48. 58	021095	61·0	015753	61·0		18. 0	49. 39	018443	60·0	015597	60·0	
20. 0	49. 56	020332	60·5	016120	60·5	G	20. 0	47. 20	018543	58·0	016544	57·0	G
22. 0	47. 50	018978	61·0	016289	60·5	J H	22. 0	44. 50	016377	59·0	016148	58·5	J H
June 15. 0. 0	246. 39. 42	0·018336	62·3	0·016073	61·6	J H	June 18. 0. 0	246. 39. 39	0·016556	68·0	0·014736	66·0	J H
1. 50	37. 3	019657		015574			1. 50	39. 1	016656		013390		
2. 0	37. 8	019767	61·6	015527	63·5		2. 0	37. 41	017789	72·0	013310	70·5	
2. 10	36. 55	020187		015449		J H	2. 10	37. 50	017357		013255		J H
4. 0	35. 50	018066	63·1	015372	64·0	G	4. 0	43. 41	017745	73·0	012881	74·5	G
6. 0	42. 42	020701	65·0	015592	63·0		6. 0	43. 50	019509	75·0	012645	74·2	
8. 0	44. 28	021250	63·0	015491	63·5		8. 0	46. 11	018443	74·0	011458	73·0	
10. 0	50. 33	019200	64·2	015221	63·8	G	10. 0	44. 15	017826	73·0	011789	74·5	G
12. 0	41. 42	020424	61·5	015159	61·0	J H	12. 0	52. 11	019550	69·2	012076	69·4	J H
14. 0	53. 41	019554	59·3	015719	59·2		14. 0	46. 39	018306	67·5	012513	67·6	
16. 0	46. 47	021591	57·5	016243	57·6		16. 0	48. 17	019066	66·0	013368	66·0	
18. 0	51. 50	020652	54·6	017278	55·0		18. 0	48. 52	019095	64·0	013930	64·0	
20. 0	50. 57	019454	54·5	018440	54·0	J H	20. 0	50. 48	017900	63·0	014416	63·0	J H
22. 0	47. 46	018745	57·0	017976	57·0	D	22. 0	45. 51	017276	63·5	014558	63·0	D
June 16. 0. 0	246. 39. 56	0·016986	63·0	0·016191	62·0	D	June 19. 0. 0	246. 38. 1	0·018476	65·0	0·014214	63·5	D
1. 50	36. 56	018040		015061			1. 50	31. 25	018609		013902		
2. 0	36. 44	018561	66·8	014990	65·5		2. 0	30. 56	018978	67·0	013851	66·3	
2. 10	34. 58	019262		014995		D	2. 10	31. 25	018830		013794		D
4. 0	38. 54	018081	66·8	014558	66·7	J H	4. 0	34. 9	019523	70·0	013229	69·2	J H
6. 0	44. 31	019679	68·5	014322	67·5		6. 0	37. 9	019062	71·0	012980	70·0	
8. 0	44. 20	020901	68·0	014399	68·0		8. 0	36. 23	019450	69·0	012892	69·0	
10. 0	42. 36	020240	66·2	014049	66·2	J H	10. 0	36. 27	019380	67·6	013060	67·5	J H
12. 0	42. 50	020667	64·0	014564	63·5	D	12. 0	38. 39	019831	66·0	013503	65·5	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′. 24″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 200°; June $14^d.1^h.50^m$, 250°; June $19^d.0^h$, 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, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $27^s.5$.

June $14^d.1^h.50^m$. A change of 15′ in the position of the declination needle: most probably owing to torsion.
June $13^d.22^h$. Mr. Glaisher found the divisions of the scale of the vertical force almost invisible: on looking along the telescope, it was evident that the position of the mirror had changed: instead of the scale occupying the center of the mirror, it was quite at its limit. The magnet was gently dropped in its Y's by its screw, and then gently raised; the scale was then reflected in the center of the mirror: it would therefore seem that the magnet had moved in azimuth, the marked end being drawn towards the north.
June $15^d.14^h$. A change of 13′ in the position of the declination needle since the previous observation.
June $18^d.8^h$. Thunder: no effect on any of the magnets.

Daily Observations from June 20 to 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.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
June 20. 14. 0	246. 43. 25	0·020634	60·0	0·015278	60·0	D	June 23. 14. 0	246. 38. 59	0·021298	62·5	0·014601	62·0	D
16. 0	39. 54	020882	59·0	015743	59·0		16. 0	36. 13	021845	60·8	015437	60·5	D
18. 0	27. 1	020125	59·0	016031	59·0		18. 0	32. 57	021206	59·6	016105	59·0	J H
20. 0	43. 43	018516	64·5	015735	60·8	D	20. 0	38. 27	018162	62·0	016415	59·3	M
22. 0	39. 43	018239	64·7	015112	62·5	J H	22. 0	38. 27	017944	66·0	015883	64·0	P
June 21. 0. 0	246. 31. 18	0·018550	66·3	0·014383	64·0	J H	June 24. 0. 0	246. 34. 16	0·017734	64·5	0·014755	63·5	D
1. 50	31. 0	019095		013559			1. 50	29. 38	018900		014378		P
2. 0	31. 12	019273	69·0	013483	68·0		2. 0	29. 19	019273	67·0	014378	65·5	
2. 10	31. 13	018741		013352		J H	2. 10	28. 58	019867		014340		P
4. 0	32. 3	019262	72·0	012834	70·0	D	4. 0	29. 24	019959	66·5	014181	66·0	D
6. 0	33. 56	020220	70·5	012905	69·5		6. 0	33. 29	020572	68·6	014190	67·0	G
8. 0	36. 4	020686	68·5	013037	68·5		8. 0	35. 39	021166	67·0	014026	66·8	P
10. 0	36. 54	020712	67·0	013296	66·0	D	10. 0	35. 58	020812	65·3	013963	65·0	J H
12. 0	38. 56	021383	64·3	013747	64·0	J H	12. 0	36. 36	021361	64·0	014117	63·8	D
14. 0	39. 5	021579	62·6	014386	62·3		14. 0	39. 44	020458	63·0	014054	63·0	
16. 0	39. 4	021542	60·5	014971	61·0		16. 0	38. 12	020741	62·0	014647	62·0	
18. 0	41. 3	020630	59·0	015664	59·0		18. 0	38. 1	020852	61·0	014943	61·0	
20. 0	45. 43	021048	58·6	015932	58·6	J H	20. 0	39. 44	019158	61·0	015296	61·0	D
22. 0	39. 18	018350	62·6	015721	60·6	P	22. 0	40. 39	019313	61·0	015117	60·0	J H
June 22. 0. 0	246. 31. 52	0·017613	65·8	0·014520	64·0	P	June 25. 0. 0	246. 32. 37	0·020901	61·0	0·014703	60·0	J H
1. 50	32. 46	018539		013683			1. 50	30. 13	021214		014699		
2. 0	32. 36	019029	69·0	013651	67·2		2. 0	29. 33	021568	63·5	014642	62·3	
2. 10	31. 35	019764		013611		P	2. 10	29. 23	021365		014548		J H
4. 0	32. 4	019247	70·0	013215	69·0	J H	4. 0	29. 25	020231	66·8	014266	66·0	D
6. 0	35. 19	019786	68·0	013412	68·0		6. 0	30. 35	020476	67·5	013630	67·0	
8. 0	36. 53	023011	67·0	013794	67·2		8. 0	33. 21	019498	69·5	013418	68·2	
10. 0	38. 16	021309	65·2	014025	65·3	J H	10. 0	34. 29	022147	68·2	013357	67·0	D
12. 0	42. 0	021199	62·5	014356	63·0	P	12. 0	41. 30	021638	65·0	013542	65·2	J H
14. 0	37. 16	021343	61·0	014592	61·0		14. 0	37. 55	021582	63·4	013988	63·6	
16. 0	38. 39	021786	60·0	015403	60·0		16. 0	38. 33	021730	62·4	014077	62·2	
18. 0	40. 40	021516	58·0	016035	58·0		18. 0	42. 12	021712	61·0	014639	61·0	
20. 0	41. 12	020985	58·2	016595	58·0	P	20. 0	41. 54	020110	60·7	015155	60·7	J H
22. 0	37. 28	019355	60·5	016478	59·0	J H	22. 0	37. 57	018900	62·4	015249	62·0	P
June 23. 0. 0	246. 35. 26	0·018808	63·0	0·015183	61·0	J H	June 26. 0. 0	246. 31. 27	0·018723	65·0	0·014520	64·0	P
1. 50	28. 13	019421		014736			1. 50	30. 8	018730		013954		
2. 0	27. 25	019310	64·2	014779	63·0		2. 0	29. 55	019084	66·8	013935	65·8	
2. 10	28. 53	018889		014531		J H	2. 10	29. 50	018970		013855		P
4. 0	28. 37	020619	65·2	014549	64·4	P	4. 0	31. 3	019129	67·2	013719	66·6	J H
6. 0	31. 57	023402	66·0	014915	65·2		6. 0	35. 26	020409	67·0	013872	66·6	
8. 0	36. 35	021890	66·0	014563	65·6	P	8. 0	35. 50	020797	66·6	013916	66·3	
10. 0	40. 12	022000	65·0	014462	64·0	G	10. 0	36. 30	020663	65·5	013870	65·6	J H
12. 0	31. 47	021261	63·5	014473	63·0	G	12. 0	39. 12	020276	63·2	014117	64·0	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′. 24.″
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 230°; June $23^d.1^h.50^m$, 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, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $27^s.5$.

June $24^d.12^h$. The theodolite reading is different from the preceding reading by 10′.

Daily Observations from June 27 to July 3.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
June 27. 14. 0	246. 36. 47	0·021527	61·0	0·014703	61·0	P	June 30. 14. 0	246. 40. 14	0·020066	62·0	0·014220	62·0	P
16. 0	38. 49	020863	61·0	015395	61·0		16. 0	39. 55	020158	62·0	014750	61·4	
18. 0	40. 30	022015	60·5	015572	60·2		18. 0	39. 14	019609	62·0	014967	61·4	
20. 0	43. 16	019417	61·2	015503	60·5	P	20. 0	40. 12	019291	60·8	015242	60·4	P
22. 0	37. 27	018815	61·0	015250	61·0	D	22. 0	36. 50	018723	60·8	015264	60·0	D
June 28. 0. 0	246. 32. 50	0·018697	61·0	0·015179	61·0	D	July 1. 0. 0	246. 31. 48	0·020081	61·0	0·015037	60·0	D
1. 50	29. 52	019871		014858			1. 50	30. 28	020180		014896		
2. 0	29. 30	019970	62·0	014901	61·5		2. 0	30. 32	020247	61·5	014882	61·0	
2. 10	29. 48	020143		014887		D	2. 10	30. 38	020608		014873		D
4. 0	31. 46	021808	63·0	014990	62·0	P	4. 0	30. 41	021162	63·0	014708	62·4	P
6. 0	33. 10	022085	63·0	015117	62·0		6. 0	33. 26	020996	63·8	014520	63·0	
8. 0	35. 3	022450	63·0	015046	62·4		8. 0	36. 32	020901	64·0	014567	63·5	
10. 0	34. 0	021848	62·4	014989	62·0	P	10. 0	36. 6	022405	64·0	014449	63·4	P
12. 0	34. 35	021564	62·5	014990	62·0	G	12. 0	38. 28	021442	63·5	014326	63·0	G
14. 0	33. 50	021402	62·5	014520	62·0		14. 0	49. 33	020674	63·0	013985	62·5	
16. 0	39. 12	020820	60·5	014793	60·0		16. 0	45. 5	020037	64·0	013928	63·0	
18. 0	40. 9	020982	60·5	015362	59·5		18. 0	40. 53	019893	64·0	014058	63·0	
20. 0	40. 6	020041	62·0	015721	61·0	G	20. 0	42. 56	018686	65·0	013963	64·0	G
22. 0	32. 43	018306	61·0	015334	60·8	D	22. 0	38. 19	018281	65·0	013978	64·5	D
June 29. 0. 0	246. 27. 2	0·018613	65·0	0·014258	63·2	P	July 2. 0. 0	246. 31. 50	0·018781	65·0	0·013625	64·8	P
1. 50	25. 29	019930		013728		D	1. 50	27. 33	019399		013625		D
2. 0	25. 59	019709	66·8	013733	65·5	D	2. 0	27. 36	019576	66·2	013677	65·5	
2. 10	26. 9	020007		013699		P	2. 10	27. 47	019683		013672		D
4. 0	28. 54	019080	67·0	013578	67·0	G	4. 0	30. 14	020638	67·2	013625	67·0	G
6. 0	33. 16	020373	67·5	013578	67·0		6. 0	33. 3	020801	68·0	013474	67·0	
8. 0	33. 40	021602	67·5	013630	67·0		8. 0	36. 43	021394	68·0	013446	67·0	
10. 0	39. 3	021786	66·5	014190	65·0	G	10. 0	35. 22	021830	67·0	013474	66·0	G
12. 0	29. 49	021668	63·6	014439	62·5	D	12. 0	38. 53	020756	66·0	013616	65·2	D
14. 0	42. 56	021502	62·0	014279	61·3		14. 0	37. 17	021037	65·0	013864	65·0	
16. 0	41. 20	020941	61·0	015203	60·4		16. 0	40. 31	020949	65·0	013826	64·5	
18. 0	37. 37	019915	59·5	015611	58·5		18. 0	39. 26	020949	64·8	014026	64·5	
20. 0	43. 14	018952	62·0	015697	60·0	D	20. 0	39. 20	019820	65·0	013992	64·5	D
22. 0	34. 12	016926	61·5	015428	60·0	P	22. 0	34. 18	017827	67·0	013540	66·0	G
June 30. 0. 0	246. 32. 51	0·017653	64·0	0·014853	62·0	P	July 3. 0. 0	246. 32. 23	0·019295	68·0	0·012872	67·6	P
1. 50	30. 26	017730		014120			1. 50	29. 36	019616		012580		
2. 0	30. 6	017650	67·2	014108	65·6		2. 0	29. 25	019583	70·0	012542	69·4	
2. 10	29. 24	017863		014038		P	2. 10	29. 12	019789		012542		
4. 0	31. 4	018974	67·7	013555	68·0	D	4. 0	31. 2	019661	72·6	012115	72·0	P
6. 0	33. 24	019384	68·5	013381	68·0		6. 0	34. 46	019771	74·5	011723	74·0	D
8. 0	34. 7	020756	68·5	013395	67·5		8. 0	38. 4	019527	74·5	011672	74·0	
10. 0	35. 48	021919	66·5	013771	66·0	D	10. 0	37. 8	019643	73·0	011417	72·0	D
12. 0	36. 29	020417	63·8	014049	63·8	P	12. 0	38. 1	019679	70·4	011892	70·0	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′. 24″; July 1, 269°. 52′. 36″.
Reading of Torsion-Circle 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, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $27^s.5$.

June $29^d.\ 12^h$ and 20^h. The reading of the declination magnet has undergone a considerable change.

Daily Observations from July 4 to 10.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
July 4. 14. 0	246. 34. 34	0·020919	65·0	0·012912	65·0	P	July 7. 14. 0	246. 39. 1	0·019266	66·4	0·013312	65·8	P
16. 0	37. 26	021232	64·0	013411	64·0		16. 0	40. 36	019191	66·4	013196	65·6	
18. 0	37. 41	020340	63·0	013848	63·0		18. 0	40. 53	019623	64·0	013555	63·0	
20. 0	40. 24	017528	64·0	014331	63·0	P	20. 0	43. 12	019594	63·2	014096	62·4	P
22. 0	38. 21	018270	64·5	014040	63·5	D	22. 0	42. 15	018081	63·0	014345	62·5	D
July 5. 0. 0	246. 34. 2	0·018845	66·5	0·013718	65·5	D	July 8. 0. 0	246. 35. 39	0·017822	64·5	0·013978	63·2	D
1. 50	30. 55	018332		013131			1. 50	38. 45	019313		013775		
2. 0	31. 21	018376	68·0	013112	67·0		2. 0	38. 51	019118	65·3	013804	64·5	
2. 10	30. 5	018443		013074		D	2. 10	38. 49	019295		013799		D
4. 0	33. 19	018789	71·4	012260	71·0	P	4. 0	40. 18	019882	67·0	013630	67·0	G
6. 0	36. 46	019981	72·4	011878	72·0		6. 0	42. 17	019391	67·0	013343	66·5	G
8. 0	41. 56	020077	72·2	011704	72·0		8. 0	43. 22	020041	67·0	013272	66·5	D
10. 0	41. 6	019668	72·4	011783	72·2	P	10. 0	45. 49	020874	65·4	013208	65·2	P
12. 0	41. 41	019966	68·0	012194	68·0	G	12. 0	46. 37	020993	64·0	013724	63·5	G
14. 0	45. 29	020458	68·0	012113	67·5		14. 0	46. 47	021122	63·0	013949	62·5	
16. 0	39. 34	020458	67·0	012542	66·5		16. 0	46. 19	021321	62·0	014544	61·5	
18. 0	32. 36	019720	67·0	012472	66·5		18. 0	46. 44	021782	59·5	015037	58·5	
20. 0	37. 32	018314	64·0	013381	64·0	G	20. 0	47. 11	021243	58·0	015720	57·5	G
22. 0	36. 52	018332	64·0	013555	64·0	D	22. 0	47. 6	018896	59·0	016594	58·5	D
July 6. 0. 0	246. 33. 0	0·016793	65·5	0·013201	65·0	D	July 9. 0. 0	246. 40. 30	0·018483	62·0	0·015273	61·0	D
1. 50	30. 24	018151		013013			1. 50	36. 50	018236		014567		
2. 0	29. 48	018129	67·3	012975	67·0		2. 0	37. 1	018037	64·5	014476	63·5	
2. 10	30. 18	017517		012919		D	2. 10	37. 1	018166		014416		D
4. 0	29. 0	018011	69·4	012801	69·8	P	4. 0	38. 56	018974	67·0	013578	66·5	G
6. 0	31. 55	019734	69·5	012735	69·5		6. 0	41. 57	019483	68·0	013367	67·5	
8. 0	37. 22	021159	69·5	012739	69·0	P	8. 0	44. 3	019177	68·0	013201	68·0	
10. 0	38. 27	021192	67·0	012636	66·5	G	10. 0	44. 32	020509	65·5	013267	65·0	G
12. 0	33. 58	023712	66·0	012966	65·5	D	12. 0	44. 47	021055	64·0	013799	63·5	D
14. 0	46. 45	020209	64·0	012928	64·0		14. 0	45. 23	020919	62·0	014218	62·0	
16. 0	39. 53	019136	63·0	013728	62·5		16. 0	45. 17	021155	61·0	014773	60·7	
18. 0	36. 6	021405	61·8	013766	61·5		18. 0	46. 27	021280	59·5	015312	59·2	
20. 0	41. 28	018602	61·0	014152	61·0	D	20. 0	46. 5	020819	62 0	015546	59·5	D
22. 0	38. 12	017209	62·4	014284	61·4	P	22. 0	46. 10	019527	60·5	015456	59·0	P
July 7. 0. 0	246. 32. 48	0·017882	63·8	0·013857	63·0	P	July 10. 0. 0	246. 40. 6	0·018137	63·0	0·014849	62·0	P
1. 50	30. 41	019203		013549			1. 50	37. 46	019384		013888		
2. 0	31. 0	019055	66·2	013531	65·0		2. 0	38. 6	019162	66·0	013784	65·0	
2. 10	31. 22	018737		013559		P	2. 10	38. 14	019114		013677		P
4. 0	33. 11	019893	68·0	013154	67·0	D	4. 0	36. 46	019180	69·5	012038	68·0	D
6. 0	35. 13	019207	68·5	013178	67·8		6. 0	39. 59	020010	70·0	011860	69·0	
8. 0	35. 12	019974	66·0	013248	65·5		8. 0	41. 28	020874	70·0	011798	69·0	
10. 0	38. 24	020480	65·0	013522	65·0	D	10. 0	42. 41	022003	65·5	012326	65·0	D
12. 0	40. 33	020509	65·0	013463	64·8	P	12. 0	45. 23	020417	62·5	012984	62·0	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′. 36″.
Reading of Torsion-Circle 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, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $27^s.5$.

July $6^d.\ 14^h$. The marked end of the declination magnet was more easterly than it was at the preceding and succeeding observations by 13′ and 7′ respectively.

July $9^d.\ 10^h$. Thunder, during which the magnets were watched: no effect.

Daily Observations from July 11 to 17.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°	
July 11. 14. 0	246. 42. 12	0·021693	57·5	0·014090	57·2	P
16. 0	49. 24	020719	57·0	014509	57·0	
18. 0	46. 50	020165	57·0	014694	57·0	
20. 0	45. 10	019627	57·0	014887	56·5	P
22. 0	43. 3	019107	59·0	014769	57·5	D
July 12. 0. 0	246. 30. 46	0·017889	60·5	0·014019	59·5	D
1. 50	27. 42	018797		013757		
2. 0	28. 6	019538	62·0	013750	61·6	
2. 10	28. 29	019731		013733		D
4. 0	30. 13	021598	64·0	013484	63·0	P
6. 0	31. 32	020572	64·5	013390	64·0	
8. 0	31. 11	021155	64·5	013060	64·0	
10. 0	32. 9	020708	63·5	013048	63·5	P
12. 0	36. 7	020553	62·0	013348	61·0	G
14. 0	34. 46	020967	61·0	013630	60·0	
16. 0	37. 6	020860	60·5	013959	60·0	
18. 0	37. 25	020919	58·5	014306	58·0	
20. 0	35. 32	022023	57·0	014638	56·0	G
22. 0	34. 2	019550	58·5	014623	57·5	D
July 13. 0. 0	246. 27. 54	0·019040	61·0	0·013912	60·3	D
1. 50	24. 36	018671		013395		
2. 0	24. 24	018627	64·0	013324	63·5	
2. 10	24. 20	018682		013262		D
4. 0	26. 19	019483	66·5	012966	65·5	P
6. 0	29. 52	019516	68·0	012768	67·0	D
8. 0	31. 32	020885	67·0	012834	66·5	D
10. 0	33. 51	019731	65·5	012861	65·0	P
12. 0	34. 28	020254	61·0	013455	60·8	D
14. 0	36. 26	020838	59·0	014242	59·0	
16. 0	36. 54	020354	58·0	014557	58·0	
18. 0	35. 5	021114	57·0	014943	56·5	
20. 0	34. 24	020561	58·0	015083	56·6	D
22. 0	32. 26	019966	60·0	014840	58·5	P
July 14. 0. 0	246. 26. 54	0·018532	63·0	0·013907	61·5	P
1. 50	25. 27	018896		013437		
2. 0	25. 45	019033	64·5	013390	63·5	
2. 10	25. 32	019129		013343		P
4. 0	28. 57	022405	65·0	013107	64·0	G
6. 0	31. 2	022019	65·0	013201	64·0	G
8. 0	31. 21	022811	64·5	013248	63·5	P
10. 0	30. 56	021985	62·7	013475	62·0	D
12. 0	34. 38	023805	61·0	013497	61·0	P
July 14. 14. 0	246. 39. 9	0·022974	61·0	0·013714	60·5	P
16. 0	35. 21	024048	59·0	013531	59·0	
18. 0	34. 2	023196	58·0	013719	58·0	
20. 0	35. 26	020641	57·0	014218	57·0	P
22. 0	31. 33	018892	58·0	014204	57·8	D
July 15. 0. 0	246. 26. 58	0·020048	61·6	0·013950	61·0	D
1. 50	21. 55	019782		013526		
2. 0	21. 46	020306	63·5	013338	62·5	
2. 10	21. 2	020033		013578		D
4. 0	26. 37	020794	64·0	013616	63·0	P
6. 0	30. 0	021509	64·0	013719	64·0	
8. 0	32. 41	022295	62·0	013780	62·0	
10. 0	32. 3	021771	62·0	013775	61·5	P
12. 0	32. 35	022583	61·5	014025	61·0	G
14. 0	35. 16	022251	62·0	013893	61·5	
16. 0	35. 21	021598	62·0	013884	61·5	
18. 0	35. 58	021571	61·0	014167	59·0	
20. 0	36. 0	021690	60·0	014284	59·0	G
22. 0	32. 37	020845	61·0	014355	60·5	D
July 16. 0. 0	246. 28. 26	0·021062	60·7	0·014101	60·0	D
1. 50	27. 17	020354		013757		
2. 0	27. 9	020287	64·0	013696	63·5	
2. 10	27. 6	020612		013658		D
4. 0	27. 59	021040	67·0	012849	66·0	G
6. 0	30. 54	021232	68·0	012551	65·5	
8. 0	31. 47	020663	69·0	012171	66·6	
10. 0	31. 8	021033	68·0	012171	66·0	G
12. 0	31. 45	021996	66·0	012711	65·0	D
14. 0	31. 57	022166	62·5	012926	62·3	
16. 0	31. 58	022760	60·0	013529	60·0	
18. 0	33. 28	022357	58·0	014141	58·5	
20. 0	32. 41	020044	59·5	014525	58·0	D
22. 0	30. 10	020590	62·0	014312	59·5	P
July 17. 0. 0	246. 27. 30	0·021133	65·0	0·013107	63·5	P
1. 50	27. 20	020550		012119		
2. 0	27. 11	020619	69·5	012057	68·0	
2. 10	27. 21	020705		011977		P
4. 0	29. 24	019827	72·0	011205	71·5	D
6. 0	32. 38	018221	73·0	010800	71·5	
8. 0	32. 4	019317	73·5	010560	72·5	
10. 0	32. 8	019911	70·0	010747	70·0	D
12. 0	31. 30	020184	68·0	011553	67·0	G

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′. 36″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 228°; July $12^d.0^h$, 200°.
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, $27^s.5$.

July $12^d.0^h$. The theodolite read less by 13′ than it did at the preceding observation: between the observations the torsion-circle reading was altered from 228° to 200°.
July $15^d.0^h$. Thunder: no effect on the magnets.
July $15^d.8^h$. Thunder, during which no effect was produced on the magnets: immediately afterwards, the extent of the vibrations of the horizontal force and vertical force instruments was much increased.
July $17^d.12^h$. Just previously to this observation, the declination magnet, which had been quite stationary all the evening, suddenly swung through 6′ of arc; it continued unsteady for a short time afterwards. During the same time the swing of the Bifilar magnet was much increased, and was irregular. Nothing of importance occurring at 13^h, the observer discontinued watching the magnets.

Daily Observations from July 18 to 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.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
July 18. 14. 0	246. 35. 1	0·023579	58·0	0·014199	58·5	G	July 21. 14. 0	246. 39. 13	0·019800	63·7	0·013407	63·0	J H
16. 0	34. 25	022244	58·0	014567	58·0		16. 0	28. 22	018372	64·6	012622	63·6	J H
18. 0	35. 37	022251	58·0	014814	58·0		18. 0	41. 36	020052	62·0	012919	62·5	P
20. 0	36. 2	020830	58·0	014612	58·0	G	20. 0	39. 28	018605	61·8	013522	61·0	D
22. 0	33. 37	019380	61·0	014034	60·0	P	22. 0	36. 5	016711	63·5	013587	63·0	G
July 19. 0. 0	246. 27. 49	0·018792	65·0	0·013107	63·5	P	July 22. 0. 0	246. 36. 53	0·017822	66·0	0·013022	64·5	J H
1. 50	25. 15	018797		012143			1. 50	34. 30	017738		012396		D
2. 0	24. 57	018635	69·0	012095	68·0		2. 0	35. 21	017653	69·0	012331	67·8	
2. 10	24. 55	018974		012024		P	2. 10	35. 31	017579		012293		D
4. 0	24. 49	020309	70·5	011553	69·5	D	4. 0	37. 38	018959	68·0	012185	68·0	J H
6. 0	32. 35	020484	70·5	011492	69·0	G	6. 0	37. 50	019789	68·0	012260	68·0	P
8. 0	29. 57	020856	70·0	011483	69·0		8. 0	37. 41	020539	66·5	012495	66·0	G
10. 0	31. 31	021088	68·0	011426	67·5	G	10. 0	40. 29	020143	65·0	012825	64·6	D
12. 0	30. 9	022959	65·5	012080	65·5	P	12. 0	42. 17	020284	63·0	012955	63·0	J H
14. 0	46. 41	019609	64·0	011828	64·0		14. 0	39. 44	020420	61·3	013044	61·2	
16. 0	42. 13	020358	64·0	009916	64·0		16. 0	42. 12	020320	60·6	013733	60·4	
18. 0	32. 2	020834	62·0	012542	62·0		18. 0	42. 4	019793	59·5	014209	59·6	
20. 0	30. 36	019435	61·5	012754	61·0	P	20. 0	40. 54	017904	58·8	014452	58·7	J H
22. 0	32. 32	017995	61·0	013625	60·5	D	22. 0	34. 50	017955	60·0	014373	59·5	D
July 20. 0. 0	246. 23. 11	0·016162	61·3	0·013743	61·0	D	July 23. 0. 0	246. 33. 37	0·017856	61·6	0·013757	61·0	D
1. 50	25. 45	017959		013973			1. 50	33. 15	019542		013404		
2. 0	27. 54	019129	61·0	014176	61·0		2. 0	33. 53	019327	62·5	013461	62·0	
2. 10	28. 26	020162		014293		D	2. 10	32. 59	020151		013484		D
4. 0	24. 1	019623	63·0	013884	62·5	P	4. 0	34. 57	020889	64·0	013564	63·0	J H
6. 0	30. 34	021376	64·0	013766	64·0		6. 0	35. 52	020745	63·0	013747	62·4	
8. 0	32. 8	020409	65·0	013314	65·0		8. 0	39. 56	022089	62·2	014007	62·2	
10. 0	34. 51	018554	65·0	012917	65·0	P	10. 0	39. 27	021214	61·0	013884	61·0	J H
12. 0	36. 8	019166	65·0	012786	65·0	D	12. 0	42. 57	021129	61·3	013728	61·0	D
14. 0	35. 8	019601	64·2	012960	63·8		14. 0	37. 37	020989	61·0	013686	61·0	
16. 0	32. 33	018908	63·3	013060	63·0		16. 0	35. 30	021646	61·5	013055	61·0	
18. 0	35. 41	019838	62·5	013583	63·0		18. 0	29. 36	019565	61·3	013281	60·8	
20. 0	37. 22	018730	62·3	013540	62·0	D	20. 0	36. 37	020033	61·1	013428	61·0	D
22. 0	36. 55	018243	63·0	013210	62·5	P	22. 0	35. 30	014974	60·4	013760	60·1	J H
July 21. 0. 0	246. 35. 29	0·017882	63·5	0·013154	63·0	P	July 24. 0. 0	246. 29. 3	0·013948	60·8	0·013907	60·0	J H
1. 50	32. 27	019446		013060			1. 50	28. 6	016723		014228		P
2. 0	31. 38	019985	64·0	013060	64·0		2. 0	27. 38	016826	61·5	014228	61·0	
2. 10	31. 52	020251		013107		P	2. 10	27. 55	016800		014275		P
4. 0	34. 24	018903	65·0	013022	65·0	D	4. 0	32. 39	019981	62·5	015046	62·0	D
6. 0	38. 30	020838	65·8	013210	65·0		6. 0	33. 38	019676	63·5	014981	63·0	
8. 0	38. 38	021325	64·5	013168	64·0	D	8. 0	37. 35	020165	64·0	014359	63·2	
10. 0	38. 46	020967	63·0	013417	62·5	G	10. 0	40. 37	018100	65·0	013078	64·0	D
12. 0	39. 51	020435	63·0	013437	62·5	G	12. 0	45. 43	018819	64·0	012768	63·0	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′. 36.″
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 200°; July $21^d. 0^h$, 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, $27^s·5$.

July $19^d. 14^h$. A change of 16′ in the position of the declination magnet since 12^h.

July $19^d. 16^h$. A considerable change in the position of the vertical force magnet as compared with the preceding and succeeding observation.

July $19^d. 18^h$. A change of 10′ in the position of the declination needle since the last observation.

July $21^d. 16^h$. The result of this observation is less than the preceding by 11′, and less than the succeeding by 13′.

Daily Observations from July 25 to 31.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°	
July 25. 14. 0	246. 41. 2	0·021294	63·0	0·012637	63·0	P
16. 0	43. 54	019601	62·0	013210	62·0	
18. 0	46. 47	020132	61·0	013555	61·0	
20. 0	44. 21	019926	60·5	013831	60·5	P
22. 0	41. 58	018785	60·0	013696	60·0	D
July 26. 0. 0	246. 36. 24	0·018848	63·0	0·013148	62·0	J H
1. 50	33. 58	017818		012697		
2. 0	33. 27	018122	67·0	012636	66·0	
2. 10	33. 17	018435		012560		J H
4. 0	33. 2	018148	70·0	011742	69·0	P
6. 0	36. 47	019424	71·0	011483	70·0	
8. 0	39. 28	020982	70·0	011224	70·0	
10. 0	41. 38	020694	68·0	011365	68·2	P
12. 0	45. 18	021181	66·6	011375	67·0	J H
14. 0	43. 2	020805	65·0	011977	65·0	
16. 0	41. 23	021055	64·2	012448	64·0	
18. 0	44. 48	020775	64·0	012749	63·0	
20. 0	42. 59	020052	63·4	012920	63·6	J H
22. 0	39. 33	018837	65·0	012603	64·7	D
July 27. 0. 0	246. 30. 16	0·018572	67·0	0·011954	66·3	D
1. 50	33. 25	019988		011600		
2. 0	32. 23	020298	69·0	011591	68·0	
2. 10	31. 38	020612		011577		D
4. 0	35. 34	019955	69·7	011374	69·0	J H
6. 0	37. 20	020612	68·7	011492	68·3	
8. 0	40. 17	020805	67·0	011991	67·0	
10. 0	39. 10	021480	66·0	012015	66·0	J H
12. 0	41. 13	021225	64·5	012104	64·5	D
14. 0	45. 37	020015	63·5	012193	63·0	
16. 0	43. 59	021081	61·5	012822	61·3	
18. 0	43. 39	021609	60·5	013272	60·0	
20. 0	44. 46	020608	61·5	013465	61·0	D
22. 0	38. 10	018989	63·0	013248	62·0	P
July 28. 0. 0	246. 38. 22	0·018737	66·0	0·012749	64·6	P
1. 50	35. 8	020749		012119		
2. 0	35. 17	020730	68·0	012071	67·0	
2. 10	34. 51	020649		012005		P
4. 0	35. 30	020088	69·5	011403	69·0	D
6. 0	36. 5	019771	69·0	011483	68·5	
8. 0	40. 31	020683	69·0	011648	68·2	
10. 0	47. 31	022527	68·5	011506	68·0	D
12. 0	42. 27	020406	65·0	011806	65·0	P

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°	
July 28. 14. 0	246. 42. 36	0·020638	64·5	0·012378	64·0	P
16. 0	43. 1	020723	64·0	012754	63·0	
18. 0	38. 32	021099	57·0	014283	57·0	
20. 0	45. 46	019377	59·5	014425	58·0	P
22. 0	41. 52	018959	61·0	014063	59·0	J H
July 29. 0. 0	246. 38. 28	0·019388	62·3	0·013738	60·6	J H
1. 50	35. 9	019557		013060		
2. 0	34. 43	019557	64·0	013018	62·6	
2. 10	34. 43	019808		012954		J H
4. 0	38. 7	020882	64·0	012819	63·0	P
6. 0	40. 37	021912	63·5	013129	63·0	
8. 0	40. 48	022136	63·0	013154	63·0	
10. 0	44. 8	020752	61·0	013242	61·0	P
12. 0	44. 49	021151	60·0	013352	60·0	J H
14. 0	43. 58	020458	58·7	013694	58·7	
16. 0	45. 35	021594	58·0	014030	58·0	
18. 0	47. 1	021103	57·0	014425	57·0	
20. 0	46. 44	020347	56·0	014769	56·0	J H
22. 0	42. 26	019247	58·5	014627	57·5	D
July 30. 0. 0	246. 38. 35	0·019410	60·0	0·013813	59·0	D
1. 50	34. 55	020055		013423		
2. 0	34. 59	019435	62·0	013381	60·8	
2. 10	35. 3	019793		013334		D
4. 0	36. 18	019598	64·8	012999	63·0	J H
6. 0	39. 44	020634	64·0	013013	63·5	
8. 0	45. 27	022420	63·0	013173	62·5	
10. 0	46. 15	021752	61·2	013262	61·0	J H
12. 0	42. 36	020982	60·5	013639	60·0	D
14. 0	42. 28	021520	60·0	014011	59·0	
16. 0	43. 0	021203	60·0	014152	59·0	
18. 0	43. 20	020118	60·0	014096	59·0	
20. 0	43. 31	019764	60·5	014035	59·5	D
22. 0	42. 19	018819	60·0	013860	59·0	P
July 31. 0. 0	246. 36. 7	0·019631	61·0	0·013479	60·0	P
1. 50	35. 36	020462		013296		P
2. 0	35. 20	020575	62·0	013248	61·0	J H
2. 10	35. 15	020808		013257		J H
4. 0	37. 28	021214	63·0	013381	62·3	D
6. 0	40. 58	021609	62·5	013630	61·5	
8. 0	43. 54	021294	62·5	013310	61·8	
10. 0	40. 35	021225	62·5	013206	62·0	D
12. 0	41. 19	021649	60·0	013559	60·0	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′. 36″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 232°; July $28^d.\ 1^h.\ 50^m$, 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, $27^s.5$.

Daily Observations from August 1 to 7.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°	
Aug. 1. 14. 0	246. 44. 4	0·022682	60·0	0·013723	60·0	P
16. 0	42. 52	022328	60·0	013743	60·0	
18. 0	40. 53	019955	60·0	013822	60·0	
20. 0	44. 40	021026	61·5	013531	60·5	P
22. 0	43. 29	019095	63·8	013262	61·7	J H
Aug. 2. 0. 0	246. 35. 47	0·018077	66·3	0·012448	64·3	J H
1. 50	32. 7	018926		012180		
2. 0	33. 13	019091	68·0	012109	66·0	
2. 10	32. 9	018620		012124		J H
4. 0	33. 53	019698	69·0	011412	68·5	P
6. 0	37. 2	019225	68·3	011600	68·0	
8. 0	38. 6	021033	66·5	011600	66·5	
10. 0	39. 53	022125	65·5	011930	65·0	P
12. 0	45. 56	021438	64·4	012166	64·0	J H
14. 0	53. 14	020059	63·6	011459	63·4	
16. 0	31. 23	019203	63·4	011591	63·0	
18. 0	46. 29	021446	63·0	012132	63·0	
20. 0	50. 15	021956	62·6	012293	62·3	J H
22. 0	42. 1	018989	63·0	012410	62·5	D
Aug. 3. 0. 0	246. 35. 29	0·018203	65·0	0·011968	65·0	D
1. 50	28. 13	017428		011686		
2. 0	27. 38	018450	69·3	011663	68·0	
2. 10	26. 55	019646		011681		D
4. 0	30. 58	020158	71·8	011506	71·0	J H
6. 0	39. 38	020867	70·6	011224	70·3	
8. 0	39. 14	019955	69·0	011092	69·0	
10. 0	45. 38	020446	67·8	011422	67·3	J H
12. 0	48. 18	020775	67·0	011069	66·0	D
14. 0	44. 38	019472	68·0	011271	66·8	
16. 0	44. 39	019698	68·0	011440	67·0	
18. 0	40. 50	019565	68. 5	011421	67·5	
20. 0	39. 37	019188	68·0	011125	67·0	D
22. 0	39. 16	017697	66·0	011271	66·0	P
Aug. 4. 0. 0	246. 38. 5	0·018443	67·0	0·011295	67·0	P
1. 50	33. 46	019107		011036		
2. 0	33. 36	019550	69·0	011027	68·3	
2. 10	33. 36	019538		010998		P
4. 0	38. 18	020409	71·0	011060	70·0	D
6. 0	39. 32	020517	71·5	010947	70·3	
8. 0	39. 46	019620	70·3	010871	69·5	
10. 0	41. 46	020431	67·5	011139	67·0	D
12. 0	43. 13	020206	66·3	011440	66·0	P

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°	
Aug. 4. 14. 0	246. 41. 36	0·020224	66·0	0·011551	65·5	P
16. 0	42. 44	020295	66·0	011695	66·0	
18. 0	44. 31	020805	64·0	012119	63·8	
20. 0	45. 3	019476	64·0	012429	63·5	P
22. 0	41. 35	017557	66·0	012119	64·7	J H
Aug. 5. 0. 0	246. 35. 49	0·018062	66·3	0·011742	65·3	J H
1. 50	31. 41	019251		011586		
2. 0	31. 33	019380	66·3	011609	65·7	
2. 10	30. 55	020228		011669		J H
4. 0	36. 30	021549	66·5	012119	66·0	P
6. 0	35. 21	023287	66·5	012354	66·3	
8. 0	39. 26	021546	65·0	012401	65·0	
10. 0	48. 45	020996	64·0	011906	64·0	P
12. 0	47. 43	020597	62·0	012194	62·2	J H
14. 0	38. 4	021394	61·6	012673	61·6	
16. 0	36. 49	021446	61·8	012650	61·2	
18. 0	38. 8	021446	61·6	012744	61·5	
20. 0	36. 52	019775	61·0	012749	60·7	J H
22. 0	34. 26	017804	61·3	012739	60·5	D
Aug. 6. 0. 0	246. 33. 43	0·019554	62·0	0·012683	61·5	D
1. 50	31. 39	016649		012910		
2. 0	29. 50	016819	63·5	013163	63·0	
2. 10	30. 1	018536		013338		D
4. 0	29. 55	021856	65·0	012966	64·6	J H
6. 0	34. 2	019698	66·0	013121	65·0	
8. 0	45. 2	019479	65·4	013173	64·2	
10. 0	49. 31	019144	64·8	011069	64·2	J H
12. 0	50. 53	019937	63·5	010136	63·0	D
14. 0	44. 56	017606	64·5	008249	63·6	
16. 0	45. 36	018129	66·8	010994	66·0	
18. 0	44. 0	018543	67·8	011515	67·0	
20. 0	40. 12	017404	67·8	011756	67·0	D
22. 0	37. 20	016213	66·0	011855	66·0	P
Aug. 7. 0. 0	246. 32. 39	0·016616	67·3	0·011412	66·5	P
1. 50	32. 12	018096		011083		
2. 0	31. 17	019745	69·0	011074	69·0	
2. 10	31. 16	018539		011074		P
4. 0	32. 58	019003	72·0	010838	71·0	D
6. 0	37. 59	017852	71·5	010814	71·0	
8. 0	37. 49	019413	71·5	010395	71·2	
10. 0	39. 13	018627	69·5	010833	69·0	
12. 0	40. 24	019594	66·5	011238	66·5	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′. 48″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 234°; August $5^d.1^h.50^m$, 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, $27^s.5$.

Aug. $2^d.16^h$. The position of the marked end of the declination magnet was 22′ more westward than at the previous observation: during the night the needle was unsteady.

Aug. $6^d.10^h$. The declination magnet has been unsteady since the last observation, having once been in a position corresponding to the theodolite reading, 246°. 58′.

Daily Observations from August 8 to 14.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Aug. 8. 14. 0	246. 39. 19	0·021358	65·0	0·014301	65·0	P	Aug. 11. 14. 0	246. 43. 46	0·021701	63·0	0·012311	62·0	P
16. 0	38. 13	021298	61·0	014609	61·0		16. 0	41. 22	021582	63·5	012119	62·5	
18. 0	42. 24	020391	62·0	014511	61·5		18. 0	44. 35	020384	58·0	012986	58·0	
20. 0	44. 9	020022	61·0	014237	60·8	P	20. 0	45. 44	019944	59·0	013625	58·0	P
22. 0	41. 22	018941	61·0	014237	61·0	JH	22. 0	41. 24	017000	58·0	013587	58·0	JH
Aug. 9. 0. 0	246. 36. 15	0·018723	62·0	0·013069	63·0	JH	Aug. 12. 0. 0	246. 34. 37	0·017661	61·7	0·013027	60·2	JH
1. 50	32. 31	018726		012622			1. 50	28. 51	019908		012805		
2. 0	32. 30	018569	64·0	012575	64·0		2. 0	28. 43	019435	63·5	012739	62·3	
2. 10	32. 21	018494		012486		JH	2. 10	27. 38	019654		012744		JH
4. 0	34. 44	018358	67·0	012043	66·0	P	4. 0	29. 15	020763	64·3	012495	63·5	P
6. 0	38. 23	020258	66·5	011954	66·5		6. 0	32. 9	021963	64·8	012354	64·0	
8. 0	39. 7	020996	65·5	012015	65·0		8. 0	33. 45	021908	64·0	012260	63·0	
10. 0	39. 30	021033	63·5	012361	63·0	P	10. 0	37. 59	021737	60·6	012568	61·2	P
12. 0	46. 38	021203	60·0	012966	61·0	JH	12. 0	37. 3	021649	58·0	013376	58·0	JH
14. 0	43. 22	020845	59·4	013243	59·3		14. 0	39. 41	021730	57·3	014026	57·6	
16. 0	45. 16	021339	58·0	013734	58·0		16. 0	38. 20	021904	56·2	014497	56·3	
18. 0	45. 56	021449	57·5	014511	57·3		18. 0	38. 3	022361	56·0	014736	56·0	
20. 0	46. 26	021325	56·5	014661	56·5	JH	20. 0	37. 59	021269	55·6	014783	55·5	JH
22. 0	45. 8	018974	58·5	014430	57·5	D	22. 0	36. 45	020641	58·0	014367	57·0	D
Aug. 10. 0. 0	246. 34. 13	0·018465	63·0	0·013367	61·0	D	Aug. 13. 0. 0	246. 32. 3	0·020550	61·0	0·013489	60·0	D
1. 50	31. 54	018856		012744			1. 50	31. 47	019643		013257		
2. 0	32. 34	018934	65·5	012617	64·0		2. 0	31. 26	019661	64·0	013004	62·5	
2. 10	32. 9	019084		012594		D	2. 10	32. 28	019753		012933		D
4. 0	36. 1	020041	67·0	012143	66·0	JH	4. 0	32. 11	020154	64·8	012551	63·6	JH
6. 0	40. 5	020476	66·0	011977	66·0		6. 0	34. 9	021214	64·2	012495	63·4	
8. 0	37. 2	021018	65·6	011963	65·0		8. 0	36. 34	020601	63·4	012622	63·0	
10. 0	40. 3	020671	64·0	012156	63·7	JH	10. 0	35. 24	021026	62·2	012747	62·0	JH
12. 0	41. 2	020683	63·0	012467	63·0	D	12. 0	38. 32	020956	61·5	012910	61·5	D
14. 0	41. 48	021048	63·0	012697	62·8		14. 0	38. 6	021468	60·2	013173	60·0	
16. 0	42. 32	020362	64·0	012537	63·0		16. 0	39. 18	021431	59·8	013395	59·5	
18. 0	42. 11	020070	64·0	012641	63·0		18. 0	38. 46	021553	59·0	013578	58·5	
20. 0	42. 34	019457	64·0	012645	63·0	D	20. 0	40. 53	021704	59·0	013686	58·8	D
22. 0	39. 17	018781	63·0	012495	62·8	P	22. 0	37. 27	020749	59·5	013557	59·0	P
Aug. 11. 0. 0	246. 35. 12	0·019527	64·0	0·012166	63·0	P	Aug. 14. 0. 0	246. 32. 46	0·020594	63·0	0·012863	61·5	P
1. 50	35. 28	020092		011883			1. 50	28. 53	020546		012062		
2. 0	35. 4	020220	65·5	011883	64·5		2. 0	29. 2	020590	65·0	012015	64·5	
2. 10	34. 54	020052		011836		P	2. 10	28. 50	020453		011958		P
4. 0	36. 31	020705	67·3	011436	66·2	D	4. 0	31. 13	020480	68·2	011426	68·0	D
6. 0	37. 57	021159	68·0	011464	67·0		6. 0	34. 19	020801	68·0	013135	67·5	
8. 0	37. 9	021225	66·5	011619	65·8		8. 0	32. 22	021745	67·6	011097	67·2	
10. 0	40. 59	020712	64·5	012222	64·0	D	10. 0	35. 17	022709	67·0	011530	67·0	D
12. 0	46. 31	020325	63·0	012485	63·0	P	12. 0	36. 24	023214	62·0	012150	62·0	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°. 51′. 48″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 225°; August $12^d.\ 1^h.\ 50^m$, 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, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $27^s.5$.

Daily Observations from August 15 to 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.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Aug. 15. 14. 0	246. 33. 40	0·020506	61·0	0·012552	61·0	P	Aug. 18. 14. 0	246. 26. 41	0·020442	63·7	0·011225	63·6	JH
16. 0	28. 9	021040	60·0	012781	64·0		16. 0	27. 30	020092	62·0	011768	62·0	
18. 0	24. 7	020927	59·0	013178	59·0		18. 0	35. 1	019000	61·4	012322	61·0	
20. 0	28. 43	019347	59·5	013597	59·0	P	20. 0	30. 51	020136	60·5	012556	60·0	JH
22. 0	26. 23	017609	63·0	013121	62·0	D	22. 0	32. 1	020110	62·0	012495	62·0	P
Aug. 16. 0. 0	246. 18. 20	0·017462	66·3	0·012321	65·0	JH	Aug. 19. 0. 0	246. 24. 0	0·017037	68·0	0·011600	66·0	P
1. 50	15. 59	019402		011436			1. 50	18. 51	018539		010518		
2. 0	16. 30	019399	68·7	011379	67·6	JH	2. 0	18. 48	018609	71·0	010376	70·0	
2. 10	16. 42	019594		011313		P	2. 10	19. 52	018730		010282		P
4. 0	22. 28	020701	70·0	010556	69·5		4. 0	20. 55	019169	73·6	009416	73·6	JH
6. 0	28. 26	019734	72·3	010556	72·0		6. 0	25. 24	018343	73·2	009030	73·3	
8. 0	23. 52	018985	71·5	010235	71·0	P	8. 0	25. 46	018874	71·0	009011	72·0	
10. 0	29. 44	020343	69·5	010038	69·5		10. 0	26. 59	021620	67·3	009824	68·6	JH
12. 0	29. 9	019479	67·2	010127	67·4	JH	12. 0	24. 21	020786	65·3	010645	65·5	P
14. 0	25. 21	020213	65·7	010414	65·6		14. 0	27. 29	020295	63·5	011209	63·5	
16. 0	20. 5	019324	64·2	010927	64·0		16. 0	23. 38	020627	61·3	011887	61·3	
18. 0	26. 55	020453	63·0	011492	63·0		18. 0	28. 41	021144	60·0	012558	60·0	
20. 0	23. 9	017224	62·7	011869	62·3	JH	20. 0	34. 4	020830	59·0	012872	59·0	P
22. 0	23. 23	016926	63·8	011939	63·0	D	22. 0	33. 55	017752	62·0	012561	61·0	D
Aug. 17. 0. 0	246. 19. 51	0·017324	65·5	0·011412	64·8	D	Aug. 20. 0. 0	246. 26. 5	0·017317	69·5	0·011097	67·3	D
1. 50	18. 59	018912		011003			1. 50	23. 11	018155		009506		
2. 0	19. 17	019066	69·0	011003	68·0		2. 0	21. 16	018288	73·5	009459	72·5	
2. 10	18. 24	019509		011003		D	2. 10	22. 28	018443		009402		D
4. 0	22. 58	018704	70·3	010706	69·8	JH	4. 0	22. 51	018420	75·8	008545	75·8	P
6. 0	25. 6	020453	70·5	010485	70·0		6. 0	26. 40	017250	75·5	008069	75·8	
8. 0	28. 9	019136	69·6	010617	69·5		8. 0	28. 11	018203	74·0	008022	74·8	
10. 0	25. 54	019534	68·3	010456	68·0	JH	10. 0	30. 23	018996	71·5	008417	72·2	P
12. 0	25. 56	019565	67·5	010640	67·0	G	12. 0	29. 15	019609	69·5	009020	69·8	D
14. 0	25. 57	020147	66·5	010903	66·0		14. 0	25. 30	020217	68·0	009670	68·5	
16. 0	25. 10	019472	66·8	010975	66·0		16. 0	30. 2	019981	66·0	010024	66·8	
18. 0	30. 19	018956	66·5	011210	65·8		18. 0	29. 51	019616	65·0	010814	65·3	
20. 0	27. 28	018516	66·0	011323	65·7	D	20. 0	34. 5	020934	65·5	010800	65·3	D
22. 0	26. 43	019738	65·0	011365	64·5	P	22. 0	27. 48	020663	65·0	010791	65·0	P
Aug. 18. 0. 0	246. 21. 31	0·017657	65·0	0·011177	65·0	P	Aug. 21. 0. 0	246. 22. 25	0·017646	67·0	0·010461	67·0	P
1. 50	19. 1	020484		010971			1. 50	18. 23	017513		009953		
2. 0	19. 6	020674	68·0	010955	67·5		2. 0	18. 41	017686	70·0	009944	69·5	
2. 10	19. 18	020908		010942		P	2. 10	18. 23	017617		009906		P
4. 0	21. 12	020154	69·5	010932	68·5	D	4. 0	21. 57	017675	71·8	009468	72·0	D
6. 0	25. 8	019786	69·5	010659	69·0		6. 0	25. 53	018770	72·0	009482	72·3	
8. 0	26. 19	019410	69·5	010287	69·2		8. 0	28. 33	019908	69·0	009684	69·0	
10. 0	27. 50	019712	68·0	010409	68·0	D	10. 0	29. 33	019073	66·5	010174	66·5	D
12. 0	30. 13	020561	65·3	010736	65·7	JH	12. 0	35. 5	019280	63·4	010988	63·5	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°. 51′. 48″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 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, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $27^s.5$.

Daily Observations from August 22 to 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.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Aug. 22. 14. 0	246. 34. 30	0·022689	62·0	0·012513	62·0	J H	Aug. 25. 14. 0	246. 36. 50	0·020480	63·0	0·012523	62·8	J H
16. 0	30. 16	019472	61·3	012104	61·0		16. 0	37. 6	020320	63·0	012603	62·6	
18. 0	35. 2	019255	61·0	012815	60·8		18. 0	36. 16	019816	62·5	012696	62·3	
20. 0	30. 8	017575	60·6	013418	60·0	J H	20. 0	35. 50	021882	62·0	012839	62·0	J H
22. 0	28. 53	019003	61·0	013757	60·5	P	22. 0	33. 22	018856	63·0	012645	62·5	D
Aug. 23. 0. 0	246. 24. 41	0·017295	62·5	0·013013	62·0	D	Aug. 26. 0. 0	246. 25. 9	0·019051	64·0	0·012279	63·5	D
1. 50	21. 33	017435		012439			1. 50	22. 13	018874		011883		
2. 0	21. 30	017550	65·0	012396	65·0		2. 0	22. 23	018770	66·8	011831	66·0	
2. 10	21. 1	017995		012331		D	2. 10	22. 47	018671		011761		D
4. 0	21. 6	019576	68·3	011667	67·8	J H	4. 0	23. 42	019107	71·0	010734	71·4	J H
6. 0	26. 48	019601	69·0	011700	68·7		6. 0	31. 27	018443	72·5	010631	71·0	
8. 0	32. 3	022963	68·0	012119	68·0		8. 0	38. 55	017937	72·0	010518	72·2	
10. 0	30. 44	019646	64·6	011860	64·8	J H	10. 0	42. 37	017019	71·4	009854	71·3	J H
12. 0	31. 44	019333	63·0	012076	63·0	D	12. 0	43. 24	017242	70·5	009473	70·3	D
14. 0	16. 34	019871	62·0	012721	61·8		14. 0	44. 20	017590	69·5	009496	69·0	
16. 0	31. 54	019358	61·0	013126	60·5		16. 0	28. 56	016417	68·6	009365	68·4	
18. 0	27. 11	018923	59·5	013423	59·0		18. 0	31. 3	019329	68·2	009444	68·0	
20. 0	20. 54	016653	57·0	014063	57·2	D	20. 0	26. 38	017546	68·0	010038	68·0	D
22. 0	27. 52	018941	57·8	014779	57·0	P	22. 0	26. 24	016084	70·0	010353	69·0	J H
Aug. 24. 0. 0	246. 31. 16	0·016848	60·0	0·014605	58·8	P	Aug. 27. 0. 0	246. 23. 29	0·017011	73·8	0·009694	72·5	P
1. 50	27. 47	018502		014073			1. 50	16. 18	016221		009270		
2. 0	28. 23	018781	61·8	014096	60·8		2. 0	16. 14	016424	75·8	009152	75·0	
2. 10	29. 23	019505		014087		P	2. 10	15. 42	016280		009152		P
4. 0	30. 19	018848	63·0	013329	62·5	D	4. 0	25. 58	017572	77·5	008342	77·0	D
6. 0	31. 18	020417	64·0	013022	63·0		6. 0	28. 31	018532	78·0	007881	77·5	
8. 0	30. 22	020420	63·0	013074	62·8		8. 0	29. 52	016325	76·0	007717	76·0	D
10. 0	31. 6	020841	62·0	013334	61·8	D	10. 0	33. 0	018719	74·8	008164	74·2	G
12. 0	31. 56	020896	60·0	013757	60·0	P	12. 0	35. 15	018852	72·0	008673	72·0	G
14. 0	34. 38	020996	59·0	014159	58·2		14. 0	37. 54	019612	70·0	008060	70·0	J H
16. 0	34. 19	020960	57·5	014670	57·0		16. 0	36. 35	019657	68·5	009260	69·5	J H
18. 0	34. 7	020608	56·5	015273	56·0		18. 0	28. 10	018702	66·0	010155	66·0	P
20. 0	34. 16	021015	56·5	015461	56·3	P	20. 0	31. 37	018874	64·3	010853	64·0	D
22. 0	33. 28	020251	56·4	015105	56·0	J H	22. 0	27. 24	017694	64·5	011299	64·0	G
Aug. 25. 0. 0	246. 27. 17	0·020476	58·3	0·014609	57·5	J H	Aug. 28. 0. 0	246. 23. 11	0·017004	67·8	0·011177	67·0	P
1. 50	25. 59	021203		014082			1. 50	20. 56	017513		010432		J H
2. 0	26. 0	021339	61·2	014016	59·8		2. 0	20. 45	017771	70·0	010404	68·8	
2. 10	26. 5	020775		013953		J H	2. 10	21. 15	018199		010376		J H
4. 0	29. 30	020074	64·0	013296	62·0	P	4. 0	25. 45	019639	73·0	009789	72·0	D
6. 0	30. 57	020528	65·0	012636	63·8		6. 0	29. 20	017981	73·0	009397	72·2	G
8. 0	32. 53	021037	65·0	012455	64·0		8. 0	34. 5	018261	72·0	009538	72·0	J H
10. 0	33. 12	020572	64·0	012417	64·0	P	10. 0	34. 37	018413	69·2	009845	69·8	P
12. 0	32. 29	020786	63·4	012481	63·4	J H	12. 0	30. 43	018465	68·0	009528	68·0	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°. 51′. 48″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 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, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $27^s.5$.

Aug. $23^d.\ 14^h$. The position of the marked end of the declination magnet was 15′ more westward than either at the preceding or succeeding observation.

Aug. $26^d.\ 16^h$. A change of 15′ in the position of the declination magnet since the last observation.

Aug. $27^d.\ 4^h$. A change of 10′ in the position of the declination magnet since the last observation.

Daily Observations from August 29 to September 4.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Aug. 29. 14. 0	246. 38. 42	0·017807	67·5	0·009156	68·0	P	Sep. 1. 14. 0	246. 21. 46	0·020738	58·5	0·012531	58·8	P
16. 0	32. 31	019169	65·8	010004	66·0		16. 0	22. 12	021468	56·4	013140	56·8	
18. 0	30. 12	017231	64·0	011535	63·0		18. 0	23. 20	021498	55·0	013837	55·0	
20. 0	28. 0	017557	63·0	011784	63·0	P	20. 0	22. 3	020572	54·5	014373	54·3	P
22. 0	28. 24	015996	64·0	011921	64·0	G	22. 0	17. 57	018469	55·7	014370	54·8	J H
Aug. 30. 0. 0	246. 15. 58	0·016373	68·7	0·011158	66·5	J H	Sep. 2. 0. 0	246. 23. 32	0·017863	62·0	0·013069	59·8	J H
1. 50	15. 38	016623		010122			1. 50	17. 26	018565		011845		
2. 0	16. 24	016782	71·0	010007	71·0		2. 0	16. 0	019129	66·8	011808	65·4	
2. 10	16. 13	017110		009909		J H	2. 10	15. 26	019487		011719		J H
4. 0	17. 44	017774	75·8	008696	75·8	P	4. 0	19. 5	018900	68·5	010556	68·5	P
6. 0	21. 50	017495	75·5	008235	75·5		6. 0	21. 31	019269	68·0	010376	68·0	
8. 0	26. 5	017818	74·5	008117	75·0		8. 0	23. 25	020265	66·5	010424	67·0	
10. 0	25. 14	018177	73·0	008569	73·0	P	10. 0	28. 43	020358	64·5	010734	64·5	P
12. 0	23. 24	019155	71·5	009218	71·0	J H	12. 0	27. 26	019811	61·6	011374	61·6	J H
14. 0	23. 15	019062	68·2	009548	68·4		14. 0	19. 53	020553	60·2	011963	60·3	
16. 0	23. 31	019218	66·3	010052	67·0		16. 0	24. 33	020970	58·7	012505	58·0	
18. 0	24. 12	019036	66·0	010428	66·0		18. 0	20. 51	020517	58·0	012925	58·0	
20. 0	22. 1	018332	65·3	010626	65·0	J H	20. 0	24. 10	019336	58·0	013088	58·0	J H
22. 0	17. 1	017793	66·0	010612	65·3	P	22. 0	18. 36	017395	61·5	012401	60·5	P
Aug. 31. 0. 0	246. 16. 33	0·018162	68·0	0·010423	67·0	P	Sep. 3. 0. 0	246. 15. 48	0·017454	63·8	0·011318	65·5	P
1. 50	12. 48	019277		010000			1. 50	13. 5	017977		010706		
2. 0	13. 0	018638	69·0	009930	68·8		2. 0	12. 45	018487	70·5	010589	68·4	
2. 10	13. 17	018591		009906		P	2. 10	12. 38	019062		010612		P
4. 0	16. 19	018431	70·0	009708	69·8	J H	4. 0	20. 15	020052	71·0	009986	70·8	J H
6. 0	21. 19	019631	68·0	009868	68·0		6. 0	20. 46	019705	71·0	009487	70·6	
8. 0	22. 28	020671	67·0	010155	67·2		8. 0	27. 29	019446	69·8	009482	70·0	
10. 0	23. 27	021243	65·2	010687	65·5	J H	10. 0	26. 25	019421	68·4	009497	68·8	J H
12. 0	19. 20	018151	64·2	010052	63·5	G	12. 0	27. 20	020476	67·5	009614	67·0	G
14. 0	25. 4	019922	64·0	010989	63·4		14. 0	25. 0	019853	66·5	010085	66·0	
16. 0	27. 11	020752	64·5	011233	64·0		16. 0	24. 15	019834	64·5	010579	63·8	
18. 0	21 8	020231	62·3	011982	61·0		18. 0	24. 39	020227	64·5	010900	63·8	
20. 0	17. 54	016586	61·0	012627	60·5	G	20. 0	26. 1	020015	62·8	011737	62·0	G
22. 0	17. 17	018228	59·5	012730	59·0	P	22. 0	22. 42	017962	60·0	012205	59·5	P
Sep. 1. 0. 0	246. 19. 18	0·019373	61·0	0·012556	60·0	P	Sep. 4. 0. 0	246. 16. 15	0·019797	58·4	0·012683	58·0	P
1. 50	15. 20	019734		012269			1. 50	13. 41	021354		013033		
2. 0	14. 17	020794	63·8	012260	63·5		2. 0	13. 38	021391	57·0	013060	57·0	
2. 10	14. 47	019557		012213		P	2. 10	14. 14	021446		013103		P
4. 0	19. 28	019501	67·5	011981	67·0	G	4. 0	17. 51	022346	57·0	014322	56·5	G
6. 0	29. 9	018642	67·5	011756	67·0		6. 0	22. 24	022188	57·0	014614	56·5	
8. 0	22. 9	019654	66·0	011092	65·5		8. 0	23. 33	022288	56·1	014487	55·5	
10. 0	29. 14	020823	64·0	011374	63·5	G	10. 0	23. 21	023107	55·5	014717	55·0	G
12. 0	26. 19	018956	61·0	011581	61·0	P	12. 0	25. 10	022874	54·0	014990	53·7	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°. 51′. 48″; Sep. 1^d, 269°. 51′. 45″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 218°; August $30^d.0^h$, 201°.
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, $27^s.5$.

Aug. $30^d.0^h$. A change in the reading of the theodolite of 13′ from the preceding reading. The torsion circle was changed 17° between the observations.
Aug. $31^d.16^h$. The declination magnet had a great and an irregular swing.
Sep. $1^d.2^h$. The figures on the scale of the vertical force magnetometer were so indistinct, that the observations were made with difficulty.
Sep. $1^d.4^h$. Before this observation Mr. Glaisher dropped the knife edges of the vertical force magnet into their Y's, and then raised the magnet: the figures on the scale were still indistinct: the magnet was again dropped and again raised, and the mirror reflected the scale at its center, the figures on the scale being seen well. The marked end of the magnet had been drawn towards the north.
Sep. $3^d.6^h$. Thunder showers between this and the next observation: all the magnets were steady.
Sep. $4^d.4^h$. The vertical force magnet had an increase of force between the last observation and this: generally, at this time of the day, the force is decreasing.
Sep. $4^d.6^h$. A great swing has been communicated to the horizontal force magnetometer since the last observation without any apparent cause; its mean position, however, is not altered much.

Daily Observations from September 5 to 11.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Sep. 5. 14. 0	246. 24. 1	0·023763	52·0	0·015544	52·4	P	Sep. 8. 14. 0	246. 25. 41	0·021236	62·0	0·011686	62·0	P
16. 0	25. 51	022288	51·0	015807	51·0		16. 0	24. 36	021199	61·0	012024	61·0	
18. 0	23. 54	022649	50·0	016591	49·5		18. 0	25. 0	021542	60·0	012307	60·0	
20. 0	25. 14	022885	49·0	017062	48·5	P	20. 0	26. 24	020871	60·0	012636	59·0	P
22. 0	22. 30	021033	49·0	016774	48·5	G	22. 0	24. 34	020258	60·0	012537	60·0	J H
Sep. 6. 0. 0	246. 19. 39	0·019233	55·5	0·015536	53·6	J H	Sep. 9. 0. 0	246. 19. 41	0·018952	60·8	0·012175	60·6	J H
1. 50	17. 13	019842		014218			1. 50	17. 34	019450		011803		
2. 0	16. 59	019959	59·3	014124	58·0		2. 0	16. 43	019601	63·3	011761	62·6	
2. 10	16. 59	020088		014058		J H	2. 10	16. 37	019639		011770		J H
4. 0	18. 46	021203	61·0	013239	60·0	P	4. 0	17. 57	019860	65·0	011271	64·0	P
6. 0	20. 39	021420	61·0	012825	60·8		6. 0	21. 44	020495	65·8	010989	65·4	
8. 0	22. 5	021609	60·5	012683	60·0		8. 0	24. 3	021571	66·0	010800	65·5	
10. 0	22. 40	021442	58·2	013196	58·4	P	10. 0	24. 26	021587	65·0	010777	65·0	P
12. 0	24. 50	021786	56·0	013663	56·0	J H	12. 0	24. 29	020923	64·6	010824	64·6	J H
14. 0	25. 14	022432	54·3	014251	54·0		14. 0	25. 37	020971	64·2	010828	64·2	
16. 0	25. 34	022078	52·3	015004	52·4		16. 0	26. 1	020882	64·4	010903	64·3	
18. 0	24. 40	022789	51·0	015564	51·2		18. 0	24. 11	020860	64·0	010984	64·0	
20. 0	25. 2	022789	50·0	015979	50·0	J H	20. 0	26. 5	020616	64·0	011060	64·0	J H
22. 0	20. 31	020616	52·2	015941	51·5	G	22. 0	24. 19	019402	65·0	010800	64·0	P
Sep. 7. 0. 0	246. 17. 53	0·020619	55·0	0·014802	54·0	P	Sep. 10. 0. 0	246. 19. 41	0·018502	65·8	0·010612	65·0	P
1. 50	16. 24	020730		014214			1. 50	15. 52	018863		010141		
2. 0	16. 19	020583	57·0	014190	56·0		2. 0	16. 10	018719	68·0	010047	67·6	
2. 10	16. 11	020923		014181		P	2. 10	16. 37	018664		009977		P
4. 0	17. 22	021926	58·2	013710	57·6	J H	4. 0	17. 59	019860	70·6	009133	71·0	J H
6. 0	21. 56	021070	58·5	013630	58·0		6. 0	21. 6	020022	70·6	008357	70·7	
8. 0	21. 15	021159	59·2	013381	58·7		8. 0	21. 27	020616	68·8	008562	69·2	
10. 0	22. 31	021609	60·0	013065	59·5	J H	10. 0	24. 19	020557	67·4	009053	68·0	J H
12. 0	27. 16	021919	59·5	012971	58·5	G	12. 0	26. 45	021420	67·0	009284	67·0	G
14. 0	24. 45	021675	59·5	013008	58·5		14. 0	23. 51	021011	65·0	009878	64·5	
16. 0	23. 50	021808	59·0	013225	58·5		16. 0	25. 8	021066	65·0	010376	64·0	
18. 0	25. 28	021752	58·0	013352	57·5		18. 0	24. 28	021332	64·0	010650	63·0	
20. 0	24. 47	021365	57·0	013578	56·5	G	20. 0	24. 0	021309	63·0	010894	62·5	G
22. 0	18. 49	019753	59·2	013446	58·0	J H	22. 0	24. 6	020096	62·0	011036	62·0	P
Sep. 8. 0. 0	246. 24. 26	0·018159	63·0	0·012636	61·0	P	Sep. 11. 0. 0	246. 23. 55	0·018892	64·4	0·010903	63·4	P
1. 50	17. 54	019077		011553			1. 50	18. 42	018708		009930		
2. 0	17. 29	019091	66·8	011506	66·4		2. 0	18. 41	018431	68·5	009812	67·5	
2. 10	17. 58	019280		011377		P	2. 10	18. 50	018330		009694		P
4. 0	20. 8	020026	68·5	010230	68·0	G	4. 0	19. 57	018789	72·0	008507	72·0	G
6. 0	21. 27	020136	68·5	009953	68·0		6. 0	22. 10	019417	73·0	007637	73·0	
8. 0	22. 24	020546	68·0	010050	67·0		8. 0	23. 22	019483	74·0	007274	74·0	
10. 0	23. 8	020539	66·0	010471	65·0	G	10. 0	23. 16	019974	74·0	007363	74·0	G
12. 0	23. 41	021350	63·0	011130	63·0	P	12. 0	23. 47	018767	70·0	007919	70·0	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°. 51′. 45″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 201°.
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, $27^s.5$.

Sep. $8^d.14^d$, and Sep. $9^d.16^h$. It is seldom that the marked end of the declination magnet continues its easterly motion so long as it has done on these two days.

Sep. $9^d.12^h$. The scale of the vertical force magnet was not central in the mirror: the marked end of the magnet approached the north by a small quantity.

Daily Observations from September 12 to 18.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°	
Sep. 12. 14. 0	246. 26. 43	0·020805	68·0	0·008069	68·5	P
16. 0	34. 18	020727	67·0	007796	67·0	
18. 0	19. 40	020297	65·0	008588	65·5	
20. 0	24. 59	021468	64·0	009058	64·0	P
22. 0	12. 36	017822	65·2	009637	64·5	J H
Sep. 13. 0. 0	246. 4. 28	0·013889	70·8	0·008992	69·0	J H
1. 50	30. 25	017406		007988		
2. 0	29. 24	017694	75·0	007956	75·3	
2. 10	29. 35	017487		007862		J H
4. 0	32. 36	015498	77·0	007081	77·0	P
6. 0	37. 43	016877	77·5	006563	77·5	
8. 0	43. 9	018266	75·0	006457	75·0	
10. 0	43. 2	019501	73·2	006759	73·5	P
12. 0	40. 54	019029	70·6	006827	71·4	J H
14. 0	40. 11	018737	69·0	007731	69·6	
16. 0	39 36	018808	68·6	008097	68·0	
18. 0	35. 11	019631	67·5	008568	67·0	
20. 0	21. 27	017136	66·2	008888	65·7	J H
22. 0	26. 42	014207	67·0	009246	66·4	P
Sep. 14. 0. 0	246. 33. 28	0·014435	70·0	0·008870	69·0	P
1. 50	30. 11	017606		008022		
2. 0	30. 48	015682	73·5	007975	73·0	
2. 10	31. 48	016269		007928		P
4. 0	35. 33	017213	76·0	007307	75·6	J H
6. 0	39. 32	017690	76·0	006723	76·0	
8. 0	42. 40	018458	75·0	006507	75·0	
10. 0	40. 22	017826	74·0	006497	74·0	J H
12. 0	36. 57	018558	74·0	006898	73·5	G
14. 0	37. 9	018635	71·2	007372	70·7	
16. 0	35. 5	017506	69·2	007825	69·0	
18. 0	37. 50	018792	69·0	008202	69·0	
20. 0	38. 59	018558	66·5	008847	66·0	G
22. 0	34. 41	018181	66·0	009919	66·0	P
Sep. 15. 0. 0	246. 33. 54	0·017173	69·0	0·008917	68·0	P
1. 50	32. 6	017055		008211		
2. 0	33. 58	017287	72·0	008022	71·5	
2. 10	33. 55	016926		007975		P
4. 0	36. 31	017491	73·5	007354	73·0	G
6. 0	37. 56	018096	73·5	007165	73·0	
8. 0	39. 52	016018	72·0	007590	71·5	
10. 0	39. 35	019959	70·3	008141	70·0	G
12. 0	42. 10	019399	67·0	008483	67·4	P
Sep. 15. 14. 0	246. 39. 38	0·019395	65·0	0·009198	65·0	P
16. 0	38. 54	019391	64·0	009816	63·5	
18. 0	37. 6	020476	62·5	010285	62·4	
20. 0	38. 13	019033	62·4	010094	62·4	P
22. 0	35. 57	018763	64·0	010056	63·2	J H
Sep. 16. 0. 0	246. 33. 32	0·018398	65·2	0·009958	64·6	J H
1. 50	31. 46	018427		009604		
2. 0	32. 8	018354	67·8	009595	67·0	
2. 10	32. 44	018532		009553		J H
4. 0	31. 52	018502	69·0	009426	68·5	P
6. 0	38. 42	019211	68·0	009199	68·0	
8. 0	39. 18	018945	67·0	009545	66·5	
10. 0	39. 30	019594	64·5	009963	64·5	P
12. 0	43. 25	019321	62·1	010432	62·1	J H
14. 0	37. 18	020340	60·0	010339	60·3	
16. 0	32. 41	021660	59·0	010869	59·0	
18. 0	41. 52	021974	57·2	011519	57·3	
20. 0	37. 33	020528	56·2	012387	56·0	J H
22. 0	31. 24	019937	56·9	012721	57·5	G
Sep. 17. 0. 0	246. 34. 7	0·018631	61·0	0·012354	59·4	P
1. 50	31. 8	019446		011271		
2. 0	31. 11	019344	64·5	011177	63·0	
2. 10	31. 37	019269		011172		P
4. 0	34. 8	019742	66·4	010465	66·2	J H
6. 0	41. 31	019306	66·0	010296	65·5	
8. 0	40. 25	019908	64·8	010235	64·7	
10. 0	42. 10	018823	63·0	010527	63·0	J H
12. 0	43. 27	020026	61·5	010626	61·0	G
14. 0	39. 53	020450	59·0	011506	58·0	
16. 0	38. 43	020878	57·5	012071	57·0	
18. 0	39. 6	021221	57·5	012566	57·0	
20. 0	41. 3	020779	56·5	013022	56·0	G
22. 0	36. 40	019605	55·0	013381	55·0	P
Sep. 18. 0. 0	246. 35. 11	0·019468	59·0	0·012749	58·0	P
1. 50	32. 42	020480		011695		
2. 0	32. 10	019933	64·6	011600	63·0	P
2. 10	32. 44	019753		011506		J H
4. 0	33. 35	019598	66·0	010570	66·0	G
6. 0	37. 2	018930	68·0	009637	67·5	
8. 0	37. 32	020491	68·0	009487	67·5	
10. 0	41. 59	019816	67·0	009675	67·0	G
12. 0	46. 14	020332	63·5	009961	63·5	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°. 51′. 45″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 201°; Sep. $13^d.1^h.50^m$, 240°.
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, $27^s.5$.

Sep. 12^d, at 16^h and 18^h. The declination magnet unsteady.

Sep. $13^d.1^h.50^m$. The change of 26′ in the position of the declination magnet between the preceding observation and this, is probably owing to the change of 39° in the angle of torsion.

Sep. $13^d.14^h$. An instance of the horizontal force magnet having a much increased vibration without any apparent cause, and yet the mean position remaining nearly the same.

Sep. $16^d.18^h$. A change of 9′ in the position of the declination magnet since the previous observation,

Daily Observations from September 19 to 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.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Sep. 19. 14. 0	246. 38. 29	0·019694	64·0	0·009999	64·0	P	Sep. 22. 14. 0	246. 28. 5	0·019845	62·7	0·010170	62·7	J H
16. 0	39. 58	018804	63·0	010019	63·0		16. 0	28. 58	019893	62·5	010509	62·0	D
18. 0	38. 36	019454	63·0	010240	63·0		18. 0	30. 41	020376	61·0	010849	61·0	P
20. 0	42. 45	019435	63·0	010532	63·0	P	20. 0	31. 29	019797	61·0	011130	60·5	M
22. 0	39. 59	018730	64·0	010320	63·6	J H	22. 0	29. 32	018100	62·5	011036	61·8	G
Sep. 20. 0. 0	246. 23. 31	0·017679	66·2	0·009915	65·0	J H	Sep. 23. 0. 0	246. 23. 4	0·017988	62·0	0·010800	61·0	P
1. 50	20. 51	017375		009299			1. 50	21. 48	018774		010579		J H
2. 0	20. 16	017679	68·6	009313	68·0		2. 0	22. 0	018878	64·0	010542	63·5	J H
2. 10	19. 38	018195		009269		J H	2. 10	22. 11	019018		010513		D
4. 0	24. 23	018321	70·0	008823	69·8	P	4. 0	23. 59	019284	64·0	010329	64·0	P
6. 0	25. 24	019029	69·0	008682	69·0		6. 0	26. 11	020601	64·0	010212	63·5	G
8. 0	36. 6	019948	68·0	008848	68·0		8. 0	26. 29	020852	62·6	010432	62·4	J H
10. 0	40. 12	018424	67·0	008794	67·0	P	10. 0	26. 56	020867	61·5	010767	61·0	D
12. 0	33. 18	019166	67·0	008889	66·1	J H	12. 0	27. 36	021239	60·5	011093	60·0	P
14. 0	27. 48	019926	65·8	008394	65·6		14. 0	27. 57	020663	59·4	011365	59·4	
16. 0	30. 16	019509	64·8	009374	64·8		16. 0	28. 31	020916	59·2	011551	59·0	
18. 0	27. 32	019516	64·0	009755	64·0		18. 0	29. 28	021745	58·6	011693	58·6	
20. 0	28. 4	019069	64·0	010183	64·0	J H	20. 0	29. 59	021181	58·0	011930	58·0	P
22. 0	29. 26	018062	63·4	010188	63·0	P	22. 0	29. 55	019904	58·3	011913	58·0	J H
Sep. 21. 0. 0	246. 24. 59	0·017484	64·0	0·009789	63·8	P	Sep. 24. 0. 0	246. 24. 8	0·019808	59·0	0·011511	58·4	J H
1. 50	22. 16	017690		009589			1. 50	20. 5	020240		011351		
2. 0	22. 0	017782	66·2	009576	65·8		2. 0	20. 1	020220	61·6	011323	59·8	
2. 10	22. 18	017948		009553	•	P	2. 10	19. 56	020273		011346		J H
4. 0	23. 17	018387	67·5	009241	67·0	J H	4. 0	19. 30	021502	61·8	011121	62·0	P
6. 0	25. 36	018808	67·6	009049	67·5		6. 0	18. 57	021309	62·0	011309	62·0	
8. 0	27. 12	019362	66·0	009255	66·0		8. 0	26. 2	019465	60·8	011911	60·5	
10. 0	28. 12	019266	65·4	009515	65·2	J H	10. 0	35. 34	017856	59·8	011762	59·8	P
12. 0	27. 5	019362	64·5	009803	64·0	G	12. 0	48. 12	016771	58·3	011921	58·0	J H
14. 0	28. 16	019698	64·0	009854	63·5		14. 0	48. 32	017760	58·2	011149	58·0	
16. 0	29. 16	019657	63·0	010151	62·5		16. 0	27. 1	015624	57·0	009322	57·0	
18. 0	28. 42	019690	63·0	010385	62·0		18. 0	24. 27	018273	57·0	010404	57·0	
20. 0	29. 41	019173	62·0	010659	61·0	G	20. 0	28. 39	018752	57·0	011751	56·6	J H
22. 0	27. 43	017661	62·0	010744	61·3	D	22. 0	11. 25	015885	57·5	011845	57·5	D
Sep. 22. 0. 0	246. 22. 12	0·017944	63·0	0·009836	62·5	D	Sep. 25. 0. 0	246. 16. 11	0·012908	60·0	0·011860	59·5	D
1. 50	20. 34	017977		009581			1. 50	11. 11	018970		013663		
2. 0	22. 26	017815	64·5	009491	64·0		2. 0	3. 7	020564	63·5	013818	62·2	
2. 10	23. 7	017981		009388		D	2. 10	6. 21	022269		014685		D
4. 0	22. 32	017597	68·0	009228	67·5	J H	4. 0	27. 54	030316	64·0	018686	63·5	J H
6. 0	26. 23	019114	67·2	009044	67·0	J H	6. 0	8. 28	022162	64·0	016445	64·0	J H
8. 0	34. 7	019727	66·5	009328	66·0	P	8. 0	37. 9	013174	63·0	014901	63·0	D
10. 0	32. 35	020922	64·8	009393	64·0	G	10. 0	48. 27	013222	63·0	012359	63·0	J H
12. 0	28. 27	019313	64·5	009745	64·0	G	12. 0	43. 48	010831	63·2	009864	61·5	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′. 45″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 240°; September $20^d.0^h$, 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, $27^s.5$.

Sep. $20^d.0^h$. The theodolite reading was less by 16′ than at the previous observation: the torsion-circle reading was less by 37°.
Sep. 24^d and 25^d. See the section of Extraordinary Observations: all the magnets were very much disturbed.

Daily Observations from September 26 to October 2.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Sep. 26. 14. 0	246. 31. 7	0·018480	57·0	0·012003	57·0	D	Sep. 29. 14. 0	246. 28. 56	0·021409	59·4	0·011874	59·3	J H
16. 0	28. 14	017535	56·5	012590	56·3		16. 0	32. 19	023052	59·0	010809	59·0	
18. 0	25. 9	019811	56·5	012863	56·3		18. 0	23. 8	021372	58·8	011262	59·0	
20. 0	22. 13	017224	58·0	012791	57·5	D	20. 0	31. 10	020269	58·8	011911	58·8	J H
22. 0	19. 25	014561	59·0	013107	58·4	J H	22. 0	28. 16	019299	60·5	012001	60·0	D
Sep. 27. 0. 0	246. 20. 5	0·016284	61·0	0·013116	60·0	J H	Sep. 30. 0. 0	246. 21. 26	0·019122	63·5	0·011483	62·2	D
1. 50	22. 9	015306		013065			1. 50	21. 5	019255		011097		
2. 0	21. 50	015095	64·2	012817	63·0		2. 0	21. 16	019107	64·7	011088	64·0	
2. 10	18. 20	014693		012744		J H	2. 10	21. 16	019099		011083		D
4. 0	35. 39	016251	65·2	012077	64·5	D	4. 0	27. 3	020173	64·7	011022	64·2	J H
6. 0	25. 19	017052	65·2	011845	64·5		6. 0	26. 12	020206	64·8	010994	64·0	
8. 0	35. 56	019601	63·5	011313	63·2		8. 0	27. 52	020838	63·0	011041	62·6	
10. 0	31. 8	017387	62·5	011421	62·0	D	10. 0	28. 15	021602	61·0	011219	61·3	J H
12. 0	26. 44	017937	61·0	011657	61·4	P	12. 0	23. 12	022775	60·0	011459	60·0	D
14. 0	26. 24	019114	61·5	011834	61·5		14. 0	22. 28	021062	59·5	011562	59·5	
16. 0	26. 53	019025	60·0	012036	60·0		16. 0	29. 43	021369	60·0	011836	59·5	
18. 0	18. 54	017635	60·0	011930	60·0		18. 0	28. 26	020908	60·2	012076	59·5	
20. 0	26. 24	018565	60·0	012024	60·0	P	20. 0	29. 44	020583	59·2	012284	59·0	D
22. 0	27. 34	018151	60·0	011977	60·0	J H	22. 0	27. 23	019853	58·2	012321	58·2	J H
Sep. 28. 0. 0	246. 22. 45	0·014506	60·0	0·012124	59·6	J H	Oct. 1. 0. 0	246. 24. 21	0·019627	59·4	0·012114	59·2	J H
1. 50	19. 55	017738		012204			1. 50	24. 3	020435		012171		
2. 0	20. 40	017874	62·6	012166	61·2		2. 0	24. 7	020369	60·8	012166	60·3	
2. 10	20. 45	017683		012102		J H	2. 10	24. 39	020428		012138		J H
4. 0	23. 6	016366	64·5	011544	63·5	P	4. 0	26. 17	019683	62·0	011874	61·5	D
6. 0	26. 5	018225	65·0	011224	64·0		6. 0	28. 40	021941	62·2	011686	61·5	
8. 0	36. 34	019424	64·4	011224	64·2		8. 0	31. 3	020834	61·2	011473	60·5	
10. 0	31. 24	019133	64·5	010895	64·0	P	10. 0	30. 57	020568	60·5	011798	60·2	D
12. 0	29. 13	018697	64·0	010791	63·0	G	12. 0	31. 12	020634	61·0	011742	60·5	G
14. 0	26. 53	019306	64·0	010400	63·0		14. 0	30. 48	020125	61·5	011747	61·0	
16. 0	27. 3	018759	64·5	010598	63·5		16. 0	30. 47	020502	61·0	011742	60·5	
18. 0	23. 8	019007	64·0	010556	63·0		18. 0	31. 40	020745	60·0	012001	60·0	
20. 0	24. 6	019173	63·0	010565	62·0	G	20. 0	31. 8	020590	59·0	012453	58·5	G
22. 0	20. 54	016753	62·0	011266	61·3	J H	22. 0	23. 52	019650	57·2	012786	57·0	J H
Sep. 29. 0. 0	246. 26. 37	0·020125	64·0	0·011360	63·0	J H	Oct. 2. 0. 0	246. 26. 37	0·018458	59·5	0·012420	59·0	J H
1. 50	22. 11	019856		011045			1. 50	25. 55	019587		011850		
2. 0	21. 59	019698	65·0	011050	64·0		2. 0	25. 51	019523	63·0	011808	62·3	
2. 10	21. 15	020176		011055		J H	2. 10	26. 9	019561		011747		J H
4. 0	22. 12	019937	66·0	011600	64·0	G	4. 0	27. 51	018863	64·0	011060	63·5	G
6. 0	24. 39	020469	65·0	011135	64·0		6. 0	28. 30	019786	64·0	010847	63·5	
8. 0	29. 46	020458	64·0	011389	63·0		8. 0	31. 5	019999	63·2	010856	63·0	
10. 0	28. 38	020391	63·0	011459	62·5	G	10. 0	31. 55	020583	63·0	011177	63·0	G
12. 0	31. 32	020834	60·0	011407	60·0	J H	12. 0	32. 38	018812	59·6	011672	59·3	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′. 45″; October 1d, 269°. 51′. 55″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 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, $27^s·5$.

Sep. $27^d. 4^h$. A change of 17′ in the position of the declination magnet between the last observation and this; see the Extraordinary Observations.

Sep. $26^d. 12^h$. A gale of wind began to blow and continued for some hours; the magnetometers were frequently looked at during the times of the heaviest gusts: it had no effect on any of them.

Sep. $28^d. 18^h$. The magnets were watched for some time after this observation, but as nothing unusual was noticed, no extra observations were taken.

Oct. $1^d. 20^h$. No vibration in any of the instruments; this is very unusual in the declination and horizontal force magnetometers.

Daily Observations from October 3 to 9.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Oct. 3. 14. 0	246. 31. 29	0·022383	54·6	0·013611	54·6	JH	Oct. 6. 14. 0	246. 31. 33	0·021217	57·2	0·011921	57·0	JH
16. 0	30. 48	022409	54·8	013329	54·5		16. 0	32. 30	021752	55·8	012533	55·7	
18. 0	33. 10	022295	54·8	013428	54·7		18. 0	34. 7	022550	54·3	013173	54·2	
20. 0	24. 41	020608	54·8	013747	54·5	JH	20. 0	34. 27	021679	53·4	013569	53·2	JH
22. 0	31. 4	020325	55·5	013456	55·2	D	22. 0	32. 21	020712	54·0	013681	53·8	D
Oct. 4. 0. 0	246. 27. 14	0·018989	58·3	0·012613	57·5	D	Oct. 7. 0. 0	246. 29. 31	0·019306	56·3	0·013357	55·8	D
1. 50	24. 44	019395		011921			1. 50	30. 20	018295		012721		
2. 0	24. 34	019561	60·8	011907	60·0		2. 0	28. 44	018055	60·5	012678	59·5	
2. 10	24. 10	019550		011907		D	2. 10	29. 13	018096		012551		D
4. 0	29. 43	020417	62·6	011643	62·0	JH	4. 0	31. 29	018487	62·0	011784	61·2	JH
6. 0	41. 3	020634	62·5	011581	62·0		6. 0	34. 4	018981	60·8	011794	60·3	
8. 0	33. 30	020362	61·3	011657	60·8		8. 0	40. 11	019572	58·7	011897	58·8	
10. 0	34. 5	020874	60·5	011591	60·3	JH	10. 0	36. 9	019222	58·0	012363	58·0	JH
12. 0	34. 11	020487	61·2	011558	60·8	D	12. 0	28. 33	019003	56·8	012739	56·5	D
14. 0	34 17	020354	61·3	011558	61·0		14. 0	37. 58	019439	55·5	012791	55·5	
16. 0	33. 20	020347	61·5	011638	60·8		16. 0	36. 27	019391	54·8	013046	54·8	
18. 0	33. 31	020209	60·5	011789	60·0		18. 0	33. 11	019992	54·0	013587	54·0	
20. 0	35. 56	019867	60·5	011845	60·0	D	20. 0	34. 36	020096	54·0	013963	54·0	D
22. 0	31. 51	018597	60·0	011841	59·4	JH	22. 0	31. 24	018745	53·7	013982	53·6	JH
Oct. 5. 0. 0	246. 29. 44	0·018985	61·2	0·011591	61·6	JH	Oct. 8. 0. 0	246. 26. 52	0·019111	54·6	0·013860	54·0	JH
1. 50	24. 37	019933		010971			1. 50	25. 24	018184		013371		
2. 0	25. 18	019512	64·0	010903	63·0		2. 0	25. 48	018343	58·4	013315	57·0	
2. 10	25. 45	019523		010903		JH	2. 10	25. 20	018228		013219		JH
4. 0	28. 52	020176	64·0	010706	63·8	D	4. 0	27. 2	019690	58·0	013107	57·0	G
6. 0	30. 46	021188	63·8	010664	63·0		6. 0	30. 56	018834	58·0	013587	58·6	JH
8. 0	32. 55	021026	62·0	011078	61·5		8. 0	33. 51	017287	57·6	013846	57·3	
10. 0	35. 26	021631	60·6	011384	60·2	D	10. 0	41. 38	016982	56·7	012910	56·6	JH
12. 0	31. 57	022841	60·0	011506	59·5	G	12. 0	48. 3	018029	57·0	012171	56·0	G
14. 0	32. 12	021133	59·3	011577	59·0		14. 0	39. 23	017077	58·0	011892	57·0	
16. 0	40. 55	022328	57·3	011558	57·0		16. 0	32. 58	018022	58·0	012645	57·0	
18. 0	38. 57	022605	57·0	012071	57·0		18. 0	32. 47	018878	58·0	012971	57·0	
20. 0	33. 57	021487	57·5	012561	57·0	G	20. 0	33. 15	018188	58·0	013178	57·0	G
22. 0	30. 40	018679	56·4	012815	56·0	JH	22. 0	32. 26	019162	55·8	013352	55·0	JH
Oct. 6. 0. 0	246. 30. 7	0·020424	59·8	0·012547	58·1	JH	Oct. 9. 0. 0	246. 29. 41	0·018018	57·0	0·013215	55·4	JH
1. 50	25. 35	019487		011991			1. 50	28. 9	018365		013154		
2. 0	26. 4	019465	62·2	011911	60·8		2. 0	28. 19	018328	57·6	013145	56·4	
2. 10	25. 18	019313		011911		JH	2. 10	28. 10	018524		013182		JH
4. 0	27. 51	019044	62·5	011827	62·5	G	4. 0	28. 31	017818	57·0	012881	57·0	G
6. 0	32. 9	020387	63·1	011511	61·5		6. 0	32. 2	017867	59·0	012801	58·5	
8. 0	51. 28	019860	62·0	011562	61·5		8. 0	34. 43	020783	57·5	012801	57·0	
10. 0	40. 15	021863	62·5	011374	62·0	G	10. 0	34. 52	019694	56·5	012251	56·0	G
12. 0	36. 39	020287	59·0	011421	58·7	JH	12. 0	45. 25	019627	55·0	012434	55·0	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°. 51′. 55″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 203°; Oct. $4^d.0^h$, 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, $27^s.5$.

Oct. $4^d.$ $6^h.$ The result of this observation of the declination magnet is greater than the preceding by 11′, and greater than the succeeding by 8′ nearly.
Oct. $4^d.$ $16^h.$ A change of 9′ nearly in the position of the declination magnet since the last observation: the magnet was watched for some time afterwards: no deviation to any large amount took place.
Oct. $6^d.$ $8^h.$ A change of 19′ in the theodolite reading from the preceding observation; see section of Extraordinary Observations.
Oct. $8^d.$ $1^h.50^m.$ The declination magnet without vibration.
Oct. $8^d.$ $2^h.$ $0^m.$ The horizontal force magnet moved by jerks.
Oct. $8^d.10^h.$ $0^m.$ Extra observations were begun.
Oct. $8^h.12^h.$ After this the declination magnet was watched, but no further deviation took place worth recording.

Daily Observations from October 10 to 16.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°	
Oct. 10. 14. 0	246. 30. 56	0·021313	55·2	0·013149	55·3	J H
16. 0	29. 43	020513	56·0	012891	55·7	
18. 0	31. 37	020901	57·0	012504	56·4	
20. 0	27. 48	019623	57·2	012523	57·0	J H
22. 0	32. 20	018048	57·5	012566	57·0	D
Oct. 11. 0. 0	246. 31. 9	0·018491	60·2	0·012472	59·0	D
1. 50	28. 45	018539		011600		
2. 0	28. 42	018693	63·0	011544	62·0	
2. 10	29. 21	018232		011459		D
4. 0	31. 50	019561	63·5	011163	63·0	J H
6. 0	30. 51	020402	60·7	011299	60·8	
8. 0	31. 57	020428	59·6	011619	59·5	
10. 0	35. 42	021092	58·0	011925	58·1	J H
12. 0	34. 18	020989	57·0	012284	56·5	M
14. 0	31. 33	020845	58·2	012580	56·9	
16. 0	32. 28	020874	56·9	012655	56·2	
18. 0	33. 9	021195	55·2	012999	55·0	M
20. 0	35. 26	020916	55·2	013357	55·0	D
22. 0	33. 19	019988	54·7	013498	54·0	J H
Oct. 12. 0. 0	246. 35. 17	0·019388	56·7	0·013149	55·3	J H
1. 50	33. 20	019291		012429		
2. 0	33. 22	019395	57·4	012406	57·0	
2. 10	33. 40	019395		012345		J H
4. 0	38. 2	021549	58·8	012345	58·0	D
6. 0	40. 56	021660	57·8	012345	57·0	
8. 0	39. 48	021602	58·5	012312	57·3	
10. 0	40. 30	021682	57·8	012274	57·0	D
12. 0	40. 28	021427	58·5	012307	58·0	G
14. 0	39. 53	021557	58·5	012547	57·5	
16. 0	39. 43	022096	56·5	012721	56·0	
18. 0	39. 21	022202	54·1	013008	53·5	
20. 0	42. 22	021646	55·2	013116	54·6	G
22. 0	42. 24	020797	53·7	013163	53·4	J H
Oct. 13. 0. 0	246. 36. 17	0·020473	54·6	0·012815	54·5	J H
1. 50	34. 26	020220		012476		
2. 0	34. 28	020491	58·0	012453	58·0	
2. 10	34. 34	020473		012439		J H
4. 0	37. 16	020893	59·0	012284	57·5	G
6. 0	39. 51	021092	58·0	012265	57·0	
8. 0	40. 46	021062	58·0	012316	57·5	
10. 0	52. 41	021144	58·0	012265	57·5	G
12. 0	42. 14	020690	58·7	011977	57·5	J H
Oct. 14. 0. 0	246. 37. 17	0·020048	63·0	0·011003	62·0	D
1. 50	36. 30	019251		010273		
2. 0	36. 31	019200	66·0	010188	65·2	
2. 10	35. 13	019229		010169		D
4. 0	37. 20	019705	66·0	009887	65·0	J H
6. 0	39. 6	020756	65·0	009755	65·0	
8. 0	39. 27	020908	63·0	010009	63·0	
10. 0	42. 0	021151	61·6	010465	61·6	J H
12. 0	45. 50	021000	61·0	010753	60·5	D
14. 0	40. 59	021609	61·0	010956	60·5	
16. 0	38. 6	021771	61·0	010942	60·5	
18. 0	44. 16	020679	61·0	010744	60·5	
20. 0	39. 39	019816	60·8	010767	60·3	D
22. 0	38. 27	019705	59·7	011135	59·0	J H
Oct. 15. 0. 0	246. 35. 18	0·019377	61·4	0·011154	60·0	J H
1. 50	32. 33	018343		010852		
2. 0	33. 26	018693	62·6	010781	61·6	
2. 10	33. 39	018881		010824		J H
4. 0	35. 58	020158	63·0	010791	62·0	D
6. 0	35. 59	020129	62·5	010975	61·7	
8. 0	42. 52	020546	61·0	011229	60·3	
10. 0	39. 51	021217	59·5	011530	59·0	D
12. 0	39. 19	021575	58·0	011780	57·5	G
14. 0	40. 30	021675	57·0	011935	56·0	
16. 0	39. 55	021409	56·5	012307	55·5	
18. 0	41. 10	022173	56·0	012730	55·0	
20. 0	40. 28	021620	55·0	012971	54·0	G
22. 0	39. 26	020768	53·5	013239	53·0	J H
Oct. 16. 0. 0	246. 34. 57	0·021099	54·6	0·013126	54·0	J H
1. 50	34. 32	020442		012669		
2. 0	34. 25	020231	58·5	012669	57·0	
2. 10	34. 10	020783		012603		J H
4. 0	35. 41	020716	59·2	012095	59·0	G
6. 0	39. 21	019222	59·2	012190	58·0	
8. 0	44. 21	021022	59·5	011977	58·0	G
10. 0	44. 18	020539	58·5	011351	58·4	J H
12. 0	36. 31	021571	57·4	011664	57·3	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′. 55″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 232°; Oct. $12^d.0^h$, 241°.
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, $27^s.5$.

Oct. $11^d.12^h$. In this and the two following observations, the declination magnet was without any motion. During the whole of the night all the magnets were unusually steady, the usual change not taking place in any of them between 6^h and 18^h.

Oct. $13^d.10^h$. The position of the marked end of the declination magnet was 12′ and 10′ more easterly than at the preceding and succeeding observations respectively. At $9^h.45^m$ the theodolite reading was the same as at 8^h, and therefore the change must have been sudden. After midnight the magnets were watched for some time, but they remained unusually steady all night.

Daily Observations from October 17 to 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.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Oct. 17. 14. 0	246. 37. 16	0·022195	53·0	0·012947	53·0	J H	Oct. 20. 14. 0	246. 54. 49	0·020586	57·0	0·012786	55·8	D
16. 0	39. 31	022787	52·5	013234	52·3		16. 0	52. 46	021901	56·4	012406	55·0	J H
18. 0	40. 28	022767	52·0	013498	52·0		18. 0	49. 47	018885	55·0	012542	54·0	P
20. 0	37. 37	021560	53·0	013493	52·3	J H	20. 0	44. 7	020779	53·2	012830	52·8	M
22. 0	41. 56	020376	54·0	013338	53·0	D	22. 0	47. 9	019572	52·0	013884	51·0	G
Oct. 18. 0. 0	246. 36. 26	0·019468	57·5	0·012782	56·0	D	Oct. 21. 0. 0	246. 41. 8	0·017484	55·2	0·013890	53·4	P
1. 50	31. 6	020251		012157			1. 50	41. 47	017096		013757		D
2. 0	31. 49	020298	59·0	012080	58·0		2. 0	44. 41	017553	57·5	013916	56·5	
2. 10	31. 24	020209		012080		D	2. 10	44. 12	017727		013879		D
4. 0	35. 34	021391	58·4	011831	58·3	J H	4. 0	37. 34	017631	57·4	013578	56·4	P
6. 0	43. 47	019236	57·2	012326	57·7		6. 0	49. 38	020140	57·0	013432	55·2	G
8. 0	38. 40	021560	55·8	012316	55·8		8. 0	56. 9	020863	56·5	013248	55·5	D
10. 0	42. 43	022557	54·6	012655	54·7	J H	10. 0	45. 46	020716	54·7	013414	54·0	J H
12. 0	40. 50	021963	54·0	012881	53·8	D	12. 0	47. 46	021387	51·5	013888	51·4	P
14. 0	38. 43	021882	54·0	012971	54·0		14. 0	47. 55	022129	49·0	014527	49·0	
16. 0	39. 34	021919	55·5	012872	55·0		16. 0	45. 59	022332	47·0	015382	47·0	
18. 0	38. 10	021535	55·3	013004	54. 8		18. 0	45. 49	023008	45·4	015806	45·2	
20. 0	42. 35	021291	55·0	013098	54. 8	D	20. 0	47. 34	022930	44·5	016214	44·2	P
22. 0	39. 41	021587	54·5	013098	54·0	J H	22. 0	46. 57	021756	45·0	016120	44·0	D
Oct. 19. 0. 0	246. 34. 13	0·021155	53·3	0·013281	53·0	J H	Oct. 22. 0. 0	246. 41. 16	0·020220	48·2	0·015376	47·2	D
1. 50	38. 33	021719		013442			1. 50	39. 59	020882		014750		
2. 0	38. 53	021502	54·0	013423	54·0		2. 0	40. 29	021062	50·3	014708	49·0	
2. 10	39. 12	021509		013414		J H	2. 10	40. 26	021261		014670		D
4. 0	43. 55	021483	55·0	013343	54·8	D	4. 0	44. 5	021476	51·4	013503	50·5	P
6. 0	50. 8	019926	54·3	013555	54·0		6. 0	45. 36	021575	52·0	013239	51·0	
8. 0	44. 29	021808	53·3	013728	53·0		8. 0	45. 52	021642	52·0	013112	51·4	P
10. 0	48. 0	022694	51·7	014167	51·5	D	10. 0	46. 15	022063	51·0	013060	50·4	J H
12. 0	46. 23	021923	51·5	014482	51·0	G	12. 0	46. 37	022206	50·5	013376	49·7	D
14. 0	45. 49	022339	52·5	014101	51·0		14. 0	47. 58	022789	50·2	013489	49·6	
16. 0	47. 28	021613	52·5	014237	51·0		16. 0	46. 55	021376	51·5	013257	50·5	
18. 0	46. 29	023066	50·0	014840	48·5		18. 0	48. 0	021901	51·2	013098	50·7	
20. 0	44. 8	021671	50·0	015278	48·5	G	20. 0	46. 14	021151	52·0	013098	51·2	D
22. 0	50. 27	021538	49·6	015381	48·5	J H	22. 0	48. 39	020354	53·3	012772	53·0	J H
Oct. 20. 0. 0	246. 40. 21	0·019849	54·7	0·014373	52·8	J H	Oct. 23. 0. 0	246. 41. 7	0·018826	57·0	0·011996	55·4	J H
1. 50	40. 27	020295		013334			1. 50	41. 4	019643		011365		P
2. 0	41. 19	020298	58·2	013201	57·0		2. 0	41. 4	019705	58·8	011318	57·6	
2. 10	41. 50	020265		013098		J H	2. 10	41. 11	019897		011271		P
4. 0	43. 27	020066	59·5	012434	59·0	G	4. 0	45. 17	019867	60·5	010432	59·5	D
6. 0	44. 54	020088	57·0	012664	57·0	J H	6. 0	46. 47	020550	60·3	010000	59·5	
8. 0	46. 43	020927	56·0	013060	56·0	D	8. 0	48. 11	020191	60·0	009962	59·2	
10. 0	45. 21	021826	55·0	013470	55·0	G	10. 0	47. 38	020660	59·0	010132	58·2	D
12. 0	45. 2	024148	55·0	013625	54·0	G	12. 0	50. 28	021155	58·0	010146	57·4	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′. 55″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 241°; Oct. $19^d.1^h.50^m$, 259°.
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, $27^s.5$.

Oct. $19^d.14^h$. The vibration of the horizontal force magnet has increased from 1 div. to 14 div. without any apparent cause; the mean position, however, is nearly the same.

Oct. $19^d.16^h$. The vibration of the horizontal force magnet was only 0·2 div. This great diminution of swing is remarkable; generally, when the vibration of this instrument extends over several divisions, many hours pass before it again becomes small.

Oct. $19^d.20^h$. The horizontal force magnet did not move with its usual motion in the night; the force alternately increased and decreased with each successive observation.

Oct. $21^d.20^h$. The vertical force magnet has not been in the same position as it was at this observation since Sep. 25; previously to this, July $8^d.22^h$ is the last instance when the same intensity of force was shown.

Daily Observations from October 24 to 30.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Oct. 24. 14. 0	246. 45. 45	0·024188	48·2	0·012971	48·0	J H	Oct. 27. 14. 0	246. 52. 17	0·021026	53·6	0·011229	53·5	J H
16. 0	46. 51	024502	47·3	013173	47·0		16. 0	44. 26	020081	53·0	011332	53·0	
18. 0	42. 2	023970	47·0	013267	46·6		18. 0	39. 5	023830	53·0	010800	52·7	
20. 0	33. 36	023561	47·5	013291	47·0	J H	20. 0	50. 30	021620	53·5	011285	53·0	J H
22. 0	40. 58	019919	48·8	013257	48·0	D	22. 0	49. 17	020535	54·8	011789	54·0	D
Oct. 25. 0. 0	246. 33. 25	0·020708	50·5	0·013587	49·3	D	Oct. 28. 0. 0	246. 44. 42	0·020952	54·8	0·011813	53·5	D
1. 50	33. 57	020191		013978			1. 50	40. 10	020121		011930		
2. 0	30. 34	021978	52·5	014275	51·0		2. 0	41. 4	020354	55·6	011921	54·5	
2. 10	39. 31	020963		014967		D	2. 10	42. 25	020406		011874		D
4. 0	38. 38	022199	55·6	013310	55·0	J H	4. 0	39. 44	021845	54·0	011977	53·8	J H
6. 0	246. 48. 38	016900	55·6	013465	55·0		6. 0	42. 24	021693	53·0	012340	53·0	
8. 0	247. 22. 50	018748	55·4	013276	55·0		8. 0	44. 32	021930	52·0	012669	52·0	
10. 0	246. 58. 9	018387	54·0	011841	53·6	J H	10. 0	47. 50	022405	51·6	012839	51·0	J H
12. 0	52. 35	019432	52·2	012171	51·5	G	12. 0	48. 43	022627	52·0	012882	50·0	G
14. 0	44. 38	018509	53·0	010847	52·0		14. 0	48. 17	022224	54·0	012547	52·0	
16. 0	49. 38	020645	52·0	012001	51·5		16. 0	48. 6	022255	54·0	012166	52·0	
18. 0	41. 28	019926	52·0	012645	51·5		18. 0	48. 33	022350	54·0	011968	52·0	
20. 0	39. 22	019952	50·0	012872	48·0	G	20. 0	48. 56	022240	54·0	012076	52·0	G
22. 0	42. 54	019490	47·8	013465	47·5	D	22. 0	48. 24	021077	52·0	012392	52·0	D
Oct. 26. 0. 0	246. 39. 23	0·016312	50·5	0·013978	49·3	D	Oct. 29. 0. 0	246. 44. 44	0·020535	54·0	0·012284	53·2	D
1. 50	41. 38	018756		013320			1. 50	44. 45	020823		011930		
2. 0	41. 41	018723	54·5	013286	53·5		2. 0	44. 52	020616	55·5	011921	54·5	
2. 10	41. 25	019173		013272		D	2. 10	45. 4	020874		011883		D
4. 0	46. 46	018948	56·2	013163	53·8	G	4. 0	46. 47	021542	55·5	011700	54·0	G
6. 0	53. 9	019055	57·0	012674	54·5		6. 0	246. 46. 30	021438	55·0	011591	54·0	
8. 0	54. 48	018903	57·1	011836	56·0		8. 0	247. 0. 20	020619	55·0	012001	54·0	
10. 0	50. 38	020431	57·0	011041	56·0	G	10. 0	246. 48. 9	021594	55·0	011605	54·0	G
12. 0	50. 15	020845	55·0	011436	54·3	D	12. 0	51. 27	021369	55·3	011436	55·0	D
14. 0	46. 6	021137	54·5	011215	53·5		14. 0	48. 51	021926	54·0	011483	54·0	
16. 0	49. 1	021416	54·0	011742	53·0		16. 0	49. 10	022321	53·0	011850	53·0	
18. 0	48. 41	021170	54·0	011930	53·2		18. 0	48. 16	023119	52·5	012138	52·2	
20. 0	47. 56	021018	53·7	012166	52·8	D	20. 0	49. 42	021852	53·2	012119	52·5	D
22. 0	46. 33	019970	52·7	012255	52·3	J H	22. 0	49. 15	021106	52·0	012349	51·7	J H
Oct. 27. 0. 0	246. 42. 16	0·019609	53·2	0·012500	52·6	J H	Oct. 30. 0. 0	246. 45. 11	0·020885	53·0	0·012387	52·0	J H
1. 50	41. 32	020395		012721			1. 50	44. 14	021383		012288		
2. 0	42. 7	020298	53·6	012702	53·0		2. 0	44. 15	021564	54·3	012316	53·0	
2. 10	41. 49	020325		012716		J H	2. 10	44. 19	021542		012316		J H
4. 0	45. 47	020354	54·3	012707	53·5	D	4. 0	46. 42	021875	54·2	012114	53·6	D
6. 0	49. 25	021660	53·5	012472	53·0		6. 0	48. 2	022202	53·5	012076	53·0	
8. 0	51. 4	021166	55·8	011892	54·8		8. 0	48. 24	022284	53·2	012033	53·0	
10. 0	51. 13	020723	55·2	011845	55·5	D	10. 0	48. 51	022789	53·0	012157	52·7	D
12. 0	49. 32	022782	55·0	011577	54·4	J H	12. 0	48. 34	022302	53·4	012057	53·0	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′. 55″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 259°; October $25^d.1^h.50^m$, 268°.
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, $27^s.5$.

Oct. $24^d.18^h$. The horizontal force magnet has moved very irregularly during the night.

Oct. 25^d. See the section of Extraordinary Observations: at 8^h the marked end of the declination magnet was more eastward than it has yet been since the commencement of Magnetic Observations at this Observatory, except in the great disturbances of Sep. 25.

Oct. 29^d. After 6^h the magnets were unsteady.

Daily Observations from October 31 to November 6.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Oct. 31. 14. 0	246. 50. 34	0·023066	51·2	0·012467	51·0	JH	Nov. 3. 14. 0	246. 34. 7	0·022908	56·0	0·010461	56·0	JH
16. 0	49. 35	023351	51·4	012528	50·7		16. 0	35. 58	023767	55·0	010725	55·0	
18. 0	49. 19	023287	51·0	012575	50·6		18. 0	34. 44	020594	54·2	010927	54·3	
20. 0	50. 38	023309	51·4	012547	51·0	JH	20. 0	37. 34	025033	53·6	010565	54·0	JH
22. 0	50. 34	021956	52 8	012439	52·0	D	22. 0	32. 51	022476	53·5	010903	54·0	D
Nov. 1. 0. 0	246. 46. 13	0·021598	53·0	0·012316	52·0	D	Nov. 4. 0. 0	246. 21. 1	0·018741	54·2	0·011346	55·0	D
1. 50	30. 8	021613		012085			1. 50	21. 54	020694		011845		
2. 0	30. 21	021664	54·0	012071	53·0		2. 0	21. 56	021343	55·5	011845	54·5	
2. 10	30. 25	021897		012048		D	2. 10	21. 46	021092		011836		D
4. 0	32. 2	022166	54·0	011869	53·5	JH	4. 0	27. 20	020103	54·6	012664	54·8	JH
6. 0	31. 27	023126	53·6	011897	53·0		6. 0	32. 57	021062	54·0	012080	54·3	
8. 0	32. 0	022933	53·0	011963	52·5		8. 0	43. 53	023827	53·0	012199	53·6	
10. 0	33. 41	022169	55·7	011705	54·3	JH	10. 0	39. 37	021823	52·0	011897	52·2	JH
12. 0	36. 1	022686	56·0	011520	54·5	G	12. 0	35. 27	022461	51·0	012218	50·0	G
14. 0	36. 42	022284	56·0	011168	54·5		14. 0	32. 37	022804	52·5	012180	51·2	
16. 0	35. 26	021904	56·5	011182	55·0		16. 0	34. 36	022656	52·5	011653	51·0	
18. 0	35. 1	022432	57·0	011050	56·0		18. 0	34. 26	023130	52·5	011676	51·0	
20. 0	32. 57	022173	56·5	010956	55·5	G	20. 0	29. 20	022561	52·5	011609	51·0	G
22. 0	34. 58	021387	55·5	011135	54·5	D	22. 0	25. 22	018734	53·0	011897	52·0	D
Nov. 2. 0. 0	246. 30. 20	0·020734	56·0	0·011135	55·0	D	Nov. 5. 0. 0	246. 23. 28	0·019501	54·3	0·012175	53·0	D
1. 50	29. 28	021026		010951			1. 50	22. 13	020302		011954		
2. 0	29. 15	021095	57·5	010932	56·5		2. 0	21. 27	020026	55·8	012015	54·2	
2. 10	29. 13	021199		010918		D	2. 10	20. 46	020110		011991		D
4. 0	30. 47	021748	57·0	010753	57·0	G	4. 0	33. 23	018247	56·5	012119	55·0	G
6. 0	31. 15	022052	57·0	010814	56·0		6. 0	30. 25	021328	55·2	011581	56·0	JH
8. 0	33. 55	021243	57·0	010994	56·0		8. 0	51. 46	021786	55·5	011726	55·0	P
10. 0	37. 22	022063	57·0	010961	56·0	G	10. 0	41. 3	018380	54·5	011083	54·5	P
12. 0	35. 29	022048	55·0	011130	54·8	D	12. 0	36. 22	021298	52·0	011591	52·0	D
14. 0	35. 26	022262	54·0	011233	54·0		14. 0	30. 16	021037	51·1	012298	51·0	
16. 0	34. 39	022041	54·0	011365	54·0		16. 0	31. 43	021431	51·0	012298	51·0	
18. 0	34. 47	022468	54·0	011365	54·0		18. 0	31. 57	022273	50·5	012486	50·5	
20. 0	33. 45	022620	54·8	011346	54·4	D	20. 0	26. 22	023247	51·2	012119	51·0	D
22. 0	34. 25	021719	54·2	011403	53·2	G	22. 0	28. 48	020291	52·0	012345	51·5	JH
Nov. 3. 0. 0	246. 30. 56	0·021690	54·8	0·011186	55·8	JH	Nov. 6. 0. 0	246. 31. 34	0·017818	54·5	0·012033	54·0	JH
1. 50	30. 14	020783		010659			1. 50	27. 36	019512		011653		
2. 0	30. 18	020768	59·8	010621	58·2		2. 0	24. 59	018583	59·3	011506	60·6	
2. 10	30. 26	020952		010485		JH	2. 10	26. 36	018206		011233		JH
4. 0	31. 54	021321	60·0	009930	59·5	D	4. 0	30. 31	020066	61·8	010070	61·5	D
6. 0	32. 45	021981	59·5	009977	59·0		6. 0	32. 29	021033	60·0	009765	59·8	
8. 0	31. 47	021901	59·8	010009	59·0		8. 0	45. 42	019454	58·0	010306	58·0	
10. 0	33. 38	022184	58·7	010014	58·3	D	10. 0	34. 56	021291	57·5	010753	57·0	D
12. 0	34. 53	021516	58·0	010226	57·3	JH	12. 0	40. 45	021992	55·0	010254	55·0	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°. 51′. 55″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 268°; Nov. $1^d.1^h.50^m$, 224°.
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, $27^s.5$.

Nov. $1^d.1^h.50^m$. The theodolite reading differs from the previous reading by 16′, most probably owing to the great change in the reading of the torsion-circle.

Nov. 3^d, 4^d, 5^d, 6^d. See section of Extraordinary Observations.

Daily Observations from November 7 to 13.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°	
Nov. 7. 14. 0	246. 33. 31	0·022620	49·3	0·012640	49·0	J H
16. 0	32. 27	023612	48·3	012943	48·3	
18. 0	31. 34	023701	48·0	013060	48·0	
20. 0	33. 45	023262	48·0	013357	48·0	J H
22. 0	32. 47	022195	50·0	013145	49·2	D
Nov. 8. 0. 0	246. 29. 18	0·020059	52·5	0·012966	51·0	D
1. 50	30. 35	021786		012124		
2. 0	30. 31	021571	56·0	012043	54·0	
2. 10	30. 35	021627		011991		D
4. 0	33. 25	020539	56·0	011506	56·0	J H
6. 0	33. 16	022023	55·0	011285	55·2	
8. 0	35. 0	021701	53·3	011490	53·3	
10. 0	34. 47	022988	52·0	011944	52·0	J H
12. 0	35. 26	022866	52·0	012206	51·5	P
14. 0	35. 19	022398	52·0	013202	51·0	
16. 0	32. 37	022420	51·7	012678	50·0	
18. 0	31. 31	023590	49·5	012919	49·0	
20. 0	31. 34	024870	48·6	013201	48·0	P
22. 0	30. 49	022627	48·5	013672	48·0	D
Nov. 9. 0. 0	246. 29. 41	0·022501	51·0	0·013376	49·0	D
1. 50	26. 37	022531		012975		
2. 0	27. 9	022368	52·5	012881	51·0	
2. 10	27. 23	022233		012872		D
4. 0	29. 58	022361	52·0	012786	52·5	P
6. 0	36. 15	021786	51·5	012757	53·0	
8. 0	33. 11	021992	52·6	012692	51·8	
10. 0	37. 16	021269	53·0	012768	52·0	P
12. 0	34. 23	022498	53·0	012288	52·0	D
14. 0	33. 53	023155	53·0	012024	52·0	
16. 0	34. 19	022059	54·0	011841	53·0	
18. 0	33. 57	022439	54·0	011705	53·2	
20. 0	34. 49	022266	54·0	011648	53·5	D
22. 0	33. 42	021609	54·0	011567	53·4	J H
Nov. 10. 0. 0	246. 27. 28	0·020760	55·0	0·011365	54·6	J H
1. 50	27. 49	021133		011243		
2. 0	28. 10	020896	56·5	011191	56·0	
2. 10	28. 40	020885		011177		J H
4. 0	30. 47	021553	57·0	010809	56·0	D
6. 0	31. 7	021148	56·5	010847	55·5	
8. 0	33. 4	021542	58·0	010697	56·5	
10. 0	35. 21	022376	59·0	010282	57·5	D
12. 0	35. 49	021748	58·0	010230	57·2	J H

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°	
Nov. 10. 14. 0	246. 37. 53	0·021719	56·3	0·010560	56·0	J H
16. 0	36. 6	022030	55·8	010617	55·0	
18. 0	33. 26	022686	54·8	010795	54·6	
20. 0	34. 35	023343	54·6	010956	53·8	J H
22. 0	33. 28	022420	54·8	011083	54·2	D
Nov. 11. 0. 0	246. 30. 30	0·022221	57·0	0·010744	55·8	D
1. 50	29. 2	021269		010556		
2. 0	27. 19	020971	58·5	010650	56·8	
2. 10	26. 42	021055		010603		D
4. 0	32. 6	021815	57·6	010532	57·0	J H
6. 0	40. 22	019650	57·3	010880	56·0	
8. 0	32. 48	022070	54·8	010894	54·5	
10. 0	37. 22	024229	54·8	011252	54·5	J H
12. 0	35. 8	021901	55·0	011252	53·5	G
14. 0	35. 17	021748	55·0	011172	53·5	
16. 0	34. 32	022240	55·0	011121	53·5	
18. 0	35. 25	022361	55·0	011154	53·5	
20. 0	31. 47	022221	55·0	011248	53·5	G
22. 0	32. 27	022129	54·0	011130	54·0	D
Nov. 12. 0. 0	246. 32. 35	0·021848	56·0	0·011168	55·0	D
1. 50	29. 52	020092		010791		
2. 0	30. 11	021044	59·0	010706	57·0	
2. 10	29. 41	021004		010753		D
4. 0	31. 27	020096	58·8	010461	57·5	G
6. 0	32. 48	022034	58·5	010461	57·0	D
8. 0	35. 16	022233	53·6	010885	53·6	J H
10. 0	39. 57	022306	52·3	011464	52·0	J H
12. 0	35. 53	022583	50·4	011935	50·0	D
14. 0	34. 34	023130	48·2	012943	47·5	
16. 0	33. 33	023358	47·5	013522	46·8	
18. 0	33. 49	023553	46·0	013921	45·5	
20. 0	34. 43	023966	45·0	014152	45·0	D
22. 0	35. 38	023450	45·3	014298	44·4	J H
Nov. 13. 0. 0	246. 31. 34	0·023177	48·0	0·013902	46·4	J H
1. 50	30. 11	022435		013210		
2. 0	30. 49	022450	50·8	013149	47·0	
2. 10	31. 19	022302		013018		J H
4. 0	31. 25	022645	53·0	012396	51·5	D
6. 0	33. 56	023280	51·5	012457	50·3	
8. 0	34. 37	023409	50·5	012711	49·5	
10. 0	34. 33	022705	49·3	013088	48·8	D
12. 0	35. 29	023163	50·0	013098	49·0	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′. 55″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 224°; Nov. $8^d.0^h$, 200°.
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, $27^s.5$.

Nov. 11^d. See the section of Extraordinary Observations.
Nov. $13^d.1^h.50^m$. The horizontal force magnetometer moved by jerks.

Daily Observations from November 14 to 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.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Nov. 14. 14. 0	246. 35. 15	0·024483	38·6	0·014816	38·0	J H	Nov. 17. 14. 0	246. 37. 2	0·023126	41·7	0·012128	42·0	J H
16. 0	32. 58	024934	38·0	014915	37·3		16. 0	37 49	024520	41·0	012434	41·4	
18. 0	33. 25	025173	37·0	014990	36·5		18. 0	36. 31	024985	41·0	012523	40·8	
20. 0	30. 21	025299	38·0	014943	36·3	J H	20. 0	36. 46	024166	40·5	012622	40·5	J H
22. 0	33. 38	024303	38·0	014605	37·0	D	22. 0	34. 56	024690	41·5	012692	41·5	D
Nov. 15. 0. 0	246. 32. 27	0·024199	40·8	0·014434	39·5	D	Nov. 18. 0. 0	246. 32. 39	0·025025	40·5	0·012778	40·3	D
1. 50	32. 59	023697		013766			1. 50	31. 54	025579		013037		
2. 0	33. 7	023785	43·5	013728	42·0		2. 0	32. 18	026077	40·5	013037	40·2	
2. 10	33. 13	023734		013677		D	2. 10	31. 27	026132		013037		D
4. 0	35. 25	023893	44·0	013116	43·0	J H	4. 0	31. 36	025505	41·6	012814	41·3	J H
6. 0	35. 52	023207	43·6	012910	42·4		6. 0	28. 48	025369	42·0	012905	41·2	
8. 0	36. 45	023907	42·8	012914	42·0		8. 0	38. 44	023955	41·0	013418	40·0	
10. 0	36. 50	024022	42·0	012971	41·7	J H	10. 0	34. 10	020679	40·8	013996	40·0	J H
12. 0	38. 24	023542	42·5	013069	42·0	G	12. 0	246. 44. 52	019018	40·0	012566	39·0	G
14. 0	40. 28	024170	43·0	012551	42·5		14. 0	247. 5. 3	021646	40·0	012453	39·0	
16. 0	35. 41	022981	43·5	012542	43·0		16. 0	247. 7. 11	022653	43·0	009859	42·0	
18. 0	37. 2	024111	43·5	012613	43·0		18. 0	246. 28. 33	021575	43·0	009058	42·0	
20. 0	35. 59	023838	43·0	012707	43·0	G	20. 0	20. 49	018730	44·0	010942	43·0	G
22. 0	35. 46	023874	42·0	012994	41·0	D	22. 0	26. 34	021336	44·3	011577	44·5	D
Nov. 16. 0. 0	246. 36. 32	0·023424	43·2	0·013145	42·0	D	Nov. 19. 0. 0	246. 27. 13	0·019516	47·0	0·011454	46·2	D
1. 50	33. 49	023756		012849			1. 50	26. 26	021261		011201		
2. 0	34. 9	023605	44·5	012825	43·5		2. 0	26. 25	021137	49·5	011088	48·2	
2. 10	34. 7	023557		012805		D	2. 10	24. 51	021235		011271		D
4. 0	34. 52	023579	44·5	012594	43·5	G	4. 0	30. 48	019948	51·0	011215	51·0	G
6. 0	36. 11	023856	45·0	012631	43·5		6. 0	36. 37	020243	53·0	010282	52·0	G
8. 0	36. 26	023823	44·0	012683	43·0		8. 0	52. 10	021305	51·8	009765	51·0	P
10. 0	36. 38	023849	44·0	012768	43·0	G	10. 0	38. 25	020938	51·0	009767	49·2	M
12. 0	36. 31	023948	42·0	013013	41·5	D	12. 0	35. 16	023247	49·2	009840	48·5	D
14. 0	36. 25	024686	40·0	013531	39·0		14. 0	39. 30	021764	49·3	008635	48·8	
16. 0	35. 35	024652	38·3	014237	37·2		16. 0	40. 8	021812	49·5	009379	48·5	
18. 0	35. 57	025704	37·2	014642	36·5		18. 0	16. 9	020871	48·7	009294	49·0	
20. 0	36. 2	025959	36·0	014920	35·5	D	20. 0	32. 45	022251	48·0	010070	48·2	D
22. 0	38. 32	025711	35·0	014887	35·5	J H	22. 0	28. 28	018985	46·3	010809	46·0	J H
Nov. 17. 0. 0	246. 32. 39	0·022416	38·5	0·013785	39·0	J H	Nov. 20. 0. 0	246. 26. 56	0·020003	48·0	0·011761	47·0	J H
1. 50	31. 44	022468		012631			1. 50	27. 39	020652		010908		
2. 0	32. 34	022383	46·0	012392	46·0		2. 0	27. 1	019310	51·6	010880	50·0	
2. 10	33. 52	021937		012222		J H	2. 10	28. 21	017220		010913		J H
4. 0	33. 37	023889	46·5	011530	46·2	D	4. 0	32. 0	018730	53·0	010589	52·0	G
6. 0	34. 16	024133	46·2	011492	45·2		6. 0	38. 46	021624	53·0	009745	52·0	D
8. 0	36. 26	024328	46·0	011468	45·0		8. 0	38. 40	021173	53·0	009369	52·0	D
10. 0	39. 36	022269	44·5	011742	43·0	D	10. 0	34. 26	022302	51·8	009491	50·7	J H
12. 0	39. 31	023402	43·4	011907	43·2	J H	12. 0	39. 21	023767	50·0	008988	49·5	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′. 55″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 200°; Nov. $15^d.0^h$, 229°.
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, $27^s.5$.

Nov. $14^d.20^h$. Between the preceding observation and this, the vibration of the horizontal force magnetometer has increased from 1^d to 6^d, without any apparent cause.
Nov. $15^d.10^h$ to 12^h. The motion of the horizontal force magnetometer very irregular, moving by jerks.
Nov. $16^d.6^h$ to 14^h. The declination magnetometer without the slightest vibration.
Nov. $17^d.1^h.50^m$. The horizontal force magnetometer moved by jerks.
Nov. 18^d, 19^d, and 20^d. See the section of Extraordinary Observations.

Daily Observations from November 21 to 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.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°	
Nov. 21. 14. 0	246. 35. 40	0·022948	53·4	0·008314	53·0	J H
16. 0	35. 44	022328	54·0	008126	53·6	
18. 0	35. 29	022405	54·9	007853	54·6	
20. 0	35. 27	022855	55·8	007571	55·0	J H
22. 0	36. 3	021890	57·5	007137	56·5	G
Nov. 22. 0. 0	246. 31. 15	0·021471	58·5	0·006798	57·3	D
1. 50	31. 31	021815		006539		
2. 0	31. 42	021560	59·0	006507	58·0	
2. 10	32. 11	021435		006516		D
4. 0	33. 4	020280	59·0	006921	58·0	J H
6. 0	35. 38	019321	57·0	006987	56·2	
8. 0	35. 32	021048	56·0	007533	55·6	
10. 0	35. 43	021239	54·3	007881	54·2	J H
12. 0	33. 59	022675	52·8	008169	52·0	G
14. 0	34. 36	022140	53·0	008626	52·0	
16. 0	34. 41	022682	52·0	008879	51·0	
18. 0	32. 47	023586	49·5	009178	48·0	
20. 0	33. 59	024354	48·0	009661	47·0	G
22. 0	33. 52	023911	46·0	010263	46·0	D
Nov. 23. 0. 0	246. 31. 45	0·023152	46·5	0·010509	46·0	D
1. 50	32. 30	023085		010165		
2. 0	32. 23	022412	50·0	010094	48·5	
2. 10	32. 37	021826		010056		D
4. 0	34. 4	022199	51·5	009717	50·0	G
6. 0	41. 17	020783	52·5	009402	51·0	
8. 0	35. 34	022140	52·0	009204	51·0	
10. 0	36. 22	022140	52·0	009327	50·5	G
12. 0	34. 33	023077	50·2	009327	49·8	D
14. 0	35. 3	023232	49·0	009491	49·0	
16. 0	34. 27	023793	48·0	009750	47·8	
18. 0	34. 41	023999	47·2	010070	47·0	
20. 0	34. 47	024520	45·8	010527	45·5	D
22. 0	35. 21	023918	44·3	011022	44·0	J H
Nov. 24. 0. 0	246. 33. 31	0·023785	46·6	0·011097	44·4	J H
1. 50	27. 26	021247		010451		
2. 0	27. 16	021022	51·0	010390	49·4	
2. 10	29. 23	020982		010268		J H
4. 0	32. 30	021926	51·0	009567	50·2	D
6. 0	34. 58	023247	50·5	009468	49·5	
8. 0	37. 43	023738	50·2	009708	49·3	
10. 0	35. 50	022420	49·0	009906	48·0	D
12. 0	36. 27	023838	47·0	010428	46·2	J H

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°	
Nov. 24. 14. 0	246. 31. 26	0·024575	45·0	0·010786	44·7	J H
16. 0	35. 56	024542	44·3	011074	43·8	
18. 0	35. 15	024372	44·0	011280	43·3	
20. 0	37. 57	025136	43·3	011351	42·7	J H
22. 0	35. 30	025136	42·5	011656	42·0	P
Nov. 25. 0. 0	246. 32. 49	0·021184	43·0	0·011789	42·5	P
1. 50	39. 12	024856		011553		
2. 0	39. 23	024922	44·0	011483	44·0	
2. 10	38. 52	024848		011412		P
4. 0	39. 28	024033	46·2	010975	45·2	J H
6. 0	39. 22	024354	45·0	011022	44·2	
8. 0	40. 35	024527	44·0	011252	43·4	
10. 0	40. 37	025255	43·0	011586	42·6	J H
12. 0	40. 43	025247	42·0	011916	41·4	P
14. 0	40. 4	025549	40·8	012401	40·2	
16. 0	40. 5	025741	40·0	012636	39·4	
18. 0	39. 52	025874	39·0	012825	38·6	
20. 0	40. 17	026096	39·0	013107	38·0	P
22. 0	40. 20	025262	38·3	013187	37·6	J H
Nov. 26. 0. 0	246. 31. 50	0·025933	40·2	0·013041	39·0	J H
1. 50	33. 7	024967		012166		
2. 0	31. 58	025505	44·8	012133	42·4	
2. 10	31. 56	024978		012085		
4. 0	33. 1	024288	45·0	011379	44·0	J H
6. 0	35. 58	024070	46·0	011083	45·2	P
8. 0	33. 2	023874	45·5	010734	45·5	P
10. 0	35. 40	023741	46·0	011789	45·0	G
12. 0	35. 23	023819	47·0	010612	46·0	G
14. 0	35. 45	023627	50·2	010056	48·0	D
16. 0	35. 10	023358	50·7	009534	48·6	J H
18. 0	35. 43	023550	51·0	009196	49·4	J H
20. 0	35. 38	023011	51·8	008917	50·2	P
22. 0	35. 6	023298	51·5	008837	49·5	J H
Nov. 27. 0. 0	246. 32. 12	0·023210	51·4	0·008635	51·0	P
1. 50	32. 40	023232		008616		P
2. 0	32. 41	022966	52·3	008573	52·0	J H
2. 10	32. 37	023749		008465		J H
4. 0	32. 51	022970	53·8	008310	52·8	D
6. 0	33. 51	022550	55·5	007796	53·5	G
8. 0	36. 13	023668	55·5	007363	54·8	P
10. 0	37. 16	022863	55·0	007335	54·2	J H
12. 0	36. 2	023384	54·0	007467	53·0	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°. 51′. 55″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 229°; Nov. $22^d.0^h$, 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, $27^s.5$.

Daily Observations from November 28 to December 4.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Nov. 28. 14. 0	246. 37. 16	0·023959	49·0	0·009091	48·8	D	Dec. 1. 14. 0	246. 36. 46	0·023351	52·8	0·007325	52·5	D
16. 0	36. 50	024778	50·0	008767	50·0		16. 0	36. 7	023763	52·6	007749	51·5	
18. 0	35. 46	024597	52·5	008249	52·0		18. 0	34. 47	024852	51·2	007858	51·0	
20. 0	35. 48	023778	54·5	007608	53·5	D	20. 0	32. 59	024862	51·0	007980	51·0	D
22. 0	36. 16	022782	54·8	007086	54·0	J H	22. 0	34. 21	023856	51·2	008060	50·5	J H
Nov. 29. 0. 0	246. 33. 57	0·022671	55·0	0·007034	54·4	J H	Dec. 2. 0. 0	246. 32. 18	0·023763	52·7	0·008003	51·8	J H
1. 50	33. 19	022686		007039			1. 50	33. 14	023066		007618		
2. 0	33. 5	022675	56·2	006949	55·0		2. 0	33. 32	023033	54·2	007599	53·4	
2. 10	33. 19	022094		006935		J H	2. 10	33. 45	023340		007608		J H
4. 0	34. 8	022405	56·5	006756	56·0	D	4. 0	34. 20	021908	54·0	007443	53·5	D
6. 0	35. 41	022760	57·0	006657	56·2		6. 0	33. 49	023417	53·6	007529	53·3	
8. 0	35. 52	022217	57·8	006295	57·0		8. 0	36. 4	023133	53·6	007599	53·1	
10. 0	35. 45	022409	58·3	005960	57·5	D	10. 0	36. 14	023313	53·6	007561	53·0	D
12. 0	36. 5	022498	58·6	005739	57·6	J H	12. 0	37. 0	023413	52·0	007608	52·0	J H
14. 0	34. 39	023351	57·6	005588	58·3		14. 0	47. 59	022734	51·5	007133	51·0	
16. 0	37. 36	022811	57·9	005555	57·3		16. 0	38. 15	023523	51·2	007566	51·0	
18. 0	35. 28	023483	57·0	005881	56·8		18. 0	35. 46	023785	51·6	007712	51·3	
20. 0	35. 50	024003	56·0	006342	55·6	J H	20. 0	36. 1	025025	51·6	007707	51·6	J H
22. 0	36. 1	023373	55·5	006507	55·0	D	22. 0	33. 37	022885	52·0	007401	52·0	D
Nov. 30. 0. 0	246. 33. 50	0·022877	55·5	0·006662	55·0	D	Dec. 3. 0. 0	246. 29. 32	0·023365	52·2	0·007434	52·0	D
1. 50	33. 23	022753		006180			1. 50	26. 24	022852		007618		
2. 0	33. 29	022712	56·5	006676	55·8		2. 0	24. 25	021963	53·5	007764	52·6	
2. 10	33. 17	022822		006694		D	2. 10	23. 16	020480		007778		D
4. 0	33. 54	022981	55·4	006788	55·0	J H	4. 0	246. 26. 9	021668	54·0	008781	54·0	J H
6. 0	36. 57	023395	54·5	006940	54·2		6. 0	247. 0. 37	018616	53·0	010357	53·0	
8. 0	36. 59	024148	53·5	007189	53·4		8. 0	246. 37. 31	021195	52·3	008578	52·0	
10. 0	36. 22	023922	52·8	007453	52·6	J H	10. 0	36. 18	022247	51·3	008630	50·0	J H
12. 0	36. 46	023324	52·8	007698	52·5	G	12. 0	36. 56	021571	51·3	008202	50·0	G
14. 0	36. 27	023878	52·7	007646	52·5		14. 0	38. 21	021775	51·5	008211	50·5	
16. 0	34. 18	023424	52·7	007646	52·5		16. 0	34. 49	022015	51·0	008211	50·0	
18. 0	34. 58	024630	51·5	008022	51·0		18. 0	32. 46	023096	50·5	008682	49·5	
20. 0	35. 50	024420	51·5	008046	51·0	G	20. 0	30. 28	022387	50·5	008870	49·5	G
22. 0	35. 41	024465	50·8	008036	50·0	D	22. 0	31. 58	022760	49·5	008691	48·5	D
Dec. 1. 0. 0	246. 34. 53	0·024870	51·0	0·008036	50·0	D	Dec. 4. 0. 0	246. 31. 58	0·020749	51·0	0·008997	49·8	D
1. 50	34. 26	024745		007980			1. 50	32. 44	021945		008682		
2. 0	34. 54	024770	52·0	007999	51·2		2. 0	32. 22	021923	52·0	008607	51·0	
2. 10	34. 30	024959		007989		D	2. 10	32. 56	022332		008564		D
4. 0	33. 17	024502	53·3	008064	52·6	J H	4. 0	30. 48	021184	52·5	008545	51·5	G
6. 0	34. 31	024823	53·5	007330	52·5	G	6. 0	39. 1	020790	52·5	008455	51·5	
8. 0	37. 37	024834	53·0	007330	52·0		8. 0	37. 0	022288	53·0	008263	52·0	
10. 0	36. 9	022509	54·0	007283	53·5	G	10. 0	42. 55	021759	53·0	008155	52·0	G
12. 0	43. 53	023137	54·0	006921	53·5	D	12. 0	41. 56	023232	53·6	007340	53·0	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°. 51′. 55″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 232°; Nov. $29^d.0^h$, 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″·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.3$; in Vertical Plane, $27^s.5$.

Dec. $2^d.14^h$. A change of 11′ in the position of the declination magnetometer between the preceding observation and this: see the section of Extraordinary Observations.

Dec. $3^d.6^h$. The theodolite reading was greater than at the previous observation by 34′, and this great change must have occurred within a short time previous to the observation, as the observer was at the instrument a few minutes before 6^h, and nothing remarkable had happened: see the section of Extraordinary Observations.

Daily Observations from December 5 to 11.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°	
Dec. 5. 14. 0	246. 37. 38	0·023760	45·0	0·009911	44·8	D
16. 0	37. 49	023627	47·0	009774	46·5	
18. 0	36. 12	023406	49·0	009402	48·3	
20. 0	36. 37	023328	50·1	008917	49·3	D
22. 0	35. 13	023240	51·0	008365	50·5	J H
Dec. 6. 0. 0	246. 42. 30	0·021919	52·2	0·008060	51·6	J H
1. 50	41. 43	021513		007561		
2. 0	42. 16	021332	54·8	007510	54·0	
2. 10	42. 34	021653		007486		J H
4. 0	42. 30	021265	54·7	007189	54·2	D
6. 0	44. 51	021775	55·8	006992	55·0	
8. 0	45. 31	021635	57·0	006539	56·0	
10. 0	50. 55	020313	56·5	006732	55·8	D
12. 0	47. 6	021675	53·6	007137	52·5	J H
14. 0	41. 26	022339	50·4	007580	50·3	
16. 0	44. 15	023675	48·4	008352	48·3	
18. 0	41. 25	024303	46·8	009058	46·6	
20. 0	45. 33	024003	46·0	009534	45·8	J H
22. 0	45. 34	023519	47·2	009501	47·0	D
Dec. 7. 0. 0	246. 45. 6	0·022742	48·5	0·009529	48·0	D
1. 50	42. 36	022893		009025		
2. 0	42. 35	022874	50·2	008917	49·0	
2. 10	42. 38	022966		008894		D
4. 0	44. 15	022045	51·6	008446	51·0	J H
6. 0	45. 17	022900	51·2	008211	51·0	
8. 0	45. 34	023284	51·0	008197	50·6	
10. 0	45. 45	023302	51·0	008164	50·7	J H
12. 0	46. 16	022667	52·0	008244	51·5	G
14. 0	43. 32	022339	53·0	007434	54·0	
16. 0	45. 20	021051	56·0	006855	54·5	
18. 0	47. 24	022096	56·0	006619	54·5	
20. 0	46. 16	023298	56·5	006181	55·0	G
22. 0	45. 23	023181	55·5	006234	54·8	D
Dec. 8. 0. 0	246. 42. 26	0·022147	55·2	0·006352	54·5	D
1. 50	40. 54	021110		006741		
2. 0	39. 18	021040	56·0	006704	55·0	
2. 10	39. 52	020941		006666		D
4. 0	50. 43	017228	55·5	008612	54·5	G
6. 0	39. 52	017070	56·0	008437	55·0	
8. 0	48. 56	018155	55·5	007966	54·5	
10. 0	52. 59	019838	55·0	007552	54·0	G
12. 0	47. 31	020845	53·8	007057	53·5	D

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°	
Dec. 8. 14. 0	246. 42. 19	0·021848	52·0	0·007387	52·0	D
16. 0	43. 35	022313	51·0	007731	51·0	
18. 0	44. 46	022539	49·0	008126	49·8	
20. 0	44. 9	022959	49·0	008549	49·0	D
22. 0	44. 47	022472	47·7	009114	47·5	J H
Dec. 9. 0. 0	246. 44. 32	0·023155	47·0	0·009426	47·0	J H
1. 50	42. 35	022959		009464		
2. 0	43. 18	022738	47·0	009444	47·3	
2. 10	43. 17	022313		009416		J H
4. 0	41. 51	022229	48·0	009576	47·5	D
6. 0	10. 28	022078	48·0	009426	47·5	
8. 0	43. 30	022140	48·0	009585	47·5	
10. 0	47. 11	022660	47·3	009741	46·8	D
12. 0	46. 51	022512	47·6	009647	47·0	J H
14. 0	46. 11	023022	47·4	009557	47·0	
16. 0	45. 28	022959	48·2	009322	48·0	
18. 0	45. 26	023177	49·0	008903	49·0	
20. 0	45. 59	022490	49·6	008583	49·6	J H
22. 0	45. 47	022284	51·2	008097	51·0	D
Dec. 10. 0. 0	246. 40. 45	0·022125	53·5	0·007702	53·0	D
1. 50	39. 14	019064		007438		
2. 0	39. 22	019029	54·8	007415	54·0	
2. 10	38. 23	019512		007411		D
4. 0	42. 26	021668	54·0	007245	53·5	J H
6. 0	46. 4	022199	53·2	007344	53·0	
8. 0	45. 29	022030	51·6	007707	51·6	
10. 0	47. 37	021690	49·7	008437	49·4	J H
12. 0	46. 34	023037	50·0	008790	49·5	G
14. 0	46. 19	022240	49·6	009020	49·0	
16. 0	45. 32	022328	50·0	008955	49·0	
18. 0	45. 35	022361	48·0	008973	47·0	
20. 0	46. 17	023387	47·5	009255	46·5	G
22. 0	46. 6	022709	47·0	009501	46·5	D
Dec. 11. 0. 0	246. 43. 5	0·022405	47·8	0·009482	47·0	D
1. 50	41. 40	022933		009402		
2. 0	41. 42	022841	48·3	009402	47·5	
2. 10	41. 42	022822		009350		D
4. 0	43. 56	022944	49·5	008973	49·0	G
6. 0	45. 28	022756	50·0	008753	49·0	
8. 0	45. 18	022472	50·0	008640	49·0	
10. 0	45. 8	023365	49·0	008908	48·0	G
12. 0	45. 19	022926	48·3	009255	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°. 51′. 55″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 232°; Dec. $6^d.0^h$, 256°.
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, $27^s.5$.

Dec. $8^d.4^h$. The magnets were unsteady: see the section of Extraordinary Observations.
Dec. $10^d.8^h$. The horizontal force magnetometer had a strange jerking motion.

Daily Observations from December 12 to 18.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°	
Dec. 12. 14. 0	246. 44. 42	0·024014	50·3	0·008188	50·0	D
16. 0	45. 18	023070	51·5	008046	51·5	
18. 0	45. 56	022815	53·2	007608	53·0	
20. 0	45. 40	022590	54·3	007222	54·0	D
22. 0	45. 3	023295	53·3	007001	53·0	J H
Dec. 13. 0. 0	246. 49. 0	0·022568	53·3	0·007213	53·0	J H
1. 50	47. 34	022815		007180		
2. 0	47. 49	022534	53·2	007147	53·0	
2. 10	47. 32	022642		007189		J H
4. 0	47. 50	022590	54·8	006902	54·5	D
6. 0	47. 7	021945	54·8	006963	54·5	
8. 0	47. 30	022210	53·5	007208	53·1	
10. 0	52. 7	023011	50·5	007937	50·5	D
12. 0	52. 21	023225	49·0	008418	49·0	J H
14. 0	50. 38	023929	48·2	008729	47·8	
16. 0	50. 21	024708	47·8	008988	47·6	
18. 0	50. 8	022952	47·7	009016	47·2	
20. 0	48. 28	022667	47·4	008903	47·0	J H
22. 0	50. 3	024214	47·7	008823	47·2	D
Dec. 14. 0. 0	246. 47. 24	0·024144	48·0	0·009011	47·5	D
1. 50	46. 13	023933		009538		
2. 0	46. 58	024051	48·0	009058	47·5	
2. 10	46. 42	024262		009058		D
4. 0	46. 17	024546	47·2	009308	46·3	J H
6. 0	42. 38	023501	45·3	010028	45·0	
8. 0	246. 52. 0	023276	44·2	011437	44·5	
10. 0	247. 1. 3	020645	44·0	011808	43·8	J H
12. 0	246. 53. 42	026243	43·0	009859	42·0	G
14. 0	44. 38	022302	43·0	010617	42·0	
16. 0	45. 44	022698	43·0	010871	42·0	
18. 0	48. 3	023159	42·5	011191	41·5	
20. 0	49. 51	023911	41·5	011511	41·0	G
22. 0	49. 8	023657	42·0	011412	41·5	D
Dec. 15. 0. 0	246. 47. 29	0·022723	43·5	0·011233	42·5	D
1. 50	47. 17	022638		010617		
2. 0	47. 27	022709	46·5	010442	46·0	
2. 10	47. 27	022712		010456		D
4. 0	48. 26	022848	48·0	009915	47·2	J H
6. 0	48. 45	022678	49·3	009341	48·8	D
8. 0	49. 14	022590	49·5	008894	49·0	G
10. 0	49. 46	022195	52·0	008470	51·0	G
12. 0	48. 46	021834	52·0	007984	51·5	D
Dec. 15. 14. 0	246. 49. 47	0·021775	52·0	0·007984	51·5	D
16. 0	50. 21	022487	50·8	008202	50·5	
18. 0	50. 15	022922	49·5	008649	49·0	
20. 0	49. 56	022390	49·0	008809	48·5	D
22. 0	48. 23	023059	48·2	008903	47·4	J H
Dec. 16. 0. 0	246. 49. 25	0·021934	48·6	0·009147	48·0	J H
1. 50	47. 47	022583		008753		
2. 0	46. 14	022601	50·0	008753	50·0	
2. 10	46. 8	022516		008767		J H
4. 0	50. 19	021897	51·0	008861	51·0	D
6. 0	48. 4	021779	50·0	008814	50·0	
8. 0	53. 27	020827	50·7	008922	50·3	
10. 0	52. 0	024959	48·7	008776	48·3	D
12. 0	52. 29	021483	48·3	008959	47·8	J H
14. 0	53. 54	022202	46·2	009369	46·0	
16. 0	51. 2	023376	44·2	010038	44·0	
18. 0	50. 26	024270	43·0	010631	42·6	
20. 0	50. 17	024461	41·7	011149	41·4	J H
22. 0	50. 11	023819	42·0	011365	41·5	D
Dec. 17. 0. 0	246. 45. 56	0·023516	42·5	0·011177	42·5	D
1. 50	47. 13	021431		010908		
2. 0	46. 59	022405	44·0	010922	44·0	
2. 10	46. 49	022900		010989		D
4. 0	49. 39	024162	45·2	010753	45·0	J H
6. 0	48. 59	024188	43·5	010786	43·5	
8. 0	55. 2	022435	43·0	011299	43·0	
10. 0	246. 55. 50	022897	41·2	011628	41·0	J H
12. 0	247. 0. 42	026362	40·2	011130	40·0	P
14. 0	246. 51. 38	024310	38·5	011930	38·0	
16. 0	49. 49	025000	38·2	012401	37·6	
18. 0	50. 0	025674	37·0	012730	36·0	
20. 0	45. 32	025339	36·0	013201	35·2	P
22. 0	50. 12	024870	35·6	013367	35·0	D
Dec. 18. 0. 0	246. 47. 29	0·024623	35·8	0·013367	35·0	D
1. 50	46. 37	023801		012721		
2. 0	46. 42	023605	39·0	012645	38·0	
2. 10	46. 27	023568		012495		
4. 0	47. 50	024040	43·0	011271	43·0	P
6. 0	49. 58	024017	42·0	011130	42·0	
8. 0	48. 20	024535	40·2	011459	40·2	
10. 0	53. 30	023995	39·5	011977	39·5	P
12. 0	49. 1	024520	38·5	012213	38·0	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°. 51′. 55″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 256°; Dec. $13^d.0^h$, 265°.
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, $27^s.5$.

Dec. 14^d, 16^d, and 17^d. See the section of Extraordinary Observations.

Dec. $16^d.8^h$. A considerable change in the intensity of the horizontal force, between the preceding observation and this: see the section of Extraordinary Observations.

Daily Observations from December 19 to 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.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°	
Dec. 19. 14. 0	246. 52. 1	0·023664	33·0	0·012038	32·5	D
16. 0	46. 48	023627	34·2	011977	33·8	
18. 0	48. 6	024560	36·5	011874	36·0	
20. 0	45. 58	023225	39·8	011233	38·8	D
22. 0	50. 7	023816	40·0	011370	39·0	J H
Dec. 20. 0. 0	246. 30. 49	0·022092	41·4	0·010584	41·0	J H
1. 50	31. 23	022745		010202		
2. 0	31. 2	023192	42·8	010244	42·0	
2. 10	31. 23	023240		010169		J H
4. 0	32. 48	023860	43·0	009939	42·2	D
6. 0	34. 22	024546	42·0	010132	41·2	
8. 0	36. 49	023439	42·2	010329	41·5	
10. 0	39. 2	023863	42·0	010306	41·5	D
12. 0	37. 49	024483	39·6	010367	39·0	J H
14. 0	33. 34	024494	38·6	010673	38·3	
16. 0	36. 11	024645	38·4	010626	38·0	
18. 0	35. 2	025321	38·6	010899	38·6	
20. 0	35. 0	025306	38·0	010885	38·0	J H
22. 0	35. 11	024206	39·5	010966	39·0	P
Dec. 21. 0. 0	246. 32. 0	0·024126	39·4	0·010894	39·0	P
1. 50	31. 53	024431		010659		
2. 0	31. 57	024259	40·2	010659	40·0	
2. 10	32. 8	024314		010631		P
4. 0	34. 22	024424	41·6	010108	41·6	J H
6. 0	34. 55	024867	40·3	010221	40·0	
8. 0	35. 17	025111	39·5	010607	39·0	
10. 0	36. 14	025140	38·8	010842	38·0	J H
12. 0	35. 11	024907	38·0	011036	37·5	P
14. 0	35. 15	025103	38·5	011036	38·0	
16. 0	34. 46	025432	38·5	010730	38·0	
18. 0	35. 15	025793	38·5	010942	38·5	
20. 0	34. 48	025556	38·0	011036	37·5	P
22. 0	34. 44	025284	38·0	011196	37·2	J H
Dec. 22. 0. 0	246. 32. 47	0·024956	39·8	0·010894	39·0	J H
1. 50	32. 54	024896		010315		
2. 0	32. 47	024959	42·0	010254	41·3	
2. 10	32. 35	024837		010179		J H
4. 0	33. 46	024427	44·0	009614	43·0	P
6. 0	31. 0	024458	42·0	009699	41·0	
8. 0	37. 31	024516	43·0	009953	42·0	P
10. 0	40. 5	023738	43·0	010207	42·0	G
12. 0	34. 35	023690	44·0	009897	43·0	

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°	
Dec. 22. 14. 0	246. 36. 40	0·022844	46·5	0·009163	45·2	D
16. 0	35. 4	023077	47·3	008239	46·4	J H
18. 0	35. 44	023358	48·0	007890	47·2	P
20. 0	30. 41	022229	47·8	007717	47·0	M
22. 0	34. 35	022649	48·0	007825	47·0	G
Dec. 23. 0. 0	246. 31. 50	0·022129	48·5	0·007693	48·0	P
1. 50	33. 1	023110		007571		J H
2. 0	33. 49	022988	49·0	007524	48·0	
2. 10	34. 3	023174		007529		J H
4. 0	34. 53	023059	48·7	007434	48·5	D
6. 0	35. 2	022620	51·0	007043	50·0	G
8. 0	35. 4	022782	51·6	006610	51·0	P
10. 0	37. 47	022767	51·3	006431	50·8	J H
12. 0	38. 41	023159	50·0	006694	49·5	D
14. 0	36. 59	024310	47·8	006774	47·5	
16. 0	36. 43	025033	46·5	007354	46·0	
18. 0	35. 15	025058	45·0	007858	44·8	
20. 0	35. 14	024778	44·0	008470	43·5	D
22. 0	35. 4	024066	44·0	008649	43·8	J H
Dec. 24. 0. 0	246. 31. 21	0·023734	45·6	0·008365	45·0	J H
1. 50	28. 52	022229		007843		
2. 0	30. 31	020671	47·8	007759	47·0	
2. 10	30. 58	022078		007721		J H
4. 0	31. 39	023951	49·0	007543	48·5	D
6. 0	34. 26	022085	49·5	007514	49·0	
8. 0	35. 35	022634	51·8	006774	51·2	
10. 0	38. 3	022461	51·7	006200	51·3	D
12. 0	34. 11	022598	52·0	005513	51·4	J H
14. 0						
16. 0						
18. 0						
20. 0						
22. 0						
Dec. 25. 0. 0						
1. 50						
2. 0						
2. 10						
4. 0						
6. 0						
8. 0						
10. 0						
12. 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°. 51′. 55″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 265°; Dec. $20^d.0^h$, 220°; Dec. $22^d.0^h$, 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, $27^s.5$.

Dec. $20^d.0^h$. The theodolite reading differs by 20′ from the preceding observation: between the observations the torsion-circle reading was altered by 45°.

Dec. 22^d. See the section of Extraordinary Observations.

Dec. 25. Christmas-day: no observations were taken.

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.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°	
Dec. 26. 14. 0	246. 31. 45	0·025118	36·0	0·011031	35·4	J H
16. 0	37. 47	025402	36·3	011177	35·7	
18. 0	36. 10	026140	36·7	011186	36·0	
20. 0	35. 59	025904	36·6	011135	36·0	J H
22. 0	35. 11	024841	37·0	010989	36·5	D
Dec. 27. 0. 0	246. 31. 43	0·024848	39·0	0·010697	38·5	D
1. 50	31. 55	025225		010485		
2. 0	31. 43	024826	40·0	010527	39·5	
2. 10	32. 11	024612		010497		D
4. 0	34. 17	024413	41·0	010273	40·2	J H
6. 0	34. 29	025229	40·5	010136	39·7	
8. 0	34. 59	025107	40·2	010146	39·6	
10. 0	36. 23	025472	39·7	010263	39·0	J H
12. 0	34. 36	024922	40·0	010423	38·0	G
14. 0	34. 54	024281	42·0	009765	40·0	
16. 0	34. 48	024244	42·0	009129	40·0	
18. 0	35. 38	024266	45·1	008640	42·0	
20. 0	35. 17	024155	46·0	008404	43·0	G
22. 0	35. 25	024177	45·0	008305	44·2	D
Dec. 28. 0. 0	246. 33. 6	0·023805	45·0	0·008329	44·8	D
1. 50	31. 44	023778		007849		
2. 0	32. 3	023650	48·6	007886	47·8	
2. 10	32. 9	023694		007867		D
4. 0	34. 20	023490	49·0	007411	48·2	G
6. 0	37. 23	022277	50·0	006996	48·5	
8. 0	35. 0	023479	50·0	006822	49·0	
10. 0	36. 6	023490	49·0	006940	48·0	G
12. 0	36. 29	023889	48·5	007099	48·0	D
14. 0	35. 19	024092	47·2	007325	47·0	
16. 0	35. 26	023697	47·2	007377	47·0	
18. 0	36. 10	024424	47·0	007401	47·0	
20. 0	36. 23	024055	47·0	007377	47·0	D
22. 0	35. 33	024006	47·6	007264	47·0	J H
Dec. 29. 0. 0	246. 32. 48	0·023966	46·6	0·007307	46·3	J H
1. 50	32. 55	023966		007438		
2. 0	33. 0	023856	46·6	007434	46·3	
2. 10	33. 33	023992		007486		J H
4. 0	34. 42	023653	47·5	007463	47·0	D
6. 0	35. 45	023970	48·0	007340	47·5	
8. 0	36. 24	023970	48·0	007184	47·5	
10. 0	36. 43	023697	49·4	006879	49·0	D
12. 0	36. 25	023834	49·0	006662	48·6	J H

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Hor. Force.	Thermometer of Horizontal Force.	Vertical Force Reading in parts of the whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m	° ′ ″		°		°	
Dec. 29. 14. 0	246. 35. 31	0·024270	47·6	0·006860	47·4	J H
16. 0	35. 43	024604	46·8	007161	46·6	
18. 0	36. 30	025815	46·0	007354	46·0	
20. 0	35. 59	026535	45·5	007391	45·2	J H
22. 0	35. 48	025080	45·5	007576	45·2	D
Dec. 30. 0. 0	246. 34. 51	0·025196	46·3	0·007561	46·0	D
1. 50	27. 57	022598		007514		
2. 0	27. 59	022224	47·8	007434	47·5	
2. 10	26. 55	021915		007533		D
4. 0	31. 50	024044	47·0	007895	47·0	J H
6. 0	31. 48	019180	46·4	009482	46·0	
8. 0	45. 8	020783	46·4	010080	46·0	
10. 0	44. 32	021077	46·4	008027	46·2	J H
12. 0	50. 44	022900	45·5	007561	45·0	G
14. 0	35. 45	021834	45·0	007928	44·0	
16. 0	32. 19	022258	46·0	008074	44·5	
18. 0	32. 45	023468	45·0	008169	44·0	
20. 0	31. 33	023122	44·0	008588	43·0	G
22. 0	29. 49	024155	43·0	008973	43·0	D
Dec. 31. 0. 0	246. 34. 15	0·023358	43·0	0·009459	43·0	D
1. 50	32. 41	023306		009237		
2. 0	32. 27	023497	43·0	009237	43·0	
2. 10	32. 41	023530		009237		D
4. 0	35. 20	023683	46·0	008710	45·0	G
6. 0	36. 37	021904	45·0	008644	44·0	
8. 0	36. 21	023037	45·0	008564	44·0	
10. 0	35. 9	025003	44·0	008314	43·0	G
12. 0	34. 27	025667	44·8	008078	44·2	D
14. 0	34. 59	023384	44·2	008612	43·8	
16. 0	35. 54	024867	43·2	008767	42·8	
18. 0	34. 4	025487	41·6	009199	41·0	
20. 0	33. 23	025277	42·0	009178	41·5	D
22. 0	30. 16	023623	41·0	009208	40·8	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′. 55″.
Reading of Torsion-Circle for Brass Bar resting in Magnetic Meridian, 210°; Dec. $27^d.0^h$, 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, $27^s.5$.

Dec. 30^d. See the section of Extraordinary Observations.

ROYAL OBSERVATORY, GREENWICH.

TERM-DAY OBSERVATIONS

OF

MAGNETOMETERS.

1840 and 1841.

Term-Day Observations of November 27 and 28, 1840.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Observers.
d h m	° ′ ″		d h m	° ′ ″		d h m	° ′ ″		d h m	° ′ ″	
Nov. 27. 10. 0	246. 32. 26	G	Nov. 27. 14. 0	246. 28. 22	D	Nov. 27. 18. 0	246. 28. 4	W R	Nov. 27. 22. 0	246. 29·28	E
5	32. 30		5	27. 56		5	28. 18		5	29. 7	
10	32. 34		10	28. 3		10	28. 12		10	29. 19	
15	32. 33		15	27. 59		15	28. 32		15	28. 56	
20	32. 41		20	27. 51		20	28. 50		20	28. 21	
25	32. 34		25	27. 51		25	28. 58		25	28. 8	
30	32. 7		30	27. 49		30	29. 7		30	27. 33	
35	31. 41		35	27. 45		35	29. 9		35	26. 45	
40	31. 51		40	27. 45		40	28. 56		40	25. 47	
45	31. 15		45	27. 50		45	28. 50		45	25. 22	
50	30. 27		50	27. 48		50	28. 39		50	25. 58	
55	30. 23		55	28. 3		55	29. 1		55	26. 16	
Nov. 27. 11. 0	246. 30. 18	G	Nov. 27. 15. 0	246. 28. 10	D	Nov. 27. 19. 0	246. 29. 15	W R	Nov. 27. 23. 0	246. 25. 30	E
5	29. 26		5	27. 56		5	29. 17		5	25. 35	
10	29. 30		10	28. 6	D	10	29. 13		10	25. 34	
15	30. 15		15	27. 47	J H	15	29. 9		15	25. 10	
20	31. 37		20	27. 34		20	29. 27		20	24. 51	
25	31. 40		25	27. 41		25	28. 50		25	24. 41	
30	31. 21		30	27. 47		30	28. 35	W R	30	24. 11	
35	31. 24		35	27. 39		35	28. 38	R	35	24. 40	
40	31. 14		40	28. 2		40	29. 3		40	25. 20	
45	31. 22		45	27. 44		45	28. 59		45	24. 59	
50	31. 39		50	27. 45		50	29. 0		50	25. 13	
55	31. 45		55	27. 44		55	29. 7		55	25. 36	E
Nov. 27. 12. 0	246. 31. 31	G	Nov. 27. 16. 0	246. 27. 28	J H	Nov. 27. 20. 0	246. 29. 17	R	Nov. 28. 0. 0	246. 25. 16	H
5	30. 32		5	27. 48		5	29. 35		5	24. 59	
10	30. 19		10	28. 5		10	29. 18		10	25. 14	
15	29. 42		15	29. 10		15	29. 58		15	25. 34	
20	29. 26		20	29. 30		20	28. 44		20	25. 31	
25	29. 49		25	30. 1		25	29. 3		25	25. 48	
30	29. 16		30	29. 44		30	28. 34		30	24. 57	
35	29. 0		35	29. 26		35	28. 54		35	23. 22	
40	28. 49	G	40	29. 14		40	29. 18		40	21. 59	
45	29. 5	D	45	28. 26		45	29. 7		45	21. 5	
50	29. 5		50	28. 5		50	29. 6		50	20. 39	
55	29. 5		55	28. 37		55	29. 31		55	22. 34	
Nov. 27. 13. 0	246. 28. 54	D	Nov. 27. 17. 0	246. 28. 52	J H	Nov. 27. 21. 0	246. 29. 26	R	Nov. 28. 1. 0	246. 23. 46	H
5	28. 41		5	28. 24		5	29. 22		5	24. 30	
10	28. 19		10	27. 54		10	29. 34		10	24. 43	
15	27. 48		15	27. 48		15	29. 27		15	24. 39	
20	27. 34		20	27. 34		20	29. 47		20	24. 26	
25	27. 31		25	27. 29		25	29. 41		25	24. 51	
30	27. 26		30	27. 21		30	28. 36	R	30	25. 8	H
35	27. 15		35	27. 11		35	27. 54	E	35	25. 21	M
40	27. 5		40	27. 13		40	28. 52		40	25. 34	
45	27. 8		45	27. 38	J H	45	28. 50		45	25. 39	
50	27. 23		50	27. 56	W R	50	29. 44		50	25. 32	
55	27. 42		55	28. 6		55	29. 54		55	25. 6	

Theodolite reading for Astronomical Meridian, 269°. 51′. 42″.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 182°.

Term-Day Observations of November 28, 1840, and January 20, 1841.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Horizontal Force.	Thermometer of Horizontal Force Magnetometer.	Observers.
d h m	° ′ ″		d h m	° ′ ″		d h m	° ′ ″		°	
Nov. 28. 2. 0	246. 25. 16	M	Nov. 28. 6. 0	246. 27. 40	D	January 20. 10. 0	246. 50. 32	0·023542	40·0	G
5	24. 32		5	26. 53		5	51. 3			
10	22. 43		10	25. 53		10	46. 41	024017		
15	22. 6		15	26. 9		15	43. 24			
20	22. 30		20	27. 23		20	43. 46	022354		
25	22. 3		25	28. 12		25	44. 13			
30	21. 51		30	30. 10		30	43. 20	022365		
35	22. 18		35	31. 33		35	43. 28			
40	21. 57		40	33. 41		40	43. 25	022118		
45	21. 49		45	35. 53		45	43. 2			
50	21. 35		50	36. 0		50	42. 13	021930		
55	21. 23		55	35. 10		55	42. 24			
Nov. 28. 3. 0	246. 21. 53	M	Nov. 28. 7. 0	246. 34. 27	D	January 20. 11. 0	246. 41. 37	0·022210	43·0	G
5	20. 20		5	33. 30		5	41. 36			
10	19. 45		10	32. 16		10	41. 34	022133		
15	18. 41		15	31. 24		15	41. 18			
20	18. 48		20	30. 59		20	41. 14	021693		
25	18. 56		25	30. 44		25	41. 24			
30	20. 14		30	30. 19		30	41. 27	021748		
35	20. 34		35	30. 5		35	41. 43			
40	20. 43	M	40	29. 30		40	41. 39	021591		
45	20. 51	G	45	29. 55		45	42. 11			
50	21. 17		50	29. 18		50	42. 9	021516		
55	21. 48		55	30. 28		55	42. 20			
Nov. 28. 4. 0	246. 23. 12	G	Nov. 28. 8. 0	246. 31. 59	D	January 20. 12. 0	246. 42. 22	0·021405	43·5	G
5	23. 57		5	32. 34		5	42. 9			
10	23. 37		10	33. 31		10	42. 2	021531		
15	24. 0		15	33. 59		15	41. 47			
20	24. 11		20	34. 4		20	41. 34	021642		
25	24. 20		25	33. 27	D	25	41. 3			
30	24. 47		30	33. 24	JH	30	40. 24	021188		
35	25. 24		35	33. 59		35	41. 34			
40	24. 21		40	34. 29		40	41. 37	021283		
45	24. 31		45	35. 35		45	41. 41			
50	24. 35		50	37. 52		50	41. 53	021671		
55	25. 14		55	39. 28		55	41. 39			
Nov. 28. 5. 0	246. 25. 42	G	Nov. 28. 9. 0	246. 38. 30	JH	January 20. 13. 0	246. 41. 33	0·021159	44·5	G
5	25. 58		5	37. 13		5	41. 48			G
10	25. 55		10	37. 6		10	41. 41	020996		D
15	27. 4		15	36. 9		15	41. 39			
20	27. 5		20	34. 52		20	40. 49	021321		
25	27. 39		25	33. 58		25	40. 15			
30	27. 36		30	32. 42		30	39. 32	021305		
35	27. 43		35	31. 12		35	39. 42			
40	28. 13		40	29. 0		40	39. 34	021974		
45	28. 25		45	27. 51		45	39. 43			
50	28. 1		50	28. 25		50	40. 26	021726		
55	27. 33		55	30. 10		55	41. 16			

The time of observation of the Horizontal Force Magnetometer is $2^m.30^s$ after the time of observation of the Declination Magnetometer.

*Theodolite reading for Astronomical Meridian; Nov. 28, 269°. 51′. 42″; Jan. 20, 269°. 52′. 30″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian; Nov. 28, 182°; Jan. 20, 246°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 313°. 56′. Reading for Brass Bar in the same position, 354°. 59′.
Time of Vibration of Horizontal Force Magnetometer, $21^s.5$.

Term-Day Observations of January 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.	Observers.
d h m	° ′ ″		°	
Jan. 20. 14. 0	246. 41. 40	0·021594	46·0	D
5	42. 15			
10	42. 15	021449		
15	42. 22			
20	42. 5	021771		
25	42. 12			
30	42. 0	021830		
35	41. 40			
40	41. 17	021524		
45	40. 58			
50	40. 20	021431		
55	39. 27			
Jan. 20. 15. 0	246. 39. 5	0·022273	46·0	D
5	38. 33			
10	37. 7	022981		
15	36. 52			
20	37. 56	022885		
25	39. 11			
30	40. 20	022678		
35	40. 2			D
40	39. 49	022716		R
45	39. 54			
50	39. 11	022848		
55	39. 4			
Jan. 20. 16. 0	246. 39. 27	0·022561	45·0	R
5	40. 0			
10	39. 57	022534		
15	39. 39			
20	40. 21	022620		
25	40. 13			
30	40. 14	022689		
35	40. 9			
40	40. 1	022930		
45	39. 57			
50	39. 13	022900		
55	39. 49			
Jan. 20. 17. 0	246. 39. 25	0·022911	43·7	R
5	39. 20			
10	39. 53	023247		
15	39. 36			
20	39. 51	023461		
25	39. 1			
30	38. 59	023424		
35	39. 43			R
40	39. 44	023148		W R
45	39. 40			
50	39. 13	023265		
55	39. 15			

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.	Observers.
d h m	° ′ ″		°	
Jan. 20. 18. 0	246. 39. 3	0·023373	43·0	W R
5	39. 16			
10	39. 21	023464		
15	39. 31			
20	40. 2	023579		
25	39. 35			
30	39. 41	023254		
35	39. 45			
40	39. 46	023564		
45	38. 56			
50	39. 29	023119		
55	40. 15			
Jan. 20. 19. 0	246. 40. 8	0·023623	41·7	W R
5	40. 21			
10	39. 58	023634		
15	40. 28			
20	40. 22	023929		
25	40. 23			
30	40. 38	023951		
35	40. 13			
40	40. 39	024010		
45	40. 46			W R
50	40. 48	024059		M
55	40. 42			
Jan. 20. 20. 0	246. 40. 50	0·023627	42·0	M
5	40. 49			
10	40. 28	023856		
15	40. 44			
20	40. 24	024029		
25	39. 48			
30	39. 40	024925		
35	40. 7			
40	39. 56	025653		
45	40. 33			
50	40. 35	025572		
55	41. 31			
Jan. 20. 21. 0	246. 40. 24	0·025328	40·7	M
5	40. 59			
10	39. 39	025233		
15	40. 3			
20	40. 8	025313		
25	39. 43			M
30	42. 11	025085		J H
35	42. 15			
40	41. 32	025487		
45	41. 17			
50	40. 41	025520		
55	41. 8			

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.	Observers.
d h m	° ′ ″		°	
Jan. 20. 22. 0	246. 40. 10	0·025355	39·8	J H
5	40. 19			
10	40. 10	025225		
15	39. 42			
20	39. 22	025166		
25	39. 11			
30	38. 57	025391		
35	38. 26			
40	38. 16	025133		J H
45	38. 16			G
50	38. 25	024970		
55	38. 31			
Jan. 20. 23. 0	246. 38. 39	0·024892	40·0	G
5	38. 32			
10	38. 33	024896		
15	38. 25			
20	38. 26	024708		
25	37. 54			
30	38. 3	024619		
35	37. 46			G
40	37. 44	024856		D
45	37. 9			
50	37. 2	024663		
55	37. 5			
Jan. 21. 0. 0	246. 36. 56	0·024472	42·0	D
5	36. 50			
10	36. 49	024303		
15	36. 39			
20	36. 23	023977		D
25	36. 3			J H
30	36. 7	024237		
35	36. 3			
40	35. 53	024372		
45	35. 28			
50	35. 14	024103		
55	35. 30			
Jan. 21. 1. 0	246. 35. 15	0·024701	43·0	J H
5	35. 2			D
10	34. 49	024409		
15	34. 48			
20	34. 40	024535		
25	34. 31			
30	34. 3	025055		
35	34. 5	〃		
40	34. 25	024830		
45	34. 23			
50	34. 45	024450		
55	34. 23			

The time of observation of the Horizontal Force Magnetometer is 2m. 30s after the time of observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian, 269°. 52′. 30″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 246°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 313°. 56′. Reading for Brass Bar in the same position, 354°. 59′.
Time of Vibration of Horizontal Force Magnetometer, 21s·5.

Term-Day Observations of January 21 and 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.	Observers.	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.	Observers.	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.	Observers.
d h m	° ′ ″		°		d h m	° ′ ″		°		d h m	° ′ ″		°	
Jan. 21. 2. 0	246. 34. 59	0·024450	43·3	J H	Jan. 21. 6. 0	246. 35. 30	0·023074	47·5	G	Feb. 26. 10. 0	246. 30. 29	0·025066	51·0	G
5	34. 58				5	35. 48				5	34. 39			
10	34. 15	024369			10	35. 36	023376			10	36. 18	025258		
15	34. 46				15	35. 40				15	37. 19			
20	34. 7	024704			20	35. 43	023141			20	39. 12	025700		
25	33. 43				25	36. 9				25	38. 35			
30	33. 2	024819			30	36. 40	022915			30	37. 57	025988		
35	32. 59			J H	35	36. 55				35	36. 48			
40	32. 58	024763		D	40	36. 36	022888			40	37. 4	025044		
45	33. 19				45	36. 24				45	38. 2			
50	33. 18	024693			50	35. 10	023519			50	38. 34	025380		
55	33. 42				55	34. 11				55	37. 19			
Jan. 21. 3. 0	246. 34. 1	0·024970	45·0	D	Jan. 21. 7. 0	246. 33. 0	0·023616	47·5	G	Feb. 26. 11. 0	246. 36. 33	0·024402	52·0	G
5	34. 20				5	31. 30				5	36. 34			
10	34. 48	025125			10	28. 52	022789			10	36. 56	023170		
15	34. 53				15	30. 15			G	15	37. 4			
20	35. 9	024759			20	31. 46	023483		J H	20	36. 58	023313		
25	35. 33				25	31. 1				25	36. 48			
30	35. 56	024433			30	30. 53	023166			30	36. 2	022767		
35	36. 11				35	29. 57				35	34. 58			
40	36. 35	024099			40	30. 37	023212			40	35. 33	021535		G
45	36. 44				45	30. 41				45	37. 4			W R
50	36. 42	023774			50	31. 38	023561			50	36. 3	022671		
55	37. 2				55	31. 29				55	33. 54			
Jan. 21. 4. 0	246. 37. 15	0·023575	45·5	D	Jan. 21. 8. 0	246. 30. 44	0·023218	48·0	J H	Feb. 26. 12. 0	246. 35. 36	0·025505	52·0	W R
5	37. 16				5	32. 21				5	35. 28			
10	36. 55	023767			10	32. 35	023130			10	35. 15	023232		
15	37. 8				15	33. 41				15	35. 40			
20	37. 11	023808			20	33. 58	023387			20	35. 33	022959		
25	36. 58				25	35. 3				25	36. 12			
30	37. 0	023771			30	35. 37	022908			30	37. 8	023130		
35	37. 7			D	35	36. 8				35	37. 27			
40	37. 7	023767		G	40	39. 24	021265			40	36. 45	026509		
45	37. 7				45	48. 6				45	32. 52			
50	36. 59	023955			50	54. 47	021690			50	31. 53			
55	36. 50				55	59. 14				55	30. 18			
Jan. 21. 5. 0	246. 36. 15	0·023951	47·0	G	Jan. 21. 9. 0	246. 57. 46	0·024328	47·5	J H	Feb. 26. 13. 0	246. 28. 37	0·025675	51·2	W R
5	36. 8				5	51. 31				5	27. 33			
10	35. 43	023805			10	46. 2	023453			10	28. 39	023896		
15	35. 46				15	43. 15				15	31. 2			
20	35. 51	024033			20	41. 21	022368			20	33. 51	023461		
25	35. 39				25	39. 42				25	36. 48			
30	35. 20	023701			30	40. 29	021195			30	40. 9	023512		
35	35. 30				35	38. 55				35	42. 17			W R
40	35. 16	023287			40	39. 28	021734			40	43. 27	024681		J H
45	35. 2				45	40. 19				45	43. 25			
50	35. 11	023185			50	41. 16	022067			50	40. 40	025631		
55	34. 49				55	41. 23				55	38. 6			

The time of observation of the Horizontal Force Magnetometer is $2^m.30^s$ after the time of observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian; Jan. 21, 269°. 52′. 30″; Feb. 26, 269°. 52′. 27″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian; Jan. 21, 246°; Feb. 26, 218°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 313°. 56′. Reading for Brass Bar in the same position, 354°. 59′.
Time of Vibration of Horizontal Force Magnetometer, $21^s.5$.

The Observer at $12^h.50^m.0^s$ was hurried: hence the cause of the omission of the observation at $12^h.52^m.30^s$.

Term-Day Observations of February 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.	Observers.	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.	Observers.	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.	Observers.
d h m	° ′ ″		°		d h m	° ′ ″		°		d h m	° ′ ″		°	
Feb. 26. 14. 0	246. 37. 16	0·024734	50·8	J H	Feb. 26. 18. 0	246. 31. 7	0·025490	49·0	M	Feb. 26. 22. 0	246. 26. 58	0·025601	47·0	G
5	37. 48				5	30. 14				5	26. 45			
10	38. 12	024745			10	30. 57	025775			10	26. 50	025737		
15	38. 46				15	30. 38				15	26. 39			
20	38. 54	024383			20	30. 42	025476			20	27. 5	025711		
25	39. 32				25	31. 33				25	26. 58			G
30	40. 53	024527			30	31. 20	025889			30	26. 34	025284		J H
35	41. 13				35	31. 9				35	26. 32			
40	41. 23	024542			40	30. 54	025992			40	27. 0	025055		
45	41. 30				45	30. 12				45	27. 11			
50	41. 21	024663			50	29. 59	025877			50	27. 11	025051		
55	40. 18				55	29. 51				55	27. 47			
Feb. 26. 15. 0	246. 39. 41	0·024461	50·3	J H	Feb. 26. 19. 0	246. 29. 13	0·025848	48·5	M	Feb. 26. 23. 0	246. 27. 34	0·025122	48·0	J H
5	38. 57				5	28. 36				5	26. 38			
10	38. 55	023911			10	28. 51	025366			10	26. 52	025103		
15	38. 52				15	29. 11				15	27. 10			J H
20	38. 10	023309			20	29. 44	024812			20	26. 46	025162		P
25	35. 42				25	30. 14				25	26. 38			
30	33. 25	022963			30	30. 55	025169			30	26. 35	025207		
35	31. 11			J H	35	30. 56			M	35	26. 32			
40	29. 37	024387		P	40	31. 54	025346		D	40	27. 1	024730		
45	29. 32				45	31. 43				45	26. 34			
50	31. 0	024948			50	27. 55	025763			50	26. 27	024546		
55	32. 29				55	28. 34				55	26. 23			
Feb. 26. 16. 0	246. 34. 14	0·024934	50·4	P	Feb. 26. 20. 0	246. 28. 4	0·025977	49·0	D	Feb. 27. 0. 0	246. 26. 42	0·024306	48·8	P
5	34. 25				5	28. 17				5	26. 45			
10	34. 26	024416			10	28. 1	026059			10	26. 27	024376		
15	35. 53				15	28. 23				15	25. 57			
20	37. 18	024856			20	27. 57	025926			20	25. 5	024450		
25	35. 18				25	26. 55				25	24. 24			
30	34. 30	024188			30	28. 14	025988			30	24. 7	024420		
35	34. 25				35	27. 9				35	23. 52			
40	33. 9	024111			40	27. 47	025919			40	23. 50	024391		P
45	33. 53				45	27. 56				45	24. 13			D
50	33. 59	024095			50	27. 49	025852			50	23. 41	024619		
55	34. 34				55	27. 22				55	23. 51			
Feb. 26. 17. 0	246. 34. 21	0·024248	50·6	P	Feb. 26. 21. 0	246. 27. 40	0·025457	47·5	D	Feb. 27. 1. 0	246. 23. 39	0·024697	49·5	D
5	34. 22				5	28. 3				5	23. 27			
10	33. 46	024856			10	27. 8	025177			10	23. 25	024502		
15	33. 37				15	26. 54				15	23. 30			
20	33. 51	024863			20	26. 26	025036			20	23. 11	024535		
25	33. 40				25	26. 20			D	25	22. 48			
30	32. 57	025147			30	26. 46	024770		G	30	22. 20	024837		
35	32. 46				35	26. 42				35	21. 49			
40	32. 56	025122			40	26. 23	025033			40	21. 45	025240		
45	32. 51			P	45	26. 21				45	20. 51			
50	32. 44	025055		M	50	26. 21	024697			50	21. 2	024970		
55	32. 0				55	27. 15				55	20. 39			

The time of observation of the Horizontal Force Magnetometer is $2^m.30^s$ 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, 218°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 313°. 56′. Reading for Brass Bar in the same position, 354°. 59′.
Time of Vibration of Horizontal Force Magnetometer, $21^s.5$.

Term-Day Observations of February 27 and 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.	Observers.	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.	Observers.	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.	Observers.
d h m	° ′ ″		°		d h m	° ′ ″		°		d h m	° ′ ″		°	
Feb. 27. 2. 0	246. 20. 4	0·025107	50·6	J H	Feb. 27. 6. 0	246. 28. 21	0·026007	51·5	G	Mar. 24. 10. 0	246. 46. 37	0·029867	57·0	G
5	19. 47				5	28. 48				5	48. 25			
10	20. 5	025014			10	28. 54	026007			10	49. 40	029768		
15	19. 59				15	28. 0				15	50. 20			
20	20. 16	024210			20	29. 28	026147			20	51. 30	030077		
25	20. 40				25	29. 16				25	51. 11			
30	20. 23	024693			30	29. 47	025638			30	49. 30	029716		
35	20. 22			J H	35	30. 10			G	35	47. 32			
40	20. 37	024804		P	40	32. 6	025952		J H	40	47. 23	029107		
45	21. 3				45	31. 3				45	48. 31			
50	21. 25	024985			50	29. 53	026118			50	48. 55	029040		
55	20. 49				55	29. 37				55	48. 19			
Feb. 27. 3. 0	246. 20. 48	0·025664	52·2	P	Feb. 27. 7. 0	246. 29. 41	0·025244	51·6	J H	Mar. 24. 11. 0	246. 47. 34	0·029021	56·0	G
5	20. 29				5	29. 59				5	47. 41			
10	20. 47	025634			10	30. 17	026110			10	49. 29	028859		
15	21. 23				15	30. 3				15	50. 0			
20	21. 28	025826			20	30. 35	025413			20	51. 41	029530		
25	21. 26				25	32. 18				25	52. 55			
30	21. 47	025358			30	33. 59	026347			30	53. 56	030487		
35	21. 41				35	32. 15				35	55. 35			G
40	22. 18	025288			40	31. 16	025346			40	55. 41	031622		D
45	22. 52				45	33. 8				45	55. 29			
50	23. 21	025269			50	34. 38	025520			50	53. 22	031538		
55	23. 22				55	34. 42				55	52. 24			
Feb. 27. 4. 0	246. 23. 29	0·025689	51·0	P	Feb. 27. 8. 0	246. 33. 52	0·025620	51·7	J H	Mar. 24. 12. 0	246. 49. 47	0·031051	54·2	D
5	23. 15				5	32. 49				5	47. 0			
10	23. 10	025638			10	31. 53	025269			10	46. 5	029690		
15	23. 28				15	31. 55				15	46. 25			
20	23. 29	025926			20	31. 19	025815			20	45. 47	029036		
25	23. 27				25	30. 42				25	44. 6			
30	23. 24	025999		P	30	29. 49	025797			30	42. 56	027638		
35	23. 5			G	35	29. 38				35	42. 39			
40	23. 27	025866			40	29. 49	025590		J H	40	40. 51	027697		
45	22. 51				45	29. 35			D	45	38. 22			
50	23. 7	025715			50	29. 23	026003			50	38. 59	027978		
55	23. 22				55	29. 18				55	42. 19			
Feb. 27. 5. 0	246. 23. 55	0·025671	52·0	G	Feb. 27. 9. 0	246. 29. 41	0·025815	52·0	D	Mar. 24. 13. 0	246. 46. 30	0·029690	53·5	D
5	23. 36				5	30. 3				5	48. 22			
10	24. 8	025952			10	30. 23	025966			10	50. 19	030745		
15	25. 32				15	30. 11				15	51. 17			
20	26. 42	025011			20	30. 9	025819			20	52. 4	031136		
25	27. 9				25	30. 26				25	53. 54			
30	28. 20	025549			30	30. 35	025675			30	55. 40	032107		
35	28. 56				35	30. 44				35	56. 42			
40	28. 52	026498			40	30. 54	025627			40	56. 4	033435		
45	29. 9				45	30. 58				45	54. 11			
50	30. 39	026325			50	31. 5	025963			50	52. 39	033523		
55	29. 20				55	31. 7				55	49. 43			

The time of observation of the Horizontal Force Magnetometer is 2ᵐ. 30ˢ after the time of observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian; Feb. 27, 269°. 52′. 27″; March 24, 269°. 52′. 25″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian; Feb. 27, 218°; March 24, 242°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 313°. 56′. Reading for Brass Bar in the same position, 354°. 59′.
Time of Vibration of Horizontal Force Magnetometer, 21ˢ·5.

Term-Day Observations of March 24 and 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.	Observers.	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.	Observers.	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.	Observers.
d h m	° ′ ″		°		d h m	° ′ ″		°		d h m	° ′ ″		°	
Mar. 24. 14. 0	246. 46. 31	0·033159	53·0	D	Mar. 24. 18. 0	246. 41. 46	0·030852	53·0	P	Mar. 24. 22. 0	246. 40. 52	0·027354	52·0	D
5	44. 55				5	41. 11				5	40. 25			
10	44. 42	032826			10	40. 49	030183			10	40. 4	027483		
15	44. 33			D	15	40. 42				15	39. 23			
20	44. 50	031360		J H	20	40. 46	029535			20	38. 43	027768		
25	46. 3				25	41. 25				25	38. 22			
30	46. 51	031202			30	41. 40	029516			30	38. 15	027602		
35	47. 21				35	41. 53				35	38. 59			D
40	48. 20	031815			40	41. 7	030084			40	36. 49	027480		J H
45	48. 48				45	41. 7				45	36. 42			
50	48. 50	031855			50	41. 34	029970			50	37. 32	027538		
55	48. 7				55	41. 17				55	37. 17			
Mar. 24. 15. 0	246. 47. 47	0·031169	53·3	J H	Mar. 24. 19. 0	246. 40. 57	0·030221	52·0	P	Mar. 24. 23. 0	246. 37. 36	0·027494	52·0	J H
5	48. 36				5	40. 47				5	37. 46			
10	48. 9	030216			10	40. 29	029291			10	37. 21	027892		
15	48. 20				15	41. 5				15	36. 28			
20	47. 41	029686			20	41. 11	029933			20	35. 39	028111		
25	47. 12				25	42. 20				25	35. 8			
30	46. 20	029483			30	42. 22	030634			30	34. 17	028295		
35	45. 28				35	41. 34			P	35	34. 11			J H
40	44. 57	029373			40	40. 26	030656		M	40	34. 7	028007		
45	44. 30				45	40. 2				45	34. 17			
50	44. 30	029605			50	40. 17	030066			50	34. 13	028011		
55	42. 49				55	39. 32				55	34. 14			
Mar. 24. 16. 0	246. 41. 24	0·029984	53·2	J H	Mar. 24. 20. 0	246. 39. 24	0·029623	50·8	M	Mar. 25. 0. 0	246. 34. 34	0·028125	56·2	P
5	39. 23				5	39. 13				5	34. 21			
10	39. 13	029830			10	39. 41	029542			10	34. 1	028155		
15	39. 16				15	40. 30				15	34. 0			
20	38. 40	030494			20	38. 43	029387			20	33. 21	028421		
25	40. 1				25	40. 34				25	33. 1			
30	41. 13	030509			30	40. 51	029446			30	32. 36	028126		
35	42. 7				35	42. 11				35	32. 42			P
40	42. 27	030265			40	41. 39	029583			40	32. 40	028111		D
45	42. 17				45	41. 50				45	32. 24			
50	42. 19	030169			50	41. 18	029508			50	32. 59	027992		
55	42. 25				55	41. 31				55	32. 57			
Mar. 24. 17. 0	246. 42. 31	0·029948	53·0	J H	Mar. 24. 21. 0	246. 41. 9	0·029195	51·0	M	Mar. 25. 1. 0	246. 32. 28	0·028147	58·5	D
5	42. 16				5	41. 36				5	32. 23			
10	42. 14	030254			10	41. 22	028793			10	32. 13	028000		
15	42. 12			J H	15	39. 46			M	15	32. 31			D
20	41. 36	030066		P	20	40. 3	028461		D	20	32. 30	027900		J H
25	41. 42				25	39. 55				25	32. 21			
30	40. 25	030121			30	39. 52	028111			30	32. 59	027859		
35	40. 59				35	39. 58				35	33. 55			
40	41. 30	030336			40	40. 17	027564			40	34. 25	028815		
45	42. 49				45	40. 49				45	33. 30			
50	42. 31	030985			50	41. 15	027469			50	33. 33	028501		
55	41. 50				55	41. 23				55	33. 49			

The time of observation of the Horizontal Force Magnetometer is $2^m.30^s$ 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, 242°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 313°. 56′. Reading for Brass Bar in the same position, 354°. 59′.
Time of Vibration of Horizontal Force Magnetometer, $21^s.5$.

Term-Day Observations of March 25 and 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.	Observers.	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.	Observers.	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.	Observers.
d h m	° ′ ″		°		d h m	° ′ ″		°		d h m	° ′ ″		°	
Mar. 25. 2. 0	246. 33. 42	0·028472	61·0	J H	Mar. 25. 6. 0	246. 37. 53	0·030394	62·0	G	Apr. 21. 10. 0	246. 42. 2	0·026550	54·0	G
5	34. 18				5	37. 56				5	41. 54			
10	33. 59	028941			10	37. 54	030435			10	42. 17	026473		
15	34. 12				15	37. 55				15	42. 17			
20	34. 9	028996			20	38. 1	030539			20	42. 22	026473		
25	34. 22				25	37. 51				25	42. 36			
30	35. 13	028631			30	37. 52	029867			30	42. 43	026232		
35	35. 4			J H	35	37. 38				35	43. 24			
40	36. 35	028446		D	40	37. 45	030029		G	40	43. 40	026660		
45	34. 55				45	38. 20			P	45	42. 32			
50	34. 18	028833			50	38. 24	030169			50	39. 18	027753		
55	34. 28				55	38. 16				55	38. 40			
Mar. 25. 3. 0	246. 34. 26	0·028800	62·0	D	Mar. 25. 7. 0	246. 38. 23	0·030291	60·0	P	Apr. 21. 11. 0	246. 39. 26	0·027184	55·0	G
5	34. 37				5	38. 18				5	40. 38			
10	34. 4	029284			10	38. 17	030313			10	42. 53	027129		
15	34. 5				15	38. 25				15	44. 42			
20	34. 6	029365			20	38. 24	030582			20	45. 16	027771		
25	34. 9				25	38. 34				25	46. 9			
30	34. 7	029568			30	38. 30	030531			30	46. 20	027605		
35	34. 27				35	38. 28				35	45. 39			
40	34. 37	029402			40	38. 31	030535			40	45. 8	026678		
45	34. 52				45	38. 29				45	45. 17			
50	34. 51	029505			50	38. 35	030575			50	45. 13	026509		
55	35. 3				55	39. 4				55	45. 27			
Mar. 25. 4. 0	246. 35. 18	0·029387	62·5	D	Mar. 25. 8. 0	246. 39. 48	0·030801	59·0	P	Apr. 21. 12. 0	246. 45. 23	0·026158	55·4	G
5	35. 28				5	40. 10				5	44. 43			
10	35. 42	029490			10	40. 56	030874			10	44. 29	025819		
15	35. 53				15	40. 45				15	44. 57			
20	36. 3	029564			20	40. 58	030970			20	45. 38	025689		
25	36. 13				25	41. 32				25	45. 59			
30	36. 20	029468			30	41. 30	030682			30	46. 0	026003		
35	36. 35			D	35	41. 31				35	45. 36			
40	36. 42	029158		G	40	41. 56	030147			40	45. 29	025866		
45	36. 45				45	43. 19			P	45	45. 21			
50	36. 59	029973			50	44. 12	029775		J H	50	45. 25	025748		
55	37. 4				55	45. 0				55	45. 41			
Mar. 25. 5. 0	246. 37. 12	0·029834	61·2	G	Mar 25. 9. 0	246. 45. 23	0·029838	58·0	J H	Apr. 21. 13. 0	246. 45. 35	0·025855	56·0	G
5	37. 14				5	45. 19				5	45. 45			
10	37. 14	029962			10	44. 43	029616			10	45. 55	025689		
15	37. 31				15	44. 37				15	46. 48			
20	37. 31	029922			20	44. 56	029535			20	47. 33	025443		
25	37. 34				25	45. 1				25	48. 37			
30	37. 24	030066			30	44. 47	030055			30	49. 12	025255		
35	37. 39				35	44. 35				35	50. 15			G
40	37. 41	030183			40	44. 37	030081			40	50. 23	025162		D
45	37. 41				45	44. 31				45	50. 8			
50	37. 51	030202			50	44. 29	030147			50	49. 52	025055		
55	37. 51				55	44. 3				55	49. 56			

The time of observation of the Horizontal Force Magnetometer is $2^m.30^s$ after the time of observation of the Declination Magnetometer.

Theodolite reading for Astronomical Meridian; March 25, 269°. 52′. 25″; April 21, 269°. 52′. 26″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian; March 25, 242°; April 24, 235°.
Reading of Torsion-Circle for Horizontal Force Magnetometer; March 25, 313°. 56′; April 21, 317°. Reading for Brass Bar in the same position; March 25, 354°. 59′; April 21, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer; March 25, $21^s.5$; April 21, $20^s.8$.

Term-Day Observations of April 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.	Observers.	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.	Observers.	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.	Observers.
d h m	° ′ ″		°		d h m	° ′ ″		°		d h m	° ′ ″		°	
Apr. 21. 14. 0	246. 49. 47	0·024856	56·3	D	Apr. 21. 18. 0	246. 42. 11	0·025900	55·4	P	Apr. 21. 22. 0	246. 40. 3	0·023126	54·5	J H
5	49. 36				5	42. 19				5	39. 47			
10	48. 56	024601			10	43. 19	025351			10	39. 46	023159		
15	48. 44				15	44. 20				15	39. 47			
20	48. 41	024712			20	45. 8	025191			20	39. 48	022866		
25	48. 19				25	45. 5				25	39. 36			
30	47. 37	024767			30	45. 4	024945			30	39. 43	022701		
35	47. 27				35	44. 52				35	39. 34			
40	47. 22	024996			40	44. 30	025122			40	39. 16	022671		
45	47. 7				45	43. 52				45	38. 53			
50	46. 54	024575			50	43. 25	025022			50	38. 45	022579		
55	47. 1				55	43. 17				55	38. 27			J H
Apr. 21. 15. 0	246. 47. 11	0·024383	56·5	D	Apr. 21. 19. 0	246. 43. 9	0·025014	56·0	P	Apr. 21. 23. 0	246. 38. 3	0·022631	55·2	P
5	47. 19				5	43. 22				5	38. 1			
10	47. 2	024546			10	43. 27	025007			10	38. 4	022819		
15	46. 3				15	43. 46				15	37. 21			
20	45. 7	023723			20	43. 41	025446			20	37. 4	022833		
25	44. 12				25	43. 41				25	36. 50			
30	42. 33	023497			30	43. 46	025384			30	36. 23	023033		
35	41. 24				35	44. 1			P	35	36. 1			
40	40. 50	023793			40	44. 16	025258		M	40	36. 1	023011		
45	40. 43				45	44. 34				45	34. 54			
50	41. 20	024188			50	44. 56	025022			50	34. 53	023133		
55	41. 6				55	44. 42				55	34. 41			
Apr. 21. 16. 0	246. 41. 0	0·024420	56·5	D	Apr. 21. 20. 0	246. 45. 4	0·024922	54·2	M	Apr. 22. 0. 0	246. 34. 20	0·023262	56·2	P
5	40. 45				5	44. 50				5	33. 53			
10	41. 10	024723			10	44. 24	024350			10	33. 30	023453		
15	41. 34				15	44. 21				15	33. 5			
20	41. 18	025236			20	43. 54	023745			20	32. 57	023276		
25	41. 42				25	43. 3				25	32. 38			
30	42. 6	025258			30	42. 52	023686			30	32. 33	023141		
35	42. 7			D	35	42. 46				35	32. 14			
40	42. 4	025306		P	40	42. 26	023789			40	31. 41	023457		
45	42. 11				45	42. 2				45	31. 23			P
50	42. 25	025623			50	41. 26	023597			50	31. 48	022988		D
55	42. 57				55	40. 58				55	32. 1			
Apr. 21. 17. 0	246. 43. 46	0·025399	56·0	P	Apr. 21. 21. 0	246. 40. 49	0·023793	53·8	M	Apr. 22. 1. 0	246. 32. 0	0·022742	57·0	D
5	44. 6				5	40. 44				5	31. 37			
10	44. 18	025266			10	40. 44	023527			10	31. 32	023247		
15	44. 20				15	40. 41				15	31. 19			
20	44. 17	025122			20	40. 42	023453			20	31. 23	023727		
25	44. 20				25	40. 10				25	31. 17			
30	44. 10	025343			30	39. 46	023398			30	31. 26	024092		
35	43. 51				35	39. 57			M	35	31. 32			
40	43. 43	025631			40	40. 4	023269		J H	40	32. 15	023918		
45	43. 36				45	40. 2				45	32. 22			
50	43. 32	025937			50	39. 41	023612			50	32. 16	024553		
55	42. 36				55	39. 46				55	32. 15			D

The time of observation of the Horizontal Force Magnetometer is 2m. 30s 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, 235°.
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.

Term-Day Observations of April 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Horizontal Force.	Thermometer of Horizontal Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Theodolite Reading.	Horizontal Force Reading in parts of the whole Horizontal Force.	Thermometer of Horizontal Force Magnetometer.	Observers.
d h m	° ′ ″		°		d h m	° ′ ″		°	
April 22. 2. 0	246. 32. 10	0·024985	58·0	J H	April 22. 6. 0	246. 40. 36	0·025833	58·0	D
5	32. 14				5	40. 50			
10	32. 7	025069			10	40. 57	026140		
15	32. 44				15	41. 9			
20	33. 6	024704			20	41. 1	026652		
25	33. 31				25	41. 10			
30	33. 59	024424			30	41. 32	026265		
35	34. 16			J H	35	42. 15			D
40	34. 33	024604		P	40	42. 44	027476		J H
45	34. 35				45	42. 50			
50	34. 43	024438			50	43. 8	026273		
55	34. 45				55	43. 14			
April 22. 3. 0	246. 34. 31	0·024763	58·4	P	April 22. 7. 0	246. 44. 33	0·025542	56·6	J H
5	34. 41				5	47. 38			
10	35. 12	024819			10	49. 51	026439		
15	35. 40				15	50. 26			
20	36. 2	024797			20	50. 54	027715		
25	36. 15				25	50. 48			
30	36. 22	024630			30	49. 12	027881		
35	36. 20				35	48. 22			
40	36. 22	023816			40	47. 30	027144		
45	36. 18				45	46. 54			
50	36. 34	024195			50	46. 13	026236		
55	37. 0				55	46. 38			
April 22. 4. 0	246. 37. 7	0·025911	58·2	P	April 22. 8. 0	246. 46. 19	0·025915	56·0	J H
5	36. 55				5	46. 6			
10	37. 11	025786			10	46. 24	026044		
15	37. 10				15	46. 33			
20	37. 15	025675			20	47. 25	026088		
25	37. 13				25	47. 47			
30	37. 21	025534			30	47. 32	025999		
35	37. 27			P	35	47. 14			J H
40	37. 51	025211		D	40	47. 0	025771		G
45	37. 46				45	46. 36			
50	38. 2	024420			50	46. 33	025656		
55	38. 9				55	46. 47			
April 22. 5. 0	246. 38. 7	0·024770	58·0	D	April 22. 9. 0	246. 46. 46	0·025675	56·0	G
5	38. 26				5	46. 12			
10	39. 20	024458			10	46. 2	025461		
15	40. 0				15	46. 0			
20	40. 10	024992			20	45. 53	025399		
25	40. 15				25	45. 38			
30	40. 58	025151			30	45. 27	025358		
35	41. 2				35	45. 24			
40	40. 51	025114			40	45. 25	025609		
45	40. 37				45	45. 23			
50	40. 19	025244			50	45. 26	025771		
55	40. 7				55	45. 56			

The time of observation of the Horizontal Force Magnetometer is $2^m.30^s$ 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 235°.
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, $20^s.8$.

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.	Observers.
d h m	° ′ ″		°		°	
May 28. 10. 0	246. 45. 9	0·019816	72·5	....	73·2	G
5	44. 7					
10	43. 32	019534		0·013060		
15	44. 28					
20	43. 4	019734		013136		
25	42. 24					
30	41. 48	019701		013215		
35	41. 8					
40	40. 34	019545		013213		
45	40. 24					
50	40. 28	019450		013265		
55	40. 21					
May 28. 11. 0	246. 40. 6	0·019196	71·0	0·013295	71·5	G
5	39. 47					
10	40. 0	019075		013348		
15	39. 49					
20	39. 33	019340		013434		
25	39. 16					
30	38. 48	019351		013462		
35	38. 30					
40	38. 11	019331		013559		
45	37. 52					
50	37. 29	019550		013591		
55	36. 27					
May 28. 12. 0	246. 35. 57	0·019568	69·0	0·013699	70·2	G
5	35. 10					
10	34. 26	019490		013737		
15	34. 14					
20	35. 12	019818		013785		
25	35. 58					
30	36. 20	020059		013792		
35	37. 8					
40	37. 49	020083		013856		
45	38. 6					
50	39. 8	020269		013924		
55	39. 18					
May 28. 13. 0	246. 38. 44	0·020469	68·7	0·014060	68·5	G
5	38. 43					
10	38. 56	020701		014170		
15	38. 36					
20	39. 1	019937		014180		
25	39. 59					
30	40. 32	020779		014188		
35	40. 15					G
40	40. 11	020336		014254		D
45	40. 58					
50	40. 59	020143		014288		
55	40. 41					

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.	Observers.
d h m	° ′ ″		°		°	
May 28. 14. 0	246. 40. 41	0·019738	67·0	0·014348	67·2	D
5	41. 40					
10	42. 6	019457		014413		
15	41. 27					
20	40. 36	019590		014546		
25	39. 31					
30	38. 58	019505		014641		
35	38. 33					
40	38. 21	019253		014735		
45	38. 31					
50	38. 55	019430		014797		
55	39. 21					
May 28. 15. 0	246. 39. 13	0·019906	65·5	0·014908	66·0	D
5	38. 59					
10	39. 2	020136		015076		
15	39. 25					
20	39. 22	020182		015133		
25	39. 43					
30	40. 8	020402		015237		
35	40. 1					
40	40. 19	020476		015300		
45	40. 33					
50	40. 49	020634		015329		
55	40. 54					
May 28. 16. 0	246. 41. 5	0·020912	64·0	0·015494	64·6	D
5	40. 45					
10	40. 31	021110		015581		
15	42. 13					
20	42. 38	021276		015625		
25	42. 52					
30	43. 43	021332		015683		
35	44. 14					D
40	44. 16	021394		015752		J H
45	44. 29					
50	44. 22	021343		015812		
55	44. 24					
May 28. 17. 0	246. 44. 14	0·021267	63·3	0·015890	64·0	J H
5	44. 29					
10	44. 16	021256		015930		
15	44. 30					
20	44. 30	021206		016023		
25	44. 26					
30	44. 15	021254		016080		
35	44. 16					
40	44. 1	021095		016146		
45	44. 25					
50	44. 26	021146		016213		
55	44. 9					

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′. 14″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in 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 Vertical Plane, 30^s; in Horizontal Plane, $24^s.5$.

Term-Day Observations of May 28 and 29.

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.	Observers.	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.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
May 28. 18. 0	246. 44. 12	0·021046	62·8	0·016268	63·4	J H	May 28. 22. 0	246. 39. 31	0·019291	64·0	0·017322	63·0	P
5	44. 16						5	38. 51					
10	44. 27	020925		016492			10	39. 36	019209		017283		
15	44. 3						15	40. 54					
20	44. 31	020730		016517			20	41. 41	019114		017180		
25	44. 25						25	40. 58					
30	44. 41	020548		016558			30	42. 5	019207		017116		
35	44. 31						35	43. 15					
40	44. 50	020022		016584			40	42. 42	019308		017036		
45	44. 56						45	40. 24					
50	45. 11	019306		016642			50	39. 56	019173		016976		
55	45. 19						55	35. 22					
May 28. 19. 0	246. 45. 24	0·018854	63·6	0·016658	63·0	J H	May 28. 23. 0	246. 38. 20	0·019175	65·0	0·016881	64·2	P
5	45. 28						5	34. 39					
10	45. 17	018881		017800			10	34. 10	018998		016817		
15	45. 23						15	34. 7					
20	45. 29	019701		017716			20	34. 19	018898		016724		
25	45. 22						25	35. 12					
30	45. 27	019375		017722			30	35. 48	018976		016667		
35	45. 27					J H	35	36. 58					P
40	46. 12	019049		017726		M	40	36. 48	019018		016598		G
45	45. 34						45	37. 34					
50	45. 37	019319		017724			50	37. 52	019040		016564		
55	45. 32						55	38. 0					
May 28. 20. 0	246. 45. 17	0·019198	64·0	0·017707	62·5	M	May 29. 0. 0	246. 37. 31	0·019242	65·2	0·016509	67·0	G
5	45. 15						5	38. 6					
10	44. 31	019286		017708			10	38. 7	019018		016431		
15	43. 30						15	38. 33					G
20	44. 8	019342		017695			20	37. 29	019457		016384		J H
25	44. 23						25	37. 17					
30	44. 47	019297		017698			30	37. 21	019251		016329		
35	44. 18						35	37. 34					
40	44. 56	019014		017686			40	37. 32	019131		016252		
45	44. 54						45	37. 17					
50	45. 17	019184		017662			50	36. 27	019258		016202		
55	44. 23						55	35. 43					
May 28. 21. 0	246. 43. 53	0·019207	63·8	0·017701	62·7	M	May 29. 1. 0	246. 35. 58	0·018948	69·0	0·016130	67·2	J H
5	43. 18						5	36. 2					
10	43. 44	019231		017576			10	36. 17	018620		016056		
15	43. 45						15	36. 5					
20	44. 25	019220		017666			20	36. 5	018765		016034		
25	43. 47					M	25	35. 44					
30	35. 29	019247		017617		P	30	35. 39	018697		015981		
35	39. 23						35	35. 24					J H
40	42. 15	019336		017541			40	35. 20	018044		015917		D
45	40. 49						45	35. 35					
50	40. 13	019373		017467			50	35. 15	017714		015839		
55	38. 57						55	35. 45					

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′. 14″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in 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, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Vertical Plane, 30s; in Horizontal Plane, 24s·5.

Term-Day Observations of May 29.

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.	Observers.
d h m	° ′ ″		°		°	
May 29. 2. 0	246. 35. 51	0·017730	69·8	0·015780	68·5	D
5	35. 36					
10	35. 22	018210		015776		
15	35. 20					
20	35. 27	018173		015718		
25	35. 24					
30	35. 29	018129		015683		
35	35. 38					D
40	35. 58	017889		015623		J H
45	36. 4					
50	36. 6	018107		015595		
55	36. 9					
May 29. 3. 0	246. 36. 9	0·018217	71·0	0·015575	69·3	J H
5	36. 19					
10	36. 22	018155		015538		
15	36. 25					
20	36. 7	018576		015510		
25	36. 13					
30	35. 59	018963		015512		
35	35. 53					
40	36. 4	018704		015484		
45	35. 58					
50	36. 23	018765		015419		
55	36. 31					
May 29. 4. 0	246. 36. 28	0·018420	71·3	0·015397	70·2	J H
5	36. 22					
10	36. 39	018821		015368		
15	36. 46					
20	36. 5	018752		015353		
25	35. 40					
30	37. 14	018743		015326		
35	37. 40					J H
40	37. 56	018522		015306		G
45	38. 0					
50	38. 9	018539		015287		
55	38. 25					
May 29. 5. 0	246. 38. 41	0·018627	71·0	0·015313	70·5	G
5	38. 50					
10	38. 55	018759		015297		
15	39. 8					
20	39. 2	018965		015313		
25	38. 57					
30	39. 3	019485		015329		
35	39. 7					
40	39. 16	019716		015333		
45	39. 25					
50	39. 26	019756		015308		
55	39. 33					
May 29. 6. 0	246. 39. 36	0·019948	70·5	0·015305	70·2	G
5	39. 52					
10	39. 53	019966		015297		
15	40. 0					
20	40. 10	020037		015301		
25	40. 13					
30	40. 8	020480		015325		
35	40. 7					G
40	39. 59	020723		015310		P
45	40. 5					
50	40. 18	020786		015322		
55	40. 22					
May 29. 7. 0	246. 40. 27	0·020914	70·0	0·015333	70·0	P
5	40. 33					
10	40. 28	021112		015352		
15	40. 34					
20	40. 15	021418		015350		
25	40. 37					
30	39. 47	021179		015371		
35	39. 39					
40	39. 44	021300		015369		
45	39. 52					
50	39. 41	021287		015373		
55	39. 26					
May 29. 8. 0	246. 39. 22	0·021289	69·2	0·015388	69·0	P
5	39. 16					
10	39. 12	021356		015413		
15	39. 16					
20	39. 8	021305		015413		
25	39. 22					
30	39. 20	021509		015438		
35	39. 13					P
40	40. 51	021538		015483		D
45	40. 58					
50	41. 4	021276		015505		
55	41. 28					
May 29. 9. 0	246. 41. 10	0·021199	68·5	0·015540	68·8	D
5	41. 17					
10	41. 9	021278		015562		
15	41. 1					
20	40. 54	021201		015576		
25	40. 53					
30	40. 53	021339		015612		
35	40. 55					
40	40. 59	021190		015645		
45	40. 53					
50	40. 36	021179		015677		
55	40. 34					
60				015728		

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′. 14″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in 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, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Vertical Plane, 30s; in Horizontal Plane, 24s·5.

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.	Observers.	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.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
June 23. 10. 0	246. 40. 12	0·022000	65·0		64·0	G	June 23. 14. 0	246. 38. 59	0·021298	62·5	0·014601	62·0	D
5	39. 35						5	39. 39					
10	37. 55	021768		0·014416			10	39. 34	020996		014748		
15	36. 58						15	39. 31					
20	35. 57	021162		014391			20	39. 9	021011		014836		
25	36. 11						25	38. 41					
30	36. 39	020752		014329			30	38. 26	021361		014938		
35	37. 14						35	37. 35					
40	36. 41	021070		014355			40	37. 17	021546		015024		
45	35. 47						45	36. 59					
50	35. 53	020752		014387			50	36. 40	022151		015114		
55	36. 12						55	36. 53					
June 23. 11. 0	246. 36. 38	0·020683	64·0	0·014416	63·5	G	June 23. 15. 0	246. 37. 24	0·022041	61·0	0·015086	61·0	D
5	37. 12						5	38. 3					
10	37. 5	020520		014464			10	38. 55	021609		015105		
15	37. 17						15	39. 32					
20	37. 10	021302		014503			20	39. 28	021598		015117		
25	36. 15						25	38. 51					
30	36. 5	022155		014523			30	39. 15	021210		015209		
35	34. 48						35	39. 0					
40	33. 24	021819		014602			40	38. 14	021365		015341		
45	32. 15						45	38. 28					
50	31. 47	021712		014579			50	38. 20	021416		015353		
55	31. 11						55	36. 55					
June 23. 12. 0	246. 31. 47	0·021261	63·5	0·014473	63·0	G	June 23. 16. 0	246. 36. 13	0·021845	60·8	0·015437	60·5	D
5	31. 31						5	36. 7					
10	31. 57	021571		014510			10	36. 57	021376		015433		
15	32. 25						15	35. 43					
20	32. 10	021812		014496			20	35. 1	021148		015508		
25	31. 56						25	33. 49					
30	31. 43	022379		014511			30	32. 50	020905		015602		
35	32. 26						35	33. 12					D
40	33. 39	022302		014433			40	33. 55	020945		015647		J H
45	35. 11						45	33. 30					
50	36. 24	022015		014340			50	32. 33	021328		015744		
55	36. 25						55	32. 14					
June 23. 13. 0	246. 36. 37	0·022343	63·0	0·014425	62·0	G	June 23. 17. 0	246. 32. 2	0·021546	59·6	0·015829	59·5	J H
5	37. 58						5	32. 12					
10	38. 19	022210		014420			10	32. 32	021620		015834		
15	38. 39						15	33. 6					
20	38. 28	022288		014455			20	33. 30	021830		015838		
25	39. 20						25	33. 34					
30	39. 14	022129		014462			30	34. 18	021494		015870		
35	38. 41					G	35	35. 21					
40	39. 17	021205		014482		D	40	35. 1	021265		015885		
45	39. 12						45	34. 34					
50	39. 39	021480		014529			50	33. 35	021059		016047		
55	39. 13						55	32. 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′. 24″.
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 Vertical Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Vertical Plane, $27^s.5$; in Horizontal Plane, $24^s.3$.

Term-Day Observations of June 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.	Observers.	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.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
June 23. 18. 0	246. 32. 57	0·021206	59·6	0·016105	59·0	J H	June 23. 22. 0	246. 38. 27	0·017944	66·0	0·015883	64·0	P
5	33. 15						5	38. 38					
10	34. 3	020749		016049			10	38. 27	017583		015795		
15	33. 54						15	40. 10					
20	35. 4	020727		016094			20	41. 10	018018		015692		
25	35. 41						25	42. 33					
30	35. 28	020402		016169			30	41. 32	016944		015583		
35	35. 1						35	40. 11					
40	36. 0	020209		016180			40	39. 11	017165		015419		
45	36. 12						45	36. 40					
50	37. 24	019820		016223			50	36. 34	016749		015324		
55	37. 59						55	35. 19					
June 23. 19. 0	246. 36. 41	0·020140	60·0	0·016320	58·6	J H	June 23. 23. 0	246. 33. 45	0·016295	65·2	0·015233	63·0	P
5	36. 39						5	33. 32					
10	37. 17	018310		016377			10	33. 50	015970		015179		
15	37. 50						15	35. 15					P
20	38. 15	018763		016413			20	35. 17	016627		015037		D
25	37. 20						25	34. 37					
30	39. 41	018055		016374			30	33. 54	016487		015013		
35	39. 23					J H	35	34. 24					
40	38. 49	017955		016431		M	40	35. 13	016472		014910		
45	38. 34						45	35. 12					
50	39. 38	018022		016376			50	35. 21	016531		014807		
55	38. 50						55	35. 0					
June 23. 20. 0	246. 38. 27	0·018162	62·0	0·016415	59·3	M	June 24. 0. 0	246. 34. 16	0·017734	64·5	0·014755	63·5	D
5	37. 8						5	33. 36					
10	35. 50	018159		016439			10	32. 49	017789		014748		
15	34. 48						15	32. 39					
20	34. 31	018206		016430			20	32. 9	017771		014717		
25	35. 56						25	31. 48					
30	36. 59	018536		016326			30	31. 18	018380		014685		
35	36. 55						35	30. 49					D
40	36. 51	018723		016332			40	30. 47	018948		014670		J H
45	36. 40						45	29. 59					
50	37. 12	018173		016299			50	30. 37	018635		014649		
55	37. 49						55	30. 28					
June 23. 21. 0	246. 38. 16	0·017981	63·0	0·016275	60·0	M	June 24. 1. 0	246. 30. 41	0·018111	66·0	0·014567	64·3	J H
5	39. 18						5	30. 28					
10	38. 42	018424		016205			10	30. 0	018513		014525		
15	38. 40						15	30. 5					
20	38. 23	018756		016162			20	30. 34	018919		014511		
25	38. 7						25	29. 31					
30	37. 2	018602		016106			30	29. 32	018565		014482		
35	37. 31					M	35	29. 37					
40	37. 57	018752		016019		P	40	29. 28	018380		014414		J H
45	38. 0						45	29. 46					P
50	38. 44	018405		015937			50	29. 38	018900		014378		
55	37. 45						55	29. 31					

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′. 24″.
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, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Vertical Plane, $27^s.5$; in Horizontal Plane, $24^s.3$.

Term-Day Observations of June 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.	Observers.	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.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
June 24. 2. 0	246. 29. 19	0·019273	67·0	0·014378	65·5	P	June 24. 6. 0	246. 33. 29	0·020572	68·6	0·014190	67·0	G
5	29. 9						5	34. 1					
10	28. 58	019867		014340			10	34. 33	020044		014167		
15	28. 18						15	34. 38					
20	27. 54	019831		014370			20	34. 53	020491		014148		
25	27. 58						25	34. 51					
30	28. 24	019077		014274			30	34. 34	020812		014148		
35	28. 33					P	35	34. 34					
40	28. 41	019598		014242		D	40	34. 30	020790		014134		G
45	28. 21						45	34. 25					P
50	28. 3	020154		014261			50	34. 41	020738		014096		
55	27. 31						55	34. 49					
June 24. 3. 0	246. 28. 0	0·020198	66·6	0·014237	66·0	D	June 24. 7. 0	246. 34. 47	0·020708	68·2	0·014049	67·0	P
5	28. 16						5	35. 12					
10	27. 52	019985		014218			10	35. 23	020996		014054		
15	28. 0						15	35. 26					
20	28. 21	020306		014171			20	35. 32	021088		014063		
25	28. 17						25	35. 55					
30	28. 31	019985		014142			30	35. 36	020997		014049		
35	28. 29						35	35. 19					
40	28. 55	019505		014176			40	35. 25	020982		014049		
45	29. 13						45	35. 29					
50	28. 33	019860		014124			50	35. 29	021328		014049		
55	28. 58						55	35. 32					
June 24. 4. 0	246. 29. 24	0·019959	66·5	0·014181	66·0	D	June 24. 8. 0	246. 35. 39	0·021166	67·0	0·014026	66·8	P
5	29. 25						5	35. 38					
10	29. 50	019808		014120			10	35. 33	021044		014002		
15	30. 5						15	35. 29					
20	30. 26	020546		014152			20	35. 26	021321		014002		
25	30. 20						25	35. 43					
30	30. 35	020144		014152			30	35. 50	021328		014199		
35	31. 7					D	35	35. 52					P
40	31. 36	020129		014124		G	40	35. 34	020805		013954		JH
45	32. 8						45	35. 27					
50	32. 21	020273		014190			50	35. 32	021155		013982		
55	32. 12						55	35. 43					
June 24. 5. 0	246. 32. 35	0·020103	66·5	0·014284	67·0	G	June 24. 9. 0	246. 35. 23	0·021018	66·0	0·013973	65·7	JH
5	31. 52						5	35. 16					
10	31. 56	020070		014284			10	35. 30	020797		013963		
15	31. 40						15	35. 47					
20	32. 19	020092		014270			20	36. 3	020834		013938		
25	31. 35						25	36. 10					
30	32. 23	020158		014261			30	35. 54	020734		014414		
35	32. 27						35	35. 45					
40	33. 0	020030		014237			40	35. 36	020834		013951		
45	33. 9						45	35. 36					
50	33. 13	020309		014214			50	35. 41	020863		013963		
55	33. 10						55	35. 47					
							60				013963		

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′. 24″.
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, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Vertical Plane, $27^s.5$; in Horizontal Plane, $24^s.3$.

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.	Observers.	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.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
July 21. 10. 0	246. 38. 46	0·020967	63·0		62·0	G	July 21. 14. 0	246. 39. 13	0·019800	63·7	0·013407	63·0	J H
5	38. 57						5	39. 7					
10	39. 7	020760		0·013422			10	39. 31	019926		013388		
15	39. 2						15	39. 33					
20	39. 5	020896		013432			20	38. 29	019970		013356		
25	38. 55						25	37. 17					
30	39. 0	020871		013470			30	37. 10	019712		013333		
35	39. 7						35	36. 53					
40	39. 30	020608		013437			40	36. 7	019926		013290		
45	39. 51						45	35. 52					
50	40. 1	020453		013409			50	35. 49	020088		013248		
55	40. 5						55	35. 44					
July 21. 11. 0	246. 39. 57	0·020506	63·0	0·013432	62·5	G	July 21. 15. 0	246. 35. 57	0·019820	64·3	0·013130	63·5	J H
5	39. 46						5	35. 40					
10	39. 42	020697		013437			10	35. 14	019749		013036		
15	39. 6						15	34. 21					
20	38. 55	020671		013442			20	33. 13	019561		012957		
25	38. 33						25	33. 18					
30	38. 50	020520		013437			30	33. 36	018580		012777		
35	39. 8						35	33. 59					
40	39. 19	020557		013428			40	34. 4	018162		012602		
45	39. 37						45	32. 59					
50	39. 44	020498		013414			50	31. 13	017579		012542		
55	39. 45						55	29. 23					
July 21. 12. 0	246. 39. 51	0·020435	63·0	0·013437	62·5	G	July 21. 16. 0	246. 28. 22	0·018372	64·6	0·012622	63·6	J H
5	39. 43						5	28. 0					
10	39. 44	020502		013437			10	28. 31	019258		012660		
15	39. 29						15	31. 14					
20	39. 54	020462		013437			20	30. 48	020074		012597		
25	39. 51						25	31. 58					
30	39. 50	020358		013442			30	33. 30	019878		012514		
35	39. 53						35	35. 28					J H
40	40. 1	020280		013442			40	36. 19	020417		012378		P
45	39. 53						45	37. 50					
50	39. 38	020561		013456			50	38. 48	021657		012378		
55	39. 15						55	38. 46					
July 21. 13. 0	246. 39. 3	0·020302	63·0	0·013461	62·5	G	July 21. 17. 0	246. 39. 18	0·020674	64·0	0·012401	63·0	P
5	39. 34						5	39. 35					
10	39. 29	020262		013446			10	39. 37	020705		012471		
15	39. 53						15	41. 6					
20	40. 2	020030		013441			20	40. 47	020908		012535		
25	40. 17						25	40. 11					
30	40. 36	019849		013431			30	40. 36	020273		012582		
35	40. 29					G	35	40. 1					
40	39. 46	019992		013436		J H	40	40. 3	018620		012617		
45	39. 37						45	40. 26					
50	39. 32	019908		013425			50	40. 4	019690		012777		
55	39. 26						55	40. 43					

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′. 36″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in 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 Vertical Plane, $27^s.5$; in Horizontal Plane, $24^s.3$.

Term-Day Observations of July 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.	Observers.	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.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
July 21. 18. 0	246. 41. 36	0·020052	62·0	0·012919	62·5	P	July 21. 22. 0	246. 36. 5	0·016711	63·5	0·013587	63·0	G
5	40. 52						5	37. 5					G
10	40. 21	020121		013037			10	37. 24	017143		013514		P
15	39. 49						15	37. 48					
20	39. 36	020037		013060			20	38. 28	017335		013508		
25	39. 18						25	39. 10					
30	38. 32	019838		013107			30	39. 20	017368		013461		
35	38. 5						35	39. 6					
40	38. 47	019324		013154			40	39. 20	017509		013437		
45	39. 6						45	39. 38					
50	39. 1	019102		013201			50	39. 51	017719		013390		
55	38. 48						55	40. 9					
July 21. 19. 0	246. 37. 45	0·018325	61·5	0·013248	61·0	P	July 21. 23. 0	246. 39. 29	0·017597	64·0	0·013334	63·0	P
5	37. 57						5	40. 4					
10	38. 59	018214		013320			10	39. 2	017398		013272		
15	40. 37						15	39. 23					
20	41. 28	018011		013343			20	38. 43	017867		013239		
25	41. 12						25	38. 31					
30	41. 13	018044		013390			30	38. 33	017760		013201		
35	42. 7					P	35	38. 6					P
40	41. 12	018277		013461		D	40	37. 52	017933		013135		J H
45	40. 10						45	37. 36					
50	38. 42	018343		013528			50	37. 51	018022		013051		
55	38. 50						55	37. 3					
July 21. 20. 0	246. 39. 28	0·018605	61·8	0·013522	61·0	D	July 22. 0. 0	246. 36. 53	0·017822	66·0	0·013022	64·5	J H
5	39. 7						5	36. 46					
10	39. 0	018524		013531			10	36. 21	017995		012938		
15	38. 28						15	35. 55					
20	38. 3	018671		013512			20	35. 24	018170		012859		
25	37. 39						25	35. 9					
30	37. 49	018734		013526			30	35. 1	018347		012786		
35	37. 14						35	34. 32					
40	37. 35	018199		013526			40	34. 43	018469		012716		
45	38. 15						45	34. 25					
50	39. 35	017727		013484			50	34. 13	018627		012692		
55	38. 47						55	34. 30					J H
July 21. 21. 0	246. 39. 13	0·016852	62·3	0·013446	61·8	D	July 22. 1. 0	246. 34. 10	0·018712	67·5	0·012622	66·0	D
5	39. 30						5	34. 8					
10	38. 23	016468		013476			10	34. 14	018142		012575		
15	39. 14						15	34. 23					
20	38. 32	016284		013522			20	34. 28	017827		012519		
25	37. 54						25	34. 37					
30	38. 14	016771		013536			30	34. 27	017822		012457		
35	38. 22					D	35	34. 36					
40	37. 31	016527		013512		G	40	34. 45	017856		012425		
45	38. 2						45	34. 50					
50	37. 54	016731		013522			50	34. 30	017738		012396		
55	35. 33						55	34. 35					

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′. 36″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in 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 Vertical Plane, $27^s.5$; in Horizontal Plane, $24^s.3$.

Term-Day Observations of July 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.	Observers.	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.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
July 22. 2. 0	246. 35. 21	0·017653	69·0	0·012331	67·8	D	July 22. 6. 0	246. 37. 50	0·019789	68·0	0·012260	68·0	P
5	35. 15						5	37. 30					
10	35. 31	017579		012293			10	37. 19	020099		012298		
15	35. 32						15	37. 49					
20	35. 33	017944		012260			20	37. 46	020088		012279		
25	35. 27					D	25	37. 37					
30	34. 50	018409		012241		J H	30	37. 52	020026		012298		
35	35. 17						35	38. 14					P
40	35. 22	018007		012213			40	38. 37	019944		012307		G
45	35. 20						45	38. 48					
50	35. 33	018295		012194			50	38. 52	020007		012354		
55	35. 37						55	38. 56					
July 22. 3. 0	246. 35. 47	0·018000	69·0	0·012190	68·0	J H	July 22. 7. 0	246. 39. 15	0·020096	67·0	0·012354	66·5	G
5	36. 34						5	39. 3					
10	36. 59	017815		012147			10	39. 26	020240		012434		
15	37. 6						15	39. 24					
20	36. 39	017992		012147			20	39. 35	020667		012439		
25	36. 43						25	39. 14					
30	36. 32	018416		012191			30	39. 14	020465		012486		
35	37. 5						35	39. 13					
40	37. 29	018472		012157			40	38. 51	020531		012486		
45	37. 13						45	38. 42					
50	37. 25	018792		012193			50	38. 20	020663		012486		
55	37. 36						55	37. 48					
July 22. 4. 0	246. 37. 38	0·018959	68·0	0·012185	68·0	J H	July 22. 8. 0	246. 37. 41	0·020539	66·5	0·012495	66·0	G
5	37. 52						5	37. 21					
10	37. 50	018985		012180			10	37. 15	020605		012495		
15	38. 7						15	38. 17					
20	37. 56	019144		012166			20	38. 26	020539		012500		
25	37. 43						25	38. 22					
30	37. 49	019324		012213			30	38. 36	020697		012519		
35	37. 56					J H	35	39. 0					G
40	38. 8	019545		012213		P	40	39. 14	020373		012542		D
45	37. 54						45	39. 31					
50	37. 58	019683		012241			50	39. 52	020121		012556		
55	38. 15						55	40. 8					
July 22. 5. 0	246. 38. 20	0·019789	68·0	0·012213	68·0	P	July 22. 9. 0	246. 40. 20	0·020121	66·0	0·012584	66·5	D
5	38. 10						5	40. 25					
10	38. 23	019867		012237			10	40. 40	020287		012642		
15	38. 15						15	40. 45					
20	38. 7	019919		012260			20	40. 45	020298		012668		
25	38. 8						25	40. 56					
30	37. 50	019985		012260			30	41. 0	019952		012691		
35	38. 18						35	41. 16					
40	38. 22	019631		012260			40	41. 3	019745		012721		
45	38. 12						45	40. 57					
50	37. 22	019797		012260			50	40. 41	019871		012772		
55	37. 48						55	40. 37					
							60				012825		

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′. 36″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in 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 Vertical Plane, $27^s·5$; in Horizontal Plane, $24^s·3$.

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.	Observers.	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.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Aug. 27. 10. 0	246. 33. 0	0·018719	74·8		74·2	G	Aug. 27. 14. 0	246. 37. 54	0·019612	70·0	0·008060	70·0	J H
5	33. 40						5	38. 59					
10	34. 56	018427		0·008247			10	40. 26	020240		008271		
15	35. 55						15	40. 45					
20	36. 34	018653		008331			20	41. 16	020667		008387		
25	37. 15						25	41. 38					
30	38. 34	018912		008411			30	41. 24	020882		008503		
35	39. 19						35	41. 48					
40	36. 43	019966		008413			40	41. 3	021011		009008		
45	37. 4						45	41. 3					
50	36. 39	018438		008380			50	40. 56	020856		008658		
55	37. 50						55	41. 12					
Aug. 27. 11. 0	246. 39. 52	0·017291	73·0	0·008206	73·0	G	Aug. 27. 15. 0	246. 41. 38	0·020634	69·0	0·008709	70·0	J H
5	42. 26						5	41. 9					
10	42. 20	018347		008347			10	41. 57	020063		008762		
15	41. 24						15	41. 33					
20	39. 40	018247		008497			20	41. 7	019775		008865		
25	38. 46						25	39. 56					
30	36. 57	019055		008618			30	39. 3	019520		008992		
35	35. 4						35	39. 2					
40	34. 57	019066		008776			40	38. 27	019501		009105		
45	34. 56						45	37. 30					
50	34. 35	018767		008659			50	37. 11	019244		009192		
55	34. 38						55	36. 50					
Aug. 27. 12. 0	246. 35. 15	0·018852	72·0	0·008673	72·0	G	Aug. 27. 16. 0	246. 36. 35	0·019657	68·5	0·009260	69·3	J H
5	35. 18						5	36. 9					
10	35. 17	018919		008673			10	36. 40	019849		009295		
15	35. 43						15	36. 18					
20	36. 18	018756		008706			20	37. 52	019800		009332		
25	35. 57						25	37. 44					
30	33. 26	018664		008729			30	38. 40	019723		009379		
35	32. 19						35	36. 24					J H
40	35. 31	023181		008781			40	35. 59	019262		009536		P
45	36. 15						45	35. 48					
50	33. 58	023199		008060			50	35. 37	019461		009670		
55	30. 42						55	36. 45					
Aug. 27. 13. 0	246. 29. 57	0·020531	71·5	0·007529	71·0	G	Aug. 27. 17. 0	246. 35. 37	0·019690	67·5	0·009670	68·0	P
5	30. 58						5	35. 26					
10	34. 9	019479		007415			10	35. 34	019676		009835		
15	32. 25						15	35. 9					
20	29. 59	021084		007735			20	33. 56	019155		009925		
25	29. 51					G	25	32. 19					
30	30 44	019738		007553		J H	30	31. 16	017818		009892		
35	31. 28						35	31. 1					
40	32. 22	020003		007632			40	30. 53	017524		009930		
45	33. 38						45	30. 25					
50	34. 46	019620		007867			50	29. 57	018015		009975		
55	36. 46						55	29. 3					

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′. 48″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 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, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Vertical Plane, $27^s.5$; in Horizontal Plane, $24^s.3$.

Term-Day Observations of August 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.	Observers.	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.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Aug. 27. 18. 0	246. 28. 10	0·018701	66·0	0·010155	66·0	P	Aug. 27. 22. 0	246. 27. 24	0·017694	64·5	0·011299	64·0	G
5	27. 36						5	28. 13					
10	26. 41	018752		010193			10	26. 27	017564		011271		
15	26. 10						15	25. 18					
20	25. 57	018089		010141			20	23. 7	017384		011295		G
25	25. 58						25	23. 10					P
30	25. 28	018247		010165			30	22. 54	016520		011233		
35	25. 0						35	21. 58					
40	24. 25	018111		010274			40	23. 12	015726		011177		
45	24. 46						45	24. 6					
50	26. 42	018701		010387			50	23. 18	014878		011208		
55	27. 6						55	26. 25					
Aug. 27. 19. 0	246. 27. 53	0·019421	64·8	0·010462	65·0	P	Aug. 27. 23. 0	246. 28. 26	0·014723	66·0	0·011206	65·0	P
5	28. 23						5	27. 39					
10	29. 1	020217		010531			10	27. 54	014940		011224		
15	28. 53						15	26. 49					
20	27. 53	020885		010659			20	26. 44	015051		011177		
25	27. 53						25	24. 55					
30	27. 59	021077		010731			30	24. 15	015564		011177		
35	29. 23					P	35	23. 24					
40	29. 44	020608		010707		D	40	23. 45	015970		011177		
45	31. 2						45	22. 37					
50	31. 41	020129		010766			50	22. 39	016435		011177		
55	31. 34						55	22. 46					
Aug. 27. 20. 0	246. 31. 37	0·018874	64·3	0·010853	64·0	D	Aug. 28. 0. 0	246. 23. 11	0·017004	67·8	0·011177	67·0	P
5	31. 32						5	22. 33					D
10	31. 39	019443		010929			10	23. 28	017509		011163		
15	32. 37						15	22. 49					
20	32. 20	019579		010989			20	22. 35	017535		011144		
25	31. 15						25	23. 8					
30	30. 57	019446		011082			30	23. 44	017882		011003		
35	31. 31						35	23. 23					
40	31. 30	019055		011113			40	23. 11	018288		010998		
45	30. 37						45	23. 16					
50	30. 12	019384		011207			50	23. 8	018148		010856		
55	30. 32						55	23. 5					
Aug. 27. 21. 0	246. 30. 34	0·019036	63·5	0·011226	63·5	D	Aug. 28. 1. 0	246. 21. 55	0·018638	68·3	0·010805	67·5	D
5	31. 18						5	21. 27					
10	32. 28	018380		011219			10	21. 32	018454		010697		
15	33. 28						15	21. 16					
20	32. 17	018719		011248			20	21. 0	018347		010636		
25	32. 14						25	20. 38					
30	31. 12	018491		011300			30	20. 23	018483		010612		
35	30. 29					D	35	19. 57					
40	29. 49	018284		011345		G	40	20. 21	017372		010542		D
45	31. 1						45	20. 56					J H
50	29. 38	017785		011324			50	20. 56	017513		010432		
55	28. 9						55	20. 44					

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′. 48″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 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, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Vertical Plane, $27^s.5$; in Horizontal Plane, $24^s.3$.

Term-Day Observations of August 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.	Observers.
d h m	° ′ ″		°		°	
Aug. 28. 2. 0	246. 20. 45	0·017771	70·0	0·010404	68·8	J H
5	21. 3					
10	21. 15	018199		010376		
15	21. 11					
20	21. 32	018752		010320		
25	21. 23					
30	21. 29	018797		010315		
35	22. 21					J H
40	23. 0	018018		010160		D
45	23. 10					
50	22. 55	018159		010118		
55	23. 7					
Aug. 28. 3. 0	246. 23. 22	0·017782	72·0	0·010108	71·0	D
5	24. 11					
10	24. 36	018118		010028		
15	25. 3					
20	25. 4	018797		010024		
25	25. 9					
30	25. 30	018409		009981		
35	26. 15					
40	26. 30	018358		009864		
45	26. 24					
50	26. 25	018941		009789		
55	26. 0					
Aug. 28. 4. 0	246. 25. 45	0·019639	73·0	0·009789	72·0	D
5	25. 55					
10	25. 51	018978		009717		
15	25. 30					
20	25. 42	018037		009543		
25	26. 3					
30	26. 16	018104		009426		
35	26. 31					D
40	26. 55	018737		009388		G
45	27. 2					
50	27. 8	018613		009397		
55	27. 36					
Aug. 28. 5. 0	246. 27. 57	0·018376	73·0	0·009365	72·5	G
5	28. 3					
10	27. 59	018808		009369		
15	28. 8					
20	28. 12	018140		009350		
25	28. 24					
30	28. 26	018281		009360		
35	28. 21					
40	28. 36	018350		009365		
45	28. 33					
50	28. 32	018469		009365		
55	29. 3					
Aug. 28. 6. 0	246. 29. 20	0·017981	73·0	0·009397	72·2	G
5	29. 7					
10	29. 22	018292		009402		
15	29. 16					
20	30. 23	018653		009541		
25	31. 57					
30	34. 16	018317		009529		
35	35. 37					G
40	35. 20	018609		009609		J H
45	35. 19					
50	36. 6	018394		009679		
55	36. 44					
Aug. 28. 7. 0	246. 37. 12	0·018239	72·3	0·009694	72·4	J H
5	36. 54					
10	37. 24	019050		009694		
15	35. 57					
20	34. 48	019029		009765		
25	32. 58					
30	32. 52	018093		009616		
35	32. 53					
40	33. 4	017834		009548		
45	33. 29					
50	33. 56	017981		009501		
55	33. 51					
Aug. 28. 8. 0	246. 34. 5	0·018261	72·0	0·009538	72·0	J H
5	34. 27					
10	34. 42	018369		009545		
15	34. 36					
20	34. 29	018040		009532		
25	34. 26					
30	34. 45	017579		009491		
35	35. 24					J H
40	34. 44	018277		009553		P
45	34. 17					
50	34. 7	018321		009576		
55	34. 19					
Aug. 28. 9. 0	246. 33. 42	0·018137	70·4	0·009600	71·0	P
5	33. 7					
10	32. 37	018303		009650		
15	32. 46					
20	32. 41	018166		009698		
25	33. 19					
30	33. 57	018177		009681		
35	34. 13					
40	34. 30	018162		009722		
45	34. 31					
50	34. 43	018077		009812		
55	34. 49					
60				009845		

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′. 48″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 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, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Vertical Plane, $27^s.5$; in Horizontal Plane, $24^s.3$.

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.	Observers.
d h m	° ′ ″		°		°	
Sep. 22. 10. 0	246. 32. 35	0·020922	64·8		64·0	G
5	33. 6					
10	32. 41	020391		0·009302		
15	32. 44					
20	33. 47	019631		009244		
25	34. 42					
30	34. 26	019676		009246		
35	33. 24					
40	32. 41	019336		009369		
45	32. 5					
50	31. 37	019099		009388		
55	31. 27					
Sep. 22. 11. 0	246. 31. 11	0·019081	64·5	0·009454	64·0	G
5	30. 33					
10	30. 5	019036		009520		
15	29. 42					
20	29. 18	019062		009571		
25	29. 13					
30	29. 2	019147		009628		
35	28. 59					
40	29. 10	019373		009661		
45	29. 3					
50	28. 45	019369		009679		
55	28. 25					
Sep. 22. 12. 0	246. 28. 27	0·019313	64·5	0·009745	64·0	G
5	28. 35					G
10	28. 27	019344		009785		J H
15	28. 21					
20	28. 27	019520		009844		
25	28. 25					
30	28. 28	019661		009888		
35	28. 26					
40	28. 37	019542		009920		
45	28. 44					
50	28. 56	019468		009943		
55	28. 56					
Sep. 22. 13. 0	246. 28. 37	0·019421	63·0	0·009981	63·0	J H
5	28. 41					
10	28. 41	019461		010020		
15	28. 43					
20	28. 30	019661		010059		
25	28. 5					
30	28. 26	019705		010100		
35	28. 27					
40	28. 18	019527		010127		
45	28. 34					
50	28. 16	019701		010132		
55	28. 6					

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.	Observers.
d h m	° ′ ″		°		°	
Sep. 22. 14. 0	246. 28. 5	0·019845	62·7	0·010170	62·7	J H
5	28. 1					
10	28. 13	019811		010207		
15	28. 24					
20	28. 26	019823		010226		
25	28. 51					
30	28. 38	019745		010255		
35	28. 55					J H
40	29. 12	019878		010288		D
45	29. 13					
50	29. 11	019930		010294		
55	29. 17					
Sep. 22. 15. 0	246. 29. 29	0·019955	62·5	0·010320	62·3	D
5	29. 51					
10	30. 5	019831		010320		
15	30. 18					
20	30. 17	019731		010348		
25	30. 4					
30	29. 55	019886		010400		
35	30. 3					
40	29. 58	019860		010432		
45	29. 48					
50	29. 39	020136		010476		
55	29. 37					
Sep. 22. 16. 0	246. 28. 58	0·019893	62·5	0·010509	62·0	D
5	29. 46					
10	30. 6	019959		010513		
15	30. 17					
20	30. 16	019845		010527		
25	30. 20					
30	30. 7	019842		010556		
35	30. 5					
40	29. 59	019922		010603		
45	30. 9					
50	30. 29	019842		010617		
55	30. 41					
Sep. 22. 17. 0	246. 30. 31	0·019915	62·0	0·010636	61·5	D
5	29. 57					D
10	29. 57	019959		010673		P
15	30. 2					
20	29. 56	020030		010706		
25	29. 49					
30	30. 1	019955		010733		
35	30. 20					
40	30. 40	020132		010746		
45	30. 31					
50	30. 30	020258		010782		
55	30. 30					

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′. 45″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 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 Vertical Plane, $27^s.5$; in Horizontal Plane, $24^s.3$.

Term-Day Observations of September 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.	Observers.	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.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Sep. 22. 18. 0	246. 30. 41	0·020376	61·0	0·010849	61·0	P	Sep. 22. 22. 0	246. 29. 32	0·018100	62·5	0·011036	61·8	G
5	30. 48						5	29. 15					
10	30. 47	020291		010834			10	28. 52	018543		011027		
15	30. 44						15	28. 18					
20	30. 37	020236		010880			20	28. 3	018321		010989		
25	30. 35						25	28. 1					
30	30. 34	020041		010894			30	27. 33	018258		010918		
35	31. 5						35	27. 8					
40	29. 36	019701		010918			40	26. 42	017044		010918		
45	30. 43						45	26. 47					
50	31. 18	019970		010966			50	26. 42	017767		010903		G
55	30. 53						55	26. 16					P
Sep. 22. 19. 0	246. 31. 39	0·019952	61·0	0·010989	61·0	P	Sep. 22. 23. 0	246. 26. 15	0·017276	61·0	0·010894	60·4	P
5	31. 55						5	25. 52					
10	31. 47	020015		011018			10	25. 22	017579		010894		
15	31. 43						15	24. 54					
20	30. 50	019620		011036			20	24. 39	017815		010913		
25	30. 44						25	23. 59					
30	30. 58	019538		011111			30	24. 9	017594		010894		
35	30. 57					P	35	23. 40					
40	30. 54	019875		011107		M	40	23. 46	017951		010856		
45	30. 35						45	23. 30					
50	31. 49	019823		011097			50	23. 28	017981		010838		
55	31. 9						55	22. 42					
Sep. 22. 20. 0	246. 31. 29	0·019797	61·0	0·011130	60·5	M	Sep. 23. 0. 0	246. 23. 4	0·017988	62·0	0·010800	61·0	P
5	31. 4						5	22. 59					D
10	31. 7	019627		011135			10	22. 18	018214		010791		
15	31. 22						15	21. 40					
20	31. 20	019498		011135			20	21. 34	018413		010767		
25	31. 39						25	21. 41					
30	31. 56	019457		011149			30	21. 48	018409		010659		
35	31. 22						35	21. 34					
40	31. 9	019443		011153			40	21. 42	018254		010692		
45	30. 46						45	21. 28					
50	30. 43	019133		011142			50	21. 26	018093		010668		
55	31. 6						55	21. 28					
Sep. 22. 21. 0	246. 30. 28	0·018874	60·8	0·011131	60·3	M	Sep. 23. 1. 0	246. 21. 41	0·018022	62·8	0·010650	62·8	D
5	30. 51						5	21. 55					
10	31. 8	018741		011116			10	21. 51	018431		010621		
15	31. 13						15	21. 41					D
20	31. 11	018804		011088			20	21. 21	018642		010612		J H
25	30. 19					M	25	21. 25					
30	30. 14	018310		011027		G	30	21. 29	018649		010593		
35	29. 46						35	21. 28					
40	29. 48	018243		011041			40	21. 29	018781		010593		
45	29. 31						45	21. 38					
50	29. 20	018048		011064			50	21. 48	018774		010579		
55	29. 30						55	22. 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°. 51′. 45″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 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 Vertical Plane, $27^s.5$; in Horizontal Plane, $24^s.3$.

Term-Day Observations of September 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.	Observers.	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.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Sep. 23. 2. 0	246. 22. 0	0·018878	64·0	0·010542	63·5	J H	Sep. 23. 6. 0	246. 26. 11	0·020601	64·0	0·010212	63·5	G
5	22. 2					D	5	25. 52					
10	22. 11	019018		010513			10	25. 52	021376		010202		
15	22. 20						15	26. 23					
20	22. 16	019114		010513			20	26. 48	021464		010273		
25	22. 33						25	26. 42					
30	22. 21	019280		010518			30	26. 11	020453		010259		G
35	22. 27					D	35	26. 3					J H
40	22. 13	019509		010504		P	40	26. 3	017818		010221		
45	22. 9						45	25. 53					
50	21. 48	019900		010542			50	25. 54	019919		010235		
55	21. 50						55	25. 56					
Sep. 23. 3. 0	246. 22. 4	0·019720	64·0	0·010565	63·5	P	Sep. 23. 7. 0	246. 25. 50	0·020030	63·0	0·010273	63·3	J H
5	22. 3						5	25. 52					
10	22. 41	019594		010589			10	25. 53	020502		010296		
15	22. 12						15	25. 59					
20	22. 19	019875		010612			20	26. 7	020517		010310		
25	22. 22						25	26. 12					
30	22. 31	020037		010589			30	26. 27	020373		010342		
35	22. 40						35	26. 18					
40	22. 46	020059		010518			40	26. 30	020484		010359		
45	23. 6						45	26. 28					
50	23. 46	019605		010423			50	26. 34	020495		010395		
55	23. 55						55	26. 44					
Sep. 23. 4. 0	246. 23. 59	0·019284	64·0	0·010329	64·0	P	Sep. 23. 8. 0	246. 26. 29	0·020852	62·6	0·010432	62·4	J H
5	24. 9						5	26. 20					
10	24. 25	019432		010329			10	26. 17	020627		010461		
15	24. 39						15	26. 15					
20	24. 44	019366		010282			20	26. 13	020738		010504		
25	24. 58						25	26. 13					
30	25. 4	019690		010282			30	26. 13	020790		010532		
35	25. 8					P	35	26. 29					J H
40	25. 19	019764		010282		G	40	26. 20	020901		010579		D
45	25. 33						45	26. 35					
50	25. 45	019771		010226			50	26. 34	020827		010574		
55	25. 32						55	26. 44					
Sep. 23. 5. 0	246. 25. 43	0·019992	64·5	0·010193	63·5	G	Sep. 23. 9. 0	246. 26. 41	0·020712	62·8	0·010621	62·0	D
5	25. 49						5	26. 20					
10	25. 57	020048		010235			10	26. 47	021018		010668		
15	25. 50						15	26. 48					
20	26. 9	020132		010235			20	26. 50	020919		010673		
25	26. 25						25	26. 50					
30	26. 9	020110		010221			30	26. 49	020952		010711		
35	26. 5						35	26. 43					
40	26. 6	020480		010240			40	26. 44	020960		010753		
45	26. 11						45	26. 41					
50	26. 10	020487		010207			50	26. 44	020996		010762		
55	26. 8						55	26. 51					
							60				010767		

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′. 45″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 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 Vertical Plane, $27^s.5$; in Horizontal Plane, $24^s.3$.

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.	Observers.	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.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Oct. 20. 10. 0	246. 45. 21	0·021826	50·0		53·0	G	Oct. 20. 14. 0	246. 54. 49	0·020586	57·0	0·012786	55·8	D
5	45. 25						5	54. 45					
10	45. 25	021819		0·013512			10	54. 50	019985		012777		
15	45. 28						15	54. 31					
20	45. 46	021852		013510			20	51. 18	020022		012805		
25	45. 35						25	48. 56					
30	45. 59	021930		013578			30	45. 19	019538		012777		
35	46. 8						35	42. 56					D
40	45. 59	021734		013569			40	40. 45	018970		012521		J H
45	46. 16						45	40. 33					
50	46. 34	021830		013578			50	41. 30	018859		012421		
55	46. 57						55	42. 41					
Oct. 20. 11. 0	246. 47. 10	0·021627	49·5	0·013578	53·0	G	Oct. 20. 15. 0	246. 43. 37	0·020228	56·8	0·012437	55·5	J H
5	47. 33						5	44. 24					
10	48. 11	022180		013573			10	45. 38	020667		012392		
15	48. 18						15	46. 12					
20	48. 13	021487		013578			20	47. 20	021144		012410		
25	48. 26						25	47. 56					
30	48. 39	020564		013578			30	48. 28	021468		012429		
35	48. 56						35	49. 1					
40	49. 1	020871		013578			40	49. 16	021686		012439		
45	48. 29						45	49. 57					
50	48. 30	023196		013587			50	51. 23	021890		012425		
55	47. 0						55	52. 3					
Oct. 20. 12. 0	246. 45. 2	0·024148	55·0	0·013625	54·0	G	Oct. 20. 16. 0	246. 52. 46	0·021901	56·4	0·012406	55·0	J H
5	48. 21					D	5	53. 38					
10	46. 42	024520		013334			10	54. 20	022435		012241		
15	47. 27						15	56. 45					
20	47. 51	023516		013145			20	57. 31	022911		012342		
25	49. 0						25	57. 46					
30	50. 44	023148		013018			30	57. 11	022656		012397		
35	52. 23						35	56. 29					
40	53. 20	023004		012980			40	55. 15	022468		012448		
45	54. 8						45	246. 54. 4					
50	55. 8	022379		012919			50	247. 1. 27	021926		012486		
55	55. 54						55	246. 51. 49					
Oct. 20. 13. 0	246. 56. 45	0·021945	56·0	0·012877	55·0	D	Oct. 20. 17. 0	246. 52. 31	0·022213	56·0	0·012537	54·3	J H
5	56. 21						5	52. 20					J H
10	55. 37	021033		012896			10	52. 17	022642		012489		P
15	55. 39						15	53. 2					
20	56. 16	020927		012886			20	52. 45	021435		012378		
25	55. 54						25	53. 2					
30	55. 4	021261		012919			30	52. 48	020557		012401		
35	54. 17						35	51. 35					
40	54. 7	021122		012938			40	51. 44	020019		012410		
45	54. 59						45	51. 32					
50	55. 23	020619		012839			50	52. 0	019299		012457		
55	54. 44						55	50. 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°. 51′. 55″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 259°.
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 Vertical Plane, $27^s.5$; in Horizontal Plane, $24^s.3$.

Term-Day Observations of October 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.	Observers.
d h m	° ′ ″		°		°	
Oct. 20. 18. 0	246. 49. 47	0·018885	55·0	0·012542	54·0	P
5	49. 51					
10	49. 42	018350		012636		
15	48. 46					
20	50. 3	018704		012613		
25	49. 36					
30	48. 54	019269		012683		
35	46. 17					
40	44. 25	020752		012872		
45	42. 30					
50	42. 3	021756		012825		
55	42. 16					
Oct. 20. 19. 0	246. 41. 8	0·021748	54·8	0·012730	53·5	P
5	41. 26					
10	41. 54	022457		012636		
15	43. 2					
20	44. 10	022251		012589		
25	43. 56					
30	45. 10	022067		012589		
35	44. 51					P
40	45. 19	021232		012641		M
45	45. 31					
50	43. 58	020734		012777		
55	43. 48					
Oct. 20. 20. 0	246. 44. 6	0·020779	53·2	0·012830	52·8	M
5	44. 5					
10	46. 33	020630		013008		
15	46. 49					
20	49. 2	020262		013206		
25	50. 22					
30	51. 21	020923		013229		
35	50. 30					
40	49. 28	020564		013352		
45	49. 59					
50	48. 38	021542		013465		
55	49. 11					
Oct. 20. 21. 0	246. 49. 34	0·021004	52·5	0·013475	51·8	M
5	49. 49					
10	44. 56	020823		013508		
15	44. 23					
20	44. 40	025550		013578		
25	44. 22					
30	42. 10	019639		013594		
35	44. 27					M
40	44. 44	019122		013602		G
45	48. 35					
50	48. 5	018989		013918		
55	47. 41					

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.	Observers.
d h m	° ′ ″		°		°	
Oct. 20. 22. 0	246. 47. 9	0·019572	52·0	0·013884	51·0	G
5	48. 30					
10	47. 27	019583		014026		
15	46. 21					
20	44. 5	019077		014040		
25	44. 3					G
30	44. 50	019565		014054		D
35	43. 46					
40	44. 19	019594		014049		
45	44. 37					
50	44. 34	019479		014077		
55	45. 50					
Oct. 20. 23. 0	246. 44. 0	0·019701	53·2	0·014063	52·4	D
5	44. 15					
10	43. 6	019384		014049		
15	40. 41					
20	44. 36	018646		013992		
25	39. 32					
30	37. 57	019317		014040		
35	38. 3					
40	37. 15	017756		014011		
45	38. 21					D
50	39. 7	017624		013916		P
55	40. 32					
Oct. 21. 0. 0	246. 41. 8	0·017484	55·2	0·013898	53·4	P
5	40. 53					
10	39. 13	017357		013860		
15	38. 44					
20	40. 14	018140		013860		
25	40. 32					
30	39. 40	018221		013898		
35	40. 9					
40	42. 14	019269		013851		
45	41. 50					
50	40. 54	019107		013757		
55	40. 5					
Oct. 21. 1. 0	246. 38. 40	0·018867	56·0	0·013719	54·4	P
5	38. 40					P
10	38. 9	018387		013672		JH
15	37. 4					JH
20	36. 51	016432		013540		D
25	37. 12					
30	35. 48	016000		013531		
35	36. 45					
40	37. 3	016351		013663		
45	39. 45					
50	41. 47	017096		013757		
55	43. 9					

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′. 55″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 259°.
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 Vertical Plane, $27^s.5$; in Horizontal Plane, $24^s.3$.

Term-Day Observations of October 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.	Observers.
d h m	° ′ ″		°		°	
Oct. 21. 2. 0	246. 44. 41	0·017553	57·5	0·013916	56·5	D
5	44. 7					
10	44. 12	017727		013879		
15	43. 55					
20	42. 43	017804		013874		
25	41. 32					
30	41. 50	017447		013860		
35	41. 17					D
40	41. 59	018173		013766		P
45	43. 36					
50	43. 52	018759		013644		
55	43. 0					
Oct. 21. 3. 0	246. 40. 32	0·019505	57·5	0·013644	56·5	P
5	39. 47					
10	38. 34	019992		013616		
15	36. 59					
20	37. 20	020184		013625		
25	38. 12					
30	39. 36	020099		013625		
35	38. 42					
40	35. 26	020118		013681		
45	35. 25					
50	37. 4	018785		013578		
55	36. 38					
Oct. 21. 4. 0	246. 37. 34	0·017631	57·4	0·013578	56·4	P
5	39. 31					
10	43. 17	017782		013602		
15	50. 41					
20	55. 21	020885		013672		
25	51. 30					
30	48. 5	021712		014049		
35	45. 48					P
40	43. 54	020509		013813		G
45	44. 7					
50	44. 1	020265		013625		
55	43. 32					
Oct. 21. 5. 0	246. 43. 2	0·020498	57·0	0·013461	56·0	G
5	43. 24					
10	43. 20	021217		013493		
15	43. 42					
20	43. 44	020907		013531		
25	43. 56					
30	44. 5	020568		013489		
35	44. 29					
40	44. 50	020121		013442		
45	44. 21					
50	44. 44	019240		013437		
55	46. 43					

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.	Observers.
d h m	° ′ ″		°		°	
Oct. 21. 6. 0	246. 49. 38	0·020140	57·0	0·013432	55·2	G
5	49. 48					
10	49. 19	020439		013428		
15	48. 44					
20	49. 34	019262		013531		
25	246. 57. 0					
30	247. 0. 19	020033		013399		
35	3. 28					G
40	8. 58	021254		013385		D
45	8. 18					
50	4. 58	021476		013508		
55	5. 39					
Oct. 21. 7. 0	247. 5. 36	0·020262	57·0	0·013404	55·8	D
5	4. 29					
10	3. 54	019534		013392		
15	3. 33					
20	247. 1. 14	020362		013399		
25	246. 57. 57					
30	55. 15	020373		013428		
35	56. 34					
40	58. 28	020169		013276		
45	57. 59					
50	57. 45	020048		013257		
55	58. 58					
Oct. 21. 8. 0	246. 56. 9	0·020863	56·5	0·013248	55·5	D
5	53. 36					
10	52. 6	020125		013257		
15	51. 28					D
20	51. 27	019465		013239		J H
25	51. 43					
30	51. 47	019520		013229		
35	51. 18					
40	50. 20	020092		013301		
45	48. 58					
50	47. 34	018856		013348		
55	47. 19					
Oct. 21. 9. 0	246. 46. 57	0·019864	55·2	0·013348	54·0	J H
5	46. 27					
10	46. 11	019864		013348		
15	45. 55					
20	45. 52	019808		013371		
25	46. 55					
30	47. 4	020671		013376		
35	46. 6					
40	45. 10	020487		013395		
45	45. 9					
50	45. 43	020867		013409		
55	45. 50					
60				013414		

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′. 55″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 259°.
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 Vertical Plane, $27^s.5$; in Horizontal Plane, $24^s.3$.

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.	Observers.	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.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Nov. 26. 10. 0	246. 35. 40	0·023741	46·0		45·0	G	Nov. 26. 14. 0	246. 35. 45	0·023627	50·2	0·010056	48·0	D
5	34. 41						5	35. 35					
10	35. 13	024350		0·010857			10	34. 36	023453		010024		
15	35. 20						15	34. 36					
20	35. 50	024409		010852			20	34. 50	023619		009958		
25	35. 25						25	35. 6					
30	35. 44	024513		010847			30	34. 48	023384		009901		
35	35. 55						35	34. 39					
40	36. 1	024413		010847			40	35. 23	023406		009850		
45	35. 59						45	35. 55					
50	36. 14	024391		010838			50	36. 21	023287		009774		
55	36. 7						55	36. 24					
Nov. 26. 11. 0	246. 35. 58	0·024458	46·5	0·010800	45·5	G	Nov. 26. 15. 0	246. 36. 28	0·023280	50·5	0·009765	48·5	D
5	36. 19						5	36. 40					
10	36. 19	023767		010767			10	37. 18	023126		009664		
15	36. 16						15	37. 8					
20	36. 26	024014		010753			20	37. 7	023088		009628		
25	36. 21						25	36. 54					
30	36. 7	024240		010697			30	37. 15	023052		009618		
35	35. 59						35	36. 21					D
40	35. 46	024469		010678			40	35. 54	023170		009595		J H
45	35. 40						45	35. 40					
50	35. 40	024387		010626			50	35. 41	023439		009571		
55	35. 29						55	35. 43					
Nov. 26. 12. 0	246. 35. 23	0·023819	47·0	0·010612	46·0	G	Nov. 26. 16. 0	246. 35. 10	0·023358	50·7	0·009534	48·6	J H
5	35. 32						5	34. 57					
10	35. 27	023763		010556			10	34. 56	023170		009501		
15	35. 34						15	35. 35					
20	35. 38	024037		010542			20	35. 57	023203		009435		
25	35. 55						25	36. 18					
30	36. 3	023608		010447			30	35. 52	023523		009412		
35	36. 18						35	35. 49					
40	36. 17	023457		010432			40	36. 2	023527		009388		
45	36. 7						45	36. 4					
50	35. 46	023309		010414			50	36. 11	023457		009360		
55	35. 50						55	36. 25					
Nov. 26. 13. 0	246. 35. 48	0·023951	50·0	0·010334	47·0	G	Nov. 26. 17. 0	246. 36. 14	0·024073	50·7	0·009327	49·0	J H
5	35. 56						5	35. 37					
10	35. 51	023066		010287		D	10	35. 22	023232		009327		
15	35. 34						15	35. 15					
20	35. 38	023309		010237			20	35. 1	023265		009277		
25	35. 38						25	35. 22					
30	35. 41	023099		010185			30	35. 23	023634		009246		
35	35. 52						35	35. 24					
40	35. 48	023110		010119			40	35. 29	022970		009199		
45	35. 51						45	35. 28					
50	35. 41	023166		010085			50	34. 58	023771		009168		
55	36. 2						55	35. 38					

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′. 55″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in 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 Vertical Plane, $27^s.5$; in Horizontal Plane, $24^s.3$.

Term-Day Observations of November 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.	Observers.	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.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Nov. 26. 18. 0	246. 35. 43	0·023550	51·0	0·009196	49·4	J H	Nov. 26. 22. 0	246. 35. 6	0·023298	51·5	0·008837	49·5	J H
5	35. 48					J H	5	34. 37					
10	35. 47	023395		009152		P	10	34. 49	023265		008795		
15	36. 7						15	34. 58					
20	36. 20	023527		009114			20	34. 36	023004		008809		
25	36. 36						25	34. 12					
30	36. 39	022376		009105			30	34. 8	023077		008809		
35	36. 32						35	33. 59					
40	36. 34	023871		009105			40	34. 19	022645		008781		
45	36. 31						45	33. 42					
50	35. 57	023428		009077			50	33. 54	022808		008767		
55	36. 12						55	33. 41					
Nov. 26. 19. 0	246. 35. 53	0·023247	51·5	0·009077	50·0	P	Nov. 26. 23. 0	246. 33. 58	0·022775	51·6	0·008724	49·7	J H
5	36. 10						5	33. 40					
10	35. 30	023863		009058			10	33. 21	022930		008734		J H
15	35. 22						15	33. 34					P
20	35. 30	023324		009011			20	33. 4	022821		008635		
25	35. 17						25	32. 40					
30	35. 36	023218		009000			30	32. 35	022855		008635		
35	35. 35						35	32. 44					
40	35. 42	023284		008964			40	32. 47	022999		008635		
45	35. 35						45	32. 32					
50	35. 42	023130		008917			50	32. 25	022985		008635		
55	35. 40						55	32. 13					
Nov. 26. 20. 0	246. 35. 38	0·023011	51·8	0·008917	50·2	P	Nov. 27. 0. 0	246. 32. 12	0·023210	51·4	0·008635	51·0	P
5	35. 33						5	31. 59					
10	35. 36	023033		008917			10	31. 54	023340		008612		P
15	35. 36						15	32. 8					D
20	35. 33	023055		008917			20	31. 40	023074		008578		
25	35. 40						25	31. 38					
30	35. 34	022804		008879			30	31. 31	023130		008564		
35	35. 51						35	31. 36					
40	35. 47	022933		008823			40	31. 42	023059		008573		
45	35. 39					P	45	31. 46					
50	35. 51	023188		008879		G	50	31. 40	022922		008597		
55	35. 28						55	31. 39					
Nov. 26. 21. 0	246. 35. 29	0·023055	52·0	0·008837	51·0	G	Nov. 27. 1. 0	246. 31. 48	0·022837	51·3	0·008612	51·0	D
5	35. 23						5	31. 59					
10	35. 39	022996		008870			10	31. 44	023103		008626		
15	35. 53						15	31. 22					
20	35. 40	023181		008870			20	32. 1	023475		008635		
25	35. 38						25	31. 50					
30	35. 41	023115		008884			30	31. 56	022937		008602		
35	35. 34						35	31. 21					D
40	35. 31	023163		008861			40	32. 5	023601		008621		J H
45	35. 32						45	32. 21					
50	35. 18	023148		008856			50	32. 40	023232		008616		
55	35. 17					G	55	32. 42					

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′. 55″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in 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 Vertical Plane, $27^s.5$; in Horizontal Plane, $24^s.3$.

Term-Day Observations of November 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.	Observers.
d h m	° ′ ″		°		°	
Nov. 27. 2. 0	246. 32. 41	0·022966	52·3	0·008573	52·0	J H
5	32. 40					
10	32. 37	023749		008465		
15	32. 27					
20	32. 36	022852		008597		
25	32. 38					
30	32. 55	023141		008573		
35	32. 39					J H
40	32. 40	023380		008545		D
45	32. 37					
50	32. 37	023298		008540		
55	32. 24					
Nov. 27. 3. 0	246. 32. 41	0·022966	52·5	0·008526	52·0	D
5	32. 45					
10	32. 18	023119		008498		
15	32. 31					
20	32. 22	023177		008479		
25	32. 44					
30	32. 43	023088		008404		
35	32. 48					
40	32. 39	023258		008418		
45	32. 48					
50	32. 43	023287		008540		
55	32. 45					
Nov. 27. 4. 0	246. 32. 51	0·022970	53·8	0·008310	52·8	D
5	32. 53					
10	32. 51	022826		008263		
15	32. 52					
20	33. 26	023055		008239		
25	33. 37					
30	33. 56	022970		008202		
35	34. 8					D
40	33. 39	022446		008159		G
45	33. 33					
50	33. 14	022409		008088		
55	33. 47					
Nov. 27. 5. 0	246. 33. 57	0·022937	55·0	0·008078	53·0	G
5	33. 58					
10	33. 58	022749		008027		
15	34. 1					
20	33. 54	022996		008022		
25	33. 59					
30	33. 14	022712		007975		
35	32. 47					
40	33. 27	023008		007909		
45	33. 39					
50	33. 21	022999		007867		
55	33. 57					
Nov. 27. 6. 0	246. 33. 51	0·022550	55·5	0·007796	53·5	G
5	34. 10					
10	34. 10	022753		007726		
15	34. 36					
20	35. 2	022634		007702		
25	34. 43					G
30	34. 46	022638		007670		P
35	34. 54					
40	35. 16	022682		007599		
45	35. 36					
50	35. 39	022435		007576		
55	35. 35					
Nov. 27. 7. 0	246. 35. 46	0·022723	55·5	0·007536	54·5	P
5	35. 54					
10	36. 2	022944		007529		
15	36. 16					
20	36. 11	023369		007467		
25	36. 5					
30	36. 7	022948		007448		
35	35. 58					
40	35. 55	022709		007411		
45	35. 54					
50	36. 8	022727		007372		
55	36. 16					
Nov. 27. 8. 0	246. 36. 13	0·023668	55·5	0·007363	54·8	P
5	36. 3					
10	35. 52	022908		007363		
15	35. 43					
20	35. 34	022642		007316		
25	35. 47					P
30	36. 10	022206		007316		J H
35	37. 17					
40	38. 11	022195		007259		
45	39. 7					
50	39. 27	022808		007283		
55	38. 47					
Nov. 27. 9. 0	246. 37. 54	0·022771	54·8	0·007354	54·0	J H
5	37. 19					
10	36. 45	022705		007372		
15	36. 42					
20	38. 34	022656		007302		
25	38. 56					
30	38. 53	022966		007330		
35	38. 51					
40	38. 47	022830		007344		
45	38. 32					
50	38. 1	022977		007344		
55	37. 48					
60				007335		

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′. 55″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in 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 Vertical Plane, $27^s.5$; in Horizontal Plane, $24^s.3$.

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.	Observers.	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.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Dec. 22. 10. 0	246. 40. 5	0·023738	43·0		42·0	G	Dec. 22. 14. 0	246. 36. 40	0·022844	46·5	0·009163	45·2	D
5	40. 45						5	36. 50					
10	39. 59	022550		0·010207			10	36. 27	022689		008972		
15	40. 7						15	36. 27					
20	39. 6	022709		010235			20	36. 15	022900		008921		
25	38. 0						25	36. 16					
30	37. 31			010291			30	36. 11	022904		008823		
35	37. 28						35	36. 5					
40	39. 26	022317		010226			40	36. 1	022800		008753		
45	40. 13						45	36. 13					
50	40. 36	023099		010197			50	36. 12	022760		008649		
55	40. 30						55	36. 23					
Dec. 22. 11. 0	246. 39. 25	0·022546	43·0	0·010179	42·0	G	Dec. 22. 15. 0	246. 36. 22	0·022723	47·2	0·008564	46·0	D
5	39. 33						5	35. 59					
10	39. 51	022620		010141			10	35. 42	022819		008469		
15	40. 2						15	35. 27					
20	39. 53	023490		010118			20	35. 32	022760		008408		
25	38. 26						25	35. 28					D
30	37. 42	023358		010089			30	35. 20	022808		008352		J H
35	37. 12						35	35. 33					
40	36. 42	023395		010033			40	35. 28	022760		008314		
45	36. 38						45	35. 25					
50	36. 34	023398		009962			50	35. 25	022897		008267		
55	35. 55						55	35. 11					
Dec. 22. 12. 0	246. 34. 35	0·023690	44·0	0·009897	43·0	G	Dec. 22. 16. 0	246. 35. 4	0·023077	47·3	0·008239	46·4	J H
5	34. 1						5	34. 55					
10	33. 20	023358		009812			10	35. 36	022822		008178		
15	32. 32						15	36. 7					
20	32. 48	023030		009717			20	36. 22	022749		008136		
25	33. 51						25	36. 25					
30	34. 40	022911		009614			30	36. 21	022760		008107		
35	35. 2						35	36. 12					
40	35. 26	022922		009581			40	35. 47	022988		008097		
45	35. 49						45	35. 52					
50	35. 51	023033		009520			50	35. 53	022893		008078		
55	36. 1						55	35. 26					
Dec. 22. 13. 0	246. 36. 11	0·022870	46·0	0·009433	43·5	G	Dec. 22. 17. 0	246. 36. 2	0·022627	48·3	0·008050	46·6	J H
5	36. 10						5	35. 24					
10	36. 12	022675		009388			10	35. 43	022494		008027		
15	36. 14					G	15	35. 31					
20	36. 39	022244		009346		D	20	35. 42	022479		008003		
25	37. 31						25	36. 7					
30	38. 15	022501		009294			30	35. 23	023085		007975		
35	38. 49						35	35. 14					
40	38. 33	022709		009255			40	35. 31	022919		007961		
45	38. 1						45	36. 5					J H
50	37. 30	022645		009237			50	36. 15	023276		007881		P
55	37. 30						55	35. 56					

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′. 55″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in 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 Vertical Plane, $27^s.5$; in Horizontal Plane, $24^s.3$.

Dec. $22^d.10^h.32^m.30^s$, P.M. The observation of the Horizontal Force Magnetometer inadvertently omitted.

Term-Day Observations of December 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.	Observers.
d h m	° ′ ″		°		°	
Dec. 22. 18. 0	246. 35. 44	0·023358	48·0	0·007890	47·2	P
5	35. 34					
10	33. 44	023232		007876		
15	34. 11					
20	34. 43	023351		007806		
25	34. 39					
30	34. 3	023483		007796		
35	34. 15					
40	34. 32	023683		007796		
45	34. 49					
50	34. 47	023727		007749		
55	33. 50					
Dec. 22. 19. 0	246. 33. 53	0·023808	48·0	0·007749	47·2	P
5	33. 33					
10	33. 26	023468		007749		
15	33. 27					
20	33. 28	023229		007717		
25	33. 27					
30	33. 20	022988		007693		
35	33. 16					P
40	32. 47	022904		007693		M
45	32. 27					
50	32. 11	022833		007726		
55	31. 7					
Dec. 22. 20. 0	246. 30. 41	0·022229	47·8	0·007717	47·0	M
5	30. 57					
10	30. 54	021893		007684		
15	31. 1					
20	30. 55	021845		007688		
25	30. 50					
30	31. 13	021959		007632		
35	31. 49					
40	32. 38	022723		007764		
45	32. 30					
50	32. 58	022789		007757		
55	33. 45					
Dec. 22. 21. 0	246. 33. 55	0·023214	48·0	0·007772	46·8	M
5	32. 11					
10	31. 53	023026		007799		
15	31. 28					
20	31. 7	023004		007764		
25	30. 51					
30	31. 20	022723		007769		
35	33. 14					M
40	33. 6	022778		007716		G
45	32. 40					
50	33. 12	022963		007754		
55	33. 9					

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.	Observers.
d h m	° ′ ″		°		°	
Dec. 22. 22. 0	246. 34. 35	0·022649	48·0	0·007825	47·0	G
5	35. 9					
10	34. 41	022118		007717		
15	35. 53					
20	34. 20	022379		007749		G
25	34. 6					J H
30	34. 14	022911		007712		
35	33. 15					
40	32. 10	022749		007731		
45	31. 42					
50	32. 11	022638		007665		
55	33. 12					
Dec. 22. 23. 0	246. 33. 59	0·022465	47·8	0·007675	47·0	J H
5	34. 13					
10	33. 59	022317		007623		
15	33. 38					J H
20	33. 32	022565		007675		D
25	31. 58					
30	33. 58	022616		007717		
35	33. 9					
40	33. 24	022723		007717		D
45	33. 25					P
50	33. 51	022472		007693		
55	32. 41					
Dec. 23. 0. 0	246. 31. 50	0·022129	48·5	0·007693	48·0	P
5	31. 55					
10	31. 5	022583		007721		
15	31. 40					
20	32. 25	022244		007599		
25	31. 59					
30	31. 53	022191		007599		
35	31. 53					
40	32. 7	022026		007599		
45	32. 20					
50	32. 14	021841		007552		P
55	32. 46					D
Dec. 23. 1. 0	246. 32. 40	0·022122	49·0	0·007566	48·5	D
5	34. 2					
10	32. 38	022383		007566		
15	33. 0					
20	33. 1	022689		007571		
25	32. 36					
30	32. 38	022930		007585		
35	32·37					
40	32·23	022988		007599		D
45	33. 1					J H
50	33. 1	023110		007571		
55	33. 11					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′. 55″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in 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 Vertical Plane, $27^s.5$; in Horizontal Plane, $24^s.3$.

Term-Day Observations of December 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.	Observers.	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.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Dec. 23. 2. 0	246. 33. 49	0·022988	49·0	0·007524	48·0	J H	Dec. 23. 6. 0	246. 35. 2	0·022620	51·0	0·007043	50·0	G
5	33. 52						5	34. 54					
10	34. 3	023174		007529			10	35. 1	022605		007010		
15	34. 6						15	34. 56					
20	34. 18	023406		007519			20	35. 0	021376		006869		
25	34. 17					J H	25	34. 58					
30	34. 5	023380		007505		P	30	34. 55	022498		006874		
35	34. 18					P	35	34. 56					G
40	34. 19	023309		007500		D	40	35. 8	021956		006822		P
45	34. 17						45	35. 16					
50	34. 13	023247		007482			50	36. 8	022078		006751		
55	34. 8						55	36. 19					
Dec. 23. 3. 0	246. 34. 1	0·023497	49·2	0·007482	49·0	D	Dec. 23. 7. 0	246. 36. 10	0·022461	51·4	0·006741	50·8	P
5	33. 56						5	35. 52					
10	33. 51	023697		007472			10	35. 32	022568		006718		
15	33. 48						15	35. 58					
20	33. 59	023512		007458			20	36. 48	022158		006718		
25	34. 9						25	37. 22					
30	34. 24	023435		007443			30	37. 3			006657		
35	34. 25						35	36. 47					
40	34. 40	023340		007438			40	36. 17	022565		006657		
45	34. 33						45	35. 57					
50	34. 42	023144		007443			50	35. 42	022804		006647		
55	34. 53						55	35. 26					
Dec. 23. 4. 0	246. 34. 53	0·023059	48·7	0·007434	48·5	D	Dec. 23. 8. 0	246. 35. 4	0·022782	51·6	0·006610	51·0	P
5	34. 59						5	35. 11					
10	35. 0	023048		007458			10	35. 23	022738		006610		
15	35. 5						15	35. 18					
20	35. 21	023066		007443			20	35. 34	022565		006525		
25	35. 20						25	35. 36					
30	35. 27	023019		007458		D	30	35. 50	022709		006525		
35	35. 24					G	35	35. 50					
40	35. 29	023037		007419			40	35. 54	022974		006987		P
45	35. 23						45	35. 55					J H
50	35. 29	023037		007396			50	35. 52	022937		006507		
55	35. 32						55	36·37					
Dec. 23. 5. 0	246. 35. 23	0·023048	49·5	0·007354	48·0	G	Dec. 23. 9. 0	246. 38. 23	0·022689	51·4	0·006469	51·0	J H
5	35. 37						5	39. 44					
10	35. 36	023048		007278			10	39. 52	023358		006436		
15	35·40						15	39. 2					
20	35. 35	022911		007222			20	38. 20	023030		006488		
25	35. 36						25	38. 46					
30	35. 29	022833		007208			30	38. 41	023048		006460		
35	35. 35						35	38. 36					
40	35·36	022844		007165			40	38. 15	022959		006446		
45	35. 16						45	37. 50					
50	35. 13	022716		007104			50	37. 50	022855		006436		
55	35. 9						55	37. 53					
							60				006431		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′. 55″.
Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in 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 Vertical Plane, $27^s.5$; in Horizontal Plane, $24^s.3$.

Dec. $23^d.7^h.32^m.3^s$. The observation of the Horizontal Force Magnetometer omitted by inadvertence.
It would seem that an error of 1^d of the scale has been made in reading off the Vertical Force at $8^h.37^m.30^s$, and that consequently the Vertical Force reading in parts of the whole force should be 0·006516.

ROYAL OBSERVATORY, GREENWICH.

EXTRAORDINARY OBSERVATIONS

OF THE

MAGNETOMETERS.

1840 and 1841.

Extraordinary Observations of December 19, 20, and 21, 1840.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Horizontal Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m s	° ′ ″			°	
Dec. 19. 8. 0. 0	246. 33. 59	J H			
8. 2. 30			0·044981	45·0	J H
10. 0. 0	45. 45				
2. 30			030777	43·5	J H
21. 36	39. 48				
21. 36			047228		G
24. 35	38. 56				
24. 35			046944		
27. 35	38. 1				
27. 35			046767		
41. 33	36. 21				
41. 33			047583		
43. 32	36. 21	J H			
10. 43. 32			047583		
12. 0. 0	36. 39	G			
2. 30			048767	43·0	G
Dec. 20. 14. 0. 0	246. 19. 8	G			
14. 2. 30			0·050755	35·0	G
16. 0. 0	5. 30				
2. 30			047062	36·1	
5. 47	246. 0. 20				
7. 47	245. 58. 22				
9. 47	55. 49				
11. 46	53. 17				
13. 46	51. 33				
15. 46	53. 4				
17. 45	54. 49				
19. 45	55. 50				
21. 45	54. 34				
23. 44	53. 5				
25. 44	51. 35				
27. 44	51. 44				
29. 13	51. 18				
31. 30			0·047566		
32. 18			048294		
33. 6			047761		
33. 54			046412		
35. 13	56. 10				
37. 12	57. 44				
16. 49·11	55. 29				
17. 11. 37	245. 56. 4				
45. 32	246. 6. 42				
17. 55. 0	15. 2				
18. 0. 0	17. 15				
2. 30			047292	42·0	
11. 27	22. 3				
13. 27	21. 6				
38. 53	26. 56				
18. 47. 21	28. 19				
20. 0. 0	27. 44				

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Horizontal Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m s	° ′ ″			°	
Dec. 20. 20. 2. 30			0·045116	44·0	G
22. 0. 0	246. 21. 26	D			
2. 30			043404	43·1	D
Dec. 21. 0. 0. 0	22. 27	D			
2. 30			040187	41·9	D
12. 30	23. 15	J H			
12. 30			051490		
13. 30	23. 21				
13. 34			046163		
14. 38			046163		
15. 41			046756		
16. 29	22. 39				
16. 45			046163		
17. 49			046756		
18. 29	21. 57				
18. 53			049122		
19. 57			043205		
20. 29	21. 16	J H			
0. 21. 1			043205		
1. 50. 0	19. 1	D			
1. 52. 30			046046	48·8	
2. 0. 0	22. 10				
2. 2. 30			045336		
10. 0	22. 52	D			
2. 12. 30			045159		D
4. 0. 0	1. 36	G			
2. 30			047523	47·0	G
7. 21	13. 25				
4. 9. 51	1. 25				
5. 55. 3	1. 49				
56. 18	15. 3				
5. 57. 48	15. 28				
6. 0. 0	246. 6. 9				
2. 30			051589	46·0	
7. 1	245. 52. 13	G			
12. 31	246. 8. 14				
14. 30	9. 2				
16. 30	246. 0. 35				
18. 30	245. 58. 9				
20. 29	246. 9. 13				
22. 29	18. 50				
24. 58	25. 15	G			
43. 25	16. 43	J H			
45. 25	16. 2				
48. 25	18. 26				
50. 24	21. 6				
52. 24	22. 22				
54. 24	20. 0				
56. 23	17. 29				
6. 58. 23	16. 5				

Dec. 19. A change of 12′ of arc having been noticed between the observations at 8^h and 10^h, in the position of the meridian needle, and a change of 5^d of the scale in the position of the Horizontal Force Magnetometer having also taken place in the same time, these extra observations were taken.

Dec. 20, between 14^h and 16^h a change of 12′ of arc having taken place in the meridian needle, and further changes still going on, extra observations were commenced.

The Horizontal Force Magnetometer was frequently examined between 14^h and 16^h. 30^m; no change in its position was observed.

Extraordinary Observations of December 21, 1840; March 20 and 22, May 17, 18, and 21, 1841.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Horizontal Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m s	° ′ ″			°	
Dec. 21. 7. 11. 21	246. 10. 9	J H			
13. 20	8. 55				
15. 20	8. 5				
17. 20	9. 45				
19. 19	12. 10				
21. 19	13. 52				
23. 19	15. 34				
25. 18	15. 47				
27. 18	14. 5				
29. 18	12. 27				
31. 17	11. 0				
32. 47	9. 59				
34. 18	9. 30				
36. 18	9. 20				
7. 39. 34	5. 14	J H			
8. 0. 0	3. 7	G			
8. 28. 9	16. 1				
10. 0. 0	22. 8	G			
12. 0. 0	13. 16	D			
Mar. 20. 6. 0. 0	246. 32. 27	G			
6. 2. 30			0·031897	54·0	G
8. 0. 0	32. 34				
8. 2. 30			031425	53·0	
9. 20. 25	42. 44				
22. 5			033635		
23. 55	41. 40				
25. 39			033236		
28. 40	40. 59				
30. 21			032634		
34. 13			030106		
35. 36			032121		
36. 27			031904		
37. 25			028550		
50. 40	42. 7				
9. 52. 3			027974		
10. 0. 0	41. 55	G			
10. 2. 30			030697	52·0	G
12. 0. 0	38. 54	J H			
2. 30			033587	51·0	J H
Mar. 22. 6. 0. 0	246. 32. 9	J H			
8. 0. 0	29. 37				
9. 12. 12	32. 6			56·6	

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Horizontal Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.
d h m s	° ′ ″				
Mar. 22. 9. 14. 12	246. 30. 2	J H			
16. 12	28. 17		0·030915		J H
17. 42	27. 1			55. 3	
20. 42	24. 59				
36. 12	27. 47				
9. 38. 12	28. 40				
10. 0. 0	43. 38	J H			
12. 0. 0	27. 2	D			
14. 0. 0	30. 38	D			
May 17. 20. 0. 0	246. 31. 23				
22. 0. 0	27. 13	J H			
30. 34	30. 26	P			
32. 34	33. 34				
36. 34	33. 5				
38. 34	32. 57				
40. 34	32. 32				
42. 34	31. 16				
44. 34	29. 43				
22. 46. 34	32. 21				
23. 29. 34	25. 59				
40. 57	21. 9				
46. 57	21. 15				
23. 47. 57	21. 17				
May 18. 0. 0. 0	20. 57				
0. 14. 34	20. 4				
1. 50. 0	21. 40				
2. 0. 0	21. 45				
2. 10. 0	22. 27	P			
May 21. 8. 0. 0	246. 26. 44	J H			
9. 50. 19	26. 34	D			
52. 19	23. 46				
54. 19	22. 12				
9. 56. 19	21. 38				
10. 0. 0	23. 15				
6. 19	32. 19				
8. 19	32. 55				
10. 19	32. 28				
12. 19	31. 55				
10. 20. 19	30. 26				
12. 0. 0	31. 5				

Dec. 21^{d}. 0^{h}. The Horizontal Force Magnet became considerably affected.

An aurora being visible, extra observations were commenced. Between 9^{h}. 28^{m} and 9^{h}. 50^{m} the needle was stationary: circle reading 246°. 40′. 59″.

At midnight, there being no appearance of the aurora, and the needles not appearing to be under any cause of disturbance, the extra observations were discontinued.

March 22. The observations were taken during the appearance of an aurora.

May 17. Extra observations taken, in consequence of the meridian needle having an unusually great swing.

May 21. The extra observations were taken during a thunder storm.

Extraordinary Observations of May 27, June 18, July 15, September 1, 4, and 24.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
May 27. 8. 0. 0	246. 30. 53	JH						
10. 0. 0	36. 23							
7. 14	36. 30							
8. 44	36. 34							
10. 44	35. 43							
17. 14	35. 31							
20. 14	35. 40							
10. 21. 44	35. 6	JH						
12. 0. 0	28. 53	P						
14. 0. 0	29. 8							
June 18. 5. 57. 30						0 ·012645	74 ·2	G
7. 44. 1						012354		
49. 16						016778		
7. 57. 30						011458	74 ·5	
8. 8. 31						017131		
19. 16						016974		
8. 46. 16						017419		
9. 10. 1						016885		
9. 57. 30						011789	73 ·0	
July 15. 6. 0. 0	246. 30. 0	P						
7. 11. 5	30. 41							
12. 5	30. 49							
13. 5	30. 47							
14. 5	30. 51							
15. 5	30. 58							
16. 5	31. 2							
17. 5	31. 3							
18. 5	31. 6							
19. 5	31. 6							
7. 20. 5	31. 7							
8. 0. 0	32. 41							
Sep. 1. 11. 57. 30						0 ·011581	61 ·0	P
13. 57. 30						012531	58 ·8	
14. 6. 14						012589		
9. 14						012580		
12. 14						012630		
14. 14						012672		
17. 14						012641		
14. 19. 14						012665		
15. 57. 30						013140	56 ·8	
Sep. 4. 1. 47. 30						0 ·013033		P
1. 57. 30						013060	57 ·0	
2. 7. 30						013103		
3. 57. 30						014322	56 ·5	P
4. 4. 15						014364		G
4. 54. 58						014567		
5. 42. 58						014689		

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Sep. 4. 5. 57. 30						0 ·014614	56 ·5	G
7. 57. 30						014487	55 ·5	G
Sep. 24. 9. 57. 30						0 ·011762	59 ·8	P
10. 0. 0	246. 35. 34	P						
10. 2. 30			0 ·017856	59 ·8	P			JH
11. 57. 30						011921	58 ·0	
12. 0. 0	48. 12	JH						
2. 30			016771	58 ·3	JH			
12. 27	43. 9							
13. 27	43. 0							
14. 43			017110					
15. 57	42. 13							
58. 13						011327		
58. 57	45. 10							
59. 23			017876					
12. 59. 57	45. 25							
13. 1. 28	46. 10							
2. 28	46. 39							
3. 28	47. 10							
4. 28	47. 35							
5. 28	47. 52							
6. 28	48. 3							
7. 28	48. 7							
30. 13						011205		
31. 23			017136					
31. 59	50. 9							
13. 57. 30						011149	58 ·0	
14. 0. 0	48. 32							
14. 2. 30			017760	58 ·0				
15. 57. 30						009322	57 ·0	
16. 0. 0	27. 1							
2. 30			015624	57 ·0				
3. 14						009341		
6. 0	23. 38							
8. 0	21. 28							
8. 25			016527					
9. 44						009567		
10. 0	18. 50							
11. 14						009585		
12. 0	17. 5							
13. 30	16. 10							
14. 25			017070					
16. 0	15. 58							
16. 14						009524		
16. 25			018210					
18. 0	16. 48							
18. 14						009464		
19. 30	18. 5							
24. 15						009213		
25. 0	23. 32							

May 27. Observations taken during a thunder storm.

June 18. A thunder storm, during which the declination needle and the horizontal force needle were watched, but no change took place in their positions. The vertical force underwent a small change, in consequence of which, the above observations were taken. Neither the declination magnet nor the horizontal force magnet had any vibrations, but as soon as the storm was over they had.

July 15. A thunder storm, during which the above observations were taken. The claps of thunder were frequent; flashes of lightning gleamed occasionally; and rain was falling during the series of observations. The vertical force needle was not at all affected, not the least vibration being perceptible. The same may be said of the horizontal force, the vibration being unusually small, ranging between 60^d and $60^d{\cdot}5$. About five minutes after the end of the storm, the vertical force magnet took a sudden start, and vibrated over several divisions; so also did the horizontal force magnet and the declination needle.

Sep. 1. The scale readings between 12^h and 14^h having altered 2^d, extra observations were commenced. No change whatever in either of the other instruments.

Sep. 4. At 4^h the scale read 3^d different from the previous observation at 2^h, and the change was an increase of force; at this time the usual change is a decrease of force.

Extraordinary Observations of September 24 and 25.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Sep. 24. 16. 26. 15						0·009030		JH
26. 25			0·018210		JH			
27. 15						009002		
29. 15						008983		
44. 15						009369		
44. 25			017811					
45. 0	246. 26. 11	JH						
47. 30	23. 20							
48. 15						009369		
16. 49. 0	22. 28							
17. 6. 15						009388		
7. 30	25. 3							
9. 45			015985					
17. 57. 30						010404	57·0	
18. 0. 0	24. 27							
2. 30			018273	57·0				
44. 16						010942		
45. 0	28. 7							
18. 46. 26			019329					
19. 57. 30						011751	56·6	JH
20. 0. 0	28. 39	JH						
20. 2. 30			018752	57·0	JH			
21. 57. 30						011845	57·5	D
22. 0. 0	11. 25	D						
2. 30			015885	57·5	D			
14. 2	14. 10							
31. 32	14. 42							
22. 53. 2	16. 42							
23. 16. 3	16. 18							
34. 3	12. 36							
54. 3	17. 51							
23. 57. 30						011860	59·5	
Sep. 25. 0. 0. 0	16. 11	D						
0. 2. 30			012908	60·0				
1. 47. 30						013663	62·2	
50. 0	11. 11							
52. 30			018970	63·5				
1. 57. 30						013818		
2. 0. 0	3. 7							
2. 30			020564					
7. 30						014685		
10. 0	6. 21							
12. 30			022269					
14. 20						014943		
16. 30			021254					
17. 35	2. 32							
17. 0						015526		
21. 30			021276					
22. 0						015461		
22. 35	15. 46							

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Sep. 25. 2. 24. 35	246. 22. 42	D						
26. 30			0·023634		D			
27. 0						0·016017		D
27. 35	15. 16							
31. 30			024630					
32. 0						015353		
32. 35	11. 32							
36. 30			023468					
37. 0						015075		
37. 35	6. 15							
41. 30			020502		D			
42. 0						015569		D
42. 35	11. 34	D						
46. 30			022240		G			
47. 35						015645		G
50. 5			022262					
50. 40						015414		
52. 20						015179		
53. 53			022627					
55. 50	5. 26	G						
56. 23						015697		
57. 5			020867					
57. 20						016120		
2. 59. 51						016120		
3. 0. 50	16. 28							
2. 36			023966					
3. 21						015796		
4. 21						015796		
5. 20	246. 3. 50							
6. 31			023590					
7. 51						015932		
8. 51						016073		
9. 50	245. 59. 42							
10. 57			021520					
11. 41						016685		
12. 41						016685		
13. 50	246. 7. 31							
13. 51						017015		
14. 48			025306					
15. 21						017062		
16. 16						017062		
16. 21						017485		
16. 41						017721		
16. 50	7. 43							
18. 21						017580		
19. 50	5. 13							
21. 3			024708					
21. 26						018427		
22. 21						018615		
22. 51						018922		
23. 21						019557		

Extraordinary Observations of September 25.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Sep. 25. 3. 23. 51						0·019557		G
24. 21						019609		
24. 51						020268		
25. 21						020452		
25. 51						020785		
25. 55	246. 14. 36	G						
26. 21						020805		
26. 25	16. 48							
26. 51						020546		
27. 26			0·031338		G			
27. 51						020927		
28. 6			031793					
28. 46			032800					
29. 35	12. 41							
30. 35	3. 53							
31. 21						022712		
32. 21						023894		
32. 51						024689		
33. 21						024783		
33. 51						027184		
34. 21						039444		
34. 51						045894		
35. 21						Beyond the scale.		
36. 20	246. 18. 35					ditto		
36. 50	245. 45. 40					ditto		
37. 20	245. 22. —					ditto		
38. 16	Out of range.		052250			ditto		
38. 56	ditto		051265			ditto		
39. 0	ditto		061992			ditto		
40. 0	ditto		061992			ditto		
40. 20	245. 47. 45		061992			ditto		
43. 20	246. 2. 21		061992			ditto		
43. 50	246. 18. 48		061992			ditto		
44. 0			061992			ditto		
44. 20	247. 38. +					ditto		
45. 0	Out of range.					Came in sight		
45. 42	ditto					025583		
46. +	ditto							
46. 23	ditto					023606		
47. 41	ditto		044059					
48. 24	246. 31. 46							
48. 54	246. 26. 40	G						
50. 31						021016		
53. 7						020570		
53. 21	246. 36. 41	JH						
54. 13						020971		
54. 40	(245. 30. 45)							
55. 0	(246. 42. 54)							
55. 29						019301		
56. 31			034472					
57. 3						018828		

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Sep. 25. 3. 57. 38						0·018333	63·5	G
58. 36	246. 40. 37	JH						
58. 58						017336		
3. 59. 36	27. 57							
4. 0. 51			0·030316	64·0	G			
3. 6	28. 33							
3. 24						018206		
4. 6	27. 14							
4. 34						018474		
5. 1			029014					
5. 31						018688		
5. 41			028096					
6. 35						019086		
6. 36	25. 29							
7. 36	24. 42							
8. 55			029103					
9. 35			029612		G			
10. 36	27. 20							
11. 36	32. 6							
12. 36	32. 22							
13. 36	26. 55							
13. 36						020758		G
14. 31			032312		JH			
15. 11			032257					
16. 6						019906		JH
17. 6						019642		
19. 36	18. 26							
20. 36	15. 9							
21. 31			031062					
22. 11			030165					
23. 6						020946		
24. 6						021888		
25. 36	7. 54							
26. 36	15. 47							
27. 31			027354					
28. 11			028339					
29. 6						022652		
30. 6						021810		
31. 36	34. 14							
32. 36	27. 58							
33. 31			030354					
34. 11			029424					
35. 6						018818		
36. 6						019712		
37. 36	14. 38							
38. 36	21. 22							
41. 1			026822					
41. 41			026933					
42. 36						019110		
43. 36						018498		
45. 6	22. 36							

Extraordinary Observations of September 25.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Sep. 25. 4. 46. 6	246. 16. 27	JH						
47. 1			0·025516		JH			
47. 41			025162					
48. 21						0·017815		JH
49. 36	8. 25							
50. 36	8. 36							
51. 32			025748					
52. 12			025970					
53. 36						019618		
55. 36	20. 55							
56. 36	18. 6							
58. 32			025715					
4. 59. 12			025240					
5. 0. 46						020122		
2. 36	22. 53							
3. 36	18. 34							
4. 32			026258					
5. 12			025882					
8. 21						021139		
9. 36	23. 9							
10. 36	20. 46							
11. 32			023568					
12. 12			022981					
14. 1						018333		JH
16. 37	23. 35							
17. 37	22. 22							
18. 32			020480					
19. 12			020284					
21. 37						017344		P
21. 37	23. 32							
22. 37	24. 6					017391		
22. 37								
23. 32			019605					
23. 37						017415		
24. 12			019472					
24. 37						017344		
25. 37	24. 49							
25. 37						017250		
26. 37	24. 3							
26. 37						017233		
27. 32			018609					
27. 37						017214		
28. 12			018420					
28. 37						017191		
29. 37	22. 35							
29. 37						017243		
30. 37	22. 26							
30. 37						017335		
31. 37						017368		
32. 32			018465					
32. 32								

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Sep. 25. 5. 32. 37						0·017344		P
33. 12			0·018513		JH			
33. 37						017402		
34. 37						017353		
35. 37	246. 20. 18	JH						
35. 37						017330		
36. 37	19. 37							
36. 37						017426		
37. 37						017674		
38. 37						017904		
39. 37						018051		
40. 2			020867					
40. 37						018192		
40. 42			020114					
41. 37	19. 4							
41. 37						018357		
42. 37	20. 28							
42. 37						018964		
43. 32			023712					
43. 37						019472		
44. 12			022926					
44. 37						019686		
45. 37	10. 17							
45. 37						019393		
46. 37	9. 49							
46. 37						018752		
47. 37						018297		
48. 32			016716					
48. 37						018098		
49. 12			016340					
49. 37						017721		
50. 37	29. 43							
50. 37						017180		
51. 37	29. 39							
51. 37						016662		
52. 32			017158					
52. 37						016214		
53. 12			017357					
53. 37						015956		
54. 37						016026		
55. 37	17. 16							
55. 37						016191		
56. 37	15. 35							
56. 37						016343		
57. 37						016541	64·0	
58. 37						016803		
59. 7						016968		
5. 59. 30	9. 13							
6. 0. 7						017410		
0. 30	7. 47							
1. 7						017292		

Extraordinary Observations of September 25.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Sep. 25. 6. 1. 37			0·021302	64·0	JH			
2. 7						0·018870		P
2. 17			022229					
3. 7						019121		
3. 37	246. 8. 35	JH						
4. 7						019322		
4. 37	8. 49							
5. 7						019898		
5. 32			022616					
6. 7						020251		
6. 12			022561					
7. 7						020005		
8. 7						019778		
9. 7						019583		
10. 7						019427		
11. 7						019474		
12. 7						019463		
12. 37	16. 0							
13. 7						019637		
13. 37	16. 45							
14. 7						020052		
15. 7						020612		
15. 32			025737					
16. 7						021276		
16. 12			026855					
17. 7						022134		
17. 37	15. 45							
18. 7						023151		
18. 37	16. 2							
19. 7						023300		
19. 32			025240					
20. 7						022487		
20. 12			025051					
21. 7						022265		
22. 7						021758		
23. 7						020875		
23. 37	14. 9							
24. 7						020099		
24. 37	13. 57							
25. 7						019604		
26. 2			020048					
26. 7						019027		
26. 42			023402					
27. 7						018686		
28. 7						018498		
28. 37	22. 9							
29. 7						018964		
29. 37	19. 8							
30. 7						019827		
30. 32			022815					
31. 7						020274		

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Sep. 25. 6. 31. 12			0·023026		JH			
32. 7						0·020382		P
33. 7						020157		
33. 37	246. 26. 9	JH						
34. 7						019745		
34. 37	24. 55							
35. 7						019592		
35. 32			021387					
36. 7						019299		
36. 12			021520					
37. 7						019161		
37. 37	22. 55							
38. 7						019275		
38. 37	22. 4							
39. 7						018969		
39. 32			021210					
40. 7						019063		
40. 12			021897					
41. 7						019510		
41. 37	22. 23							
42. 7						019898		
42. 37	24. 28							
43. 7						020075		
43. 32			022096					
44. 7						019709		
44. 12			021110					
45. 7						019393		
45. 37	30. 8							
46. 7						019756		
46. 37	32. 20							
47. 7						019474		
47. 32			018454					
48. 7						019030		
48. 12			018254					
49. 7						018956		
49. 37	27. 42							
50. 7						019176		
50. 37	27. 24							
51. 7						019618		
51. 32			020801					
52. 7						019665		
52. 12			019937					
53. 7						019505		
53. 37	31. 13							
54. 7						019887		
54. 37	30. 25							
55. 7						020282		
55. 32			023668					
56. 7						020249		
56. 12			023358					
57. 7						019745		

Extraordinary Observations of September 25.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Sep. 25. 6. 58. 7						0·019675		P
59. 7						019003		
6. 59. 37	246. 30. 55	JH						
7. 0. 8						018451		
0. 37	30. 24							
1. 8						018380		
1. 33			0·018631		JH			
2. 8						018556		
2. 13			019505					
3. 8						019003		
3. 37	28. 6							
4. 8						019237		
4. 37	27. 30							
5. 8						019357		
5. 33			020734					
6. 8						019074		
6. 13			020912					
7. 8						019163		
8. 8						019270		
8. 37	27. 23							
9. 8						019124		
9. 37	27. 1							
10. 8						018781		
10. 33			019162					
11. 8						018281		
11. 13			018598					
12. 8						017944		
12. 38	25. 57							
13. 8						017685		
13. 38	24. 48							
14. 8						017485		
14. 33			016571					
15. 8						017142		
15. 13			015941					
16. 8						016851		
16. 38	24. 35							
17. 8						016506		
17. 38	25. 13							
18. 8						016202		
19. 8						015979		
20. 8						015721		
20. 33			011302					
21. 8						015294		
21. 13			010472					
22. 8						015048		
22. 38	28. 32							
23. 8						014920		
23. 38	29. 25							
24. 8						014873		
24. 33			008856					
25. 8						014741		

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Sep. 25. 7. 25. 13			0·008635		JH			
26. 8						0·014755		P
26. 38	246. 34. 50	JH						
27. 8						014837		
27. 38	36. 53							
28. 8						014990		
28. 33			009273					
29. 8						015203		
30. 8						015245		
31. 8						015122		
31. 38	45. 34							
32. 8						015014		
32. 38	46. 4							
33. 8						015030		
33. 33			010295					
34. 8						015018		
34. 13			010074					
35. 8						014849		
36. 8						014920		
36. 38	45. 19							
37. 8						015108		
37. 38	44. 6							
38. 8						015320		
38. 33			011989					
39. 8						015447		P
39. 13			012033					
40. 8						015364		G
40. 38	43. 20							
41. 8						015275		
41. 38	42. 56	JH						
42. 8						015237		
42. 33			012465					
43. 8						015254		
43. 13			012941		JH			
44. 8						015329		
44. 38	42. 3	D						
45. 8						015425		
45. 38	41. 46							
46. 8						015237		
46. 33			015066		D			
47. 8						015320		
47. 13			015432					
48. 8						015678		
48. 38	41. 59							
49. 8						015393		
49. 38	41. 38							
50. 8						015138		
50. 33			013627					
51. 8						014924		
51. 13			013229					
52. 8						014884		

Extraordinary Observations of September 25.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Sep. 25. 7. 52. 38	246. 40. 46	D						
53. 38	40. 29							
54. 33			0 ·013483		D			
55. 13			013361					
56. 8						0 ·014920	63 ·0	G
56. 38	37. 7							
57. 8						014868		
57. 38	37. 5							
58. 33			013516					
59. 13			013295					
7. 59. 38						015042		
8. 0. 38	37. 25							
0. 38						014990		
1. 38	36. 52							
2. 33			013174	63 ·0				
3. 13			013572					
4. 8						015203		
4. 38	35. 45							
5. 8						015166		
5. 38	35. 37							
6. 33			013174					
6. 38						014987		
7. 13			013207					
7. 38						014945		
8. 38	32. 3							
9. 38	31. 8							
10. 33			013140					
11. 8						014868		
11. 13			013174					
12. 8						014846		
12. 38	30. 57							
13. 38	31. 6							
14. 33			012498					
15. 13			012420					
15. 38						014468		
16. 38	29. 59							
16. 38						014383		
17. 38	30. 9							
17. 38						014326		
18. 33			012078					
18. 38						014289		
19. 13			012199					
20. 38	30. 25							
21. 38	30. 31							
22. 33			012465					
23. 8						014237		
23. 13			012310					
24. 38	29. 56							
25. 38	29. 53							
26. 33			012974					
27. 13			012653					

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Sep. 25. 8. 28. 38	246. 29. 24	D						
29. 8						0 ·014143		G
29. 38	29. 12							
30. 33			0 ·012631		D			
31. 13			012509					
33. 38	29. 29							
33. 38						014049		
35. 33			012487					
38. 38	29. 19							
38. 38						014002		
40. 33			012409					
43. 38	30. 17							
44. 38						013942		
45. 33			013174					
48. 38	29. 20							
50. 33			013716					
53. 38	28. 20							
54. 8						013602		
55. 33			013450					
57. 8						013392		
8. 58. 38	28. 28							
9. 0. 33			012996					
3. 38	31. 7							
5. 9						013345		
5. 33			012930					
6. 24						013217		
8. 38	31. 28							
10. 33			012420					
10. 39						013053		
11. 39						013081		
13. 38	33. 43							
15. 33			012365					
18. 38	42. 55							
18. 39						012819		
20. 33			012941					
22. 9						012645		
23. 38	40. 22							
25. 33			012155					
27. 24						012697		
28. 38	47. 55							
30. 33			012089					
31. 9						012542		
33. 38	48. 30							
34. 24						012376		
35. 33			011778					
38. 38	50. 47							
40. 33			011203					
41. 54						012119		
43. 38	50. 1							
45. 34			012675					
46. 9						012260		

Extraordinary Observations of September 25.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Sep. 25. 9. 47. 9						0·012312		G
48. 38	246. 48. 54	D						
50. 34			0·013174		D			
50. 39						012365		
51. 39						012354		G
53. 38	49. 48	D						
9. 57. 30						012359	63·0	JH
10. 0. 0	48. 27	JH						
2. 30			013222	63·0	JH			
8. 39						012171		P
9. 39	52. 29							
9. 39						012114		
10. 39	53. 13					012071		
10. 39								
11. 34			013151					
11. 39						012071		
12. 14			013430					
12. 39						012048		
13. 39						012024		
24. 39						011436		
25. 39	47. 43							
25. 39						011360		
26. 39	46. 43							
26. 39						011356		
27. 34			014801					
27. 39						011360		
28. 14			014524					
28. 39						011356		
29. 39						011365		
41. 39	39. 6							
42. 39						011201		
42. 39	40. 25							
43. 34			011291					
43. 39						011149		
44. 14			010993					
44. 39						011130		
45. 39	44. 58							
45. 39						011111		
46. 39	45. 58					011111		
47. 34			012243					
47. 39						011083		
48. 14			012409					
57. 39	43. 0							
58. 39	42. 17							
58. 39						010490		
59. 34			013273					
10. 59. 39						010432		
11. 0. 14			013284					
0. 39						010428		
1. 39	40. 11					010400		
1. 39								

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Sep. 25. 11. 2. 39	246. 40. 46	JH						
2. 39						0·010423		P
3. 34			0·013627		JH			
3. 39						010428		
4. 14			013527		JH			
7. 39	34. 17	G						
8. 39	34. 47	G						
9. 8			011823		G			
9. 48			011756		G			
15. 39	33. 16	JH						
16. 39	33. 18							
17. 34			011269		JH			
18. 14			011380					
18. 40						010259		
19. 40						010353		
20. 39	33. 8							
20. 40						010442		
21. 39	33. 19							
21. 40						010513		
22. 40						010565		
23. 40						010593		
29. 34			012620					
29. 39	31. 39	JH						
30. 14			012708		JH			
30. 39	31. 13	G						
35. 40						010376		
36. 40						010338		
37. 40						010293		
38. 40						010244		P
44. 40	29. 48							
45. 40	30. 1							
45. 54			010439		G			
46. 34			010295					
48. 10						009854		G
49. 0	33. 19							
50. 34			009908					
51. 14			009941		G			
52. 45	38. 39	G						
54. 10						009812		G
11. 57. 30						009864	61·5	D
12. 0. 0	43. 48	D						
2. 30			010831	63·2	D			
9. 40	42. 54							
10. 35			009609					
11. 40						008724		
16. 40	44. 23	D						
17. 35			009044					
18. 40						008375		D
23. 40	42. 46	G						
24. 35			008834		G			
25. 10						008022		G

Extraordinary Observations of September 25 and 26.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°		d h m s	° ′ ″			°			°	
Sep. 25. 12. 27. 55			0·008502		G				Sep. 25. 13. 3. 35			0·010682		G			
28. 40						0·007862		G	21. 57. 30						0·013296	56·0	G
34. 25						007787			22. 0. 0	246. 26. 49	G						
44. 5			008977						22. 2. 30			016800	57·0				
44. 45						007637			23. 57. 30						013248	57·0	
50. 25						007222											
52. 22			008646														
52. 40	246. 46. 49	G							Sep. 26. 0. 0. 0	19. 44							
53. 25						007165			0. 2. 30			014424	58·0				
54. 15			008258						6. 38. 30						012919	60·0	
12. 58. 25						007034			6. 41. 0	46. 25							
13. 3. 25						008164			6. 43. 30			019605	61·0				

NOTE ON THE EXTRAORDINARY MAGNETIC DISTURBANCE OF SEPTEMBER 24, 25, AND 26.

Sep. 24^{d}. At 12^{h} a change of 13′ of arc from the previous reading. Extra observations were commenced.

Between 12^{h}. 15^{m} and 12^{h}. 58^{m} the needles were watched, but there was no change worth recording; and also between 13^{h}. 31^{m} and 14^{h}. 0^{m} they were frequently examined; still there was no change, and the extra observations were discontinued.

At 16^{h} the declination needle had altered its position 21′ since 14^{h}, and extra observations were resumed. A bright, steady auroral light in N.N.W.

Between 16^{h} and 16^{h}. 30^{m} no vibration perceptible in the vertical force magnetometer.

At 18^{h} the needles had all resumed a tolerably quiet state, and the extra observations were again discontinued.

The observation at 22^{h} showing a change of 17′ of arc from the reading at 20^{h}, extra observations were again resumed and discontinued about noon, no further change of large amount having taken place.

Sep. 25^{d}. 2^{h}. The magnets were very much affected, and extra observations were at once resumed. At 2^{h}. 40^{m} neither the declination needle nor the vertical force magnetometer had any vibrations: the movements of the horizontal force magnetometer were by jerks.

Between 2^{h}. 56^{m}. 20^{s} and 2^{h}. 57^{m}. 20^{s} the vertical force magnetometer was watched; a steady increasing motion: no backward motion whatever.

Between 3^{h}. 0^{m}. 20^{s} and 3^{h}. 1^{m}. 19^{s} the declination needle scarcely moved; then in 1^{s} of time, it moved 1′. 25″ of arc; and then was stationary.

From 3^{h}. 3^{m}. 21^{s} to 3^{h}. 4^{m}. 21^{s}, no motion whatever in the vertical force magnetometer: the eye not taken from the telescope during this time.

At 3^{h}. 5^{m}. 20^{s} the declination needle had no swing: a sweeping motion to the right.

At 3^{h}. 15^{m} the declination needle moved to a position requiring the theodolite to read 246°. 2′.

From 3^{h}. 21^{m}. 26^{s} there was no backward motion whatever in the vertical force needle: it moved by sudden jerks or starts after intervals of rest of 5^{s} to 2^{m}.

About 3^{h}. 26^{m}, while observing the vertical force needle, the declination needle moved to a position requiring the theodolite to read 245°. 55′: no swing whatever. All motion now from one place to another was by jerks or starts: the needle being absolutely stationary, then at once passing to another position, and again stationary: frequently the space passed over amounted to several minutes of arc in two or three seconds of time. The vertical force magnet moved in a very similar manner, being in a state of absolute rest, then suddenly passing to another position, and again being stationary. The horizontal force was also affected, being frequently checked in the middle of its swing, then advancing: again stopped and advancing again; sometimes a check happened at 5^{s}, sometimes at 10^{s}, after it had turned: it then became stationary for 2^{s} or 3^{s}, then was forced backwards: in every case a mean of two, three, or four observations is taken, although from the nature of the frequent checks these observations could not always be separated by the time of one vibration: a good deal of judgment was here required to avoid entering the readings at the checks in the middle of the swing: no reading was entered until the needle was certainly moving in the opposite direction, unless the time of its vibration had passed.

NOTE ON THE EXTRAORDINARY MAGNETIC DISTURBANCE OF SEPTEMBER 24, 25, AND 26—*continued.*

At $3^h.\ 35^m.\ 21^s$ the marked end of the vertical force needle (which is turned towards the east, the needle being transverse to the magnetic meridian) was resting on the eastern Y, or apparatus intended for guarding the needle, dipping as much as the frame permitted it, and held there apparently by a great power: in this situation it remained for ten minutes, until $3^h.\ 45^m$.

The declination needle between $3^h.\ 36^m.\ 20^s$ and $3^h.\ 36^m\ 50^s$ moved with great rapidity, carrying the N. end of the needle towards the west 33′ of arc.

At $3^h.\ 37^m.\ 20^s$ a bold sweep carried the needle out of the field; the observer unclamped the instrument and followed it, but it went beyond the field of view of the telescope (taking a position in which it could not be seen unless the suspension were shifted, to do which the observer had no time). The theodolite reading was 245°. 20′, therefore the needle was in a position to read much less than 245°. 22′: it remained in this position more than two minutes; at $3^h.\ 40^m.\ 20^s$ the cross was just seen, perfectly stationary.

Within 15^s after $3^h.\ 39^m.\ 6^s$, the horizontal force needle passed from 73^d to 78^d, and remained perfectly motionless till $3^h.\ 43^m\ \pm$, when it returned by a fitful jerking motion.

At $3^h.\ 44^m.\ 20^s$ the declination needle was carried again out of the field in the opposite direction to the former; the observer unclamped the instrument, and turned it to the limit of view, the theodolite reading was 247°. 22′: in this position the lower part of the cross was just seen, imbedded in darkness and perfectly stationary. Now the lower part of the cross is about 10^r from the cross, or about 16′ of arc, and this is added to obtain the 247°. 38′ as inserted above; but the reading should be greater than this by the interval between the center of the telescope and the place where the bottom of the cross was seen; this was not further recorded than as being to the apparent left of the great tooth of the comb-plate, and is merely shown by the + affixed to 247°. 38′.

At $3^h.\ 45^m$ the scale of the vertical force needle came in sight.

At $3^h.\ 45^m.\ 22^s$ a very uneven motion in the vertical force: the motion continued from this time to 6^h very irregular, when it assumed a steadier appearance, having something like vibration, but still very irregular.

After $3^h.\ 53^m.\ 21^s$ the cross went suddenly out of the field to the right; the observer moved the circle: when found at $3^h.\ 54^m.\ 40^s$ the theodolite read 246°. 10′, and the cross was about 5^r of the micrometer beyond the comb-plate to the right: suddenly it rushed back with a violently agitated motion, and became stationary just out of the field to the left, at $3^h.\ 56^m.\ 0^s$. Considering that the places of the cross were respectively 25^r to the right, and 21^r to the left of the center of the telescope, the places in brackets are inferred.

At $9^h.\ 4^m$ several bright auroral streamers were seen through clouds.

At 11^h a perfect auroral arch, height 24°; seen for a short time.

Between 22^h and 24^h the needles were watched; there was no great change.

Extraordinary Observations of September 27 and October 6.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Sep. 27. 1. 47. 30						0·013065	63·0	JH
50. 0	246. 22. 9	JH						
52. 30			0·015306		JH			
1. 57. 30						012817		
2. 0. 0	21. 50							
2. 30			015095	64·2				
7. 30						012744		JH
10. 0	18. 20	JH						
2. 12. 30			014693		H			
3. 57. 30						012076	64·5	D
4. 0. 0	35. 39	D						
2. 30			016251	65·2	D			
4. 0	44. 46							
7. 0	49. 0							
9. 0	50. 48							
11. 0	53. 11							
13. 0	51. 29							
15. 0	50. 4							
17. 0	47. 45							
17. 55			023092					
18. 45						012692		
20. 0	46. 54							
20. 55			022472					
21. 45						012660		
23. 0	43. 41							
23. 55			022052					
24. 45						012613		
26. 0	42. 13							
26. 55			020612					
27. 45						012556		
29. 0	42. 48							
29. 55			019605					
30. 45						012495		
32. 0	44. 39							
32. 55			019162					
33. 45						012439		
35. 0	43. 30							
35. 55			019882					
36. 45						012533		
38. 0	40. 39							
38. 55			019616					
39. 45						012589		
41. 0	40. 19							
41. 55			020037					
42. 45						012589		
44. 0	37. 54							
44. 55			020325					
47. 0	34. 19							
47. 55			019793					
50. 0	31. 54							
50. 55			019151					

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Sep. 27. 4. 53. 0	246. 32. 31	D						
53. 55			0·019207		D			
56. 0	31. 44							
56. 55			019538					
4. 59. 0	29. 44							
5. 1. 55			018398					
4. 0	28. 37							
6. 55			016417					
9. 0	27. 5							
11. 55			016671					
14. 0	25. 4							
16. 55			017469					
19. 0	25. 1							
21. 55			017026					
24. 0	24. 42							
48. 0	25. 25							
48. 55			017202					
5. 57. 30						0·011845	64·5	D
6. 0. 0	25. 19							
6. 2. 30			017052	65·2				
7. 57. 30						011313	63·2	
8. 0. 0	35. 56							
8. 2. 0			019601	63·5	D			
9. 57. 30						011421	62·0	D
10. 0. 0	31. 8	D						
10. 2. 30			017387	62·5				
Oct. 6. 3. 57. 30						0·011827	62·5	G
4. 0. 0	246. 27. 51	G						
4. 2. 30			0·019044	62·5	G			
5. 57. 30						011511	61·5	
6. 0. 0	32. 9							
6. 2. 30			020387	63·1				
7. 57. 30						011562	61·5	
8. 0. 0	51. 28							
2. 30			019860	62·0				
2. 30						011609		
5. 0	52. 47							
7. 30			019494					
7. 30						011653		
10. 0	53. 16							
12. 30			019926					
12. 30						011695		
15. 0	51. 32							
17. 30			020236					
17. 30						011695		
20. 0	50. 24							
22. 30			020070					
22. 30						011704		
25. 0	48. 33							
27. 30			020480					

Sep. 27d. At 4h a change of 17′ of arc having occurred since 2h. 10m, extra observations were commenced.

Oct. 6. Extra observations were taken in consequence of a change of 19′ of arc in the position of the declination needle between 6h and 8h.

Extraordinary Observations of October 6 and 8.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Oct. 6. 8. 27. 30						0·011733		G
30. 0	246. 46. 10	G						
32. 30			0·020480		G			
32. 30						011742		
35. 0	44. 0							
37. 30			021188					
37. 30						011751		
40. 0	41. 31							
42. 30			021464					
42. 30						011681		
45. 0	40. 6							
47. 30			020579					
47. 30						011609		
50. 0	39. 53							
52. 30			020003					
52. 30						011600		
55. 0	40. 26							
57. 30			019904					
8. 57. 30						011600		
9. 0. 0	39. 58							
2. 30			020147					
12. 30						011600		
15. 0	37. 41							
17. 30			020147					
17. 30						011562		
20. 0	37. 24							
22. 30			019827					
32. 30						011577		
35. 0	35. 39							
37. 30			020446					
37. 30						011534		
40. 0	39. 19							
42. 30			020645					
42. 30						011459		
45. 0	43. 45							
47. 30			021309					
47. 30						011464		
50. 0	43. 30							
52. 30			022394					
52. 30						011464		
55. 0	41. 37							
57. 30			022284					
9. 57. 30						011374	62·0	
10. 0. 0	40. 15							
2. 30			021863	62·5				
2. 30						011318		
5. 0	40. 1							
7. 30			021708					
7. 30						011271		
10. 0	39. 29							
12. 30			022383					

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Oct. 6. 10. 12. 30						0·011172		G
15. 0	246. 38. 21	G						
17. 30			0·021520		G			
17. 30						011172		G
20. 0	37. 43	G						
10. 22. 30			021321		G			
11. 57. 30						011421	58·7	JH
12. 0. 0	36. 39	JH						
2. 30			020287	59·0	JH			
12. 30						011513		
15. 0	33. 33							
17. 30			020391					
25. 30						011558		
28. 0	32. 35							
30. 30			020912					
54. 30						011600		
57. 0	30. 16							
12. 59. 30			021232					
13. 31. 30						011794		
34. 0	31. 50							
36. 30			021188					
13. 57. 30						011921	57·0	
14. 0. 0	31. 33							
2. 30			021217	57·2				
15. 57. 30						012533	55·7	
16. 0. 0	32. 30							
16. 2. 30			021752	55·8				
Oct. 8. 5. 57. 30						0·013587	58·6	JH
6. 0. 0	246. 30. 56	JH						
6. 2. 30			0·018834	58·0	JH			
7. 57. 30						013846	57·3	
8. 0. 0	33. 51							
8. 2. 30			017287	57·6				
9. 57. 30						012910	56·6	
10. 0. 0	41. 38							
2. 30			016982	56. 7				
3. 0						012902		
5. 30	39. 6							
8. 0			016443					
8. 30						012957		JH
11. 0	36. 47	JH						
10. 13. 30			016848		JH			
11. 48. 30						012071		G
51. 0	48. 18	G						
53. 30			021970		G			
11. 57. 30						012171	56·0	
12. 0. 0	48. 3							
2. 30			018029	57·0				
17. 30						012099		
20. 0	44. 4							

Oct. 8. Extra observations were commenced, in consequence of a change in the position of the declination needle of 8′ of arc, and a change of 2^{d} of the scale of the vertical force, between 8^{h} and 10^{h}.

At 10^{h}. 10^{m} the needles were steady and were watched for some time after; no deviation took place worth notice; the declination needle was slowly approaching its former position.

At 11^{h}. 51^{m} observations were resumed.

Extraordinary Observations of October 8 and 13.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Oct. 8. 12. 22. 30			0·018100		G			
37. 30						0·012331		G
40. 0	246. 49. 45	G						
42. 30			016720					
12. 57. 30						012410		
13. 0. 0	50. 53							
2. 30			017966					
17. 30						012260		
20. 0	45. 35							
22. 30			018321					
37. 30						011907		
40. 0	40. 58							
42. 30			016638					
13. 57. 30						011892	57·0	
14. 0. 0	39. 23							
2. 30			017077	58·0				
17. 30						012269		
20. 0	37. 30							
22. 30			017502					
37. 30						012495		
40. 0	34. 34							
42. 30			017834					
14. 57. 30						012504		
15. 0. 0	34. 15							
2. 30			017823					
17. 30						012641		
20. 0	31. 28							
22. 30			017413					
37. 30						012636		
40. 0	31. 48							
42. 30			017380					
15. 57. 30						012645	57·0	
16. 0. 0	32. 58							
2. 30			018022	58·0				
16. 57. 30						012872		
17. 0. 0	33. 8							
2. 30			018620					
17. 57. 30						012971	57·0	
18. 0. 0	32. 47							
2. 30			018878	58·0				
Oct. 13. 7. 57. 30						0·012316	57·5	
8. 0. 0	246. 40. 46							
8. 2. 30			0·021062	58·0	G			
9. 57. 30						012265	57·5	
10. 0. 0	52. 41							
2. 30			021144	58·0				
2. 30						012298		
5. 0	54. 26							
7. 30			024774					
7. 30						012312		

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Oct. 13. 10. 10. 0	246. 50. 48	G						
12. 30			0·025461		G			
12. 30						0·012265		G
15. 0	47. 36							
17. 30			024686					
17. 30						012109		
20. 0	47. 15							
22. 30			024244					
22. 30						012015		
25. 0	47. 11							
27. 30			023789					
27. 30						011883		
30. 0	46. 52							
32. 30			022583					
32. 30						011845		
35. 0	46·29							
37. 30			022284					
37. 30						011836		G
40. 0	46·40	G						
10. 42. 30			021752		G			
11. 57. 30						011977	57·5	JH
12. 0. 0	42. 14	JH						
12. 2. 30			020690	58·7	JH			
14. 2. 30			022539	57·8				
16. 2. 30			022634	58·0				
5. 54			021000					
6. 57			021575					
7. 39			019461					
8. 19			021886					
8. 59			021764					
9. 39			021642					
10. 54			021332					
11. 39			021930					
12·19			021752					
12. 59			021808					
13. 39			019505					
14. 19			022030					
14. 59			021631					
15. 39			021697					
16. 19			021287					
16. 59			022372					
17. 39			021930					
18. 19			021642					
18. 59			021908					
19. 39			021564					
20. 39			021587					
21. 29			021520					
22. 19			021841					
23. 1			021741					
23. 43			021653					
24. 25			022008					

Oct. 8. From 17^h to 20^h the needles scarcely moved.

Oct. 13. At $10^h.2^m.30^s$ the scale reading of the horizontal force magnet was $59^d{\cdot}55$, the needle without swing; at $10^h.5^m$ it was found swinging between $60^d{\cdot}9$ and $61^d{\cdot}4$: this change is very remarkable; here is an advance in the scale of $1^d{\cdot}6$, with a small swing of $0^d{\cdot}5$. Not less remarkable is the change of the declination needle; just before 10^h it was in a position for the theodolite to read $246°.40'$; at 10^h the theodolite read $246°.53'$; this was the first change after a remarkably long period of repose. Extra observations were in consequence commenced.

At $10^h.22^m$ there was a very strong light in the north, but it was suspected to be owing to the reflection of the London lights.

Between 10^h and 16^h the needles were frequently watched, but nothing unusual was noticed.

Extraordinary Observations of October 13, 19, 20, 24, and 25.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Oct. 13. 16. 25. 7			0·021941		JH			
25. 49			022273					
26. 31			022793					
27. 11			021686					
27. 53			021697					
28. 35			021587					
29. 17			021653					
29. 59			021963					
30. 41			021476					
31. 23			021387					
32. 5			021398					
32. 47			021409					
33. 29			021863					
34. 11			021631					
34. 53			021786					
35. 35			022129					
53. 53			021144					
54. 35			021099					
16. 55. 17			021188					
17. 12. 53			021431					
13. 35			021675					
14. 17			021941					
14. 59			021686					
15. 41			021719					
16. 23			021631					
17. 5			021708					
17. 47			021730					
18. 29			021897					
19. 11			021752					
19. 53			021609					
20. 35			021376					
17. 46. 19			021875					
18. 2. 30			022169	59·2				
Oct. 19. 21. 57. 30						0·015381	48·5	JH
22. 0. 0	246. 50. 27	JH						
22. 2. 30			0·021538	49·6	JH			
23. 57. 30						014373	52·8	
Oct. 20. 0. 0. 0	40. 21							
2. 30			019849	54·7				
4. 30						014308		
7. 0	38. 44							
9. 30			019494					
34. 30						013888		
37. 0	38. 32							
0. 39. 30			018166					
1. 0. 30						013728		
3. 0	41. 59							
5. 30			019040					
47. 30						013334	57·0	

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Oct. 20. 1. 50. 0	246. 40. 27	JH						
52. 30			0·020295	58·2	JH			
1. 57. 30						0·013201		JH
2. 0. 0	41. 19							
2. 30			020298					
7. 30						013098		JH
10. 0	41·50	JH						
12. 30			020265		JH			
52. 30						012664		G
56. 0	41. 6	G						
2. 58. 30			020568		G			
3. 57. 30						012434	59·0	G
4. 0. 0	43. 27	G						
4. 2. 30			020066	59·5	G			
Oct. 24. 23. 57. 30								
						0·013587	49·3	D
Oct. 25. 0. 0. 0	246. 33. 25	D						
0. 2. 30			0·020708	50·5	D			
1. 47. 30						013978	51·0	
50. 0	33. 57							
52. 30			020191	52·5				
1. 57. 30						014275		
2. 0. 0	30. 34							
2. 30			021978					
4. 13						015108		
4. 58	23. 47							
7. 30						014967		
10. 0	39. 31							
10. 58						015226		
12. 3						015131		
12. 30			020963					
14. 33	34. 29							
17. 3			019018					
17. 33						015287		
20. 3	36. 18							
22. 33			019683					
22. 33						016003		D
25. 3	38. 35	D						
27. 23						016061		G
27. 33			020656		D			
29. 53	28. 10	G						
32. 23			018930		G			
32. 22						016497		
32. 52	34. 37							
34. 52	35. 57							
36. 22						015735		
36. 52	47. 39							
37·22			019838					
38. 52	47. 29							
40. 52	47. 25							

Oct. 13. At $16^h.7^m$ the horizontal force magnet became affected, and extra observations were taken. The other instruments were not in the least affected, preserving a remarkable steadiness throughout the series. The very singular motions of the horizontal force needle, viz., sudden stops, jerks, increases and diminution of swing, were noticed continually. The sky was covered with a dense cirro-stratus, no star visible; wind very unsteady, at times blowing in heavy gusts, and then suddenly subsiding. No appearance of auroral light; sky densely black in the direction N.N.W. and N.

At $16^h.55^m$ the needle had lost the irregular motion, and was nearly in its usual state.

Oct. 20. A change of 10′ of arc in the declination needle, and a change of 2^d in the scale reading of the vertical force magnet having occurred between 22^h and 24^h on the 19th, extra observations were commenced.

Oct. 25. Considerable change going forward in the positions of the three magnets; extra observations were commenced at $1^h.50^m$.

After $2^h.29^m.53^s$, and before the next observation at $2^h.32^m.52^s$, the declination-magnet was in a position for the theodolite to read 246°.25′.

Extraordinary Observations of October 25.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Oct. 25. 2. 41. 22			0·017191		G			
41. 22						0·015706		G
43. 52	246. 48. 14	G						
46. 22			018100					
46. 22						015461		G
48. 52	53. 47	G						
49. 22						015414		D
51. 22			018122		G			
51. 52	53. 6	D						
54. 22			019461					
54. 22					D	015264		
56. 52	52. 6							
59. 22			018243					
2. 59. 22						015550		
3. 1. 52	51. 28							
4. 22			019329					
4. 22						015028		
6. 52	50. 35							
9. 22			019816					
9. 22						014849		
9. 52	48. 47							
11. 52	47. 23							
13. 52	47. 46							
14. 22			019871					
14. 22						014605		
16. 52	45. 21							
19. 22						014501		
21. 52	41. 51							
24. 22			020480					
24. 22						014167		
26. 52	42. 14							
29. 22			019694					
29. 22						013954		
31. 52	41. 14							
34. 22			019616					
34. 22						013719		
36. 52	40. 12							
39. 22			020180					
39. 22						013597		D
41. 52	39. 30	D						
44. 22			020125		D			
48. 30						013428		JH
51. 0	40. 4	JH						
53. 30			019627		JH			
53. 30						013301		
56. 0	40. 15							
57. 30						013310	55·0	
3. 58. 30			020779					
4. 0. 0	38. 38							
2. 30			022199	55·6				
7. 30						013301		

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Oct. 25. 4. 10. 0	246. 37. 7	JH						
12. 30			0·021442		JH			
17. 30						0·013324		JH
20. 0	36. 49							
22. 30			020424					
32. 30						013381		
35. 0	39. 37							
37. 30			018730					
47. 30						013752		
50. 0	39. 42							
4. 52. 30			018830					
5. 2. 30						013992		
5. 0	47. 9							
7. 30			018077					
7·30						014148		
10. 0	47. 22							
12. 30			016870					
12. 30						014275		
15. 0	246. 54. 30							
17. 30			016472					
17. 30						014896		
20. 0	247. 5. 22							
22. 30			016284					
22. 30						014788		
25. 0	10. 59							
27. 30			017977					
27. 30						014420		
30. 0	7. 42							
32. 30			020136					
32. 30						014251		
35. 0	247. 0. 12							
37. 30			020435					
37. 30						013916		
40. 0	246. 57. 2							
42. 30			020224					
22. 30						013743		
45. 0	53. 11							
47. 30			020313					
5. 57. 30						013465	55·0	
6. 0. 0	48. 38							
2. 30			016900	55·6				
7. 30						013691		
10. 0	48. 52							
12. 30			017103					
17. 30						013822		
20. 0	53. 53							
22. 30			018398					
22. 30						013860		
25. 0	51. 58							
27. 30			019129					
32. 30						013860		

At $8^h.10^m$ a very singular appearance in N.W., resembling a bright opening between two cirro-strati. It was visible about a quarter of an hour, and was particularly bright. The colour of the light was a brilliant yellow: it did not in the least resemble the usual reflection produced by the London lights, and was confined to a space about 15° in length, in its widest part about 5° in breadth, resembling a double cone, about 8° altitude.

$8^h.15^m$. Auroral light distinctly visible.

Extraordinary Observations of October 25.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Oct. 25. 6. 35. 0	246. 51. 47	JH						
37. 30			0 ·019107		JH			
47. 30						0 ·013752		JH
50. 0	50. 13							
52. 30			017712					
6. 57. 30						013550		
7. 0. 0	52. 9							
2. 30			017125					
17. 30						013493		JH
20. 0	55. 20	JH						
21. 30						013395		G
22. 30			016106		JH			
24. 0	55. 10	G						
26. 30			015941		G			
27. 30						013324		JH
30. 0	54. 3	JH						
32. 30			016848		JH			
37. 30						013173		
40. 0	246. 53. 6							
42. 30			016306					
47. 30						013329		
50. 0	247. 6. 56							
52. 30			015741					
53. 0	12. 16							
54. 30	17. 2							
55. 30			015741					
7. 57. 30						013276	55 ·0	
8. 0. 0	22. 50							
2. 30			018748	55 ·4				
2. 30						013126		
5. 0	17. 50							
7. 30			019683					
7. 30						013004		
10. 0	9. 22							
12. 30			019992					
12. 30						012721		
15. 0	247. 7. 54							
17. 30			020546					
17. 30						012222		
20. 0	246. 57. 22							
22. 30			020280					
22. 30						012033		
25. 0	54. 10							
27. 30			019351					
27. 30						011850		
30. 0	246. 57. 47							
32. 30			017535					
32. 30						011638		
35. 0	247. 0. 9							
37. 30			018852					
37. 30						011643		

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Oct. 25. 8. 40. 0	246. 51. 58	JH						
42. 30			0 ·017391		JH			
42. 30						0 ·011567		JH
45. 0	246. 55. 40							
47. 30			015211					
47. 30						011676		
50. 0	247. 3. 20							
52. 30			016128					
52. 30						011845		
55. 0	4. 7							
57. 30			017811					
8. 57. 30						011963		
9. 0. 0	247. 1. 49							
2. 30			017811					
2. 30						012038		
5. 0	246. 59. 32							
7. 30			017668					
7. 30						012080		
10. 0	56. 22							
12. 30			018033					
12. 30						012124		
15. 0	54. 14							
17. 30			017734					
22. 30						012099		
25. 0	55. 17							
27. 30			017767					
47. 30						011827		
50. 0	58. 56							
52. 30			018133					
9. 57. 30						011841	53 ·6	
10. 0. 0	58. 9							
2. 30			018387	54 ·0				
17. 30						012033		
20. 0	56. 14							
22. 30			018587					
32. 30						012062		JH
35. 0	53. 39	JH						
10. 37. 30			019229		JH			
11. 41. 34						012166		G
44. 4	51. 16	G						
46. 34			019948		G			
11. 57. 30						012171	51 ·5	
12. 0. 0	52. 35							
2. 30			019432	52 ·2				
22. 34						012269		
25. 4	41. 44							
27. 34			020790					
44. 30						011747		
47. 0	44. 4							
12. 49. 30			021309					
13. 3. 30						011468		

8h. 20m. Auroral light much fainter, and the light in N.W. more diffused, and far less bright than at 8h. 15m.

8h. 30m. Several streamers were seen.

8h. 35m. The light in the N.W. has disappeared: no indication of aurora: nearly cloudless.

8h. 50m. No unusual light visible: fine calm evening.

10h. 35. The needles being in a state of comparative rest, and the changes not greater than usual, observations were discontinued.

11h. 44m. 4s. Observations were resumed.

During this series of observations, no jerks or sudden stops, increasings or diminutions of swing observed. The vibration of the declination magnet was always less in extent than 1′ of the micrometer, being the same both before and after the sudden changes.

Extraordinary Observations of October 25, 26, 27 and 29.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Oct. 25. 13. 6. 0	246. 33. 39	G						
8. 30			0 ·019738		G			
20. 30						0 ·010659		G
23. 0	39. 19							
25. 30			018664					
34. 30						010570		
37. 0	44. 45							
39. 30			019218					
13. 57. 30						010847	52 ·0	
14. 0. 0	44. 38							
2. 30			018509	53 ·0				
15. 30						011318		
18. 0	43. 57							
20. 30			020202					
36. 30						011506		
39. 0	47. 52							
41. 30			020679					
56. 30						011747		
14. 59. 0	49. 28							
15. 1. 30			020413					
38. 20						011883		
15. 57. 30						012001	51 ·5	
16. 0. 0	49. 38							
2. 30			020645	52 ·0				
56. 30						012354		
16. 59. 0	45. 1							
17. 1. 30			020147					
17. 57. 30						012645	51 ·5	
18. 0. 0	41. 28							
2. 30			019926	52 ·0				
18. 59. 0	32. 55							
19. 57. 30						012872	48 ·0	G
20. 0. 0	39. 22	G						
20. 2. 30			019952	50 ·0	G			
21. 57. 30						013465	47 ·5	D
22. 0. 0	42. 54	D						
22. 2. 30			019490	47 ·8	D			
Oct. 26. 5. 57. 30						0 ·012674	54 ·5	G
6. 0. 0	246. 53. 9	G						
6. 2. 30			0 ·019055	57 ·0	G			
7. 21. 1						011977		
23. 31	50. 1							
26. 1			018819					
7. 57. 30						011836	56 ·0	
8. 0. 0	246. 54. 48							
8. 2. 30			019003	57 ·1				
41. 16						011558		
43. 46	247. 0. 31							
46. 16			022361					
47. 30						011464		

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Oct. 26. 8. 50. 0	246. 56. 30	G						
51. 30						0 ·011365		G
52. 30			0 ·022195		G			
54. 0	55. 10							
8. 56. 30			021855					
9. 11. 30						011149		
14. 0	51. 28							
16. 30			021276					
31. 30						011041		
34. 0	56. 26							
36. 30			021387					
9. 57. 30						011041	56 ·0	G
10. 0. 0	50. 38	G						
10. 2. 30			020431	57 ·0	G			
11. 57. 30						011436	54 ·3	D
12. 0. 0	50. 15	D						
12. 2. 30			020845	55 ·0	D			
Oct. 27. 17. 57. 30						0 ·010800	52 ·7	JH
18. 0. 0	246. 39. 5	JH						
2. 30			0 ·023830	53 ·0	JH			
27. 2						010631		
29. 32	42. 17							
32. 2			023358					
46. 2						010692		
48. 32	45. 53							
51. 2			022539					
57. 2						010753		
18. 59. 32	46. 14							
19. 2. 2			022063					
14. 2						010847		
16. 32	49. 40							
19. 2			020967					
23. 2						010971		
25. 32	51. 0							
28. 2			021675					
36. 2						011144		
38. 32	50. 11							
41. 2			021863					
19. 57. 30						011285	53 ·0	JH
20. 0. 0	50. 30	JH						
20. 2. 30			021620	53 ·5	JH			
21. 57. 30						011789	54 ·0	D
22. 0. 0	49. 17	D						
22. 2. 30			020535	54 ·8	D			
Oct. 29. 5. 57. 30						0 ·011591	54 ·0	G
6. 0. 0	246. 46. 30	G						
6. 2. 30			0 ·021438	55 ·0	G			
7. 33. 30						011977		
36. 0	59. 19							

Oct. 26, 6ʰ. The needles were moving in the direction opposite to their usual motions at this time of the day, in consequence of which extra observations were commenced.

At 8ʰ. 30ᵐ. A bright-yellow, steady, light in the north.

Oct. 27. The horizontal force magnet changed its readings 1ᵈ·8 between 16ʰ and 18ʰ, in consequence of which extra observations were taken.

Oct. 29. At 7ʰ. 33ᵐ extra observations were commenced, in consequence of finding the declination magnet in a position of 13′ of arc different from the previous observation at 6ʰ.

Extraordinary Observations of October 29 and November 3 and 4.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Oct. 29. 7. 37. 30						0·011982		G
38. 30			0·018941		G			
40. 0	247. 1. 1	G						
41. 30						012071		
42. 30			019981					
44. 0	1. 5							
46. 30						012071		
49. 0	0. 57							
51. 30			020546					
7. 57. 30						012001	54·0	
8. 0. 0	247. 0. 20							
2. 30			020619	55·0				
5. 0	246. 59. 7							
12. 30						011939		
15. 0	57. 22							
17. 30			020114					
22. 30						011939		
25. 0	53. 22							
27. 30			019893					
32. 30						011930		
35. 0	53. 1							
37. 30			020081					
47. 30						011907		
50. 0	49. 58							
8. 52. 30			021110					
9. 2. 30						011789		
5. 0	50. 12							
7. 30			021055					
22. 30						011704		
25. 0	49. 34							
27. 30			021144					
42. 30						011657		
45. 0	48. 13							
47. 30			021886					
9. 57. 30						011605	54·0	G
10. 0. 0	48. 9							
2. 30			021594	55·0	G			
10. 20. 0	48. 33	G						
11. 57. 30						011436	55·0	D
12. 0. 0	51. 27	D						
2. 30			021369	55·3	D			
Nov. 3. 20. 2. 30			0·025033	53·6	JH			
7. 57			024465					
12. 57			024122					
17. 57			024431					
20. 28. 57			023479					
22. 2. 30			022476	53·5	D			
25. 10			021653					
22. 45. 10			021564					
23. 3. 40			019682					

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Nov. 3. 23. 18. 10			0·018797		D			
33. 10			018819		D			
54. 0	246. 20. 19	G						
56. 15						0·011318		G
56. 30			018785		G			
23. 57. 30						011346	55·0	
Nov. 4. 0. 0. 0	21. 1	D						
2. 30			018741	54·2	D			
17. 30						011365		
20. 0	22. 6	G						
22. 30			019040		G			
42. 30						011600		
45. 0	20. 8							
47. 30			019605					
0. 57. 30						011497		
1. 0. 0	24. 5							
2. 30			018708					
17. 30						011789		
20. 0	20. 39							
22. 30			020313					
35. 30						011780		G
37. 0	22. 22	G						
39. 30			020313		G			
47. 30						011845		D
50. 0	21. 54	D						
52. 30			020694		D			
1. 57. 30						011845	54·5	
2. 0. 0	21. 56							
2. 30			021343	55·5				
7. 30						011836		D
10. 0	21. 46	D						
12. 30			021092		D			
22. 0						011921		G
23. 0	19. 36	G						
24. 0			021420		G			
2. 43. 4	19. 38	G						
3. 0. 50						012190		D
3. 20	20. 59	D						
5. 50			019981		D			
42. 2						012627		JH
44. 32	27. 49	JH						
47. 2			019373		JH			
3. 57. 30						012664	54·8	
4. 0. 0	27. 20							
2. 30			020103	54·6				
14. 2						012542		JH
16. 32	27. 18	JH						
19. 2			020502					
23. 30						012448		G
26. 0	28. 30	G						

Nov. 3d. 20h. A change of 2d in the scale readings of the horizontal force magnetometer having taken place, additional observations were commenced.

Extraordinary Observations of November 4, 5, and 6.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Nov. 4. 4. 28. 30			0·020202		G			
5. 57. 30						0·012080	54·3	JH
6. 0. 0	246. 32. 57	JH						
6. 2. 30			021062	54·0	JH			
7. 57. 30						012199	53·6	
8. 0. 0	43. 53							
2. 30			023827	53·0				
10. 32						012251		
13. 2	47. 6							
15. 32			022926					
23. 36						011977		
26. 6	41. 19							
28. 36			023867					
35. 36						011897		
38. 6	40. 46							
8. 40. 36			024354					
9. 37. 37						011831		
40. 7	41. 14							
42. 37			022273					
9. 57. 30						011897	52·2	JH
10. 0. 0	39. 37	JH						
2. 30			021823	52·0	JH			
10. 8. 25			021897					
11. 57. 30						012218	50·0	G
12. 0. 0	35. 27	G						
2. 30			022461	51·0	G			
15. 0						012260		
16. 0	35. 6							
12. 18. 30			022505					
13. 28. 0						012260		
29. 0	33. 22							
30. 0			022306					
13. 57. 30						012180	51·2	G
14. 0. 0	32. 37	G						
14. 2. 30			022804	52·5	G			
22. 22. 30			018841	53·0	D			
22. 58. 30			019981					
Nov. 5. 1. 47. 30						011954		D
50. 0	22. 13	D						
52. 30			020302					
1. 57. 30						012015	54·2	
2. 0. 0	21. 27							
2. 30			020026	55·8				
7. 30						011991		D
10. 0	20. 46	D						
2. 12. 30			020110		D			
3. 54. 0	33. 9	G						
3. 57. 30						012119	55·0	G
4. 0. 0	33. 23							
2. 30			018247	56·5	G			

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Nov. 5. 4. 13. 57						0·012213		G
14. 57	246. 36. 24	G						
15. 57			0·019162		G			
24. 57	36. 25							
4. 35. 4	36. 25	G						
5. 57. 30						011581	56·0	JH
6. 0. 0	30. 25	JH						
2. 30			021328	55·2	JH			
26. 30						011520		JH
29. 0	29. 57	JH						
6. 31. 30			021420		JH			
7. 57. 30						011726	55·0	P
8. 0. 0	51. 46	P						
8. 2. 30			021786	55·5	P			
9. 57. 30						011083	54·5	P
10. 0. 0	41. 3	P						
10. 2. 30			018380	54·5	P			
11. 57. 30						011591	52·0	D
12. 0. 0	36. 22	D						
2. 30			021298	52·0	D			
37. 0						012024		
39. 30	30. 43							
42. 0			021919					
12. 59. 0						012062		
13. 1. 30	28. 35							
13. 4. 0			021122					
13. 27. 0						012143		D
29. 30	27. 36	D						
13. 32. 0			021265		D			
22. 16. 47			020070		JH			
22. 48. 48			021110		JH			
23. 8. 0						012260		G
9. 0	34. 8	G						
10. 0			019073		G			
40. 30						012048		G
40. 33			017834		G			
41. 30	33. 10	G						
23. 57. 30						012033	54·0	JH
Nov. 6. 0. 0. 0	31. 34	JH						
2. 30			017818	54·5	JH			
47. 31	30. 30	G						
48. 19			018033		G			
48. 31						012029		G
0. 58. 50	30. 30							
1. 0. 40			019040					
10. 2	21. 16	G						
12. 50			018587					
13. 45						011742		G
17. 32						011704		JH
20. 2	23. 57	JH						

Nov. 4, 14h. Nothing afterwards occurred worth recording.

Nov. 5. After 8h the needles were watched for some time, and as they were apparently returning to their previous position slowly, and no abrupt changes were going on, the needles being at the same time in almost a quiescent state, no extra observations were taken.

Nov. 5, 23h. The declination needle was found moving in the direction opposite to its usual motion, at this time of the day.

Nov. 6, 1h. The declination needle moves now in its right direction.

Extraordinary Observations of November 6, 11, 16, and 17.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Nov. 6. 1.22.32			0·018398		JH			
22.32	246.25. 4	G						
32.32						0·011700		JH
35. 2	28.30	JH						
37. 2	30. 5							
37.32			019084					
47.30						011653		D
50. 0	27.36							
52.30			019512					
1.57.30						011506	60·6	
2. 0. 0	24.59							
2.30			018583	59·3				
7.30						011233		D
10. 0	26.36	JH						
12.30			018206		JH			
40.32						010805		G
43. 2	28.26	G						
2.45.32			019162		G			
3.57.30						010070	61·5	D
4. 0. 0	30.31	D						
4. 2.30			020066	61·8	D			
5.57.30						009765	59·8	
6. 0. 0	32.29							
6. 2.30			021033	60·0				
7.57.30						010306	58·0	
8. 0. 0	45.42							
2.30			019454	58·0				
11.30						010612		
14. 0	44.42							
16.30			020801					
26.30						010612		
29. 0	42.25							
31.30			022262					
47.30						010390		
50. 0	44. 3							
8.52.30			020889					
9.11.30						010423		
14. 0	46. 6							
16.30			020358					
22.30						010523		
25. 0	44.10							
27.30			019915					
35.30						010697		
38. 0	38.14							
40.30			020147					
42.30						010711		
45. 0	36.47							
47.30			020169					
49.30						010744		
52. 0	36. 1							
54.30			020037					

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Nov. 6. 9.57.30						0·010753	57·0	D
10. 0. 0	246.34.56	D						
2.30			0·021291	57·5	D			
3.30						010777		
6. 0	31. 5							
10. 8.30			020679					
Nov. 11. 3.57.30						0·010532	57·0	JH
4. 0. 0	246.32. 6	JH						
4. 2.30			0·021815	57·6	JH			
5.57.30						010880	56·0	
6. 0. 0	40.22							
2.30			019650	57·3				
33. 0						010922		
34.30	38. 9							
35. 0			021697					
44. 0						010922		
45.30	36.14							
46. 0			021675					
54.30						010908		
55.30	35.21							
6.56.30			022173					
7. 8.30						010889		
9.30	32.37							
10.30			021730					
37.30						010838		
38.30	32.36							
39.30			021775					
7.57.30						010894	54·5	
8. 0. 0	32.48							
8. 2.30			022070	54·8				
Nov. 16. 21.57.30						0·014887	35·5	JH
22. 0. 0	246.38.32	JH						
22. 2.30			0·025711	35·0	JH			
23.57.30						013785	39·0	
Nov. 17. 0. 0. 0	32.39							
2.30			022416	38·5				
6. 0						013634		
7. 0	35.49							
8. 0			022870					
9. 0						013653		
10. 0	34. 0							
11. 0			022904					
12. 0						013672		
13. 0	32.46							
14. 0			023070					
15. 0						013677		
16. 0	32.47							
17. 0			022915					

Nov. 6. Between $2^h.\ 20^m$ and $2^h.\ 40^m$, the needles were frequently examined.

Nov. 11. A change of 8′ of arc in the meridian needle having been remarked, extra observations were commenced.

Nov. 17, 0^h. A change of 6′ of arc in the position of the declination needle, a change of $1\frac{1}{2}^d$ in the scale readings of the horizontal force needle, and one of 2^d in the scale readings of the vertical force magnet, having taken place in the previous two hours, extra observations were commenced.

Extraordinary Observations of November 17 and 18.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Nov. 17. 0. 25. 0						0·013587		G
26. 0	246. 29. 29	G						
27. 0			0·023358		G			
37. 0						013272		G
38. 0	32. 21	G						
39. 0			022140					
56. 0					JH	013229		JH
57. 0	31. 25	JH						
0. 58. 0			023313					
1. 25. 0						012858		
26. 0	31. 54							
27. 0			023103					
42. 0						012010		
43. 0	33. 35							
44. 0			022694					
47. 30						012631		
50. 0	31. 44							
52. 30			022468					
1. 57. 30						012392	46·0	
2. 0. 0	32. 34							
2. 30			022383	46·0				
7. 30						012222		
10. 0	33. 52							
2. 12. 30			021937					
Nov. 18. 5. 57. 30						0·012905	41·2	JH
6. 0. 0	246. 28. 48	JH						
6. 2. 30			0·025369	42·0	JH			
7. 57. 30						013418	40·0	
8. 0. 0	38. 44							
2. 30			023955	41·0				
8. 0						013728		
9. 0	41. 2							
10. 0			023324					
11. 0						013724		
12. 0	42. 13							
13. 0			023402					
18. 0						013714		
19. 0	46. 34							
20. 0			023380					
21. 0						013691		
22. 0	46. 34							
23. 0			023413					
29. 0						013630		
30. 0	45. 38							
31. 0			022428					
38. 0						013578		
39. 0	41. 59							
40. 0			022350					
45. 0						013522		
46. 0	38. 11							

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Nov. 18. 8. 47. 0			0·022052		JH			
9. 42. 0						0·013921		JH
43. 0	246. 34. 31	JH						
44. 0			020878					
9. 57. 30						013996	40·0	JH
10. 0. 0	34·10	JH						
10. 2. 30			020679	40·8	JH			
11. 55. 0	35. 10	G						
11. 57. 30						012566	39·0	G
12. 0. 0	44. 52							
2. 30			019018	40·0	G			
7. 0						012345		
8. 0	53. 18							
9. 0			018930					
10. 0						012213		
11. 0	55. 39							
12. 0			018885					
13. 0						012204		
14. 0	246. 57. 42							
15. 0			018188					
21. 0						011813		
22. 0	247. 0. 33							
23. 0			017291					
24. 0						012071		
25. 0	3. 24							
26. 0			017357					
27. 0						012119		
28. 0	8. 31							
29. 0			017435					
30. 0						012024		
31. 0	11. 12							
32. 0			017602					
33. 0						011977		
34. 0	12. 42							
35. 0			017867					
36. 0						011869		
37. 0	13. 26							
38. 0			017988					
39. 0						011780		
40. 0	14. 48							
41. 0			017944					
44. 0						011742		
45. 0	14. 44							
46. 0			017944					
51. 0						011841		
52. 0	11. 13							
53. 0			017723					
56. 0						012190		
57. 0	7. 0							
58. 0			017789					
59. 0						012213		

Extraordinary Observations of November 18.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Nov. 18. 13. 0. 0	247. 5. 44	G						
1. 0			0·017513		G			
3. 0						0·012307		G
4. 0	6. 19							
5. 0			017856					
7. 0						012354		
8. 0	3. 13							
9. 0			017026					
10. 0						012265		
11. 0	1. 9							
12. 0			016716					
16. 0						012453		
17. 0	4. 14							
18. 0			016139					
19. 0						012354		
20. 0	5. 44							
21. 0			016340					
24. 0						012265		
25. 0	6. 19							
26. 0			015897					
38. 0						012645		
39. 0	7. 8							
40. 0			018808					
42. 0						013018		
43. 0	3. 20							
44. 0			019317					
49. 0						012975		
50. 0	1. 42							
51. 0			019616					
13. 57. 30						012453	39·0	
14. 0. 0	5. 3							
2. 30			021646	40·0				
4. 0						012265		
5. 0	5. 44							
6. 0			022940					
9. 0						012298		
10. 0	5. 56							
11. 0			023092					
14. 0						012119		
15. 0	8. 9							
16. 0			022837					
18. 0						011780		
19. 0	10. 12							
20. 0			023181					
23. 0						011506		
24. 0	11. 29							
25. 0			023457					
31. 0						011318		
32. 0	10. 8							
33. 0			023048					
38. 0						011229		

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Nov. 18. 14. 39. 0	247. 11. 19	G						
40. 0			0·022826		G			
43. 0						0·010942		G
44. 0	14. 46							
45. 0			021719					
48. 0						010518		
49. 0	19. 19							
50. 0			020667					
52. 0						010320		
53. 0	22. 55							
54. 0			020601					
57. 0						010320		
58. 0	25. 55							
14. 59. 0			020125					
15. 1. 0						010047		
2. 0	27. 40							
3. 0			019151					
4. 0						009991		
5. 0	27. 8							
6. 0			018919					
8. 0						010056		
9. 0	24. 55							
10. 0			019295					
14. 0						010047		
15. 0	20. 41							
16. 0			018609					
18. 0						010061		
19. 0	17. 50							
20. 0			019162					
22. 0						010197		
23. 0	15. 0							
24. 0			019572					
26. 0						010329		
27. 0	13. 22							
28. 0			020158					
30. 0						010353		
31. 0	10. 2							
32. 0			020224					
36. 0						010024		
37. 0	6. 58							
38. 0			019871					
41. 0						009868		
42. 0	4. 36							
43. 0			019472					
46. 0						009765		
47. 0	5. 2							
48. 0			019705					
15. 57. 30						009859	42·0	
16. 0. 0	7. 11							
2. 30			022653	43·0				
4. 0						010141		

Extraordinary Observations of November 18.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Nov. 18. 16. 5. 0	247. 5. 11	G						
6. 0			0·023247		G			
10. 0						0·010024		G
11. 0	247. 2. 50							
12. 0			023922					
28. 0						009006		
29. 0	246. 48. 25							
30. 0			018642					
32. 0						009110		
33. 0	40. 36							
34. 0			017613					
35. 0						009058		
36. 0	35. 53							
37. 0			017048					
38. 0						009011		
39. 0	34. 17							
40. 0			017712					
45. 0						008446		
46. 0	36. 57							
47. 0			018254					
51. 0						008493		
52. 0	41. 36							
16. 53. 0			018974					
17. 2. 0						008687		
3. 0	42. 37							
4. 0			021368					
8. 0						008973		
9. 0	37. 58							
10. 0			021841					
14. 0						009091		
15. 0	32. 5							
16. 0			022372					
19. 0						009119		
20. 0	29. 25							
21. 0			022605					
22. 0						009114		
23. 0	27. 39							
24. 0			023059					
29. 0						009152		
30. 0	26. 49							
31. 0			024155					
35. 0						009246		
36. 0	28. 39							
37. 0			024244					
42. 0						009246		
43. 0	29. 36							
44. 0			023690					
48. 0						009114		
49. 0	29. 2							
50. 0			022206					
54. 0						008988		

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Nov. 18. 17. 55. 0	246. 29. 40	G						
56. 0			0·021365		G			
17. 57. 30						0·009058	42·0	G
18. 0. 0	28. 33							
2. 30			021575	43·0				
10. 0						009388		
11. 0	25. 53							
12. 0			021166					
25. 0						009388		
26. 0	30. 50							
27. 0			021243					
39. 0						009434		
40. 0	29. 48							
41. 0			018952					
47. 0						009623		
48. 0	29. 48							
18. 49. 0			019516					
19. 7. 0						010226		
8. 0	24. 47							
9. 0			017756					
25. 0						010565		
26. 0	23. 9							
27. 0			017224					
42. 0						010805		
43. 0	22. 29							
44. 0			017878					
53. 0						010966		
54. 0	21. 18							
55. 0			018155					
19. 57. 30						010942	43·0	G
20. 0. 0	20. 49	G						
20. 2. 30			018730	44·0	G			
21. 48. 0						011600		D
49. 0	26. 4	D						
50. 0			020867		D			
21. 57. 30						011577	44·5	
22. 0. 0	26. 34							
2. 30			02133644·3					
14. 0						011726		
15. 0	27. 59							
16. 0			021941					
21. 0						011751		
22. 0	27. 52							
23. 0			021144					
32. 0						011635		
33. 0	28. 57							
34. 0			020956					
41. 0						011700		
42. 0	28. 40							
43. 0			021453					
49. 0						011662		

Extraordinary Observations of November 18 and 19.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Nov. 18. 22. 50. 0	246. 27. 31	D						
51. 0			0·020568		D			
58. 0						0·011638		D
22. 59. 0	27·14	D						
23. 0. 0			020923		D			
7. 0						011836		JH
8. 0	26. 2	JH						
9. 0			020369		JH			
16. 0						011577		D
17. 0	28. 20	D						
18. 0			020103		D			
24. 0						011624		
25. 0	26. 46							
26. 0			019738					
32. 0						011591		
33. 0	26. 52							
34. 0			019605					
48. 0						011433		
49. 0	29. 58							
50. 0			018044					
53. 0						011459		
54. 0	28. 47							
55. 0			019084					
23. 57. 30						011454	46·2	
Nov. 19. 0. 0. 0	27. 13							
2. 30			019516	47·0				
16. 0						011506		
17. 0	25. 30							
18. 0			019705					
32. 0						011454		
33. 0	22. 18							
34. 0			020125					
45. 0						011365		
46. 0	22. 48							
0. 47. 0			019838					
1. 5. 0						011327		
6. 0	23. 57							
7. 0			020347					
19. 0						011262		
20. 0	23. 59							
21. 0			020458					
33. 0						011205		
34. 0	27. 41							
35. 0			020923					
36. 0						011229		
37. 0	25. 57							
38. 0			021188					
41. 0						011777		
42. 0	26. 39							
43. 0			021055					

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Nov. 19. 1. 47. 30						0·011201		D
50. 0	246. 26. 26	D						
52. 30			0·021261		D			
1. 57. 30						011088	48·2	
2. 0. 0	26. 25							
2. 30			021137	49·5				
7. 30						011271		
10. 0	24. 51							
12. 30			021225					
23. 0						011224		D
24. 0	24. 27	D						
2. 25. 0			021033		D			
3. 12. 0						011459		G
13. 0	30. 35	G						
14. 0			020480		G			
34. 0						010287		
35. 0	36. 21							
36. 0			021897					
3. 57. 30						011215	51·0	
4. 0. 0	30. 48							
4. 2. 30			019948	51·0				
5. 57. 30						010282	52·0	G
6. 0. 0	36. 37	G						
6. 2. 30			020243	53·0	G			
7. 57. 30						009765	51·0	P
8. 0. 0	52. 10	P						
2. 30			021305	51·8	P			
13. 30	54. 3							
14. 30	53. 48							
22. 30						009906		P
23. 30	50. 25							
24. 30			023834					
28. 30	47. 59							
29. 30			023479		P			
33. 30	46. 44							
40. 30	46. 14							
46. 30	45. 3							
8. 59. 30	41. 50							
9. 21. 30	38. 46	P						
9. 57. 30						009767	49·2	M
10. 0. 0	38. 25	M						
2. 30			020938	51·0	M			
20. 0						009632		JH
21. 0	40. 53	JH						
22. 0			021221		JH			
23. 0						009637		JH
24. 0	41. 2	JH						
10. 25. 0			021199		JH			
11. 36. 0						009755		D
37. 0	42. 9	G						
38. 0			020125		D			

Extraordinary Observations of November 19.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Nov. 19. 11. 57. 30						0·009840	48·5	D
12. 0. 0	246. 35. 15	D						
2. 30			0·023247	49·2	D			
9. 0						009543		
10. 0	34. 22							
11. 0			022782					
14. 0						009402		
15. 0	35. 43							
16. 0			021897					
19. 0						009346		
20. 0	36. 57							
21. 0			021675					
24. 0						009355		
25. 0	36. 20							
26. 0			021642					
29. 0						009388		
30. 0	34. 50							
31. 0			022140					
34. 0						009341		
35. 0	34. 40							
36. 0			022251					
39. 0						009213		
40. 0	32. 17							
41. 0			022915					
44. 0						009284		
45. 0	27. 5							
46. 0			025450					
49. 0						009173		
50. 0	25. 49							
51. 0			026933					
52. 0						008992		
53. 0	26. 33							
54. 0			026480					
55. 0						008649		
56. 0	27. 13							
57. 0			025992					
58. 0						008365		
12. 59. 0	27. 50							
13. 0. 0			025151					
1. 0						008069		
2. 0	28. 52							
3. 0			024708					
4. 0						007839		
5. 0	30. 49							
6. 0			024266					
7. 0						007740		
8. 0	33. 8							
9. 0			023834					
10. 0						007656		
11. 0	35·24							
12. 0			023247					

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Nov. 19. 13. 13. 0						0·007646		D
14. 0	246. 36. 54	D						
15. 0			0·022893		D			
16. 0						007754		
17. 0	37. 31							
18. 0			023313					
19. 0						007834		
20. 0	37. 50							
21. 0			023092					
22. 0						007872		
23. 0	38. 2							
24. 0			022870					
25. 0						007923		
26. 0	37. 53							
27. 0			022826					
28. 0						007942		
29. 0	39. 18							
30. 0			022472					
31. 0						008013		
32. 0	39. 28							
33. 0			021985					
34. 0						008055		
35. 0	41. 4							
36. 0			022206					
37. 0						008164		
38. 0	41. 30							
39. 0			022450					
40. 0						008263		
41. 0	42. 42							
42. 0			022516					
43. 0						008314		
44. 0	43. 41							
45. 0			022405					
46. 0						008399		
47. 0	43. 32							
48. 0			022494					
49. 0						008493		
50. 0	42. 0							
51. 0			022295					
52. 0						008554		
53. 0	41. 38							
54. 0			022306					
55. 0						008612		
56. 0	40. 58							
57. 0			022273					
13. 57. 30						008635	48·8	
14. 0. 0	39. 30							
2. 30			021764	49·3				
6. 0						008687		
7. 0	37. 48							
8. 0			021852					

Extraordinary Observations of November 19.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Nov. 19. 14. 16. 0						0·008847		D
17. 0	246. 37. 30	D						
18. 0			0·021077		D			
31. 0						008964		
32. 0	39. 25							
33. 0			021055					
49. 0						009228		
50. 0	39. 57							
14. 51. 0			021476					
15. 8. 0						009246		
9. 0	41. 29							
10. 0			021542					
25. 0						009255		
26. 0	42. 32							
27. 0			022616					
47. 0						009350		
48. 0	41. 15							
49. 0			022063					
15. 57. 30						009379	48·5	
16. 0. 0	40. 8							
2. 30			021812	49·5				
5. 0						009365		
6. 0	38. 20							
16. 7. 0			021509					
17. 8. 0						009379		
9. 0	33. 29							
10. 0			021653					
17. 57. 30						009294	49·0	
18. 0. 0	16. 9							
2. 30			020871	48·7				
13. 0						009182		
14. 0	15. 19							
15. 0			021376					
23. 0						009105		
24. 0	22. 57							
25. 0			022195					
28. 0						009114		
29. 0	26. 7							
30. 0			022328					
33. 0						009178		
34. 0	28. 52							
35. 0			021963					
38. 0						009213		
39. 0	30. 28							
40. 0			021886					
43. 0						009294		
44. 0	32. 10							
45. 0			021598					
48. 0						009360		
49. 0	33. 51							
50. 0			021587					

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Nov. 19. 18. 53. 0						0·009482		D
54. 0	246. 35. 7	D						
55. 0			0·021752		D			
58. 0						009651		
18. 59. 0	35. 18							
19. 0. 0			021985					
3. 0						009712		
4. 0	35. 11							
5. 0			022251					
8. 0						009765		
9. 0	35. 46							
10. 0			022184					
13. 0						009826		
14. 0	36. 29							
15. 0			022472					
18. 0						009883		
19. 0	35. 48							
20. 0			023203					
23. 0						010014		
24. 0	32. 10							
25. 0			023358					
28. 0						010000		
29. 0	33. 11							
30. 0			023269					
33. 0						009944		
34. 0	33. 29							
35. 0			023159					
38. 0						009995		
39. 0	33. 38							
40. 0			023115					
43. 0						010000		
44. 0	33. 35							
45. 0			022561					
48. 0						010047		
49. 0	33. 18							
50. 0			022992					
53. 0						010052		
54. 0	33. 29							
55. 0			022716					
19. 57. 30						010070	48·2	
20. 0. 0	32. 45							
2. 30			022251	48·0				
18. 0						010150		
19. 0	30. 55							
20. 0			021609					
23. 0						010141		D
24. 0	28. 42	D						
20. 25. 0			021365		D			
21. 57. 30						010809	46·0	JH
22. 0. 0	28. 28	JH						
2. 30			018985	46·3	JH			

Extraordinary Observations of November 19 and 20.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Nov. 19. 22. 23. 0						0·010956		JH
24. 0	246. 27. 11	JH						
25. 0			0·018243		JH			
45. 0						011083		G
46. 0	29. 37	G						
22. 47. 0			018155		G			
23. 57. 30						011761	47·0	JH
Nov. 20. 0. 0. 0	26. 56	JH						
2. 30			020003	48·0	JH			
50. 0						011092		
51. 0	32. 6							
0. 52. 0			021587					
1. 47. 30						010908		
50. 0	27. 39							
52. 30			020652					
1. 57. 30						010880	50·0	
2. 0. 0	27. 1							
2. 30			019310	51·6				
7. 30						010913		JH
10. 0	28. 21	JH						
12. 30			017220					
19. 35			016406		JH			
32. 0						010913		G
33. 0	41. 11	G						
34. 0			018598		G			
40. 0						011299		JH
41. 0	42. 27	JH						
42. 0			018830		JH			
50. 0						011318		
51. 0	45. 15							
52. 0			019439					
2. 59. 0						011309		JH
3. 0. 0	39. 2	JH						
1. 0			021542		JH			
46. 0						010777		G
47. 0	30. 38	G						
48. 0			019273		G			
3. 57. 30						010589	52·0	
4. 0. 0	32. 0							

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Nov. 20. 4. 2. 30			0·018730	53·0	G			
31. 0						0·010235		G
32. 0	246. 34. 24	G						
33. 0			020656					
51. 0						010085		
52. 0	35. 40							
4. 53. 0			021011					
5. 11. 0						009977		G
12. 0	34. 41	G						
13. 0			021077		G			
46. 0						009812		D
47. 0	36. 54	D						
48. 0			021642		D			
5. 57. 30						009745	52·0	
6. 0. 0	38. 46							
2. 30			021624	53·0				
26. 0						009670		
27. 0	43. 1							
28. 0			023015					
49. 0						009482		
50. 0	42. 4							
6. 51. 0			021520					
7. 14. 0						009520		
15. 0	40. 38							
16. 0			021886					
32. 0						009444		
33. 0	39. 42							
34. 0			021431					
7. 57. 30						009369	51·0	D
8. 0. 0	38. 39	D						
2. 30			021173	53·0	D			
27. 0						009553		G
28. 0	39. 28	G						
8. 29. 0			021276		G			
9. 57. 30						009491	50·7	JH
10. 0. 0	34. 26	JH						
10. 2. 30			022302	51·8	JH			
11. 57. 30						008988	49·5	
12. 0. 0	39. 21							
12. 2. 30			023767	50·0				

NOTES ON THE EXTRAORDINARY MAGNETIC DISTURBANCE OF NOVEMBER 18, 19, AND 20, 1841.

Nov. 18. At the 8^h, P.M. observation, considerable changes having taken place, extra observations were commenced.

10^h. The magnets not being unusually affected, extra observations were discontinued. During the greater part of the evening there was a stationary light in the N.W., but more resembling the reflection of a distant fire than the usual colour of Aurora: at certain times it was much brighter than at others.

$12^h.\ 15^m$. A curve of bright-yellow light: its center in the magnetic meridian about 3° high.

$12^h.\ 53^m$. The light precisely similar: seen from the north terrace.

$13^h.\ 1^m$. No break in the clouds: the light still visible, but fainter.

$13^h.\ 20^m$. Nothing of interest occurring, the observer left for the purpose of well examining the sky: the light seen towards the north was certainly auroral; its center being over the Masting-house at Blackwall (nearly due N. from the place of observation): it was a faint, yellowish light: one great cirro-stratus covered the sky.

$14^h.\ 16^m$. The horizontal force magnetometer steadily increasing its readings, and the vertical force magnetometer as steadily diminishing its readings; at the same time the N. end of the declination needle was slowly approaching the east.

$14^h.\ 45^m$. There was a marked difference between the advancing and receding motions of the horizontal force magnetometer: when it was moving so that the readings increased, it moved 3^s or 4^s, then stopped: again went on 3^s or 4^s, and again stopped: advanced again till it stopped finally: then moved quickly throughout diminishing readings without a stop. These frequent stops required caution, as the observer might easily enter an erroneous reading.

$14^h\ 49^m.\ 4^s$. In this observation the time of motion of the horizontal force magnet without a stop (the needle passing from a greater reading to a less) was $20^s{\cdot}5$, then at the end of the swing it was stationary 3^s; it then turned, moved 3^s increasing its readings, was then stationary 2^s, then advanced 4^s, was quiet 1^s, advanced 5^s, was quiet 1^s, was in motion 3^s, motionless 4^s, then began to decrease its readings, with a smooth, unbroken motion.

$14^h.\ 51^m$. Shifted the suspension of the declination needle.

At $14^h.\ 53^m$ the declination needle had an up and down motion, probably owing to shifting the suspension.

At $14^h.\ 56^m$ shifted the suspension again, so as to move the needle further in the same direction as before.

At $14^h.\ 58^m$ the readings of the horizontal force and those of the vertical force magnets were both decreasing, the N. end of the declination needle moving towards the east.

At $15^h.\ 5^m$ the directions in which the needles had been moving were suddenly changed; the horizontal force and the vertical force readings were increasing, the N. end of the declination needle moving towards the west.

At $15^h.\ 19^m$ the checks and stops in the motions of the horizontal force magnet were much lessened, being just perceptible.

At $15^h.\ 27^m$ the motions of the horizontal force magnet were free; it passed both ways with a smooth motion without an intermediate stop.

At $15^h.\ 31^m$ the scale of the horizontal force magnet had an irregular motion, such as an up and down motion, compounded with its own right and left swings, would give.

At $15^h.\ 37^m$ the horizontal force and vertical force readings increased together.

At $15^h.\ 42^m$ the declination needle had no swing.

At $15^h.\ 43^m$ the irregular motion of the horizontal force magnet continued.

At $17^h.\ 15^m$ a loud clap of thunder.

$17^h.\ 19^m$. Low, distant thunder.

$17^h.\ 21^m$. Thunder heard again.

$17^h.\ 25^m$. Low, distant thunder.

$17^h.\ 36^m$. The motion of the horizontal force magnet in this observation was smooth and continuous, as it moved from less to greater readings; but from greater readings to less it was five times stopped, being without motion about a second every time.

$17^h.\ 44^m$. The horizontal force magnet moved from a less reading to a greater, $20^s{\cdot}5$ being the time it was moving, without a check; it then directly turned and moved for 3^s, so that its readings decreased; it stopped momentarily, and remained motionless 1^s, advanced for 3^s, was quiet 1^s, and had three other stops before it turned; it then moved with a smooth and even motion, without the slightest check.

At $19^h.\ 26^m$ all the needles moved as usual.

Nov. $19^d.\ 6^h.\ 34^m.\ 30^s$. The declination needle moved suddenly through 8′ of arc, the marked end being carried towards the east: before the observation at 37^m it had moved back again, and was without vibration.

Extraordinary Observations of December 2 and 3.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Dec. 2. 11. 57. 30						0·007608	52·0	JH
12. 0. 0	246. 37. 0	JH						
12. 2. 30			0·023413	52·0	JH			
13. 57. 30						007133	51·0	
14. 0. 0	47. 59							
2. 30			022734	51·5				
7. 45						007344		
8. 45	44. 22							
9. 45			022361					
16. 45						007458		
17. 45	41. 5							
18. 45			022705					
29. 45						007514		
30. 45	38. 12							
14. 31. 45			022992					
15. 7. 45						007448		
8. 45	38. 30							
9. 45			023789					
15. 57. 30								
16. 0. 0	38. 15	JH				007566	51·0	JH
16. 2. 30			023523	51·2	JH			
Dec. 2. 23. 57. 30						0·007434	52·0	D
3. 0. 0. 0	246. 29. 32	D						
0. 2. 30			0·023365	52·2	D			
1. 47. 30								
50. 0	26. 24					007618		
52. 30			022852					
1. 57. 30						007764	52·6	
2. 0. 0	24. 25							
2. 30			021963	53·5				
7. 30						007778		
10. 0	23. 16							
12. 30			020480					
12. 44						007834		
13. 44	28. 19							
14. 44			021033					
20. 44						007975		
21. 44	31. 44							
22. 44			018044					
30. 44						008211		
31. 44	33. 42							
32. 44			017081					
38. 44						008258		D
39. 44	30. 50	D						
40. 44			017756		D			
46. 44						008399		G
47. 44	27. 2	G						
2. 48. 44			017180		G			
3. 3. 44						008776		G
4. 44	27. 16	G						

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Dec. 3. 3. 5. 44			0·018498		G			
3. 57. 30						0·008781	54·0	JH
4. 0. 0	246. 26. 9	JH						
4. 2. 30			021668	54·0	JH			
5. 57. 30						010357	53·0	
6. 0. 0	247. 0. 37							
2. 30			018616	53·0				
4. 43						010169		
5. 43	8. 6							
6. 43			020380					
7. 43						010052		
8. 43	6. 36							
9. 43			021110					
10. 43						009911		
11. 43	247. 2. 58							
12. 43			022483					
13. 43						009722		
14. 43	246. 59. 32							
15. 43			022694					
16. 43						009585		
17. 43	56. 49							
18. 43			023579					
19. 43						009464		
20. 43	54. 11							
21. 43			023845					
22. 43						009369		
23. 43	51. 7							
24. 43			023767					
27. 43						009133		
28. 43	47. 54							
29. 43			023468					
39. 43						008861		
40. 43	40. 49							
41. 43			022273					
42. 43						008790		
43. 43	42. 32							
44. 43			022671					
57. 43						008568		
58. 43	37. 41							
6. 59. 43			022383					
7. 13. 44						008437		
14. 44	38. 18							
15. 44			020956					
35. 44						008568		
36. 44	37. 34							
37. 44			021188					
52. 44						008564		
53. 45	36. 34							
54. 45			021122					
7. 57. 30						008578	52·0	
8. 0. 0	37. 31							

Dec. 2^d. 12^h. A considerable change having been observed in the position of the declination needle, additional observations were made.

Dec. 3^d. 6^h. 0^m. The great change of $34\frac{1}{2}'$ of arc must have been caused by a sudden disturbance, as the observer was at the instruments a short time before, and they were then in a quiet state.

Extraordinary Observations of December 3, 8, and 14.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Dec. 3. 8. 2. 30			0·021195	52·3	JH			
9. 57. 30						0·008630	50·0	JH
10. 0. 0	246. 36. 18	JH						
10. 2. 30			022247	51·3	JH			
11. 43. 45						008211		G
44. 45	32. 8	G						
11. 57. 30						008202	50·0	
12. 0. 0	36. 56							
2. 30			021571	51·3	G			
19. 45						008329		G
20. 45	40. 18							
21. 45			022915					
42. 45						008211		D
43. 45	44. 40	G						
12. 44. 45			023468		G			
Dec. 8. 1. 47. 30						0·006741		D
50. 0	246. 40. 54	D						
52. 30			0·021110		D			
1. 57. 30						006704	55·0	
2. 0. 0	39. 18							
2. 30			021040	56·0				
7. 30						006666		D
10. 0	39. 52	D						
2. 12. 30			020941		D			
3. 57. 30						008612	54·5	G
4. 0. 0	50. 43	G						
2. 30			017228	55·5	G			
5. 45						008549		
6. 45	51. 55							
7. 45			017557					
20. 45						008635		
21. 45	47. 12							
22. 45			019793					
35. 45						008455		
36. 45	42. 33							
37. 45			017834					
39. 46						008493		
40. 46	38. 4							
41. 46			017811					
58. 46						008545		
4. 59. 46	41. 50							
5. 0. 46			017513					
21. 46						008540		
22. 46	39. 20							
23. 46			018310					
46. 44						008554		
47. 44	41. 12							
48. 44			017469					
5. 57. 30						008437	55·0	
6. 0. 0	39. 52							

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Dec. 8. 6. 2. 30			0·017070	56·0	G			
7. 45						0·008446		G
8. 45	246. 41. 56	G						
6. 9. 45			016605					
7. 29. 45						008211		
30. 45	50. 9							
31. 45			017867					
7. 57. 30						007966	54·5	
8. 0. 0	48. 56							
2. 30			018155	55·0				
49. 45						007787		
50. 45	49. 4							
8. 51. 45			019151					
9. 25. 50						007552		
26. 50	48. 57							
27. 50			019461					
9. 57. 30						007552	54·0	G
10. 0. 0	52. 59	G						
10. 2. 30			019838	55·0	G			
11. 57. 30						007057	53·5	D
12. 0. 0	47. 31	D						
12. 2. 30			020845	53·8	D			
Dec. 14. 5. 57. 30						0·010028	45·0	JH
6. 0. 0	246. 42. 38	JH						
6. 2. 30			0·023501	45·3	JH			
7. 57. 30						011437	44·5	
8. 0. 0	52. 0							
2. 30			023276	44·2				
3. 45						011581		
4. 45	48. 57							
5. 45			024332					
6. 45						011659		
7. 45	44. 3							
8. 45			024597					
9. 45						011728		
10. 45	38. 47							
11. 45			024974					
12. 45						011723		
13. 45	31. 27							
14. 45			023192					
15. 45						011616		
16. 45	32. 4							
17. 45			020679					
18. 45						011619		
19. 45	36. 12							
20. 45			019959					
23. 45						011725		
24. 45	41. 9							
25. 45			020435					
26. 45						011871		

Dec. 8d. 4h. A change since the previous observations at 2h having taken place in all the instruments, additional observations were made.

Dec. 14d. 8h. The magnets being much disturbed, extra observations were commenced.

Extraordinary Observations of December 14, 16, and 17.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Dec. 14. 8. 27. 45	246. 42. 57	J H						
28. 45			0 ·021309		J H			
29. 45						0 ·012038		J H
30. 45	41. 37							
31. 45			021409					
32. 45						012210		
33. 45	41. 56							
34. 45			021741					
36. 45						012312		
37. 45	42. 14							
38. 45			021963					
39. 45						012370		
40. 45	246. 41. 50							
8. 41. 45			022572					
9. 40. 45						012071		
41. 45	247. 4. 22							
42. 45			024420					
43. 45						012171		
44. 45	246. 59. 53							
45. 45			024553					
46. 45						012109		
47. 45	59. 3							
48. 45			023900					
49. 45						011991		
50. 45	246. 59. 51							
51. 45			023590					
9. 57. 30						011808	43 ·8	
10. 0. 0	247. 1. 3							
2. 30			020645	44 ·0				
3. 45						011648		
4. 45	6. 5							
5. 45			020180					
6. 45						011676		
7. 45	8. 19							
8. 45			020634					
9. 45						011628		
10. 45	8. 55							
11. 45			020867					
12. 45						011619		
13. 45	9. 9							
14. 45			021022					
19. 45						011648		
20. 45	7. 53							
21. 45			021509					
27. 45						011633		J H
28. 45	247. 5. 0	J H						
10. 29. 45			021919		J H			
11. 57. 30						009859	42 ·0	G
12. 0. 0	246. 53. 42	G						
2. 30			026243	43 ·0	G			
18. 45						009850		

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Dec. 14. 12. 19. 45	247. 4. 51	G						
20. 45			0 ·021354		G			
32. 45						0 ·010188		G
33. 45	246. 54. 34							
34. 45			021697					
57. 46						010471		
58. 46	51. 23							
12. 59. 46			021620					
13. 39. 47						010706		
40. 47	48. 11							
41. 47			022937					
13. 57. 30						010617	42 ·0	
14. 0. 0	44. 38							
14. 2. 30			022302	43 ·0				
15. 57. 30						010871	42 ·0	G
16. 0. 0	45. 44	G						
16. 2. 30			022698	43 ·0	G			
Dec. 16. 7. 57. 30						0 ·008922	50 ·3	D
8. 0. 0	246. 53. 27	D						
8. 2. 30			0 ·020827	50 ·7	D			
9. 57. 30						008776	48 ·3	
10. 0. 0	52. 0							
2. 30			024959	48 ·7				
3. 45						008540		
4 45	50. 29							
5. 45			023523					
8. 45						008470		
9. 45	49. 7							
10. 45			023026					
11. 45						008411		
12. 45	48. 48							
13. 45			021830					
16. 45						008370		
17. 45	51. 34							
18. 45			020734					
20. 45						008357		
21. 45	55. 5							
22. 45			020480					
25. 45						008375		D
26. 45	56. 19	D						
10. 27. 45			020535		D			
11. 45. 45						008973		J H
46. 45	53. 19	J H						
47. 45			020901		J H			
11. 57. 30						008959	47 ·8	
12. 0. 0	246. 52. 29	J H						
12. 2. 30			021483	48 ·3	J H			
Dec. 17. 12. 0. 0	247. 0. 42	P						
12. 2. 30			0 ·026362	40 ·2	P			

Dec. 14^{d}. 8^{h}. 33^{m}. No auroral light visible.

8^{h}. 42^{m}. After this time the positions of the needles were frequently examined, but no great changes took place. The great change at 9^{h}. 41^{m}. 47^{s} must have occurred immediately before, as the observer, while observing the position of the vertical force magnet, at 9^{h}. 40^{m}. 47^{s}, looked into the telescope of the theodolite, and saw the cross: at 9^{h}. 41^{m}, it was out of the field of view.

At 10^{h}. 25^{m} an aurora was distinctly visible in the N. horizon; no streamers, but merely a pale, diffused light. This might have been observed at 9^{h}. 40^{m}, as a faint light was suspected, but the quantity of heavy vapour prevented its being distinguished as an auroral phenomenon.

13^{h}. 0^{m} and 13^{h}. 40^{m}. Between these observations the observer looked several times, the declination reading being always a little less than at the preceding inspection.

Extraordinary Observations of December 17, 22, and 30.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Dec. 17. 14. 0. 0	246. 51. 38	P						
2. 30			0 ·024310	38 ·5	P			
. 47. 36	52. 31							
48. 36			024575					
51. 16	52. 54							
52. 16			024575					
14. 53. 16	52. 51							
16. 0. 0	49. 49							
16. 2. 30			025000	38 ·2				
Dec. 22. 5. 57. 30						0 ·009699	41 ·0	P
6. 0. 0	246. 31. 0	P						
6. 2. 30			0 ·024458	42 ·0	P			
7. 57. 30						009953	42 ·0	
8. 0. 0	37. 31							
2. 30			024516	43 0				
8. 15	39. 15							
9. 15			025040					
13. 15	39. 30							
14. 15			024930					
17. 15						009953		
18. 15	39. 50							
23. 15	40. 40							
28. 15	40. 46							
29. 15			022981					
33. 15	40. 55							
34. 15			022760					
37. 15						010024		
38. 15	41. 22							
39. 15			023911					
43. 15	41. 13							
44. 15			024465					
48. 15	40. 0							
49. 15			024797					
53. 15	37. 57							
54. 15			025196		P			
57. 15						010188		
8. 58. 15	36. 18	P						
9. 12. 46						010099		P
13. 46	38. 57	G						
14. 46			023646		G			
25. 46						010165		G
26. 46	37. 9							
27. 46			023302					
9. 57. 30						010207	42 ·0	
10. 0. 0	40. 5							
10. 2. 30			023738	43 ·0				
11. 57. 30						009897	43 ·0	G
12. 0. 0	34. 35	G						
12. 2. 30			023690	44 ·0	G			

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°	
Dec. 30. 1. 47. 30						0 ·007514		D
50. 0	246. 27. 57	D						
52. 30			0 ·022598		D			
1. 57. 30						007434	47 ·5	
2. 0. 0	27. 59							
2. 30			022224	47 ·8				
7. 30						007533		
10. 0	26. 55	D						
12. 30			021915					
42. 48						007872		G
43. 48	25. 39	G						
2. 44. 48			022251		G			
3. 57. 30						007895	47 ·0	JH
4. 0. 0	31. 50	JH						
4. 2. 30			024044	47 ·0	JH			
5. 57. 30						009482	46 ·0	
6. 0. 0	31. 48							
2. 30			019180	46 ·4				
4. 45						009784		
5. 45	33. 14							
6. 45			019284					
7. 45						009920		
8. 45	32 ·47							
9. 45			019251					
10. 45						010099		
11. 45	32. 39							
12. 45			018963					
13. 45						010254		
14. 45	33. 23							
15. 45			018919					
18. 45						010338		
19. 45	35. 7							
20. 45			019029					
23. 45						010371		
24. 45	36. 9							
25. 45			019827					
26. 45						010343		
27. 45	35. 27							
28. 45			020125					
29. 45						010291		
30. 45	34. 58							
31. 45			020169					
33. 45						010193		
34. 45	34. 51							
35. 45			020358					
46. 45						009821		
47. 45	36. 25							
6. 48. 45			021122					
7. 57. 30						010080	46 ·0	
8. 0. 0	45. 8							
2. 30			020783	46 ·4				

Dec. 17^{d}. 14^{h}. A change of 9′ having taken place in the reading of the declination needle, extra observations were commenced; they were discontinued at 14^{h}. 53^{m}, but the needles were all watched for some time longer; no further change took place.

About midnight, a slight auroral light was seen in the north.

Dec. 22^{d}. 8^{h}. A change of 6½′ having taken place in the position of the declination needle, extra observations were commenced: during the observations the sky was covered with a dark cirro-stratus.

Dec. 30^{d}. 6^{h}. A change of 3^{d} of vertical force scale-reading, and 2^{d} of that of horizontal force having occurred between 4^{h} and 6^{h}, the following observations were taken.

Extraordinary Observations of December 30.

Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.	Göttingen Mean Time (Astronomical Reckoning).	Theodolite Reading.	Observers.	Reading for Hor. Force in parts of whole Hor. Force.	Thermometer of Horizontal Force.	Observers.	Reading for Vert. Force in parts of whole Vert. Force.	Thermometer of Vertical Force.	Observers.
d h m s	° ′ ″			°			°		d h m s	° ′ ″			°			°	
Dec. 30. 8. 3. 46						0 ·010014		JH	Dec. 30. 13. 4. 44			0 ·021487		G			
4. 46	246. 42. 16	JH							21. 44						0 ·007984		G
5. 46			0 ·020734		JH				22. 44	246. 38. 43	G						
6. 46						009953			23. 44			021941					
7. 46	41. 33								37. 44						007843		
8. 8. 46			020734						38. 44	39. 37							
9. 57. 30						008027	46 ·2		39. 44			021752					
10. 0. 0	44. 32								13. 57. 30						007928	44 ·0	
2. 30			021077	46 ·4					14. 0. 0	35. 45							
3. 48						008164		JH	2. 30			021834	45 ·0				
4. 48	44. 36	JH							18. 45						007999		
10. 5. 48			021033		JH				19. 45	34. 33							
11. 37. 30						007561	45 ·0	G	14. 20. 45			021974					
12. 0. 0	50. 44	G							15. 9. 45						008022		
2. 30			022900	45 ·5	G				10. 45	32. 51							
22. 44						007749			11. 45			021708					
23. 44	48. 24								15. 57. 30						008074	44 ·5	
12. 24. 44			021210						16. 0. 0	32. 19							
13. 2. 44						008022			2. 30			022258	46 ·0				
3. 44	36. 51																

After 15ʰ, no change of any considerable amount took place. No auroral light seen during the evening.

ROYAL OBSERVATORY, GREENWICH.

ORDINARY

METEOROLOGICAL OBSERVATIONS.

1840 and 1841.

Day and Hour, Greenwich 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.						
Nov. 8. 13	29·210	44·0	..	..	..	..	..	..	...	SSW	..	1	..	..	..	1	..
15	29·157	44·0	..	..	..	..	..	..	...	SW	..	1	..	..	..	7	..
17	29·037	46·8	..	..	..	..	..	..	...	SW	..	2½	..	..	..	10	..
19	29·011	45·0	..	..	..	..	..	..	...	SW	..	2	..	..	..	10	..
21	28·987	48·1	..	..	..	..	..	..	...	SW	..	2	..	..	..	4	..
23	29·002	50·8	..	..	..	..	..	..	...	WSW	..	2½	..	..	..	9	..
Nov. 9. 1	29·014	51·2	..	..	..	..	..	..	...	SW	..	2	..	..	..	5	..
3	29·030	48·2	..	..	..	..	..	..	...	WSW	..	2	..	..	..	10	..
5	29·049	45·2	..	..	..	..	..	..	...	SW	..	1	..	..	..	10	Full
7	29·084	44·4	..	..	..	..	..	..	...	SW	..	1	..	..	..	1	..
9	29·088	45·2	..	..	..	..	..	..	...	SW	..	1	..	..	..	1	..
11	29·052	45·3	..	..	..	..	..	..	...	SW	..	½	..	..	..	10	..
13	29·014	44·2	..	..	..	..	..	..	...	SW	..	½	..	..	..	10	..
15	28·940	43·9	..	..	..	..	..	..	...	SW	..	1	..	..	..	10	..
17	28·912	43·1	..	..	..	..	..	..	...	SW	..	½	..	..	..	10	..
19	28·926	42·6	..	..	..	..	..	..	...	WSW	..	1	..	..	..	6	..
21	28·948	43·2	..	..	..	..	..	..	...	SW	..	½	..	..	..	1	..
23	28·966	49·4	..	..	..	..	..	..	...	SW	..	½	..	..	..	8	..
Nov. 10. 1	28·984	48·7	..	..	..	..	..	..	...	W by S	..	1	..	..	..	10	..
3	29·050	47·9	..	..	..	..	..	..	...	W	..	½	..	..	..	6	..
5	29·110	45·7	..	..	..	..	..	..	...	W by S	..	1	..	..	..	5	..
7	29·142	43·6	..	..	..	..	..	..	...	WSW	..	1	..	..	..	5	..
9	29·172	43·7	..	..	..	..	..	..	...	SW	..	1	..	..	..	4	..
11	29·190	42·3	..	..	..	..	..	..	...	SW by W	..	1	..	..	..	2	..
13	29·224	41·2	..	..	..	..	..	..	...	SW by S	..	1	..	..	..	1	..
15	29·221	40·5	..	..	..	..	..	..	...	WSW	..	½	..	..	..	½	..
17	29·235	40·7	..	..	..	..	..	..	...	SW by W	..	½	..	..	..	1½	..
19	29·231	39·5	..	..	..	..	..	..	...	SW by S	..	½	..	..	..	½	Perigee
21	29·223	44·1	..	..	..	..	..	..	...	S by W	..	¼	..	..	..	9¾	..
23	29·185	48·3	..	..	..	..	..	..	...	SSW	..	½	..	..	..	5	..
Nov. 11. 1	29·111	48·1	..	..	..	..	..	..	...	S by E	..	¼	..	..	..	9½	..
3	29·055	44·7	..	..	..	..	..	..	...	ESE	..	¼	..	..	..	10	..
5	29·045	43·6	..	..	..	..	..	..	...	NE by E	..	¼	..	..	..	10	..
7	29·089	42·4	..	..	..	..	..	..	...	NNW	..	1½	..	..	..	9	..
9	29·159	44·1	..	..	..	..	..	..	...	NW by W	..	1	..	..	..	8½	..
11	29·243	44·0	..	..	..	..	..	..	...	NNW	..	¼	..	..	..	10	..
13	29·298	40·0	..	..	..	..	..	..	...	WSW	..	¼	..	..	..	8	..
15	29·330	39·5	..	..	..	..	..	..	...	SW	..	½	..	..	..	7	..
17	29·358	38·9	..	..	..	..	..	..	...	SW	..	¾	..	..	..	2	Greatest declination N.
19	29·394	39·4	..	..	..	..	..	..	...	SW	..	1	..	..	..	10	..
21	29·416	39·6	..	..	..	..	..	..	...	SW	..	½	..	..	..	1	..
23	29·434	44·2	..	..	..	..	..	..	...	SW	..	½	..	..	..	2	..
Nov. 12. 1	29·434	53·6	..	..	..	..	..	..	...	SW	..	½	..	..	..	2	..
3	29·430	47·0	..	..	..	..	..	..	...	SW	..	½	..	..	..	3	..
5	29·411	43·0	..	..	..	..	..	..	...	SW	..	½	..	..	..	6	..

The barometer is by Newman, and is that used in the reduction of the Circle Observations; the height of its cistern above the mean level of the sea is 156 feet 5 inches. It was used to Dec. 18^{d}. 10^{h}. The thermometer is by Watkins and Hill, and is without sensible error as compared with our standard: it was freely suspended in the air, hanging on the bough of a shrub, its bulb being about four feet above the ground. This thermometer was used to Feb. 28^{d}. 6^{h}. The direction of the wind is estimated 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. In judging of 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 against himself; the effects of the wind, as the breaking off small or large branches of trees, the tearing up trees, &c.

GENERAL REMARKS.	Observer.
Scud passing from the west under the Moon: nimbi forming in the north: lower current nearly south: upper current due west.	G
Detached cumulo-strati collecting every where: sky very clear between the clouds: the upper current moving much more rapidly	
One unbroken sheet of black cloud: rain falling: wind in gusts to 3. [than the lower.	
Sky quite covered; scud flying rapidly from S.W. Very stormy since the last observation.	G
The southern portion of the sky nearly cloudless: nimbi forming in the northern portion.	D
The sky is nearly covered with dark clouds: clear breaks in the S. and E.	
Cumuli near the horizon: scud passing rapidly from the S.W.	D
Heavy squall of rain and wind; very stormy: gusts of wind to 3+.	G
Overcast: the Moon just visible.	G
Light cirri scattered about the sky.	J H
Light cirri principally northward: a few scattered clouds about the Moon.	J H
Sky completely covered with cirro-stratus; the Moon faintly visible through it.	D
Quite cloudy. Heavy rain.	
Ditto ditto.	
Very cloudy: clouds lighter in N. W. Slight misty rain.	
Cumuli forming N. of zenith; the rest of the sky chiefly overcast.	D
Light cirri in N. and W. horizon, otherwise clear.	J H
Cumulo-strati forming in N. W.; light cirri in zenith; and cirri and cumulo-strati in southern part of sky.	
Cumulo-stratus and scud.	J H
The greater part of the sky covered with detached portions of cumuli: clear between the clouds.	D
Nimbi in zenith; clear towards N. W.: a slight shower of rain.	
Cloudy in S. W. and W.: fine clear sky towards the east: the Moon very bright.	
Detached cumulo-strati prevalent: very clear in the zenith and about the Moon.	D
Detached cumuli in N. and W.: cirri, near the zenith, of various modifications, branching towards the south.	J H
Light cirri, principally W. and S. W. of zenith; otherwise clear.	
Scattered cirri. Wind gradually diminishing in force.	
Cirri in various directions: clouds collecting near the Moon.	
Cirro-stratus in W. and S. W., otherwise clear: lower current W.: wind blowing in gusts.	J H
Cirro-stratus and scud.	G
Cirri in bars in the zenith: cumuli forming in the north. The Sun obscured.	D
Sky nearly overcast: a very clear streak towards the N. E. A few drops of rain fell at this time.	D
Overcast; cirro-stratus and scud: rain falling.	J H
Overcast; cirro-stratus and scud: lighter in N. N. W.	
Cirro-stratus, cumulo-stratus, and scud. Rain at intervals.	
A thin cirro-stratus. Capella and other bright stars just appearing through the cloud.	J H
Dense cirro-stratus: Moon just visible: very nearly calm.	G
Stratus generally prevalent; cirri in bars W. of zenith. [Small halo (diameter $1\frac{1}{2}^\circ$) round the Moon.	
Small detached fleecy clouds in the zenith, and for 30° round: the remainder of the sky covered with dark masses of cloud.	
Clouds in N. E. and N.; the remainder of the sky quite clear.	
About ten minutes after the last observation the whole of the sky was covered by a thick scud moving rapidly from the S. W. About 18^h a thick fog, with a great deposition of moisture. At present the fog is thinner, but Greenwich Hospital is not visible. Not a single meteor visible all night although carefully looked for.	G
Nearly cloudless: cumulo-stratus forming in S. W.	D
Linear cirri scattered about the sky.	
Linear cirri scattered about the sky. [near the horizon; the remainder of the sky clear.	D
Linear cirri: the lines at right angles to each other, forming a net-work in the zenith and a few degrees round. Cirro-cumulus	G
Dense dark mass of cloud of a circular form due W. near the horizon, from which two long arms of cloud (cirro-strati) diverge, the one to the N. reaching to the N. E., the other to the S. reaching S. E., and each inclined to the horizon about 15°: several other arms diverge from the same point, inclined to the horizon between 15° and 40°; those on the north being exactly similar to those on the south, and both divisions forming the appearance of a fan.	

By the expression "wind in gusts to 3," in the General Remark corresponding to Nov. $8^d.17^h$, is meant that the Pressure of the Wind by Estimation sometimes amounted to 3, although its general value for that time, as set down in the proper column, was only $2\frac{1}{2}$. A similar expression occurs frequently in the General Remarks, and is always to be interpreted in the same way.

The amount of clouds is estimated, considering a clear sky represented by 0, a cloudy sky by 10; and, when partially cloudy, judging of the proportion of the whole sky covered with cloud.

Nov. 11, 12, and 13. Meteors were looked for but not one was seen.

Nov. $12^d.1^h$. The reading of the Dry Thermometer was $9^\circ.4$ higher than it was at the previous observation.

Day and Hour, Greenwich 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.						
Nov. 12. 7	29·391	42·5	..	..	..	..	..	..	...	SW	..	½	..	..	..	9¾	..
9	29·342	43·0	..	..	..	..	..	..	...	Calm	..		..	..	..	10	..
11	29·268	44·6	..	..	..	..	..	..	...	SE by E	..	½	..	..	..	10	..
13	29·149	45·3	..	..	..	..	..	..	...	E by S	..	1	..	..	..	10	..
15	29·059	43·6	..	..	..	..	..	..	...	SSE	..	1½	..	..	..	10	..
17	28·841	44·2	..	..	..	..	..	..	...	E by S	..	2½	..	..	..	10	..
19	28·743	46·1	..	..	..	..	..	..	...	SE	..	1	..	..	..	10	..
21	28·727	50·0	..	..	..	..	..	..	...	SW	..	2	..	..	..	5	..
23	28·670	51·1	..	..	..	..	..	..	...	S	..	2	..	..	..	9½	..
Nov. 13. 1	28·584	53·0	..	..	..	..	..	..	...	S by W	..	3½	..	..	..	6	..
3	28·495	51·6	..	..	..	..	..	..	...	S by W	..	4	..	..	..	9	..
5	28·481	49·7	..	..	..	..	..	..	...	SW	..	4	..	..	..	10	..
7	28·501	48·9	..	..	..	..	..	..	...	SSE to S by W	..	4	..	..	..	10	..
9	28·587	49·7	..	..	..	..	..	..	...	SSE to SW	..	4½	..	..	..	10	..
11	28·715	46·3	..	..	..	..	..	..	...	SW	..	4½	..	..	..	2	..
13	28·749	44·0	..	..	..	..	..	..	...	SW	..	3½	..	..	..	1	..
15	28·777	44·0	..	..	..	..	..	..	...	SW by W	..	3½	..	..	..	3	..
17	28·799	46·0	..	..	..	..	..	..	...	SW by W	..	3½	..	..	..	5	..
19	28·887	44·6	..	..	..	..	..	..	...	SW	..	3	..	..	..	6	..
21	28·926	44·9	..	..	..	..	..	..	...	SW	..	2	..	..	..	3	..
23	28·967	48·3	..	..	..	..	..	..	...	SW	..	2	..	..	..	3	..
Nov. 14. 1	29·000	48·8	..	..	..	..	..	..	...	WSW	..	2	..	..	..	4	..
3	29·044	47·5	..	..	..	..	..	..	...	WSW	..	2	..	..	..	3	..
5	29·100	43·8	..	..	..	..	..	..	...	SW by W	..	2	..	..	..	2	..
7	29·153	42·8	..	..	..	..	..	..	...	WSW	..	1½	..	..	..	0	..
9	29·216	42·5	..	..	..	..	..	..	...	WSW	..	1	..	..	..	2	..
11	29·261	41·0	..	..	..	..	..	..	...	WSW	..	1	..	..	..	0	..
Nov.15. 13	29·117	44·2	..	..	..	..	..	..	...	SSE	..	1½	..	..	..	10	..
15	29·096	46·7	..	..	..	..	..	..	...	S by W	..	1	..	..	..	10	..
17	29·018	52·2	..	..	..	..	..	..	...	S	..	2	..	..	..	10	..
19	28·978	55·2	..	..	..	..	..	..	...	S to SSW	..	3	..	..	..	10	..
21	28·962	57·6	..	..	..	..	..	..	...	SW by S	..	3½	..	..	..	9	3rd Qr.
23	28·972	58·6	..	..	..	..	..	..	...	SW by W	..	3	..	..	..	10	..
Nov. 16. 1	29·024	59·5	..	..	..	..	..	..	...	WSW	..	2½	..	..	..	7	..
3	29·066	57·7	..	..	..	..	..	..	...	W by S	..	2	..	..	..	4	..
5	29·119	53·2	..	..	..	..	..	..	...	SW	..	2	..	..	..	5	..
7	29·145	51·5	..	..	..	..	..	..	...	SW	..	3	..	..	..	1	..
9	29·175	52·0	..	..	..	..	..	..	...	WSW	..	3	..	..	..	5	..
11	29·192	53·1	..	..	..	..	..	..	...	SW	..	2½	..	..	..	3	..
13	29·233	52·2	..	..	..	..	..	..	...	SW	..	2	..	..	..	2	..
15	29·261	49·3	..	..	..	..	..	..	...	WSW	..	2	..	..	..	1	..
17	29·342	46·8	..	..	..	..	..	..	...	S W by W	..	1½	..	..	..	0	..

Nov. 13d. 5h. This is the lowest reading of the barometer in the year 1840, and also lower than any reading at the two hourly observations in the year 1841: it occurred about the time of the heaviest gusts in the hurricane. The barometer continued for above one hour about its minimum, a very unusual circumstance. (See section of Extraordinary Observations.)

Nov. 16d. Remarkably high temperature. The maximum 61°·2, was the highest reading for the month.

GENERAL REMARKS.	Observer.
The Moon imbedded in clouds: Capella seen by glimpses, every other part quite black. The ball of cloud noticed at the last observation appears to have been a nucleus, from which the clouds have come.	G
One unbroken sheet of black cloud.	G
Overcast: cirro-stratus and scud, but much lighter in N.N.W.: Moon nearly obscured.	J H
Cirro-stratus and scud: rain falling: Moon totally obscured: wind rising.	J H
Cirro-stratus: scud passing over rapidly from S.E.: rain falling: gusts of wind to 2.	D
Very stormy: gusts of wind to 3: rain falling: sky completely covered with cirro-stratus and scud. The weather has been very rough since the last observation.	
Overcast. There has been scarcely any change in the appearance of the clouds for the last three or four observations: rain falling.	D
A decided change in the weather since the last observation: the barometer ceased falling for half an hour: the temperature has risen rapidly, and the wind has shifted 90°: cumulo-strati in N.: S.W. horizon clear.	G
Rain in squalls from the S.: scud and cirro-stratus: the wind blowing in gusts to $2\frac{1}{2}$.	J H
Rain in squalls: the wind blowing a heavy gale: a double rainbow at $1^h.3^m$: lower current S. by W., upper S.S.W.: flying scud.	J H
Very stormy: lower current S. by W., upper S.W.: rain in squalls: gusts of wind to 5: scud flying very rapidly from S.W.	D
Sky completely covered with cirro-stratus: scud moving rapidly from S.W.: wind still blowing a gale; gusts to 4 +: rain in squalls.	
Scud and cirro-stratus cover the sky; slight rain: at $6^h.15^m$ the sky north of zenith was nearly clear: meteors carefully looked for, but none were observed.	
The sky is covered with cirro-stratus and scud, the wind blowing quite a hurricane; gusts to 5: rain in squalls.	D
Sky generally clear: a few cumuli in N.W.: fleecy clouds flying rapidly past the Moon.	J H
Light fleecy clouds near N.W. horizon; otherwise clear.	
Fleecy clouds passing over rapidly: sky frequently partially clouded.	
Fleecy clouds borne along before a heavy gale of wind: clouds denser in N.W. horizon.	
Cirro-stratus principally W. of zenith: a few small linear cirri scattered about.	J H
Scud flying with great rapidity: light cirri spread about: upper current due W.	G
Cumuli scattered about; scud moving rapidly from S.W.	D
Cirri in various directions, but principally S. of zenith: cumulo-strati in S. horizon.	D
Linear cirri in N.W., and also thinly scattered in different parts of the sky: fleecy clouds in the zenith.	J H
Linear cirri scattered about, principally in the N.W.	
Clear: stars shining brilliantly.	
Cirro-strati in N. horizon; otherwise clear.	J H
Perfectly clear: at $9^h.20^m$ several flashes of lightning in S. horizon.	G
Sky covered with a dense black nimbus: light rain falling in dashing showers.	
Sky still covered: the rain has ceased: wind in frequent gusts to 2 and $2\frac{1}{2}$: boisterous.	
Generally as before: about $16^h.30^m$ a squall of wind and rain: wind rising.	
A gale of wind: masses of dark scud moving rapidly from S.W.: heavy gusts at 18^h.	G
A gale of wind: masses of scud flying rapidly: cirro-stratus, with occasional breaks.	J H
Large masses of scud and cirro-stratus: small rain: the wind blowing in gusts.	
Cumulo-strati and scud moving rapidly from W. by S.: several dark nimbi have passed off southward since the last observation: the wind blowing in gusts.	J H
Cirro-cumulus and scud moving from W. very rapidly: cumuli near S. horizon, the wind blowing steadily.	
Red sunset, and stormy-looking sky: cirro-stratus in W. and S. near the horizon: sky generally misty: Venus shining brilliantly, near the horizon, through a break in the clouds.	G
A moderate gale: wind in gusts to $3\frac{1}{2}$.	
Southern part of sky covered with scud: northern part clear: at times, since the last observation, the wind has been very high.	G
Clear to the north: south covered with a thin scud: wind blowing in gusts to 3.	D
Scud scattered about the Moon, which is partially obscured; the rest of the sky clear.	
Small detached portions of cumuli flying rapidly before the wind: Moon shining very brilliantly.	
Cloudless.	

Day and Hour, Greenwich 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.						
Nov. 16. 19	29·420	45·1	..	..	..	..	..	..	...	WSW	..	1	..	..	..	1	..
21	29·470	46·8	..	..	..	..	..	..	...	SW by W	..	½	..	..	..	8½	..
23	29·466	49·2	..	..	..	..	..	..	...	SW	..	½	..	..	..	10	..
Nov. 17. 1	29·429	49·0	..	..	..	..	..	..	...	SSW	..	¼	..	..	..	10	..
3	29·311	47·3	..	..	..	..	..	..	...	SE	..	¼	..	..	..	10	..
5	29·195	51·5	..	..	..	..	..	..	...	SSW	..	1	..	..	..	7	..
7	29·144	51·7	..	..	..	..	..	..	...	SSW	..	2	..	..	..	10	..
9	29·055	51·2	..	..	..	..	..	..	...	SW	..	3	..	..	..	10	..
11	29·243	52·0	..	..	..	..	..	..	...	WSW	..	2½	..	..	..	10	..
13	29·449	53·0	..	..	..	..	..	..	...	NW	..	1	..	..	..	10	..
15	29·563	42·5	..	..	..	..	..	..	...	NW	..	1	..	..	..	10	..
17	29·656	41·5	..	..	..	..	..	..	...	N	..	¼	..	..	..	10	..
19	29·683	40·1	..	..	..	..	..	..	...	NE	..	½	..	..	..	5	..
21	29·695	40·2	..	..	..	..	..	..	...	NE	..	¼	..	..	..	10	..
23	29·733	41·2	..	..	..	..	..	..	...	NE	..	¼	..	..	..	10	..
Nov. 18. 1	29·675	39·8	..	..	..	..	..	..	...	E by N	..	½	..	..	..	10	..
3	29·634	36·5	..	..	..	..	..	..	...	ENE	..	½	..	..	..	10	In Equator.
5	29·580	36·5	..	..	..	..	..	..	...	ENE	..	½	..	..	..	10	..
7	29·524	36·0	..	..	..	..	..	..	...	ENE	..	½	..	..	..	10	..
9	29·514	37·5	..	..	..	..	..	..	...	ENE	..	½	..	..	..	10	..
11	29·539	39·0	..	..	..	..	..	..	...	NE	..	¼	..	..	..	10	..
13	29·549	39·8	..	..	..	..	..	..	...	NE	..	¼	..	..	..	10	..
15	29·564	39·5	..	..	..	..	..	..	...	NE	..	¼	..	..	..	10	..
17	29·600	39·5	..	..	..	..	..	..	...	N by E	..	½	..	..	..	10	..
19	29·641	39·1	..	..	..	..	..	..	...	N by E	..	½	..	..	..	10	..
21	29·691	40·0	..	..	..	..	..	..	...	NNE	..	½	..	..	..	10	..
23	29·703	42·6	..	..	..	..	..	..	...	NNE	..	½	..	..	..	9	..
Nov. 19. 1	29·714	44·1	..	..	..	..	..	..	...	N by E	..	1	..	..	..	9	..
3	29·747	43·2	..	..	..	..	..	..	...	N by E	..	1½	..	..	..	9½	..
5	29·775	40·7	..	..	..	..	..	..	...	N by E	..	1½	..	..	..	9½	..
7	29·811	37·7	..	..	..	..	..	..	...	N by E	..	1½	..	..	..	½	..
9	29·851	35·9	..	..	..	..	..	..	...	N by E	..	1	..	..	..	0	..
11	29·864	35·4	..	..	..	..	..	..	...	N by E	..	1	..	..	..	0	..
13	29·903	34·8	..	..	..	..	..	..	...	NNE	..	½	..	..	..	0	..
15	29·925	33·9	..	..	..	..	..	..	...	NNE	..	¼	..	..	..	0	..
17	29·946	33·5	..	..	..	..	..	..	...	Calm	..		..	..	..	0	..
19	29·967	31·7	..	..	..	..	..	..	...	N by W	..	¼	..	..	..	½	..
21	30·003	33·8	..	..	..	..	..	..	...	NW by N	..	¼	..	..	..	1	..
23	29·996	35·6	..	..	..	..	..	..	...	W by N	..	¼	..	..	..	1	..
Nov. 20. 1	29·989	40·6	..	..	..	..	..	..	...	W by N	..	½	..	..	..	2	..
3	29·976	41·8	..	..	..	..	..	..	...	W	..	¼	..	..	..	0	..
5	29·980	40·7	..	..	..	..	..	..	...	W by N	..	¼	..	..	..	9½	..
7	29·980	40·7	..	..	..	..	..	..	...	W by N	..	¼	..	..	..	2	..
9	29·980	40·6	..	..	..	..	..	..	...	W by N	..	½	..	..	..	10	..
11	29·963	39·4	..	..	..	..	..	..	...	W S W	..	½	..	..	..	9	..
13	29·910	37·3	..	..	..	..	..	..	...	W by N	..	1	..	..	..	2	..
15	29·847	37·4	..	..	..	..	..	..	...	W by N	..	1	..	..	..	1	..
17	29·755	38·7	..	..	..	..	..	..	...	WSW	..	2	..	..	..	10	..

Nov. 17d, at 4h. 15m the temperature was 46°; at 4h. 50m it had risen to 55°; the wind at the latter time changed suddenly from S.E. to S.S.W., then to S., and back again before the time of observation, to S.S.W.

Nov. 17d. Between 6h. 30m and 12h. 0m a severe gale of wind: at 12h. 0m the wind changed from S.W. to N.; then back to E. and N. by E. The minimum of pressure occurred at 9h, when the heaviest gusts took place; then the barometer began to rise rapidly, and by 23h had risen 0in·7: after 23h it began to fall quickly.

Nov. 17d. Between 13h and 15h there was a change of 10½° in the readings of the Dry Thermometer.

GENERAL REMARKS.	Observer.
Light cirri scattered about the sky: the wind has been gradually abating since 12^h.	D
Cirro-stratus and undefined clouds: linear cirri and mottled cirro-strati in S.W. horizon: wind rapidly abating.	J H
Cirro-stratus and scud: rain falling.	
Overcast: cirro-stratus and scud: much rain since the last observation.	J H
Overcast: stratus, with thick rain: the wind appears to have shifted nearly 90° in azimuth since the last observation.	D
Cirro-stratus and scud, except in the zenith, which is clear: wind rising.	
Overcast: cirro-stratus and scud: rain falling.	
One unbroken sheet of cloud: slight rain: wind blowing in gusts to $3\frac{1}{2}$.	D
Cirro-stratus.	J H
Overcast: rain falling: wind gradually abating. [invisible.	
Clouds more broken after 15^h, and lighter in N.W. and about the eastern horizon: at present cirro-stratus prevalent: Moon	
Overcast: cirro-stratus; wind abated.	
Scattered undefined clouds, with haze, especially in E. and N.E.: clouds much broken. The barometer has been rising steadily during the night, and the rise of the mercury was accompanied by a gradual abatement of the force of the wind.	J H
Sky covered with cirro-stratus.	G
Overcast: cirro-stratus.	D
Cirro-stratus with low nimbi: rain and sleet falling.	G
Overcast: much rain with sleet since last observation: large flakes of snow.	J H
Overcast: rain falling.	
Ditto ditto.	
Overcast: cirro-stratus and scud: rain falling: wind blowing in gusts.	J H
Ditto ditto.	G
Slight rain: very black sky. The wind only perceptible at times: a quiet cloudy night.	
The same as at last observation.	
Ditto. Thin rain and sleet falling.	
Raining fast.	G
Overcast: the clouds lighter in the N.E. horizon.	D
Cirro-stratus: a long streak of blue sky in N. horizon.	
Cirro-stratus and scud. The clear break in N. horizon continues the same as at the last observation.	D
Cumulo-stratus to the S.: clouds a little broken in zenith: two light streaks in N.	G
Cirro-stratus: a narrow streak of light in the N. near horizon. [time.	
A few clouds near S. horizon. About $5^h.20^m$ the streak mentioned in last observation came up; the sky has been clear since that	G
Cloudless.	
Ditto. Air frosty.	D
Ditto. ditto.	
Ditto. ditto. [again cloudless.	
Ditto. ditto. At 16^h the sky became partially cloudy; the clouds however disappeared within half an hour, and left the sky	
Stratus in S. horizon; otherwise cloudless: hoar frost.	D
Misty: light cirri in zenith: vapour about the Sun.	
Horizon generally hazy: light vapour in zenith: a few cumuli in S.W.	J H
Cumuli in various parts of the sky: hazy.	
Slight haze in N. horizon.	J H
With the exception of a light streak in N.W., the sky is quite overcast.	D
Cirri scattered about, principally S. of zenith.	
Overcast.	D
Cirro-stratus: a few stars visible near the N.E. horizon. The sky became much clearer at 10 minutes after the observation; the stars in zenith shone brightly. Several meteors were observed, which shot from W.S.W. to E.N.E., a little E. of zenith.	J H
Light cirro-strati in N.W.: hazy: stars shining dimly: vapour in zenith.	
Vapour and haze in N.W., otherwise clear: gusts of wind to $1\frac{1}{2}$.	
Overcast: cirro-stratus: wind rising and blowing in gusts.	

Day and Hour, Greenwich 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.						
Nov. 20. 19	29·605	41·0	..	..	..	..	..	..	...	S W by S	..	2½	..	..	..	10	..
21	29·435	42·2	..	..	..	..	..	..	...	S W by S to S by W	..	3	..	..	..	10	..
23	29·288	45·4	..	..	..	..	..	..	...	W	..	2	..	..	..	10	..
Nov. 21. 1	29·204	43·1	..	..	..	..	..	..	...	S W	..	1	..	..	..	5	..
3	29·126	45·3	..	..	..	..	..	..	...	W by S	..	1	..	..	..	9	..
5	29·078	45·2	..	..	..	..	..	..	...	W N W	..	1½	..	..	..	9	..
7	29·106	42·6	..	..	..	..	..	..	...	W N W	..	1	..	..	..	7	..
9	29·154	41·2	..	..	..	..	..	..	...	W N W	..	1	..	..	..	2	..
11	29·196	41·6	..	..	..	..	..	..	...	W N W	..	1	..	..	..	6	..
Nov. 22. 13	29·984	34·0	..	..	..	..	..	..	...	W N W	..	¼	..	..	..	8	..
15	29·985	32·0	..	..	..	..	..	..	...	W by N	..	¼	..	..	..	3	..
17	29·986	32·1	..	..	..	..	..	..	...	Calm	..	..	..	..	..	9	..
19	29·998	34·2	..	..	..	..	..	..	...	W by S	..	½	..	..	..	10	..
21	29·971	36·7	..	..	..	..	..	..	...	S W by S	..	½	..	..	..	10	..
23	29·943	40·8	..	..	..	..	..	..	...	S W by S	..	½	..	..	..	10	..
Nov. 23. 1	29·921	43·1	..	..	..	..	..	..	...	S W by S	..	½	..	..	..	7	..
3	29·922	45·3	..	..	..	..	..	..	...	S W	..	¾	..	..	..	10	..
5	29·921	45·2	..	..	..	..	..	..	...	W by S	..	½	..	..	..	9¾	..
7	29·917	46·1	..	..	..	..	..	..	...	W	..	½	..	..	..	10	..
9	29·914	47·0	..	..	..	..	..	..	...	W	..	½	..	..	..	10	..
11	29·918	48·0	..	..	..	..	..	..	...	W by S	..	¼	..	..	..	10	..
13	29·918	48·3	..	..	..	..	..	..	...	W by S	..	¼	..	..	..	10	..
15	29·921	48·6	..	..	..	..	..	..	...	W	..	¼	..	..	..	10	New
17	29·946	48·9	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
19	29·975	48·6	..	..	..	..	..	..	...	W	..	¼	..	..	..	10	..
21	30·039	50·1	..	..	..	..	..	..	...	W N W	..	¼	..	..	..	5	..
23	30·055	52·2	..	..	..	..	..	..	...	N N W	..	1	..	..	..	3	..
Nov. 24. 1	30·080	52·8	..	..	..	..	..	..	...	N by W	..	½	..	..	..	3	..
3	30·097	51·7	..	..	..	..	..	..	...	N by W	..	½	..	..	..	6	..
5	30·148	47·6	..	..	..	..	..	..	...	N	..	¼	..	..	..	9	..
7	30·169	43·7	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
9	30·191	41·6	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
11	30·220	38·5	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
13	30·239	37·5	..	..	..	..	..	..	...	Calm	..	..	..	..	..	8	..
15	30·245	36·5	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
17	30·252	34·7	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
19	30·286	34·7	..	..	..	..	..	..	...	N E	..	¼	..	..	..	10	..
21	30·302	36·4	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
23	30·316	41·5	..	..	..	..	..	..	...	Calm	..	..	..	..	..	6	..
Nov. 25. 1	30·309	46·0	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
3	30·313	45·1	..	..	..	..	..	..	...	E N E	..	¼	..	..	..	6	..
5	30·326	42·7	..	..	..	..	..	..	...	Calm	..	..	..	..	..	8	..
7	30·336	39·4	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
9	30·355	36·7	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
11	30·364	34·9	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	Greatest declination S.
13	30·351	32·0	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
15	30·351	30·3	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
17	30·349	30·8	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus: strong wind and squally: rain at times from low scud.	J H
Ditto ditto. Barometer falling unusually fast: squally: gale of wind, gusts to 4 frequently.	G
Ditto ditto. Rain: wind abating.	D
Cirro-cumulus scattered about, principally S. of zenith: cirro-stratus in N. near horizon.	D
Cloudy, cirro-strati and scud obscuring the greater part of the sky: lower current W. by N.	J H
Scud passing over from W. with squalls of rain. [nation magnet very unsteady.	
Rain at times from low passing scud: clear N. and N.E. of zenith: several auroral streamers were visible at $7^h.30^m$. The decli-	
A few scattered clouds in W., otherwise clear.	J H
Clouds collecting in N.: S. of zenith is nearly covered with dark clouds.	G
Orion and a few stars in zenith just visible, otherwise quite cloudy.	G
Cirro-stratus in W., every other part of the sky clear.	
A few stars visible in zenith; with that exception, cloudy.	
Sky covered with an impervious black cloud: sleet falling.	G
Overcast: cirro-stratus and scud: showers of sleet.	J H
Sky covered with cirro-stratus.	D
Cirro-stratus prevalent; cirro-cumulus N. of zenith.	D
Overcast: cirro-stratus. The wind blows with remarkable steadiness.	G
Nearly overcast: clouds a little broken in N.W.: upper current due N.	
Quite overcast.	
Ditto.	G
Ditto.	D
Ditto. Wind scarcely perceptible.	
Ditto ditto.	
Ditto.	
Ditto. Occasional breaks since last observation.	D
Thick haze: cumuli about the zenith, moving slowly from N. by W.	J H
White cumuli scattered about the sky, but more particularly in N.N.W. and in S.W.	
Cumulo-strati forming in the north: and heavy electrical undefined clouds in S.W.	J H
Cumulo-strati cover the chief portion of the sky: cumuli N. of zenith.	D
Sky nearly covered with cirro-stratus.	
Cloudless.	
Ditto.	D
Ditto.	J H
Stars visible N. of zenith: the rest of the sky cloudy.	
Cloudless: air rather frosty.	
Ditto ditto.	
Overcast: thin cirro-stratus and damp fog.	J H
Ditto ditto.	D
Light clouds in zenith and 30° around it: cirro-stratus elsewhere.	
Overcast: cirro-stratus.	D
Detached opening clouds, principally cumuli.	J H
Large fleecy clouds in zenith: dark cumulo-strati about the horizon.	
Cloudless.	
Ditto.	J H
Ditto.	G
Ditto.	
Ditto.	
Ditto.	

Day and Hour, Greenwich 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.						
Nov. 25. 19	30·337	29·7	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
21	30·344	32·3	..	..	..	..	..	..	...	Calm	..	..	..	..	..	1	..
23	30·355	36·1	..	..	..	..	..	..	...	ESE	..	¼	..	..	..	½	..
Nov. 26. 1	30·326	39·9	..	..	..	..	..	..	...	ESE	..	¼	..	..	..	0	Transit
3	30·319	38·3	..	..	..	..	..	..	...	E	..	¼	..	..	..	0	..
5	30·317	35·0	..	..	..	..	..	..	...	E	..	¼	..	..	..	0	..
7	30·324	32·2	..	..	..	..	..	..	...	E	..	¼	..	..	..	0	..
9	30·331	33·3	..	..	..	..	..	..	...	E	..	¼	..	..	..	0	Apogee
11	30·324	32·0	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
13	30·317	30·9	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
15	30·308	29·8	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
17	30·299	28·4	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
19	30·308	27·7	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
21	30·322	29·5	..	..	..	..	..	..	...	ESE	..	¼	..	..	..	0	..
23	30·324	31·4	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
Nov. 27. 1	30·324	35·9	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
3	30·306	39·3	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	Transit
5	30·306	36·8	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
7	30·323	35·8	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
9	30·321	32·2	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
11	30·329	30·5	..	..	..	..	..	..	...	Calm	..	..	..	..	..	5	..
13	30·328	29·7	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
15	30·317	27·6	..	..	..	..	..	..	...	Calm	..	..	..	..	..	5	..
17	30·308	25·9	..	..	..	..	..	..	...	Calm	..	..	..	..	..	7	..
19	30·313	26·1	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
21	30·297	26·1	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
23	30·307	27·1	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
Nov. 28. 1	30·288	32·3	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
3	30·278	33·4	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	Transit
5	30·271	35·1	..	..	..	..	..	..	...	E by S	..	¼	..	..	..	0	..
7	30·266	35·2	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
9	30·260	34·0	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
11	30·253	31·6	..	..	..	..	..	..	...	Calm	..	..	..	..	..	2	..
Göttingen Astronomical Reckoning.																	
Nov. 29. 14	30·024	43·7	..	..	..	..	..	..	...	SSW	..	1	..	..	..	10	..
16	30·012	43·2	..	..	..	..	..	..	...	SSW	..	1	..	..	..	7	..
18	29·998	43·2	..	..	..	..	..	..	...	SSW	..	1	..	..	..	9¾	..
20	29·980	44·8	..	..	..	..	..	..	...	S by W	..	1+	..	..	..	9¾	..
22	29·986	46·7	..	..	..	..	46·7 40·0	..	...	S by W	..	1	..	..	..	10	..
Nov. 30. 0	29·983	50·6	..	..	..	..	..	..	...	SW	..	1	..	..	..	10	..
2	29·958	51·8	..	..	..	..	..	..	...	SW	..	1	..	..	..	10	..
4	29·958	51·9	..	..	..	..	..	..	...	W by S	..	1	..	..	..	10	..
6	29·974	50·2	..	..	..	..	..	..	...	W by S	..	½	..	..	..	10	Transit
8	29·960	50·3	..	..	..	..	..	..	...	W by S	..	½	..	..	..	9¾	..
10	29·952	48·9	..	..	..	..	..	..	...	W by S	..	½	..	..	..	10	..
12	29·907	50·0	..	..	..	..	..	..	...	SW	..	¾	..	..	..	10	..
14	29·876	50·8	..	..	..	..	..	..	...	WSW	..	¾	..	..	..	10	..

Nov. 25d. 23h. This is the highest reading of the barometer in the month.

Nov. 26d and 27d, civil reckoning. Almost without cloud.

Nov. 27d. 9h. 20m. Hourly observations were taken during the magnetic term observations. (See the section Term-day Observations.)

GENERAL REMARKS.	Observer.
Cloudless. This has been a very fine night; the stars have been shining brilliantly the whole time: the air very mild to the senses.	G
Linear cirri in S. W. near horizon.	D
Hazy about the horizon: light cirri S.W. of zenith.	J H
Cloudless.	D
Ditto.	G
Ditto. About $3^h.\ 30^m$ a few scattered cirri were visible a little above the horizon in W.	
Cloudless.	
Ditto.	G
Ditto.	D
Ditto.	
Ditto.	
Ditto.	
Ditto. There has been a slight fog for about an hour.	D
Ditto. Hazy and hard frost.	J H
Ditto ditto.	
Ditto. Light haze about the horizon.	J H
Ditto. Hazy in N. horizon.	D
Ditto.	
Ditto. [the distance of a few yards.	D
At the last observation, the valleys were filled with a dense fog: at 8^h the fog became general; at present objects are not visible at	G
Foggy, with hard frost.	J H
Quite foggy: hoar frost forming rapidly.	G
Fog not so dense: stars visible about and S. of zenith.	D
Fog: stars visible near zenith.	J H
Foggy and cloudy.	W R
Ditto ditto.	R
Cloudless.	D
Ditto.	D
Ditto. [is quite free of clouds.	J H
A thick mist: fog in the valleys. Greenwich Hospital has not been visible from the Observatory the whole day. I believe the sky	G
Cloudless: about 20 minutes after the last observation the wind veered to S.: fog in the valleys.	D
Cloudless: fog in the valleys.	D
Cirro-stratus in N. and N.E.: light fog: dense fog in the valleys.	J H
Quite cloudy. [in east.	
Northern portion of sky generally cloudy; strati: about the zenith, and for 30° S. of it, the stars are visible: nimbus in west: clear	G
A few stars dimly seen a little east of zenith; every other part of the sky cloudy.	
Cirro-stratus: a break in south horizon.	G
Overcast: cirro-stratus.	D
Ditto ditto.	
Ditto ditto.	D
Overcast: slight, drizzling rain.	G
Ditto ditto.	
Small break near the west horizon; elsewhere cloudy: slight drizzling rain.	
Since the last observation a few stars have been shining; at present one dark mass of cloud covers the sky.	G
Completely overcast.	D
Ditto.	

Nov. $29^d.\ 14^h$. This observation, and all observations after this, were taken at the even hour of Göttingen Mean Time.

Nov. $29^d.\ 22^h$. The max. and min. thermometer is one of Six's construction, by Newman. It was fixed on the S. wall of the N.E. angle of the Magnetic House (in which position it remained to March $9^d.\ 23^h$), and after this time was read every day 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.						
Nov. 30. 16	29·857	50·1	..	..	..	..	..	..	...	WSW	..	½	..	..	..	10	..
18	29·823	51·4	..	..	..	..	..	..	...	WSW	..	1¼	..	..	..	10	..
20	29·828	51·2	..	..	..	..	..	..	...	SW	..	1	..	..	..	10	..
22	29·840	51·7	..	..	..	..	53·0 46·8	..	...	SW	..	1	..	..	..	10	..
Dec. 1. 0	29·857	53·4	..	..	..	..	..	..	...	SW by W	..	1	..	..	..	10	..
2	29·877	54·6	..	..	..	..	..	..	...	SW by W	..	½	..	..	..	8	..
4	29·875	53·8	..	..	..	..	..	..	...	W by S	..	½	..	..	..	8	..
6	29·802	50·0	..	..	..	..	..	..	...	W by S	..	¼	..	..	..	7	Transit
8	29·928	48·8	..	..	..	..	..	..	...	W by S	..	¼	..	..	..	7	..
10	29·952	47·9	..	..	..	..	..	..	...	WSW	..	¼	..	..	..	10	..
12	29·978	46·6	..	..	..	..	..	..	...	WSW	..	¼	..	..	..	10	..
14	29·990	46·7	..	..	..	..	..	..	...	SW	..	¼	..	..	..	10	..
16	30·001	43·6	..	..	..	..	..	..	...	SW	..	¼	..	..	..	10	..
18	30·006	43·3	..	..	..	..	..	..	...	SW	..	¼	..	..	..	10	..
20	30·037	42·0	..	..	..	..	..	..	...	SW	..	¼	..	..	..	10	1st Qr.
22	30·068	43·0	..	..	..	..	55·2 41·6	..	...	W by S	..	½	..	..	..	10	..
Dec. 2. 0	30·094	44·2	..	..	..	..	..	..	...	NW	..	½	..	..	..	6	..
2	30·104	45·2	..	..	..	..	..	..	...	NNW	..	½	..	..	..	3	..
4	30·129	43·6	..	..	..	..	..	..	...	N by W	..	¾	..	..	..	3	..
6	30·169	41·0	..	..	..	..	..	..	...	NNW	..	¼	..	..	..	0	Transit
8	30·212	39·2	..	..	..	..	..	..	...	NNW	..	¼	..	..	..	1	..
10	30·233	37·5	..	..	..	..	..	..	...	NNW	..	¾	..	..	..	4	..
12	30·280	36·9	..	..	..	..	..	..	...	NNW	..	½	..	..	..	1	..
14	30·299	35·1	..	..	..	..	..	..	...	NNW	..	¼	..	..	..	0	..
16	30·329	33·8	..	..	..	..	..	..	...	NNW	..	¼	..	..	..	0	..
18	30·359	31·7	..	..	..	..	..	..	...	N by W	..	¼	..	..	..	0	..
20	30·391	31·0	..	..	..	..	45·6	..	...	N by W	..	¼	..	..	..	0	In Equator.
22	30·421	33·0	..	..	..	..	30·0	..	...	N by W	..	¼	..	..	..	0	..
Dec. 3. 0	30·431	35·5	..	..	..	..	..	..	...	NNW	..	¼	..	..	..	0	..
2	30·427	35·3	..	..	..	..	..	..	...	NNW	..	¼	..	..	..	0	..
4	30·431	34·7	..	..	..	..	..	..	...	NNW	..	¼	..	..	..	¼	..
6	30·439	33·0	..	..	..	..	..	..	...	NNW	..	¼	..	..	..	0	..
8	30·445	31·7	..	..	..	..	..	..	...	NNW	..	¼	..	..	..	9+	Transit
10	30·443	30·0	..	..	..	..	..	..	...	SW	..	¼	..	..	..	3	..
12	30·427	31·8	..	..	..	..	..	..	...	SW	..	¼	..	..	..	4	..
14	30·409	31·5	..	..	..	..	..	..	...	WSW	..	¼	..	..	..	4	..
16	30·393	31·3	..	..	..	..	..	..	...	WSW	..	¼	..	..	..	0	..
18	30·376	30·3	..	..	..	..	..	..	...	W by S	..	¼	..	..	..	0	..
20	30·367	29·7	..	..	..	..	..	..	...	WSW	..	¼	..	..	..	0	..
22	30·366	30·4	..	..	..	..	35·5 28·0	..	...	SW	..	¼	..	..	..	0	..
Dec. 4. 0	30·366	33·7	..	..	..	..	..	..	...	SW	..	¼	..	..	..	½	..
2	30·347	33·5	..	..	..	..	..	..	...	SW by W	..	¼	..	..	..	4	..
4	30·325	36·9	..	..	..	..	..	..	...	SW	..	¼	..	..	..	10	..
6	30·320	36·5	..	..	..	..	..	..	...	SW	..	¼	..	..	..	10	..
8	30·309	38·1	..	..	..	..	..	..	...	SW by S	..	¼	..	..	..	10	Transit

Dec. 1d. 2h. The highest thermometrical reading during the month.

GENERAL REMARKS.	Observer.
Completely overcast.	D
Sky covered with cirro-stratus: wind gently rising: drizzling rain.	
Overcast: no break during the night.	D
Overcast: cirro-stratus and scud: the air very mild.	J H
Cirro-stratus: scud passing over rapidly from W. by N.: clouds lighter in the N.	
Cloudy, with occasional breaks: scud and undefined clouds: the wind suddenly veered to N.W. at 2^h.	J H
Cirro-cumulus in the zenith and 20° around: otherwise overcast.	D
Stars shining in the zenith and to the north: cirro-stratus and scud elsewhere.	
Cirro-cumulus in the zenith, every other part of the sky overcast. The Moon nearly obscured.	
Sky covered with cirro-stratus.	D
Ditto ditto.	J H
Ditto ditto.	
Ditto ditto stars shining dimly through the cloud.	
Cirro-stratus: slight break in S. horizon.	
Completely overcast.	J H
Overcast: clouds lighter in S. E. and in zenith: fog collecting in the valleys.	G
A little blue sky in east: cirri in bars generally prevalent.	
Cirrus in zenith and to S. E. of it: a few detached fleecy cumuli in N. and N. E.: the remainder of the sky quite clear.	G
Cirri prevalent: clouds moving from W. by S.: several perfect cymoid cirri in S.W. between 2^h. 40^m and 3^h. 40^m.	J H
Cloudless: Moon shining brilliantly.	
A few fleecy clouds near the Moon; otherwise clear: the air very mild.	
Light fleecy clouds principally in the neighbourhood of the Moon.	J H
A few fleecy clouds near N. E. horizon.	G
Cloudless.	
Cloudless: barometer steadily rising.	
Ditto frost.	
Ditto white frost.	G
Ditto.	D
Ditto.	
Ditto.	D
Cloudless, except a narrow linear stratum of cloud about 15° N.W. of zenith.	G
Fog in the valleys: slight mist: haze forming about the Moon.	
Thick haze: the Moon's orb a deep copper colour, as in an eclipse: no other object visible.	
Cirro-stratus in north: light clouds in south: the remainder of the sky clear: halo about the Moon, about 1° in diameter.	G
Light clouds in zenith: haze about the Moon and in the N. and N.W.: elsewhere clear.	D
Cirro-stratus in the north: the rest of the sky without cloud: Moon setting in a haze.	
Cloudless: frosty.	
Ditto sharp frost.	
Ditto ditto.	D
Ditto ditto.	J H
Long bars of cirri principally N. and W. of zenith.	
A large bank of cirro-stratus, extending from N.N.E. to S. by E. round by W.: a few cirri near zenith and in E.: at 2^h. 15^m the sky became overcast.	J H
Sky covered with cirro-stratus.	D
Ditto slight fog in the valleys.	
Ditto ditto.	

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.						
Dec. 4. 10	30·300	36·7	..	..	..	..	..	..	...	WSW	..	¼	..	..	..	10	..
12	30·302	36·6	..	..	..	..	..	..	...	SW	..	¼	..	..	..	9	..
14	30·306	36·4	..	..	..	..	..	..	...	SW	..	½	..	..	..	10	..
16	30·300	36·5	..	..	..	..	..	..	...	SW	..	½	..	..	..	10	..
18	30·259	36·4	..	..	..	..	..	..	...	W	..	½	..	..	..	10	..
20	30·249	36·5	..	..	..	..	..	..	...	W	..	½	..	..	..	10	..
22	30·256	38·1	..	..	..	..	37·5 33·4	..	...	SW	..	½	..	..	..	10	..
Dec. 5. 0	30·249	40·4	..	..	..	..	..	..	...	SSW	..	½	..	..	..	10	..
2	30·216	44·0	..	..	..	..	..	..	...	SW	..	¼	..	..	..	10	..
4	30·205	41·5	..	..	..	..	..	..	...	SW	..	¼	..	..	..	10	..
6	30·192	39·6	..	..	..	..	..	..	...	SW	..	¼	..	..	..	10	..
8	30·184	39·6	..	..	..	..	..	..	...	SW	..	¼	..	..	..	10	..
10	30·182	39·0	..	..	..	..	..	..	...	SW	..	¼	..	..	..	10	Transit
12	30·179	38·9	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
Dec. 6. 14	29·856	31·0	..	..	..	..	..	..	...	S by W	..	¾	..	..	..	3	..
16	29·803	31·7	..	..	..	..	..	..	...	SSW	..	1	..	..	..	8	..
18	29·773	35·1	..	..	..	..	..	..	...	S by E	..	1	..	..	..	10	..
20	29·752	36·4	..	..	..	..	..	..	...	S by E	..	1	..	..	..	10	..
22	29·709	37·6	..	..	..	..	43·1 29·8	..	...	S	..	1	..	..	..	9½	..
Dec. 7. 0	29·646	38·8	..	..	..	..	..	..	...	S	..	¾	..	..	..	10	..
2	29·587	38·3	..	..	..	..	..	..	...	S	..	1	..	..	..	10	..
4	29·546	36·1	..	..	..	..	..	..	...	SSW	..	2	..	..	..	9	..
6	29·513	33·9	..	..	..	..	..	..	...	SSW	..	2	..	..	..	10	..
8	29·465	33·5	..	..	..	..	..	..	...	SSW	..	2	..	..	..	10	..
10	29·349	34·0	..	..	..	..	..	..	...	SW	..	1½	..	..	..	10	..
12	29·334	33·5	..	..	..	..	..	..	...	S	..	2	..	..	..	10	Transit
14	29·284	33·4	..	..	..	..	..	..	...	S by W	..	2	..	..	..	10	..
16	29·216	34·0	..	..	..	..	..	..	...	SSW	..	1¼	..	..	..	10	..
18	29·195	35·2	..	..	..	..	..	..	...	S by W	..	¾	..	..	..	10	..
20	29·132	36·6	..	..	..	..	..	..	...	S	..	1	..	..	..	9	..
22	29·143	38·5	..	..	..	..	40·0 32·0	..	...	S by E	..	1	..	..	..	9	..
Dec. 8. 0	29·137	41·6	..	..	..	..	..	..	...	S by E	..	1	..	..	..	10	..
2	29·138	42·3	..	..	..	..	..	..	...	S by E	..	½	..	..	..	10	..
4	29·157	42·0	..	..	..	..	..	..	...	S	..	¼	..	..	..	10	..
6	29·184	41·6	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
8	29·219	41·1	..	..	..	..	..	..	...	S	..	¼	..	..	..	10	..
10	29·264	41·4	..	..	..	..	..	..	...	S by W	..	¼	..	..	..	9	..
12	29·336	38·6	..	..	..	..	..	..	...	SW by S	..	½	..	..	..	4	Transit
14	29·388	35·5	..	..	..	..	..	..	...	SW	..	¼	..	..	..	¼	..
16	29·445	35·3	..	..	..	..	..	..	...	SW	..	¼	..	..	..	0	Full
18	29·468	32·7	..	..	..	..	..	..	...	SW	..	¼	..	..	..	¼	..
20	29·571	33·7	..	..	..	..	..	..	...	SW by S	..	¼	..	..	..	½	..
22	29·633	35·2	..	..	..	..	42·5 31·2	..	...	SW	..	½	..	..	..	0	..

Dec. 7d. 20h. The lowest barometrical reading during the month.

GENERAL REMARKS.	Observer.
Large broken undefined clouds all over the sky: scud floating underneath them: the Moon at times faintly visible. The fog is confined solely to the valley, where it remains as at the last observation.	D
Detached opening clouds: clear in N.W. horizon.	J H
Overcast: undefined clouds: lower current N.N.W.	
Completely overcast: scud moving from N.N.W.	
Ditto.	
Ditto.	J H
Ditto: thick mist in the valleys.	G
Ditto.	
Ditto.	G
Fog coming on: sky obscured by cirro-strati and haze.	J H
Overcast: cirro-stratus.	
Ditto ditto.	
Ditto ditto.	J H
Ditto ditto.	G
The Moon shining through a thin cirro-stratus: linear cirro-strati between the Moon and the horizon: the remainder of the sky clear: sharp and cold: upper current W. by N.	
At $13^h.\ 30^m$ a light halo was visible around the Moon, about $1\frac{1}{2}°$ in diameter: at 2^h the sky was quite overcast: at present the Moon is imbedded in cirro-strati, and casts no shadow: a few stars are shining N.E. of zenith.	
Overcast: cirro-stratus.	
Ditto ditto.	G
A few breaks scattered about, otherwise overcast.	D
Quite overcast.	
Ditto.	D
A clear break, extending from N.E. to N.W., near the horizon: wind rising.	G
Quite cloudy: scud flying rapidly from the west: the Moon occasionally seen.	
Overcast.	
Ditto. The Moon has not been visible since 5^h: barometer falling rapidly.	G
Ditto. The Moon just visible through the clouds: heavy gusts of wind.	D
Ditto. Gusts of wind.	
Ditto.	
Ditto. Wind subsiding.	
Sky quite overcast, excepting a break near E. horizon.	D
Large cumulo-stratus and scud: the wind blowing in gusts.	J H
Overcast: squally, with rain: the air very cold.	
Ditto ditto.	J H
Ditto.	D
Ditto drizzling rain.	
Ditto ditto.	
Cumulo-stratus in zenith: cirro-stratus and scud elsewhere: halo about the Moon $1\frac{1}{2}°$ in diameter.	D
Cirri in various parts of the sky: a bright halo, exhibiting the prismatic colours, at $11^h.\ 40^m$: a beautiful double prismatic halo	J H
A few cirri: the Moon shining brilliantly. [at $11^h.\ 10^m$.	
Cloudless: the Moon is surrounded by a halo of about 3° radius.	
A few light cirri, otherwise clear: the Moon encircled by a faint halo.	
Cirro-stratus in S., otherwise clear.	J H
Cloudless.	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.						
Dec. 9. 0	29·688	38·2	..	..	..	..	..	..	...	WSW	..	½	..	..	..	0	..
2	29·727	41·1	..	..	..	..	..	..	...	WSW	..	½	..	..	..	0	Greatest declination N.
4	29·762	39·9	..	..	..	..	..	..	...	S W by W	..	½	..	..	..	0	..
6	29·804	37·3	..	..	..	..	..	..	...	SSW	..	½	..	..	..	1	Perigee.
8	29·822	36·3	..	..	..	..	..	..	...	SSW	..	½	..	..	..	0	..
10	29·844	34·6	..	..	..	..	..	..	...	S by W	..	½	..	..	..	2	..
12	29·869	34·0	..	..	..	..	..	..	...	S by W	..	½	..	..	..	1	..
14	29·861	34·0	..	..	..	..	..	..	...	S by W	..	½	..	..	..	0	Transit
16	29·859	35·0	..	..	..	..	..	..	...	S by W	..	½	..	..	..	0	..
18	29·857	35·2	..	..	..	..	..	..	...	S by E	..	1	..	..	..	9	..
20	29·856	38·0	..	..	..	..	..	..	...	S by E	..	1	..	..	..	10	..
22	29·862	39·2	..	..	..	..	41·4 33·0	..	...	S by E	..	1	..	..	..	7	..
Dec. 10. 0	29·859	41·9	..	..	..	..	..	..	...	S by E	..	¼	..	..	..	10	..
2	29·848	43·0	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
4	29·833	40·0	..	..	..	..	..	..	...	ESE	..	¼	..	..	..	10	..
6	29·823	37·0	..	..	..	..	..	..	...	S by E	..	¼	..	..	..	10	..
8	29·842	35·2	..	..	..	..	..	..	...	ESE	..	½	..	..	..	10	..
10	29·839	34·1	..	..	..	..	..	..	...	E	..	1	..	..	..	10	..
12	29·828	33·6	..	..	..	..	..	..	...	E	..	1	..	..	..	10	..
14	29·814	32·5	..	..	..	..	..	..	...	E by N	..	1	..	..	..	10	Transit
16	29·806	33·7	..	..	..	..	..	..	...	E by N	..	1½	..	..	..	10	..
18	29·811	34·6	..	..	..	..	..	..	...	E	..	1½	..	..	..	10	..
20	29·826	35·3	..	..	..	..	..	..	...	E	..	1	..	..	..	10	..
22	29·841	35·7	..	..	..	..	42·0 31·3	..	...	E	..	1	..	..	..	10	..
Dec. 11. 0	29·833	35·6	..	..	..	..	..	..	...	E by N	..	1	..	..	..	10	..
2	29·823	35·2	..	..	..	..	..	..	...	E by N	..	1	..	..	..	10	..
4	29·823	34·8	..	..	..	..	..	..	...	ENE	..	1½	..	..	..	10	..
6	29·829	34·7	..	..	..	..	..	..	...	ENE	..	1	..	..	..	10	..
8	29·854	34·8	..	..	..	..	..	..	...	ENE	..	1	..	..	..	10	..
10	29·881	35·0	..	..	..	..	..	..	...	E by N	..	½	..	..	..	10	..
12	29·920	35·2	..	..	..	..	..	..	...	E by N	..	½	..	..	..	10	..
14	29·920	34·6	..	..	..	..	..	..	...	E by S	..	½	..	..	..	9	..
16	29·953	34·5	..	..	..	..	..	..	...	E by S	..	½	..	..	..	9	Transit
18	29·965	34·8	..	..	..	..	..	..	...	E by S	..	½	..	..	..	10	..
20	29·983	35·3	..	..	..	..	..	..	...	E by N	..	¼	..	..	..	9	..
22	30·016	36·4	..	..	..	..	36·1 33·9	..	...	E by N	..	¼	..	..	..	10	..
Dec. 12. 0	30·044	37·2	..	..	..	..	..	..	...	ENE	..	¼	..	..	..	10	..
2	30·058	37·1	..	..	..	..	..	..	...	NNE	..	½	..	..	..	10	..
4	30·067	36·1	..	..	..	..	..	..	...	NE by E	..	¼	..	..	..	9	..
6	30·095	35·0	..	..	..	..	..	..	...	NE by E	..	¼	..	..	..	10	..
8	30·123	34·8	..	..	..	..	..	..	...	NE by E	..	¼	..	..	..	10	..
10	30·199	34·8	..	..	..	..	..	..	...	ENE	..	¼	..	..	..	10	..
12	30·147	35·2	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
Dec. 13. 14	30·164	29·5	..	..	..	..	..	..	...	E	..	1 to 2	..	..	..	10	..

Dec. 9d, civil reckoning. This day was nearly cloudless; the three days preceding and following were generally without a break in the clouds.

GENERAL REMARKS.	Observer.
Cloudless.	G
Ditto.	G
Ditto: slight haze near N. and N.E. horizon.	J H
Numerous small cirro-strati in N.W., otherwise clear: the Moon and Venus shining brilliantly.	
Hazy; no clouds visible. At $7^h.\ 10^m$ a halo visible around the Moon, exhibiting the prismatic colours.	
Bars of cirri, principally about the Moon, but scattered also in N.W. and W.	J H
A few cirro-strati near S. horizon, otherwise cloudless: freezing in the lower parts of the Park. At $11^h.\ 56^m$ a very fine meteor appeared at β Cephei, passed over α Cephei, and disappeared 5° W. of α Cygni: the Moon shining brilliantly.	G
Cloudless. A splendid night: the ground covered with hoar frost.	
Ditto ditto.	
At 17^h the sky was cloudless, when a halo suddenly formed around the Moon; its diameter was about $1\frac{1}{4}°$; at present, scud nearly covers the sky: there are now three currents of wind, the lowest S. by E., the next S.W., and the highest W. by N.	
The sky quite covered with scud: red sunrise; break in the E.	G
Cirro-stratus and fleecy clouds.	D
Overcast: cirro-stratus.	
Ditto ditto: scud in N.W.	D
Ditto ditto: loose scud.	G
Ditto ditto.	
Ditto ditto.	
Ditto ditto. The place of the Moon just visible.	G
Ditto ditto ditto.	D
Ditto ditto ditto.	
Ditto ditto ditto.	
Ditto ditto.	
Ditto ditto.	D
Ditto ditto: large masses of scud floating underneath.	J H
Ditto ditto. Air very cold.	
Ditto ditto ditto.	J H
Ditto ditto ditto.	D
Ditto ditto ditto.	
Ditto ditto ditto.	
Ditto ditto.	D
Ditto ditto: large masses of scud.	J H
Cloudy, with breaks about the Moon: scud floating over rapidly.	
Ditto: detached opening clouds.	
Overcast: cirro-stratus and scud.	
Detached opening clouds: the Moon just visible.	J H
Overcast.	G
Overcast.	
Ditto: very gloomy.	G
Cloudy: thin cirro-stratus: occasional breaks.	J H
Ditto: cirro-strati and undefined clouds.	
Ditto: lighter near zenith.	
Ditto: no appearance of any break.	J H
Ditto ditto.	G
Overcast. Very cold.	

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.						
Dec. 13. 16	30·150	28·1	..	..	..	..	..	..	...	E by S	..	1	..	..	..	6	..
18	30·140	25·0	..	..	..	..	..	..	...	E by N	..	½	..	..	..	4	Transit
20	30·135	22·4	..	..	..	..	..	..	...	NE	..	½	..	..	..	3	..
22	30·141	24·5	..	..	..	..	33·0 21·7	..	...	NE	..	¼	..	..	..	3	..
Dec. 14. 0	30·130	28·2	..	..	..	..	..	..	...	ENE	..	1½	..	..	..	4	..
2	30·129	29·2	..	..	..	..	..	..	...	ENE	..	1	..	..	..	3	..
4	30·123	27·3	..	..	..	..	..	..	...	E by N	..	1	..	..	..	3	..
6	30·141	27·0	..	..	..	..	..	..	...	E by N	..	1	..	..	..	9	..
8	30·142	28·1	..	..	..	..	..	..	...	E by N	..	1	..	..	..	8	..
10	30·146	27·1	..	..	..	..	..	..	...	E by N	..	¼	..	..	..	10	..
12	30·137	26·5	..	..	..	..	..	..	...	E by N	..	¼	..	..	..	10	..
14	30·134	27·2	..	..	..	..	..	..	...	E by N	..	¼	..	..	..	10	..
16	30·124	26·0	..	..	..	..	..	..	...	NE	..	¼	..	..	..	10	..
18	30·107	26·4	..	..	..	..	..	..	...	ENE	..	¼	..	..	..	10	Transit
20	30·137	24·6	..	..	..	..	..	..	...	E	..	¼	..	..	..	10	..
22	30·175	24·5	..	..	..	..	29·4 21·8	..	...	E	..	¼	..	..	..	8	..
Dec. 15. 0	30·182	26·8	..	..	..	..	..	..	...	E by S	..	¼	..	..	..	½	..
2	30·153	25·0	..	..	..	..	..	..	...	ENE	..	¼	..	..	..	½	..
4	30·152	24·4	..	..	..	..	..	..	...	N	..	¼	..	..	..	1	..
6	30·146	24·5	..	..	..	..	..	..	...	N by E	..	¼	..	..	..	10	..
8	30·123	23·7	..	..	..	..	..	..	...	N by E	..	¼	..	..	..	0	In Equator
10	30·119	23·4	..	..	..	..	..	..	...	NNE	..	½	..	..	..	0	3rd Qr.
12	30·137	22·4	..	..	..	..	..	..	...	NE	..	½	..	..	..	4	..
14	30·123	21·9	..	..	..	..	..	..	...	NNE	..	¼	..	..	..	10	..
16	30·096	20·9	..	..	..	..	..	..	...	NE by E	..	½	..	..	..	8	..
18	30·071	21·7	..	..	..	..	..	..	...	NE by E	..	½	..	..	..	8	Transit
20	30·058	23·9	..	..	..	..	..	..	...	NNE	..	½	..	..	..	10	..
22	30·045	26·5	..	..	..	..	25·9 19·0	..	...	N by W	..	½	..	..	..	9	..
Dec. 16. 0	30·000	29·8	..	..	..	..	..	..	...	N by W	..	½	..	..	..	10	..
2	29·929	29·9	..	..	..	..	..	..	...	NW	..	½	..	..	..	10	..
4	29·856	28·3	..	..	..	..	..	..	...	W by S	..	¼	..	..	..	10	..
6	29·819	27·8	..	..	..	..	..	..	...	W by S	..	¼	..	..	..	10	..
8	29·783	28·8	..	..	..	..	..	..	...	W by S	..	¼	..	..	..	10	..
10	29·750	30·1	..	..	..	..	..	..	...	WSW	..	¼	..	..	..	10	..
12	29·727	30·9	..	..	..	..	..	..	...	WSW	..	¼	..	..	..	10	..
14	29·699	30·9	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
16	29·671	31·6	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
18	29·658	31·8	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
20	29·660	30·5	..	..	..	..	..	..	...	SW	..	¼	..	..	..	10	Transit
22	29·686	30·4	..	..	..	..	32·0 26·5	..	...	SE by S	..	¼	..	..	..	10	..
Dec. 17. 0	29·702	30·7	..	..	..	..	..	..	...	ESE	..	¼	..	..	..	10	..
2	29·689	23·9	..	..	..	..	..	..	...	E	..	¼	..	..	..	¼	..

GENERAL REMARKS.	Observer.
The wind has lulled considerably since $14^h.40^m$. About $15^h.10^m$ a break appeared in the east: at present the Moon is shining brightly: a low scud is passing rapidly from E.: there is apparently no upper cloud.	G
The northern part of the sky clear: cirri in bars S. of zenith: a large lunar halo visible, diameter about 80°. Since the last observation several meteors have appeared just north of the zenith, and shot perpendicularly downwards: horizon very clear.	
Large cirro-cumuli mixed with strati in the south and west, every other part of the sky clear. The halo mentioned in last observation continued till $18^h.25^m$.	G
Cirri and fleecy cumuli scattered about.	D
Cumulo-stratus in N.W.: cumuli collected about the Sun.	D
Cumulo-stratus in S.W: cumuli scattered in zenith.	D
Bank of cirro-cumulus near S. horizon: loose cumuli in N.: the clouds near the sun tinged with orange.	G
At $5^h.40^m$ the heavens were brilliantly clear, only a few light clouds being visible: at present the sky, with the exception of a break in W. (through which Venus is shining), is covered with one dark cirro-stratus.	
A break in W. and N.W., near the horizon; every other part of the sky overcast: shortly after the observation the sky became	G
Very cloudy, no stars visible. [clear.	J H
Overcast: cirro-stratus. About $11^h.30^m$ a small quantity of snow fell.	D
Ditto ditto.	
Ditto ditto.	
Ditto ditto. Gently snowing.	
Ditto ditto ditto.	D
With the exception of N. of zenith, the sky is covered with cirro-stratus: foggy: snow falling.	J H
A few white cumuli W. of zenith; otherwise clear.	
A few cumuli in N.W. horizon; otherwise clear.	J H
Linear cirri scattered in small portions about the sky: air very sharp and cold.	D
Quite cloudy. Since the last observation the clouds have been gradually accumulating, until they have completely covered the sky.	
Cloudless: the sky since last observation has been alternately clear and cloudy.	
Cloudless.	D
Vapour in E. and S.; otherwise clear.	J H
Overcast: a few flakes of snow have fallen since last observation.	
Fleecy clouds in zenith: cirro-strati near S. horizon: the Moon visible through detached opening clouds.	
Fleecy clouds in zenith: Moon just visible.	
Overcast: cirro-stratus and vapour: Moon obscured.	J H
Sky nearly covered with fleecy clouds.	D
Quite overcast.	G
Ditto. Some light snow has fallen since the last observation.	G
Much snow has fallen since 2^h, and still continues in small flakes.	J H
Overcast: snow falling heavily.	
Ditto snow in small flakes: lighter near zenith. [that time.	
Ditto ditto. The air has been becoming milder since 8^h: there is a very perceptible change to the senses since	J H
The air feels quite mild: snow falling: there are about three inches of snow on the level.	G
Ditto ditto.	
Ditto no snow falling.	
For some time a fog has been collecting: everything else remains the same as at the last observation.	
Since 18^h the fog has been so thick that objects at ten paces distant were invisible: at present a little snow falling: no fog.	G
Overcast: cirro-stratus: snow falling lightly.	D
Ditto: cirro-stratus and vapour: the clouds cleared off suddenly at $0^h.40^m$.	
Nearly cloudless.	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.						
Dec. 17. 4	29·659	20·5	..	..	..	..	..	..	...	E by N	..	¼	..		..	5	..
6	29·659	20·4	..	..	..	..	..	..	...	E by N	..	¼	..	..	..	10	..
8	29·635	23·0	..	..	..	..	..	..	...	NE	..	1	..	..	..	10	..
10	29·684	19·0	..	..	..	..	..	..	...	NE	..	¾	..	..	..	10	..
12	29·686	17·9	..	..	..	..	..	..	...	NE	..	½	..	..	..	10	..
14	29·668	18·1	..	..	..	..	..	..	...	E	..	½	..	..	..	7	..
16	29·644	18·3	..	..	..	..	..	..	...	E	..	½	..	..	..	10	..
18	29·605	19·9	..	..	..	..	..	..	...	E by N	..	½	..	..	..	10	..
20	29·557	22·8	..	..	..	..	..	..	...	NE	..	¼	..	..	..	10	Transit
22	29·525	26·4	..	..	..	..	30·7 16·4	..	...	NE	..	¼	..	..	..	10	..
Dec. 18. 0	29·485	32·7	..	..	..	..	..	..	...	NE	..	1	..	..	..	10	..
2	29·429	34·5	..	..	..	..	..	..	...	NE	..	2	..	..	..	10	..
4	29·409	33·8	..	..	..	..	..	..	...	E by N	..	1½	..	..	..	10	..
6	39·414	31·3	..	..	..	..	..	..	...	E by S	..	¾	..	..	..	10	..
8	29·419	30·1	..	..	..	..	..	..	...	E by S	..	1	..	..	..	10	..
10	29·438	28·5	..	..	..	..	..	..	...	E	..	¼	..	..	..	10	..
12	29·467	28·0	..	..	..	..	..	..	...	E	..	½	..	..	..	10	..
14	29·465	28·0	..	..	..	..	..	..	...	E	..	¼	..	..	..	10	..
16	29·464	27·6	..	..	..	..	..	..	...	E	..	¼	..	..	..	10	..
18	29·483	27·5	..	..	..	..	..	..	...	E	..	¼	..	..	..	10	..
20	29·494	27·5	..	..	..	..	..	..	...	E	..	¼	..	..	..	10	..
22	29·502	30·0	..	..	..	..	34·3 26·0	..	...	E	..	¼	..	..	..	10	Transit
Dec. 19. 0	29·497	33·6	..	..	..	..	..	..	...	E by N	..	¼	..	..	..	10	..
2	29·488	34·8	..	..	..	..	..	..	...	E by N	..	¼	..	..	..	10	..
4	29·487	34·4	..	..	..	..	..	..	...	ENE	..	¼	..	..	..	10	..
6	29·498	32·5	..	..	..	..	..	..	...	NE	..	¼	..	..	..	10	..
8	29·526	31·7	..	..	..	..	..	..	...	NE	..	¼	..	..	..	10	..
10	29·528	31·9	..	..	..	..	..	..	...	NE	..	¼	..	..	..	10	..
12	29·565	32·2	..	..	..	..	..	..	...	NE	..	1½	..	..	..	10	..
Dec. 20. 14	30·062	33·3	..	..	..	..	..	..	...	NE	..	1	..	..	..	10	..
16	30·081	33·0	..	..	..	..	..	..	...	NE	..	1	..	..	..	10	..
18	30·118	32·9	..	..	..	..	..	..	...	ENE	..	1½	..	..	..	10	..
20	30·145	33·4	..	..	..	..	..	..	...	ENE	..	2	..	..	..	10	..
22	30·167	33·8	..	..	..	..	35·0 30·8	..	...	NE by E	..	½	..	..	..	10	Transit
Dec. 21. 0	30·179	34·6	..	..	..	..	..	..	...	NE	..	½	..	..	..	10	..
2	30·185	35·3	..	..	..	..	..	..	...	NE	..	¼	..	..	..	8	..
4	30·194	33·2	..	..	..	..	..	..	...	N by E	..	½	..	..	..	3	..
6	30·203	29·5	..	..	..	..	..	..	...	N by E	..	½	..	..	..	2	..
8	30·209	33·2	..	..	..	..	..	..	...	NNE	..	1½	..	..	..	10	..
10	30·228	33·0	..	..	..	..	..	..	...	NNE	..	1½	..	..	..	10	..
12	30·233	29·8	..	..	..	..	..	..	...	E by N	..	2½	..	..	..	4	..
14	30·225	32·2	..	..	..	..	..	..	...	ENE	..	3	..	..	..	10	..
16	20·242	31·6	..	..	..	..	..	..	...	E by N	..	2½	..	..	..	10	..
18	30·230	31·4	..	..	..	..	..	..	...	E by N	..	3	..	..	..	10	..
20	30·238	30·5	..	..	..	..	..	..	...	E	..	1½	..	..	..	10	..

Dec. 17d. The lowest thermometrical reading during the month 16°·4.

Dec. 18d. 10h. This is the last observation taken with the barometer in the Circle Room. Previous to this a new barometer by Newman, whose diameter of tube is 0in·565, was fixed on the southern wall of the west cross of the Magnetic House, and was always used after this time. The height of its cistern above the mean level of the sea is 159 feet.

Dec. 20d. 18h. Hourly observations commenced. (See section of Term-Day Observations.)

Dec. 21d. 0h. From 17d. 16h, to the present time, there has been no break in the clouds.

GENERAL REMARKS.	Observer.
Clouds forming in N. and E.	G
Sky quite overcast, without a break.	
Snow falling fast: a severe night.	
Very light snow: dark night.	G
Quite cloudy.	D
Light vapour in zenith; the principal stars shining through it; elsewhere overcast.	
Sky quite overcast: the cold very intense.	
Ditto ditto.	
Ditto ditto.	D
Vapour and thin cirro-strati in zenith: heavier in N.W.: snow at least $3\frac{1}{2}$ inches deep.	J H
Thin cirro-stratus: the wind blowing in gusts. It may be remarked, that yesterday and the two preceding days large flocks of birds have been seen passing from N. to S.	
Sky covered with cirro-stratus: scud passing over rapidly at a low elevation.	J H
Overcast: cirro-stratus and scud.	D
Ditto ditto.	
Ditto ditto.	
Ditto: very thin snow falling.	D
Ditto ditto.	J H
Ditto: no break visible.	
Ditto ditto.	
Ditto ditto.	
Ditto ditto.	J H
Ditto ditto.	G
Ditto ditto.	D
Ditto ditto.	D
Ditto: cirro-stratus and hazy.	J H
Ditto.	
Ditto.	
Ditto.	J H
Ditto: hollow surging wind.	G
[depth still remains on the level.	
Overcast: no change in the direction of the wind or appearance of the sky during the last three days: snow of about one inch in	
Overcast.	
Ditto.	
Ditto.	G
Ditto. The wind has subsided since last observation.	D
Ditto.	
Fleecy clouds in zenith; the rest of the sky covered with cirro-stratus: a break in the S.	D
The Sun is setting in a bank of clouds: a few fleecy cumuli about: orange-coloured clouds near the Sun.	G
A few clouds near the S. and W. horizon; otherwise clear.	
Clouds began to collect at $7^h.\ 20^m$: at present the sky is quite covered. The wind has risen considerably since the last observation.	
Very cloudy: wind rising, and blowing in gusts.	G
Cirro-strati in S.; otherwise clear: wind blowing very strongly: gusts to 3 +.	D
Sky quite overcast: wind blowing a heavy gale.	
Ditto ditto.	
Ditto ditto.	
Ditto. The wind has considerably abated since last observation.	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.						
Dec. 21. 22	30·247	30·0	..	..	..	..	35·3 28·7	..	...	E	..	1	..	..	..	7	..
Dec. 22. 0	30·235	30·6	..	..	..	..	..	..	...	E	..	1	..	..	..	2	Transit
2	30·208	30·7	..	..	..	..	..	..	...	E	..	½	..	..	..	½	..
4	30·197	28·6	..	..	..	..	..	..	...	E	..	¼	..	..	..	0	..
6	30·188	26·0	..	..	..	..	..	..	...	E	..	¼	..	..	..	0	..
8	30·176	26·6	..	..	..	..	..	..	...	E	..	¼	..	..	..	0	..
10	30·169	27·3	..	..	..	..	..	..	...	E	..	1	..	..	..	0	..
12	30·164	..	..	..	..	..	..	..	...	E	..	½	..	..	..	0	..
14	30·130	25·3	..	..	..	..	..	..	...	E	..	½	..	..	..	0	..
16	30·099	24·2	..	..	..	..	..	..	...	E	..	1½	..	..	..	0	Greatest declination S.
18	30·020	22·7	..	..	..	..	..	..	...	E	..	1	..	..	..	0	..
20	29·982	17·2	..	..	..	..	..	..	...	E	..	½	..	..	..	0	..
22	30·001	19·5	..	..	..	..	30·9 16·5	..	...	E	..	½	..	..	..	0	..
Dec. 23. 0	30·060	24·2	..	..	..	..	..	..	...	E	..	½	..	..	..	0	Transit
2	30·035	27·5	..	..	..	..	..	..	...	E	..	½	..	..	..	0	..
4	30·005	30·5	..	..	..	..	..	..	...	ENE	..	¼	..	..	..	½	..
6	29·994	24·7	..	..	..	..	..	..	...	NE	..	¼	..	..	..	2	..
8	29·992	24·2	..	..	..	..	..	..	...	NE	..	½	..	..	..	0	..
10	29·989	23·5	..	..	..	..	..	..	...	NE	..	¼	..	..	..	0	New
12	29·997	22·8	..	..	..	..	..	..	...	NE	..	½	..	..	..	9½	Apogee
14	29·980	23·8	..	..	..	..	..	..	...	NE	..	¼	..	..	..	8	..
16	29·980	26·2	..	..	..	..	..	..	...	NE	..	¼	..	..	..	8	..
18	29·985	28·7	..	..	..	..	..	..	...	NNE	..	¼	..	..	..	10	..
20	29·998	27·6	..	..	..	..	..	..	...	NNE	..	¼	..	..	..	7	..
22	30·016	30·9	..	..	..	..	29·3 22·8	..	...	NE	..	¼	..	..	..	4	..
Dec. 24. 0	30·006	32·4	..	..	..	..	..	..	...	NE	..	¼	..	..	..	2	..
2	30·004	34·8	..	..	..	..	..	..	...	ENE	..	½	..	..	..	2	Transit
4	30·037	32·5	..	..	..	..	..	..	...	NE	..	½	..	..	..	2	..
6	30·066	27·3	..	..	..	..	..	..	...	Calm	..	..	..	..	..	1	..
8	30·087	26·5	..	..	..	..	..	..	...	ENE	..	¼	..	..	..	0	..
10	30·108	25·2	..	..	..	..	..	..	...	ENE	..	¼	..	..	..	0	..
12	30·138	24·6	..	..	..	..	..	..	...	ENE	..	¼	..	..	..	0	..
14	30·135	23·0	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
16	30·159	21·1	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
18	30·168	20·5	..	..	..	..	..	..	...	Calm	..	..	..	..	..	4	..
20	30·196	18·8	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
22	30·237	25·2	..	..	..	..	35·0 20·0	..	...	ENE	..	¼	..	..	..	0	..
Dec. 25. 0	30·245	27·0	..	..	..	..	..	..	...	ENE	..	¼	..	..	..	0	..
2	30·253	30·0	..	..	..	..	..	..	...	ENE	..	¼	..	..	..	0	Transit
4	30·262	28·3	..	..	..	..	..	..	...	ENE	..	¼	..	..	..	0	..
6	30·296	22·0	..	..	..	..	..	..	...	ENE	..	¼	..	..	..	0	..
8	30·316	19·0	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
10	30·325	18·2	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
12	30·348	20·1	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
14	30·386	21·6	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..

Dec. 22d. 12h. The reading of the thermometer was inadvertently omitted.

GENERAL REMARKS.	Observer.
Large masses of scud, with breaks; the wind blowing in gusts: the appearance of the sky changed considerably at $21^h.\ 10^m$; the change was very sudden.	J H
Clear S. of zenith: a few cumuli in N.	
Clear, with the exception of a few small cumuli in N. horizon.	J H
Cloudless.	D
Ditto: sharp frost.	
Ditto ditto.	
Ditto ditto.	D
Ditto ditto.	J H
Ditto ditto.	
Ditto ditto: gusts of wind.	
Ditto ditto.	
Ditto ditto: the cold has increased very rapidly since 16^h.	J H
Ditto ditto.	D
Ditto ditto.	G
Ditto ditto.	G
Vapour, and light streaks of cirrus in S.W. and W.; otherwise clear.	J H
Cirro-stratus collected in N.W.: hazy, and sharp frost.	
Hazy, but no clouds visible: piercingly cold.	
Ditto ditto.	J H
A few stars glimmering near zenith, the rest of the sky covered.	G
Many stars just visible: much vapour about.	
Ditto ditto.	
Overcast: a rising temperature throughout the night. [sky overcast.	
About $18^h.\ 40^m$ a break appeared in zenith, and since then, the zenith, and for 30° round it, has been clear; every other part of the	G
Cirri and vapour S. of zenith.	D
Cirro-stratus in S.E. horizon: few scattered cirri; sky otherwise clear.	D
Light cirri in various parts of the sky.	J H
Light cirri in N. and W., the remainder of the sky clear.	G
A low bank of clouds near W. horizon; otherwise clear.	
Cloudless.	
Ditto.	G
Ditto.	D
Ditto.	
Ditto.	
Cirro-stratus S.E. of zenith, the rest of the sky clear.	
The clouds mentioned in last observation continued until $19^h.\ 40^m$, at which time they occupied $\frac{3}{4}$ of the sky; they then suddenly disappeared, and left the sky as before, cloudless.	D
Cloudless.	G
Ditto.	G
Ditto: hazy around the horizon.	J H
Ditto: frost.	
Ditto: hazy.	J H
Ditto: severe frost.	D
Sky obscured with a dense fog: severe frost.	D
Ditto ditto.	J H
Light fog: hoar frost: very dark.	

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.						
Dec. 25. 16	30·393	22·9	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
18	30·390	23·0	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
20	30·438	24·1	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
22	30·481	25·2	..	..	..	..	27·2 18·0	..	...	Calm	..	..	..	..	..	10	..
Dec. 26. 0	30·491	27·1	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
2	30·470	28·0	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	Transit
4	30·483	27·7	..	..	..	..	..	..	...	NNW	..	¼	..	..	..	10	..
6	30·521	27·7	..	..	..	..	..	..	...	NNW	..	¼	..	..	..	10	..
8	30·551	27·7	..	..	..	..	..	..	...	NNW	..	¼	..	..	..	10	..
10	30·558	26·6	..	..	..	..	..	..	...	NW	..	¼	..	..	..	10	..
12	30·553	27·2	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
22	..	..	..	..	..	..	30·0 26·0	..	...	...	..	..	..	..	..	..	..
Dec. 27. 14	30·402	32·0	..	..	..	..	..	..	...	E	..	½	..	..	..	10	..
16	30·395	31·3	..	..	..	..	..	..	...	E	..	½	..	..	..	10	..
18	30·348	28·2	..	..	..	..	..	..	...	E	..	½	..	..	..	10	..
20	30·330	29·1	..	..	..	..	..	..	...	E	..	½	..	..	..	10	..
22	30·322	28·7	..	..	..	..	32·6 28·0	..	...	ESE	..	¼	..	..	..	10	..
Dec. 28. 0	30·304	31·2	..	..	..	..	..	..	...	ESE	..	¼	..	..	..	8	..
2	30·281	32·0	..	..	..	..	..	..	...	E	..	¼	..	..	..	7	..
4	30·254	29·7	..	..	..	..	..	..	...	ESE	..	¼	..	..	..	9	Transit
6	30·246	26·3	..	..	..	..	..	..	...	E	..	¼	..	..	..	10	..
8	30·229	24·1	..	..	..	..	..	..	...	E	..	¼	..	..	..	5	..
10	30·215	21·9	..	..	..	..	..	..	...	E	..	¼	..	..	..	9¾	..
12	30·205	19·0	..	..	..	..	..	..	...	SE	..	¼	..	..	..	9	..
14	30·183	20·5	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
16	30·163	20·0	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
18	30·166	21·5	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
20	30·142	20·4	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
22	30·165	22·5	..	..	..	..	31·0 20·0	..	...	SSW	..	¼	..	..	..	10	..
Dec. 29. 0	30·179	24·2	..	..	..	..	..	..	...	S by W	..	¼	..	..	..	10	..
2	30·154	27·4	..	..	..	..	..	..	...	S by W	..	¼	..	..	..	10	..
4	30·168	29·3	..	..	..	..	..	..	...	SSW	..	¼	..	..	..	10	Transit
6	30·169	31·8	..	..	..	..	..	..	...	E	..	¼	..	..	..	10	..
8	30·191	34·0	..	..	..	..	..	..	...	NE	..	¼	..	..	..	10	..
10	30·221	32·5	..	..	..	..	..	..	...	N	..	½	..	..	..	1	..
12	30·257	30·4	..	..	..	..	..	..	...	N by W	..	½	..	..	..	0	..
14	30·260	29·0	..	..	..	..	..	..	...	NW	..	¼	..	..	..	0	..
16	30·274	27·7	..	..	..	..	..	..	...	W	..	¼	..	..	..	0	..
18	30·300	26·8	..	..	..	..	..	..	...	SW	..	½	..	..	..	0	..
20	30·305	22·1	..	..	..	..	..	..	...	SW	..	½	..	..	..	0	..
22	30·325	23·0	..	..	..	..	34·7 22·3	..	...	W	..	¼	..	..	..	3	..
Dec. 30. 0	30·303	27·5	..	..	..	..	..	..	...	W	..	¼	..	..	..	1	..

Dec. 26d. 10h. The highest barometrical reading during the month.

GENERAL REMARKS.	Observer.
Light fog: hoar frost: very dark.	J H
Ditto ditto.	
Light fog and hoar frost: the trees white with hoar frost. The night has been excessively cold: the thermometer rose several degrees, soon after the formation of the hoar frost, about midnight.	J H
The trees have a beautiful appearance, being covered with rime $\frac{3}{8}$ of an inch thick: hard frost.	G
Overcast: hard frost.	D
Ditto ditto.	D
Ditto: fog and hard frost.	J H
Thick haze, with hard frost.	
Ditto ditto.	
Ditto ditto.	J H
Ditto ditto.	G
Sky quite overcast.	
Ditto.	
Ditto.	
Ditto.	G
Ditto.	D
Cirro-cumulus in, and 10° around, zenith: cirro-stratus elsewhere.	
Fleecy clouds about the greater part of the sky.	D
Sky generally covered with cirro-stratus: a few light breaks in the S.	G
Quite overcast.	
The Moon just visible: stars shining but very dimly: clouds all round near horizon.	
A few stars dimly seen in zenith: a fog collecting: very cold; everything covered with rime.	G
Very foggy: a few stars visible in zenith.	D
Ditto.	
Ditto.	
Ditto: very cold and unpleasant: hard frost.	
Ditto ditto ditto.	D
Overcast: stratus: hoar frost: a heavy mass of clouds came up against the wind at $22^h.\ 40^m$, and on its approach to the zenith the direction of the lower current gradually changed from E. to S.S.W.	J H
Overcast: foggy: a little sleet fell soon after the observation.	
A little sleet at times: air piercingly cold: foggy.	J H
Quite overcast and foggy: altogether very gloomy. [observation the wind has again veered to the E.	D
Overcast, without a break. About $4^h.\ 55^m$ the Moon was faintly visible through thin cirro-stratus and a slight fog. Since the last	
Overcast.	
At $8^h.\ 40^m$ a break first became visible a little to the N.W. of zenith, since which time it has been gradually becoming clear: at present a few cirri W. of zenith, otherwise cloudless.	D
Cloudless.	J H
Ditto.	
Ditto.	
Ditto.	
Ditto: the night has been beautifully clear.	J H
Misty in horizon all round: a few undefined clouds in S.	G
Sky nearly cloudless.	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.						
Dec. 30. 2	30·276	30·7	..	..	..	..	..	..	...	W	..	¼	..	..	..	0	In Equator
4	30·234	31·6	..	..	..	..	..	..	...	SW by W	..	¼	..	..	..	2	..
6	30·200	31·6	..	..	..	..	..	..	...	WSW	..	½	..	..	..	9½	Transit
8	30·165	32·0	..	..	..	..	..	..	...	W	..	1	..	..	..	10	..
10	30·105	34·4	..	..	..	..	..	..	...	WNW	..	1	..	..	..	10	..
12	30·001	34·2	..	..	..	..	..	..	...	SW	..	2	..	..	..	10	..
14	29·927	34·7	..	..	..	..	..	..	...	SW	..	2	..	..	..	10	..
16	29·836	35·5	..	..	..	..	..	..	...	WSW	..	2	..	..	..	10	..
18	29·784	37·7	..	..	..	..	..	..	...	WSW	..	1½	..	..	..	10	..
20	29·759	38·5	..	..	..	..	..	..	...	W by S	..	1¼	..	..	..	10	..
							39·2										
22	29·804	39·7	..	..	..	..	28·9	..	...	WNW	..	1	..	..	..	8	..
Dec. 31. 0	29·790	37·7	..	..	..	..	..	..	...	NW	..	2	..	..	..	3	..
2	29·810	42·8	..	..	..	..	..	..	...	NW	..	2	..	..	..	0	..
4	29·838	42·5	..	..	..	..	..	..	...	NW	..	1½	..	..	..	0	..
6	29·874	38·5	..	..	..	..	..	..	...	NNW	..	1	..	..	..	7	Transit
8	29·888	39·3	..	..	..	..	..	..	...	NW	..	1	..	..	..	5	..
10	29·899	37·5	..	..	..	..	..	..	...	NW	..	1	..	..	..	1	..
12	29·875	36·8	..	..	..	..	..	..	...	NW	..	1	..	..	..	0	1st Qr.
14	29·864	36·8	..	..	..	..	..	..	...	WNW	..	1	..	..	..	0	..
16	29·863	36·8	..	..	..	..	..	..	...	WNW	..	1	..	..	..	5	..
18	29·859	37·9	..	..	..	..	..	..	...	W by N	..	1	..	..	..	7	..
20	29·843	39·0	..	..	..	..	..	..	...	W	..	1	..	..	..	10	..
							42·0										
22	29·864	39·3	..	..	..	..	34·2	..	...	W by S	..	1	..	..	..	10	..
1841.																	
Jan. 1. 0	29·849	41·5	..	..	..	..	..	..	...	W by S	..	1	..	..	..	9	..
2	29·824	43·7	..	..	..	..	..	..	...	W by S	..	1	..	..	..	10	..
4	29·818	43·3	..	..	..	..	..	..	...	W by S	..	¼	..	..	..	9	..
6	29·808	42·6	..	..	..	..	..	..	...	WSW	..	½	..	..	..	10	..
8	29·800	42·4	..	..	..	..	..	..	...	WSW	..	½	..	..	..	10	Transit
10	29·799	41·6	..	..	..	..	..	..	...	W by S	..	½	..	..	..	10	..
12	29·787	41·3	..	..	..	..	..	..	...	W by S	..	½	..	..	..	10	..
14	29·793	41·8	..	..	..	..	..	..	...	W by S	..	½	..	..	..	9½	..
16	29·817	42·1	..	..	..	..	..	..	...	WNW	..	1	..	..	..	9	..
18	29·875	40·1	..	..	..	..	..	..	...	NW	..	¼	..	..	..	8	..
20	29·921	38·0	..	..	..	..	..	..	...	NNW	..	¼	..	..	..	0	..
							45·3										
22	29·976	37·8	..	..	..	..	36·6	..	...	NW	..	¼	..	0·00	..	0	..
Jan. 2. 0	30·000	40·9	..	..	..	..	..	..	...	NW	..	¼	..	..	..	0	..
2	29·992	40·6	..	..	..	..	..	..	...	NW	..	¼	..	..	..	0	..
4	30·000	40·6	..	..	..	..	..	..	...	W by N	..	½	..	..	..	5	..
6	29·989	36·7	..	..	..	..	..	..	...	WNW	..	½	..	..	..	1	..
8	29·968	37·0	..	..	..	..	..	..	...	NNW	..	½	..	..	..	10	Transit
10	29·911	36·7	..	..	..	..	..	..	...	NNW	..	½	..	..	..	10	..
12	29·804	36·8	..	..	..	..	..	..	...	NNW	..	1+	..	..	..	8	..
21	29·188	32·5	..	..	..	..	..	..	...	W by S	..	0	..	..	..	10	..
							42·0										
22	...	..	..	..	..	..	32·1	..	...	....	..	..	..	0·00	..	..	..

During a great part of the month of December the navigation of the Thames at Greenwich was stopped by the accumulation of ice, which completely blocked up the river.

Jan. 1. The amount of rain fallen in the previous 24 hours, in a gauge (No. 2) placed on the leads above the Library, was measured every day after this time at 22h. The rain-gauge is a cylinder 6 inches in diameter, and its receiving surface is 177 feet 2 inches above the mean level of the sea.

Jan. 2, 18h. A remarkable thunder storm. (See section of Extraordinary Observations.)

GENERAL REMARKS.	Observer.
Cloudless.	D
Light cirri in various parts of the sky: a few small cirro-strati in N.W.: hazy near horizon: upper current N.	J H
Since the last observation the clouds have been rapidly collecting, and now cover nearly the whole of the sky.	
Overcast: cirro-stratus: Moon's place just visible.	
Ditto ditto. Surface of mercury of barometer concave: rain began to fall 10^m after this observation.	J H
Raining fast: wind in gusts to 3 +. Surface of mercury concave. [S.W. Surface of mercury concave.	G
Surging wind: slight rain without intermission since last observation: nimbi floating about, and scud passing very quickly from	
Wind the same: occasional light rain: very black night. Surface of mercury slightly convex.	
Wind a little lulled since last observation: a slight drizzling rain at present.	
Quite overcast.	G
Fleecy clouds in zenith: scud passing over rapidly from N.N.W., at a low elevation: upper current due N.	D
Long lines of cirrus; cirro-cumuli near zenith.	
Cloudless: wind blowing in gusts.	D
A few cumuli in N.W.: thick mists in N. and N.W., obscuring Greenwich Hospital.	G
Sky generally cloudy.	
Scud passing quickly from N.W., under the Moon: heavy looking sky in N. and W.	
Linear cirro-strati under the Moon: horizon obscured all round.	G
Cloudless: at $10^h.40^m$ a slight halo was visible around the Moon, about 1° in diameter; it continued until $11^h.40^m$.	D
Cloudless.	
Thin cirro-strati in N., reaching very nearly from the horizon to zenith; the rest of the sky clear.	
Clear in zenith; the remainder of the sky covered with cirro-stratus.	
Overcast: cirro-stratus.	D
Ditto ditto: gusts of wind at times.	J H
Very cloudy: cirro-stratus: a break S. of zenith: little rain at intervals: the wind blowing in gusts.	
Cirro-stratus.	J H
Cloudy: a few breaks.	D
Overcast: cirro-stratus.	
Ditto: ditto. The Moon faintly visible.	
Overcast: a little misty rain falling.	D
Cirro-stratus and scud: much rain since the last observation.	J H
Sky principally covered with cirro-stratus: the Moon setting in a dark bank of cloud.	
Break in zenith; otherwise cloudy: at $16^h.10^m$ much clearer: stars shining in W. and S.: eastern part of the sky cloudy. The wind has blown in strong gusts since 14^h.	
Stars shining brilliantly S.E. and S. of zenith; the rest of the sky partially obscured by vapour.	
Cloudless. The face of the sky assumed a different appearance soon after the setting of the Moon, and gradually cleared till $18^h.40^m$, when no cloud was visible: immediately on the direction of the lower current changing at 16^h, there were very stormy gusts, continuing only about half an hour.	J H
Cloudless.	D
Ditto.	
Ditto: slight haze about the sun.	D
Hazy, with cumuli clouds, principally to windward.	J H
Cloudless, with the exception of a cirro-stratus in N.W.: a current from N.N.W. was observed at $6^h.40^m$.	
Very cloudy: the Moon obscured: air exceedingly mild.	
Very cloudy: Moon just visible.	J H
Moon and several of the principal stars just visible: sky generally covered with cirro-stratus: wind rising in gusts to 2, and the barometer falling rapidly; everything betokening a storm.	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.						
Jan. 3. 14	28·873	26·0	..	..	..	..	..	..	...	W by N	..	1	..	..	..	1	..
16	28·846	25·2	..	..	..	..	..	..	...	W by N	..	½	..	..	..	1	..
18	28·809	26·1	..	..	..	..	..	..	...	Calm	..		..	..	..	3	..
20	28·853	25·9	..	..	..	..	..	..	...	W by S	..	¼	..	..	..	3	..
22	28·916	24·5	..	..	..	..	38·3 22·7	..	...	S by W	..	¼	..	0·00	..	10	..
Jan. 4. 0	28·952	30·8	..	..	..	..	..	..	...	S by W	..	¼	..	..	..	10	..
2	28·959	30·8	..	..	..	..	..	..	...	NW	..	¼	..	..	..	10	..
4	28·960	33·0	..	..	..	..	..	..	...	N by W	..	1	..	..	..	10	..
6	28·953	33·0	..	..	..	..	..	..	...	NE	..	1½	..	..	..	10	..
8	29·073	31·2	..	..	..	..	..	..	...	E by N	..	2	..	..	..	10	..
10	29·122	31·5	..	..	..	..	..	..	...	E	..	1	..	..	..	10	Transit
12	29·166	31·6	..	..	..	..	..	..	...	N by E	..	2	..	..	..	10	..
14	29·183	29·8	..	..	..	..	..	..	...	NNE	..	1½	..	..	..	5	..
16	29·213	28·9	..	..	..	..	..	..	...	N	..	1	..	..	..	8	..
18	29·210	29·3	..	..	..	..	..	..	...	N by W	..	1	..	..	..	10	..
20	29·220	28·8	..	..	..	..	..	..	...	NW	..	1	..	..	..	9	..
22	29·217	30·3	..	..	..	..	33·4 23·3	..	...	N by W	..	1½	..	..	..	9	..
Jan. 5. 0	29·194	31·7	..	..	..	..	..	..	...	N	..	3	..	..	..	9	..
2	29·194	32·3	..	..	..	..	..	..	...	N	..	3	..	..	..	10	..
4	29·237	31·8	..	..	..	..	..	..	...	N by E	..	1½	..	..	..	10	..
6	29·269	31·2	..	..	..	..	..	..	...	N by W	..	½	..	..	..	9¾	..
8	29·303	29·8	..	..	..	..	..	..	...	N by E	..	½	..	..	..	8	..
10	29·338	25·7	..	..	..	..	..	..	...	NE	..	¼	..	..	..	7	Transit
12	29·344	28·0	..	..	..	..	..	..	...	NNE	..	¼	..	..	..	8	..
14	29·363	27·5	..	..	..	..	..	..	...	NNE	..	¼	..	..	..	10	Greatest declination N.
16	29·372	27·0	..	..	..	..	..	..	...	N by E	..	¼	..	..	..	9½	..
18	29·385	26·7	..	..	..	..	..	..	...	N	..	¼	..	..	..	9¾	..
20	29·405	25·3	..	..	..	..	..	..	...	N	..	¼	..	..	..	10	..
22	29·445	24·8	..	..	..	..	33·0 22·3	..	...	N	..	¼	..	0·25	..	5	..
Jan. 6. 0	29·463	27·5	..	..	..	..	..	..	...	ENE	..	¼	..	..	..	4	..
2	29·462	28·1	..	..	..	..	..	..	...	ENE	..	¼	..	..	..	4	..
4	29·482	27·3	..	..	31·0	−3·7	..	..	...	NNE	..	¼	..	..	..	9¾	..
6	29·493	25·5	..	..	..	..	..	..	...	ESE	..	¼	..	..	..	9¾	..
8	29·519	25·7	..	..	..	..	..	..	...	ESE	..	¼	..	..	..	9¾	..
10	29·538	24·5	..	..	25·0	−0·5	..	..	...	ESE	..	½	..	..	..	10	..
12	29·558	23·2	..	..	..	..	..	..	...	SE	..	½	..	..	..	10	Transit
14	29·552	21·5	..	..	..	..	..	..	...	SE	..	½	..	..	..	5	..
16	29·560	19·2	..	..	20·0	−0·8	..	..	...	SE	..	½	..	..	..	5	..
18	29·556	18·4	..	..	..	..	..	..	...	SE	..	½	..	..	..	9	Perigee
20	29·580	12·9	..	..	..	..	..	..	...	SE	..	¼	..	..	..	0	..
22	29·608	13·0	..	..	..	..	30·1 12·8	..	...	ESE	..	¼	0·00	0·00	..	0	..
Jan. 7. 0	29·611	18·5	..	..	..	..	..	..	...	E S E	..	¼	...	..	..	0	..
2	29·619	23·3	..	..	..	..	..	..	...	E by S	..	¼	..	..	..	0	..
4	29·630	22·2	..	..	20·5	1·7	..	..	...	E by N	..	¼	..	..	..	0	Full

Jan. 2d and 3d. Extra observations were taken. (See section of Extraordinary Observations.)

Jan. 6d. 4h. The Dew Point was determined by Daniel's Hygrometer: it was kept in the Magnetic House and taken out some time before the observation.

Jan. 6d. 8h. A Crosley's self-registering rain-gauge, its index set at 0in·000, was placed about 25 feet south of the Magnetic House; its receiving surface is 10 inches square, and 156 feet 6 inches above the mean level of the sea. Its reading after this time is recorded every day at 22h.

GENERAL REMARKS.	Observer.
Sky generally cloudless: in the north linear cirro-strati diverging from a point in the magnetic meridian, and forming the appearance of a fan, or an Aurora with faint streamers: a few streaks of the same cloud near the zenith.	G
A few streaks of cloud near the Moon; otherwise clear	
The Moon set behind a bank of clouds, which still remains, extending to the W. and a little east of north; elsewhere cloudless.	
A few dark fleecy clouds in the south: a bank of cirro-cumulus in the N.W.; otherwise clear.	G
Overcast.	D
Overcast: foggy.	J H
Ditto: ditto: sleet falling. In about ten minutes after taking this observation snow began to fall.	D
Snow falling.	G
Quite overcast: the wind changed suddenly, a few minutes since, to the N.E.: gusts to 2+.	
Wind rising: appearances of a storm: scud flying rapidly from the east.	
Snow and sleet falling.	G
Snow falling: scud passing quickly from the N.E.: the wind blowing strong in gusts.	D
Light undefined clouds flying rapidly at a low elevation: overcast in the south.	
Clear in north; elsewhere overcast.	
Overcast: a little snow falling.	
At 19^h it suddenly became clear, but at $19^h.30^m$ a thin scud was passing rapidly from the north, a few stars being visible through it; at present it is overcast, except a break in S.	D
The greater part of the sky covered with cirro-stratus and scud; the latter passing over rapidly from the north: slight break W. [of zenith.	J H
Cirro-stratus and scud, with strong gusts of wind: a break near zenith: snow at times since last observation.	
Overcast: cirro-stratus, with sleet at intervals: strong gusts of wind, and the air piercingly cold.	J H
Overcast: since the last observation, and to within 10^m of the present time snow has been falling thickly.	D
A slight break a little to the east of the zenith; elsewhere overcast: the wind has greatly abated since the 2^h observation.	
Cumulo-stratus in zenith: cirro-stratus near the horizon: Moon visible.	
Cirri and cirro-cumuli scattered about the sky.	D
Cirro-stratus and scud: the Moon shining through a thin veil of cloud.	J H
Overcast, with snow in small flakes.	
Cirro-stratus: a break in N.W.	
A slight break near the Moon; elsewhere cloudy.	
Overcast: cirro-stratus: at $20^h\ 20^m$ fleecy clouds in zenith: clearing to the east and to windward.	J H
Clear in zenith, and N. of it: cirro-stratus near the horizon.	D
Cumuli in N.W.: scud in the neighbourhood of the Sun.	
Cumulo-stratus south of zenith; cirri about the northern part of the sky.	D
Fleecy and undefined clouds in the N. and N.E.: much vapour in the zenith: the clouds move very slowly from E.S.E.	J H
Detached and undefined clouds, especially in N.W.	
Large fleecy clouds generally prevalent.	
Very cloudy: Moon just visible.	J H
Sky covered with scud: Moon frequently visible.	G
Scud passing quickly from S.E.: clear in and about the zenith; elsewhere cloudy.	
Same as at last observation.	
Opening cumulous clouds and scud all over the sky.	
At $18^h.40^m$ the clouds disappeared, and since that time the temperature has fallen rapidly: at present it is cloudless.	G
Cloudless.	D
Ditto.	J H
Ditto.	D
Ditto.	G

Jan. $6^d.22^h$. The Dew Point could not be taken, the mercury of the thermometer being in the black ball, or its reading being less than 15°.

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.						
Jan. 7. 6	29·656	16·7	..	..	..	..	..	..	...	E by N	..	¼	..	..	..	0	..
8	29·678	15·6	..	..	..	..	..	..	...	E	..	¼	..	..	..	5	..
10	29·706	14·9	..	..	..	..	..	..	...	E	..	¼	..	..	..	8	..
12	29·725	12·0	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
14	29·743	10·5	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	Transit
16	29·771	14·6	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
18	29·779	13·4	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
20	29·787	10·6	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
22	29·813	14·6	..	..	..	..	23·1 9·8	..	...	Calm	..	..	..	0·00	0·00	10	..
Jan. 8. 0	29·825	15·1	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
2	29·806	16·0	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
4	29·795	15·5	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
6	29·783	12·4	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
8	29·781	12·0	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
10	29·777	10·5	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
12	29·749	8·7	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
14	29·712	7·3	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	Transit
16	29·682	7·5	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
18	29·659	8·4	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
20	29·655	17·3	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
22	29·641	18·0	..	..	18·5	−0·5	16·7 4·0	..	...	SSW	..	¼	..	0·00	0·00	½	..
Jan. 9. 0	29·608	26·7	..	..	..	..	..	..	...	SSW	..	1½	..	..	..	1	..
2	29·570	29·5	..	..	25·5	4·0	..	..	...	S	..	1½	..	..	..	9	..
4	29·526	29·0	..	..	25·2	3·8	..	..	...	SSW	..	2	..	..	..	6	..
6	29·468	25·5	..	..	25·2	0·3	..	..	...	S	..	2½	..	..	..	1	..
8	29·420	26·3	..	..	25·0	1·3	..	..	...	S	..	2½	..	..	..	6	..
10	29·359	26·8	..	..	22·4	4·4	..	..	...	S	..	2½	..	..	..	10	..
12	29·290	28·0	..	..	20·0	8·0	..	..	...	S	..	2½	..	..	..	10	..
22	...	..	..	..	..	..	33·5 17·0	..	...	...	..	..	..	0·00	0·00	..	..
Jan. 10. 1	29·116	33·0	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
14	28·855	32·0	..	..	..	..	..	..	...	SW	..	¼	..	..	..	10	..
16	28·782	37·0	..	..	37·0	0·0	..	..	...	SW	..	½	..	..	..	10	Transit
18	28·707	32·0	..	..	..	..	..	..	...	SW	..	¼	..	..	..	10	..
20	28·725	33·0	..	..	..	..	..	..	...	W	..	¼	..	..	..	10	..
22	28·792	34·5	..	..	33·5	1·0	37·5 30·0	..	...	SW	..	1	..	0·00	0·00	9	..
Jan. 11. 0	28·831	37·1	..	..	..	..	..	..	...	WSW	..	1	..	..	..	6	..
2	28·848	37·4	..	..	..	..	..	..	...	WSW	..	½	..	..	..	0	..
4	28·867	36·0	..	..	32·0	4·0	..	..	...	S by W	..	¼	..	..	..	9	..
6	28·885	33·5	..	..	..	..	..	..	...	SE	..	¼	..	..	..	10	..
8	28·901	34·0	..	..	..	..	..	..	...	E	..	¼	..	..	..	10	..

Jan. 7d. 10h, 16h, 22h, and Jan. 8d. 4h, 10h, and 16h. The Dew Point could not be taken, the mercury of the thermometer being in the black ball, or its reading less than 15°.

Jan. 8d. The lowest thermometrical reading during the year, 4°·0, happened on this day. This was also the coldest day in the year, its mean temperature for the civil day being 12°·8 from the two-hourly observations.

GENERAL REMARKS.	Observer.
Cloudless. [horizon.	G
Since the last observation the sky has been quite covered with scud: at present clouds near the Moon: thick mist in N. and W.	
A fog collecting: the Moon and several stars visible. [sent the sky is perfectly cloudless.	G
Between $10^h.40^m$ and $11^h.40^m$ there were some fine cirro-cumuli east of zenith: by $11^h.50^m$ they had totally disappeared: at pre-	D
Cloudless.	
About half an hour after the last observation a fog appeared, and was soon of sufficient density to obscure the Moon: the fog still continues: on the appearance of the fog the thermometer began to rise.	
Dense fog: piercingly cold.	
Fog clearing away; the Moon faintly visible through it.	D
Dense fog, and very severe frost; the trees white with hoar frost.	J H
Foggy: hard frost, and the air piercingly cold.	
Ditto ditto ditto.	J H
Ditto: there is an appearance of its clearing.	D
Ditto: one or two stars faintly visible.	
Cloudless: between $6^h.40^m$ and $7^h.40^m$ the fog cleared away.	
Ditto piercingly cold.	D
Ditto ditto hoar frost.	J H
Ditto ditto ditto.	
Ditto ditto ditto.	
Ditto. The temperature has risen since midnight, though no change has taken place in the state of the weather.	
Cloudless: the barometer has been steadily falling during the night: the thermometer has risen $8^{\circ}.9$ since last observation.	J H
Small tufts of cloud (cirri) E. of zenith; otherwise cloudless: fog in the town.	D
Cumuli in S., also a few scattered about: wind rising.	
A few breaks in S.; the sky otherwise covered with cirro-stratus.	D
Passing cumulous clouds, and scud at times: the wind blowing in strong gusts.	J H
Scud passing off in N.W.: a few fleecy clouds in zenith: strong gusts of wind at intervals: cirro-strati in W. and W.S.W.	
Fleecy clouds in E. and S.E. horizon: cirro-stratus obscuring the zenith and western parts of the sky: heavy gusts of wind. Sur-	
face of mercury slightly convex.	J H
Overcast: cirro-stratus and scud: wind blowing in heavy gusts.	G
Quite cloudy: a warm-looking sky: wind blowing almost a gale from the S.: gusts often to 3 +: barometer falling fast: a rising temperature.	
Shortly after this observation rain began to fall, and continued for half an hour, when snow commenced falling: four inches of snow, on the level, fell.	
Quite cloudy: sky covered with scud: Moon occasionally seen. On Sunday, about 4^h, it began to rain, and since that time half the snow has disappeared. Since Saturday night the barometer has been constantly slowly falling.	
Rain falling fast.	
The rain continued falling about 20^m, when snow began to fall, and still continues; about half an inch of the latter has since fallen. The fall of the barometer is very regular, about $0^{in}.01$ in a quarter of an hour: it has now been falling 65 hours; viz., since Jan. $8^d.0^h$; since which time the pressure is lessened by $1^{in}.1$. The thermometer has fallen 5° since last observation.	
Overcast.	G
Scud and cirro-stratus: breaks in zenith.	D
Cumulo-stratus and scud passing over rapidly.	
Cloudless.	D
The sky is at present covered with cirro-stratus and scud.	G
Quite cloudy: wind very light: about a quarter of an hour since the wind veered to S., and is now just perceptible at S.E.	
Rain falling.	

Jan. 9^d, at 2^h, 4^h, 6^h, 8^h, 10^h, and 12^h. The Dew Point was observed and the results inserted above.

Jan. $10^d.18^h$. This is the lowest reading of the barometer 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.						
Jan. 11. 10	28·933	33·5	..	..	32·0	1·5	..	..	...	Calm	..	..	..	..	..	10	..
12	28·995	32·0	..	..	..	..	..	..	...	W	..	¼	..	..	..	10	..
14	29·029	32·5	..	..	..	..	..	..	...	W	..	¼	..	..	..	10	..
16	29·085	31·6	..	..	32·0	−0·4	..	..	...	WSW	..	1	..	..	..	10	In Equator. Transit
18	29·135	31·8	..	..	..	..	..	..	...	WSW	..	1	..	..	..	10	..
20	29·199	32·3	..	..	..	..	..	..	...	WSW	..	1½	..	..	..	10	..
22	29·276	34·3	..	..	..	..	36·6 31·3	..	...	W by S	..	1½	..	0·17	0·420	10	..
Jan. 12. 0	29·342	35·6	..	..	..	..	..	..	...	W by S	..	1½	..	..	..	¼	..
2	29·373	37·6	..	..	..	..	..	..	...	WSW	..	1	..	..	..	¼	..
4	29·421	35·8	..	..	36·5	−0·7	..	..	...	WSW	..	1	..	..	..	0	..
6	29·456	35·3	..	..	..	..	..	..	...	WSW	..	½	..	..	..	9	..
8	29·481	34·3	..	..	..	..	..	..	...	WSW	..	½	..	..	..	0	..
10	29·496	34·5	..	..	32·3	2·2	..	..	...	W by S	..	1	..	..	..	0	..
12	29·523	34·2	..	..	..	..	..	..	...	WSW	..	½	..	..	..	4	..
14	29·524	32·9	..	..	..	..	..	..	...	WSW	..	½	..	..	..	¼	..
16	29·528	30·8	..	..	27·5	3·3	..	..	...	WSW	..	½	..	..	..	0	..
18	29·507	29·9	..	..	..	..	..	..	...	W by S	..	½	..	..	..	0	Transit
20	29·480	30·5	..	..	..	..	..	..	...	WSW	..	½	..	..	..	0	..
22	29·449	36·0	..	..	33·5	2·5	36·2 28·1	..	...	Calm	..	..	..	0·00	0·420	10	..
Jan. 13. 0	29·401	39·6	..	..	..	..	..	..	...	ESE	..	½	..	..	..	10	..
2	29·296	35·5	..	..	..	..	..	..	E	E	..	¼	..	..	..	10	..
4	29·226	32·1	..	..	30·0	2·1	..	..	...	NE	..	¾	..	..	..	10	..
6	29·193	31·7	..	..	..	..	..	..	...	NE	..	¾	..	..	..	10	..
8	29·179	32·0	..	..	..	..	..	..	..	ENE	..	½	..	..	..	10	..
10	29·205	32·0	..	..	31·0	1·0	..	..	...	NE	..	½	..	..	..	10	..
12	29·237	32·0	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
14	29·289	32·0	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
16	29·302	32·3	..	..	32·0	0·3	..	..	...	Calm	..	..	..	..	..	10	..
18	29·311	32·5	..	..	..	..	..	..	...	NE	..	¼	..	..	..	10	Transit
20	29·282	32·7	..	..	..	..	..	..	...	ENE	..	¼	..	..	..	10	..
22	29·276	34·5	..	..	31·3	3·2	39·4 32·0	..	...	ENE	..	¼	0·15	0·37	0·715	10	..
Jan. 14. 0	29·242	34·8	..	..	..	..	..	..	...	ENE	..	¼	..	..	..	10	..
2	29·197	33·5	..	..	..	..	..	..	...	E by N	..	½	..	..	..	10	3rd Qr.
4	29·159	35·0	..	..	34·0	1·0	..	..	...	E by N	..	½	..	..	..	10	..
6	29·091	32·0	..	..	..	..	..	..	ENE	ENE	2½ to 4½	1	..	..	..	10	..
8	29·065	32·0	..	..	..	..	..	..	ENE	NE	1½ to 3	1+	..	..	..	10	..
10	29·021	32·2	..	..	..	..	..	..	ENE	NE	2 to 2½	1+	..	..	..	10	..
12	29·038	32·3	..	..	..	..	..	..	NE	NE	1 to 2	1½	..	..	..	10	..
14	29·104	32·2	..	..	..	..	..	..	NNW	NE	2 to 3	1	..	..	..	10	..
16	29·193	32·2	..	..	..	..	..	..	N	N	1½ to 2	1	..	..	..	10	..
18	29·305	32·0	..	..	..	..	..	..	N by E	N	1 to 1½	1	..	..	..	10	Transit
20	29·407	33·0	..	..	..	..	..	..	N by E	N by E	0 to 1	½	..	..	..	10	..
22	29·495	34·1	..	..	32·2	1·9	35·2 31·8	..	N	N by E	0	½	0·~~28~~ 41	0·43	1·380	6	..
Jan. 15. 0	29·557	36·9	..	..	..	..	..	..	NW	N by W		½	..	..	..	8	..
2	29·567	37·3	..	..	..	..	..	..	N	NNE		½	..	..	..	3	..

Jan. 11^{d}, civil reckoning. The mean height of the barometer was less on this day than on any other day during the year, being 28$^{in.}$·843, as deduced from the two hourly observations.

Jan. 11^{d}. 22^{h}. The observation of the Dew Point omitted inadvertently.

Jan. 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$^{in.}$·475, as deduced from the two hourly observations.

Jan. 12^{d}. 8^{h}. Mr. Newman finished the putting up of Osler's anemometer. The rain-gauge, whose receiving surface is 200 square inches, and is 205 feet 6 inches above the mean level of the sea, was read after this time at 22^{h} every day.

GENERAL REMARKS.	Observer.
A very black sky, and without a break. Ten minutes after this observation Orion became visible, and continued so for half an hour.	G
Overcast.	D
Ditto.	
The sky entirely covered with cirro-stratus and scud: the Moon's place just visible, and a little snow falling.	
Overcast: snow has been slightly falling since the last observation. Barometer rising regularly.	
Ditto sleet falling.	D
Ditto cirro-stratus and scud. At $22^h.10^m$ clearing to windward; cumulous clouds rising.	J H
Nearly cloudless.	
Ditto.	J H
Cloudless.	D
The sky covered with a cirro-stratus, with the exception of a break in the western horizon. About $6^h.40^m$ the zodiacal light was visible.	
The break mentioned in the last observation gradually spread itself, until at $6^h.40^m$ the sky was nearly cloudless. At that time there was a slight mist in the zenith, through which the stars were dimly shining. At $6^h.50^m$, it cleared off, leaving the sky, as	
Cloudless: ground frost: the stars look large and watery. [at present, cloudless.	D
Much vapour about: the stars bright at intervals.	J H
Nearly cloudless. At $14^h.15^m$ a large silvery-topped cumulo-stratus passed S. of the zenith.	
Cloudless.	
Ditto.	
Ditto.	J H
Overcast: cirro-stratus.	D
Ditto ditto.	
Ditto raining.	D
Ditto cirro-stratus. Heavy falls of sleet and snow.	J H
Snow still continues falling thickly: more than one inch has fallen since $3^h.40^m$.	
Overcast: snow has ceased falling, and is rapidly disappearing from the trees and ground. The weather changed at $7^h.20^m$.	
Ditto cirro-stratus: the air very mild. A rapid thaw in the valleys.	J H
Ditto a rapid thaw in the lower parts of the park.	G
Ditto.	
Ditto.	
Ditto.	
Ditto. The barometer commenced falling immediately after the last observation.	G
Ditto.	D
Ditto.	
Sleet commenced falling at noon and still continues rather heavily.	D
Sleet and snow falling.	G
Two inches of snow have fallen since the last observation: it still continues: wind rising: falling barometer.	
Sleet and snow falling.	
Wind in gusts, with squalls. Snow and frozen rain, or clear pieces of ice, falling.	G
Similar to the last observation.	D
Snow and sleet falling.	
Quite cloudy: a little sleet. Wind blows in gusts to 1+.	
Similar to the last observation: the barometer rising rapidly.	
Overcast.	D
Detached opening clouds: haze about the horizon: air very mild.	J H
Sky nearly obscured by clouds of no definite modification.	
Light fleecy clouds in various directions.	J H

Jan. $13^d.0^h$. Previously to this the vane, compass card, and pointer of the compass card, of Osler's anemometer, were adjusted, and the machine was set going.

Jan. 13^d and beginning of Jan. 14^d. The spaces described in equal times, on the traversing board of the anemometer, were found very unequal, and no results could be deduced from them.

Jan. $14^d.10^h$ and 16^h. At both these times the hygrometer was covered with snow; and snow was at the time falling fast, which was the reason that the observations of the Dew Point were not taken.

Jan. 14^d, civil reckoning. No break in the clouds during the whole of the 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.						
Jan. 15. 4	29·561	34·0	..	..	31·6	2·4	..	..	NE	E by N	..	¼	..	..	..	3	..
6	29·608	31·0	..	..	..	..	..	..	ENE	ENE	..	¼	..	..	..	8	..
8	29·585	31·4	..	..	..	..	..	..	ENE	ENE	..	¼	..	..	..	2	..
10	29·605	31·7	..	..	30·0	1·7	..	..	E	ESE	..	¼	..	..	..	6	..
12	29·572	34·0	..	..	..	..	..	..	E	E by S	..	½	..	..	..	10	..
14	29·550	33·5	..	..	..	..	..	..	E	E by S	..	½	..	..	..	10	..
16	29·548	33·4	..	..	32·5	0·9	..	..	E by S	ESE	..	½	..	..	..	10	..
18	29·550	33·9	..	..	..	..	..	..	E	ESE	..	½	..	..	..	10	..
20	29·549	35·7	..	..	..	..	..	..	E by S	SE	..	½	..	..	..	10	Transit
22	29·558	37·5	..	..	36·5	1·0	38·9 30·8	..	SSE	SSE	..	¼	0·43	0·13	1·426	10	..
Jan. 16. 0	29·517	41·2	..	..	..	..	..	..	...	S	..	¼	..	..	..	10	..
2	29·429	42·6	..	..	..	..	..	..	...	S	0 to 1	½	..	..	..	10	..
4	29·368	45·5	..	..	43·0	2·5	..	..	...	SSW	1 to 2	1	..	..	..	10	..
6	29·331	47·5	..	..	..	..	..	..	...	SSW	3 to 4	2	..	..	..	10	..
8	29·304	48·0	..	..	..	..	..	..	...	SSW	3½ to 5	2½	..	..	..	10	..
10	29·293	50·4	..	..	..	..	..	..	...	SW by S	5 to 10	3	..	..	..	10	..
12	29·304	51·2	..	..	..	..	..	..	...	SW by S	4 to 6	3½	..	..	..	10	..
14	...	..	..	..	..	..	..	..	...	...	3 to 4	..	..	..	..	..	..
16	...	..	..	..	..	..	..	..	...	...	2½ to 3	..	..	..	..	..	..
18	...	..	..	..	..	..	..	..	...	...	2 to 3	..	..	..	..	..	..
20	...	..	..	..	..	..	..	..	...	...	2 steady	..	..	..	..	..	Transit
22	...	..	..	..	..	..	52·0 37·5	..	...	...	1½ to 3	..	0·53	0·12	1·560	..	..
Jan. 17. 0	...	..	..	..	..	..	..	..	...	...	½ to 1½	..	..	..	..	..	..
2	...	..	..	..	..	..	..	..	...	...	1½ to 3	..	..	..	..	..	..
4	...	..	..	..	..	..	..	..	...	...	3 to 5	..	..	..	..	..	..
6	...	..	..	..	..	..	..	..	...	...	3 to 4	..	..	..	..	..	..
8	...	..	..	..	..	..	..	..	...	...	3 to 4	..	..	..	..	..	..
10	...	..	..	..	..	..	..	..	...	...	3 steady	..	..	..	..	..	..
12	...	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
14	29·648	46·0	..	..	..	..	..	..	...	S by E	..	½	..	..	..	10	..
16	29·640	46·0	..	..	45·5	0·5	..	..	...	S by W	..	½	..	..	..	10	..
18	29·623	46·0	..	..	..	..	..	..	...	SSW	..	½	..	..	..	10	..
20	29·614	46·0	..	..	..	..	..	..	...	SSW	..	½	..	..	..	10	..
22	29·622	46·0	..	..	39·5	6·5	52·5 45·0	..	...	SW	..	½	0·56	0·03	1·593	10	Transit
Jan. 18. 0	29·608	45·8	..	..	..	..	..	..	...	SW	..	¼	..	..	..	10	..
2	29·592	46·0	..	..	..	..	..	..	...	SW	..	¼	..	..	..	10	..
4	29·609	45·5	..	..	43·0	2·5	..	..	...	W	..	¼	..	..	..	10	..
6	29·628	43·0	..	..	..	..	..	..	...	N by W	..	¼	..	..	..	10	..
8	29·643	40·7	..	..	..	..	..	..	...	ENE	..	¼	..	..	..	10	..
10	29·653	38·5	..	..	40·0	−1·5	..	..	...	NE	..	¼	..	..	..	10	..
12	29·666	37·0	..	..	..	..	..	..	...	ENE	..	¼	..	..	..	10	..
14	29·652	37·0	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
16	28·657	35·2	..	..	36·0	−0·8	..	..	...	Calm	..	..	..	..	..	10	..
18	29·652	34·6	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..

Jan. 16d. 0h. The screw fixing the rack work to the spindle of the anemometer became loose, and consequently the directions of the wind as recorded by its pencil were wrong. The gale of wind, which commenced blowing about 4h, continued blowing from the S.W. throughout its continuance.

Jan. 16d. 10h. The observation of the Dew Point was omitted inadvertently.

GENERAL REMARKS.	Observer.
Cirrus clouds scattered over the sky.	D
Clear near the west horizon: elsewhere cloudy: cirro-stratus.	
Vapour in the zenith and to the north, otherwise clear.	
Light vapour about: stars faintly visible.	D
Overcast: sleet falling. The sky cloudy at $10^h.\ 40^m$, and sleet commenced at $11^h.\ 20^m$.	J H
Ditto: heavy falls of sleet.	
The same as at the last observation.	
Overcast: sleet ceased falling at $16^h.\ 40^m$.	
Ditto: cirro-stratus.	J H
Ditto.	D
Ditto: slight rain.	
Ditto ditto.	D
Overcast: small rain since last observation; at present rain in squalls; the wind blowing in gusts and rising rapidly.	J H
Overcast: scud and cirro-stratus with heavy gusts of wind.	
A gale of wind: heavy gusts at intervals to 3. The gale appears to have commenced at $3^h.\ 40^m$ very suddenly, as no symptoms of its approach were manifest.	
Overcast: cirro-stratus: squalls of rain and a hard gale of wind. Between $8^h.\ 40^m$ and $9^h.\ 40^m$ some of the gusts were violent.	
Since the last observation the wind has increased in violence considerably, and now blows a heavy gale from the S.W. with squalls of rain. At $12^h.\ 10^m$ a very violent gale.	J H
Quite overcast: wind in gusts to 1. Yesterday five inches of snow were on the ground, and now not a particle can be seen. Last evening a continuous stream of water, two or three inches deep, flowed over the lawns of the Park, and continued running for some hours.	G
Ditto: the wind has abated.	
Slight rain.	
Ditto.	G
Overcast: slight rain.	D
Ditto.	
Ditto: cirro-stratus and scud.	D
Ditto.	G
Ditto.	
Ditto. A few stars have been visible since the last observation.	
About $9^h.\ 30^m$ it commenced raining and still continues.	G
Overcast.	D
Ditto: raining.	
Ditto: the rain ceased about 15^m before this observation.	
Slightly raining.	

Jan. $17^d.\ 10^h$. After this observation the traversing board of the anemometer slipped suddenly, passing over several hour spaces in a few minutes.

Jan. 18^d, civil reckoning. No break in the clouds of any amount during the day.

Jan. 18^d. The traversing board of the anemometer slipped several times; it was found that the chain slipped on the clock-barrel.

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.						
Jan. 18. 20	29·674	33·0	..	..	..	..	..	..	...	Calm	..	..	..	..	..	10	..
22	29·697	34·4	..	..	33·0	1·4	48·5 33·2	..	...	N by E	..	½	0·76	0·29	1·909	10	Greatest dec. S. Transit
Jan. 19. 0	29·720	35·3	..	..	..	..	..	..	...	NNE	..	¾	..	..	..	10	..
2	29·744	35·0	..	..	..	..	..	..	...	NNW	..	1	..	..	..	10	..
4	29·783	34·8	..	..	32·0	2·8	..	..	...	N by W	..	½	..	..	..	10	..
6	29·797	33·5	..	..	..	..	..	..	NNW	NNW	..	½	..	..	..	5	..
8	29·820	32·0	..	..	..	..	..	..	...	NNW	..	½	..	..	..	0	..
10	29·826	31·0	..	..	29·5	1·5	..	..	...	N by W	..	½	..	..	..	0	..
12	29·835	32·0	..	..	..	..	..	..	...	NW	..	½	..	..	..	10	..
14	29·839	31·9	..	..	..	..	..	..	...	NW	..	½	..	..	..	10	..
16	29·857	31·6	..	..	24·5	7·1	..	..	...	NW	..	½	..	..	..	10	Apogee
18	29·875	30·2	..	..	..	..	..	..	...	NNW	..	½	..	..	..	0	..
20	29·905	31·4	..	..	..	..	..	..	...	N by W	..	¼	..	..	..	10	..
22	29·947	33·2	..	..	29·5	3·7	36·4 28·8	..	...	N	..	¾	0·76	0·00	1·909	10	..
Jan. 20. 0	29·974	32·5	..	..	..	..	..	..	...	N by W	..	½	..	..	..	9	Transit
2	29·983	33·3	..	..	..	..	..	..	...	NNW	..	½	..	..	..	2	..
4	30·008	32·0	..	..	32·0	0·0	..	..	...	N	..	½	..	..	..	1	..
6	30·037	29·3	..	..	..	..	..	..	...	N by W	..	½	..	..	..	0	..
8	30·064	28·0	..	..	..	..	..	..	...	N by W	..	½	..	..	..	0	..
10	30·076	30·5	..	..	27·8	2·7	..	..	...	N	..	½	..	..	..	10	..
12	30·143	31·3	..	..	..	..	..	..	...	N by W	..	½	..	..	..	9½	..
14	30·202	29·2	..	..	..	..	..	..	...	N by W	..	¼	..	..	..	0	..
16	30·232	27·2	..	..	24·5	2·7	..	..	...	N	..	¼	..	..	..	0	..
18	30·251	26·0	..	..	..	..	..	..	...	N	..	¼	..	..	..	0	..
20	30·294	23·3	..	..	..	..	..	..	...	N	..	¼	..	..	..	0	..
22	30·327	28·5	..	..	17·0	11·5	33·0 25·4	..	...	WNW	..	½	0·76	0·00	1·909	7	..
Jan. 21. 0	30·316	33·0	..	..	..	..	..	..	...	WNW	..	½	..	..	..	10	Transit
2	30·290	36·6	..	..	33·5	..	..	..	...	W	..	½	..	..	..	7	..
4	30·294	38·2	..	..		..	..	..	...	WNW	..	¾	..	..	..	7	..
6	30·306	37·2	..	..	..	..	..	..	...	NE	..	1	..	..	..	9	..
8	30·307	33·6	..	..	..	..	..	..	...	NE	..	½	..	..	..	6	..
10	30·323	31·5	..	..	28·5	3·0	..	..	...	NNE	..	½	..	..	..	0	..
12	30·327	30·8	..	..	..	..	..	..	...	WNW	..	¼	..	..	..	0	..
14	30·325	30·8	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
16	30·312	30·5	..	..	28·5	2·0	..	..	...	Calm	..	..	..	..	..	0	..
18	30·294	30·3	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
20	30·295	30·8	..	..	..	..	..	..	...	Calm	..	..	..	..	..	0	..
22	30·296	33·0	..	..	25·7	7·3	38·1 28·2	..	...	WSW	..	¼	0·76	0·00	1·909	¾	..
Jan. 22. 0	30·290	35·9	..	..	..	..	..	..	...	WSW	..	¼	..	..	..	10	Transit
2	30·219	40·8	..	..	..	..	..	..	...	WSW	..	½	..	..	..	7	..
4	30·158	41·1	..	..	39·5	1·6	..	..	...	WSW	..	1	..	..	..	10	..
6	30·122	39·8	..	..	..	..	..	..	...	SW	..	1	..	..	..	10	New
8	30·079	40·1	..	..	..	..	..	..	...	SW	..	1½	..	..	..	6	..
10	30·038	41·3	..	..	39·0	2·3	..	..	...	SW	..	2	..	..	..	10	..
12	29·973	42·2	..	..	..	..	..	..	...	SW	..	2	..	..	..	10	..
14	29·916	42·8	..	..	..	..	..	..	...	SW	..	2	..	..	..	10	..

Jan. 19d. Having placed the links of the chain in their proper position on the spikes of the clock-barrel, the machine was set going at 5h; but by 7h the screw fixing the lower end of the spindle to the rack-work became loose again, and the recorded directions of the wind were consequently erroneous.

Jan. 20d. Mr. Newman took down some parts of the anemometer.

Jan. 20d. 4h. Previously to this observation of the Dew Point, the hygrometer was taken into and left in a small house (Captain Fitzroy's Magnetic House) north of the Magnetic Observatory, the doors of which were always left open.

GENERAL REMARKS.	Observer.
Raining fast: some sleet fell at $18^h.\ 40^m$.	D
Cirro-status: overcast.	J H
Overcast: cirro-stratus: rain falling. At $0^h.\ 40^m$, sleet and gusts of wind.	
Cirro-stratus: sleet falling.	J H
Overcast: cirro-stratus.	D
Clear N. and W. of zenith: cirro-stratus elsewhere.	
Cloudless.	
Ditto.	D
Overcast: frost: sleet falling.	J H
Ditto ditto.	
Ditto: a little snow since the last observation.	
Cloudless: cleared off suddenly at $17^h.\ 15^m$.	
Cirro-stratus: a little snow.	J H
Ditto overcast.	D
Breaks in the north: cirro-stratus elsewhere.	
Cirri in the south: the remainder of the sky cloudless.	D
Light fleecy clouds: hazy in the north.	J H
Cloudless: hazy.	
Cloudless: vapour collected in S.W. at $6^h.\ 40^m$, but has since disappeared.	J H
About $9^h.\ 0^m$ clouds began to collect, and now one unbroken cloud covers the sky.	G
Overcast; except a break in zenith.	G
Cloudless.	D
Ditto.	R
Ditto.	W R
Ditto.	M
Light fleecy clouds: hard frost.	J H
A thin scud covers the sky.	D
Vapour and fleecy clouds.	J H
Fleecy clouds prevalent.	D
Large masses of cirro-stratus.	G
Vapour and thin cirro-stratus: sky occasionally nearly clear.	G
Cloudless: light vapour near the horizon.	J H
Ditto.	D
Ditto.	
Ditto.	
Ditto.	
Ditto.	D
Linear cirri scattered in various parts of the sky.	J H
Overcast: cirro-stratus. [about $0^h.\ 40^m$.	
Light fleecy clouds east of zenith: linear cirri and small cirro-strati in N.W: the appearance of the sky materially changed	J H
A slight break in the south: cirro-stratus elsewhere.	D
Overcast: cirro-stratus and scud: wind rising.	
Zenith and 30° south of it clear: the remaining portion of the sky covered with cirro-stratus: wind blows in gusts to 2.	
Overcast.	D
Ditto: strong gusts of wind.	J H
Ditto: strong gusts of wind from S.W.	

Jan. $20^d.\ 10^h$ Hourly observations were commenced. (See section of Term-Day Observations.)

Jan. 21^d, civil reckoning. The mean height of the barometer was greater on this day than on any other day during the month, being $30^{in.}289$, as deduced from the two-hourly observations.

Jan. $21^d.\ 4^h$. The observer was engaged in the Magnetic Term Observations, which is the cause of the Dew Point not being observed; he had observed it at 3^h, when it was $33^{\circ}.5$.

Jan. $21^d.\ 12^h$. 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.						
Jan. 22. 16	29·884	43·5	..	..	33·0	10·5	..	..	...	WSW	...	1½	..	..	..	10	..
18	29·892	42·7	..	..	..	..	..	..	...	WSW	...	1	..	..	..	10	..
20	29·927	36·5	..	..	..	..	..	..	...	NNW	...	½	..	..	..	9	..
22	29·980	37·8	..	..	34·5	3·3	45·2 30·8	..	...	NNW	..	½	0·82	0·10	2·032	2	..
Jan. 23. 0	30·016	39·5	..	..	..	..	..	..	...	NW	..	¾	..	..	..	0	..
2	30·001	40·2	..	..	..	..	..	..	...	WNW	..	1	..	..	..	0	Transit
4	30·009	40·0	..	..	30·0	10·0	..	..	...	NW	..	¾	..	..	..	0	..
6	30·018	35·6	..	..	..	..	..	..	...	W	..	½	..	..	..	4	..
8	30·015	35·9	..	..	..	..	..	..	...	W by N	..	¼	..	..	..	10	..
10	29·972	35·2	..	..	29·0	6·2	..	..	...	NW	..	1	..	..	..	9	..
12	29·928	33·1	..	..	..	..	..	..	...	NW	..	1	..	..	..	5	..
14	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	39·5 32·0	..	...	...	..	..	0·82	0·00	2·032	..	..
Jan. 24. 0	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	Transit
4	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
14	30·089	30·9	..	..	..	..	..	..	...	NNW	..	1½	..	..	..	0	..
16	30·135	30·6	..	..	25·5	5·1	..	..	...	NNW	..	¾	..	..	..	0	..
18	30·156	29·1	..	..	..	..	..	..	...	NNW	..	½	..	..	..	0	..
20	30·200	28·6	..	..	..	..	..	..	...	N by W	..	½	..	..	..	0	..
22	30·253	27·8	..	..	26·5	1·3	36·1 24·8	..	...	W	..	¼	0·82	0·00	2·032	3	..
Jan. 25. 0	30·228	31·8	..	..	..	..	..	..	...	W by S	..	¼	..	..	..	0	..
2	30·206	35·4	..	..	..	..	..	..	...	Calm	..	..	..	..	..	1	Transit
4	30·181	36·6	..	..	43·3	−6·7	..	..	W by S	W by S	..	½	..	..	..	½	..
6	30·164	32·6	..	..	..	..	..	..	W by S	W by S	..	½	..	..	..	1	..
8	30·145	32·2	..	..	..	..	..	..	W S W	WSW	..	½	..	..	..	9	..
10	30·114	34·3	..	..	28·5	5·8	..	..	SW	WSW	..	¾	..	..	..	10	..
12	30·066	35·2	..	..	..	..	..	..	SW	SW	..	½	..	..	..	10	..
14	30·022	37·1	..	..	..	..	..	..	SW	SW	½ to 1½	½	..	..	..	10	..
16	29·959	37·0	..	..	36·0	1·0	..	..	WSW	SW	1 to 2	1	..	..	..	10	..
18	29·917	40·0	..	..	..	..	..	..	WSW	SW	1 steady	1	..	..	..	10	..
20	29·896	41·3	..	..	..	..	..	..	WSW	SW	1 steady	½	..	..	..	10	..
22	29·899	42·6	..	..	34·0	8·6	43·2 26·0	..	WSW	WSW	½ to 1	½	0·82	0·00	2·032	10	..
Jan. 26. 0	29·911	45·3	..	..	..	..	..	..	W by S	WSW	..	½	..	..	..	10	..
2	29·903	48·3	..	..	..	..	..	..	W by S	WSW	..	½	..	..	..	9½	Transit
4	29·894	48·0	..	..	48·5	−0·5	..	..	WSW	WSW	..	¼	..	..	..	8	..
6	29·901	45·2	..	..	..	..	..	..	WSW	SW	..	¼	..	..	..	10	..
8	29·916	46·5	..	..	..	..	..	..	WSW	SW	..	¼	..	..	..	10	In Equator
10	29·918	47·0	..	..	46·0	1·0	..	..	SW	SW	..	¼	..	..	..	10	..

Jan. 23d. 4h. The Dew Point as recorded is the mean of three determinations.

Jan. 23d. 6h. The temperature of the Dew Point was 31°·0.

Jan. 25d. Mr. Newman having reported the anemometer again ready on the 22nd, experiments were made on the 23rd to determine the scale for the direction of the wind. On the 25th experiments were also made to determine the scale for the pressure of the wind, and the hour spaces: the chain of the clock in the mean time had been taken down and its links made equal. The machine was set going at 2h. 40m.

GENERAL REMARKS.	Observer.
Overcast: wind blowing in gusts to 2: rain in squalls.	J H
Ditto: cirro-stratus: heavy rain: the wind has considerably abated.	
Cirro-stratus: the wind has abated: at $20^h.15^m$ much clearer, and the principal bank of clouds passing off S.	J H
Thin scud and vapour near the horizon: otherwise clear.	D
Cloudless.	
Ditto.	D
Ditto.	G
Cirro-stratus near the horizon all round: remainder of sky clear: dew point low.	
A mist appeared at $6^h.40^m$, and at $7^h.40^m$ only a few of the principal stars were visible: at present quite cloudy.	
A few stars faintly visible: sky generally covered with a very dark cloud.	
Between $9^h.40^m$ and $10^h.40^m$ the sky cleared: at present misty: ground frost for the last hour.	
A very heavy squall of sleet and wind at $0^h.15^m$, which continued to $0^h.28^m$; previously to this the barometer had sunk $\frac{1}{4}$ of an inch between 12^h and 18^h; it then began to rise, and had risen nearly $\frac{1}{4}$ of an inch at 0^h. Just before the squall the thermometer was at 36°, it fell to 28° in the squall: during its short continuance it was very dark: the ground was white with sleet in three minutes: after the storm the thermometer rose to 34°, and remained at that reading for some hours, not rising higher all the day: the barometer continued rising.	G
Cloudless: sharp frost.	J H
Ditto.	
Ditto.	
Ditto.	J H
Linear cirrus S.E. of zenith: vapour in the north.	D
Cloudless.	
A few cirri scattered about; otherwise cloudless.	D
A few light cirri in various directions.	J H
Small cirro-strati in N.W.: light cirri in zenith: ground frost.	
Stars visible S.E. of zenith; the sky is otherwise covered with cirro-stratus: slight frost.	
Overcast: cirro-stratus.	J H
Ditto ditto.	D
Ditto ditto.	
Ditto ditto: rain slightly falling.	
Ditto ditto ditto.	
Ditto ditto.	D
Ditto ditto.	J H
Ditto ditto at noon: nearly clear: a few small cirri and cirro-strati in N.W.	
Thin cirro-stratus: breaks in N.N.E. and S.E.	J H
Sky chiefly covered with cirro-stratus: cirri near zenith.	D
Overcast.	
Ditto. A light, supposed to be auroral, visible between the clouds in N.W.	
Ditto.	D

Jan. $25^d.4^h$. The observation of the Dew Point is evidently erroneous; the observer remarks that the Sun was shining on the instrument. This determination is omitted in taking the mean.

Jan. 25^d and 26^d. The greatest difference between the mean temperature of one civil day and the next, during this month, occurred between these two days, being $11^\circ.6$, 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.						
Jan. 26. 12	29·910	46·0	..	..	..	..	..	..	SW	SW	..	½	..	..	..	10	..
14	28·887	45·0	..	..	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
16	29·888	44·0	..	..	43·0	1·0	..	..	SW	SW	0 to 1	½	..	..	..	10	..
18	29·895	44·2	..	..	..	..	..	..	SW	SW	..	½	..	..	..	10	..
20	29·906	44·2	..	..	..	..	..	..	SW	SW	0 to 1	½	..	..	..	10	..
22	29·954	47·4	..	..	43·0	4·4	50·0 43·0	..	WSW	WSW	..	½	0·82	0·00	2·032	10	..
Jan. 27. 0	29·992	50·4	..	..	..	..	..	..	WSW	WSW	0 to 1	½	..	..	..	6	..
2	30·001	52·4	..	..	..	..	..	..	W by N	WNW	0 to 1	½	..	..	..	8	..
4	30·045	47·5	..	..	42·0	5·5	..	..	NNW	N	..	½	..	..	..	6	Transit
6	30·074	43·7	..	..	..	..	..	..	NNW	N	..	½	..	..	..	9	..
8	30·093	41·0	..	..	..	..	..	..	NW	NW	..	½	..	..	..	10	..
10	30·129	38·8	..	..	32·5	6·3	..	..	W by N	W by N	..	½	..	..	..	4	..
12	30·156	35·1	..	..	..	..	..	..	WNW	WNW	..	½	..	..	..	1	..
14	30·163	34·0	..	..	..	..	..	..	W	WNW	..	½	..	..	..	0	..
16	30·158	34·8	..	..	32·5	2·3	..	..	WSW	WSW	..	½	..	..	..	0	..
18	30·161	34·3	..	..	..	..	..	..	WSW	WSW	..	½	..	..	..	0	..
20	30·186	34·8	..	..	..	..	..	..	WSW	W by S	..	½	..	..	..	6	..
22	30·210	36·8	..	..	31·5	5·3	53·0 31·9	..	WSW	W by S	..	½	0·82	0·00	2·032	9	..
Jan. 28. 0	30·211	39·5	..	..	..	..	..	..	WSW	W by S	..	¼	..	..	..	10	..
2	30·192	42·9	..	..	..	..	..	..	W	W	..	¾	..	..	..	9¾	Transit
4	30·161	42·4	..	..	37·3	5·1	..	..	...	W by S	..	¼	..	..	..	8½	..
6	30·168	41·6	..	..	..	..	..	..	...	W by S	..	¼	..	..	..	8	..
8	30·160	41·2	..	..	..	..	..	..	...	W by S	..	¼	..	..	..	10	..
10	30·147	37·6	..	..	34·0	3·6	..	..	...	W by S	..	¼	..	..	..	1	..
12	30·135	34·4	..	..	..	..	..	..	...	W	..	¼	..	..	..	0	..
14	30·110	32·2	..	..	..	..	..	..	...	W	..	¼	..	..	..	0	..
16	30·100	30·6	..	..	28·0	2·6	..	..	...	Calm	..	..	..	..	..	0	..
18	30·074	33·8	..	..	..	..	..	..	...	W by N	..	½	..	..	..	0	..
20	30·074	34·0	..	..	..	..	..	..	...	WNW	..	¼	..	..	..	4	..
22	30·099	34·3	34·3	..	28·5	5·8	44·0 28·8	..	...	NW	..	½	0·82	0·00	2·032	5	..
Jan. 29. 0	30·103	42·4	41·0	..	..	..	..	..	N by E	NNE	..	¼	..	..	..	¼	..
2	30·093	43·1	41·2	..	..	..	..	..	N	NNE	..	½	..	..	..	8	..
4	30·087	43·5	39·0	..	38·0	5·5	..	..	Calm	NNE	..	½	..	..	..	9	..
6	30·099	39·3	37·8	..	..	..	..	..	Calm	NNE	..	¼	..	..	..	10	Transit
8	30·113	38·5	40·2	..	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	30·136	38·2	38·8	..	36·0	2·2	..	..	Calm	Calm	..	..	..	..	..	10	..
12	30·138	37·5	36·5	..	..	..	..	..	Calm	N	..	¼	..	..	..	10	..
14	30·149	36·1	35·7	..	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·155	35·2	35·1	..	34·5	0·7	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·163	36·0	35·2	..	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·168	35·8	35·2	..	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·162	36·6	35·7	..	31·4	5·2	45·2 32·6	..	Calm	N	..	¼	0·82	0·00	2·032	10	..

Jan. 27d. The highest thermometrical reading during the month took place on this day.

Jan. 28d. 4h. The anemometer clock stopped.

Jan. 28d. 22h. Between this observation and the next the thermometer rose 8°·1.

GENERAL REMARKS.	Observer.
Overcast.	G
Ditto.	
Ditto.	
Ditto: gusts of wind to 1.	
Ditto. The sky was nearly clear for half an hour between this and last observation.	G
Ditto: cirro-stratus and scud.	J H
Large fleecy clouds of no definite modification: at $0^h.20^m$ the sky became much clearer: a few cirri in N: clouds not more than 2.	
Large masses of cumulo-strati: the air rather close: a very heavy cumulous cloud in N., at $2^h.4^m$: at $2^h.15^m$ the wind veered to N. by E.: at $2^h.25^m$ silvery-topped cumulo-strati in S.W.	J H
Cumulo-strati in N.: small detached cumuli in S.: a warm-looking sky.	G
Sky generally covered with cirro-stratus.	
Overcast: cirro-stratus.	
About $8^h.40^m$ the wind shifted to W. nearly. About a half an hour since, the clouds cleared off, leaving the sky misty, through which the stars are shining: cloudy near horizon.	G
Light vapour in S.E.; otherwise clear.	J H
Cloudless: light vapour in E. horizon.	
Ditto: faint auroral lights in N., at $16^h.20^m$: wind veered to W. S.W. at $14^h.45^m$.	
Ditto: a heavy vapour obscured the stars at about 17^h, but again disappeared previously to the observation.	
A bank of cirro-stratus, with scud, passing off: clearer in western horizon: lower clouds moving from N.N.W.	J H
Overcast, with a few breaks in zenith and in S.E.	D
Overcast.	
Breaks in zenith; otherwise overcast.	D
Large fleecy clouds, and scud.	J H
Sky nearly covered with undefined clouds: air very mild.	
Overcast. There have been occasional breaks near the Moon since the last observation.	
Light cirri in various parts of the sky: the air mild.	J H
Cloudless.	D
Ditto.	
Ditto.	
About 20 minutes before the observation, it suddenly became cloudy in zenith, and 40° around it. At first the cloud was of a misty character; through it the principal stars were dimly visible; it then spread, and became so thick as totally to obscure the greater part of the heavens. A few minutes before the observation it suddenly cleared away, and left the sky, as before, quite cloudless.	
Cirro-stratus in S. and W.: cirro-cumulus near zenith.	D
Vapour and haze, with small cirri and cirro-cumuli.	J H
As the wind veered to the north, the sky cleared, and is now nearly cloudless. [ance of the clouds is highly electrical.	
Cumuli in the south: cirro-cumulus W. S.W. of zenith; and very heavy cumulo-stratus to windward, and in N.W. The appear-	J H
Scud and cirro-stratus cover the sky, except a few breaks in the south.	D
Overcast: cirro-stratus.	
Ditto.	
Ditto.	D
Ditto: a mild, calm night.	G
Ditto ditto.	
Ditto ditto.	
Quite overcast. [and no wind perceptible to the senses.	
Ditto. Not the slightest change has taken place during the night. The smoke passes from the south; both vanes being north,	G
Overcast: cirro-stratus: the air close. About ten minutes after this observation the wind suddenly veered to S.E. by E.	J H

Jan. $28^d.22^h$. Two thermometers having been received from Newman, their bulbs being covered with linen, the one intended to be used as a wet bulb thermometer, and the other with dry bulb; they were placed in the small Magnetic House, whose doors were constantly kept open, and the readings under the head of Wet Therm. are of the wet bulb thermometer under these circumstances. The readings under the head of Dry Therm. are still those of the thermometer by Watkins and Hill, still suspended on the bough of a shrub: it was used in this manner to Feb. $28^d.6^h$.

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.						
Jan. 30. 0	30·165	39·0	37·0	..	..	..	..	..	Calm	SE	..	¼	..	..	..	10	1st Qr.
2	30·145	39·8	37·2	..	..	..	..	..	Calm	SSE	..	¼	..	..	..	10	..
4	30·129	38·0	37·4	..	..	..	..	..	Calm	SSE	..	¼	..	..	..	10	..
6	30·127	37·9	37·5	..	..	..	..	..	Calm	SSE	..	¼	..	..	..	10	Transit
8	30·135	37·7	37·7	..	..	..	..	..	Calm	SSE	..	¼	..	..	..	10	..
10	30·134	37·9	37·6	..	37·0	0·9	..	..	Calm	Calm	..	..	..	..	..	10	..
12	30·119	37·6	37·8	..	..	..	..	..	Calm	SSE	..	½	..	..	..	10	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	41·5 38·1	..	Calm	...	..	..	0·99	0·12	2·112	..	..
Jan. 31. 0	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	E by S	...	1½ to 2½	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	E by S	...	1½ to 2½	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	E by S	...	½ to 1	..	..	..	..	..	Transit
10	..	..	..	..	..	..	..	..	E by S	...	1 to 1½	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	E	...	0 to ½	..	..	..	..	..	..
14	30·238	27·4	..	..	..	..	..	..	E	E by N	1 to 2½	¾	..	..	..	10	..
16	30·264	27·4	..	..	22·5	4·9	..	..	E by S	E by N	0 to ½	¾	..	..	..	4	..
18	30·268	27·5	..	..	..	..	..	..	E	E by N	..	½	..	..	..	10	..
20	30·264	27·7	..	..	..	..	..	..	ENE	ENE	..	¾	..	..	..	10	..
22	30·253	28·7	..	..	28·5	0·2	43·3 27·1	..	NE	ENE	..	¼	0·99	0·00	2·112	10	..
Feb. 1. 0	30·224	31·3	..	..	..	..	..	..	NE	NNE	½ to 1	¼	..	..	..	10	..
2	30·201	31·5	..	..	..	..	..	..	ENE	ENE	½ to ¾	½	..	..	..	8	..
4	30·176	29·7	..	..	22·7	7·0	..	..	ENE	NE by E	1 to 2	½	..	..	..	5	..
6	30·182	23·9	..	..	..	..	..	..	ENE	NE by E	2 to 3	1½	..	..	..	3	..
8	30·176	23·6	..	..	..	..	..	..	ENE	NE by E	½ to 1	2	..	..	..	9	Transit
10	30·163	23·8	..	..	21·0	2·8	..	..	ENE	NE by E	0 to 2	1	..	..	..	10	..
12	30·156	23·6	..	..	..	..	..	..	NE	NE	½ to 1½	¾	..	..	..	10	..
14	30·128	23·1	..	..	..	..	..	..	NE	NE	½ to 1	¼	..	..	..	10	..
16	30·083	22·6	..	..	22·0	0·6	..	..	NE	NE	0 to ½	½	..	..	..	10	..
18	30·044	23·5	..	..	..	..	..	..	ENE	NE	0 to ¾	½	..	..	..	10	..
20	30·003	23·8	..	..	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
22	29·971	25·2	..	..	21·7	3·5	31·8 22·0	..	NE	Calm	..	..	0·99	0·00	2·112	10	..
Feb. 2. 0	29·940	29·0	..	..	..	..	..	..	ENE	Calm	..	..	..	..	..	10	Greatest declination N.
2	29·887	29·1	..	..	..	..	..	..	NE	NE by E	¾ to 1	¼	..	..	..	6	..
4	29·858	26·8	..	..	23·5	3·3	..	..	NE	NE	1 to 1½	¼	..	..	..	6	..
6	29·835	23·5	..	..	..	..	..	..	NE	NE	..	½	..	..	..	10	..
8	29·818	22·3	..	..	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
10	29·820	20·0	..	..	21·5	−1·5	..	..	Calm	Calm	..	..	..	..	..	10	Transit
12	29·846	18·0	..	..	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·863	16·9	..	..	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·877	17·2	..	..	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·890	17·1	..	..	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..

Jan. 30d, civil reckoning. No break in the clouds during the day. During a part of January the navigation of the Thames at Greenwich was a second time stopped.

Jan. 30d. 4h. The observation of the Dew Point was omitted by inadvertence.

Feb. 1d. A simple cylinder gauge, No. 4, was placed near Crosley's: it consists of an inverted cone, discharging its water by a small bent tube at the apex into a cylinder of the same diameter as the base of the cone: its receiving surface is of 8 inches diameter, or 50. 3 square inches, and is 155 feet 3 inches above the mean level of the sea: it is read at the end of every month.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus.	J H
Ditto ditto: a little small rain.	J H
Mizzling rain since the last observation.	G
Ditto.	
No change.	
Small rain.	G
Thin cirro-stratus: Capella is dimly visible through it. Small rain: at $12^h.\ 10^m$ the cloud increasing in density.	J H
Overcast: cirro-stratus and scud: sleet falling at intervals.	
At $14^h.\ 40^m$ symptoms of a change were visible to windward, and between this time and $15^h.\ 40^m$ the sky became much clearer: the southern part of the sky very clear.	
Overcast.	
A heavy sky: cirro-stratus and large masses of scud passing from E. by N.: gusts of wind.	J H
Overcast.	D
Ditto: a little sleet falling.	
A break in the east: otherwise cloudy. A heavy fall of sleet since the last observation.	D
Large cumulous clouds: the wind piercingly cold.	J H
At $4^h.\ 40^m$ a very heavy squall of sleet and wind passed over: a bank of cirro-stratus in the west, and a few fragments of scud: otherwise clear. The wind has risen since 4^h, and now blows strongly.	
A little snow from large masses of scud: strong gusts of wind: squally. [abated.	
Overcast: cirro-stratus: snow squalls since the last observation, which still continue: a violent squall at 9^h: the wind has much	J H
Ditto ditto: a heavy squall of sleet and snow at $10^h.\ 40^m$: it lasted about 15^m.	D
Quite cloudy: snow has fallen rather heavily since the last observation.	
Overcast: cirro-stratus.	
Ditto ditto: snow falling gently.	
Ditto ditto ditto.	D
Ditto ditto ditto.	G
Overcast: cirro-stratus: snow falling gently: a break at $0^h.\ 10^m$; fleecy clouds in zenith: cirro-stratus in every other part.	J H
The sky cleared considerably about noon: fleecy clouds in zenith; cumulo-stratus in N.W. and cirro-stratus in south.	J H
Clouds of no definite modification scattered about the sky; a few cirri W. of zenith.	D
Overcast: at $4^h.\ 40^m$ snow commenced falling, and has continued to the present time.	
Ditto: thin scud: Moon visible through it: snow falling lightly.	
The same as at last observation.	D
Overcast: no snow falling. The thermometer reading was 17°·0, twenty minutes before this observation.	G
Quite cloudy.	
Ditto: the Moon's place visible: scud passes from N.E.	
Ditto.	

Feb. 1^d. The water in the cistern of the wet bulb thermometer was frozen, and continued so until Feb. 11^d; during this time observations were taken to deduce the difference of the readings of the two thermometers by Newman, when under the same circumstances.

Feb. $2^d.\ 16^h$. The mercury of the thermometer of Daniel's hygrometer in the Black Ball, or, its reading was below 15°.

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.						
Feb. 2. 20	29·903	17·8	..	..	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·914	20·1	..	..	17·8	2·3	29·5 15·7	..	ENE	ENE	..	¼	0·99	0·00	2·112	5	..
Feb. 3. 0	29·922	26·7	..	..	..	..	..	..	Calm	E by N	..	¼	..	..	..	7	..
2	29·930	28·5	..	..	..	..	..	..	Calm	E by S	..	¼	..	..	..	3	..
4	29·932	24·0	..	..	22·0	2·0	..	..	Calm	E by S	..	¼	..	..	..	5	..
6	29·913	16·8	..	..	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
8	29·911	12·6	..	..	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
10	29·883	16·6	..	..	..	..	..	..	Calm	E	..	¼	..	..	..	10	Transit
12	29·853	16·2	..	..	..	..	..	..	Calm	E by S	..	¼	..	..	..	7	..
14	29·825	18·4	..	..	..	..	..	..	Calm	E by S	..	½	..	..	..	10	..
16	29·786	20·7	..	..	..	..	..	..	Calm	ESE	..	½	..	..	..	10	..
18	29·730	20·7	..	..	.	..	..	..	Calm	ESE	..	½	..	..	..	10	..
20	29·706	22·0	..	..	..	..	..	..	E	E by S	..	¼	..	..	..	10	..
22	29·685	24·2	..	..	21·0	3·2	26·7 12·4	..	E by N	E by N	0 to ¼	½	0·99	0·00	2·112	10	..
Feb. 4. 0	29·655	26·5	..	..	..	..	..	..	ENE	ENE	½ to 1	½	..	..	..	10	
2	29·630	27·2	..	..	..	..	..	..	ENE	ENE	½ to 1	¼	..	..	..	10	Perigee
4	29·592	25·2	..	..	21·5	3·7	..	..	ENE	ENE	½ to 2	¾	..	..	..	10	..
6	29·556	25·3	..	..	..	..	..	..	ENE	NE by E	1 to 2	1	..	..	..	10	..
8	29·573	26·8	..	..	..	..	..	..	ENE	NE by E	1 constant	1	..	..	..	10	..
10	29·562	28·2	..	..	23·5	4·7	..	..	E by N	ENE	½ to 1	¾	..	..	..	9¾	..
12	29·560	27·1	..	..	..	..	..	..	ENE	ENE	0 to ½	½	..	..	..	9	Transit
14	29·549	22·0	..	..	..	..	..	..	NE	ENE	..	¼	..	..	..	5	..
16	29·556	20·6	..	..	15·5	5·1	..	..	NE	E by N	0 to ½	¼	..	..	..	0	..
18	29·575	23·0	..	..	..	..	..	..	NE	E by N	..	¼	..	..	..	8	..
20	29·588	20·0	..	..	..	..	..	..	ENE	ENE	..	¼	..	..	..	0	..
22	29·597	25·1	..	..	24·0	1·1	28·3 18·8	28·0 14·0	ENE	ENE	..	½	0·99	0·00	2·112	8	..
Feb. 5. 0	29·624	29·6	..	..	..	..	..	..	E by N	ENE	2½ to 3½	½	..	..	..	5	..
2	29·613	28·7	..	..	..	..	..	..	ENE	ENE	3 to 5½	1	..	..	..	4	..
4	29·609	27·3	..	..	23·0	4·3	..	..	ENE	ENE	3 to 6	2½	..	..	..	7	..
6	29·620	25·0	..	..	..	..	..	..	ENE	NE by E	3½ to 4	2½	..	..	..	8	..
8	29·631	26·1	..	..	..	..	..	..	ENE	ENE	3½ to 8	2½	..	..	..	10	..
10	29·629	25·7	..	..	19·5	6·2	..	..	ENE	ENE	4½ to 7	3	..	..	..	10	..
12	29·629	24·2	..	..	..	..	..	..	ENE	ENE	2 to 4½	3	..	..	..	10	Transit
14	29·623	25·2	..	..	..	..	..	..	ENE	ENE	2 to 5	3	..	..	..	10	Full
16	29·593	24·8	..	..	19·0	5·8	..	..	ENE	ENE	3 to 6	3+	..	..	..	10	..
18	29·581	25·2	..	..	..	..	..	..	ENE	ENE	4 to 12	3	..	..	..	10	..
20	29·561	26·0	..	..	..	..	..	..	ENE	ENE	5 to 14	3½	..	..	..	10	..
22	29·569	26·5	..	..	20·7	5·8	28·7 24·0	44·0 21·0	ENE	ENE	2½ to 5	2½	0·99	0·00	2·112	10	..
Feb. 6. 0	29·538	26·6	..	..	..	..	..	..	ENE	ENE	5 to 8	3½	..	..	..	10	..
2	29·538	27·6	..	..	..	..	..	..	ENE	ENE	7 to 8	3+	..	..	..	10	..
4	29·533	26·8	..	..	19·5	7·3	..	..	ENE	ENE	6 to 8	3+	..	..	..	10	..
6	29·529	25·5	..	..	..	..	..	..	ENE	ENE	4 to 6	3	..	..	..	10	..

Feb. 3d. 10h and 16h. The mercury of the hygrometer thermometer was in the Black Ball.

Feb. 4d. Two thermometers, by Newman, were used from this time for radiation: one is of alcohol, with its bulb placed in the focus of a parabolic reflector turned towards the zenith: the other is mercurial, and placed in the full rays of the sun. Both have black bulbs, and both are placed in boxes, whose sides are sufficiently high to prevent lateral wind striking the bulbs.

GENERAL REMARKS.	Observer.
Quite cloudy.	G
Light cirri in various parts of the sky: hard frost.	J H
Light fleecy clouds.	
Ditto.	J H
Cirro-stratus in N.: S. nearly clear: a few fleecy clouds about the S.E. and S.W.: nearly calm.	G
A few clouds N. of zenith, the remainder of the sky clear. The thermometer has fallen 7° since the last observation: the thermometer whose bulb is exposed to the sky reads 12°.	
Cloudless: at present the sky appears thick, though without cloud: the stars are becoming smaller. The thermometer whose bulb is exposed to the sky reads 7° ·7.	
Overcast: cirro-stratus and scud. Shortly after the last observation clouds collected, which soon covered the sky. The thermometer whose bulb is exposed to the sky reads 14° ·0.	G
Sky nearly covered with fleecy clouds: hard frost.	J H
Overcast: cirro-stratus: a little snow falling.	
Ditto ditto ditto.	
Ditto ditto.	
Ditto ditto.	J H
Ditto ditto.	D
Overcast: cirro-stratus: snow falling.	P
Ditto ditto.	D
Ditto ditto.	J H
Ditto ditto. At $4^h.\ 55^m$ strong gusts of wind.	
Ditto ditto.	
Very cloudy: Moon occasionally visible: scud passing over rapidly: a very stormy looking sky.	J H
Ditto ditto ditto: breaks in zenith.	D
Cirro-cumulus about the Moon: cirro-stratus covers the S. portion of the sky: clear N. of zenith: lunar halo, 2° in diameter.	
Cloudless: within a quarter of an hour after this observation the sky was covered with fleecy clouds.	
Fleecy clouds in zenith; the rest of the sky covered with cirro-stratus.	
At $18^h.\ 40^m$ the clouds again disappeared: the sky is at present quite cloudless.	D
Cirro-stratus: scud passing rapidly from E.	J H
Light fleecy cumuli passing over rapidly.	J H
Since the last observation there have been several sudden squalls of wind; at present, strong and frequent gusts: linear-cirri, and a good deal of scud in N. The appearance of the sky indicates wind. At $0^h.\ 40^m$ the upper clouds passed from the W.	
Cirro-stratus and scud, with a gale of wind: upper current W.	
Scud in large masses: a heavy gale of wind.	J H
Overcast: cirro-stratus and scud: very high wind.	D
Ditto ditto ditto.	D
Ditto ditto: scud flying rapidly from E.: Moon occasionally seen: high wind in gusts often to 4.	G
Ditto ditto: heavy gale. Total eclipse of the Moon; no observations can be taken.	
Wind still the same: gusts frequently to $3\frac{1}{2}$ or 4: the magnets not affected: very dark during the total obscuration of the Moon.	
Everything the same; no change in the appearance of the weather.	
Stormy looking sky: heavy gusts of wind to 4: a gale all night.	G
Overcast: cirro-stratus and scud: heavy gusts of wind.	J H
A heavy gale of wind: scud and cirro stratus: the gusts have been very violent since the last observation.	
Overcast: cirro-stratus and scud: a heavy gale: the gusts very violent.	J H
Ditto ditto ditto ditto.	G
Ditto ditto ditto ditto.	

Feb. $5^d.\ 0^h$. A heavy gale of wind commenced blowing, and continued blowing without intermission for forty-eight hours: it is an unusual circumstance for so heavy a gale to continue so long from the east.

Feb. 6^d, civil reckoning. No break in the clouds all 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.						
Feb. 6. 8	29·521	24·8	..	..	..	..	..	..	ENE	ENE	5 to 6	3	..	..	..	10	..
10	29·524	24·2	..	..	18·5	5·7	..	..	ENE	ENE	5 to 7	3+	..	..	..	10	..
12	29·506	23·4	..	..	..	..	..	..	ENE	ENE	3½ to 5	3	..	..	..	10	..
14	...	..	..	..	..	..	..	..	ENE	...	4½ to 5	..	..	..	..	..	Transit
16	...	..	..	..	..	..	..	..	ENE	...	3½ to 4½	..	..	..	..	..	..
18	...	..	..	..	..	..	..	..	ENE	...	4 to 5	..	..	..	..	..	..
20	...	..	..	..	..	..	..	..	ENE	...	3 to 5	..	..	..	..	..	..
22	...	..	..	..	..	..	26·7 21·7	28·9 20·9	ENE	...	4 to 7	..	0·99	0·00	2·112	..	..
Feb. 7. 0	29·380	..	..	..	..	..	..	..	ENE	...	2 to 3	..	..	..	..	..	..
2	...	..	..	..	..	..	..	..	E by N	...	4 to 5	..	..	..	..	..	..
4	29·340	..	..	..	..	..	..	..	E by N	...	3 to 4½	..	..	..	..	..	..
6	29·350	23·5	..	..	..	..	..	..	E by N	...	1½ to 3	..	..	..	..	..	..
8	...	..	..	..	..	..	..	..	E by N	...	1 to 3½	..	..	..	..	..	..
10	...	..	..	..	..	..	..	..	E by N	...	1 to 3	..	..	..	..	..	..
12	...	..	..	..	..	..	..	..	E by N	...	½ to 1	..	..	..	..	..	..
14	29·305	24·3	..	..	..	..	..	..	ENE	NE by E	½ to ¾	1½	..	..	..	10	Transit
16	29·287	24·4	..	..	20·0	4·4	..	..	ENE	NE by E	½ to 1	1½	..	..	..	10	..
18	29·287	24·8	..	..	..	..	..	..	ENE	ENE	..	1	..	..	..	10	..
20	29·297	25·0	..	..	..	..	..	..	ENE	ENE	..	1	..	..	..	10	..
22	29·303	26·0	..	..	23·0	3·0	25·1 22·8	26·0 20·0	ENE	ENE	..	½	0·99	0·00	2·112	10	..
Feb. 8. 0	29·311	27·6	..	..	..	..	..	..	ENE	ENE	..	½	..	..	..	10	..
2	29·297	28·4	..	..	..	..	..	..	ENE	NE	..	½	..	..	..	10	In Equator
4	29·309	28·7	..	..	22·6	6·1	..	..	ENE	NE	..	½	..	..	..	10	..
6	29·320	26·2	..	..	..	..	..	..	NE	NE by E	..	½	..	..	..	10	..
8	29·334	26·0	..	..	..	..	..	..	NE	NE by E	..	1	..	..	..	10	..
10	29·359	25·6	..	..	18·6	7·0	..	..	NNE	NE by E	..	½	..	..	..	10	..
12	29·374	25·8	..	..	..	..	..	..	NNE	NNE	..	½	..	..	..	10	..
14	29·394	26·1	..	..	..	..	..	..	NNE	NE by N	..	½	..	..	..	10	..
16	29·420	26·4	..	..	22·5	3·9	..	..	NNE	NE by N	..	¼	..	..	..	10	Transit
18	29·464	26·1	..	..	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
20	29·512	25·5	..	..	..	..	..	..	NNE	NE	..	¼	..	..	..	10	..
22	29·571	28·7	..	..	22·0	6·7	29·2 25·5	30·6 23·2	NNE	NE	..	¼	0·99	0·00	2·112	8	..
Feb. 9. 0	29·608	30·0	..	..	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
2	29·654	30·4	..	..	..	..	..	..	NNE	NE	..	¼	..	..	..	10	..
4	29·708	28·2	..	..	26·0	2·2	..	..	NE	NE	..	¼	..	..	..	10	..
6	29·768	27·8	..	..	..	..	..	..	NE	NE by N	..	¼	..	..	..	10	..
8	29·805	27·8	..	..	..	..	..	..	NE	NE	..	½	..	..	..	10	..
10	29·847	27·8	..	..	25·5	2·3	..	..	ENE	NE	..	¼	..	..	..	10	..
12	29·878	27·8	..	..	..	..	..	..	E	NE	..	¼	..	..	..	10	..
14	29·899	27·8	..	..	..	..	..	..	E	E	..	¼	..	..	..	10	..
16	29·913	27·0	..	..	26·5	0·5	..	..	E	E	..	¼	..	..	..	10	Transit
18	29·922	27·0	..	..	..	..	..	..	E by S	E by S	..	¼	..	..	..	10	..
20	29·930	26·2	..	..	..	..	..	..	ESE	E by S	..	¼	..	..	..	10	..
22	29·925	27·8	..	..	25·0	2·8	29·4 27·0	36·5 24·2	ESE	ESE	..	¼	0·99	0·00	2·112	10	..
Feb. 10. 0	29·941	28·1	..	..	..	..	..	..	ESE	SE by E	..	¼	..	..	..	10	..

Feb. 8d, civil reckoning. No break in the clouds all day.

Feb. 9d. The navigation of the Thames at Greenwich again stopped, being for the third time this winter.

GENERAL REMARKS.	Observer.
The wind roars and surges: clouds slightly broken about the place of the Moon, which is occasionally visible. No particular modification of cloud, but the sky looks very turbid and wild.	G
The weather similar to that at the last observation.	G
Very cloudy: cirro-stratus and scud, with heavy gusts of wind.	J H
A strong gale of wind.	
The wind has much abated.	
Overcast: cirro-stratus: sleet falling.	
Ditto ditto: the sleet which has fallen since the last observation is now beginning to freeze: the ground very slippery.	
Sleet falling: the air is considerably milder than at 14^h. A very damp air, notwithstanding the ground frost.	
Overcast: cirro-stratus: slight rain.	J H
Ditto ditto.	D
Overcast: a little sleet falling.	
Ditto.	D
Ditto: cirro-stratus.	J H
Ditto ditto: gusts of wind to 1 +	
Ditto ditto.	
Ditto ditto: slight rain falling at times: disposition to thaw in the Park.	J H
Ditto ditto.	D
Ditto ditto.	
Ditto ditto.	
Ditto ditto: a little sleet falling.	
Ditto ditto.	D
Fleecy clouds in various parts of the sky: scud passing from the E.	P
Overcast: cirro-stratus.	P
Ditto ditto.	J H
Ditto ditto.	D
Ditto ditto.	
Ditto ditto: an auroral light visible, extending 15° above N. horizon.	
Ditto ditto.	
Ditto ditto.	D
Ditto ditto: the air feels milder: nearly calm.	G
Ditto ditto ditto.	
Ditto ditto ditto.	
Ditto ditto ditto.	G
Ditto ditto.	J H
Ditto ditto.	

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.						
Feb. 10. 2	29·918	30·3	..	..	..	..	..	..	ESE	SE by E	..	¼	..	..	..	10	..
4	29·910	29·8	..	..	24·0	5·8	..	..	ESE	SE	..	¼	..	..	..	10	..
6	29·897	27·2	..	..	..	..	..	..	ESE	S	..	¼	..	..	..	9	..
8	29·869	26·2	..	..	..	..	..	..	ESE	S	..	¼	..	..	..	10	..
10	29·863	27·0	..	..	26·2	0·8	..	..	SE	SSE	..	¼	..	..	..	10	..
12	29·842	27·8	..	..	..	..	..	..	SE	SE by S	..	¼	..	..	..	10	..
14	29·834	29·3	..	..	..	..	..	..	SE	SE by S	..	¼	..	..	..	10	..
16	29·817	30·5	..	..	29·8	0·7	..	..	SE	SE by S	..	¼	..	..	..	10	Transit
18	29·778	33·0	..	..	..	..	..	..	SE	SE by S	..	¼	..	..	..	9	..
20	29·781	34·6	..	..	..	..	..	..	SSE	SSE	..	¼	..	..	..	10	..
22	29·769	36·8	..	..	36·0	0·8	36·8 26·0	37·0 20·3	SSE	SSE	..	¼	0·99	0·00	2·112	10	..
Feb. 11. 0	29·755	37·2	37·0	..	..	..	..	..	SSE	S by W	..	¼	..	..	..	10	..
2	29·686	41·0	38·8	..	..	..	..	..	SSE	S by E	..	¼	..	..	..	8	..
4	29·652	39·4	38·3	..	34·7	4·7	..	..	SSE	SSE	..	¼	..	..	..	8	..
6	29·619	37·5	36·0	..	..	..	..	..	SSE	SSE	..	½	..	..	..	9¾	..
8	29·606	37·8	37·3	..	..	..	..	..	SSE	SSE	..	¼	..	..	..	10	..
10	29·563	38·8	38·5	..	34·6	4·2	..	..	S by E	SSE	..	½	..	..	..	10	..
12	29·526	40·2	39·5	..	..	..	..	..	S by E	SSE	..	¼	..	..	..	10	..
14	29·519	41·0	40·6	..	..	..	..	..	SSE	SSE	..	¼	..	..	..	10	..
16	29·510	41·4	41·3	..	41·0	0·4	..	..	SSE	SSE	..	¼	..	..	..	10	..
18	29·532	40·8	40·5	..	..	..	..	..	SSE	SSE	..	¼	..	..	..	10	Transit
20	29·538	40·2	40·2	..	..	..	..	..	SSE	S by E	..	¼	..	..	..	10	..
22	29·580	41·0	40·7	..	39·0	2·0	42·0 36·6	42·0 34·7	SSE	S by E	..	¼	1·08	0·10	2·244	10	..
Feb. 12. 0	29·600	46·2	45·7	..	..	..	..	..	S by W	SSW	..	¼	..	..	..	6	..
2	29·603	49·7	51·7	..	..	..	..	..	S by W	SSW	..	½	..	..	..	1½	..
4	29·628	48·5	47·4	..	49·0	−0·5	..	..	SSW	SW	..	¼	..	..	..	4	..
6	29·647	43·7	45·1	..	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
8	29·674	42·4	42·9	..	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
10	29·677	42·0	42·2	..	41·5	0·5	..	..	SSW	SSW	..	¼	..	..	..	10	..
12	29·673	42·5	42·3	..	..	..	..	..	SSW	SW by W	..	¼	..	..	..	10	..
14	29·654	42·1	42·1	..	..	..	..	..	SSW	SSW	..	½	..	..	..	10	..
16	29·622	42·2	42·0	..	36·6	5·6	..	..	SSW	SSW	..	½	..	..	..	8	..
18	29·598	42·3	42·0	..	..	..	..	..	SSW	SSW	..	½	..	..	..	10	Transit
20	29·568	43·9	43·1	..	..	..	..	..	S	SSW	..	½	..	..	..	10	3rd Qr.
22	29·554	44·6	44·0	..	43·4	1·2	52·6 42·1	58·0 40·4	S	SSW	0 to ½	½	1·08	0·04	2·204	10	..
Feb. 13. 0	29·525	46·0	45·6	..	..	..	..	..	S	SSW	1½ to 2	¾	..	..	..	10	..
2	29·455	45·2	44·8	..	..	..	..	..	S	S by W	½ to 1½	1½	..	..	..	10	..
4	29·411	44·1	44·3	..	44·0	0·1	..	..	S	S by W	1½ to 2½	1½	..	..	..	10	..
6	29·348	43·8	43·0	..	..	..	..	..	S by E	S	½ to 1½	1	..	..	..	10	..
8	29·308	43·6	43·4	..	..	..	..	..	S by E	S	2 to 3	2	..	..	..	10	..
10	29·284	44·0	44·0	..	43·0	1·0	..	..	S	S	1 to 2½	2	..	..	..	10	..
12	29·226	44·2	43·5	..	..	..	..	..	S	S by W	1½ to 2	1	..	..	..	3	..
14	..	..	..	..	..	..	..	..	S by E	...	1½ to 2½	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	S by E	...	1½ to 2	..	..	..	..	..	..

Feb. 10d. 6h and 8h. The direction of the wind by estimation is more correct than by the anemometer; the strength of the wind though small was sensible, but not sufficient to move the vane of the anemometer in its present state.

Feb. 10d. 18h. This is the first time this month that the thermometer has been above the freezing point: the mean temperature for the first ten days of February is 25°. The amount of snow fallen in the first ten days is 8 inches, producing probably 0in·7 of water.

Feb. 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 8°·6 as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
A thin cirro-stratus.	J H
Overcast: cirro-stratus.	G
At $5^h.40^m$ a break appeared in the S.S.W. near the horizon, and the wind shifted to the south: at present the zenith is partially clear: the break shows an upper cloud moving from W.	
Overcast. The break mentioned in the last observation extended to zenith, and the clouds became generally broken: after a short time the sky was again quite overcast.	
The clouds have been increasing in density since the last observation. Thermometer now rising: at $9^h.10^m$, it read 26°. Appearances	G
Overcast: the air mild notwithstanding the ground frost. [of rain.	J H
Overcast: slight rain: rain commenced falling at $13^h.20^m$.	
Overcast: rain ceased: a thin veil of cloud.	
Very cloudy: detached fleecy clouds: the Moon shining at intervals.	
Overcast: cirro-stratus.	J H
Ditto ditto.	D
Ditto ditto.	P
Cirrus a little S.E. of zenith: cirro-stratus generally prevalent elsewhere.	D
Sky much clouded, principally scud: cirro-stratus in N.W.: a modification resembling cirro-cumulus in S.S.W.	J H
Scud and cirro-stratus: zenith cloudless at intervals since 4^h: a few drops of rain fell at $5^h.25^m$.	
Overcast; cirro-stratus.	
Ditto: rain since last observation, which still continues: the air very mild.	J H
Overcast: slight rain.	D
Ditto ditto.	
Ditto: the sky principally covered with scud.	
Ditto ditto.	
Ditto ditto.	D
Ditto: cirro-stratus.	P
Cumuli in the horizon and fleecy clouds in the zenith.	P
Light cirri S. of zenith, and in S.W.: cirro-stratus in the east horizon: the sky cleared at about $0^h.55^m$; and at $1^h.40^m$ it was cloudless.	J H
Cirro-stratus in the S. and E.: nearly cloudless in zenith, and to the N. and W. of it: ten minutes before the observation the sky was quite overcast.	D
Overcast: cirro-stratus.	
Ditto ditto.	
Ditto: slight misty rain.	D
Ditto: thin cirro-stratus.	J H
Ditto: damp air.	
Vapour in zenith: the brighter stars dimly seen through it.	
Overcast.	
Ditto: cirro-stratus and scud.	J H
Ditto ditto.	P
Ditto ditto.	
Ditto ditto: rain now commenced falling.	
Ditto ditto: rain falling.	P
Ditto: thin misty rain falling.	D
Ditto ditto.	P
Ditto ditto.	P
Vapour occasionally obscuring the stars: gusts of wind to $1\frac{1}{2}+$: the ground in the Park has become much harder and drier than it was a few hours since.	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.						
Feb. 13. 18	..	..	..	..	..	..	..	..	S by E	...	1 to 1½	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	S by E	...	1½ to 2	..	..	..	..	..	Transit
22	..	..	..	..	..	..	49·5 44·0	49·8 43·2	S by W	...	2 to 2½	..	1·08	0·00	2·244	..	..
Feb. 14. 0	29·101	50·5	..	..	..	..	..	..	S by W	...	2 to 2½	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	SSW	...	3 to 4½	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	SSW	...	2 to 3	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	SSW	...	1 to 2	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	SSW	...	1½ to 2½	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	SSW	...	1 to 2	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SSW	...	½ to 1	..	..	..	..	..	..
14	29·205	43·6	41·8	..	..	..	..	..	SSW	SSW	..	½	..	..	..	10	..
16	29·192	42·0	41·5	..	38·8	3·2	..	..	SSW	SW by S	..	½	..	..	..	10	..
18	29·179	41·7	41·7	..	..	..	..	..	SSW	SW by S	..	½	..	..	..	10	..
20	29·177	41·3	41·5	..	..	..	..	..	SSW	SW by S	0 to ½	¾	..	..	..	10	Transit
22	29·158	43·8	42·6	..	40·5	3·3	52·5 40·4	57·7 41·0	S	SW by S	0 to ½	¼	1·08	0·00	2·244	10	..
Feb. 15. 0	29·122	48·4	48·2	..	..	..	..	..	S	SW by W	1 to 2½	2	..	..	..	10	..
2	29·069	48·4	48·6	..	..	..	..	..	S by E	S	2 to 3	2	..	..	..	10	..
4	29·026	49·4	46·6	..	42·8	6·6	..	..	S by E	S	1 to 3	1½	..	..	..	10	Greatest Declination S.
6	29·006	43·7	45·0	..	..	..	..	..	S by E	S by E	0 to ½	½	..	..	..	10	..
8	28·974	44·3	44·1	..	..	..	..	..	S by E	S by E	1 to 2	1½	..	..	..	10	..
10	28·958	44·2	43·7	..	39·6	4·6	..	..	SSE	S by E	0 to 1½	1	..	..	..	10	..
12	28·949	43·8	43·6	..	..	..	..	..	SSE	SSE	..	½	..	..	..	10	..
14	28·944	44·0	43·8	..	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	28·935	44·0	43·6	..	42·0	2·0	..	..	Calm	Calm	..	..	..	..	..	10	..
18	28·931	44·2	43·7	..	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	28·945	43·6	43·0	..	..	..	..	..	SSE	SSE	..	¼	..	..	..	10	..
22	28·962	45·8	45·0	..	41·8	4·0	50·6 43·6	58·0 42·4	SE	SE	..	¼	1·14	0·07	2·396	10	Transit
Feb. 16. 0	28·968	48·6	46·8	..	..	..	..	..	SE	S by E	..	¼	..	..	..	8	..
2	28·952	50·5	49·9	..	..	..	..	..	E	E	..	¼	..	..	..	8	..
4	28·966	49·5	50·3	..	48·5	1·0	..	..	E	E	..	¼	..	..	..	6	Apogee.
6	28·989	46·8	46·7	..	..	..	..	..	ESE	E by S	..	¼	..	..	..	8	..
8	29·034	43·0	43·4	..	..	..	..	..	E	E by S	..	¼	..	..	..	2	..
10	29·066	41·8	41·5	..	39·5	2·3	..	..	E	E	..	¼	..	..	..	10	..
12	29·064	39·0	39·1	..	..	..	..	..	ENE	E	..	¼	..	..	..	8	..
14	29·050	39·0	39·1	..	..	..	..	..	NE	NE by E	..	¼	..	..	..	10	..
16	29·037	39·0	37·6	..	34·8	4·2	..	..	NE	Calm	..	..	..	..	..	10	..
18	29·042	39·6	38·9	..	..	..	..	..	NNE	Calm	..	..	..	..	..	10	..
20	29·088	40·1	39·8	..	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·149	38·7	38·9	..	36·0	2·7	52·7 38·2	58·4 35·3	NW by W	NW by N	..	¼	1·23	0·14	2·604	10	Transit
Feb. 17. 0	29·241	38·9	38·9	..	..	..	..	..	WNW	WNW	..	¼	..	..	..	10	..
2	29·280	40·3	40·2	..	..	..	..	..	W	W	..	¼	..	..	..	10	..
4	29·341	41·7	41·0	..	41·0	0·7	..	..	W	W	..	¼	..	..	..	10	..
6	29·403	42·0	41·0	..	..	..	..	..	W	W	..	¼	..	..	..	10	..
8	29·474	43·0	42·1	..	..	..	..	..	W	W	..	¼	..	..	..	8	..
10	29·448	43·0	42·8	..	42·0	1·0	..	..	W	W	..	¼	..	..	..	8	..
12	29·505	42·5	41·5	..	..	..	..	..	W by S	W by S	..	¼	..	..	..	9	..

Feb. 15^{d}, civil reckoning. No break in the clouds all day.

Feb. 15^{d}. 0^{h}. Adjusted the barometer to perpendicularity, it being found a little out.

Feb. 15^{d}. 18^{h}. This reading of the barometer is the lowest during the month.

Feb. 15^{d}. 22^{h}. With the exception of a little clear sky about Feb. 12^{d}. 2^{h}, there has been scarcely a break in the clouds from Feb. 5^{d}. 10^{h}, to the present time.

GENERAL REMARKS.	Observer.
	D
Overcast: cirro-stratus: the sky has been clear at intervals during the early part of the night; but it became overcast at $12^h.25^m$.	J H
Overcast: cirro-stratus: several breaks seen since the last observation.	
Overcast: the air very mild.	
Ditto: cirro-stratus: a little small rain.	J H
Ditto ditto.	P
Ditto ditto.	
Ditto ditto.	P
Scud and heavy cumulo-strati, principally in N.W.: appearances of rain.	J H
Overcast: cirro-stratus and scud with rain.	
Ditto ditto ditto: gusts of wind to 2+.	
Ditto: heavy rain.	J H
Ditto: thick rain.	D
Ditto.	
Ditto: thin misty rain: remarkably calm.	
Ditto: cirro-stratus.	
Ditto ditto. About $18^h.40^m$ the zenith became clear, and remained so for ten minutes.	D
Ditto ditto.	P
A slight break in zenith; otherwise overcast.	
Cirro-stratus and scud, with numerous cumuli in N.W.	P
Light clouds (chiefly cirri) scattered about the sky: cirro-stratus in N.W.	D
Sky mostly covered with cirro-stratus.	
Cirro-stratus in W. near horizon: the rest of the sky clear: the stars look watery.	
Overcast; principally scud.	D
A few partial breaks in N.W. and N.E.: a few stars faintly visible in zenith.	P
Overcast: cirro-stratus and scud.	
Ditto: rain.	
Ditto: heavy rain.	
Ditto ditto.	P
Ditto: cirro-stratus: light rain: wind due N. at $20^h.5^m$.	J H
Ditto ditto: small rain.	
Ditto ditto ditto: the rain ceased 10^m after this observation.	J H
Ditto ditto.	P
Ditto ditto.	
Cirro-stratus: a few stars partially visible in zenith.	
Nearly overcast: Sirius visible through the clouds.	P
A few stars near zenith; otherwise cloudy.	J H

Feb. 16^d, civil reckoning. The mean height of the barometer was less on this day than on any other day during the month, it being $28^{in}.980$, 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.						
Feb. 17. 14	29·511	42·2	41·0	..	..	..	..	..	WSW	W by S	..	¼	..	..	..	10	..
16	29·513	41·7	40·4	..	38·0	3·7	..	..	SW	S W by S	..	¼	..	..	..	10	..
18	29·513	39·0	39·3	..	..	..	..	..	SW	S W by S	..	¼	..	..	..	0	..
20	29·536	39·7	38·7	..	..	..	..	..	SW	S W by S	..	½	..	..	..	3	..
22	29·517	43·8	45·4	..	43·0	0·8	44·0 37·6	50·0	S W	SW	..	¼	1·23	0·00	2·604	2	Transit
Feb. 18. 0	29·486	46·0	54·5	..	..	..	..	..	SW	SW	..	¼	..	..	..	½	..
2	29·472	53·0	53·0	..	..	..	..	..	S	S by W	0 to ½	¼	..	..	..	3	..
4	29·398	51·4	54·8	..	45·0	6·4	..	..	S	S by W	..	¼	..	..	..	0	..
6	29·395	47·6	48·4	..	..	..	..	..	S by E	S	..	¼	..	..	..	¼	..
8	29·390	45·5	44·2	..	..	..	..	..	SSE	S by E	..	¼	..	..	..	9	..
10	29·380	44·3	44·0	..	42·9	1·4	..	..	S by E	S by E	..	¼	..	..	..	4	..
12	29·388	47·5	45·1	..	..	..	..	..	S by E	S by E	..	¼	..	..	..	1	..
14	29·391	46·3	45·7	..	..	..	..	..	S by E	S	..	¼	..	..	..	6	..
16	29·409	44·7	45·4	..	44·5	0·2	..	..	S by E	S	..	¼	..	..	..	10	..
18	29·448	44·3	44·5	..	..	..	..	..	S by E	Calm	..	..	..	..	..	10	..
20	29·497	43·7	44·0	..	..	..	..	..	S by E	S	..	¼	..	..	..	10	..
22	29·552	45·0	44·6	..	42·0	3·0	53·0 43·5	61·0 40·3	S by E	S	..	¼	1·30	0·09	2·710	10	..
Feb. 19. 0	29·588	46·1	46·7	..	..	..	..	..	S	S by W	..	¼	..	..	..	10	Transit
2	29·587	47·2	47·0	..	..	..	..	..	S by W	S by W	..	¼	..	..	..	10	..
4	29·600	47·8	47·2	..	47·0	0·8	..	..	S by W	S by W	..	¼	..	..	..	10	..
6	29·642	46·0	45·6	..	..	..	..	..	S by W	S by W	..	¼	..	..	..	10	..
8	29·661	42·5	43·6	..	..	..	..	..	SSW	S by W	..	¼	..	..	..	0	..
10	29·668	43·3	43·0	..	42·0	1·3	..	..	SSW	S by W	..	¼	..	..	..	10	..
12	29·663	40·6	41·0	..	..	..	..	..	SSW	SSW	..	¼	..	..	..	0	..
14	29·667	42·4	41·6	..	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
16	29·638	39·5	39·7	..	39·0	0·5	..	..	SSW	SSW	..	¼	..	..	..	0	..
18	29·677	37·4	36·8	..	..	..	..	..	SSW	SSW	..	¼	..	..	..	0	..
20	29·708	37·0	36·4	..	..	..	..	..	SSW	SSW	..	¼	..	..	..	2	..
22	29·722	43·4	44·7	..	40·0	3·4	51·6 36·0	52·0 30·2	SSW	S by W	..	¼	1·30	0·00	2·710	¼	..
Feb. 20. 0	29·750	48·9	55·8	..	..	..	..	..	SSW	SSW	½ to 2	¾	..	..	..	2	Transit
2	29·730	53·2	56·5	..	..	..	..	..	SW	SSW	½ to 1	1	..	..	..	6	..
4	29·747	51·2	49·2	..	43·0	8·2	..	..	SSW	SSW	..	¼	..	..	..	8	..
6	29·786	48·0	46·2	..	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
8	29·835	47·0	45·0	..	..	..	..	..	S by W	SSW	..	¼	..	..	..	10	..
10	29·870	46·2	44·6	..	38·0	8·2	..	..	SSW	SSW	..	¼	..	..	..	10	..
12	29·885	45·7	44·2	..	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
14	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	54·6 41·9	63·5 39·6	SSW	...	..	..	1·33	0·10	2·820	..	..
Feb. 21. 0	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	New. Transit.
2	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..

Feb. 17^{d}. 22^{h}. The observer had omitted to remove the lid from the box of the thermometer, whose bulb is in the focus of the parabolic reflector, hence no observation could be made.

Feb. 21^{d}. 2^{h}. The wind veered to N. E. and continued blowing from that quarter all the afternoon, the vane of the anemometer remaining at S. S.W.; from this it would seem that very light winds will not move the anemometer in its present state.

GENERAL REMARKS.	Observer.
Overcast.	J H
Ditto.	
Cloudless.	
Cirro-stratus and undefined clouds.	J H
Scud and cumuli in N. horizon: a fine blue sky appearing above: at $23^h.\ 10^m$ the wind blew strong for a quarter of an hour, with a pressure of nearly 5 lbs. on the square foot, as recorded by the anemometer.	P
Nearly cloudless: a few cumuli in N. horizon.	
Clear in zenith: cirro-stratus in horizon: cumuli in N.W.	P
Cloudless.	J H
A few light cirri in zenith; otherwise cloudless.	
Cirro-strati and undefined clouds.	
Thin cirro-stratus E. of zenith: stars shining brilliantly in the western part of the sky.	J H
Cirro-stratus N.W. of zenith; the rest of the sky clear.	D
Clear N.E. of zenith; the remainder of the sky covered with cirro-stratus.	
Overcast: rain.	
Ditto ditto.	
Ditto ditto.	D
Ditto: cirro-stratus and scud.	J H
Ditto ditto.	P
Ditto ditto.	P
Ditto ditto.	D
Ditto ditto: clouds lighter in W.	
Cloudless.	
About a quarter of an hour after the last observation, the sky was again covered with cirro-stratus: at present, cirro-stratus and scud: a few stars in Ursa Major faintly visible.	D
At the time of observation the sky was perfectly clear, and the stars were shining brilliantly, but a few minutes after, not one was	P
Overcast. [visible, the sky being suddenly covered.	
Not a cloud visible, and the stars brilliant.	
Ditto ditto.	
Clear; a few cumuli in the horizon.	P
Nearly cloudless.	J H
A few light cumuli in N. and N.W.	
Fleecy clouds in W. and other parts of the sky: cirro-strati in N.W.: a light cirrus cloud S.E. of zenith. Several heavy cumulo-strati have passed in N.N.W. since last observation.	J H
Cirro-stratus and scud: a thin rain falling at intervals.	P
Ditto.	
Ditto.	
Ditto: a thin misty rain falling.	P
Ditto: rain.	J H
	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.						
Feb. 21. 6	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
14	30·211	34·0	33·2	..	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·219	37·5	36·0	..	30·2	7·3	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·230	38·0	36·8	..	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·246	38·3	37·7	..	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·268	38·8	38·6	..	38·5	0·3	51·9 31·9	59·8 29·8	Calm	Calm	..	..	1·34	0·01	2·830	10	..
Feb. 22. 0	30·259	39·9	40·2	..	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
2	30·251	41·0	42·1	..	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
4	30·241	40·9	41·9	..	37·8	3·1	..	..	Calm	Calm	..	..	..	..	..	10	..
6	30·240	40·0	40·5	..	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	30·245	40·6	40·2	..	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	30·251	40·8	40·1	..	39·0	1·8	..	..	Calm	Calm	..	..	..	..	..	10	..
12	30·247	40·6	39·5	..	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·241	40·2	39·5	..	..	..	..	..	Calm	Calm	..	..	..	..	..	10	In Equator
16	30·238	38·0	38·0	..	35·5	2·5	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·228	37·4	37·0	..	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·235	36·5	36·5	..	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·247	37·4	37·5	..	34·0	3·4	45·0 37·3	44·8 36·2	ENE	E	..	$\frac{1}{4}$	1·34	0·00	2·830	$9\frac{1}{2}$	..
Feb. 23. 0	30·244	41·0	40·7	..	..	..	..	..	NE	E by N	..	$\frac{1}{4}$	..	..	..	7	..
2	30·214	41·9	44·2	..	..	..	..	..	NE	ENE	..	$\frac{1}{2}$	..	..	..	$8\frac{1}{2}$	Transit
4	30·204	39·5	41·2	..	39·0	0·5	..	..	NE	ENE	..	$\frac{1}{4}$	..	..	..	10	..
6	30·204	38·4	37·2	..	..	..	..	..	NE	ENE	..	$\frac{1}{4}$	..	..	..	10	..
8	30·212	34·9	$35·5\frac{1}{2}$	..	..	..	..	..	NE	ENE	..	$\frac{1}{4}$	..	..	..	10	..
10	30·210	35·0	35·0	..	34·5	0·5	..	..	NE	ENE	..	$\frac{1}{4}$	..	..	..	10	..
12	30·205	33·8	33·8	..	..	..	..	..	NE	NE	..	$\frac{1}{4}$	..	..	..	10	..
14	30·215	32·1	32·7	..	..	..	..	..	NE	NE	..	$\frac{1}{4}$	..	..	..	10	..
16	30·202	31·9	31·9	..	31·9	0·0	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·201	31·2	31·2	..	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·204	31·2	30·9	..	..	..	..	..	NNE	NE	..	$\frac{1}{4}$	..	..	..	10	..
22	30·215	33·1	32·6	..	28·2	4·9	42·7 31·3	49·5 29·8	NNE	NE	..	$\frac{1}{2}$	1·34	0·00	2·830	10	..
Feb. 24. 0	30·221	35·9	34·7	..	..	..	..	..	NNE	NE by E	..	$\frac{1}{4}$	..	..	..	10	..
2	30·214	35·6	35·6	..	..	..	..	..	NNE	NE by N	..	$\frac{1}{4}$	..	..	..	10	..
4	30·205	35·5	34·7	..	33·0	2·5	..	..	N	NNE	..	$\frac{1}{4}$	..	..	..	10	Transit
6	30·212	35·2	34·8	..	..	..	..	..	N	NNE	..	$\frac{1}{4}$	..	..	..	10	..
8	30·215	38·0	37·2	..	..	..	..	..	N	N	$\frac{1}{2}$ to $2\frac{1}{2}$	$1\frac{1}{2}$	..	..	..	10	..
10	30·223	38·8	37·5	..	35·8	3·0	..	..	N	N	$\frac{1}{2}$ to $1\frac{1}{2}$	$\frac{1}{2}$	..	..	..	10	..
12	30·233	38·4	37·5	..	..	..	..	..	N	N by E	$\frac{1}{2}$ to $2\frac{1}{2}$	$\frac{1}{2}$	..	..	..	10	..
14	30·228	37·0	36·7	..	..	..	..	..	N	NE by E	$\frac{1}{2}$ to 2	$\frac{3}{4}$	..	..	..	10	..
16	30·209	37·3	35·7	..	31·5	5·8	..	..	N	N	$1\frac{1}{2}$ to 3	$\frac{3}{4}$	..	..	..	10	..
18	30·212	36·9	35·6	..	..	..	..	..	N	N	$\frac{1}{2}$ to $1\frac{1}{2}$	1	..	..	..	10	..
20	30·225	35·4	35·1	..	..	..	..	..	N	N	$\frac{1}{2}$ to 1	$\frac{1}{2}$	..	..	..	5	..
22	30·222	38·8	37·3	..	35·5	3·3	39·7 34·0	41·2 30·2	N	N	$\frac{1}{2}$ to $1\frac{1}{2}$	$\frac{1}{4}$	1·34	0·00	2·830	10	..
Feb. 25. 0	30·201	38·0	38·3	..	..	..	..	..	N	N	0 to $1\frac{1}{2}$	$\frac{1}{2}$	..	..	..	10	..

Feb. 21d. 22h. This reading of the barometer is the highest of any during the month.

Feb. 22d, civil reckoning. No break in the clouds all day.

Feb. 22d. 21h. The anemometer was examined, and the vane was found fixed. The screw at the upper part of the shaft was therefore loosened, and the bearing points were generally oiled; the vane was set right by the azimuth of the shaft, and left moving freely.

GENERAL REMARKS.	Observer.
Overcast: thick fog.	J H
Ditto ditto.	
Ditto ditto.	
Ditto: the fog has partly disappeared, yet the air is still misty.	J H
Ditto: very misty.	D
Overcast. Fog.	
Ditto ditto.	D
Ditto ditto.	J H
Ditto ditto.	
Ditto: the fog less dense than at last observation: the air very mild.	
Ditto. A few stars were seen between this and last observation.	J H
Ditto.	D
Ditto.	
Ditto.	
Ditto.	
Ditto.	D
Cirro-stratus and scud: a break in the north.	J H
Large fleecy cumuli, with scud.	
Cirro-stratus and scud, with fleecy cumuli.	J H
Overcast: cirro-stratus.	D
Ditto ditto.	
Ditto ditto.	
Ditto ditto.	D
Ditto ditto: small, drizzling rain.	G
Ditto ditto: the air quite saturated with moisture.	
Ditto ditto: mist, or slight fog.	
Ditto ditto: great deposition: freezing on the ground.	
Ditto ditto.	G
Ditto ditto.	J H
Overcast: cirro-stratus.	
Ditto ditto.	J H
Ditto ditto.	G
Ditto ditto: slight rain falling. [previously had been 36°·0.	
Ditto ditto: wind rising. The temperature fell to 35°·0 since 6^h, and is now rising fast, being now 38°·0. The maximum	
Overcast: still a nocturnal rising temperature: wind in gusts to 1 and $1\frac{1}{2}$.	G
Overcast: cirro-stratus: gusts of wind.	J H
Ditto ditto ditto: light rain.	
Ditto: rain at intervals.	
Ditto: cirro-stratus and scud: clouds breaking.	
Cumuli and fleecy clouds in various parts: a dark bank of cloud in the S. horizon.	J H
The sky again became overcast at $21^h.\ 10^m$, and still continues so.	D
Overcast: cirro-stratus. Some rain has fallen between this and the last observation.	

Feb. 22^d, civil reckoning. The mean height of the barometer was greater on this day than on any other day during the month, being $30^{in}\cdot242$, as deduced from the two-hourly observations.

Feb. 24^d, civil reckoning. No break in the clouds all 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.						
Feb. 25. 2	30·151	43·1	39·8	..	..	..	..	..	N	N	0 to 1	½	..	..	..	9½	..
4	30·135	43·0	39·5	..	34·3	8·7	..	..	N	N	..	½	..	..	..	8	Transit
6	30·098	42·0	39·3	..	..	..	..	..	N by W	N by W	..	½	..	..	..	9	..
8	30·055	39·2	37·3	..	..	..	..	..	W	NW by N	..	½	..	..	..	4	..
10	29·998	37·9	36·5	..	33·5	4·4	..	..	WSW	W by S	..	½	..	..	..	10	..
12	29·923	37·8	37·0	..	..	..	..	..	SW	WSW	..	¼	..	..	..	10	..
14	29·870	38·8	38·0	..	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
16	29·805	41·2	40·0	..	39·5	1·7	..	..	W	W by N	..	½	..	..	..	10	..
18	29·773	42·1	40·7	..	..	..	..	..	N W	WNW	0 to 2	1½	..	..	..	10	..
20	29·755	41·8	40·6	..	..	..	..	..	NW	NW	½ to 1½	1	..	..	..	10	..
22	29·749	42·4	41·1	..	38·0	4·4	43·5 37·2	47·6 34·8	NW	NW by W	1 to 2½	1½	1·40	0·07	2·939	10	..
Feb. 26. 0	29·737	44·2	42·2	..	..	..	..	..	NW	NW by W	½ to 2½	1½	..	..	..	9	..
2	29·698	45·8	43·5	..	..	..	..	..	NW	NW by W	0 to 2½	1	..	..	..	8	..
4	29·642	40·4	42·8	..	38·5	1·9	..	..	NE	NNE	..	¼	..	..	..	10	Transit
6	29·599	43·5	41·1	..	..	..	..	..	...	NNW	½ to 2	½	..	..	..	10	..
8	29·525	41·7	41·4	..	..	..	..	..	...	NW	1 to 3	1	..	..	..	9½	..
10	29·489	40·0	37·5	..	36·0	4·0	..	..	NW	NW	2 to 5	2	..	..	..	10	..
12	29·486	37·0	37·0	..	..	..	..	..	NW	NW	2½ to 8	2+	..	..	..	10	..
14	29·499	38·3	36·7	..	..	..	..	..	NNW	NNW	2½ to 4	2	..	..	..	9	..
16	29·508	36·8	35·4	..	29·5	7·3	..	..	NNW	NW	1½ to 4	2	..	..	..	10	..
18	29·561	35·5	35·7	..	..	..	..	..	NNW	N	2¼ to 5	1½	..	..	..	10	..
20	29·615	34·3	34·3	..	..	..	..	..	N by W	N	..	1	..	..	..	10	..
22	29·647	38·2	36·7	..	33·0	5·2	47·0 34·2	47·9	N by W	N	2 to 3	½	1·48	0·14	3·123	10	..
Feb. 27. 0	29·674	37·8	37·8	..	..	..	..	..	N by W	NNW	..	¼	..	..	..	6	..
2	29·693	42·0	41·9	..	..	..	..	..	N by W	NNW	½ to 1	½	..	..	..	7	..
4	29·708	41·6	40·0	..	39·0	2·6	..	..	N by W	NNW	0 to 2	¼	..	..	..	9	..
6	29·747	38·1	37·1	..	..	..	..	..	N by W	N by W	..	¼	..	..	..	9½	Transit
8	29·774	35·4	35·3	..	..	..	..	..	N	NNW	..	½	..	..	..	9¾	..
10	29·768	34·7	33·6	..	32·0	2·7	..	..	N by W	NNW	..	¼	..	..	..	5	..
12	29·756	34·5	33·8	..	..	..	..	..	WSW	WSW	..	¼	..	..	..	7	..
14	...	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
16	...	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
18	...	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
20	...	..	..	..	..	..	..	..	NW	...	..	..	..	..	..	..	..
22	...	..	..	..	..	..	42·7 31·0	56·3 29·7	NNW	...	..	..	1·48	0·03	3·161	..	..
Feb. 28. 0	29·767	39·5	..	..	..	..	..	..	NNW	N by W	..	¼	..	..	..	..	..
2	...	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
4	...	..	..	..	..	..	..	..	W	...	..	..	..	..	..	..	..
6	29·663	38·0	..	..	..	..	..	..	W by S	W by S	..	¼	..	..	..	10	Transit
8	...	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	1st Qr.
10	...	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..
12	...	..	..	..	..	..	..	..	SSE	...	..	..	1·48	0·00	3·161	..	..
14	29·510	35·1	33·3	1·8	..	..	..	..	SE	S	..	½	..	..	..	8	..
16	29·483	35·5	34·2	1·3	31·3	4·2	..	..	S	S by W	..	½	..	..	..	10	..
18	29·471	36·0	35·3	0·7	..	..	..	..	SSE	S	..	½	..	..	..	10	..
20	29·490	34·4	33·7	0·7	..	..	..	..	SSE	S	..	½	..	..	..	6	..
22	29·516	41·2	38·6	2·6	37·0	4·2	41·1 33·8	55·5 29·7	SSE	S	..	¼	1·48	0·00	3·161	6	..

Feb. 25d and 26d. 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·461, as deduced from the two-hourly observations.

Feb. 26d. 4h. The reading of the Dry Thermometer is evidently wrong, and, consequently, the difference between the Dew Point and the Dry Thermometer is in error to the amount of probably 2° or 3°.

Feb. 26d. Between 6h and 8h the wind changed from N. N.W. to N. E. and by S. to W. and by N. to E.; then back to N.W. The upper current during the whole time was from N. N.W.

Feb. 26d. 9h. 10m, it was found that the vane of the anemometer at about 5h. 50m had turned quite round, and the registering pencil had gone off the rack-work; hence no direction was registered at 6h and 8h.

GENERAL REMARKS.	Observer.
Cirro-stratus: breaks in the zenith.	D
Cumulo-strati and scud: a very hazy sky in S.W.: clearer in N. N.W.	J H
Undefined clouds cover the greater portion of the sky. [the sky has been nearly clear.	
A thin cirro-stratus in N.W. and near the horizon: stars shining in zenith and S. of it. Several times since last observation,	J H
Overcast: cirro-stratus: the sky became cloudy soon after 8^h.	
Ditto ditto: slight rain.	D
Ditto ditto ditto.	
Ditto ditto: steady rain.	
Ditto ditto: slight rain: strong gusts of wind since last observation.	
Ditto ditto.	D
Ditto ditto: thin misty rain.	P
Cirro-stratus and scud.	
Ditto ditto.	P
Overcast: cirro-stratus and scud.	D
Ditto: rain. [observation: wind rising.	
Cirro-stratus and scud: clear breaks S. of zenith. The rain continued to fall heavily until within a short time of this	D
Overcast: slight rain.	G
Ditto: rain and wind.	W R
A few stars shining in N. N.W.: otherwise overcast.	J H
Overcast: misty rain.	P
Ditto: rain: gusts of wind.	M
Ditto: misty rain: flakes of snow.	D
Ditto.	G
Scud, a fine azure sky appearing above.	P
Large cumuli and cumulo-strati in various parts of the sky.	J H
Cirro-stratus and scud: a break in W. horizon.	P
Clear breaks near zenith, the remainder of the sky covered with scud.	G
Very cloudy: cirro-stratus and scud.	J H
Cirro-cumulus in zenith: cirro-stratus in S. E.	D
Sky mostly covered with cirro-cumulus.	D
White cumuli.	J H
Sky nearly covered with white cumulous clouds.	
Overcast.	
Ditto: cirro-stratus.	
Cirro-stratus and small fragments of cirrus.	J H
Cirrus and cirro-stratus: sun shining faintly.	D

Feb. 26^d. 10^h. Hourly observations commenced. (See the section of Term-Day Observations.)

Feb. 26^d. 22^h. In consequence of the weather being so bad, the thermometer in the parabolic reflector was not exposed during the night.

Feb. 28^d. 6^h. This is the last observation of the Dry Thermometer, taken with the thermometer made by Watkins and Hill.

Feb. 28^d. 12^h. The amount of rain collected during the month of February, in the rain-guage No. 4, was $1^{in}\cdot32$.

Feb. 28^d. 14^h. Beginning with this observation, the Dry and Wet Thermometers are those made by Newman: when they are under the same circumstances, the mean reading of the Wet Thermometer is less than that of the Dry Thermometer by $0°\cdot2$, as found by seventy-nine comparisons, ranging between 15° and 32°. These thermometers were still kept in the small Magnetic-house: they remained there till March 2^d. 23^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.						
Mar. 1. 0	29·530	42·4	39·5	2·9	..	..	..	..	S	SSW	..	¼	..	..	..	10	..
2	29·517	44·6	41·3	3·3	..	..	..	..	S	SSW	..	¼	..	..	..	10	..
4	29·540	40·5	38·3	2·2	34·0	6·5	..	..	S by W	SSW	..	¼	..	..	..	10	..
6	29·542	39·0	37·6	1·4	..	..	..	..	S by W	SSW	..	¼	..	..	..	10	Greatest Declination N.
8	29·568	37·7	37·1	0·6	..	..	..	..	S by W	SSW	..	¼	..	..	..	10	Transit
10	29·585	38·5	37·9	0·6	33·5	5·0	..	..	WNW	NW	..	½	..	..	..	10	..
12	29·587	38·4	37·5	0·9	..	..	..	..	NW	NW	..	¼	..	..	..	10	..
14	29·592	38·3	37·5	0·8	..	..	..	..	WNW	WNW	..	½	..	..	..	10	..
16	29·605	37·7	36·9	0·8	35·0	2·7	..	..	W by S	W	..	¼	..	..	..	7	..
18	29·596	32·7	32·2	0·5	..	..	..	..	SW	WSW	..	¼	..	..	..	½	..
20	29·597	32·1	31·2	0·9	..	..	..	..	SW	SW	..	¼	..	..	..	4	..
22	29·590	37·1	35·3	1·8	29·3	7·8	46·3 29·5	46·7 27·7	SW	WSW	..	½	1·50	0·02	3·190	7	..
Mar. 2. 0	29·554	43·8	40·0	3·8	..	..	..	..	SW	SW by S	..	½	..	..	..	10	..
2	29·485	42·4	40·1	2·3	..	..	..	..	SSW	SW by W	½ to 2	¾	..	..	..	10	..
4	29·425	41·3	40·5	0·8	42·0	−0·7	..	..	SSW	SW	1 to 2½	1	..	..	..	10	..
6	29·363	40·1	39·4	0·7	..	..	..	..	S by W	S	1 to 3	1	..	..	..	10	..
8	29·321	40·4	39·8	0·6	..	..	..	..	S	S	..	1	..	..	..	10	Transit
10	29·280	41·5	41·3	0·2	41·5	0·0	..	..	SSW	SSW	..	½	..	..	..	10	..
12	29·234	43·0	42·8	0·2	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
14	29·195	44·8	44·6	0·2	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
16	29·171	44·7	44·4	0·3	43·9	0·8	..	..	W by S	WSW	..	¼	..	..	..	9½	..
18	29·161	40·4	40·2	0·2	..	..	..	..	W by S	W	..	½	..	..	..	1	..
20	29·181	38·4	38·0	0·4	..	..	..	..	W by S	W	..	¼	..	..	..	4	..
22	29·207	42·0	40·9	1·1	..	..	48·0 37·0	49·0 31·8	WNW	W by N	..	½	1·63	0·23	3·493	10	..
Mar. 3. 0	29·249	43·8	40·4	3·4	..	..	..	..	NW	NW	0 to ½	½	..	..	..	8	..
2	29·287	45·1	41·2	3·9	..	..	..	..	NNW	NNW	0 to ½	½+	..	..	..	4	..
4	29·323	46·7	41·7	5·0	34·3	12·4	..	..	NNW	N	½ to 1½	½	..	..	..	7	..
6	29·389	45·0	41·2	3·8	..	..	..	..	NNW	N	0 to 3½	½	..	..	..	9½	..
8	29·481	41·5	40·0	1·5	..	..	..	..	NNW	N	½ to 2½	½	..	..	..	10	..
10	29·538	39·5	38·0	1·5	35·7	3·8	..	..	N by W	N	0 to 1	½	..	..	..	6	Transit
12	29·616	38·0	35·5	2·5	..	..	..	..	NNW	NW	..	½	..	..	..	6	..
14	29·652	37·5	34·3	3·2	..	..	..	..	NNW	NW by N	..	½	..	..	..	10	..
16	29·681	36·8	33·2	3·6	28·0	8·8	..	..	NNW	NW by N	..	½	..	..	..	8	..
18	29·717	35·6	33·0	2·6	..	..	..	..	NW	NW by N	..	½	..	..	..	0	..
20	29·757	33·0	31·2	1·8	..	..	..	..	NW	NW	..	¼	..	..	..	0	..
22	29·807	34·4	32·6	1·8	30·0	4·4	47·1 31·2	47·5 26·3	W by S	W	..	¼	1·63	0·00	3·493	0	..
Mar. 4. 0	29·807	39·5	34·8	4·7	29·0	10·5	..	..	WNW	NW	..	¼	..	..	..	0	..
2	29·786	42·7	37·7	5·0	..	..	..	..	W	WNW	..	¼	..	..	..	3	..
4	29·765	43·9	39·2	4·7	29·8	14·1	..	..	W by S	WSW	..	¾	..	..	..	4	Perigee
6	29·746	40·5	37·5	3·0	..	..	..	..	SW	SW by S	..	½	..	..	..	8	..
8	29·742	38·5	36·6	1·9	..	..	..	..	SSW	SW by S	..	¼	..	..	..	10	..
10	29·741	38·5	37·0	1·5	34·0	4·5	..	..	SSW	SW by S	..	¼	..	..	..	10	Transit
12	29·724	37·4	36·9	0·5	..	..	..	..	S	SW by S	..	¼	..	..	..	10	..
14	29·733	38·6	38·3	0·3	..	..	..	..	WSW	Calm	..	..	..	..	..	10	..
16	29·733	37·3	37·2	0·1	35·5	1·8	..	..	WSW	SSW	..	¼	..	..	..	2	..
18	29·735	36·5	36·3	0·2	..	..	..	..	WSW	SSW	..	½	..	..	..	10	..

March 1d. The lowest reading of the thermometer during the month happened on this day.

March 1d. Took the linen cap off the dry bulb thermometer.

March 2d. 4h. The Dew Point is 0°·7 higher than the temperature of the Dry Thermometer: the observation appears correct.

March 2d. 18h. This is the lowest reading of the barometer during the month.

March 2d. 22h. The observation of the Dew Point was omitted by inadvertence.

GENERAL REMARKS.	Observer.
Overcast: several breaks.	D
Ditto: cirro-stratus.	D
Ditto ditto: slight rain falling.	J H
Ditto ditto.	
Ditto ditto: heavy rain.	
Ditto ditto: rain ceased at $8^h.40^m$: gusts of wind.	J H
Ditto ditto.	D
Ditto ditto.	
Clear breaks in different parts of the sky: the Moon, on the point of setting, is visible through a thin cirro-stratus.	
A streak of cirro-stratus in S. E., otherwise cloudless.	
Cirri scattered about the sky.	D
Cirrus and thin cirro-stratus.	J H
Overcast: cirro-stratus.	
Ditto ditto: gusts of wind, and slight passing showers of rain.	J H
Ditto: thick rain: wind in gusts.	D
Ditto ditto ditto.	
Ditto: cirro-stratus: heavy rain.	
Ditto ditto ditto.	D
Ditto ditto: rain.	G
Ditto ditto.	
Ditto. Since last observation $0^{in}.1$ of rain has fallen; at present no rain: a clear break in N.W.	
Nearly cloudless. The break mentioned in last observation came up: N.W. horizon at present misty, and the heavens in N.W. are partially obscured by clouds.	
Zenith, and around it for 60°, clear: cirro-stratus scattered about the remainder of the sky.	G
Cirro-stratus: upper current N.N.W.: scud passing rapidly with this current.	J H
Cumuli, and large fragments of scud.	
Cumuli in various parts of the sky: strong gusts of wind: cumulo-stratus in N.N.E. horizon. [kind of scud.	J H
About $3^h.10^m$ a large nimbus passed over, from which a few drops of rain fell: at present the sky is generally covered with a loose	G
Sky quite covered with scud, except near zenith, where a little blue sky is visible: appearances of rain.	
Overcast: showers of rain since last observation: a rapidly rising barometer. [and many stars were visible.	
The sky continued overcast until within 10^m of this observation, when the clouds broke in zenith, and shortly afterwards the Moon	G
Fleecy clouds in various parts of the sky.	
The sky remained nearly clear until $13^h.20^m$, when a mass of undefined clouds gathered about the Moon, and extended in every direction: at present very cloudy: Moon nearly obscured.	J H
Undefined clouds.	
Cloudless.	
Hazy to windward: no clouds visible.	J H
Cloudless: slight haze in W.	D
Ditto.	
Cumuli in various parts of the sky.	D
A few light cirri and cumuli: a thin cirro-stratus in N.W. and N.	J H
Cirro-stratus: hazy.	
Overcast: a faint lunar halo visible, diameter 40°.	
Ditto: cirro-stratus and scud: slight rain falling.	J H
Ditto ditto: rain without intermission since last observation.	D
Ditto ditto: rain ceased at $13^h.10^m$. [at $16^h.10^m$ perfectly so.	
At $15^h.40^m$ a break appeared near the Moon; at $15^h.55^m$ the sky was, with the exception of a little cirro-stratus in S.E., cloudless;	
The sky clouded over rather suddenly at $16^h.40^m$: at present one or two stars only are visible though a thin cirro-stratus.	

March $2^d.23^h$. The Wet and Dry bulb Thermometers were taken out of Captain Fitzroy's Magnetic-house, and placed on the N. wall of the N.E. angle of the Magnetic-house: they remained in this position to March $9^d.23^h$.

March 3^d, civil reckoning. The mean height of the barometer was less on this day than on any other day during the month, being $29^{in}.317$, 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.						
Mar. 4. 20	29·754	36·4	36·1	0·3	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
22	29·756	43·4	41·5	1·9	39·7	3·7	44·6 32·8	57·0 30·7	WSW	WSW	..	½	1·69	0·06	3·555	8	..
Mar. 5. 0	29·705	47·9	44·1	3·8	..	..	..	..	SSW	S by W	½ to 2	1	..	..	..	9	..
2	29·612	46·1	43·1	3·0	..	..	..	..	S	SSW	1 to 3	1½	..	..	..	10	..
4	29·471	43·5	42·0	1·5	39·0	4·5	..	..	S	SSW	3½ to 7	2	..	..	..	10	..
6	29·295	43·5	43·0	0·5	..	..	..	..	S	S	5 to 9	3	..	..	..	10	..
8	29·198	46·0	45·3	0·7	..	..	..	..	...	SSW	2 to 6	3	..	..	..	10	..
10	29·195	48·5	47·7	0·8	47·0	1·5	..	..	...	SW	1 to 2½	1½	..	..	..	10	..
12	29·253	48·6	48·0	0·6	..	..	..	..	...	W by S	½ to 1	1	..	..	..	10	Transit
14	29·363	47·6	44·6	3·0	..	..	..	..	...	W by N	2 to 4	2+	..	..	..	10	..
16	29·431	43·2	40·2	3·0	39·0	4·2	..	..	...	N by W	0 to ½	1	..	..	..	3	..
18	29·487	38·9	37·0	1·9	..	..	..	..	...	WSW	..	1	..	..	..	1	..
20	29·574	38·2	36·2	2·0	..	..	..	..	W	W by N	..	½	..	..	..	0	..
22	29·655	42·3	38·9	3·4	38·0	4·3	50·7 36·4	54·6 31·3	NW	NW	0 to 1	½	1·82	0·13	3·734	1	..
Mar. 6. 0	29·722	47·7	41·2	6·5	..	..	..	..	NW	NW by W	..	½	..	..	..	3	..
2	29·744	49·5	43·4	6·1	..	..	..	..	WNW	W by N	..	½	..	..	..	2	..
4	29·797	49·3	42·5	6·8	36·0	13·3	..	..	WNW	WNW	..	½	..	..	..	6	..
6	29·807	48·3	43·5	4·8	..	..	..	..	W	W	..	¼	..	..	..	2	..
8	29·842	42·5	40·5	2·0	..	..	..	..	SSW	W	..	¼	..	..	..	½	..
10	29·861	44·6	42·6	2·0	42·0	2·6	..	..	SW	W	..	½	..	..	..	10	..
12	29·875	45·3	43·2	2·1	..	..	..	..	SW	W by S	..	½	..	..	..	8	Transit
14	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	WSW	...	½ to 2	..	..	..	..	..	..
22	..	..	..	..	..	..	53·8 41·2	70·5 31·8	WSW	...	½ to 1½	..	1·82	0·00	3·734	..	..
Mar. 7. 0	29·965	54·0	..	..	..	..	..	..	WNW	...	1 to 3	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	W by N	...	0 to ½	..	..	..	..	..	Full
4	..	..	..	..	..	..	..	..	W by N	...	0 to 1	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	W by N	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	W	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	W	...	..	..	..	..	..	..	In Equator
12	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
14	30·198	47·8	47·2	0·6	..	..	..	..	WSW	WSW	..	¼	..	..	..	9½	Transit
16	30·223	47·9	47·3	0·6	42·0	5·9	..	..	SW	WSW	..	¼	..	..	..	10	..
18	30·234	47·6	47·3	0·3	..	..	..	..	SW	SW by W	..	¼	..	..	..	10	..
20	30·255	48·3	48·0	0·3	..	..	..	..	SSW	WSW	..	¼	..	..	..	10	..
22	30·285	50·3	49·8	0·5	49·0	1·3	59·0 46·3	75·4 40·5	SW	WSW	..	¼	1·82	0·00	3·734	10	..
Mar. 8. 0	30·262	57·8	54·0	3·8	..	..	..	..	SSW	SW	..	¼	..	..	..	6	..
2	30·273	59·8	55·7	4·1	..	..	..	..	WSW	W by S	..	¼	..	..	..	4	..
4	30·270	59·9	55·0	4·9	52·3	7·6	..	..	W	W	..	¼	..	..	..	5	..
6	30·267	54·7	52·9	1·8	..	..	..	..	W by S	W by S	..	¼	..	..	..	6	..
8	30·274	48·5	48·5	0·0	..	..	..	..	SW	WSW	..	¼	..	..	..	¼	..

March 5d. 4h. In consequence of the sudden fall in the barometer between 2h and 4h, extra observations were taken. (See section of Extraordinary Observations.)

March 5d. 12h. Found the anemometer registering the directions of the wind erroneously; it had been so doing from 6h. 20m.

GENERAL REMARKS.	Observer.
Overcast: light fog: clearing off at $20^h.\ 10^m$.	D
Fleecy clouds near zenith: cirro-stratus in N.W.: mottled cirro-stratus in S. E.	J H
Cirro-stratus: hazy.	
Overcast: cirro-stratus: strong gusts of wind: a rapidly falling barometer.	J H
Ditto ditto ditto: gusts to $2\frac{1}{2}$: rain falling.	D
A heavy gale of wind: gusts to 3+: continual heavy rain since last observation: barometer falling very rapidly.	
The same as at last observation.	
The wind has considerably abated since 8^h: rain ceased at $8^h.\ 40^m$, when the barometer began to rise slowly: sky quite overcast. The barometer had fallen $0^{in}.55$ in the previous twelve hours.	D
Overcast: scud passing from N. by W. Five minutes after this observation the wind shifted to W. by N.	G
The wind has risen since last observation: gusts often to 3—: scud has constantly passed from N. or N. by W.: a break appeared in the N. about $13^h.\ 40^m$, which came up, and the heavens were more than half clear. Two lunar halos were visible, the smaller one about $1\frac{1}{2}$ in breadth, the larger one about 53°. At present the sky is again quite overcast: a wild night.	
About $15^h.\ 40^m$, the sky became clear: at present a few loose clouds are passing from N.	
Quite clear since last observation: at present a few strati are about the place of the Moon; otherwise clear.	
Cloudless: barometer rising rapidly.	G
Light vapour in zenith: gusts of wind: hazy.	J H
Cirri in various parts of the sky: a few small cumuli in N.W. and N.E.: gusts of wind to 1+.	
Cirri and small white cumuli: hazy in N. and N.W.	J H
Large white cumuli equally distributed over the sky.	G
A few light fleecy clouds about the sky.	
Nearly cloudless: an orange-tinted sunset.	
About 20^m after last observation, white clouds began to collect, and by $9^h.\ 10^m$ the sky was quite covered, and remains so.	G
Scud and cirro-stratus: a break in N.W.: upper current N. N.W., from which quarter the clouds move.	J H
	J H
	D
	D
Very cloudy: upper current N. by W.: for several days there has been an upper northerly current: at $11^h.\ 40^m$, a double lunar [halo.	J H
Overcast: scud and cirro-stratus.	
Ditto ditto: light rain falling.	
Ditto ditto ditto.	J H
Ditto ditto ditto.	D
Fleecy clouds S.W. of zenith: clear towards the N.	
Fleecy cumuli S. of zenith: cumulo-strati near S.W. horizon.	D
Fleecy cumuli: clouds more collected in N.W.	J H
Fleecy clouds in various parts of the sky.	
A thin streak of cirro-stratus in N. N.W.: otherwise clear.	

March $5^d.\ 17^h.\ 30^m$. Examined the anemometer, and found the screw at the upper part of the shaft, which fixes the spindle to the vane, quite loose; tightened it, and set the vane right again by the azimuth of the shaft.

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.						
Mar. 8. 10	30·280	47·1	47·0	0·1	41·5	5·6	..	..	SSW	SSW	..	½	..	..	..	0	..
12	30·287	44·5	44·5	0·0	..	..	..	..	SW	SW	..	¼	..	..	..	0	..
14	30·291	43·5	43·2	0·3	..	..	..	..	SW	SSW	..	¼	..	..	..	0	Transit
16	30·286	39·5	39·5	0·0	32·0	7·5	..	..	Calm	Calm	..	..	..	..	..	0	..
18	30·282	37·8	37·8	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
20	30·295	38·0	38·0	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
22	30·317	43·7	43·5	0·2	40·0	3·7	60·1 37·2	82·5 30·0	WSW	WSW	..	¼	1·82	0·00	3·734	2	..
Mar. 9. 0	30·317	50·4	48·5	1·9	..	..	..	..	Calm	W by N	..	¼	..	..	..	2	..
2	30·297	58·0	53·1	4·9	..	..	..	..	SW	WSW	..	¼	..	..	..	2	..
4	30·286	58·0	52·5	5·5	53·0	5·0	..	..	SW	WSW	..	¼	..	..	..	2	..
6	30·286	53·0	49·0	4·0	..	..	..	..	S	S	..	½	..	..	..	0	..
8	30·298	45·2	44·2	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
10	30·307	42·3	41·5	0·8	40·5	1·8	..	..	Calm	Calm	..	..	..	..	..	0	..
12	30·305	40·7	40·6	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
14	30·313	39·7	40·0	−0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	½	Transit
16	30·294	38·8	38·7	0·1	39·0	−0·2	..	..	Calm	Calm	..	..	..	..	..	4	..
18	30·298	36·2	36·2	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
20	30·306	37·2	37·0	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
22	30·352	48·3	45·5	2·8	41·0	7·3	58·0 35·8	79·0 30·5	Calm	S	..	¼	1·82	0·00	3·750	4	..
Mar. 10. 0	30·328	57·4	51·9	5·5	..	..	..	..	Calm	W by S	..	¼	..	..	..	6	..
2	30·332	60·0	52·5	7·5	46·0	14·0	..	..	SW	SW	..	¼	..	..	..	4	..
4	30·329	59·7	52·0	7·7	44·8	14·9	..	..	Calm	Calm	..	..	..	..	..	10	..
6	30·333	55·2	50·4	4·8	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
8	30·352	50·0	47·4	2·6	..	..	..	..	S by W	SW	..	¼	..	..	..	8	..
10	30·367	45·6	44·7	0·9	44·2	1·4	..	..	S by W	SW	..	¼	..	..	..	3	..
12	30·372	41·9	41·8	0·1	..	..	..	..	S	S	..	¼	..	..	..	½	..
14	30·369	40·7	40·5	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	30·361	38·0	38·3	−0·3	31·8	..	..	..	Calm	Calm	..	..	..	..	..	0	Transit
18	30·367	35·6	36·2	−0·6	..	..	..	..	S	S	..	¼	..	..	..	0	..
20	30·371	32·8	31·6	1·2	..	..	..	..	SSE	SSE	..	¼	..	..	..	0	..
22	30·388	40·6	39·6	1·0	37·0	3·6	59·3 31·0	84·6 26·3	SE	E	..	¼	1·82	0·00	3·750	0	..
Mar. 11. 0	30·376	54·7	50·7	4·0	..	..	..	..	E	E	..	¼	..	..	..	0	..
2	30·344	58·4	51·8	6·6	..	..	..	..	Calm	SSE	..	¼	..	..	..	0	..
4	30·311	59·5	52·6	6·9	49·0	10·5	..	..	SE	SE	..	¼	..	..	..	0	..
6	30·304	55·0	49·7	5·3	..	..	..	..	ESE	ESE	..	¼	..	..	..	0	..
8	30·308	47·8	45·9	1·9	..	..	..	..	ESE	ESE	..	¼	..	..	..	0	..
10	30·302	45·0	43·7	1·3	39·0	6·0	..	..	ESE	ESE	..	¼	..	..	..	0	..
12	30·291	41·5	41·4	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	30·271	39·8	39·8	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	30·257	38·3	38·4	−0·1	37·0	1·3	..	..	Calm	Calm	..	..	..	..	..	0	Transit
18	30·253	38·4	38·5	−0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..

March 8ᵈ. 10ʰ, 16ʰ, and 22ʰ. There is something strange in the temperatures of the Dew Point at these observations, in comparison with the differences of the Wet and Dry Thermometer; it would appear that an error of 5° has been made in the first two, but there is not sufficient evidence to make the alteration.

March 9ᵈ, 4ʰ. This observation of the Dew Point also appears strange, as compared with the difference of the Wet and Dry Therm.

March 9ᵈ. 14ʰ. The Wet Thermometer reads higher than the Dry: the observation however, is marked as being correct.

March 9ᵈ. 22ʰ. The quantity of water registered by Crosley's gauge, 0ⁱⁿ·016, is by deposition of moisture.

March 9ᵈ. 23ʰ. The Wet and Dry bulb Thermometers, the Max. and Min. Thermometer, and Daniell's Hygrometer, were all placed on a stand, with a circular motion, in the N. E. angle of the Magnetic-house. The face of the stand can at all times be in the shade; the bulbs of the thermometer are all quite free, well protected from the Sun and from radiation, and about four feet above the ground.

GENERAL REMARKS.	Observer.
Cloudless.	J H
Ditto.	D
Ditto.	
Ditto: fog collecting.	
Cirro-cumuli in zenith: the stars visible through a light fog.	
Cloudless: light fog.	D
Vapour and light cirri: hazy.	J H
Thick haze: vapour in zenith.	
A few light cirri: cumuli moving from the S.	J H
Large cumuli in different parts of the sky.	D
Cloudless.	
Ditto.	
Ditto.	D
Cirro-stratus near S. horizon; and linear cirro-strati, in a fan-like form, diverging from a point about 30° altitude in S., and extending 10° N.W. and E. of zenith: a small, sharply-defined halo.	G
Nearly cloudless; great deposition of moisture: a small lunar halo. [over the Moon.	
Quite clear since the last observation, until 10^m before the present, when a thin, web-like cloud, formed in the south, spreading	
Clouds collecting since the last observation: at present some large dark cumulo-strati in the south, east, and west: misty in north: a few stars just visible in the zenith.	
About $18^h.\ 40^m$ the clouds began to disperse: shortly after, the sky was covered with small round cumuli: a fog in the valleys, the only part of Greenwich Hospital visible being the vanes. At $19^h.\ 10^m$ the fog rose (the Observatory not visible from the Magnetic-house) but remained in this state not more than five minutes. At $18^h.\ 40^m$ the upper current N.W.: the wind blowing lightly at S.W.: at present small cumuli, connected at their bases, cover the sky.	G
Cirro-cumuli S. of zenith: fleecy clouds W. and N.: hazy. The thermometer has risen 11° since the last observation.	J H
Light cirri and vapour: hazy. The thermometer has risen 9° since the last observation.	
Cirri south of zenith: cumuli in N.E. and N.	J H
Sky quite covered with thin cirro-stratus.	G
A mottled sky; but generally covered: cumulo-stratus.	
A large dark cirro-stratus in the north; cumulo-stratus in S. and E.: west quite clear: clouds move from N.W.	
At present the zenith, and 60° round it, without a cloud: the horizon thick, except in W. A very variable night: it has been clear and cloudy alternately since 8^h.	G
Nearly cloudless: slight haze round the horizon: a few small cirro-cumuli S.E. of zenith: these disappeared soon after the observation, leaving the sky cloudless.	J H
Cloudless.	
Ditto.	
Ditto.	
Ditto: thick haze round the horizon: the night has been unusually calm and without clouds.	J H
Cloudless.	D
Ditto. The thermometer has risen 14°·1 since the last observation.	
Ditto.	D
Ditto.	J H
Ditto.	
Ditto.	
Ditto: thin haze round the horizon.	J H
Ditto.	D
Ditto.	
Ditto.	
Ditto.	

March $10^d.\ 16^h$ and 18^h. The Wet Thermometer reads higher than the Dry Thermometer: the observations appear correct.

March $10^d.\ 16^h$. The Dew Point is evidently wrong, most probably it ought to be 36°·8. This observation is not used in taking the means.

March $10^d.\ 22^h$. This is the highest reading of the barometer during the month.

March 11^d, civil reckoning. The mean height of the barometer was greater on this day than on any other day during the year, being $30^{in}\cdot341$, as deduced from the two-hourly observations.

March $11^d.\ 16^h$, 18^h, and 20^h. The Wet Thermometer read 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.	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.						
Mar. 11. 20	30·264	38·5	38·6	−0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
22	30·267	44·8	44·4	0·4	43·5	1·3	59·3 36·5	83·0 29·5	W	W	..	¼	1·82	0·00	3·750	0	..
Mar. 12. 0	30·252	56·0	52·3	3·7	..	..	..	..	WSW	SW	..	¼	..	..	..	0	..
2	30·235	60·7	54·0	6·7	..	..	..	..	W by S	WSW	..	¼+	..	..	..	0	..
4	30·209	61·0	53·5	7·5	50·0	11·0	..	..	W	W	..	¼	..	..	..	0	..
6	30·203	57·0	52·8	4·2	..	..	..	..	W	W	..	¼	..	..	..	0	..
8	30·209	53·3	49·8	3·5	..	..	..	..	SW	W	..	¼	..	..	..	0	..
10	30·221	50·0	47·7	2·3	47·0	3·0	..	..	WSW	Calm	..	..	..	..	..	0	..
12	30·218	46·5	46·0	0·5	..	..	..	..	WSW	W	..	¼	..	..	..	0	..
14	30·214	43·0	43·3	−0·3	..	..	..	..	SW	Calm	..	..	..	..	..	0	..
16	30·208	42·3	42·1	0·2	41·0	1·3	..	..	Calm	Calm	..	..	..	..	..	0	..
18	30·212	41·1	41·3	−0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	Transit
20	30·232	39·4	39·6	−0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
22	30·256	43·4	42·8	0 6	42·5	0·9	61·3 37·5	83·3 32·2	NW	NNW	..	¼	1·82	0·00	3·759	0	..
Mar. 13. 0	30·271	52·5	49·5	3·0	..	..	..	..	NNE	NNE	..	½	..	..	..	0	..
2	30·258	55·3	51·0	4·3	..	..	..	..	ENE	ENE	..	½	..	..	..	0	..
4	30·260	54·1	50·6	3·5	47·2	6·9	..	..	E	E	..	½	..	..	..	0	..
6	30·282	41·5	41·2	0·3	..	..	..	..	E	E	..	½	..	..	..	0	..
8	30·283	39·2	39·2	0·0	..	..	..	..	E by N	E	..	½	..	..	..	10	..
10	30·293	37·7	37·7	0·0	36·5	1·2	..	..	E by N	E	..	½	..	..	..	10	..
12	30·294	37·5	37·5	0·0	..	..	..	..	E by N	E by N	..	½	..	..	..	10	..
14	..	..	..	..	..	..	..	..	E by N	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	E by N	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	Transit
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	56·3 34·8	76·0 35·3	Calm	...	..	..	1·82	0·00	3·769	..	..
Mar. 14. 0	30·226	46·0	47·0	−1·0	..	..	..	..	Calm	...	..	..	..	..	..	0	..
2	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
6	30·157	48·0	47·2	0·8	..	..	..	..	Calm	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Greatest declination S.
14	30·082	36·9	37·2	−0·3	..	..	..	..	Calm	E by S	..	¼	..	..	..	0	3rd Qr.
16	30·065	36·8	36·8	0·0	37·0	−0·2	..	..	Calm	E by S	..	¼	..	..	..	10	..
18	30·061	34·9	35·0	−0·1	..	..	..	..	SW	SW	..	¼	..	..	..	9	Transit
20	30·048	33·5	33·1	0·4	..	..	..	..	SW	SW	..	¼	..	..	..	1	..
22	30·048	42·0	41·8	0·2	40·5	1·5	56·1 31·7	78·0 27·5	Calm	Calm	..	..	1·82	0·00	3·769	0	..
Mar. 15. 0	30·038	57·6	51·2	6·4	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
2	30·006	61·3	54·5	6·8	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
4	29·966	62·5	55·7	6·8	52·0	10·5	..	..	SW	W by S	..	¼	..	..	..	0	..
6	29·950	59·3	53·5	5·8	..	..	..	..	SSW	W by S	..	¼	..	..	..	0	..
8	29·949	52·2	49·7	2·5	..	..	..	..	S by E	S	..	¼	..	..	..	0	..
10	29·922	48·6	47·0	1·6	46·0	2·6	..	..	S by E	S	..	¼	..	..	..	0	..
12	29·911	44·6	44·0	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·886	41·6	41·6	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..

March 12d. 22h. The quantity of water registered by Crosley's gauge, 0in·009, is by deposition of moisture.

March 12d. 14h, 18h, and 20h. The readings of the Wet Thermometer were higher than the readings of the Dry Thermometer.

March 13d. 6h+. No clouds visible since March 10d. 12h: March 11 and March 12 are two of the five days in the year without cloud.

GENERAL REMARKS.	Observer.
Cloudless.	D
Ditto: hazy.	J H
Ditto.	
Ditto: gusts of wind.	J H
Ditto.	D
Ditto.	
Ditto.	
Ditto.	D
Ditto.	G
Ditto: Moon just visible above the horizon.	
Ditto: fog in the valleys: great deposition.	
Ditto.	
Ditto.	G
Ditto.	J H
Ditto.	
Ditto.	J H
Ditto.	G
Ditto: mist collecting in E. and N.	
Cloudy: slight rain: it became cloudy about a quarter of an hour after the last observation.	
Overcast: the air quite saturated with moisture.	G
Ditto: a damp fog.	J H
	J H
Cloudless.	G
Cirri in various parts of the sky.	G
	J H
Cloudless: hazy.	
A damp fog: the stars quite obscured.	
Ditto: Arcturus visible: at $18^h.\ 40^m$ the fog considerably lighter.	
Streaks of cloud in S., otherwise clear: the fog gradually disappearing.	J H
Cloudless: hazy.	D
Ditto.	
Ditto.	D
Ditto.	J H
Ditto.	
Ditto.	
Ditto: hazy round the horizon.	J H
Ditto.	D
Ditto.	

March $13^d.\ 22^h.$ The quantity of water registered by Crosley's gauge since yesterday, is by deposition of moisture.

March $12^d.\ 19^h.$ Examined the perpendicularity of barometer.

March $14^d.\ 14^h$ and $18^h.$ The readings of the Wet Thermometer are higher than the readings 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.						
Mar.15. 16	29·860	39·0	39·0	0·0	37·0	2·0	..	..	SW	SW	..	¼	..	..	..	0	..
18	29·837	39·5	39·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	29·825	40·8	40·0	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	0	Transit
22	29·811	51·4	47·6	3·8	48·0	3·4	64·3 39·2	89·4 30·4	S	S	..	¼	1·82	0·00	3·769	0	..
Mar.16. 0	29·781	62·1	52·2	9·9	..	..	..	..	S	S	..	¼	..	..	..	0	Apogee
2	29·729	62·2	52·0	10·2	..	..	..	..	S	S by W	..	¼	..	..	..	0	..
4	29·683	61·3	50·5	10·8	37·0	24·3	..	..	S	S by W	..	¼	..	..	..	0	..
6	29·655	57·2	48·5	8·7	39·0	18·2	..	..	S	S	..	¼	..	..	..	0	..
8	29·643	49·1	44·7	4·4	..	..	..	..	S by E	S	..	¼	..	..	..	0	..
10	29·630	46·2	43·4	2·8	41·0	5·2	..	..	S	SSE	..	¼	..	..	..	0	..
12	29·610	45·0	43·2	1·8	..	..	..	..	S by E	SSE	..	¼	..	..	..	1	..
14	29·584	46·1	44·6	1·5	..	..	..	..	SSW	S	..	¼	..	..	..	6	..
16	29·557	48·3	47·5	0·8	47·0	1·3	..	..	S by W	SW	..	¾	..	..	..	10	..
18	29·533	47·2	46·6	0·6	..	..	..	..	S by W	SW	..	½	..	..	..	8	..
20	29·521	48·5	48·1	0·4	..	..	..	..	S	SW	..	¼	..	..	..	9¾	Transit
22	29·500	51·3	50·4	0·9	48·5	2·8	64·5 45·7	84·2 32·3	S by E	S	½ to 1½	½+	1·82	0·00	3·769	10	..
Mar.17. 0	29·485	52·4	50·8	1·6	..	..	..	..	SSW	S by W	½ to 2	1	..	..	..	10	..
2	29·481	53·4	51·2	2·2	50·5	2·9	..	..	SSW	SSW	½ to 2	1+	..	..	..	10	..
4	29·476	54·7	51·2	3·5	50·5	4·2	..	..	SW	SSW	1 to 2½	1½+	..	..	..	4	..
6	29·490	50·4	47·2	3·2	..	..	..	..	SW	SSW	0 to 2	1	..	..	..	3	..
8	29·502	45·5	44·1	1·4	..	..	..	..	S	SSW	..	¼	..	..	..	1	..
10	29·501	43·8	43·0	0·8	42·5	1·3	..	..	S	SW	..	½	..	..	..	1	..
12	29·477	42·5	41·9	0·6	..	..	..	..	SSE	S by E	..	½	..	..	..	0	..
14	29·422	44·2	43·6	0·6	..	..	..	..	SSE	S by E	..	½	..	..	..	3	..
16	29·378	45·0	43·4	1·6	40·5	4·5	..	..	S by E	S	0 to 2	1	..	..	..	5	..
18	29·323	45·1	43·5	1·6	..	..	..	..	SSE	SSW	1 to 2½	1½+	..	..	..	3	..
20	29·328	46·3	45·7	0·6	..	..	..	..	SSE	SSW	½ to 2	1½	..	..	..	10	..
22	29·327	50·6	48·8	1·8	49·0	1·6	55·9 42·3	68.8 32·6	S	SSW	½ to 1½	¾	1·84	0·02	3·820	10	Transit
Mar.18. 0	29·357	54·8	50·0	4·8	..	..	..	..	SW	SSW	2½ to 6	1½	..	..	..	9	..
2	29·363	54·0	48·7	5·3	..	..	..	..	SW	SW	3½ to 6	2	..	..	..	9	..
4	29·387	52·7	47·8	4·9	44·5	8·2	..	..	SW	S W by S	3 to 7	2+	..	..	..	6	..
6	29·433	48·6	45·4	3·2	..	..	..	..	SW	S W by S	2 to 3	2+	..	..	..	8	..
8	29·476	45·9	43·7	2·2	..	..	..	..	SW	S W by S	0 to ½	2	..	..	..	8	..
10	29·503	42·9	41·6	1·3	40·0	2·9	..	..	SSW	SSW	0 to 1	1	..	..	..	1	..
12	29·527	42·2	40·8	1·4	..	..	..	..	S by W	S	..	½	..	..	..	0	..
14	29·542	41·4	40·1	1·3	..	..	..	..	S by W	S	..	¼	..	..	..	0	..
16	29·519	41·8	40·5	1·3	40·0	1·8	..	..	S	SSW	0 to 1	1	..	..	..	½	..
18	29·512	40·8	40·1	0·7	..	..	..	..	S	SSW	0 to 1½	¾	..	..	..	0	..
20	29·503	44·9	42·9	2·0	..	..	..	..	S	S	½ to 2½	¾	..	..	..	6	..
22	29·503	48·1	44·8	3·3	42·0	6·1	55·7 40·8	66·0 35·4	S	S	1 to 3	2½	1·84	0·00	3·825	4	Transit
Mar.19. 0	29·513	53·0	47·4	5·6	..	..	..	..	S	S	2½ to 11	2+	..	..	..	9	..
2	29·525	47·0	45·1	1·9	..	..	..	..	S	S	2 to 4½	3+	..	..	..	10	..
4	29·511	51·0	46·8	4·2	44·0	7·0	..	..	S by W	SSW	2 to 5	2	..	..	..	3	..

March 15d. 20h and 22h. The thermometer rose 10°·6 between these observations: the hygrometrical state of the air also changed rapidly, having much less relative moisture in it than previously.

March 15d. 22h and 24h. The thermometer rose 10°·7 between these observations, and the air became very much relatively drier.

March 16d, civil reckoning, was without cloud all day.

March 16d. 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 4°·5, as deduced from the two-hourly observations, during the civil day.

GENERAL REMARKS.	Observer.
Cloudless.	D
Ditto.	
Ditto.	D
Ditto.	J H
Ditto.	
Ditto.	J H
Ditto.	D
Ditto.	
Ditto.	D
A dark cloud about 1° in breadth, extending from N.N.W. to S.S.W. at about 15° altitude; lightning emanating from the N.W. part of the cloud: cloudless in every other part.	G
Dark clouds parallel to that noted at 12^h have been rising from the west since that time; and at present the whole western sky is covered: the eastern part unusually clear.	
One unbroken cloud over the sky: surging wind.	
Ursa Major and the planet Mars visible: clear sky from zenith to the horizon in the N.W.; all other parts cloudy.	
Mist or light rain: scud passing from the south: a little blue sky seen in N.W.	G
Overcast: cirro-stratus and scud: light rain: gusts of wind to 1+	J H
Ditto ditto ditto: rain has ceased.	
Ditto: light rain at intervals and gusts of wind to 2: a stormy sky: large masses of scud passing in N.W.	J H
Light fleecy clouds passing rapidly, in zenith, from S.W.: large white cumuli near the horizon all round.	G
South nearly clear: some large white cumuli to the north.	
A few dark clouds near the horizon in N.W.; every other part of the sky cloudless.	
The sky appears nearly cloudless, but the stars do not shine brightly: horizon thick, under Venus, in N.W.	G
Cloudless: hazy.	J H
Thin cirro-stratus and vapour: at $14^h.\ 10^m$ sky much clouded. [to 1+.	
The appearance of the sky very variable: at intervals nearly overspread with cirro-stratus, at others much clearer: gusts of wind	
Scud floating over from S.W.: a dense mass W. of zenith, apparently nearly stationary, the edges tinted by the Sun's rays: very heavy gusts at intervals since $16^h.\ 40^m$.	
Cirro-stratus and scud: rain falling: strong gusts of wind.	J H
Cirro-stratus and scud.	D
Clear breaks in zenith: gusts of wind.	
Cloudy; chiefly scud: wind blowing very strongly: Sun's place visible.	D
Cirro-stratus and scud: a gale of wind.	J H
Ditto ditto.	
A break in the west: zenith, and other parts of the sky, covered with a thin cirro-stratus: Venus seen dimly through the cloud.	
Nearly cloudless: hazy.	J H
Cloudless.	D
Ditto.	D
Cloudless, except a small streak of cirro-stratus in the west.	
Cloudless.	
Fleecy clouds S. of zenith: cirro-stratus in the N. and E.	D
Squalls of rain from low scud; cirro-stratus S. of zenith and in the N.E. horizon: heavy gusts of wind. About 21^h a pressure of 4 lbs. on the square foot, as recorded by the anemometer.	J H
Very cloudy: cirro-stratus and scud: a strong gale of wind and squalls of rain. [anemometer.	
Ditto: heavy gale of wind: rain in squalls. About $1^h.\ 15^m$ a pressure of 14 lbs. on the square foot, as recorded by the	J H
Scattered cumuli and cumulo-strati passing rapidly from the S.W.: wind blowing a gale.	D

March 16^d. Examined the perpendicularity of the barometer.

March $16^d.\ 16^h$. Clouds began to collect after an unusually long period of clear sky, there having been very little cloud since March $10^d.\ 12^h$.

March 18^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 $0°{\cdot}8$, as deduced from the two-hourly observations.

March $18^d.\ 22^h$. Crosley's gauge reads $0^{in}{\cdot}005$ more than yesterday; it 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.						
Mar. 19. 6	29·543	48·6	45·5	3·1	..	..	..	..	S by W	SSW	1½ to 3	1½	..	..	..	2	..
8	29·589	45·5	43·2	2·3	..	..	..	..	S by W	SSW	0 to ½	1	..	..	..	½	..
10	29·611	45·1	43·0	2·1	42·0	3·1	..	..	S by W	SSW	0 to ½	1	..	..	..	0	..
12	29·628	42·5	41·5	1·0	..	..	..	..	S by E	S by E	..	¼	..	..	..	0	..
14	29·630	40·9	40·0	0·9	..	..	..	..	SSE	S	..	¼	..	..	..	0	..
16	29·613	40·8	40·5	0·3	39·8	1·0	..	..	S by E	S	..	¼	..	..	..	0	..
18	29·586	42·0	41·2	0·8	..	..	..	..	SSE	S	..	½	..	..	..	0	..
20	29·572	42·6	41·5	1·1	..	..	..	..	SSE	S	0 to 1	¾	..	..	..	2	..
22	29·513	49·8	46·3	3·5	44·5	5·3	54·1 39·8	66·0 33·1	SSE	SE by S	1 to 3½	2	1·84	0·00	3·849	3	Transit
Mar. 20. 0	29·493	53·7	48·8	4·9	..	..	..	..	SSE	SSE	1 to 4	2	..	..	..	8	..
2	29·520	44·7	44·0	0·7	..	..	..	..	SSW	SSW	1½ to 4½	2½	..	..	..	10	..
4	29·515	45·1	43·6	1·5	41·6	3·5	..	..	SSE	S	..	¼	..	..	..	9	..
6	29·513	45·0	43·3	1·7	..	..	..	..	S	S by W	..	¼	..	..	..	9	..
8	29·505	41·6	41·0	0·6	..	..	..	..	S by E	S by W	..	¼	..	..	..	5	..
10	29·478	42·6	42·2	0·4	41·8	0·8	..	..	S by E	S by W	..	¼	..	..	..	7	..
12	29·465	44·0	43·3	0·7	..	..	..	..	S by W	SSW	..	½	..	..	..	10	..
14	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	S by W	...	..	..	..	..	..	..	..
22	29·539	48·0	46·0	2·0	..	..	57·3 39·5	70·7 36·0	SSW	SW	1 to 2	1½	1·92	0·10	3·985	5	..
Mar. 21. 0	..	..	..	..	..	..	..	..	SSW	...	1½ to 3	..	..	..	..	..	Transit
2	29·538	53·0	..	..	..	..	..	..	SSW	...	1½ to 3	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	S by W	...	1 to 2½	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	S	...	0 to 1	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	S by E	...	0 to ½	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	S by E	...	1 to 3	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	S by E	...	3½ to 7	..	..	..	..	..	..
14	29·310	48·5	48·2	0·3	..	..	..	..	S	S by W	3½ to 7	2+	..	..	..	10	..
16	29·266	48·7	48·3	0·4	44·5	4·2	..	..	S by W	S by W	3½ to 5	2	..	..	..	10	..
18	29·247	49·7	48·7	1·0	..	..	..	..	S by W	SSW	3 to 7	2½	..	..	..	10	..
20	29·243	50·0	49·7	0·3	..	..	..	..	S by W	SW by W	3 to 5	2+	..	..	..	10	..
22	29·262	51·5	51·0	0·5	51·0	0·5	55·1 48·5	72·0 —	SSW	SSW	3 to 4	2	1·94	0·03	4·059	10	In Equator
Mar. 22. 0	29·284	52·6	51·6	1·0	..	..	..	..	SSW	SSW	1½ to 4	1½	..	..	..	10	Transit
2	29·292	55·2	51·0	4·2	..	..	..	..	SW	SW	4 to 7	2+	..	..	..	4	..
4	29·344	53·3	49·0	4·3	41·0	12·3	..	..	WSW	SW by W	3 to 7	2+	..	..	..	2	..
6	29·404	50·0	47·0	3·0	..	..	..	..	...	SW by S	1 to 1½	2	..	..	..	4	..
8	29·474	~~48·8~~ 44·0	~~41·0~~ 42·5	~~0·2~~ 1·5	..	..	..	..	...	WSW	1 to 1½	½	..	..	..	2	..
10	29·517	40·8	40·4	0·4	39·0	1·8	..	..	...	WSW	..	½	..	..	..	0	..
12	29·537	42·3	41·7	0·6	..	..	..	..	...	WSW	..	½	..	..	..	8	..
14	29·573	42·7	41·6	1·1	..	..	..	..	...	SW	0 to ½	½	..	..	..	1	..
16	29·592	41·4	40·0	1·4	40·0	1·4	..	..	...	SW	..	¾	..	..	..	6	New

March 19d. 22h. Crosley's gauge records 0in·024 of rain; it fell in the squalls mentioned at 2h: none was collected at the anemometer, or in the gauge above the Library (No. 2).

March 21d. 18h. Hourly observations were commenced. (See the Section of Term-day Observations.)

March 21d. 22h. The observer inadvertently omitted to read the minimum temperature of the thermometer, whose bulb is in the parabolic reflector, exposed to the clear sky.

GENERAL REMARKS.	Observer.
Cumulo-strati in the N.: nearly cloudless S. of zenith: wind in gusts to 2 at intervals.	D
A large line of cirro-stratus in the west, otherwise cloudless.	
Cloudless.	D
Cloudless, but a dark thick sky.	G
Cloudless: about $14^h.\ 15^m$ the barometer began to fall.	
Coudless.	
Ditto. [cloudless.	
Small cumuli in the N.W.: a few tufts of cirri about zenith and south of it passing rather quickly from the S.W.; otherwise	G
Cirri and fleecy clouds.	J H
Cirro-stratus and fragments of scud: strong gusts of wind.	
Overcast: cirro-stratus: squalls of rain and a gale of wind.	J H
Rain fell fast about $2^h.\ 40^m$: at present a bright streak near the horizon extending from N.W. to S.S.W.	G
From N. to W. by S. very clear sky: horizon very clear: all other parts of the sky quite overcast.	
The break mentioned in the last observation has just come up: the clouds are passing off in the eastern part of the sky: a bank of clouds near the W. horizon.	
Slight auroral light in N.N.W., first seen at $9^h.\ 20^m$: it was a sharp, well-defined arch from N. to N.N.W.: no streamers seen: the aurora disappeared in a very short time: detached clouds in every direction.	G
Overcast: heavy rain.	J H
	G
	J H
Overcast: rain: heavy gust of wind to 3+.	
Ditto ditto: wind somewhat abated, but still blowing in gusts to $2\frac{1}{2}$.	
Scud flying rapidly from S.S.W.: violent gusts of wind.	
Scud and cirro-stratus: heavy gusts of wind.	J H
Overcast: scud passing rapidly before the wind at a low elevation: heavy gusts.	D
Cirro-stratus: wind in gusts to 2.	
Cumulo-strati in large masses passing from S.W.: breaks first appeared at 1^h: heavy gusts of wind.	D
Large white cumuli and fragments of scud: violent gusts of wind.	J H
Large cumuli and fragments of scud passing over: a squall of hail at $6^h.\ 5^m$: heavy showers of rain at $6^h.\ 10^m$.	
Scud W. of zenith. At $9^h.\ 5^m$ an aurora first perceived: several brilliant streamers of a white colour at that time extended 30° from the horizon: at $9^h.\ 10^m$ the streamers became more numerous and shot slowly upwards from behind a dark mass of cloud N. by E.; others appeared in N.N.W., but the centre of the aurora was about N. by W.: one streamer at $9^h.\ 7^m$, of a fine white colour, gradually ascended towards the zenith, the light shading off on each side of the brilliant part in the streamer: at $9^h.\ 23^m$, the streamers had disappeared: faintly diffused light in N.	
Cloudless.	J H
Sky nearly covered with a thin scud: the stars faintly visible through it: a flash of lightning in N.W. at $11^h.\ 45^m$.	D
Cirro-stratus near the N. horizon: otherwise clear. [of zenith quite cloudy: clear in the S.	
Another flash of lightning, without thunder, at $15^h.\ 5^m$; the sky at the time cloudless; soon after, it clouded over: at present N.	

~~March $22^d.\ 8^h.$ The Wet bulb Thermometer reads higher than the Dry bulb Thermometer by 0°·2.~~

March $22^d,\ 11^h.\ 47^m.$ The anemometer was found registering the direction of the wind wrong, and had been so doing from $4^h.\ 40^m$.

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.						
Mar. 22. 18	29·651	40·5	39·4	1·1	..	..	..	..	...	SW	½ to 1½	½	..	..	..	6	..
20	29·699	42·9	41·7	1·2	..	..	..	..	...	SW	0 to 1	½	..	..	..	5	..
22	29·747	48·0	45·2	2·8	43·5	4·5	56·5 39·8	70·0 35·5	WSW	WSW	2 to 4½	½	1·97	0·05	4·139	8	..
Mar. 23. 0	29·804	50·8	46·1	4·7	..	..	..	..	W by S	WSW	2 to 4	1½	..	..	..	6	Transit
2	29·840	55·5	52·5	3·0	..	..	..	..	W by S	WSW	2 to 3½	1½	..	..	..	6	..
4	29·891	55·3	47·5	7·8	40·0	15·3	..	..	W by S	WSW	3 to 7	2½	..	..	..	4	..
6	29·938	52·0	45·9	6·1	..	..	..	..	W by S	W	1 to 3	1½	..	..	..	7	..
8	29·987	49·0	45·5	3·5	..	..	..	..	WSW	W	1 to 3	1½	..	..	..	9	..
10	30·020	47·6	46·0	1·6	45·0	2·6	..	..	WSW	W	..	1	..	..	..	10	..
12	30·056	45·8	44·7	1·1	..	..	..	..	WSW	SW	..	½	..	..	..	1	..
14	30·065	43·9	43·4	0·5	..	..	..	..	WSW	SW	..	¼	..	..	..	0	..
16	30·078	45·5	44·8	0·7	44·0	1·5	..	..	WSW	SW	..	¾	..	..	..	10	..
18	30·100	46·4	45·0	1·4	..	..	..	..	WSW	SW	..	½	..	..	..	10	..
20	30·119	47·3	45·6	1·7	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
22	30·132	50·8	47·7	3·1	44·0	6·8	56·9 43·8	70·7 39·8	...	SW	..	¼	1·97	0·00	4·139	10	..
Mar. 24. 0	30·146	53·4	49·6	3·8	..	..	..	..	...	SW by W	..	¼	..	..	..	8	..
2	30·137	53·4	49·8	3·6	..	..	..	..	...	SW by W	..	½	..	..	..	10	Transit
4	30·120	52·6	49·4	3·2	45·2	7·4	..	..	...	SW	..	½	..	..	..	9½	..
6	30·104	52·0	48·4	3·6	..	..	..	..	...	SW by W	..	½	..	..	..	2	..
8	30·128	45·1	43·7	1·4	..	..	..	..	...	SW by W	..	½	..	..	..	3	..
10	30·124	42·7	41·7	1·0	41·5	1·2	..	..	...	SW	..	½	..	..	..	0	..
12	30·105	39·4	39·0	0·4	..	..	..	..	...	SW	..	¼	..	..	..	0	..
14	30·082	41·5	40·5	1·0	..	..	..	..	...	SW	..	¼	..	..	..	0	..
16	30·033	41·0	40·3	0·7	38·0	3·0	..	..	...	SW	..	¼	..	..	..	0	..
18	30·026	40·8	40·2	0·6	..	..	..	..	...	SW by S	..	¼	..	..	..	2	..
20	30·026	44·9	43·5	1·4	..	..	..	..	...	Calm	..	..	..	..	..	2	..
22	30·026	51·8	49·4	2·4	46·5	5·3	55·5 39·3	67·2 32·0	...	SW	..	¼	1·97	0·00	4·139	2	..
Mar. 25. 0	29·994	55·7	52·3	3·4	..	..	..	..	...	W by S	..	¼	..	..	..	6	..
2	29·943	58·3	54·3	4·0	..	..	..	..	SSW	SSW	0 to ½	¼	..	..	..	4	Transit
4	29·906	58·3	52·7	5·6	51·0	7·3	..	..	SW	WSW	½ to 1	¼	..	..	..	2	..
6	29·880	52·4	49·8	2·6	..	..	..	..	SW	SW	½ to 1½	½	..	..	..	0	..
8	29·859	47·6	46·0	1·6	..	..	..	..	SW	SW	..	¼	..	..	..	1	..
10	29·857	46·5	45·1	1·4	42·5	4·0	..	..	SSW	SW by S	..	¼	..	..	..	0	..
12	29·822	45·9	44·5	1·4	..	..	..	..	SSW	SSW	..	¼	..	..	..	0	..
14	29·762	45·2	44·0	1·2	..	..	..	..	S	S	..	¼	..	..	..	0	..
16	29·688	45·2	44·1	1·1	42·0	3·2	..	..	SSE	SSE	..	¼	..	..	..	0	..
18	29·632	44·4	43·2	1·2	..	..	..	..	SSE	SSE	..	¼	..	..	..	1	..
20	29·614	49·7	47·2	2·5	..	..	..	..	S by W	S	..	¼	..	..	..	3	..
22	29·586	56·6	52·2	4·4	48·0	8·6	61·6 44·3	78·0 37·4	SSW	S	1 to 1¼	¾	1·97	0·00	4·139	7	..
Mar 26. 0	29·561	62·8	57·2	5·6	..	..	..	..	SSW	SSW	0 to ½	¼	..	..	..	8	..
2	29·492	63·3	58·0	5·3	..	..	..	..	SSW	SSW	..	¼	..	..	..	6	..
4	29·452	62·6	57·8	4·8	54·0	8·6	..	..	SSW	SSW	..	¼	..	..	..	7	Transit
6	29·459	53·6	52·0	1·6	..	..	..	..	SW	SW	½ to 1	¼	..	..	..	10	..
8	29·459	49·8	49·1	0·7	..	..	..	..	SW	SW	½ to 1½	½	..	..	..	10	..
10	29·487	48·2	47·0	1·2	47·0	1·2	..	..	WSW	SW	½ to 1½	1	..	..	..	10	..
12	29·538	44·0	43·4	0·6	..	..	..	..	WSW	W	0 to ½	¾	..	..	..	2	..

March 22d. 21h +. The screw which fixes the spindle to the vane was again found loose, and required more than two turns to fix it. The anemometer was set right by the azimuth of the staff.

March 22d and 23d. 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·469, as deduced from the two-hourly observations.

March 23d. 21h. The anemometer was partly taken down by Mr. Newman's workmen, and the spindle was tapped at every part in which it is joined to the other parts of the instrument, so that the screws enter the tube, not depending for the fixity of their position on friction, as they have hitherto done.

GENERAL REMARKS.	Observer.
Sky north of zenith covered with a thin cirro-stratus, clear elsewhere.	D
Cumulo-strati and loose scud passing over: a shower of rain at $19^h.\ 40^m$.	D
Scud and cumulo-stratus.	J H
Scud and a fine blue sky above: cumulo-stratus in S. E.	P
Scud and cumuli with cirro-stratus lining the whole horizon: a fine azure sky above.	P
Cumuli in different parts of the sky: fragments of scud.	D
Thin cirro-stratus generally prevalent: gusts of wind to 2.	
Thin cirro-stratus: the principal stars visible through it.	
Overcast: cirro-stratus.	D
Horizon thick, nearly cloudless.	G
Ditto ditto: a thick looking sky, but no absolute cloud.	
Overcast.	
Ditto.	
Ditto.	G
Ditto: cirro-stratus.	J H
Cloudy: cirro-stratus and scud.	
Heavy cumulo-strati south of zenith: overcast.	J H
Very cloudy: cirro-stratus: clouds a little broken near the western horizon.	G
Light cirri N. of zenith: vapour in east and south: a thin cirro-stratus in the western part of the sky.	J H
Cumuli in S.W. above Moon: dark scud.	P
Cloudless.	G
Ditto.	D
Ditto.	J H
Ditto: hazy.	J H
Clouds rising, and settling in zenith.	P
Fleecy clouds everywhere: most clouds near the S. horizon.	M
Hazy.	D
Cirro-stratus in horizon and scud.	P
Cumuli and cirri in various parts of the sky.	J H
Ditto ditto.	D
Nearly cloudless: a few cirri in south.	G
Light scud in S. and S.W. approaching the zenith; otherwise clear.	P
Cloudless.	J H
Ditto.	D
Ditto.	
Ditto.	
Small streaks of cirro-stratus in the east near the horizon: otherwise cloudless.	
Cirri in various parts of the sky.	D
Sky nearly covered with detached undefined clouds: gusts of wind.	J H
Cirro-cumulus in the zenith: undefined clouds in the N.W.	
Fleecy clouds: small fragments of scud south of zenith, and clouds more collected to windward.	J H
Fleecy clouds in zenith: cirro-stratus elsewhere.	D
Overcast: cirro-stratus: slight rain.	
Ditto ditto.	
Ditto ditto.	D
About $11^h.\ 10^m$ it cleared off rather suddenly: at present cirro-stratus collecting in N. and W. near the horizon: every other part of the sky quite clear.	G

March $25^d.\ 2^h$. Before this observation, the compass card, the pointer, and the vane were adjusted by the azimuth of the staff. After this a 1lb. weight was left hanging to the pressure plate, for the purpose of keeping the pressure wire in tension, and to bring a different part of the spring in action.

March $24^d.\ 10^h$. Hourly observations were commenced. (See Section of Term-day Observations.)

March 26^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.						
Mar. 26. 14	29·558	40·5	40·2	0·3	..	..	..	..	SW	W	..	¼	..	..	..	0	..
16	29·571	42·0	41·2	0·8	41·0	1·0	..	..	SSW	W	..	1	..	..	..	10	..
18	29·597	42·6	42·3	0·3	..	..	..	..	SW	SW	..	½	..	..	..	9½	..
20	29·605	44·5	44·2	0·3	..	..	..	..	SW	SW	..	¼	..	..	..	4	..
22	29·641	48·0	46·7	1·3	47·0	1·0	66·9 40·1	83·7 34·2	WSW	SW	..	¼	1·99	0·03	4·180	8	..
Mar. 27. 0	29·643	54·6	51·2	3·4	..	..	..	..	SW	SW by W	0 to 1	½	..	..	..	6	..
2	29·659	51·0	49·3	1·7	..	..	..	..	SSW	SW by W	..	½	..	..	..	9	..
4	29·660	52·4	50·2	2·2	44·0	8·4	..	..	SSW	WSW	..	¼	..	..	..	8	Transit
6	29·673	50·8	49·4	1·4	..	..	..	..	SSW	SW	..	¼	..	..	..	2	..
8	29·713	45·5	45·4	0·1	..	..	..	..	SSW	SSW	..	¼	..	..	..	1	..
10	29·733	45·0	43·8	1·2	41·5	3·5	..	..	WSW	W	..	¼	..	..	..	0	..
12	29·756	41·1	40·0	1·1	..	..	..	..	SW	SW by S	..	¼	..	..	..	¼	..
14	..	..	..	..	..	..	..	..	SW								
16	..	..	..	..	..	..	..	..	SW								
18	..	..	..	..	..	..	..	..	SW								
20	..	..	..	..	..	..	..	..	SW								
22	..	..	..	..	..	..	59·1 36·5	80·6 30·8	SW		..	..	1·99	0·00	4·180	..	..
Mar. 28. 0	29·817	51·6	48·8	2·8	..	..	..	..	SW	SSW	½ to 1½	¼	..	..	..	2	..
2	..	..	..	..	..	..	..	..	SW		½ to 1½	..	..	..	..	..	..
4	29·789	52·6	50·5	2·1	47·0	5·6	..	..	SW	SSW	½ to 1	½	..	..	..	10	..
6	..	..	..	..	..	..	..	..	SSW		0 to ½	..	..	..	..	..	Transit
8	..	..	..	..	..	..	..	..	S by W		0 to ½	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	S by W		..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	S		0 to ½	..	..	..	..	..	Greatest Declination N.
14	29·792	46·5	45·7	0·8	..	..	..	..	S	S by W	..	½	..	..	..	9	..
16	29·789	46·1	45·5	0·6	43·0	3·1	..	..	S	S by W	0 to ½	½	..	..	..	10	..
18	29·785	46·0	45·7	0·3	..	..	..	..	S by E	SW by S	..	½	..	..	..	9¾	..
20	29·786	48·2	47·6	0·6	..	..	..	..	S by W	SW by S	0 to 1	½	..	..	..	8	..
22	29·799	51·0	49·9	1·1	48·5	2·5	56·9 46·3	78·8 41·9	SSW	SSW	0 to 1	¼	2·00	0·01	4·215	9	..
Mar. 29. 0	29·795	54·9	53·2	1·7	..	..	..	..	SW	SSW	½ to 1	½	..	..	..	9	..
2	29·765	55·8	53·9	1·9	..	..	..	..	SW	SSW	½ to 1½	½	..	..	..	8	..
4	29·737	53·4	51·5	1·9	48·0	5·4	..	..	SW	SW	1 to 1½	½	..	..	..	10	..
6	29·716	49·0	49·3	—0·3	..	..	..	..	SW	SSW	½ to 1	½	..	..	..	7	Transit
8	29·706	46·5	45·5	1·0	..	..	..	..	SSW	SSW	..	½	..	..	..	10	..
10	29·697	45·7	45·0	0·7	43·5	2·2	..	..	SSW	SSW	½ to 1	½	..	..	..	10	..
12	29·641	44·5	44·2	0·3	..	..	..	..	SSW	S	1 to 1½	½	..	..	..	10	..
14	29·659	44·1	44·5	—0·4	..	..	..	..	WSW	SW	½ to 1	2	..	..	..	9	..
16	29·668	42·0	41·4	0·6	..	..	..	..	WSW	SW	1 to 1½	½	..	..	..	1	1st Qr.
18	29·691	41·0	40·2	0·8	..	..	..	..	WSW	SW by W	½ to 1	2—	..	..	..	3	..
20	29·740	43·0	42·3	0·7	..	..	..	..	WSW	W	½ to 1	¼	..	..	..	6	..
22	29·781	46·6	45·2	1·4	44·0	2·6	56·9 40·3	75·2 37·6	W	W by S	1 to 2	½	2·09	0·05	4·349	4	..
Mar. 30. 0	29·803	50·2	47·6	2·6	..	..	..	..	WNW	WNW	1 to 1½	½	..	..	..	4	..
2	29·817	52·4	49·5	2·9	..	..	..	..	W	SSW	1½ to 2	½	..	..	..	4	..

March 26d and 27d. 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°·6, as deduced from the two-hourly observations.

March 26d. 18h. Examined the perpendicularity of the barometer.

March 29d. 6h and 14h. The Wet bulb Thermometer reads higher than the Dry bulb Thermometer.

March 29d. 16h. The observation of the Dew Point was inadvertently omitted.

GENERAL REMARKS.	Observer.
Cloudless.	G
Sky continued cloudless till about $15^h.\ 10^m$, when dark clouds appeared near the horizon in N.W. and S., which gradually covered the heavens: it continues overcast.	
A little break near the eastern horizon; elsewhere an unbroken cloud. [cloudless.	
The clouds have slowly cleared off since the last observation: at present a few cirro-cumuli in S. and E.; other parts of the sky	G
Large cumulo-strati: the clouds appear highly electrical.	J H
Heavy cumulo-strati N. of zenith: cumuli in southern part of the sky.	
Heavy cumulo-strati generally prevalent: threatening to windward and S. of zenith: at $2^h.\ 40^m$ a dense cumulo-stratus in N.; the southern part of the sky very heavy.	J H
Sky nearly covered with large massive cumulo-strati: some cumuli in the north with silvery tops.	G
Cumulo-strati in the N.; remainder clear except a dark nimbus in the W.	
Since the last observation a shower of rain: during the day slight showers have fallen from badly defined nimbi: at present the Moon is imbedded in cloud, and a long cirro-stratus a little above the horizon in the north: the remainder clear.	
Cloudless: the Moon and Venus shining brilliantly.	G
Cloudless; except a thin streak of cirro-stratus beneath the Moon.	J H
Light cirri: very fine.	D
Clouded over soon after noon: at present, the sky quite covered with cirro-stratus.	D
The Moon setting in a veil of cloud: thin cirro-stratus over a great part of the sky: stars shining east and south of zenith.	J H
Overcast: wind blowing in gusts.	
Very cloudy: cirro-stratus: rain falling: a break in the eastern part of the sky.	
Cirro-stratus and scud: linear cirri west of zenith: the rain ceased at $19^h.\ 20^m$: gusts of wind.	J H
Cirro-stratus: clear breaks in the zenith.	D
Clear breaks about the zenith: otherwise cloudy.	
Clear in zenith: the rest of the sky covered with cirro-stratus.	D
A very heavy sky: cirro-stratus and cumulo-stratus.	J H
Cirro-stratus: breaks east of zenith and in the north: heavy cumulo-strati in N.W.	
Cirro-stratus: Moon obscured: small fragments of scud passing over.	
Overcast: rain falling, which commenced at $8^h.\ 40^m$.	J H
Raining: completely cloudy: wind blowing in gusts.	M
A smart shower a few minutes before the observation: a break to the N. and N.W.: squally.	
The clouds have suddenly cleared away: brisk wind.	
Light cirro-stratus clouds: morning fine.	M
Scud and cirro-stratus: the Sun shining, but the shadows cast are very faint.	G
Light clouds and vapour: cumuli passing from W. N.W.	J H
Large cumuli floating over from N.W. by W.	
Large cumuli: gusts of wind to 1+.	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.						
Mar. 30. 4	29·810	52·5	50·0	2·5	42·0	10·5	..	..	WSW	W	½ to 1	1	..	..	..	10	..
6	29·809	50·2	47·3	2·9	..	..	..	..	SW	WSW	0 to ½	½	..	..	..	10	..
8	29·781	47·3	45·6	1·7	..	..	..	..	SSW	S by W	½ to 1	½	..	..	..	10	Transit
10	29·735	46·4	45·2	1·2	44·0	2·4	..	..	SSW	SSW	½ to 1	½	..	..	..	10	..
12	29·676	46·9	45·6	1·3	..	..	..	..	SSW	SSW	1 to 2	2	..	..	..	10	..
14	29·574	46·0	45·5	0·5	..	..	..	..	SSW	SSW	2½ to 4	2½	..	..	..	10	..
16	29·487	46·1	45·8	0·3	46·0	0·1	..	..	SW	SSW	4½ to 7	2½	..	..	..	10	..
18	29·510	42·8	41·0	1·8	..	..	..	..	WSW	SSW	½ to 1	1	..	..	..	10	..
20	29·527	43·8	41·9	1·9	..	..	..	..	WSW	SW	1 to 2	1¼	..	..	..	1	..
22	29·535	47·3	43·4	3·9	39·0	8·3	55·5 42·1	75·4 40·1	WSW	WSW	3 to 3½	1½+	2·14	0·04	4·389	5	..
Mar. 31. 0	29·471	51·0	51·3	−0·3	..	..	..	..	WSW	SW by W	2 to 3	1½	..	..	..	5	Perigee
2	29·488	52·5	46·0	6·5	..	..	..	..	WSW	WSW	2 to 3	1½	..	..	..	4	..
4	29·453	50·8	43·5	7·3	39·0	11·8	..	..	WSW	WSW	2½ to 4	1½	..	..	..	10	..
6	29·437	46·8	41·9	4·9	..	..	..	..	WSW	WSW	3 to 3½	1½	..	..	..	10	..
8	29·430	41·5	39·5	2·0	..	..	..	..	WSW	WSW	2 to 2½	1½	..	..	..	4	Transit
10	29·389	41·5	40·0	1·5	41·0	0·5	..	..	WSW	WSW	2 to 2½	1½	..	..	..	10	..
12	29·402	43·0	41·5	1·5	..	..	..	..	WSW	NW	1 to 1½	1½	2·17	0·03	4·463	10	..
14	29·405	43·0	41·5	1·5	..	.	..	..	WSW	WSW	2 to 2½	1	..	..	..	7	..
16	29·414	43·2	41·4	1·8	39·0	4·2	..	..	WSW	WSW	1 to 1½	1+	..	..	..	10	..
18	29·441	43·3	41·3	2·0	..	..	..	..	W	W	1 to 1½	1	..	..	..	10	..
20	29·485	42·6	40·9	1·7	..	..	..	..	W	W by N	1 to 1½	¾	..	..	..	10	..
22	29·510	45·0	42·6	2·4	41·0	4·0	54·1 41·0	75·7 40·8	WNW	WNW	1 to 1½	½	2·17	0·00	4·463	10	..
Apr. 1. 0	29·533	45·5	43·2	2·3	..	..	..	..	WNW	WNW	½ to 1	¼	..	..	..	10	..
2	29·531	49·1	44·0	5·1	..	..	..	..	W by N	WNW	½ to 1	¼	..	..	..	9½	..
4	29·523	48·6	44·4	4·2	40·0	8·6	..	..	W	W by S	..	¼	..	..	..	10	..
6	29·512	47·8	44·4	3·4	..	..	..	..	SW	W by N	..	¼	..	..	..	10	..
8	29·526	46·3	44·0	2·3	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
10	29·499	45·5	43·9	1·6	43·0	2·5	..	..	SSW	SW	..	¼	..	..	..	10	Transit
12	29·483	44·5	43·5	1·0	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
14	29·463	44·0	44·0	0·0	..	..	..	..	S by W	SW	..	¼	..	..	..	10	..
16	29·417	44·5	44·4	0·1	44·0	0·5	..	..	SSW	Calm	..	..	..	..	..	10	..
18	29·439	44·0	42·3	1·7	..	..	..	..	NW	N	½ to 1	½	..	..	..	10	..
20	29·485	43·1	41·0	2·1	..	..	..	..	NW	NNW	½ to 1½	¾	..	..	..	0	..
22	29·504	46·3	42·9	3·4	40·0	6·3	50·1 43·3	62·0 39·8	NNW	NNW	1 to 2	1	2·20	0·05	4·520	1	..
Apr 2. 0	29·525	48·8	43·2	5·6	..	..	..	..	NW	NNW	1 to 2	1	..	..	..	6	..
2	29·548	51·0	43·6	7·4	..	..	..	..	NW	N by W	1 to 2	1+	..	..	..	6	..
4	29·546	50·1	43·5	6·6	39·0	11·1	..	..	NW	NNW	1 to 2	¾	..	..	..	7	..
6	29·567	49·8	43·4	5·4	..	..	..	..	NW	NNW	..	½	..	..	..	5	..
8	29·607	46·0	42·0	4·0	..	..	..	..	NW	NNW	..	½	..	..	..	6	..
10	29·626	43·5	39·0	4·5	31·0	12·5	..	..	NNW	NNW	..	¼	..	..	..	0	Transit
12	29·630	37·0	35·5	1·5	..	..	..	..	Calm	N	..	¼	..	..	..	0	..
14	29·635	35·8	34·5	1·3	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·578	34·0	33·0	1·0	32·0	2·0	..	..	Calm	Calm	..	..	..	..	..	1	..
18	29·624	33·4	32·1	1·3	..	..	..	..	WSW	W	..	¼	..	..	..	2	..
20	29·624	37·8	36·5	1·3	..	..	..	..	WSW	W	..	¼	..	..	..	5	..
22	29·596	45·8	43·8	2·0	41·0	4·8	52·3 33·0	67·6 24·4	W	W by S	..	¼	2·20	0·00	4·520	7	..

March 31d. 0h. The reading of the Wet Thermometer is higher than the reading of the Dry Thermometer; it is most likely 5° in error, and it should have been 46°·3: no note was made at the time of observation as to the correctness of the readings, which, if the Wet Thermometer had really been the higher, would undoubtedly have been made.

March 31d. 12h. The amount of rain collected during the month of March in the rain-gauge No. 4, was 1in·35.

GENERAL REMARKS.	Observer.
Overcast: slight rain falling.	G
Ditto ditto	D
Ditto: cirro-stratus: the rain has ceased: Moon just visible: gusts of wind to 1+.	J H
Ditto: thin cirro-stratus: scud passing rapidly from S.S.W.: gusts of wind to 1+. The larger stars faintly visible.	J H
Overcast.	P
Ditto: large drops of rain falling at intervals: wind increasing.	
Ditto: rain.	
Ditto: cirro-stratus, and light scud.	
Clear in zenith: cirro-stratus in horizon: a thin scud generally prevalent.	P
Cumuli passing rapidly: a moderate gale of wind.	J H
Ditto ditto. [cumuli pass rapidly: cumulo-strati in N.E. horizon.	
A squall of rain at $0^h.\ 40^m$, and gusts of wind about the same time, with a pressure of 9 lbs. on the square foot: at present large	J H
Overcast.	P
Overcast, with scud.	
Cirro-stratus in N.W. and N.E., with scud: clear in zenith.	
Overcast: rain.	P
Ditto: large clouds passing rapidly from N.	G
Fleecy clouds: strong gusts of wind.	J H
Overcast: ditto: an upper current from W.N.W.	
Ditto: cirro-stratus and scud: the clouds move from N.W. by W.	
Ditto ditto: slight rain falling.	J H
Ditto ditto.	D
Overcast: cirro-stratus.	
Clear breaks in zenith: otherwise overcast.	D
Overcast: cirro-stratus.	J H
Ditto ditto. [minutes after this observation.	
Ditto ditto: the Moon is visible through the clouds, which move from N.W. A little rain commenced falling five	
Overcast: Moon visible through the clouds, which still move from N.W.	J H
Ditto ditto.	D
Ditto: thick rain.	
Ditto: cirro-stratus.	
Ditto ditto.	
Cloudless: cleared off at $18^h.\ 20^m$, since which time the clouds have been gradually disappearing.	D
Light cumuli: gusts of wind.	J H
Cumuli: ditto.	
Large cumuli: ditto.	J H
Large cumulo-strati all over the sky.	D
Heavy masses of cumulo-strati in N.	
Cirro-stratus in and S. of zenith: a slight shower of rain falling: clear N. of zenith.	
Cloudless.	D
Ditto.	G
Ditto. The thermometer, whose bulb is in the parabolic reflector exposed to the sky, reads 24°.	
About 10^m after the last observation, a lunar halo, whose diameter was about 50°, was observed; the sky at the same time being cloudless: shortly after, bars of clouds formed in N. and passed over zenith to S.: at present the halo continues; otherwise	
A few clouds near horizon in S. and E.; the remainder of the sky clear. [cloudless.	
A very thin veil of clouds over the northern and southern portions of the sky: hoar frost.	G
Thin cirro-stratus and vapour.	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.						
Apr. 3. 0	29·574	51·7	46·0	5·7	..	..	..	..	WSW	W by S	..	¼	..	..	..	7	..
2	29·538	50·6	42·9	7·7	..	..	..	..	W	W	..	¼	..	..	..	8	..
4	29·506	51·8	45·4	6·4	35·2	16·6	..	..	WNW	W	..	¼	..	..	..	4	..
6	29·514	48·5	43·5	5·0	..	..	..	..	N	N	..	¼	..	..	..	8	..
8	29·521	44·1	42·0	2·1	..	..	..	..	WSW	W	..	¼	..	..	..	8	..
10	29·538	39·5	38·3	1·2	36·5	3·0	..	..	WSW	W	..	¼	..	..	..	6	Transit
12	29·534	37·0	36·3	0·7	..	..	..	..	WSW	SW by W	..	¼	..	..	..	0	..
14	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	In Equator.
22	29·513	48·8	45·4	3·4	..	..	54·9 32·8	76·5 25·0	WSW	W	..	¼	2·20	0·00	4·520	5	..
Apr. 4. 0	..	..	..	..	..	..	..	..	SW	...	½ to 1	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	WSW	...	2 to 2½	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	SW	...	2 to 2½	..	..	..	..	..	..
6	29·412	48·6	45·5	3·1	..	..	..	..	SSW	W	1 to 2	¼	..	..	..	5	..
8	..	..	..	..	..	..	..	..	SSE	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	SSE	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	S	...	1 to 2	..	..	..	..	..	Transit
14	29·278	42·0	41·0	1·0	..	..	..	..	S	S	1 to 1½	¾	..	..	..	10	..
16	29·250	41·7	41·1	0·6	39·0	2·7	..	..	S	S	0 to 1	½	..	..	..	10	..
18	29·251	41·3	40·6	0·7	..	..	..	..	S	S	..	½	..	..	..	10	..
20	29·263	42·5	42·4	0·1	..	..	..	..	SSW	S	..	½	..	..	..	10	..
22	29·280	47·4	46·1	1·3	43·0	4·4	55·5 41·9	76·0 30·4	SSW	S	..	½	2·31	0·10	4·705	10	..
Apr. 5. 0	29·296	50·8	47·5	3·3	..	..	..	..	S	S	..	¼	..	..	..	9	..
2	29·306	51·4	47·9	3·5	..	..	..	..	S by W	S by W	..	¼	..	..	..	7	..
4	29·302	51·1	45·5	5·6	40·0	11·1	..	..	S	S	..	¼	..	..	..	6	..
6	29·322	50·4	45·9	4·5	..	..	..	..	SE	S	..	¼	..	..	..	6	..
8	29·372	44·4	42·5	1·9	..	..	..	..	E	ESE	..	½	..	..	..	8	..
10	29·407	41·3	40·7	0·6	40·5	0·8	..	..	E by S	ESE	..	¼	..	..	..	9	..
12	29·446	41·2	41·0	0·2	..	..	..	..	Calm	E by S	..	½	..	..	..	8	Transit
14	29·450	39·8	39·8	0·0	..	..	..	..	Calm	ENE	..	¼	..	..	..	7	Full
16	29·465	41·6	41·4	0·2	40·0	1·6	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·506	41·6	41·5	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·541	43·1	42·1	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
22	29·581	45·7	43·8	1·9	42·0	3·7	51·6 40·0	78·9 35·5	NNE	ENE	0 to ¼	¼	2·32	0·01	4·711	10	..
Apr. 6. 0	29·592	47·9	44·9	3·0	..	..	..	..	NNE	ENE	0 to ¼	¼	..	..	..	4	..
2	29·604	49·9	45·8	4·1	..	..	..	..	ENE	ENE	..	¼	..	..	..	9¾	..
4	29·608	47·5	44·2	3·3	44·0	3·5	..	..	ENE	ENE	..	¼	..	..	..	10	..
6	29·627	43·8	43·0	0·8	..	..	..	..	NNE	ENE	..	¼	..	..	..	10	..
8	29·630	41·0	40·2	0·8	..	..	..	..	N	N	..	¼	..	..	..	0	..
10	29·649	39·7	39·4	0·3	39·0	0·7	..	..	SE	ESE	..	¼	..	..	..	0	..
12	29·665	40·7	40·0	0·7	..	..	..	..	ESE	ESE	..	¼	..	..	..	10	..
14	29·663	39·6	38·7	0·9	..	..	..	..	ESE	ESE	..	¼	..	..	..	10	Transit
16	29·658	38·4	37·5	0·9	36·2	2·2	..	..	SE	ESE	..	¼	..	..	..	10	..
18	29·656	37·8	37·0	0·8	..	..	..	..	SE	ESE	..	¼	..	..	..	10	..
20	29·671	39·6	38·0	1·6	..	..	..	..	SE	ESE	..	¼	..	..	..	10	..
22	29·684	44·2	41·7	2·5	39·0	5·2	53·8 37·2	79·3 34·5	SSE	ESE	..	¼	2·38	0·09	4·788	9	..

April 3d. 0h. The thermometer has been rising at the rate of 3° per hour for four hours.

April 4d. 16h. This is the lowest barometrical reading during the month.

April 5d. 22h. Examined the perpendicularity of the barometer.

April 5d, civil reckoning. The mean height of the barometer was less on this day than on any other day during the month, being 29in·314, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Cumuli and cirro-stratus S. of zenith: cumulo-stratus in N.N.W.	J H
Large cumulo-strati cover a great portion of the sky; principally N. of zenith.	J H
Sky dull; sun shining, but scarcely casts a shadow: scattered tufts of cumuli.	G
Sky generally covered with cirro-stratus and cirro-cumulus.	
Sky clear about the place of Venus; elsewhere overcast.	
Cirro-stratus S. of zenith: sky generally hazy: a lunar halo has been visible for the last hour; diameter 53°.	G
Cloudless.	J H
Large white cumuli scattered around, fine deep blue sky between them: early in the morning the ground white with frost.	G
	G
Overcast: cirro-stratus: rain falling: gusts of wind to $1\frac{1}{2}+$: a lunar halo 30° radius at $8^h.\ 10^m$: the rain commenced at $11^h.\ 10^m$.	J H
Cirro-stratus and scud: rain falling.	
Ditto ditto.	
Ditto ditto.	J H
Overcast: cirro-stratus: Sun's place visible.	D
Clear breaks S. of zenith; otherwise overcast.	
Cirro-stratus and cumulo-stratus in all parts of the sky.	D
Cumulo-strati and fleecy clouds: clear in and S.E of zenith.	J H
Cumulo-strati and detached undefined clouds: the wind veered suddenly to E. during a squall of rain at $6^h.\ 15^m$.	
Scud in various parts of the sky: Moon shining through cirro-stratus.	
Scud and cirro-stratus nearly obscure the sky.	J H
Fleecy clouds in and S. of zenith: the rest of the sky is chiefly covered with cirro-stratus.	D
Clear S.W. of zenith; the remainder of the sky cloudy.	
Overcast; cirro-stratus.	
Ditto ditto.	
Fleecy clouds and cirro-stratus: clear in the S.	D
Overcast: cirro-stratus and fleecy clouds.	J H
Fleecy cumuli scattered about the sky.	
Very cloudy: cumulo-strati and scud.	J H
Overcast: cirro-stratus: slight rain.	D
Ditto ditto: rain has been falling without intermission from the last observation, until within a few minutes of the [present time.	
Cloudless: the clouds disappeared at $7^h.\ 10^m$.	
Ditto.	D
Overcast: not a break.	G
Ditto ditto.	
Ditto ditto.	
Ditto ditto.	
Ditto ditto: the clouds became broken five minutes after this observation.	G
Light fleecy clouds: hazy.	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.						
Apr. 7. 0	29·687	49·2	45·4	3·8	..	..	..	..	Calm	SSW	..	¼	..	..	..	6	..
2	29·673	51·2	46·7	4·5	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
4	29·664	48·9	45·0	3·9	43·5	5·4	..	..	Calm	Calm	..	..	..	..	..	10	..
6	29·661	47·2	44·1	3·1	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
8	29·666	44·5	42·5	2·0	..	..	..	..	SE	SE by S	..	¼	..	..	..	10	..
10	29·663	43·2	42·0	1·2	38·0	5·2	..	..	SSW	S by E	..	¼	..	..	..	10	..
12	29·661	42·0	40·6	1·4	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
14	29·655	41·1	39·9	1·2	..	..	..	..	SW	SSW	..	¼	..	..	..	10	Transit
16	29·650	41·2	40·5	0·7	38·5	2·7	..	..	SW	SSW	..	¼	..	..	..	10	..
18	29·648	40·6	40·1	0·5	..	..	..	..	SW by S	SSW	..	¼	..	..	..	8	..
20	29·673	42·7	41·8	0·9	..	..	..	..	W by S	SW	..	¼	..	..	..	7	..
22	29·679	45·4	42·5	2·9	39·5	5·9	55·6 40·8	75·0 39·0	W	WNW	..	¼	2·38	0·05	4·830	6	..
Apr. 8. 0	29·670	48·2	43·3	4·9	..	..	..	..	W	W	½ to 1	½	..	..	..	10	..
2	29·656	49·0	44·6	4·4	..	..	..	..	W	W by S	½ to 1	½	..	..	..	9	..
4	29·630	48·7	44·3	4·4	40·5	8·2	..	..	W by S	WSW	1 to 3	1	..	..	..	8	..
6	29·644	43·0	41·5	1·5	..	..	..	..	W by S	WSW	1 to 3	1+	..	..	..	10	..
8	29·637	41·3	40·6	0·7	..	..	..	..	WSW	WSW	..	½	..	..	..	2	..
10	29·654	40·9	40·1	0·8	39·0	1·9	..	..	WSW	WSW	..	¼	..	..	..	10	..
12	29·676	42·6	41·4	1·2	..	..	..	..	W	WSW	..	¼	..	..	..	10	..
14	29·698	41·3	40·2	1·1	..	..	..	..	WNW	NW	..	1	..	..	..	0	Transit
16	29·710	38·5	38·0	0·5	36·5	2·0	..	..	W	NW	..	¼	..	..	..	0	..
18	29·735	39·0	38·6	0·4	..	..	..	..	W	W by N	..	¼	..	..	..	3	..
20	29·758	43·6	41·4	2·2	..	..	..	..	NW	WNW	½ to 1½	1	..	..	..	9	..
22	29·778	46·7	43·0	3·7	39·0	7·7	51·5 38·3	72·8 26·5	NW	NW	1 to 2	1	2·44	0·15	5·010	8	..
Apr. 9. 0	29·780	49·4	45·0	4·4	..	..	..	..	N	N	½ to 1	1	..	..	..	4	..
2	29·759	50·7	43·3	7·4	..	..	..	..	NNW	NW	2 steady	¾	..	..	..	7	..
4	29·747	50·4	42·5	7·9	37·0	13·4	..	..	NNW	NW	1½ to 3½	1½	..	..	..	9	..
6	29·765	48·7	42·2	6·5	..	..	..	..	NNW	N by W	½ to 5	2	..	..	..	8	..
8	29·811	43·9	40·3	3·6	..	..	..	..	N	N by W	1 to 3	1	..	..	..	3	..
10	29·851	40·7	38·7	2·0	37·5	3·2	..	..	N	N by W	½ to 1	1	..	..	..	0	..
12	29·907	39·2	38·2	1·0	..	..	..	..	N	NNW	..	½	..	..	..	9	..
14	29·931	38·4	37·4	1·0	..	..	..	..	N	NNW	..	½	..	..	..	10	..
16	29·936	39·5	38·2	1·3	37·0	2·5	..	..	N	NNW	..	¼	..	..	..	7	Transit
18	29·937	39·9	37·9	2·0	..	..	..	..	N	N	..	¼	..	..	..	10	..
20	29·948	42·1	40·4	1·7	..	..	..	..	N by W	N	..	¼	..	..	..	10	..
22	29·951	43·5	40·4	3·1	35·5	8·0	52·4 37·0	73·6 32·3	N by E	N by E	..	¼	2·44	0·00	5·015	10	..
Apr. 10. 0	29·941	45·9	42·0	3·9	..	..	..	..	Calm	N by E	..	¼	..	..	..	10	..
2	29·930	44·9	41·3	3·6	..	..	..	..	Calm	NNE	..	¼	..	..	..	10	..
4	29·911	44·8	41·5	3·3	38·0	6·8	..	..	Calm	NNE	..	¼	..	..	..	10	..
6	29·898	44·0	41·2	2·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	29·907	42·8	40·8	2·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	29·896	41·7	40·7	1·0	40·0	1·7	..	..	Calm	N	..	¼	..	..	..	10	..
12	29·891	40·5	39·0	1·5	..	..	..	..	N by E	NNE	..	¼	..	..	..	10	..
14	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	Transit
18	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	Greatest Declination S.
22	..	..	..	..	..	..	46·3 31·8	54·5 29·7	N by W	...	¼ to ½	..	2·44	0·01	5·029	..	..

April 7d. 22h. No rain was registered by rain-gauge No.1.

April 10d. The lowest reading of the thermometer during the month took place on this day.

GENERAL REMARKS.	Observer.
Light cumuli: the wind veered to S.S.W. at $23^h\ 55^m$.	J H
Cumuli and cumulo-strati.	J H
Heavy cirro-stratus.	G
Cumulo-stratus: a break W. of zenith.	J H
Overcast: cirro-stratus and scud.	J H
Ditto: a thin misty rain falling.	P
Ditto ditto.	J H
Very cloudy: cirro-stratus and scud: Moon just visible: rain ceased at $12^h.\ 40^m$.	
Overcast: rain falling.	
Light fleecy clouds in zenith; cirro-stratus in other parts of the sky: a long break in N.W.	
Light cirri and vapour.	J H
Cumulo-stratus and scud: hazy: breaks in zenith.	P
Overcast: cirro-stratus and scud.	
Ditto: rain falling: breaks in E.: upper current N.W. At 1^h a pressure of 5 lbs. on the square foot at the anemometer.	P
Large cumulo-strati: passing squalls of rain and strong gusts of wind: the sky becomes partially clear between the showers.	J H
Heavy squalls of rain at intervals since last observation, which still continue: gusts of wind to $1\frac{1}{2}+$.	
Small fragments of scud floating over from N.W.: cirro-stratus in W. horizon.	
Overcast: cirro-stratus: air very close.	J H
Ditto ditto.	P
Clear.	
Ditto.	
Cirro-stratus in horizon: cumulo-stratus in E. near the Sun.	
Stratus and cumulo-stratus in N.W.	P
Some blue sky in N.: large cirro-strati and cumulo-strati in S. and E.: the clouds pass from N.	G
About half an hour since a hail storm passed over: at present large white pyramidal cumuli in N.; white cumuli here and there [in S.	G
Large cumuli in all parts of the sky.	D
Sky nearly covered with cirro-stratus: clear in N: gusts of wind.	D
Cirro-stratus: squalls of rain and wind.	P
Scud floating over: several squalls of rain since the last observation.	J H
Clear: vapour in S.	P
Cloudy: a few stars visible in zenith.	D
Overcast: cirro-stratus.	
Sky nearly covered with fleecy clouds.	
Overcast.	
Ditto.	D
Ditto: cirro-stratus and scud.	J H
Ditto ditto: air cold.	
Ditto ditto ditto.	J H
Ditto ditto.	D
Ditto ditto.	
Ditto ditto.	
Ditto ditto.	D
Ditto ditto.	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.						
Apr. 11. 0	29·820	44·6	41·2	3·4	38·0	6·6	..	..	NNE	NE	½ to 1	½	..	..	..	10	..
2	..	..	..	..	..	..	..	..	NNE	...	½ to 2	..	..	..	..	..	..
4	29·814	45·7	41·5	4·2	..	..	..	..	NNE	NNE	½ to 4	1	..	..	..	8	..
6	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	N by E	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
14	29·808	33·8	33·3	0·5	..	..	..	..	N by W	NNW	..	¼	..	..	..	9¾	..
16	29·790	34·5	34·0	0·5	32·0	2·5	..	..	N by W	NNW	..	¼	..	..	..	10	..
18	29·772	34·7	34·0	0·7	..	..	..	..	N by W	NNE	..	¼	..	..	..	3	Transit
20	29·782	38·3	36·7	1·6	..	..	..	..	N	N	..	¼	..	..	..	7	..
							46·5	65·6									
22	29·797	42·8	39·4	3·4	35·0	7·8	33·0	31·7	N	N	..	¼	2·44	0·01	5·059	9	..
Apr. 12. 0	29·797	43·7	39·4	4·3	..	..	..	..	N by E	NNE	½ to 1	½	..	..	..	9½	..
2	29·808	42·6	39·7	2·9	..	..	..	..	N by E	NNE	½ to 1	¼	..	..	..	10	..
4	29·805	44·2	41·5	2·7	38·0	6·2	..	..	NNE	NNE	..	¼	..	..	..	9½	..
6	29·832	41·7	40·5	1·2	..	..	..	..	E by N	NNE	..	¼	..	..	..	8	..
8	29·855	39·8	39·0	0·8	..	..	..	..	E by N	ENE	..	¼	..	..	..	9	..
10	29·876	38·4	37·9	0·5	37·0	1·4	..	..	E	SSE	..	¼	..	..	..	10	..
12	29·900	37·4	36·8	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
14	29·898	34·0	33·5	0·5	..	..	..	..	Calm	SW	..	¼	..	..	..	5	..
16	29·915	33·8	33·5	0·3	33·5	0·3	..	..	Calm	SW	..	¼	..	..	..	9½	..
18	29·940	32·6	32·2	0·4	..	..	..	..	Calm	SW	..	¼	..	..	..	4	Transit
20	29·965	37·8	36·6	1·2	..	..	..	..	Calm	S	..	¼	..	..	..	4	Apogee
							46·7	65·5									
22	29·979	46·1	43·8	2·3	41·8	4·3	32·6	26·0	SSW	SW	..	¼	2·44	0·00	5·069	10	..
Apr. 13. 0	29·979	52·1	41·6	10·5	..	..	..	..	SW	SW	½ to 1	¼	..	..	..	8	..
2	29·989	51·6	46·3	5·3	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
4	29·992	48·5	43·2	5·3	37·2	11·3	..	..	SW	WSW	½ to 1	¼	..	..	..	10	..
6	29·994	46·5	43·6	2·9	..	..	..	..	SSW	WSW	..	¼	..	..	..	10	..
8	30·013	44·2	42·2	2·0	..	..	..	..	SW	W	..	¼	..	..	..	10	..
10	30·020	42·5	41·5	1·0	40·0	2·5	..	..	SSW	W	..	¼	..	..	..	10	3rd Qr.
12	30·016	42·0	41·7	0·3	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
14	29·996	42·0	41·8	0·2	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
16	29·980	43·0	43·0	0·0	37·5	5·5	..	..	SSW	SW	..	¼	..	..	..	10	..
18	29·977	43·8	43·8	0·0	..	..	..	..	SSW	W by S	..	¼	..	..	..	10	..
20	29·979	47·1	46·5	0·6	..	..	..	..	SW	W by S	..	¼	..	..	..	9	Transit
							54·3	72·8									
22	29·977	50·6	49·0	1·6	48·0	2·6	42·8	40·0	WSW	W by S	..	¼	2·49	0·06	5·159	10	..
Apr. 14. 0	29·948	51·6	48·4	3·2	..	..	..	..	SW	W by S	..	¼	..	..	..	10	..
2	29·932	52·4	49·6	2·8	..	..	..	..	SW	W by S	..	¼	..	..	..	10	..
4	29·890	53·5	51·0	2·5	49·8	3·7	..	..	SSW	SW	..	¼	..	..	..	10	..
6	29·884	51·0	50·7	0·3	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
8	29·875	50·5	49·5	1·0	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
10	29·869	48·5	47·4	1·1	47·0	1·5	..	..	N by W	N	..	¼	..	..	..	10	..
12	29·863	46·8	45·5	1·3	..	..	..	..	NW	WSW	..	¼	..	..	..	10	..
14	29·838	45·4	44·4	1·0	..	..	..	..	W by N	WSW	..	¼	..	..	..	10	..
16	29·822	42·5	41·4	1·1	40·0	2·5	..	..	W by N	WSW	..	¼	..	..	..	6	..
18	29·806	38·8	37·6	1·2	..	..	..	..	W	WSW	..	¼	..	..	..	3	..

April 13d. 0h. Within the preceding two hours the atmosphere has become very much relatively drier.

GENERAL REMARKS.	Observer.
Cumulo-stratus and scud: several squalls of rain in the last two hours.	J H
Cirro-stratus and scud: a few breaks in the clouds: a violent squall of hail at $0^h.\ 40^m$: one hour after this observation a squall of hail and sleet: a very cold day.	G
Overcast: a few stars visible S. of zenith.	J H
Ditto: cirro-stratus.	
Cumulo-strati in N.W.: low scud passing from N. N. E.: upper current N.	
Large masses of scud floating over.	J H
Cirro-stratus and scud N. of zenith: cumulo-strati in S.: clear breaks in E.	D
Sky nearly covered with cirro-stratus: very cold.	
Overcast: cirro-stratus.	D
Cumulo-strati: a break in the N.W. horizon.	J H
Cumulo-strati and scud: passing showers of rain: a squall of hail at $5^h.\ 15^m$.	
Cirro-stratus: scud from E. N. E.: clear in zenith.	
Overcast: cirro-stratus.	J H
The greater part of the sky overcast: light fog in the town: very hazy.	G
About 10 minutes after the last observation the zenith became quite clear, and successively the N., S., and E. portions of the sky, excepting a dark bank of clouds which continued near the horizon all round: at present the zenith, and 60° round it, clear, but hazy; the remainder of the sky cloudy.	
The Moon and Jupiter shining through clouds; every other part of the sky overcast.	
Zenith and 20° around it clear; clouds scattered about the remaining part: white frost.	
Sky generally covered with cirro-stratus: a bright streak in the E.	G
Cumulo-stratus over the whole sky.	P
Cumulo-stratus, cumuli, and cirri, scattered about the sky.	
The sky covered with undefined clouds.	P
Overcast: gloomy and cold.	G
Ditto ditto.	
Ditto: slight rain.	
Ditto: slight rain, without intermission since the last observation.	G
Ditto: rain.	P
Ditto: thin misty rain.	
Ditto ditto.	
Ditto: no rain falling.	
Cirro-stratus and scud.	P
Overcast: cirro-stratus and scud.	D
Ditto ditto.	
Ditto ditto.	D
Ditto ditto.	P
Ditto: thin misty rain.	
Ditto: cirro-stratus and scud.	
Ditto: ditto: misty rain.	P
Ditto ditto.	D
Ditto ditto.	
Clear in N.: fleecy clouds S. of zenith: cirro-stratus elsewhere.	
Cirri in zenith; cirro-stratus in E. near horizon.	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.						
Apr. 14. 20	29·789	43·8	41·2	2·6	..	..	..	..	WSW	WSW	..	¼	..	..	..	0	Transit
22	29·774	49·6	44·0	5·6	40·5	9·1	55·9 38·4	72·6 31·2	WSW	WSW	..	¼	2·49	0·00	5·164	0	..
Apr. 15. 0	29·724	53·5	46·2	7·3	..	..	..	..	SW	WSW	½ to 1	¼	..	..	..	2	..
2	29·699	47·9	43·9	4·0	..	..	..	..	WSW	WNW	½ to 1	¼	..	..	..	10	..
4	29·691	46·9	44·8	2·1	43·0	3·9	..	..	WSW	WSW	..	¼	..	..	..	5	..
6	29·655	46·1	43·5	2·6	..	..	..	..	SW	SW	..	¼	..	..	..	6	..
8	29·646	43·5	41·1	2·4	..	..	..	..	W	WNW	..	¼	..	..	..	7	..
10	29·663	39·5	38·2	1·3	40·0	−0·5	..	..	SW	WSW	..	¼	..	..	..	0	..
12	29·631	36·6	35·7	0·9	..	..	..	..	SW	WSW	..	¼	..	..	..	0	..
14	29·614	35·2	34·5	0·7	..	..	..	..	SW	WSW	..	¼	..	..	..	0	..
16	29·608	33·2	33·7	0·5	33·0	1·2	..	..	SW	WSW	..	¼	..	..	..	0	..
18	29·598	33·3	33·1	0·2	..	..	..	..	SW	WSW	..	¼	..	..	..	1	..
20	29·597	38·0	37·1	0·9	..	..	..	..	SW	WSW	..	¼	..	..	..	2	Transit
22	29·609	46·5	43·5	3·0	40·5	6·0	55·9 33·4	79·5 25·8	SW	SW	..	¼	2·49	0·04	5·225	1	..
Apr. 16. 0	29·611	50·9	45·0	5·9	..	..	..	..	Calm	S	..	¼	..	..	..	4	..
2	29·614	53·7	46·7	7·0	..	..	..	..	Calm	SW	..	¼	..	..	..	5	..
4	29·603	48·4	42·6	5·8	39·0	9·4	..	..	Calm	NNW	..	¼	..	..	..	7	..
6	29·615	47·2	42·4	4·8	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
8	29·632	42·3	39·7	2·6	..	..	..	..	Calm	SSW	..	¼	..	..	..	6	..
10	29·660	42·5	40·0	2·5	38·5	4·0	..	..	W by S	WSW	..	¼	..	..	..	9	..
12	29·669	40·2	39·0	1·2	..	..	..	..	Calm	WSW	..	¼	..	..	..	9¾	..
14	29·675	39·2	37·2	2·0	..	..	..	..	Calm	SW	..	¼	..	..	..	7	..
16	29·692	38·7	38·2	0·5	38·0	0·7	..	..	Calm	Calm	..	..	..	..	..	7	..
18	29·710	35·5	35·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	4	..
20	29·754	41·5	40·0	1·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
22	29·779	52·4	47·3	5·1	41·0	11·4	56·5 35·4	87·5 25·2	Calm	Calm	..	..	2·49	0·00	5·225	6	Transit
Apr. 17. 0	29·792	50·5	44·7	5·8	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
2	29·808	54·2	47·8	6·4	..	..	..	..	Calm	SW	..	¼	..	..	..	8	..
4	29·813	52·5	46·5	6·0	40·0	12·5	..	..	Calm	ESE	..	¼	..	..	..	10	..
6	29·821	52·5	45·7	6·8	..	..	..	..	Calm	S	..	¼	..	..	..	0	..
8	29·841	46·5	44·2	2·3	..	..	..	..	Calm	S	..	¼	..	..	..	2	..
10	29·844	43·2	41·7	1·5	41·0	2·2	..	..	SSW	S	..	¼	..	..	..	0	..
12	29·841	41·1	40·1	1·0	..	..	..	..	SSW	S	..	¼	..	..	..	0	..
14	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SW	..	½ to 1	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	WSW	..	½ to 1	..	..	..	..	..	..
22	..	..	..	..	..	..	58·9 —	90·0 32·0	WSW	..	½ to 1½	..	2·49	0·00	5·225	..	Transit
Apr. 18. 0	29·830	51·2	48·8	2·4	..	..	..	..	WSW	W by S	½ to 1	½	..	..	..	10	..
2	..	..	..	..	..	..	..	..	WSW	..	½ to 1	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	W	..	1 to 2	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	WNW	..	¼ to ½	..	..	..	..	..	In Equator
8	..	..	..	..	..	..	..	..	W by N	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	W by S	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..

April 17d. 22h. The observer read inadvertently the temperature at the time of observation, instead of the position of the index; hence there is no record of the observation of the minimum temperature.

April 18d. The solar radiator was found with the steel index plunged in the mercury, and the column of mercury broken in three places.

GENERAL REMARKS.	Observer.
Cloudless.	D
Ditto.	J H
Large white cumuli in various parts of the sky.	
Overcast: cirro-stratus: rain commenced falling at $2^h.\ 10^m$.	J H
The rain ceased about a minute before the observation: cirro-stratus in and E. of zenith: clear in W.	D
Heavy cumulo-strati in N.: cumuli, and ill-defined cumulo-strati in S. and W.	
Fleecy clouds in zenith: cirro-stratus in N.W.: clear W. of zenith: Venus shining.	
Cloudless.	D
Ditto.	J H
Ditto: vapour at times since last observation, west of zenith.	
Ditto.	
Light cirri in various parts of the sky: scud S. of zenith: slight hoar frost.	
Bars of cirri both N. and S. of zenith.	J H
Clear: a few patches of light scud here and there.	P
Cumuli in W.: cumulo-strati south of zenith.	D
Cumulo-strati in N.N.W. and N.E., extending from horizon towards zenith about 70°: large and beautiful cumuli in S.W.	P
Cumuli and cumulo-strati; the upper current S.S.W.: air close: the wind veered to W.S.W. before the close of the observation.	J H
Cumulo-strati W. of zenith.	
Cirro-stratus in N.W., and scud scattered in various parts of the sky: a very heavy cumulo-stratus N. of zenith at $7^h.\ 40^m$.	
Very cloudy: cirro-stratus: a few stars are visible S. and E. of zenith.	J H
Ditto: a few stars just glimmering in zenith.	G
Clear about zenith: the horizon all around is misty and very dark.	
Ditto ditto.	
Zenith, and 60° around it, clear: clouds still prevail near the horizon.	
Cloudless: a mist or thin fog in the valleys, and over the river.	G
Hazy N. of zenith: cumulo-strati in E. and S., with a thin light scud.	P
Haze N. of zenith: cumulo-strati about the zenith, and also in S. and S.E.	
Vapour and light scud in zenith, the vapour extending over the greater part of the sky.	P
About $3^h.\ 10^m$ a large mass of dark cloud rose above the horizon in E. and spread itself over the sky, the wind veering round to the E.: at present very hazy and cloudy.	G
The wind for the last hour has been gradually veering back from E. to S. and the sky becoming more clear: at present cloudless.	
A fine bank of bluish cloud in N.W.: a few tufts of cloud floating about the zenith, the rest of the sky clear.	
Cloudless.	G
Ditto: a slight aurora about $12^h.\ 40^m$.	P
Overcast: cirro-stratus.	

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.						
Apr. 18. 14	29·797	44·8	43·6	1·2	..	..	..	..	WSW	SW	..	¼	..	..	..	10	..
16	29·768	44·0	43·8	0·2	36·5	7·5	..	..	WSW	SW	..	½	..	..	..	10	..
18	29·754	43·5	43·4	0·1	..	..	..	..	WNW	W	..	½	..	..	..	10	..
20	29·769	43·6	43·5	0·1	..	..	..	..	NW	WNW	..	¼	..	..	..	8	..
22	29·773	47·1	43·5	3·6	42·0	5·1	59·3 39·8	80·0 42·2	NNW	NW	¼ to ½	½	2·60	0·20	5·425	6	Transit
Apr. 19. 0	29·776	49·0	42·9	6·1	..	..	..	..	NW	NW	½ to 1	¾	..	..	..	6	..
2	29·775	51·3	43·7	7·6	..	..	..	..	WNW	NW	1 to 2	1	..	..	..	3	..
4	29·775	52·8	45·8	7·0	41·0	11·8	..	..	WNW	WNW	1 to 1½	1	..	..	..	4	..
6	29·757	52·6	44·7	7·9	..	..	..	..	NW	NW	½ to 1	½	..	..	..	6	..
8	29·769	49·0	43·4	5·6	..	..	..	..	W by N	W by N	..	¼	..	..	..	8	..
10	29·778	47·0	43·0	4·0	37·5	9·5	..	..	W by N	W by S	..	¼	..	..	..	6	..
12	29·775	43·1	40·3	2·8	..	..	..	..	W by S	W	..	¼	..	..	..	1	..
14	29·756	38·5	37·3	1·2	..	..	..	..	W by S	W	..	¼	..	..	..	0	..
16	29·728	37·8	37·0	0·8	36·0	1·8	..	..	WSW	WSW	..	¼	..	..	..	6	..
18	29·706	38·8	38·0	0·8	..	..	..	..	W by S	WSW	..	¼	..	..	..	7	..
20	29·693	43·9	41·9	2·0	..	..	..	..	Calm	WSW	..	¼	..	..	..	9	..
22	29·667	45·3	42·9	2·4	39·5	5·8	56·0 37·1	80·0 29·2	Calm	WSW	..	¼	2·60	0·00	5·425	9	..
Apr. 20. 0	29·630	50·7	46·2	4·5	..	..	..	..	SW	NW	..	¼	..	..	..	7	Transit
2	29·586	50·8	44·7	6·1	..	..	..	..	WSW	WSW	..	¼	..	..	..	7	..
4	29·554	49·5	44·9	4·6	42·0	7·5	..	..	S	SSW	..	¼	..	..	..	10	..
6	29·548	46·5	43·4	3·1	..	..	..	..	Calm	S	..	¼	..	..	..	9	..
8	29·570	44·4	41·7	2·7	..	..	..	..	Calm	S by E	..	¼	..	..	..	10	..
10	29·577	42·1	40·2	1·9	39·0	3·1	..	..	Calm	Calm	..	..	..	..	..	9	..
12	29·606	42·3	40·7	1·6	..	..	..	..	E by N	ENE	..	¼	..	..	..	10	..
14	29·617	41·5	40·7	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·625	39·2	39·0	0·2	37·0	2·2	..	..	Calm	Calm	..	..	..	..	..	5	..
18	29·647	39·1	38·9	0·2	..	..	..	..	Calm	ENE	..	¼	..	..	..	9½	..
20	29·693	42·2	41·2	1·0	..	..	..	..	ENE	ENE	½ to 1	¼	..	..	..	8	..
22	29·715	45·8	42·5	3·3	41·0	4·8	55·3 39·4	82·0 34·7	ENE	NE	1½ to 2	1	2·60	0·00	5·425	8	..
Apr. 21. 0	29·715	49·6	44·4	5·2	..	..	..	..	NE	NE	1½ to 2	1	..	..	..	8	Transit
2	29·729	49·4	43·5	5·9	..	..	..	..	NE	NE	2 steady	¾	..	..	..	9	..
4	29·725	50·4	44·3	6·1	37·0	13·4	..	..	ENE	NE	1½ to 2	1½	..	..	..	9	New
6	29·742	47·9	42·8	5·1	..	..	..	..	ENE	NE	1½ to 2	1	..	..	..	7	..
8	29·775	43·2	40·0	3·2	..	..	..	..	NE	NE	¼ to ½	¾	..	..	..	6	..
10	29·787	41·5	39·0	2·5	37·0	4·5	..	..	NNE	N by E	½ to 1	1½	..	..	..	6	..
12	29·786	40·5	38·6	1·9	..	..	..	..	NE	ENE	½ to 1	2	..	..	..	8	..
14	29·778	39·6	38·0	1·6	..	..	..	..	NE	NE	1 to 1½	1	..	..	..	9	..
16	29·762	40·4	38·9	1·5	38·0	2·4	..	..	NE	NNE	1 to 1½	2	..	..	..	8	..
18	29·756	40·6	38·9	1·7	..	..	..	..	NE	NE	½ to 1	1½	..	..	..	9	..
20	29·747	43·0	39·7	3·3	..	..	..	..	NE	NE	2 to 3	2	..	..	..	9	..
22	29·752	45·1	41·5	3·6	38·2	6·9	52·5 40·0	62·0 36·5	NE	NE	2 to 3	2	2·60	0·00	5·425	10	..
Apr. 22. 0	29·725	45·7	42·0	3·7	..	..	..	..	ENE	ENE	1 to 1½	¾	..	..	..	9	Transit
2	29·702	48·3	44·3	4·0	..	..	..	..	NE	ENE	1 to 2	½	..	..	..	9½	..
4	29·671	46·5	43·1	3·4	39·0	7·5	..	..	E by N	ENE	1½ to 2	¾	..	..	..	9	..
6	29·667	45·0	42·3	2·7	..	..	..	..	E by N	ENE	½ to 2	¾	..	..	..	10	..

April 19d. The solar radiator was sent to Mr. Newman for repair; during the time it was away the solar radiation was observed by a thermometer placed in the rays of the Sun, and the highest reading noticed is entered as the true maximum reading.

April 19d. 0h. Examined the perpendicularity of the barometer.

April 20d. 18h. Hourly observations were commenced. (See the Section of Term-Day Observations.)

April 22d and 23d. 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·285, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Overcast: thin misty rain.	P
Ditto ditto.	
Ditto rain.	
Cumulo-stratus: breaks in various parts of sky.	P
Cumulo-stratus in all directions.	D
Clear in, and 30° around, zenith: cumulo-stratus in N.W.: cumuli in S.	
Cumuli in various parts of the sky.	D
Cumulo-stratus in horizon, and scud.	P
Large cumuli in various parts of the sky; light scud also prevailing.	
A dark bank of cloud N. of zenith, with a few light breaks in it, and another more extensive dark bank of cloud in W.: cumulo-stratus in other parts of the sky: the Sun and Venus visible through breaks.	
Partially overcast.	P
Cirro-stratus in W. horizon; otherwise cloudless.	D
Cloudless: several clouds (cirro-strati) have passed over the zenith from N.W. since last observation.	
Clear in zenith, and 50° S. of it: cirro-stratus elsewhere.	
Fleecy clouds in zenith: long lines of cirro-stratus in N.W.	
Fleecy clouds N. E. of zenith, the sky is otherwise covered with cirro-stratus.	D
Sky nearly covered with fleecy clouds and vapour.	J H
Fleecy clouds and scud in zenith: cumulo-strati in N.W. and S.	
Fleecy cumuli scattered in various directions.	J H
Overcast: cirro-stratus.	D
Cirro-stratus: breaks in zenith, and in W.	
Overcast: cirro-stratus.	
A few stars glimmering in zenith: cirro-stratus elsewhere.	D
Overcast: cirro-stratus and scud: slight rain about $12^h.40^m$.	J H
Ditto ditto.	
Sky partially obscured by vapour.	
Cirro-stratus and scud.	
Scud floating over from N.E.: vapour and cirro-stratus E. and S. of zenith.	J H
Cumulo-strati in horizon in N. and N.W.: scud flying from N.E.: cirro-stratus in S.	P
Cumulo-stratus in N.N.W. and S.: scud impelled by two currents; the upper from due E., the lower from N.E.: a few slight [breaks in zenith and W.	
Cumulo-stratus in horizon: scud in two currents similar to last observation.	P
Scud generally covers the sky: low cumulo-strati in N.W.	J H
Cumulo-strati in N.W., and near S. horizon: scud passing over rapidly.	
Cirro-stratus and scud: upper current E.	J H
The sky N. of zenith clear; every other part cloudy.	G
A clear break near the horizon in N.: a few stars dimly seen about the zenith, otherwise very black.	G
Thin cirro-stratus: stars faintly visible N. of zenith.	D
Fleecy clouds in zenith: the rest of the sky is covered with cirro-stratus.	D
Cirro-stratus and scud: breaks in N. and N.E. horizon: upper current N.N.E., lower current E. by N.	P
A slight break in N.; cold and stormy.	M
Overcast: low scud: wind blowing in gusts.	J H
Cumulo-stratus in N. horizon, where also a few breaks are visible; the sky elsewhere is covered with cirro-stratus and scud.	P
Low scud: a few breaks N. of zenith.	J H
Cirro-stratus and scud: partial breaks in N. and N.W.	P
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.	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.						
Apr. 22. 8	29·646	42·5	41·0	1·5	..	..	..	..	ENE	ENE	1 to 2	¾	..	..	..	9¾	..
10	29·626	42·5	41·0	1·5	38·8	3·7	..	..	NE	NE	¼ to 1	1½	..	..	..	10	..
12	29·566	42·5	41·5	1·0	..	..	..	..	NE	NE	¼ to ½	¾	..	..	..	10	..
14	29·498	41·6	41·6	0·0	..	..	..	..	NNE	NE	½ to 1	1	..	..	..	10	..
16	29·434	41·4	41·4	0·0	41·0	0·4	..	..	NNE	NE	..	1	..	..	..	10	..
18	29·372	41·8	42·2	−0·4	..	..	..	..	NNE	NNE	..	½	..	..	..	10	..
20	29·322	42·3	42·5	−0·2	..	..	..	..	N	N by E	¼ to ½	¼	..	..	..	10	..
22	29·296	42·6	43·0	−0·4	42·5	0·1	50·0 41·8	62·0 40·1	N by W	NNE	..	¼	2·94	0·59	6·130	10	..
Apr. 23. 0	29·311	44·0	44·2	−0·2	..	..	..	..	WNW	WNW	½ to 1	¼	..	..	..	10	..
2	29·372	43·3	43·4	−0·1	..	..	..	..	WNW	WNW	½ to 1	¾	..	..	..	10	Transit
4	29·409	44·5	43·6	0·9	42·0	2·5	..	..	WNW	WNW	½ to 1	¾	..	..	..	10	..
6	29·439	44·7	43·5	1·2	..	..	..	..	W	W by S	..	¼	..	..	..	10	..
8	29·478	43·8	43·0	0·8	..	..	..	..	Calm	W by S	..	¼	..	..	..	10	..
10	29·507	41·8	41·2	0·6	41·5	0·3	..	..	Calm	W by S	..	¼	..	..	..	2	..
12	29·542	40·2	39·4	0·8	..	..	..	..	Calm	SW	..	¼	..	..	..	2	..
14	29·548	38·2	37·2	1·0	..	..	..	..	Calm	SW	..	¼	..	..	..	0	..
16	29·567	37·3	36·5	0·8	34·0	3·3	..	..	Calm	SSW	..	¼	..	..	..	0	..
18	29·559	35·6	35·3	0·3	..	..	..	..	Calm	SSW	..	¼	..	..	..	0	..
20	29·576	44·6	42·9	1·7	..	..	..	..	SSW	SSW	..	¼	..	..	..	1	..
22	29·575	49·1	46·4	2·7	43·0	6·1	50·8 35·3	64·0 28·8	SSW	SW	..	¼	3·07	0·18	6·340	10	..
Apr. 24. 0	29·550	53·5	48·5	5·0	..	..	..	..	SSW	S	2steady	½	..	..	..	6	..
2	29·543	53·2	48·2	5·0	..	..	..	..	SSW	SW	2 to 3	1	..	..	..	9	Transit
4	29·506	56·0	50·2	5·8	47·0	9·0	..	..	SSW	SW	1 to 3	1	..	..	..	7	..
6	29·486	53·1	48·7	4·4	..	..	..	..	SSW	SSW	½ to 1	1	..	..	..	9	..
8	29·480	49·5	47·5	2·0	..	..	..	..	S	SSW	½ to 1	1	..	..	..	10	..
10	29·434	48·1	47·2	0·9	47·0	1·1	..	..	S	SW	1½ to 3	2	..	..	..	10	..
12	29·372	48·3	47·4	0·9	..	..	..	..	S	S by E	2 to 4	2	..	..	..	10	..
14	..	..	..	..	..	..	..	..	SW	...	1 to 2	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SW	...	1steady	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	Greatest Declination N.
20	..	..	..	..	..	..	..	..	SSW	...	1½ to 1½	..	..	..	..	..	..
22	..	..	..	..	..	..	57·1 40·8	74·3 38·7	SSW	...	2 to 3	..	3·13	0·08	6·463	..	Perigee
Apr. 25. 0	29·561	56·4	51·3	5·1	..	..	..	..	SSW	SSW	2 to 3	2	..	..	..	7	..
2	..	..	..	2·9	..	..	..	..	SSW	...	2 to 3	..	..	..	..	..	..
4	29·589	54·5	51·6	..	..	..	..	..	SSW	SSW	2 to 3½	2	..	..	..	10	Transit
6	..	..	..	..	..	..	..	..	SSW	...	2 to 2½	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	SSW	...	2 to 3	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	SSW	...	2 to 4½	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SSW	...	2 to 2½	..	..	..	..	..	..
14	29·729	53·1	51·1	2·0	..	..	..	..	SW	SW	2 steadily	2	..	..	..	9	..
16	29·796	53·0	51·2	1·8	50·0	3·0	..	..	SW	SW	1 to 2	1½	..	..	..	10	..
18	29·832	53·0	51·5	1·5	..	..	..	..	SSW	WSW	¼ to ½	1	..	..	..	10	..
20	29·870	54·4	52·4	2·0	..	..	..	..	SSW	SW	½ to 1	1—	..	..	..	10	..
22	29·900	58·7	55·7	3·0	56·5	2·2	58·7 55·3	77·0 49·0	SSW	SW	1½ to 2	½	3·13	0·00	6·463	10	..
Apr. 26. 0	29·931	57·8	55·9	1·9	..	..	..	..	SSW	SSW	1 to 1½	1½	..	..	..	10	..
2	29·954	60·1	56·5	3·6	..	..	..	..	SSW	SSW	1 to 3	1½	..	..	..	10	..

April 22d. 18h, 20h, and 22h; 23d. 0h and 2h. At these times the reading of the Wet bulb Thermometer was higher than the reading of the Dry Thermometer.

April 23d, 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°·3, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Cirro-stratus and scud: a break near N. horizon: rain at intervals since last observation.	J H
Overcast.	G
Ditto: cirro-stratus: the wind blowing in gusts. About 13^m after the observation there fell a slight shower of rain.	P
Ditto: a thin misty rain falling.	
Ditto: heavy rain.	
Ditto ditto.	
Ditto ditto.	P
Ditto ditto.	D
Overcast: heavy rain.	
Ditto: rain.	D
Ditto: cirro-stratus and scud.	J H
Ditto ditto.	P
Ditto ditto.	
Clear: vapour in N. N.W. and N. E.	P
Ditto: vapour S. of zenith.	D
Cloudless.	
Ditto.	
Ditto.	
A few cirri scattered about, otherwise cloudless.	D
Overcast: cirro-stratus and scud.	P
Cumulo-stratus and scud.	
Ditto: a few slight breaks in zenith: gusts of wind.	P
Ditto: clear W. of zenith.	D
Cloudy: a few clear breaks in S.	
Overcast: slight rain falling.	
Ditto: rain.	D
Ditto: ditto: gusts of wind from $\frac{1}{2}$ to $3\frac{1}{2}$: at 12^h. 40^m a pressure of 8lbs. on the square foot at the anemometer.	P
Cumuli and cumulo-strati all over the sky: wind in strong gusts.	D
Overcast: wind in gusts.	G
Wind noisy: clouds very black moving from S.: Mars and Jupiter seen occasionally.	
The wind has lulled a little since last observation; sky very black; a very dark morning: at present no sign of daybreak or twilight.	
Overcast: cirro-stratus.	
Ditto ditto.	G
Ditto ditto.	P
Cirro-stratus and scud: thin misty rain falling; wind blowing in gusts.	
Ditto: wind in gusts to 2.	

April 24^d. The solar radiator returned, corrected.

April 25^d. 18^h. Examined the perpendicularity of the barometer.

April 26^d and 27^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°·8, 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.						
Apr. 26. 4	29·976	64·2	58·9	5·3	57·5	6·7	..	..	SSW	W by S	1 to 2½	1+	..	..	..	8	..
6	29·988	63·0	57·8	5·2	..	..	..	..	SSW	SW by S	½ to 1	1—	..	..	..	8	Transit
8	29·997	58·5	55·7	2·8	..	..	..	..	SSW	SW	..	¼	..	..	..	2	..
10	29·998	58·5	55·5	3·0	53·2	5·3	..	..	SSE	S	..	¼	..	..	..	10	..
12	29·987	58·6	55·3	3·3	..	..	..	..	SSE	SE	½ to 1	½	..	..	..	9	..
14	29·961	57·3	54·6	2·7	..	..	..	..	SSE	SE	1 to 1½	½	..	..	..	0	..
16	29·957	55·8	53·5	2·3	53·0	2·8	..	..	SSE	SE	½ to 1	¼	..	..	..	0	..
18	29·960	55·9	53·3	2·6	..	..	..	..	S	S by E	..	¼	..	..	..	6	..
20	29·964	61·5	57·5	4·0	..	..	..	..	SSW	Calm	..	..	..	..	..	6	..
22	29·974	66·0	60·6	5·4	59·0	7·0	68·0 56·3	88·0 50·7	WSW	SW	..	¼	3·13	0·00	6·463	0	..
Apr. 27. 0	29·987	70·8	61·6	9·2	..	..	..	..	W	SW	..	¼	..	..	..	0	..
2	29·985	72·3	60·0	12·3	..	..	..	..	W	SW	..	¼	..	..	..	1	..
4	29·979	71·5	61·1	10·4	51·5	20·0	..	..	W	WSW	..	¼	..	..	..	¼	..
6	29·977	70·4	60·0	10·4	..	..	..	..	Calm	WSW	..	¼	..	..	..	¼	Transit
8	29·990	64·2	57·3	6·9	..	..	..	..	Calm	WSW	..	¼	..	..	..	2	..
10	30·011	59·5	55·2	4·3	53·0	6·5	..	..	Calm	WSW	..	¼	..	..	..	1	..
12	30·014	56·5	53·9	2·6	..	..	..	..	Calm	WSW	..	¼	..	..	..	8	..
14	30·029	56·5	54·0	2·5	..	..	..	..	Calm	WSW	..	¼	..	..	..	10	..
16	30·003	53·8	53·0	0·8	51·0	2·8	..	..	Calm	ENE	..	¼	..	..	..	5	..
18	29·997	53·4	52·4	1·0	..	..	..	..	Calm	NE	..	¼	..	..	..	5	..
20	30·009	57·2	55·8	1·4	..	..	..	..	Calm	ENE	..	¼	..	..	..	8	..
22	30·042	62·5	60·2	2·3	56·0	6·5	76·5 53·8	102·0 48·4	NNE	NE	..	¼	3·13	0·02	6·515	8	1st Qr.
Apr. 28. 0	30·018	63·8	60·7	3·1	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
2	30·003	72·2	63·6	8·6	..	..	..	..	NNE	Calm	..	..	..	..	..	3	..
4	29·987	71·3	63·0	8·3	57·0	14·3	..	..	E	Calm	..	..	..	..	..	1	..
6	29·979	67·4	60·0	7·4	..	..	..	..	E	ENE	..	¼	..	..	..	0	..
8	29·998	58·4	54·8	3·6	..	..	..	..	E	E	..	¼	..	..	..	2	Transit
10	29·991	55·1	52·8	2·3	52·0	3·1	..	..	ESE	ESE	..	¼	..	..	..	0	..
12	29·988	51·5	50·5	1·0	..	..	..	..	E by S	E by S	..	½	..	..	..	1	..
14	29·977	48·7	48·3	0·4	..	..	..	..	Calm	E by S	..	½	..	..	..	3	..
16	29·971	46·5	46·5	0·0	46·0	0·5	..	..	Calm	E by S	..	½	..	..	..	1	..
18	29·989	48·5	47·7	0·8	..	..	..	..	Calm	E by S	..	¼	..	..	..	2	..
20	29·996	54·8	52·7	2·1	..	..	..	..	Calm	ENE	..	¼	..	..	..	4	..
22	29·990	57·2	54·4	2·8	54·0	3·2	73·6 47·0	100·5 41·4	NNE	NE	..	¼	3·13	0·00	6·515	6	..
Apr. 29. 0	29·999	62·4	59·0	3·4	..	..	..	..	N	N	..	¼	..	..	..	2	..
2	29·993	69·2	64·0	5·2	..	..	..	..	N	Calm	..	..	..	..	..	0	..
4	29·985	70·0	64·3	5·7	62·0	8·0	..	..	N	N by E	..	¼	..	..	..	0	..
6	29·967	69·5	64·0	5·5	..	..	..	..	NE	NNE	..	¼	..	..	..	0	..
8	29·993	54·9	53·4	1·5	..	..	..	..	E	ENE	..	¼	..	..	..	¼	Transit
10	30·027	51·0	49·8	1·2	48·0	3·0	..	..	ENE	ENE	..	¼	..	..	..	0	..
12	30·045	47·1	45·5	1·6	..	..	..	..	NNE	NE	..	¼	..	..	..	0	..
14	30·041	44·5	42·2	2·3	..	..	..	..	Calm	NE	..	¼	..	..	..	0	..
16	30·049	44·4	41·8	2·6	40·0	4·4	..	..	Calm	NE	..	¼	..	..	..	0	..
18	30·048	42·5	40·8	1·7	..	..	..	..	Calm	NE	..	¼	..	..	..	3	..
20	30·058	50·0	45·6	4·4	..	..	..	..	NE	NE	..	¼	..	..	..	5	..
22	30·051	59·3	51·8	7·5	52·0	7·3	71·8 42·2	98·3 36·0	NE	NE	..	¼	3·13	0·00	6·515	6	..

April 27d. The highest reading of the thermometer during the month happened on this day.

April 27d, 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 6°·1, as deduced from the two-hourly observations.

April 29d. 20h. This is the highest reading of the barometer during the month.

GENERAL REMARKS.	Observer.
Large masses of scud moving quickly: breaks here and there: apparently no upper cloud.	G
Small reticulated cumuli to the S. and E.: cirro-stratus in zenith, and in N. and W.	
Generally fine blue sky: loose scud south of zenith: the upper current from west.	
Since the last observation the sky has become quite cloudy; this has been a very fine day.	G
Scud almost totally covering the heavens: the Moon but partially breaking through it at intervals.	P
Perfectly clear.	
Ditto.	
Long waves of light cloud, tinged by the Sun's rays, stretching wholly from E. to W., shooting out fibres on each side, in this resembling cirrus clouds: scud, in small patches, flying low.	
An extensive range of cirro-cumuli W. of the meridian, stretching from N. to S.: cirri in every other direction.	P
Cloudless.	D
Ditto.	
Small cumuli in different parts of the sky.	D
Ditto ditto.	J H
Nearly cloudless.	D
Cirro-cumuli in zenith at $7^h.\ 10^m$: at present a few scattered undefined clouds N.N.W. and S.E. of zenith.	J H
A few loose fleecy clouds under the Moon, otherwise quite cloudless.	G
Sky completely covered with fleecy clouds.	D
Overcast: the Moon's place visible: a few drops of rain at $12^h.\ 55^m$. [cirro-stratus in different parts of the sky.	
Soon after the last observation a shower of rain commenced; it continued about half an hour: at present detached portions of Cirrus and cirro-cumulus in zenith: cirro-stratus in S.E.	
A slight shower of rain fell a short time before the observation: sky nearly covered with cirro-stratus.	D
Scud; small breaks in different parts of the sky.	J H
Scud and cumulo-strati: heavy clouds N.W. of zenith: several clear breaks in S.E. and S.	
Light cumuli scattered about in various directions.	J H
A few small cumuli in N.W., otherwise cloudless.	D
Cloudless.	
Cirro-stratus in N.W.; clear elsewhere.	
Cloudless.	D
Light cirri near the Moon; brilliant flashes of lightning in S.E. at intervals of some minutes.	J H
A bank of cirrus and cirro-stratus slowly approaching the zenith from W.N.W.: the Moon shining through cirro-stratus.	
Scud S. of zenith, passing from W., otherwise clear.	
Scud coming up from W. S.W.	
Loose scud.	J H
The greater part of the sky is covered with scud: haze in N. and N.W., near horizon.	P
A fine clear sky; here and there a thin light scud: cirri W. of zenith.	
Cloudless.	P
Ditto.	J H
Ditto.	
A few linear cirri in N., otherwise clear.	
Cloudless.	J H
Ditto: nearly calm.	G
Ditto ditto.	
Ditto ditto.	
Scud in, and N. of, zenith: about sunrise a bank of cloud appeared in E., also some waved clouds tinged with yellow in S.W.	
Thin cirro-stratus N. of zenith; fleecy clouds in bars in and S. of zenith: the Sun is imbedded in thin fibrous clouds, and casts a very faint shadow: a whitish-blue sky near S. horizon.	G
A thin fleecy kind of scud prevails over a great part of the sky: vapour in N. and N.W.	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.						
Apr. 30. 0	30·044	64·3	55·0	9·3	..	..	..	..	NE	NE	½ to 1	¼	..	..	..	2	..
2	30·031	67·3	57·2	10·1	..	..	..	..	NE	NE	..	¼	..	..	..	4	..
4	30·003	65·0	55·0	10·0	40·0	25·0	..	..	NE	NE	..	¼	..	..	..	9	..
6	29·997	60·0	52·4	7·6	..	..	..	..	NE	NE	..	¼	..	..	..	4	..
8	29·995	54·5	51·5	3·0	..	..	..	..	ENE	E	..	¼	..	..	..	4	Transit
10	29·995	50·6	47·5	3·1	45·0	5·6	..	..	Calm	E	..	¼	..	..	..	6	..
12	29·969	46·9	45·1	1·8	..	..	..	..	Calm	NE	..	¼	..	..	..	0	..
14	29·942	49·2	43·4	5·8	..	..	..	..	Calm	NE	..	¼	..	..	..	0	..
16	29·922	42·5	42·1	0·4	41·5	1·0	..	..	Calm	NE	..	¼	..	..	..	0	..
18	29·900	41·8	41·2	0·6	..	..	..	..	Calm	NE	..	¼	..	..	..	0	..
20	29·894	51·8	49·2	2·6	..	..	..	..	Calm	NE	..	¼	..	..	..	0	..
22	29·882	60·3	55·5	4·8	54·0	6·3	68·7 41·6	93·0 33·5	Calm	ENE	..	¼	3·13	0·00	6·515	0	..
May 1. 0	29·850	66·2	58·4	7·8	..	..	..	..	E	ENE	..	¼	..	..	..	0	..
2	29·809	70·0	60·5	9·5	..	..	..	..	E	E	..	¼	..	..	..	0	..
4	29·770	69·3	60·1	9·2	55·0	14·3	..	..	Calm	Calm	..	..	..	..	..	0	In Equator
6	29·727	66·0	64·0	2·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
8	29·717	57·6	53·1	4·5	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
10	29·702	52·5	50·0	2·5	45·0	7·5	..	..	Calm	Calm	..	..	..	..	..	0	Transit
12	29·672	49·0	48·0	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
22	29·560	66·5	59·4	7·1	..	..	72·5 46·7	98·7 39·0	WSW	W	2 to 3	2	3·13	0·00	6·515	10	..
May 2. 0	..	..	..	..	..	..	..	..	WSW	...	2 to 6	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	WSW	...	3 steady	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	W by S	...	2 to 3	..	..	..	..	..	..
6	29·505	55·0	55·0	0·0	..	..	..	..	WSW	W	2 steady	1½	..	..	..	10	..
8	..	..	..	..	..	..	..	..	WSW	...	¼ to ½	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	W by S	...	..	..	..	..	..	..	Transit
12	...	..	..	..	..	..	..	..	W by S	...	..	..	..	..	..	..	..
14	29·562	49·5	48·5	1·0	..	..	..	..	N by W	Calm	..	..	..	..	..	10	..
16	29·563	48·8	47·8	1·0	47·0	1·8	..	..	N	Calm	..	..	..	..	..	10	..
18	29·575	45·5	45·4	0·1	..	..	..	..	N	Calm	..	..	..	..	..	10	..
20	29·601	46·4	46·0	0·4	..	..	..	..	N	Calm	..	..	..	..	..	10	..
22	29·619	48·0	47·1	0·9	45·0	3·0	69·2 44·9	91·0 44·7	NNE	Calm	..	..	3·30	0·25	6·768	10	..
May 3. 0	29·644	45·7	45·0	0·7	..	..	..	..	NNE	ENE	..	¼	..	..	..	10	..
2	29·667	47·8	46·8	1·0	..	..	..	..	ENE	ENE	..	¼	..	..	..	10	..
4	29·671	48·7	47·0	1·7	47·0	1·7	..	..	E	E	..	¼	..	..	..	10	..
6	29·666	47·0	45·7	1·3	..	..	..	..	E	E	..	¼	..	..	..	10	..
8	29·670	45·0	44·3	0·7	..	..	..	..	E by N	ENE	..	¼	..	..	..	10	..
10	29·653	43·6	42·6	1·0	42·0	1·6	..	..	ENE	E	..	¼	..	..	..	10	..
12	29·638	44·0	42·9	1·1	..	..	..	..	E	E by N	..	½	..	..	..	10	Transit
14	29·593	44·7	43·8	0·9	..	..	..	..	E	Calm	..	..	..	..	..	10	..
16	29·557	45·8	45·2	0·6	42·0	3·8	..	..	ESE	Calm	..	..	..	..	..	10	..
18	29·518	46·5	46·5	0·0	..	..	..	..	ESE	Calm	..	..	..	..	..	10	..
20	29·503	51·0	50·1	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·490	56·4	54·5	1·9	55·0	1·4	56·5 42·5	58·0 42·4	Calm	Calm	..	..	3·45	0·25	7·130	10	..

April 30^{d}, civil reckoning. The mean height of the barometer was greater on this day than on any other during the month, being 30^{in}·023, as deduced from the two-hourly observations.

April 30^{d}. 12^{h}. The amount of rain collected during the month of April, in the rain-gauge No. 4, was 1^{in}·92.

May 1^{d}, civil reckoning, was very nearly a cloudless day, the mean amount of sky covered with cloud was about 1-100th part of the whole: this is one of the five days in the year considered cloudless.

GENERAL REMARKS.	Observer.
Small portions of light scud floating from N.N.E.; haze in N.W. horizon.	P
Cumulo-strati in W.: cirri scattered over the sky.	P
Sky generally covered with scud.	G
S. of zenith nearly clear: from zenith towards N.E. fleecy clouds with fine blue sky between them: small reticulated cumuli in N.W. Fleecy clouds in zenith; a bank of cloud in N.W, and another in S. horizon; every other part of sky clear.	
The Moon imbedded in white cloud, which extends to the horizon in S., E. and W.; the greater part of the sky N. of zenith clear.	G
Cloudless.	P
Ditto.	
Ditto.	
Ditto.	
Ditto.	P
Ditto	D
Ditto.	
Ditto.	D
Ditto.	P
Ditto.	
A bank of cloud, behind which the Sun is setting.	
Cloudless.	P
Ditto. About $9^h.\ 40^m$, flashes of lightning were seen in S. horizon, which continued without intermission until after midnight, when the sky became cloudy.	D
Strong wind; gust to 3; sky covered with thin cirro-stratus, through which the Sun is shining, but without casting any shadow. Barometer sinking.	G
At $3^h.\ 40^m$, a pressure of 9lbs. on the square foot at the anemometer. This observation was taken directly after a very heavy squall of rain, during which the thermometer fell 10° +: during the squall $0^{in}.1$ of rain fell. At $3^h.\ 40^m$ a very heavy shower of rain, and wind in gusts to 3+. At $4^h.\ 55^m$ a loud clap of thunder from a cloud in the north. During the whole of the day, all modifications of cloud, with frequent squalls of wind and rain.	G
Overcast: misty rain.	D
Ditto ditto.	
Ditto: thick rain.	
Ditto: slight rain.	D
Ditto: rain	J H
Low scud: heavy rain.	
Scud and cumulo-stratus: rain falling: clouds more broken.	J H
Ditto ditto.	D
Overcast: slight rain.	
Ditto: cirro-stratus and scud, rain ceased at 7^h.	
Cloudy: Moon visible through cirro-stratus.	D
Cirro-stratus and scud: the latter moving from S.S.W.: rain commenced at $11^h.\ 5^m$.	J H
Overcast: rain falling.	
Ditto: slight rain.	
Ditto: rain ceased.	
Ditto: cirro-stratus.	J H
Ditto ditto	P

May 3^d, civil reckoning. No break in the clouds all day.

May 3^d, civil reckoning. This day had the greatest relative moisture in the atmosphere of any day during the month, the mean difference of the Dry and Wet Thermometers being $0°.9$, as deduced from the two-hourly observations.

May 3^d and 4^d. The greatest difference between the mean temperature of one civil day and the next during the month took place between these days, being $8°.6$, 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.						
May 4. 0	29·472	62·1	59·7	2·4	..	..	..	..	S	SSE	..	¼	..	..	..	9	..
2	29·446	66·6	62·4	4·2	..	..	..	..	S	S	0 to ¼	½	..	..	..	6	..
4	29·410	64·7	60·1	4·6	53·5	11·2	..	..	SSW	SW	½ to 1	1	..	..	..	7	..
6	29·404	60·4	56·5	3·9	..	..	..	..	SSW	SSW	..	½	..	..	..	8	..
8	29·407	56·3	54·0	2·3	..	..	..	..	S by W	S	..	½	..	..	..	8	..
10	29·393	54·6	52·6	2·0	51·0	3·6	..	..	S by W	S	..	¼	..	..	..	10	..
12	29·369	54·5	52·4	2·1	..	..	..	..	S by E	S	..	¼	..	..	..	10	Transit
14	29·308	53·7	52·5	1·2	..	..	..	..	SSE	S	..	¼	..	..	..	10	..
16	29·288	51·7	51·6	0·1	51·0	0·7	..	..	Calm	NW	..	¼	..	..	..	10	..
18	29·245	50·5	50·5	0·0	..	..	..	..	Calm	W	..	¼	..	..	..	10	..
20	29·281	51·0	51·0	0·0	..	..	..	..	SSW	W	½ to 1	¼	..	..	..	10	..
22	29·317	57·4	55·7	1·7	53·0	4·4	69·1 49·9	89·0 50·0	SSW	SSW	2 to 4	¼	3·91	0·61	7·759	10	..
May 5. 0	29·350	55·7	54·8	0·9	..	..	..	..	SW	SSW	2 to 2½	¼	..	..	..	6	..
2	29·370	63·7	58·0	5·7	..	..	..	..	SW	SSW	4 to 9	2½	..	..	..	6	Full
4	29·411	60·2	55·6	4·6	53·0	7·2	..	..	SW	W	2 to 4	2½	..	..	..	10	..
6	29·438	59·5	55·0	4·5	..	..	..	..	SW	W	3 to 4	2	..	..	..	5	..
8	29·468	54·8	52·7	2·1	..	..	..	..	SSW	SW	1 to 1½	1½	..	..	..	3	..
10	29·479	52·7	51·0	1·7	51·0	1·7	..	..	SSW	SW	½ to 1	¾	..	..	..	0	..
12	29·467	52·8	50·5	2·3	..	..	..	..	S by W	SW	¼ to 1½	1	..	..	..	1	Transit
14	29·448	51·5	49·6	1·9	..	..	..	..	S	SW	..	¼	..	..	..	¼	..
16	29·402	49·8	48·6	1·2	48·0	1·8	..	..	SSE	SW	..	¼	..	..	..	9	..
18	29·377	53·2	52·4	0·8	..	..	..	..	S	S	..	Very light	..	..	..	10	..
20	29·387	55·5	53·9	1·6	..	..	..	..	S	S	¼ to ½	½	..	..	..	10	..
22	29·420	57·3	55·0	2·3	51·0	6·3	66·3 49·1	78·0 45·2	SW	SSW	1½ steady	½	3·91	0·02	7·840	10	..
May 6. 0	29·458	61·0	57·2	3·8	..	..	..	..	SSW	SW	1½ to 2	1	..	..	..	8	..
2	29·489	62·5	57·0	5·5	..	..	..	..	SSW	SW	1½ to 2½	1	..	..	..	4	..
4	29·523	59·1	51·5	7·6	51·4	7·7	..	..	SW	SW	2 to 3	1½	..	..	..	4	..
6	29·559	57·2	50·5	6·7	..	..	..	..	SW	WSW	2½ to 3	1½	..	..	..	½	..
8	29·603	52·1	47·0	5·1	..	..	..	..	SW	SW	..	¼	..	..	..	0	..
10	29·650	47·5	45·0	2·5	44·0	3·5	..	..	Calm	SW	..	¼	..	..	..	0	..
12	29·679	45·6	44·9	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·677	44·8	44·5	0·3	..	..	..	..	Calm	SSE	..	¼	..	..	..	0	Transit
16	29·671	45·6	44·9	0·7	42·0	3·6	..	..	Calm	SSE	..	¼	..	..	..	4	..
18	29·643	47·4	46·0	1·4	..	..	..	..	Calm	SSE	..	¼	..	..	..	10	..
20	29·624	52·6	51·0	1·6	..	..	..	..	Calm	S	..	¼	..	..	..	9	..
22	29·598	60·0	55·2	4·8	54·5	5·5	66·1 44·1	84·6 40·9	S by W	S by W	1 to 2½	1	3·91	0·00	7·840	8	..
May 7. 0	29·571	61·8	56·8	5·0	..	..	..	..	S	S by E	½ to 1	1	..	..	..	7	..
2	29·542	64·7	58·3	6·4	..	..	..	..	S by W	S	0 to 1	1	..	..	..	8	..
4	29·485	64·0	58·0	6·0	54·0	10·0	..	..	S	S	..	¼	..	..	..	10	..
6	29·447	57·5	54·7	2·8	..	..	..	..	W by S	SSW	..	½	..	..	..	10	..
8	29·425	52·6	52·4	0·2	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
10	29·411	51·6	51·4	0·2	48·0	3·6	..	..	Calm	Calm	..	..	..	..	..	3	..
12	29·413	49·5	49·3	0·2	..	..	..	..	SSW	SSW	..	¾	..	..	..	4	..
14	29·403	49·6	49·2	0·4	..	..	..	..	SSW	SSW	..	½	..	..	..	7	Transit
16	29·384	50·2	49·5	0·7	47·0	3·2	..	..	SSW	SSW	..	½	..	..	..	8	..
18	29·377	50·3	49·5	0·8	..	..	..	..	SSW	SSW	½ to 1	½	..	..	..	10	..

May 4d, 22h. The observer has recorded the estimated strength of the wind wrongly; it should be 2.

May 5d, 0h. The observer has recorded the estimated strength of the wind wrongly; probably he was influenced by the temporary lull in the wind mentioned in the note to the observation: the estimated strength should be about 2.

GENERAL REMARKS.	Observer.
A few breaks in N.N.W.: cirro-stratus prevailing elsewhere.	P
Cirro-stratus S. of zenith: extensive breaks in N.N.W. extending as far as the zenith.	P
Loose scud passing from S.W.: upper current more westerly: bars of cirri near the north horizon.	J H
A thin cirro-stratus, with scud, and occasional breaks: clouds of a denser kind in N.W.	
Scud and cirro-stratus: an extensive break in W.	
Scud and cirro-stratus. Immediately after this observation the clouds broke: the zenith, and 40° round it, being occupied by fleecy clouds and scud, with occasional breaks.	J H
Large masses of scud: some nimbi rising from the south: appearances of rain.	G
Small rain falling: sky has same appearance as at last observation.	
About half an hour after the last observation rain fell fast, and a steady rain has continued since.	
Still rain without intermission: about $0^{in}.2$ per hour, by Crosley's gauge, since $14^{h}.40^{m}$.	
Still raining, but not so fast: clouds a little broken in S. and W.	G
Rain falling rapidly.	P
The rain has this moment suddenly ceased, and the wind lulled: there are breaks over every part of the sky, and great quantity of [scud.	
Extensive breaks in various parts of the sky: scud.	P
Large masses of scud moving quickly from the west: apparently no upper cloud: strong wind: gusts to 3.	G
Scud moving quickly in the southern portion of the sky: cumuli near N. horizon: Sun shining brightly. [misty.	
About $7^{h}.40^{m}$ a fine double rainbow, no rain falling here at the time: at present a few floating nimbi N. and S. of zenith: horizon	
Alternately clear and cloudy since last observation: at present quite clear, with a pale, whitish-looking sky.	G
Stratus clouds have begun to rise from S. and S.W.: at $12^{h}.8^{m}$ they extended from the W. and S. horizon to the zenith: thin rain	P
Light haze in W. and S. horizon; otherwise clear. [falling.	
Cloudy: a few partial breaks only in E. horizon.	
Overcast: cirro-stratus and scud: rain has fallen since last observation.	
Ditto ditto: sky alternately clear and cloudy.	P
Low scud: wind blowing in gusts.	J H
Clear breaks S. of zenith: cirro-stratus and scud elsewhere.	D
Cumuli and cumulo-strati in various parts of the sky.	D
Cumuli in N. stretching from W. to E. near the horizon: vapour S.W. of zenith; the rest of the sky nearly clear.	P
Cirri in N. and N.W.; otherwise clear.	
Cloudless.	
Ditto: appearance of vapour in S.W.	P
Ditto: vapour in S. near the Moon.	D
Ditto ditto.	
Cirro-stratus S. and S.W. of zenith: Moon obscured: long lines of cirro-stratus in N.	
Sky quite covered with thin cirro-stratus.	
A few breaks near the horizon both in N. and S., the sky otherwise similar to the last observation.	D
Scud and cumulo-strati, with occasional breaks: gusts of wind.	J H
Scud and fleecy clouds: cirro-stratus in N.W. horizon: passing showers of rain.	
Thin cirro-stratus and scud: breaks N.N.E. of zenith: a large cumulo-stratus in S.E.	J H
Overcast: cirro-stratus and scud: a heavy cumulo-stratus cloud in N.W.	D
Ditto ditto: slightly raining.	
Rain has fallen without intermission since last observation, and at times heavily.	
Rain ceased at $8^{h}.40^{m}$, soon after which a clear break appeared in W. which gradually extended itself towards zenith; at present clear everywhere, except E. of zenith.	D
Fleecy clouds and scud N. of zenith: a few small fragments of scud near the Moon.	J H
Fleecy clouds scattered about in various directions: clouds of a denser kind in N.W.: upper current W.N.W.	
Low scud from S.S.W.: the upper current has become more southerly.	
A very stormy sky: large masses of low scud floating over from S.S.W.: wind in gusts.	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.						
May 7. 20	29·392	52·5	50·2	2·3	..	..	..	..	SSW	SSW	½ to 1½	1	..	..	..	7	..
22	29·385	58·4	53·8	4·6	50·5	7·9	68·3 47·9	90·5 48·3	S by W	SSW	1 to 2	1	4·10	0·16	8·039	8	..
May 8. 0	29·380	55·6	53·0	2·6	..	..	..	..	SSW	S by W	1 to 4½	1¾	..	..	..	8	..
2	29·392	55·8	52·6	3·2	..	..	..	..	SSW	SW	1½ to 3½	1¾	..	..	..	8	..
4	29·412	51·9	49·7	2·2	49·0	2·9	..	..	SSW	SSW	1 to 3	2	..	..	..	10	Greatest declination S.
6	29·435	53·5	51·4	2·1	..	..	..	..	SW	SW	0 to 1	1	..	..	..	4	..
8	29·502	49·5	47·5	2·0	..	..	..	..	WSW	WSW	0 to ½	1	..	..	..	8	..
10	29·593	48·9	47·7	1·2	46·5	2·4	..	..	W	W	0 to ½	¾	..	..	..	10	..
12	29·669	47·5	46·7	0·8	..	..	..	..	WSW	SW	0 to 1	½	..	..	..	10	..
14	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	Transit
18	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	62·1 43·8	89·2 41·3	WSW	...	..	..	4·17	0·07	8·163	..	..
May 9. 0	29·957	57·5	51·7	5·8	47·0	10·5	..	..	WSW	SW	..	½	..	..	..	7	..
2	..	..	..	..	..	..	..	..	SW	...	½ to 1	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	SSW	...	1 to 2	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	SSW	...	0 to 1	..	..	..	..	..	..
8	29·998	51·4	47·7	3·7	..	..	..	..	SSW	WSW	..	½	..	..	..	9	..
10	..	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	S	...	0 to 1	..	..	..	..	..	..
14	29·981	50·3	49·3	1·0	..	..	..	..	S	SSW	0 to 1½	¾	..	..	..	6	..
16	29·970	51·0	50·6	0·4	49·5	1·5	..	..	SSW	SSW	0 to 1½	¾	..	..	..	10	Transit
18	29·973	52·5	51·9	0·6	..	..	..	..	SSW	SSW	0 to 1	¼	..	..	..	10	..
20	30·009	54·3	53·0	1·3	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
22	30·028	59·5	56·8	2·7	55·0	4·5	65·8 49·6	.. 48·5	SSW	SSW	0 to 1	¼	4·17	0·00	8·163	9½	..
May 10. 0	30·053	61·6	58·8	2·8	..	..	..	..	SSW	SSW	0 to ½	½	..	..	..	10	..
2	30·048	61·7	56·5	5·2	..	..	..	..	SSW	SSW	1 to 4	1½	..	..	..	10	..
4	30·046	59·6	54·5	5·1	52·0	7·6	..	..	SW	SW	0 to 1	½	..	..	..	10	..
6	30·074	57·0	52·4	4·6	..	..	..	..	SW	SSW	0 to 1	¾	..	..	..	10	..
8	30·047	55·0	52·0	3·0	..	..	..	..	SSW	SSW	..	¼	..	..	..	9	..
10	30·061	53·5	51·3	2·2	51·0	2·5	..	..	Calm	SSW	..	¼	..	..	..	10	..
12	30·057	52·6	51·0	1·6	..	..	..	..	Calm	S	..	¼	..	..	..	9	..
14	30·015	49·6	48·7	0·9	..	..	..	..	Calm	S	..	¼	..	..	..	1	..
16	29·992	48·2	47·5	0·7	45·0	3·2	..	..	Calm	S	..	¼	..	..	..	0	Apogee
18	29·977	50·8	49·6	1·2	..	..	..	..	S	S	..	¼	..	..	..	7	Transit
20	29·968	58·2	55·4	2·8	..	..	..	..	S	S	..	¼	..	..	..	10	..
22	29·939	63·7	58·5	5·2	56·0	7·7	64·8 48·6	77·3 43·3	S	S	..	¼	4·17	0·00	8·163	9	..
May 11. 0	29·919	66·5	59·0	7·5	..	..	..	..	SSW	SSW	0 to 1	¼	..	..	..	5	..
2	29·900	70·0	60·5	9·5	..	..	..	..	SSW	SSW	0 to 1	¼	..	..	..	3	..
4	29·886	68·2	60·0	8·2	56·4	11·8	..	..	SW	W by S	..	¼	..	..	..	10	..

May 9d, 22h. The reading of the thermometer for solar radiation was inadvertently omitted.

May 10d, 0h. Examined the perpendicularity of barometer.

GENERAL REMARKS.	Observer.
Cumulo-stratus and scud; the latter moving rapidly from S.W. by S.: strong gusts of wind and rain in squalls.	J H
The greater part of the sky is covered with scud, which is floating with great rapidity from S. by W.	P
The appearance of the sky the same as at last observation: showers of rain at intervals: gusts of wind.	
The sky is generally covered with scud: nimbi in S.W.	P
Sky covered with low scud. About $2^h.20^m$ the pressure of the wind on the square foot was 5lbs. at the anemometer.	J H
Cumulo-stratus in N.W.: scud in various directions moving from W.S.W.: upper current nearly W.: a shower of rain at $5^h.20^m$.	
Heavy cumulo-strati and large masses of scud. At $7^h.20^m$ a double rainbow visible; the inner arch remarkably vivid in colour; the distance of the two arches 12°. It disappeared in 3 minutes.	
Overcast: low scud: rain at intervals with gusts of wind.	J H
Ditto: thin rain falling.	P
Cumuli in various parts of the sky: a large cumulo-stratus in N.W.	J H
Sky nearly covered with cloud of no definite modification (approaching a cirro-stratus). Shortly after this time, the sky became mottled with cirro-cumulus near zenith.	J H
Scud occasionally obscuring the stars: the wind in gusts.	P
Overcast: low scud flying rapidly from south: wind blowing in gusts.	
Ditto: cirro-stratus and scud.	
Ditto ditto.	P
Cirro-stratus and scud: a slight break in N.W.	J H
Ditto: clouds more broken.	
Sky covered with a light scud: strong gusts of wind.	J H
Overcast: cirro-stratus and scud.	P
Ditto ditto.	
Small breaks in every part of the sky: otherwise cloudy.	
Overcast: cirro-stratus and scud. [south are visible.	P
Sky overcast until five minutes since, when the clouds broke in zenith, and a few stars were seen: at present, stars in zenith and	G
Within 10^m after the last observation the sky became quite clear; the greater part of the cloud moved rapidly away from the S. in a body. At 13.10^m a bright meteor broke out near β Draconis, and vanished in Cassiopeia; duration 2". Directly afterwards one broke out near λ and μ Ursæ Majoris, and moved horizontally about 10° from E. to W. At present a low bank of clouds only in N.	
Cloudless.	
Continued cloudless till $17^h.20^m$, when clouds collected in the S.W.: small cirro-cumuli in N.W.: dark cirro-stratus in N. and S. horizon: clouds radiating from a point in S.W. towards N.W. and N.E.	
Overcast: principally scud moving from S.W.	G
Clear breaks in various parts of the sky.	D
Cirrus and cirro-cumulus W. of zenith.	
Cumuli in various directions: cymoid-cirrus N. of zenith: very fine day.	D
Scud, cumulo-stratus, and undefined clouds in every direction.	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.						
May 11. 6	29·881	61·6	57·3	4·3	..	..	..	..	SSW	W	..	¼	..	..	..	10	..
8	29·895	59·8	56·1	3·7	..	..	..	..	WSW	W	..	¼	..	..	..	10	..
10	29·920	56·2	54·8	1·4	54·5	1·7	..	..	WSW	W	..		..	..	..	10	..
12	29·925	52·1	51·3	0·8	..	..	..	..	WSW	W	..	¼	..	..	..	10	..
14	29·932	51·3	50·6	0·7	..	..	..	..	W	WSW	..	¼	..	..	..	10	..
16	29·937	49·0	49·0	0·0	48·0	1·0	..	..	WSW	WSW	..	¼	..	..	..	3	..
18	29·963	51·2	50·4	0·8	..	..	..	..	W	WNW	..	¼	..	..	..	5	Transit
20	30·002	52·9	51·4	1·5	..	..	..	..	NNW	N	..	¼	..	..	..	7	..
22	30·025	55·3	52·7	2·6	49·5	5·8	73·9 48·2	100·1 44·7	N	N	..	¼	4·17	0·01	8·173	10	..
May 12. 0	30·041	59·3	54·8	4·5	..	..	..	..	N	N	0 to 1	¼	..	..	..	9	..
2	30·063	61·2	55·7	5·5	..	..	..	..	N	N	0 to 2	¼	..	..	..	9¾	..
4	30·066	61·3	56·0	5·3	55·0	6·3	..	..	N by E	NE	..	¼	..	..	..	10	..
6	30·079	60·0	55·3	4·7	..	..	..	..	N by E	NNE	..	¼	..	..	..	7	..
8	30·106	54·7	52·0	2·7	..	..	..	..	NNE	NE	..	¼	..	..	..	2	..
10	30·137	50·3	48·5	1·8	47·0	3·3	..	..	E by N	E	..	¼	..	..	..	3	..
12	30·152	46·8	46·0	0·8	..	..	..	..	ENE	NE	..	¼	..	..	..	½	..
14	30·159	45·4	44·2	1·2	..	..	..	..	Calm	Calm	..	..	..	..	..	½	..
16	30·176	41·6	41·5	0·1	40·0	1·6	..	..	Calm	NE	..	¼	..	..	..	½	..
18	30·185	42·3	42·0	0·3	..	..	..	..	Calm	NE	..	¼	..	..	..	½	Transit
20	30·212	51·4	48·9	2·5	..	..	..	..	Calm	N by E	..	¼	..	..	..	0	..
22	30·210	57·2	51·0	6·2	51·0	6·2	64·8 42·5	97·0 34·0	Calm	Calm	..	..	4·17	0·00	8·173	0	..
May 13. 0	30·214	61·2	52·7	8·5	..	..	..	..	E	E	..	¼	..	..	..	2	..
2	30·211	63·5	53·7	9·8	..	..	..	..	Calm	E	..	¼	..	..	..	2	..
4	30·204	62·8	54·3	8·5	45·5	17·3	..	..	Calm	ESE	..	¼	..	..	..	3	..
6	30·204	59·8	51·6	8·2	..	..	..	..	Calm	ESE	..	¼	..	..	..	3	3rd Qr.
8	30·213	54·1	49·0	5·1	..	..	..	..	Calm	ESE	..	¼	..	..	..	4	..
10	30·241	48·5	46·2	2·3	44·0	4·5	..	..	Calm	E	..	¼	..	..	..	0	..
12	30·238	45·8	43·6	2·2	..	..	..	..	Calm	E	..	¼	..	..	..	0	..
14	30·239	44·2	42·8	1·4	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	30·235	41·4	40·4	1·0	40·0	1·4	..	..	Calm	Calm	..	..	..	..	..	0	..
18	30·251	41·3	40·7	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	30·257	49·4	47·4	2·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	Transit
22	30·251	55·3	50·2	5·1	46·0	9·3	68·2 41·2	98·4 33·4	Calm	ENE	..	¼	4·17	0·00	8·173	0	..
May 14. 0	30·243	59·2	52·3	6·9	..	..	..	..	Calm	ENE	..	½	..	..	..	1	..
2	30·213	62·3	54·5	7·8	..	..	..	..	Calm	ENE	..	¼	..	..	..	1	..
4	30·187	62·0	55·1	6·9	50·0	12·0	..	..	Calm	E	..	¼	..	..	..	2	..
6	30·156	59·6	53·7	5·9	..	..	..	..	Calm	SSE	..	¼	..	..	..	½	..
8	30·155	54·3	50·0	4·3	..	..	..	..	Calm	S by E	..	¼	..	..	..	¼	..
10	30·158	48·5	46·8	1·7	45·0	3·5	..	..	Calm	S by E	..	¼	..	..	..	0	..
12	30·152	45·0	43·5	1·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	30·132	43·7	43·2	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	30·112	42·5	42·3	0·2	42·0	0·5	..	..	Calm	Calm	..	..	..	..	..	3	..
18	30·098	43·5	43·1	0·4	..	..	..	..	Calm	W by S	..	¼	..	..	..	3	..

May 13d. The lowest reading of the thermometer during the month took place on this day.

May 13d, 20h. This is the highest reading of the barometer during the month.

May 14d, civil reckoning. The mean height of the barometer was greater on this day than on any other day during the month, being 30in·208, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Overcast; much similar to the last observation.	G
Clouds darker: scud passes very slowly from the S.W.	
A few light drops of rain have fallen since the last observation: at present stratus cloud in broad bars running N. and S.: a few light breaks in the N.: appearances of rain.	G
Rain commenced falling at $11^h.\ 30^m$: at present overcast, with rain.	D
Rain ceased about $12^h.\ 40^m$. The sky has a very unsettled appearance: a few stars are occasionally visible: air very mild, but damp.	
Scud near horizon on all sides except the S., the rest of the sky clear.	
Heavy cumulo-strati in S.W.: scud E. of zenith: nearly clear in S.	
Clear N. of zenith; the rest of the sky covered with cirro-stratus.	D
Cirro-stratus and scud: clouds less dense near the Sun.	J H
Ditto: a few breaks in zenith.	P
Ditto: a slight break S.E. of zenith.	J H
Overcast: cirro-stratus.	D
Fleecy clouds in, and S. of, zenith: cirro-stratus in N., and fragments of scud both in E. and W.	
A huge bank of cirro-stratus in N.W. horizon: cirri N. of zenith: the remainder of the sky clear.	
Cirro-stratus in N.W., and in lines E. of zenith; otherwise clear.	D
Vapour N. of zenith; otherwise clear.	J H
Light vapour S.S.E. of zenith.	
Light vapour S. of zenith.	
Linear-cirri S. of zenith; every other part of the sky clear.	
Cloudless.	J H
Ditto.	P
Cumuli scattered in all directions.	D
Scud in different parts of the sky.	P
Light cumuli scattered about the sky.	J H
Large cumuli in N. and N.W.: fleecy clouds and cirro-cumuli E. and S. of zenith.	
Cumuli and fleecy clouds: a dark bank of cloud W. of zenith.	
Cloudless: sky partially covered with scud at intervals since last observation.	J H
Ditto.	P
Ditto.	
Ditto.	
Ditto.	
Ditto.	P
Ditto.	J H
Linear-cirri in S. horizon: cirro-cumulus N. of zenith.	
At $0^h.\ 5^m$ a solar halo visible, 60° in diameter: the greenish tint was just distinguishable in that part of the halo near the zenith: the circle at those points in the same horizontal parallel as the Sun, was very faintly visible: the colour of those parts of the halo above and below the Sun increased in intensity towards noon. At $0^h.\ 50^m$, a corona, exhibiting the prismatic colours, was reflected on a cloud about 5° from the Sun: at $1^h.\ 55^m$ the diameter a little less than when first seen. Cirri and cumuli.	J H
Cirri in various directions: cumuli in north horizon, and scud coming up from east and extending beyond zenith. Halo still visible.	P
Cirri in N.E., otherwise clear: the halo is still faintly visible.	
A few light clouds in N.N.E.: with this exception cloudless: the halo disappeared about $7^h.\ 5^m$.	
Cloudless.	P
Ditto.	G
Ditto.	
Loose clouds N. of zenith; the remainder of the sky clear.	
A few fleecy clouds about the Sun; cirri near zenith.	

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-guage 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.						
May 14. 20	30·101	54·1	51·5	2·6	..	..	..	..	WSW	W	..	¼	..	..	..	1	..
22	30·076	61·0	55·2	5·8	52·0	9·0	66·9 43·5	94·5 36·0	WSW	W by S	..	¼	4·17	0·00	8·173	1	..
May 15. 0	30·046	66·1	58·3	7·8	..	..	..	..	WSW	W by S	..	¼	..	..	..	½	..
2	30·014	70·0	61·0	9·0	..	..	..	..	WSW	W by S	..	¼	..	..	..	3	..
4	29·992	67·2	59·2	8·0	53·0	14·0	..	..	WSW	W	..	¼	..	..	..	5	..
6	29·953	65·1	57·2	7·9	..	..	..	..	Calm	W	..	¼	..	..	..	8	..
8	29·925	57·5	53·1	4·4	..	..	..	..	Calm	SW	..	¼	..	..	..	1	..
10	29·925	51·7	49·0	2·7	50·0	1·7	..	..	Calm	SW	..	¼	..	..	..	2	..
12	29·895	48·6	45·7	2·9	..	..	..	..	Calm	WSW	..	¼	..	..	..	0	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	In Equator
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	Transit
22	..	..	..	..	..	..	71·9 43·5	101·0 35·5	WSW	...	..	..	4·17	0·00	8·173	..	..
May 16. 0	29·774	62·1	55·0	7·1	53·0	9·1	..	..	SW	WSW	0 to 1	¼	..	..	..	4	..
2	..	..	..	..	..	..	..	..	WSW	...	0 to 1	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	SW	...	0 to 2½	..	..	..	..	..	..
6	29·691	67·0	59·2	7·8	..	..	..	..	SW	WSW	..	1	..	..	..	1	..
8	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
14	29·605	47·8	47·7	0·1	..	..	..	..	SW	SW	..	½	..	..	..	0	..
16	29·562	48·6	48·4	0·2	46·0	2·6	..	..	SW	SW	..	¼	..	..	..	2	..
18	29·541	51·2	49·5	1·7	..	..	..	..	SW	SW	..	¼	..	..	..	8	..
20	29·529	54·8	51·4	3·4	..	..	..	..	SW	SW	0 to 1½	1	..	..	..	10	..
22	29·505	56·2	52·6	3·6	50·0	6·2	69·3 48·5	99·5 43·0	SW	SW	1 to 4	1	4·17	0·00	8·173	9¾	Transit
May 17. 0	29·479	58·4	54·5	3·9	..	..	..	..	SW	SSW	1½ to 3	1	..	..	..	9	..
2	29·458	60·4	54·5	5·9	..	..	..	..	SW	SSW	1 to 2½	1	..	..	..	8	..
4	29·438	59·1	54·7	4·4	52·5	6·6	..	..	SW	SSW	1½ to 2	1	..	..	..	10	..
6	29·409	57·8	53·6	4·2	..	..	..	..	SW	SSW	½ to 2	1	..	..	..	6	..
8	29·399	53·6	51·4	2·2	..	..	..	..	SW	SW	½ steady	½	..	..	..	7	..
10	29·405	52·5	51·4	1·1	50·0	2·5	..	..	SW	SW	½ to 1½	1	..	..	..	10	..
12	29·401	51·9	50·2	1·7	..	..	..	..	WSW	SSW	½ to ¾	1	..	..	..	9¾	..
14	29·399	48·2	47·4	0·8	..	..	..	..	SW	SW	0 to ½	1	..	..	..	0	..
16	29·409	46·3	45·3	1·0	44·5	1·8	..	..	SW	SW	0 to ½	1	..	..	..	2	..
18	29·418	48·2	46·0	2·2	..	..	..	..	SSW	SW	..	½	..	..	..	2	..
20	29·435	52·7	49·8	2·9	..	..	..	..	WSW	WSW	½ to 1½	1	..	..	..	8	..
22	29·444	58·9	52·3	6·6	52·0	6·9	63·1 45·9	81·5 44·5	WSW	W	1 to 3	1	4·17	0·00	8·173	6	Transit
May 18. 0	29·429	59·7	52·7	7·0	..	..	..	..	W by S	WSW	0 to 2	1	..	..	..	8	..
2	29·427	65·3	56·5	~~13·8~~	..	..	..	..	W by S	SW	0 to 3	1	..	..	..	5	..
4	29·444	60·2	55·4	4·8	54·5	5·7	..	..	SW	SW	0 to 1	1	..	..	..	6	..
6	29·443	56·9	52·9	4·0	..	..	..	..	SW	SW	0 to 1	1	..	..	..	8	..
8	29·447	53·0	51·4	1·6	..	..	..	..	SW	SW	..	½+	..	..	..	6	..
10	29·453	49·7	49·2	0·5	48·0	1·7	..	..	S by W	SW	..	½	..	..	..	1	..
12	29·433	47·5	47·3	0·2	..	..	..	..	Calm	SW	..	¼	..	..	..	0	..

GENERAL REMARKS.	Observer.
A little cirro-cumulus in N.W.: cirri S. of zenith.	G
Cirri in zenith; the rest of the sky clear.	D
Small cumuli in various parts of the sky. A halo about 60° in diameter appeared round the Sun at $23^h.10^m$: it was similar to the one seen yesterday, but much fainter: it disappeared at $23^h.40^m$.	
Fleecy cumuli N. of zenith: clear in S.	D
Loose cumuli near S. horizon: flat cumuli with woolly edges N. of zenith.	G
Sky generally covered with ill-defined cumuli: nearly calm.	
A few clouds about the Sun; otherwise clear.	
A few long thin clouds in N.	G
Cloudless.	D
The sky partly covered with cirri.	P
The sky generally clear; a few cirri in different parts of the sky.	G
A faint parhelion seen in the evening.	G
Cloudless.	D
Lines of cirro-stratus in N.; vapour in, and S. of, zenith.	
Sky covered generally with cirro-stratus: clear in S.E. near horizon.	
Overcast cirro-stratus: wind in gusts to 2.	D
Ditto ditto: a few slight breaks in various parts of the sky.	P
Sky nearly covered with a loose scud: slight breaks S. of zenith, and in N.N.W.	J H
Large fleecy clouds and loose scud: gusts of wind.	J H
Overcast: Sun's place visible.	D
Cirri in zenith: loose scud passing in detached pieces underneath: cirro-strati in N.W.	
Cirro-stratus and scud N. of zenith: fleecy clouds in S.	
Overcast. A few drops of rain have fallen since last observation.	D
Very cloudy: low scud with breaks at intervals in zenith.	J H
Cloudless: the clouds cleared off about $12^h.40^m$.	
Scud passing over rapidly from W.S.W. at a low elevation: small cirri N.N.W. of zenith: wind in gusts to 1.	
Scud floating over from W.	
Loose scud and large white cumuli.	J H
The greater part of the sky is covered with scud: cumuli in N. and N.W.	P
Sky nearly similar to last observation.	
Stratus in the horizon W. of meridian, and N. and S. of the zenith: cumuli scattered in various parts of the sky.	P
Cumulo-strati near horizon from N. to W.S.W., and light fleecy clouds in zenith: strong gusts of wind.	J H
Cumulo-strati and scud W. of meridian: scud and fleecy clouds in zenith, and E. of it. A little rain since the last observation.	
Scud and cirro-stratus: lower current due N.: upper current W.S.W.	
Small fragments of scud and cirro-stratus in N.W. horizon.	J H
Cloudless.	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.						
May 18. 14	29·399	47·2	46·6	0·6	..	..	..	..	S by W	SW	..	½	..	..	..	6	..
16	29·361	48·5	47·3	1·2	46·0	2·5	..	..	SSW	SW	..	½	..	..	..	8	..
18	29·325	48·4	48·0	0·4	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
20	29·293	51·5	50·4	1·1	..	..	..	..	S by W	SW	0 to 1	½	..	..	..	10	..
22	29·257	52·6	51·3	1·3	49·8	2·8	67·2 47·0	91·8 46·5	...	SSW	..	1½	4·19	0·03	8·240	10	..
May 19. 0	29·223	52·2	49·8	2·4	..	..	..	..	SSW	SSW	½ to 2½	2	..	..	..	10	Transit
2	29·189	54·0	51·4	2·6	..	..	..	..	S	S by W	3 to 4	2½	..	..	..	10	..
4	29·144	53·2	51·1	2·1	49·5	3·7	..	..	SSW	SW	4 to 5	2	..	..	..	10	..
6	29·111	51·6	49·9	1·7	..	..	..	..	S by W	SW	3 to 4	2	..	..	..	9½	..
8	29·088	50·4	48·7	1·7	..	..	..	..	S by W	SW	1 to 1½	¼	..	..	..	2	..
10	29·063	50·0	48·2	1·8	48·0	2·0	..	..	SSW	SW	0 to ½	¼	..	..	..	8	..
12	29·053	49·5	47·6	1·9	..	..	..	..	SSW	SW	1½ to 2	1½	..	..	..	7	..
14	29·042	48·5	47·2	1·3	..	..	..	..	SSW	SW	½ to 1½	1+	..	..	..	9	..
16	29·041	49·0	47·5	1·5	46·0	3·0	..	..	SSW	WSW	½ to 2½	1+	..	..	..	10	..
18	29·089	48·7	47·4	1·3	..	..	..	..	SSW	WSW	1 to 4	1	..	..	..	6	..
20	29·135	53·7	50·0	3·7	..	..	..	..	SW	WSW	2½ to 4	2	..	..	..	5	..
22	29·181	57·2	51·4	5·8	51·0	6·2	65·8 48·2	75·0 44·5	SW	WSW	3 to 4½	2	4·19	0·01	8·273	6	..
May 20. 0	29·214	61·6	53 2	8·4	..	..	..	..	S by W	SW	4 to 6	2½	..	..	..	5	Transit
2	29·248	56·5	51·2	5·3	..	..	..	..	S by W	SW	3½ to 5	2	..	..	..	8	..
4	29·292	58·7	51·2	7·5	46·5	12·3	..	..	S by W	WSW	3½ to 5	1½	..	..	..	4	..
6	29·330	57·6	50·5	7·1	..	..	..	..	SSW	WSW	½ to 1½	1½	..	..	..	6	..
8	29·390	52·6	48·2	4·4	..	..	..	..	S by W	SSW	½ to ¾	1	..	..	..	1	..
10	29·455	47·2	45·6	1·6	43·0	4·2	..	..	S by W	SSW	..	1—	..	..	..	0	..
12	29·497	45·5	45·0	0·5	..	..	..	..	S	SSW	..	½	..	..	..	0	New
14	29·512	44·4	44·0	0·4	..	..	..	..	S	SSW	..	¼	..	..	..	0	..
16	29·517	43·1	42·8	0·3	42·0	1·1	..	..	S by W	SSW	..	¼	..	..	..	0	..
18	29·543	44·2	44·0	0·2	..	..	..	..	Calm	S	..	¼	..	..	..	1	..
20	29·541	55·8	52.1	3·7	..	..	..	..	Calm	Calm	..	..	..	..	..	½	..
22	29·539	58·3	54·5	3·8	44·0	14·3	64·5 42·5	88·5 36·6	SSE	ESE	..	½	4·19	0·00	8·283	3	..
May 21. 0	29·522	65·4	56·6	8·8	..	..	..	..	SSE	SSE	..	½+	..	..	..	7	..
2	29·479	66·3	57·5	8·8	..	..	..	..	ENE	ENE	0 to 1	½	..	..	..	7	Transit
4	29·470	59·0	53·0	6·0	50·0	9·0	..	..	E by N	E	0 to 1	½	..	..	..	10	..
6	29·425	56·2	53·5	2·7	..	..	..	..	E by N	NE	½ to 1	½	..	..	..	10	..
8	29·426	56·3	54·8	1·5	..	..	..	..	E by N	E by N	..	½	..	..	..	10	..
10	29·407	55·2	54·8	0·4	55·0	0·2	..	..	E	ENE	..	¼	..	..	..	10	..
12	29·417	55·2	54·8	0·4	..	..	..	..	E	E by N	..	½	..	..	..	9	..
14	29·414	55·2	54·9	0·3	..	..	..	..	E	E	..	½	..	..	..	10	..
16	29·419	55·7	54·5	1·2	54·0	1·7	..	..	ESE	E by S	..	¼	..	..	..	10	..
18	29·457	56·3	56·2	0·1	..	..	..	..	Calm	S	..	½	..	..	..	10	..
20	29·499	57·4	56·5	0·9	..	..	..	..	Calm	SSW	..	½	..	..	..	9	..
22	29·513	59·5	57·6	1·9	55·0	4·5	70·1 55·5	99·0 55·3	Calm	SW	..	¼	4·26	0·06	8·378	10	..

May 18d. 23h. The traversing board of the anemometer had slipped half off the table, and the weight of the clock was nearly down; it had slipped about 21h. The links of the chain were off the spikes of the clock-barrel; they were put on again before noon.

May 19d, civil reckoning. The mean height of the barometer was less on this day than on any other day during the month, being 29in·209, as deduced from the two-hourly observations.

May 19d. 16h. This is the lowest reading of the barometer during the month at the two-hourly observations, it fell to 29·040 in the Extraordinary Observations (See the Section of Extraordinary Observations.)

May 20d. 22h. The quantity of water registered by Crosley's gauge, 0in 01, is by deposition of moisture.

GENERAL REMARKS.	Observer.
Stars nearly obscured with vapour.	P
The sky is nearly covered with cirro-stratus.	
Overcast: cirro-stratus and scud: thin rain falling.	
Ditto ditto ditto.	P
Cirro-stratus and scud: rain falling: heavy gusts of wind.	J H
Cirro-stratus and scud: rain at intervals: heavy gusts of wind.	
Cirro-stratus and scud: heavy gusts of wind, and a stormy-looking sky, especially in N.W.	J H
Overcast; scud flying low and with great rapidity: occasional lulls in the wind.	P
A long narrow break running from north to south-west of meridian: a thin rain at intervals: wind in heavy gusts at $6^h.20^m$: clear from W. to S.: cumuli in N.W.: a rainbow also in the east at $6^h.25^m$: breaks in every part of sky.	
Cumuli in N. and N.W., with scud flying extremely low: a fine blue sky elsewhere.	
Sky generally obscured by dark scud.	P
Clear in the zenith, and for 50° W. and N.W. of it: about 30° N. of zenith clear: remainder of sky covered with a great mass of dark scud: a strange looking night for May.	G
At $12^h.40^m$, the sky was splendidly clear, and continued so until $13^h.10^m$, when a mass of dark scud almost covered the sky: slight rain falling: at present generally cloudy, with light breaks here and there.	
Alternately clear and cloudy since the last observation, with slight showers of rain: at present cloudy: large masses of scud moving rapidly from W.: no upper cloud.	
Generally clear since the last observation: at present low scud passing quickly from W.: upper cloud, cirrus: southern horizon, thick and obscured, the northern very clear.	
Large white cumuli near the horizon: low scud floating from W.: some gusts about half an hour since to 3: abont $7^h.50^m$ a pressure of 9½ lbs. on the square foot at the anemometer.	G
Large cumuli N. of zenith: large masses of scud in the south: wind in gusts to 2 +.	
Dark masses of scud in N.W.: finely formed cumuli in the south. [succeeded by very heavy gusts.	D
Sky nearly covered with a stormy-looking scud flying with great rapidity: partially clear S. of zenith: occasional lulls in the wind	P
Large white cumuli round the horizon moving from W.: loose scud passing in the same direction beneath: heavy gusts to 3.	G
Wind a little subsided: sky alternately clear and cloudy: no upper cloud: large masses of loose cumuli and scud: a few nimbi	
A few clouds near horizon in N.E.; otherwise a fine blue sky, horizon very clear. [also to the south.	
Cloudless.	G
Ditto.	D
Ditto: the air quite saturated with moisture.	
Ditto ditto.	
Lines of cirri near N. horizon: fine morning.	
A few cirri S.E. of zenith, otherwise cloudless.	D
White cumuli scattered about the sky: a few light cirri N.W. of zenith.	J H
Breaks East of the meridian, with light fleecy clouds: thin cirro-stratus and small dark cumuli in the western part of the sky.	
Light fleecy clouds and cumuli: an extensive break N.W. of zenith: upper current S.W.	J H
Overcast: a few drops of rain falling.	D
Ditto.	D
Ditto: rain falling: the clouds move S.	J H
At the time of observation vivid flashes of lightning in the S.E. accompanied with distant thunder and heavy rain: the flashes were frequent: they were first seen about a quarter of an hour previous to the observation, and continued about 20 minutes.	D
Dark vapour: the sky alternately clear and cloudy.	J H
Overcast, cirro-stratus, and scud.	
Ditto ditto.	
Ditto ditto: at $16^h.15^m$ the wind veered to S. and the clouds became broken: the sky was again overcast at $17^h.20^m$.	
Cloudy: cirro-stratus: slight breaks E. and S. of zenith.	J H
Overcast: cirro-stratus and scud.	P

May 20^d and 21^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 $0^{in}.240$, as deduced from the two-hourly observations.

May $19^d.0^h$ to $19^d.6^h$. The traversing board of the anemometer slipped several times through very small spaces.

May $20^d.18^h$. Hourly observations commenced. (See the Section of Term-Day Observations.)

May $21^d.22^h$. 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.						
May 22. 0	29·540	59·8	56·8	3·0	..	..	..	..	Calm	SSW	..	¼	..	..	..	10	..
2	29·572	62·6	58·8	3·8	..	..	..	..	Calm	SSW	..	¼	..	..	..	10	Transit
4	29·606	62·2	59·8	2·4	58·0	4·2	..	..	Calm	WSW	..	¼	..	..	..	10	Greatest declination N.
6	29·614	62·4	60·0	2·4	..	..	..	..	S	S	..	¼	..	..	..	5	..
8	29·653	58·5	54·8	3·7	..	..	..	..	Calm	SSW	..	¼	..	..	..	8	..
10	29·681	54·6	53·1	1·5	53·0	1·6	..	..	Calm	SSW	..	¼	..	..	..	4	..
12	29·711	50·7	50·0	0·7	..	..	..	..	Calm	S	..	¼	..	..	..	¼	Perigee
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	68·5 48·2	93·7 42·7	Calm	SSW	..	¼	4·26	0·00	8·378	3	..
May 23. 0	29·917	67·6	59·7	7·9	..	..	..	..	Calm	SSW	..	¼	..	..	..	3	..
2	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	S by E	...	..	..	..	..	..	..	Transit
6	..	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..
8	30·000	66·4	57·5	8·9	..	..	..	..	S	S	..	¼	..	..	..	2	..
10	..	..	..	..	..	..	..	..	ESE	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	ESE	...	..	..	..	..	..	..	..
14	30·052	49·1	49·0	0·1	..	..	..	..	Calm	SE	..	¼	..	..	..	0	..
16	30·049	48·5	47·8	0·7	47·5	1·0	..	..	Calm	Calm	..	..	..	..	..	6	..
18	30·072	49·5	48·8	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	6	..
20	30·077	55·8	54·2	1·6	..	..	..	..	Calm	ESE	..	¼	..	..	..	8	..
22	30·066	62·7	57·6	5·1	57·0	5·7	73·9 49·2	107·5 43·8	NNE	ENE	..	¼	4·26	0·00	8·393	8	..
May 24. 0	30·058	65·8	59·8	6·0	..	..	..	..	NE	ENE	0 to ½	¼	..	..	..	6	..
2	30·034	68·9	61·2	7·7	..	..	..	..	ENE	ENE	0 to 1	¼	..	..	..	7	..
4	30·019	69·9	61·8	8·1	60·0	9·9	..	..	ENE	ENE	..	¼	..	..	..	8	Transit
6	30·007	69·7	62·1	7·6	..	..	..	..	NNE	NE	..	¼	..	..	..	6	..
8	30·011	63·3	59·0	4·3	..	..	..	..	ESE	E	..	¼	..	..	..	8	..
10	30·017	60·2	56·5	3·7	..	..	..	..	Calm	S	..	¼	..	..	..	5	..
12	30·028	57·5	53·8	3·7	..	..	..	..	Calm	NNE	..	¼	..	..	..	5	..
14	30·027	54·0	52·1	1·9	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
16	30·017	53·2	51·7	1·5	51·3	1·9	..	..	Calm	ENE	..	¼	..	..	..	½	..
18	30·030	55·0	53·8	1·2	..	..	..	..	N	NNE	..	¼	..	..	..	8	..
20	30·028	59·7	52·2	7·5	..	..	..	..	N	NNE	0 to ½	¼	..	..	..	6	..
22	30·036	66·5	61·3	5·2	61·2	5·3	74·0 52·6	105·2 46·0	N by E	NNE	0 to 1	½	4·26	0·00	8·393	8	..
May 25. 0	30·038	66·4	62·3	4·1	..	..	..	..	NE by N	NE	2 to 2½	½	..	..	..	10	..
2	30·026	68·2	64·0	4·2	..	..	..	..	NE	NE	1 to 3½	½	..	..	..	10	..
4	30·021	68·7	64·5	4·2	63·0	5·7	..	..	NE	NE	1 to 2½	1	..	..	..	9	..
6	30·017	68·2	63·3	4·9	..	..	..	..	NE	NE	1½ to 2½	1	..	..	..	2	Transit
8	30·018	61·5	59·0	2·5	..	..	..	..	NE	NE	1 to 2	1½	..	..	..	9	..
10	30·028	58·2	56·7	1·5	56·0	2·2	..	..	NE	NE	½ to 2	1½	..	..	..	10	..
12	30·004	57·4	56·4	1·0	..	..	..	..	ENE	NE	½ to 1½	1	..	..	..	10	..

May 24d. 10h. The observation of the temperature of the Dew Point was omitted by inadvertence.

May 25d. 8d. Examined the perpendicularity of the barometer.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and scud: a few breaks to windward, low down in horizon.	P
Ditto ditto: a thin rain also falling.	P
Ditto ditto: rain since the last observation at intervals. [W. horizon.	J H
The sky cleared considerably at $5^h.5^m$: at present, fleecy clouds occupy the zenith: cumulo-strati and cirro-strati low in S.E. and	
Cirro-stratus and scud generally cover the sky: an extensive break in S.W. extending W.S.W.	
Cirro-stratus in the horizon: scud floating slowly in zenith.	J H
Cloudless, with the exception of a few streaks of cloud in N.E.	P
Cumuli in various directions.	J H
Cumuli in various directions.	J H
Light cirri scattered about. This has been a very warm day.	D
A remarkably clear night: stars brilliant even low down in the horizon.	P
The zenith covered with cirro-cumulus, which verges upon cirro-stratus in S. and S.W.: elsewhere clear: there is not a breath of wind perceptible here; but there is evidently an upper current, slowly bringing up clouds from S.W.	
Great quantities of scud in S. and in zenith: long lines of beautifully tinged clouds in N. and N.W. branching into the cirrus class: cumulo-strati in the north.	
Scud generally prevalent, breaking into cirro-cumulus in zenith: a slight shower of rain has this minute fallen.	P
Sky principally covered with fleecy clouds approaching the cirro-cumulus: cirro-stratus in N.W.	J H
Cirro-stratus E. of zenith, and partially obscuring the Sun: fleecy clouds branching into cirri in N.W.: the air very close.	
Thin cirro-stratus S. of zenith: fleecy clouds and cirri in N.W.	J H
Cirro-cumulus in zenith, and light scud covering nearly the rest of the heavens, excepting in the eastern horizon, where an extensive and clear break is visible: air excessively close.	P
Cirro-cumulus in zenith and other parts of sky: light scud also, branching into cirrus clouds in many parts.	
Clouds resembling cirro-cumuli in zenith, and in other directions: light cirri in S.E., where it is pretty clear.	
Clear in zenith, S. and S.E. and West: the break gradually increasing in North.	P
During the last three-quarters of an hour flashes of sheet lightning have been visible in the East horizon at intervals of from 3^s to 10^s: at present, a few stars dimly seen to the S: remainder of sky covered with dark cloud: a very close night.	G
At present nearly cloudless: a dark bank of clouds in N.W.: the lightning continued for an hour and a half after last observation:	
A few cirro-cumuli a little N. of zenith. [several flashes also from a cloud in N.E.	
Thin clouds have been collecting since the last observation.	
The southern sky generally covered with thin white cloud.	G
Sky nearly covered with thin white cloud.	D
Overcast: cirro-stratus.	D
Overcast: cirro-stratus and scud: a few very small breaks at intervals visible; and it would seem from this that the stratus is breaking up. [the north.	P
Overcast: scud passing quickly from E.N.E.: upper cloud cirrus and cirro-cumulus, apparently stationary: a little blue sky to	G
Light cirri prevalent; otherwise clear: within half an hour after the last observation the scud and cloud had passed westward,	
Quite overcast, with dark strati: wind rising: gusts to 2. [leaving a clear sky.	
Ditto.	
Ditto.	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.	°	°	°	°	°	°	°									
May 25. 14	30·001	56·2	55·1	1·1	..	..	..	..	NE	NE	..	½	..	..	..	10	..
16	29·973	53·7	52·5	1·2	52·0	1·7	..	..	NNE	NE	..	½	..	..	..	10	..
18	29·959	55·9	54·4	1·5	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
20	29·972	61·4	58·8	2·6	..	..	..	..	ENE	NE	..	¼	..	..	..	10	..
22	29·966	69·0	64·0	5·0	62·0	7·0	71·2 53·8	97·8 53·2	NE	NE	0 to ½	½	4·26	0·00	8·393	½	..
May 26. 0	29·947	74·3	67·0	7·3	..	..	..	..	ENE	NE	½ to 1	½	..	..	..	½	..
2	29·936	76·0	68·3	7·7	..	..	..	..	E	ENE	½ to 1	½	..	..	..	0	..
4	29·921	77·3	69·0	8·3	69·5	7·8	..	..	E	E	½ steady	½	..	..	..	0	..
6	29·896	75·0	68·8	6·2	..	..	..	..	E	ENE	0 to 1	¼	..	..	..	0	Transit
8	29·878	70·3	66·4	3·9	..	..	..	..	E	ENE	..	¼	..	..	..	0	..
10	29·876	64·0	61·5	2·5	60·0	4·0	..	..	E	ENE	..	¼	..	..	..	0	..
12	29·854	60·8	59·5	1·3	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·823	57·6	57·5	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·798	58·2	57·8	0·4	57·0	1·2	..	..	NE	ENE	..	¼	..	..	..	0	..
18	29·788	58·7	57·9	0·8	..	..	..	..	NE	ENE	..	½	..	..	..	0	..
20	29·788	67·5	63·5	4·0	..	..	..	..	NE	ENE	..	½	..	..	..	0	..
22	29·771	73·3	65·8	7·5	66·5	6·8	78·9 57·3	106·2 52·0	NE	NE	0 to ½	¼	4·26	0·00	8·393	0	..
May 27. 0	29·751	76·5	67·9	8·6	..	..	..	..	ENE	NE	..	¼	..	..	..	0	..
2	29·729	80·5	69·9	10·6	..	..	..	..	ENE	ENE	1 to 1½	¼	..	..	..	0	..
4	29·711	78·6	68·8	9·8	66·0	12·6	..	..	ENE	E by N	½ to 1½	½	..	..	..	½	1st Qr.
6	29·693	74·8	68·0	6·8	..	..	..	..	...	E	..	½	..	..	..	0	Transit
8	29·680	69·1	63·5	5·6	..	..	..	..	...	E	..	½	..	..	..	3	..
10	29·714	64·5	61·1	3·4	61·0	3·5	..	..	...	S	..	¼	..	..	..	8	..
12	29·718	63·3	61·4	1·9	..	..	..	..	...	S	..	¼	..	..	..	10	..
14	29·702	60·6	60·6	0·0	..	..	..	..	...	SSW	..	¼	..	..	..	4	..
16	29·697	61·4	61·0	0·4	60·0	1·4	..	..	...	Calm	..	..	..	..	..	10	..
18	29·785	61·5	61·0	0·5	..	..	..	..	...	SW	..	¼	..	..	..	10	..
20	29·760	64·5	63·7	0·8	..	..	..	..	...	SW	..	¼	..	..	..	9½	..
22	29·803	72·6	66·5	6·1	62·0	10·6	82·8 61·5	110·2 59·4	...	WSW	..	¼	4·26	0·09	8·480	3	..
May 28. 0	29·824	75·0	67·3	7·7	..	..	..	..	SSW	WSW	..	¼	..	..	..	5	..
2	29·837	79·2	68·4	10·8	..	..	..	..	SSW	SW	..	½	..	..	..	5	..
4	29·843	74·0	65·1	8·9	64·0	10·4	..	..	SSW	SSW	..	¼	..	..	..	4	..
6	29·854	71·3	63·2	8·1	..	..	..	..	WSW	SW	..	¼	..	..	..	2	..
8	29·875	66·2	63·2	3·0	..	..	..	..	WSW	SW	..	¼	..	..	..	0	Transit
10	29·913	60·0	56·7	3·3	54·0	6·0	..	..	WSW	W	..	¼	..	..	..	½	In Equator
12	29·937	56·2	54·8	1·4	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·946	53·3	52·9	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·957	52·6	52·3	0·3	50·5	2·1	..	..	Calm	Calm	..	..	..	..	..	3	..
18	29·956	52·5	51·8	0·7	..	..	..	..	WSW	WSW	..	¼	..	..	..	0	..
20	29·980	60·2	54·8	5·4	..	..	..	..	WNW	Calm	..	..	..	..	..	1	..
22	29·986	64·4	56·5	7·9	48·5	15·9	81·0 53·1	107·0 47·7	NNW	Calm	..	..	4·28	0·04	8·543	6	..
May 29. 0	29·982	67·5	58·5	9·0	..	..	..	..	N by W	N	..	¼	..	..	..	7	..

May 27d. The highest reading of the thermometer during the year took place on this day.

May 27d, civil reckoning. The mean temperature of this day, 68°·6, is the highest in the month; and this day is also the hottest in the year except August 27, whose mean temperature is 0°·3 higher.

May 27d. 4h. 40m. The rack-work was moved, and left in such a position that no motion was communicated: this is the cause that no directions of the wind were registered by the anemometer.

GENERAL REMARKS.	Observer.
Quite overcast, with dark strati.	D
Ditto.	
Ditto.	
Ditto.	D
A few small cumuli scattered about the sky: the upper clouds move from S.	J H
Cloudless, with the exception of a few small cirri S.E. of zenith: gusts of wind to 1.	
Cloudless.	J H
Ditto.	D
Ditto.	
Ditto.	
Ditto.	D
Ditto.	J H
Ditto.	
Ditto.	
Ditto.	
Ditto.	J H
Ditto: the air extremely close.	P
Cloudless.	
Ditto.	P
Cirri S.E. & N. of zenith: otherwise clear.	J H
Cloudless.	
A thin cirro-stratus low in horizon from S. to W., and a light scud extending from the upper edge of the cloud beyond the zenith; this is preceded by a modification of cirrus with long fibres pointing toward the S. horizon, from which quarter the clouds are moving.	
Heavy cumulo-strati and cirro-strati; lightning almost incessant in W. S.W. and S., illuminating the whole sky; it was first seen at $8^h.10^m$; thunder heard immediately after the observation. At $10^h.20^m$ a violent thunder storm: the lightning extremely vivid,	J H
Lightning incessant since the last observation: sky covered with a dark mass of cloud: rain falling in torrents. At $12^h.30^m$ the rain has ceased, and the sky become generally clear.	P
The stars but faintly visible; seemingly obscured by vapour: clouds in the horizon.	
Overcast: cirro-stratus, and a low dark scud.	
Ditto ditto: rain falling.	
One or two small breaks in W. horizon: rain has fallen since the last observation.	P
White cumuli and linear-cirri in various directions; but more collected in S.: electrical clouds in S.W. and N.W.	J H
Heavy cumulo-strati N.W. of zenith, and large white cumuli passing slowly from S.: air exceedingly close.	
Large white silvery-edged cumuli moving from S.S.W.: wind blowing in gusts to 1.	J H
Cumuli scattered over every part of sky: fine cumulo-strati in N. and N.W. horizon, and well-defined cirri in zenith.	P
Light cirri stretching from zenith N. and S; cumuli also in N. and N.W.	
Cloudless.	P
A few cirri here and there.	G
Cloudless.	G
Ditto.	D
Cirro-stratus in N.W., and a few fleecy clouds in S.	D
Cloudless.	J H
Hazy.	M
Ditto.	P
Hazy: the Sun casts no shadow.	G

May $27^d.\ 8^h.\ 50^m$ to $12^h.\ 35^m$. A thunder storm. (See the Section of Extraordinary Observations.)

May $28^d.\ 10^h.$ Hourly Meteorological Observations commenced. (See 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.						
May 29. 2	29·966	69·0	60·8	8·2	..	..	..	..	N by W	N	..	¼	..	..	..	8	..
4	29·964	66·8	58·2	8·6	51·5	15·3	..	..	NW	NW	..	¼	..	..	..	10	..
6	29·962	65·3	57·7	7·6	..	..	..	..	NNW	N	..	¼	..	..	..	10	..
8	29·941	61·2	57·4	3·8	..	..	..	..	N by W	N	..	¼	..	..	..	10	Transit
10	29·945	59·4	56·6	2·8	55·0	4·4	..	..	Calm	Calm	..	..	..	..	..	10	..
12	29·937	58·5	56·1	2·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	NW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	N by W	...	..	..	..	..	..	..	..
22	29·903	64·4	61·0	3·4	..	..	69·5 55·5	97·0 54·0	N by W	N	..	¼	4·28	0·00	8·543	10	..
May 30. 0	..	..	..	..	..	..	..	..	N by W	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	N by W	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
6	29·865	68·5	67·8	0·7	..	..	..	..	N	N	..	¼	..	..	..	5	..
8	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	Transit
12	..	..	..	..	..	..	..	..	S by W	...	..	..	..	..	..	..	..
14	29·863	51·3	49·8	1·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·864	51·4	49·5	1·9	49·0	2·4	..	..	Calm	Calm	..	..	..	..	..	3	..
18	29·878	51·4	49·9	1·5	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
20	29·891	59·5	55·2	4·3	..	..	..	..	WSW	SW	..	¼	..	..	..	1	..
22	29·897	66·7	59·6	7·1	56·5	10·2	81·2 50·8	97·6 43·3	SW	SW by W	..	¼	4·28	0·00	8·543	0	..
May 31. 0	29·904	71·4	61·8	9·6	..	..	..	..	WSW	SW by S	..	¼	..	..	..	1	..
2	29·894	75·4	64·0	11·4	..	..	..	..	WSW	SW	..	¼	..	..	..	6	..
4	29·874	74·5	63·4	11·1	55·0	19·5	..	..	WSW	WSW	..	¼	..	..	..	2	..
6	29·868	72·6	62·6	10·0	..	..	..	..	WSW	WSW	..	¼	..	..	..	2	..
8	29·883	66·0	60·5	5·5	..	..	..	..	WSW	WSW	..	¼	..	..	..	6	..
10	29·921	61·2	54·7	6·5	51·0	10·2	..	..	W by S	W	..	¼	..	..	..	2	Transit
12	29·945	56·7	52·5	4·2	..	..	..	..	Calm	Calm	..	..	4·28	0·00	8·543	0	..
14	29·951	52·5	50·5	2·0	..	..	..	..	Calm	WSW	..	¼	..	..	..	2	..
16	29·963	50·5	49·5	1·0	48·0	2·5	..	..	Calm	WSW	..	¼	..	..	..	8	..
18	29·985	50·0	49·7	0·3	..	..	..	..	Calm	WSW	..	¼	..	..	..	3	..
20	29·995	58·7	55·2	3·5	..	..	..	..	Calm	WSW	..	¼	..	..	..	1	..
22	30·023	63·5	57·7	5·8	56·0	7·5	79·2 51·0	107·8 42·6	Calm	WSW	..	¼	4·28	0·00	8·543	10	..
June 1. 0	30·032	66·3	59·2	7·1	..	..	..	..	W	SW by W	..	¼	..	..	..	8½	..
2	30·029	69·4	60·8	8·6	..	..	..	..	W	WSW	..	¼	..	..	..	7	..
4	30·024	69·5	60·6	8·9	57·0	12·5	..	..	W	NW	..	¼	..	..	..	7	..
6	30·019	65·5	58·0	7·5	..	..	..	..	W	W to NW variable	..	¼	..	..	..	10	..
8	30·030	60·5	57·7	2·8	..	..	..	..	W by S	Calm	..	..	..	..	..	5	..
10	30·039	56·5	54·5	2·0	52·5	4·0	..	..	SW	Calm	..	..	..	..	..	1	Transit
12	30·047	53·5	52·5	1·0	..	..	..	..	WSW	WSW	..	¼	..	..	..	¼	..
14	30·052	51·5	50·8	0·7	..	..	..	..	Calm	WSW	..	¼	..	..	..	0	..
16	30·037	50·2	49·2	1·0	48·0	2·2	..	..	Calm	WSW	..	¼	..	..	..	7	..
18	30·047	49·5	48·3	1·2	..	..	..	..	Calm	WSW	..	¼	..	..	..	¾	..
20	30·062	59·0	55·5	3·5	..	..	..	..	Calm	WSW	..	¼	..	..	..	¾	..
22	30·072	61·4	56·5	4·9	57·0	4·4	71·5 49·4	105·5 43·5	W	WSW	..	¼	4·28	0·00	8·543	6	..

May 31d, 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 Thermometer being 6°·2, as deduced from the two-hourly observations.

May 31d. 6h and 8h. Between these times the atmosphere underwent a considerable hygrometrical change.

May 31d. 12h. The amount of rain collected during the month of May, in the rain-gauge No. 4, was 2in·06.

June 1d, 6h and 8h. A considerable hygrometrical change took place in the atmosphere between these times.

GENERAL REMARKS.	Observer.
Clear S.E. of zenith, the rest of the sky overcast.	D
Overcast: cirro-stratus.	J H
No break in the clouds: cirro-strati.	G
Overcast, cirro-stratus: a thin rain falling.	P
Overcast: rain falling.	D
Ditto: cirro-stratus.	D
Overcast, the Sun being just visible.	G
Cumuli equally distributed about the sky: the upper current moving from W. N.W.	G
Cloudless.	D
Fleecy clouds in zenith, the rest of sky clear.	
Sky S. and E. of zenith covered with fleecy clouds.	
A few light fleecy clouds in zenith, otherwise clear.	D
Cloudless, hazy.	J H
Small cumuli N. of zenith.	
Electrical clouds N. of zenith, and dark cumuli in the other parts of sky.	J H
Cumuli in various directions.	D
A few cumuli N. and W. of zenith.	
Fleecy clouds in zenith: clear in the East, and the western part of the sky covered with cirro-stratus.	
Light clouds about the Moon, and a few patches of cirro-stratus in the N.; otherwise clear.	D
Cloudless.	G
Clouds rising in N.W. and W.; remainder of sky clear. [S. horizon, clear.	
Clouds have come up from the N. and spread over the eastern and western portions of the sky, that part of the sky only, near the	
A few clouds about the Sun and near the S. horizon, otherwise clear.	
A little haze in N.W., otherwise quite clear.	G
Sky covered with a heavy undefined modification of cloud, resembling the cumulo-stratus.	J H
Heavy clouds N. of zenith: fleecy clouds, with occasional breaks, in the southern part of sky: hazy in N.E.	
Fleecy clouds and vapour.	J H
Northern part of sky generally covered with cirro-stratus: southern portion cumuli with large patches of blue sky.	G
Sky covered with clouds: the upper cloud stratus: the lower, cumuli and scud passing from N.W.	
Cirro-cumuli near the zenith, and round it for 40°: clear near the S. horizon: cloudy in N. [S.E.: the current N.W.	
A few strati near the horizon in N.W.; remainder of sky clear: the clouds have passed away since last observation towards the	G
Cirri floating over from W.: hazy in the horizon.	J H
Cloudless.	
Zenith and 60° round, occupied by cirro-cumulus: small scattered clouds in the horizon.	
Cirrus near the Sun: fleecy clouds S.E. of zenith.	
Linear cirri in N.W., otherwise clear.	J H
Large fleecy cumuli in all directions.	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.						
June 2. 0	30·080	65·3	58·0	7·3	..	..	..	..	WSW	WSW	0 to ½	¼	..	..	..	6	..
2	30·064	67·5	59·0	8·5	..	..	..	..	WSW	WSW	..	¼	..	..	..	4	..
4	30·043	69·1	61·2	7·9	61·0	8·1	..	..	WSW	WSW	..	½	..	..	..	6	..
6	30·046	70·5	63·7	6·8	..	..	..	..	SW	WSW	..	½	..	..	..	7	..
8	30·061	64·7	61·0	3·7	..	..	..	..	Calm	W by S	..	¼	..	..	..	4	..
10	30·078	62·7	59·4	3·3	58·0	4·7	..	..	Calm	W	..	¼	..	..	..	9	..
12	30·078	58·1	56·6	1·5	..	..	..	..	NNW	Calm	..	..	..	..	..	7	Transit
14	30·066	56·6	55·0	1·6	..	..	..	..	Calm	NW	..	¼	..	..	..	10	..
16	30·055	54·6	53·8	0·8	52·0	2·6	..	..	Calm	N	..	¼	..	..	..	10	..
18	30·066	52·8	49·5	3·3	..	..	..	..	Calm	N	..	¼	..	..	..	4	..
20	30·068	60·2	54·7	5·5	..	..	..	..	Calm	N	..	¼	..	..	..	2	..
22	30·064	61·5	55·3	6·2	53·5	8·0	74·7 53·1	102·8 50·8	Calm	N	..	¼	4·28	0·00	8·543	8	..
June 3. 0	30·051	69·5	59·3	10·2	..	..	..	..	W by S	SSW	..	½	..	..	..	3	..
2	30·047	71·8	59·0	12·8	..	..	..	..	W by S	W	0 to ¼	¼	..	..	..	1	..
4	30·038	69·3	57·6	11·7	46·0	23·3	..	..	W	W	½ to 1	¼	..	..	..	1	..
6	30·043	67·1	56·5	10·6	..	..	..	..	WNW	WNW	0 to ½	¼	..	..	..	0	..
8	30·070	62·8	55·4	7·4	..	..	..	..	W	WNW	0 to 1	½	..	..	..	1	..
10	30·126	56·5	49·8	6·7	50·0	6·5	..	..	NW	NW	0 to ½	½	..	..	..	0	..
12	30·147	54·4	49·2	5·2	..	..	..	..	NW	NW	..	½	..	..	..	0	Transit
14	30·174	49·2	46·4	2·8	..	..	..	..	Calm	NW	..	½	..	..	..	0	..
16	30·187	43·6	42·5	1·1	41·5	2·1	..	..	Calm	W	..	¼	..	..	..	1	Full
18	30·212	44·8	44·2	0·6	..	..	..	..	Calm	W	..	¼	..	..	..	1	..
20	30·235	54·4	50·2	4·2	..	..	..	..	NW	NW	..	¼	..	..	..	¼	..
22	30·242	59·2	52·4	6·8	46·0	13·2	74·7 44·2	103·0 35·0	Calm	NW	..	¼	4·28	0·00	8·543	7	..
June 4. 0	30·241	63·3	54·2	9·1	..	..	..	..	...	WSW	..	¼	..	..	..	7	..
2	30·215	65·4	54·8	10·6	..	..	..	..	...	WSW	..	1	..	..	..	1	..
4	30·196	67·6	56·6	11·0	40·8	26·8	..	..	...	W	..	¼	..	..	..	4	..
6	30·187	65·0	55·0	10·0	..	..	..	..	...	W	..	¼	..	..	..	8	..
8	30·174	61·3	53·6	7·7	..	..	..	..	...	NW	..	¼	..	..	..	4	..
10	30·178	55·0	51·5	3·5	48·0	7·0	..	..	...	W	..	¼	..	..	..	8	Greatest Declination S.
12	30·157	52·1	49·5	2·6	..	..	..	..	...	WSW	..	½	..	..	..	..	..
14	30·153	49·6	48·5	1·1	..	..	..	..	...	WSW	..	¼	..	..	..	9	Transit
16	30·125	48·5	47·9	0·6	46·0	2·5	..	..	...	WSW	..	¼	..	..	..	9¾	..
18	30·115	49·6	48·7	0·9	..	..	..	..	...	WSW	..	¼	..	..	..	8	..
20	30·107	53·7	50·7	3·0	..	..	..	..	...	WSW	..	¼	..	..	..	7	..
22	30·068	60·5	54·3	6·2	55·0	5·5	70·7 48·2	96·2 40·3	...	WSW	..	¼	4·28	0·00	8·543	5	..
June 5. 0	30·032	64·4	54·8	9·6	..	..	..	..	W	WSW	..	¼	..	..	..	6	..
2	29·997	66·5	55·7	10·8	..	..	..	..	WNW	W	..	¼	..	..	..	6	..
4	29·958	67·3	55·3	12·0	44·0	23·3	..	..	NW	NW	0 to ½	¼	..	..	..	6	..
6	29·937	61·7	54·0	7·7	..	..	..	..	N by W	NNW	..	¼	..	..	..	10	..
8	29·921	54·5	52·1	2·4	..	..	..	..	NNW	NNW	0 to ½	¼	..	..	..	10	..
10	29·915	49·5	48·2	1·3	46·5	3·0	..	..	WNW	N by W	½ to 1½	1	..	..	..	10	..
12	29·883	50·5	48·6	1·9	..	..	..	..	W	N by W	..	¼	..	..	..	10	..
14	..	..	..	..	..	..	..	..	W	...	..	..	..	..	..	..	Transit

June 3d, civil reckoning. This day had less relative moisture in the atmosphere than any other day during the year, the mean difference of the Dry and Wet Thermometer being 6°·8, as deduced from the two-hourly observations.

June 3d. 22h. The highest reading of the barometer during the month; it was watched after 22h, but it did not rise higher, remaining at that reading until noon.

June 4d. The traversing board of the anemometer moved irregularly: this is the cause that no deviations of the wind were registered.

GENERAL REMARKS.	Observer.
Large undefined clouds over the greater part of the sky.	D
Cirri and cirro-cumuli scattered about the sky: clear in the zenith. At $2^h.\ 40^m$ the dry thermometer had risen to 74°·2.	D
Dark cumuli and undefined clouds.	J H
Heavy cumulo-strati in W.N.W. and S. of zenith: fleecy clouds in N., and dense clouds of an electrical character from N.N.E. to E.N.E., extending to within 50° of zenith: upper current N.W. by N. At $6^h.\ 40^m$ wind W.S.W. on the surface of the Earth: second current N: upper current W.	
Large cumulo-strati due N.: fleecy cumuli in every other direction.	
Sky nearly covered with dark cumulo-strati.	J H
Zenith clear: cirro-cumulus about the Moon: cirro-stratus in every other part.	D
Sky covered with cirro-stratus.	
Ditto.	
Large portions of cirro-stratus and scud floating in different parts of the sky, more particularly N. of zenith.	
Linear-cirri in the north: cirro-cumulus S. of zenith.	D
Cumuli and vapour in zenith: a thick haze from the horizon to 30° altitude in all directions.	J H
Light cumuli passing from S.W.	J H
A few small scattered cumuli near the horizon: fine blue sky.	G
A few small cumuli in various directions, otherwise clear: the dew point 23°·3 below the dry thermometer.	D
Cloudless.	
Cumulo-strati near the N. horizon, every other part of the sky clear.	
Cloudless.	D
Ditto.	G
Ditto: stars look small: hazy in the N.W. [morning.	
Linear-strati near N. horizon. About 10 minutes after the last observation a few clouds collected about the Moon: very cold	
Cirri in bars to the south: hazy near the horizon in north.	
One solitary cumulus a little S. of zenith, remainder of sky clear: still hazy near N. horizon.	G
Light fleecy cumuli: thick haze, especially in the N.	J H
Fleecy cumuli: hazy.	
Light cumuli: still hazy round the horizon.	J H
Streaks of cirri: hazy: a whitish blue sky: nearly calm.	G
The sky nearly covered with haze and light scud: two coloured parhelia have been visible since $4^h.\ 40^m$.	
Cirro-stratus about Sun, and extending to the horizon beneath him, covering the intermediate space from W. to N.: curled cirri between this and zenith, which is clear, and a few clouds in S. horizon: two coloured parhelia, one on each side of the Sun: they continued visible till about $7^h.\ 10^m$.	
The sky mostly covered with thin strati, through which the stars are faintly seen.	G
Cirri, and a modification of cloud approaching the cirro-cumulus S. of zenith: otherwise clear.	J H
The sky covered principally with cirro-stratus: cirro-cumulus in the neighbourhood of the Moon.	
Cirro-stratus covering nearly the whole of sky: at $16^h.\ 10^m$, the cirro-stratus was breaking up.	
Fleecy clouds in zenith and about 60° around it; cirro-stratus in north-western horizon.	
Fleecy clouds in zenith, and a thick haze in the whole horizon.	J H
Cumuli prevailing round the whole horizon: a thick haze	D
Heavy-looking cumuli in every direction.	
Cumuli scattered about every part of the sky.	D
Cirri, fleecy clouds, and light vapour, with haze in eastern horizon: $4^h.\ 40^m$, the clouds are becoming more heavy and threatening.	J H
Overcast: cirro-stratus and scud: a little rain has fallen since $5^h.\ 10^m$. and a few drops are now falling.	
Overcast: cirro-stratus and scud: rain falling, and has continued so since last observation.	
Overcast: cirro-stratus: rain still falling, and wind blowing in gusts to $1\frac{1}{2}$.	J H
The sky covered with a thin cirro-stratus: α Lyræ and Arcturus are faintly visible.	D

June 4^d, civil reckoning. The mean height of the barometer was greater on this day than on any other day during the month, being $30^{in}\cdot200$, as deduced from the two-hourly observations.

June $5^d.\ 12^h$. The direction of the wind by estimation, and by the anemometer, differ: that by the anemometer is undoubtedly right: it is probable the estimated direction should have been W. by N. The sky was quite cloudy, and no mention is made of different currents in the atmosphere.

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.						
June 5. 16	..	..	..	..	..	..	..	..	NW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	N by W	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	68·4 49·3	95·6 50·0	N by W	...	0 to ½	..	4·30	0·03	8·578	..	..
June 6. 0	29·848	56·1	48·9	7·2	43·0	13·1	..	..	N by W	NNW	0 to ½	1½	..	..	..	8	..
2	..	..	..	..	..	..	..	..	N by W	...	½ to 1	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	N by W	...	0 to 1	..	..	..	..	..	..
6	29·834	56·7	50·7	6·0	..	..	..	..	N by W	NE	..	¼	..	..	..	8	..
8	29·819	48·3	45·3	3·0	..	..	..	..	N by W	N	..	¼	..	..	..	1	..
10	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
14	29·789	45·0	42·1	2·9	..	..	..	..	NNW	NNW	..	½	..	..	..	8	..
16	29·774	42·6	40·5	2·1	38·5	4·1	..	..	N by W	N	..	½	..	..	..	1	Transit
18	29·787	42·9	41·0	1·9	..	..	..	..	N by W	N by W	..	¼	..	..	..	3	..
20	29·788	48·2	44·9	3·3	..	..	..	..	NNW	N	½ to 1½	½	..	..	..	5	..
22	29·796	50·8	47·2	3·6	45·0	5·8	61·1 41·2	87·0 35·6	NNW	N	1 to 2	¾	4·30	0·00	8·578	8½	..
June 7. 0	29·798	56·5	50·0	6·0	..	..	..	..	NNW	NNW	0 to 3	1	..	..	..	9	..
2	29·807	51·7	47·7	4·0	..	..	..	..	NNW	N	2½ to 5	1½	..	..	..	10	..
4	29·813	50·6	47·8	2·8	49·0	1·6	..	..	NNW	N	1½ to 2	1	..	..	..	10	Apogee
6	29·817	50·8	47·9	2·9	..	..	..	..	NNW	N	1½ to 3	1	..	..	..	10	..
8	29·824	49·8	47·6	2·2	..	..	..	..	NNW	N	1 to 1½	½	..	..	..	9	..
10	29·843	48·5	46·7	1·8	45·0	3·5	..	..	N by W	N	2½ to 3	1	..	..	..	10	..
12	29·847	46·8	46·4	0·4	..	..	..	..	N by W	N	1½ to 2	1+	..	..	..	10	..
14	29·842	46·2	46·0	0·2	..	..	..	..	N by W	N	½ to 2	1	..	..	..	10	..
16	29·830	46·5	45·6	0·9	45·0	1·5	..	..	N	N	1 to 2	1	..	..	..	10	Transit
18	29·831	46·2	45·3	0·9	..	..	..	..	N	N	1 to 2	¾	..	..	..	10	..
20	29·835	47·7	46·5	1·2	..	..	..	..	N	N	½ to 1	1	..	..	..	10	..
22	29·834	50·3	48·3	2·0	47·0	3·3	58·6 45·1	— 46·2	N	N	1 to 4½	1	4·30	0·00	8·578	10	..
June 8. 0	29·838	53·1	48·9	5·2	..	..	..	..	N	N by W	1 to 3	¾	..	..	..	10	..
2	29·838	55·6	50·3	5·3	..	..	..	..	N by E	N	1 to 5	¾	..	..	..	10	..
4	29·839	59·0	52·0	7·0	46·0	13·0	..	..	N by E	N	1 to 2	¾	..	..	..	10	..
6	29·832	54·7	49·7	5·0	..	..	..	..	N	N	½ to 1½	1	..	..	..	10	..
8	29·840	52·3	48·5	3·8	..	..	..	..	N	N	0 to 1	1	..	..	..	10	..
10	29·850	50·0	47·5	2·5	44·5	5·5	..	..	N	N	0 to 1	1+	..	..	..	10	..
12	29·849	47·9	45·9	2·0	..	..	..	..	N	N	0 to ½	1	..	..	..	10	..
14	29·833	46·7	44·3	2·4	..	..	..	..	N	N	0 to ½	1+	..	..	..	10	..
16	29·815	45·9	43·0	2·9	39·8	6·1	..	..	N	N	..	1	..	..	..	10	Transit
18	29·808	45·8	42·9	2·9	..	..	..	..	NNW	N	..	½	..	..	..	10	..
20	29·816	47·4	44·9	2·5	..	..	..	..	N by W	N by W	½ to 1	½	..	..	..	10	..
22	29·820	50·5	48·0	2·5	46·0	4·5	57·6 45·1	— 44·3	N by W	N	..	½	4·30	0·00	8·578	10	..
June 9. 0	29·826	56·2	51·6	4·6	..	..	..	..	N	N	0 to 1	½	..	..	..	10	..
2	29·828	57·1	52·5	4·6	..	..	..	..	N	N	0 to 1	½	..	..	..	10	..
4	29·822	55·4	51·4	4·0	48·5	6·9	..	..	N	N	..	½	..	..	..	10	..
6	29·807	55·0	50·8	4·2	..	..	..	..	N	N	..	½	..	..	..	10	..

June 6d. 22h. The index of the Solar Radiation Thermometer read 84°·0, but 3° of mercury were above it. The reading inserted was obtained by adding 84° to 3°. The mercury was afterwards shaken into its proper place below the index.

June 6d. 22h. Examined the perpendicularity of the barometer.

June 7d. 22h. The Solar Radiation Thermometer out of order; hence no observation of it.

June 8d. Mr. Newman took the Solar Radiation Thermometer away to repair it.

GENERAL REMARKS.	Observer.
Cumuli and fleecy clouds, with dark masses of scud, and a few bars of cirri south of zenith.	J H
Cumuli, fleecy clouds, and cirro-stratus.	G
Cirro-stratus in the horizon, extending from the South to N.W.: also fleecy clouds and cirri in various directions.	J H
The sky covered with fleecy clouds: the air very cold.	D
Lines of cirro-stratus in the south, every other part of the sky being clear.	
Cirri in zenith and north of it, and cirro-stratus in the south near the horizon.	
Large cumulo-strati in every direction.	D
Scud flying low, with occasional breaks: the wind in strong gusts.	J H
[last observation.	
Heavy cumulo-strati N. and E. of zenith, and loose scud passing rapidly from the north. A little rain has fallen in squalls since	J H
Dark, heavy-looking cumulo-stratus enveloping the sky, and scud passing rapidly from the North. The day wild-looking and extremely cold, much like a day in March.	G
Cumulo-strati completely covering the sky, and low scud passing rapidly from the North: several slight squalls of rain since	D
Overcast: cirro-stratus and scud. [last observation.	
Fleecy clouds in zenith, with breaks in N.W., the rest of the sky being overcast.	
Heavy cumulo-strati on all sides, and large masses of scud flying low, passing rapidly from the north: the day very cold.	D
Overcast and extremely cold: a small dashing rain falling.	G
Ditto ditto: the night is the darkest the observer remembers seeing at this season of the year.	
Cirro-stratus: large masses of clouds passing from the N. E.	
Overcast: a Scotch mist has continued since the last observation.	
Overcast, and large masses of scud passing from the N. E.: a slight rain falling.	G
Ditto: cirro-stratus and scud with a slight rain.	J H
Overcast: cirro-stratus and scud.	
Ditto: ditto.	J H
Ditto: ditto. In a few places a little blue sky is visible, there being apparently no upper cloud.	G
The appearance of the sky similar to that of last observation, it being somewhat brighter however near the horizon in the N.W.	
Overcast: cirro-stratus and scud.	
Almost immediately after the last observation the brightness in the N.W. previously noticed came up, leaving a clear sky, but which continued only a few minutes; at present the sky is covered with scud moving from S.E.	G
Overcast: cirro-stratus and scud: the wind blowing in strong gusts.	J H
Ditto ditto ditto.	
Ditto ditto ditto: the air very cold.	
Overcast: cirro-stratus: ditto.	
Ditto: ditto. No change has taken place in the weather during the night.	J H
Ditto ditto.	D
Ditto ditto.	
Ditto ditto: very gloomy.	D
Overcast: cirro-stratus and scud.	J H
Ditto ditto. The clouds are lighter now than at 4^h.	

June 8^d. Mr. Newman fixed a new radius arm for the rain-pencil of the Anemometer, and also new tubes for both the rain-pencil and the direction of the wind, large enough to carry small black-lead pencils. The spring connected with the pressure-pencil was moved half an inch farther away, so that the pressure chain and string may be always in tension: the 1 lb. weight was taken off the pressure-plate.

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.						
June 9. 8	29·803	51·9	48·7	3·2	..	..	..	..	N	N by E	..	½	..	..	..	8	..
10	29·813	46·8	45·6	1·2	44·0	2·8	..	..	N	N by E	..	½	..	..	..	½	..
12	29·799	46·5	45·1	1·4	..	..	..	..	N	N by E	..	¼	..	..	..	10	..
14	29·772	47·8	45·0	2·8	..	..	..	..	N	N	..	¼	..	..	..	10	..
16	29·748	46·8	43·8	3·0	44·0	2·8	..	..	N by W	N	..	¼	..	..	..	10	..
18	29·730	47·6	45·0	2·6	..	..	..	..	N by W	N	..	¼	..	..	..	10	Transit
20	29·709	49·2	46·5	2·7	..	..	..	..	NNW	NNW	0 to 1	¼	..	..	..	10	..
22	29·684	51·4	48·0	3·4	44·5	6·9	60·0 44·9	— 35·5	NNW	NNW	..	¼	4·30	0·00	8·578	10	..
June 10. 0	29·669	58·7	52·8	5·9	..	..	..	..	NNW	NW	0 to ½	½	..	..	..	7	..
2	29·621	65·8	56·4	9·4	..	..	..	..	NNW	NNW	½ to 1	½	..	..	..	¼	..
4	29·594	70·3	60·7	9·6	58·0	12·3	..	..	NNW	NNW	1 to 2½	½	..	..	..	3	..
6	29·569	67·0	59·0	8·0	..	..	..	..	N	NNW	1 to 1½	½	..	..	..	4	..
8	29·559	61·4	55·8	5·6	..	..	..	..	N	N	0 to ½	¼	..	..	..	0	..
10	29·556	53·5	51·3	2·2	49·0	4·5	..	..	N	N	..	¼	..	..	..	0	..
12	29·550	48·5	48·0	0·5	..	..	..	..	N	N	..	¼	..	..	..	0	..
14	29·550	46·4	46·1	0·3	..	..	..	..	N	N	..	¼	..	..	..	0	..
16	29·545	46·8	45·4	1·4	44·0	2·8	..	..	N by W	N	..	¼	..	..	..	1	..
18	29·552	48·0	46·5	1·5	..	..	..	..	N by W	N	1 to 1½	1	..	..	..	10	Transit
20	29·560	50·0	47·8	2·2	..	..	..	..	N	N	0 to 1	½	..	..	..	10	..
22	29·570	52·0	49·2	2·8	46·0	6·0	71·7 46·1	95·0 38·3	N by W	N	½ to 1½	½	4·30	0·00	8·578	10	..
June 11. 0	29·583	53·7	49·4	4·3	..	..	..	..	N	N	2 to 3	1	..	..	..	10	..
2	29·601	51·8	48·3	3·5	..	..	..	..	N	NNW	0 to 1½	1	..	..	..	10	..
4	29·614	52·8	48·9	3·9	43·8	9·0	..	..	N	N by E	0 to 1	¾	..	..	..	10	..
6	29·608	52·2	47·8	4·4	..	..	..	..	N	NNE	0 to 3½	¾	..	..	..	10	..
8	29·640	49·8	46·0	3·8	..	..	..	..	N	N	0 to 1	½	..	..	..	10	..
10	29·644	48·5	45·0	3·5	44·0	4·5	..	..	N	N	..	½	..	..	..	10	..
12	29·650	47·7	44·7	3·0	..	..	..	..	N	N by E	..	½	..	..	..	10	..
14	29·652	47·2	46·8	0·4	..	..	..	..	N by W	N by E	1 to 2	1	..	..	..	10	..
16	29·643	44·5	44·2	0·3	42·0	2·5	..	..	NNW	NNW	0 to 1½	1	..	..	..	10	..
18	29·649	45·1	44·7	0·4	..	..	..	..	NNW	NNW	0 to 1½	1	..	..	..	10	Transit
20	29·674	47·5	46·9	0·6	..	..	..	..	NNW	NNW	½ to 2½	1	..	..	..	10	3rd Qr.
22	29·699	50·6	49·0	1·6	48·0	2·6	53·4 44·1	56·0 44·5	N	N	½ to 2½	1	4·30	0·00	8·578	10	In Equator
June 12. 0	29·736	51·0	49·0	2·0	..	..	..	..	N	N by E	1½ to 2	1	..	..	..	10	..
2	29·770	51·8	49·5	2·3	..	..	..	..	N	N	0 to ½	¼	..	..	..	10	..
4	29·784	54·5	50·0	4·5	46·5	8·0	..	..	N	N	..	½	..	..	..	10	..
6	29·798	53·0	48·9	4·1	..	..	..	..	N by E	NNE	..	½	..	..	..	10	..
8	29·817	50·6	47·2	3·4	..	..	..	..	N	NNE	..	½	..	..	..	10	..
10	29·844	45·8	44·1	1·7	41·5	4·3	..	..	N	NNE	..	½	..	..	..	1	..
12	29·855	41·5	41·0	0·5	..	..	..	..	N	NNE	..	¼	..	..	..	1	..
14	..	..	..	..	..	..	..	..	N by W	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..

June 9d. 8h. Since 7d. 0h to the present time, with the exception of a few breaks, the sky has been quite covered with cloud: it was the longest interval without clear sky of any in the month.

June 10d. 6h+ to 14h+, without cloud: it was the longest interval of clear sky in the month.

June 10d. 22h. The reading under the head of Max. Radiation Thermometer was the highest reading seen of a mercurial thermometer, placed in the full rays of the Sun, and protected from lateral wind: all readings will be thus obtained until the Solar Radiation Thermometer be returned.

GENERAL REMARKS.	Observer.
At 6^h the clouds broke; and since that time the sky has been partially covered with large fleecy clouds and scud moving from the N.N.E. At present there is a break in N.W., and occasionally smaller breaks in every direction: $7^h.\ 30^m$, it is now much clearer to windward.	J H
Small detached clouds W. of zenith, otherwise clear. The sky was nearly cloudless at $9^h.\ 10^m$, the breaks mentioned in the last observation having come up before the wind.	J H
Overcast: cirro-stratus.	D
Ditto ditto.	
Ditto ditto.	
Ditto ditto.	
Ditto ditto.	D
Ditto ditto. Wind N.N.W. on the surface of the Earth, the middle current N.W., the upper current E.N.E.	J H
Fleecy cumuli in every direction: upper current E.N.E.	
Light cirri N. of zenith.	J H
Fleecy cumuli in different parts of the sky.	D
Ditto	
Cloudless.	
Ditto.	D
Ditto: nearly calm.	G
Ditto ditto.	
About $14^h.\ 40^m$ a few strati near horizon in N.E.: at present a low bank of slate-coloured stratus near northern horizon, every other part of the sky clear.	
Within a quarter of an hour after the last observation the sky was quite covered with quick moving scud from N.E.: sky overcast: wind rising, and scud still passing quickly.	
Quite cloudy: principally scud.	G
Overcast: cirro-stratus.	J H
Cumulo-stratus and scud: very cloudy.	
Scud and cirro-stratus: several breaks visible about noon.	J H
Sky covered with scud and cirro-stratus, passing from N.E.	G
Scud and cirro-status: very heavy: a few drops of rain at intervals.	J H
Sky quite overcast: cirro-stratus and scud.	D
Ditto; cirro-stratus.	D
Cirro-stratus and scud.	J H
Ditto ditto: strong gusts of wind.	
Overcast: cirro-stratus: strong gusts of wind and small rain.	
Ditto: small rain.	
Ditto ditto: strong gusts of wind and squally.	J H
Ditto ditto.	D
Overcast.	G
Ditto.	D
Cloudy, cirro-stratus and scud.	J H
Overcast: cirro-stratus.	
Ditto: very heavy: an extensive break in N.N.E. horizon.	
The break mentioned in last observation speedily extended over the whole of the northern part of the sky, and is gradually advancing towards the south horizon: cirro-stratus.	J H
Heavy vapour in S. and S.W. horizon: stars look watery.	D

June 9^d and 10^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 $5°{\cdot}3$, as deduced from the two-hourly observations.

June 12^d, civil reckoning. This was the coldest day during the month, the mean temperature being $48°{\cdot}6$, 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.						
June 12. 20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
22	29·923	51·8	48·0	3·8	..	..	53·5 43·3	66·0 32·1	N	N	..	¼	4·30	0·00	8·578	10	..
June 13. 0	..	..	..	..	..	..	..	..	N by E	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	N by E	...	..	..	..	..	..	..	..
4	29·923	60·5	57·5	3·0	..	..	..	..	N by E	N	..	¼	..	..	..	5	..
6	..	..	..	..	..	..	..	..	N by E	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	29·931	43·6	42·7	0·9	..	..	..	..	Calm	WSW	..	¼	..	..	..	0	..
16	29·919	42·2	42·2	0·0	42·0	0·2	..	..	Calm	Calm	..	..	..	..	..	2	..
18	29·928	45·5	44·6	0·9	..	..	..	..	WSW	WSW	..	¼	..	..	..	4	..
20	29·940	51·6	48·2	3·4	..	..	..	..	NW	W	..	¼	..	..	..	2	Transit
22	29·928	56·5	49·5	7·0	44·0	12·5	65·6 42·4	76·0 35·7	NW	NW	..	¼	4·30	0·00	8·578	1	..
June 14. 0	29·929	61·3	52·3	9·0	..	..	..	..	W by N	NNW	..	¼	..	..	..	¼	..
2	29·906	67·5	56·6	10·9	..	..	..	..	W by N	NW by W	..	¼	..	..	..	¼	..
4	29·877	68·5	57·5	11·0	46·0	22·5	..	..	WNW	WNW	..	¼	..	..	..	4	..
6	29·850	67·2	58·0	9·2	..	..	..	..	W	WNW	..	¼	..	..	..	4	..
8	29·841	63·5	57·2	6·3	..	..	..	..	WSW	W	..	¼	..	..	..	4	..
10	29·833	59·4	55·4	4·0	55·0	4·4	..	..	WSW	WSW	..	¼	..	..	..	5	..
12	29·827	55·2	51·3	3·9	..	..	..	..	WSW	W	..	¼	..	..	..	7	..
14	29·807	53·5	49·4	4·1	..	..	..	..	WSW	W	..	¼	..	..	..	10	..
16	29·780	52·7	51·0	1·7	49·0	3·7	..	..	WSW	WSW	..	¼	..	..	..	10	..
18	29·765	51·6	52·8	1·8	..	..	..	..	WSW	W	..	½	..	..	..	10	..
20	29·765	55·0	53·2	1·8	..	..	..	..	WSW	WSW	..	¾	..	..	..	10	Transit
22	29·774	56·5	52·0	4·5	50·0	6·5	70·8 53·0	106·0 49·3	W	NW by W	0 to 2	½	4·30	0·00	8·578	10	..
June 15. 0	29·800	60·0	52·5	7·5	..	..	..	..	WNW	NW	½ to 1	½	..	..	..	10	..
2	29·823	60·8	52·9	7·9	..	..	..	..	NW	NW by W	½ to 1	1	..	..	..	9½	..
4	29·853	61·7	53·4	8·3	46·0	15·7	..	..	NW	N	..	1	..	..	..	9	..
6	29·883	62·2	55·2	7·0	..	..	..	..	N	N	..	¾	..	..	..	5	..
8	29·925	57·2	52·2	5·0	..	..	..	..	NNE	NE	..	¾	..	..	..	7	..
10	29·995	51·5	47·8	3·7	44·3	7·2	..	..	Calm	NE	..	½	..	..	..	9	..
12	30·022	46·5	44·2	2·3	..	..	..	..	Calm	NE	..	½	..	..	..	3	..
14	30·036	43·5	42·8	0·7	..	..	..	..	Calm	NE	..	½	..	..	..	4	..
16	30·045	40·5	40·2	0·3	38·5	2·0	..	..	Calm	ENE	..	½	..	..	..	2	..
18	30·070	41·7	41·5	0·2	..	..	..	..	Calm	ENE	..	½	..	..	..	2	..
20	30·094	53·8	49·6	4·2	..	..	..	..	Calm	SSE	..	Just percep.	..	..	..	½	..
22	30·106	64·5	54·0	10·5	43·0	21·5	67·2 40·3	86·0 32·0	SW	WSW	..	¼	4·30	0·00	8·578	3	Transit
June 16. 0	30·096	65·2	55·6	9·6	..	..	..	..	SW	SW	..	¼	..	..	..	5	..
2	30·076	65·5	56·6	8·9	..	..	..	..	SW	SW	..	¼	..	..	..	7	..
4	30·056	67·5	56·8	10·7	47·5	20·0	..	..	SW	SW	..	¼	..	..	..	7	..
6	30·045	64·9	56·0	8·9	..	..	..	..	SW	SW	..	¼	..	..	..	3	..
8	30·033	61·7	55·2	6·5	..	..	..	..	Calm	SW	..	¼	..	..	..	¼	..
10	30·033	53·8	51·6	2·2	48·5	5·3	..	..	Calm	SW	..	Very gentle	..	..	..	1	..

June 14d. 0h and June 15d. 22h. Examined the perpendicularity of the barometer.

June 15d. 16h. The lowest reading of the thermometer during the month.

June 16d. 0h. Mr. Newman took off the pressure-pencil tube of the Anemometer for the purpose of enlarging it, so that it will hereafter carry a black-lead pencil; he also put another radius arm, with a joint in it, for the rain-pencil.

GENERAL REMARKS.	Observer.
Overcast: a dull heavy-looking sky.	G
Cumuli all round the horizon, and blue sky in and around zenith.	G
Cloudless: light vapour in S. horizon. Light clouds in zenith and N.W.: remainder of the sky clear. Cirri scattered in all parts of the sky. Cumuli N. and East of zenith: slight haze.	D
Mottled cirro-stratus and waved cirri S.E. of zenith: light cirri in N. horizon: hazy.	J H
A few scattered cirri. Small cumuli and light vapour. At $2^h.\ 10^m$ cirro-cumulus N.W. of zenith.	J H
Almost every modification of cloud; cirri, cirro-cumuli, cirro-strati in small patches, &c. in all parts of the sky: a few fine cumuli Scattered cirri and cumuli. [N.W. of zenith. Cirro-cumulus N. and E. of zenith: cirro-stratus in N. horizon: cirrus in the S.	D
Thick vapour in zenith: cirro-stratus in N.	D
Dark cloud round the horizon: stars glimmering through cloud or dense vapour. [cloud.	G
Since last observation the stars have been alternately quite covered, and then dimly visible; at present sky quite covered with dark A decided change in the weather since the last observation; the air feels softer; the clouds have changed from strati to small cumuli and nimbi: scud passing from W. Quite cloudy: scud passing from W.: no material change since last observation.	
Quite overcast: principally scud.	G
Cirro-stratus and scud: gusts of wind.	J H
[the sky. Cumulo-stratus and scud: heavy electrical clouds: wind in gusts. At $23^h.\ 10^m$ there were extensive breaks in the northern parts of	
Heavy electrical clouds, and large masses of scud floating slowly over.	J H
Cirro-stratus and scud: ill-shaped cumuli near the horizon all round: a few patches of pale blue sky.	G
The whole appearance of the sky has changed since the last observation; fine white cumuli are now spread all over the sky; blue sky between the clouds. Sky generally covered with fine cirro-cumulus: the northern portion of the sky nearly free of clouds.	
Large masses of cirro-stratus and scud moving from north-west: no upper cloud.	G
Scud and light vapour.	J H
Vapour and loose scud: appearance of the sky very changeable. About $13^h.\ 40^m$ first appearance of a strong light in the north, Scud passing over from N.N.W.: air very cold. [which continues. Cumuli and fleecy clouds, moving from N.W. by N.	
Small cirro-cumulus in W.N.W.: fleecy cumuli in the East.	J H
Cumuli and fleecy clouds in various parts of the sky.	D
Cumuli in all directions. Cumuli and cumulo-strati.	D
Large fleecy clouds East of the zenith: western part of the sky nearly covered with cumuli, and clouds of no particular modification.	J H
Fleecy clouds and cumuli in various directions. Cirro-cumulus: small cirro-stratus clouds near the horizon in the North: the northern horizon hazy. A bank of cirro-stratus near the horizon, extending from W. to N.E. round by North.	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.						
June 16. 12	30·030	49·8	49·2	0·6	..	..	..	..	Calm	SW	..	¼	..	..	..	0	..
14	30·021	48·2	48·2	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·993	48·3	48·0	0·3	46·5	1·8	..	..	Calm	Calm	..	..	..	..	..	4	..
18	29·983	49·5	49·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·975	57·8	55·0	2·8	..	..	..	..	SW	SSW	..	¼	..	..	..	2	..
22	29·961	62·6	56·0	6·6	51·5	11·1	70·3 47·6	98·0 42·5	SW	WSW	..	½	4·30	0·00	8·578	9	Transit
June 17. 0	29·945	63·8	56·2	7·6	..	..	..	..	WSW	SW	..	½	..	..	..	10	..
2	29·923	65·0	57·0	8·0	..	..	..	..	WSW	SW	..	½	..	..	..	9	..
4	29·880	70·5	60·0	10·5	50·0	20·5	..	..	SW	SW	..	¼	..	..	..	6	..
6	29·840	67·5	58·2	9·3	..	..	..	..	SW	Calm	..	..	..	..	..	2	..
8	29·825	60·4	56·6	3·8	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
10	29·820	56·5	53·2	3·3	54·0	2·5	..	..	Calm	NE	..	Very gentle	..	..	..	2	..
12	29·789	52·5	51·2	1·3	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
14	29·755	48·1	48·2	−0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
16	29·735	44·6	44·6	0·0	44·6	0·0	..	..	Calm	Calm	..	..	..	..	..	3	..
18	29·710	47·0	46·4	0·6	..	..	..	..	Calm	S	..	¼	..	..	..	4	..
20	29·707	56·9	54·3	2·6	51·8	5·1	..	..	Calm	Calm	..	..	..	..	..	4	..
22	29·660	67·6	59·4	8·2	56·5	11·1	71·0 49·4	95·0 40·0	E by N	NE	..	¼	4·30	0·00	8·578	1	..
June 18. 0	29·613	75·7	63·7	12·0	..	..	..	..	SSE	S	..	¼	..	..	..	4	Transit
2	29·591	79·5	65·3	14·2	51·0	27·5	..	..	S by E	S	..	½	..	..	..	8	..
4	29·552	75·0	62·5	12·5	51·8	23·2	..	..	S by E	S	..	½	..	..	..	7	..
6	29·538	72·2	62·3	9·9	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
8	29·532	65·0	60·7	4·3	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
10	29·548	60·8	56·5	4·3	54·0	6·8	..	..	Calm	Calm	..	..	..	..	..	10	Greatest declination N.
12	29·529	56·7	55·7	1·0	..	..	..	..	Calm	SW	..	¼	..	..	..	10	..
14	29·497	55·0	54·8	0·2	..	..	..	..	Calm	SW	..	¼	..	..	..	10	..
16	29·480	54·8	54·5	0·3	53·0	1·8	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·478	55·9	55·3	0·6	..	..	..	..	Calm	SSE	..	¼	..	..	..	8	..
20	29·476	57·8	56·6	1·2	..	..	..	..	WSW	SW	..	¼	..	..	..	10	New
22	29·488	57·3	56·6	0·7	56·0	1·3	78·5 54·9	110·0 53·5	W	SW	..	¼	4·42	0·13	8·768	10	..
June 19. 0	29·491	65·0	58·0	7·0	..	..	..	..	W	W	..	¼	..	..	..	5	Transit
2	29·493	65·3	57·0	8·3	..	..	..	..	WNW	WNW	0 to ½	½	..	..	..	5	..
4	29·510	61·5	56·5	5·0	55·0	6·5	..	..	WSW	SW	..	½	..	..	..	8	..
6	29·524	62·7	56·6	6·1	..	..	..	..	WSW	WSW	½ to 1½	1	..	..	..	9	..
8	29·544	58·8	54·3	4·5	..	..	..	..	W by S	WSW	..	½	..	..	..	9	..
10	29·571	55·8	52·8	3·0	51·0	4·8	..	..	W by S	WSW	..	½	..	..	..	9	..

June 17d and 18d, civil reckoning. The greatest difference in the mean height of the barometer, between any two consecutive days during the month, took place between these two days, being 0in·290, as deduced from the two-hourly observations.

June 17d. 6h and 8h. The Dry Thermometer fell 7°·1, and the Wet Thermometer only 1°·6 between these times; the atmosphere was becoming relatively much more charged with moisture

June 17d. 14h. The reading of the Wet Thermometer is higher than the reading of the Dry Thermometer.

June 18d, civil reckoning. The mean temperature of this day was the highest in the month, being 62°·4, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Cloudless.	D
Ditto.	
Fleecy clouds forming in zenith and 30° around: clear in horizon.	
The clouds mentioned in the last observation soon disappeared, and the sky again became cloudless, and continued so until $17^h.40^m$, when it suddenly clouded over, and remains so.	
Commenced clearing off at $19^h.40^m$: at present, detached portions of cirro-stratus in different parts of the sky.	D
Sky nearly covered with an undefinable cloud, a kind of scud.	J H
Sky covered with a loose scud.	
Scud and fleecy clouds.	J H
Fleecy clouds and large fragments of scud.	D
Loose scud in small portions scattered about the sky.	
Fleecy clouds S.E. of zenith: hazy in N.W.	
Light fleecy clouds N.W of zenith.	D
A few linear-strati near horizon in the N.W. and N., it being, with this exception, cloudless.	G
More deposition at present than there has been before during the month, every thing being wet; a few clouds in N.W.: in the North, a pale, yellowish light has been visible the whole evening; owing its origin, probably, to a very strong twilight.	
Strati N. of zenith: deposition still continues.	
Cirri and cirro-cumulus to the South, and cirro-cumuli to the North; a fine blue sky being between.	
Loose cirri N. of zenith, and small cumuli near southern horizon: the deposition has entirely ceased.	G
Fleecy cumuli: the clouds coming up from the S.S.E.	J H
Clouds collecting west of zenith, generally cirro-strati and cumuli: the air very close.	
Cumulo-strati and scud, the clouds being of an electrical character: wind in gusts, and rain at $2^h.15^m$.	J H
The upper clouds cirri, apparently stationary, and a little blue sky south of zenith: cumuli in the North, and electrical clouds in the S.W.: also scud passing from the South in small detached portions. and lowing.]	G
The sky covered with large straggling clouds; those in the North are of an electrical appearance: the sky looking extremely dull	
About $6^h.40^m$ the character of the clouds changed to mottled cirro-cumulus and a warm-looking sky: at $7^h.10^m$ a dark cloud rose in the S.W., and the whole face of the sky became turbid: at $7^h.24^m$ a clap of thunder from S.W.; four other claps occurred before $7^h.29^m$: at $7^h.35^m$ another clap: at $7^h.39^m$, lightning, followed by thunder at an interval of 20^s from the West: at $7^h.40^m$ thunder from the S.E.: at $7^h.42^m$, thunder from a dense black cloud in the E.: from $7^h.42^m.30^s$ to $7^h.43^m$, one continuous roll, all clouds moving rapidly from every part of the heavens to the N.E.: claps of thunder every 5^s until $7^h.48^m$, this was followed by lightning with thunder at 19^s; all the N.E. is very dark; rain falling in torrents two miles N. of us: at $7^h.49^m$ a clap of thunder from N.N.E.: this was the last heard: at $8^h.10^m$, the wind changed to S.	
At present a wild-looking sky, quite covered with dark cloud: several flashes of lightning have been seen in the N.E. during the last half hour: not a breath of wind.	G
Overcast: heavy electrical clouds: lightning in West and North-west at intervals since $10^h.40^m$: heavy rain.	J H
Overcast: cirro-stratus: heavy rain: the electrical character of the clouds disappearing.	
Overcast: cirro-stratus and scud.	
Breaks in the cloud about the zenith: cirro-stratus and scud in every other part.	
Sky covered with a loose scud.	J H
Thick misty rain falling.	D
Cumulo-strati in N.E.: fine white shining cumuli in the S. [sky.	
To the North a few white cumuli with clear blue sky between them: cumulo-stratus generally covers the southern portion of the	D
Heavy cumulo-strati and large masses of scud: at $3^h.25^m$ thunder was heard, a heavy cloud passed off in the east: distant thunder was heard till nearly $3^h.40^m$ from the E.S.E.	J H
Distant thunder occasionally heard since the last observation: the sky is generally covered with cumulo-strati: very heavy cumulo-strati in the N.E.: at $6^h.8^m$, thunder louder from E.N.E., the storm passing off eastward.	
Sky nearly covered with dark scud and heavy cumulo-strati.	
Loose scud: breaks about the zenith: air very clear.	J H

June $18^d.2^h$. The highest reading of the thermometer during the month, and this is 1° higher than that given by the Maximum Thermometer, when corrected for its index error. (See June $18^d.22^h$.)

June $18^d.2^h$. The greatest difference in the readings of the Wet Thermometer and the Dry Thermometer during the year took place at this time, being 14°·2. The temperature of the Dew Point was 52°·0, being 27°·5 below the temperature of the Dry Thermometer.

June $18^d.4^h$. Mr. Newman replaced the pressure-pencil socket on the Anemometer.

June $19^d.0^h$. A great hygrometrical change took place in the preceding two 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.						
June 19. 12	29·585	52·5	51·3	1·2	..	..	..	..	W by S	WSW	..	¼	..	..	..	1	..
14	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	Perigee
20	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	68·8 46·1	93·0 41·2	SW	...	..	..	4·42	0·00	8·773	..	..
June 20. 0	29·656	59·5	55·5	4·0	..	..	..	..	SSW	SW	1 to 2	¼	..	..	..	9	..
2	..	..	..	..	..	..	..	..	SSW	...	1 to 2	..	..	..	..	..	Transit
4	..	..	..	..	..	..	..	..	S	...	1 to 1½	..	..	..	..	..	..
6	29·582	58·2	55·6	2·6	..	..	..	..	S by E	SSW	1 to 4	1+	..	..	..	10	..
8	..	..	..	..	..	..	..	..	S by E	...	1½ to 2	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	SSW	...	0 to 1	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
14	29·535	56·1	56·0	0·1	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
16	29·563	54·9	54·5	0·4	53·0	1·9	..	..	...	SW	..	1	..	..	..	1	..
18	29·619	55·4	54·0	1·4	..	..	..	..	...	SW	..	1½	..	..	..	2	..
20	29·645	61·5	58·0	3·5	..	..	..	..	SW	SW	3 to 5	1½	..	..	..	7	..
22	29·681	63·8	58·8	5·0	59·0	4·8	66·7 53·7	— 50·2	SW	SW	3 to 5	1½	4·42	0·01	8·800	10	..
June 21. 0	29·713	69·5	60·9	8·6	..	..	..	..	SW	SW	4 to 5	2	..	..	..	3	..
2	29·747	70·2	61·3	8·9	..	..	..	..	SW	SW	3 to 4½	2	..	..	..	6	..
4	29·803	59·8	58·0	1·8	57·0	2·8	..	..	WSW	SW	1 to 5	2	..	..	..	9	Transit
6	29·833	58·8	56·5	2·3	..	..	..	..	WSW	SW	0 to 1	¾	..	..	..	9	..
8	29·856	60·0	56·5	3·5	..	..	..	..	SW	SW	..	½	..	..	..	3	..
10	29·897	55·3	53·8	1·5	54·0	1·3	..	..	SSW	SW	..	½	..	..	..	2	..
12	29·911	52·0	51·7	0·3	..	..	..	..	SSW	SW	..	½	..	..	..	1	..
14	29·917	51·0	50·8	0·2	..	..	..	..	SW	SW	..	½	..	..	..	8	..
16	29·928	49·2	49·2	0·0	49·0	0·2	..	..	Calm	SW	..	½	..	..	..	2	..
18	29·952	52·8	52·1	0·7	..	..	..	..	Calm	SW	..	½	..	..	..	8	..
20	29·954	57·1	55·0	2·1	..	..	..	..	SW	SW	..	½	..	..	..	9	..
22	29·937	63·0	56·7	6·3	56·5	6·5	73·5 50·6	80·0 45·7	SW	SW	..	¼	4·42	0·00	8·820	6	..
June 22. 0	29·936	64·3	55·8	8·5	..	..	..	..	WSW	SW	..	¼	..	..	..	5	..
2	29·929	63·1	57·1	6·0	..	..	..	..	SSW	SW	0 to 1	¼	..	..	..	10	..
4	29·903	63·7	58·5	5·2	52·5	11·2	..	..	SW	SW	..	½	..	..	..	8	Transit
6	29·894	61·4	56·2	5·2	..	..	..	..	SSW	SW	..	½	..	..	..	6	..
8	29·894	59·0	55·7	3·3	..	..	..	..	SW	SW	..	½	..	..	..	3	..
10	29·898	52·3	52·0	0·3	50·0	2·3	..	..	SSW	SW	..	½	..	..	..	1	..
12	29·889	50·0	50·0	0·0	..	..	..	..	SSW	SW	..	¼	..	..	..	0	..
14	29·884	48·2	48·5	−0·3	..	..	..	..	SW	SW	..	¼	..	..	..	0	..
16	29·869	48·8	48·8	0·0	48·0	0·8	..	..	SW	SW	..	¼	..	..	..	9	..
18	29·865	49·8	49·6	0·2	..	..	..	..	Calm	SW	..	¼	..	..	..	10	..
20	29·859	55·0	53·8	1·2	..	..	..	..	WSW	WSW	..	¼	..	..	..	9	..
22	29·842	59·4	56·2	3·2	52·0	7·4	64·2 47·8	85·0 43·2	WSW	WSW	..	¼	4·47	0·06	8·905	6	..
June 23. 0	29·820	55·9	54·2	1·7	..	..	..	..	Calm	WSW	..	¼	..	..	..	9	..
2	29·786	63·3	60·2	3·1	..	..	..	..	Calm	SW	..	¼	..	..	..	9	..
4	29·751	63·0	58·0	5·0	56·0	7·0	..	..	Calm	SW	..	¼	..	..	..	8	Transit

June 20d. 18h. Hourly meteorological observations commenced. (See Section of Term-day Meteorological Observations.)

June 20d. 18h. 30m. The anemometer traversing board was found fixed: it was started at 18h. 40m, and watched for an hour; it was found to move by jumps.

June 20d. 22h. No reading for the solar radiation, in consequence of the maximum not having been seen.

GENERAL REMARKS.	Observer.
Cirro-stratus in the North, near the horizon; the South horizon hazy.	D
The sky nearly covered with cirro-stratus and cumulo-stratus.	D
Overcast: wind in strong gusts.	G
Overcast.	D
Cirro-stratus near N. horizon, otherwise clear: wind gusty.	
Cirro-stratus in the horizon, otherwise clear.	
Large undefined clouds and scud passing with great rapidity from the S.W.: wind in gusts to 2.	D
Loose scud: strong gusts of wind.	J H
Large white cumuli: ditto.	
Scud and large cumuli: ditto.	J H
Sky nearly covered with cirro-stratus and scud: a heavy shower of rain at $3^h.\ 40^m$.	D
A clear break in S., the rest of sky covered with cirro-stratus and scud: sky very unsettled: showery.	
Cirro-stratus in N.: cirri in zenith: a few light cumuli scattered about in the S.	
Cirri in zenith: cirro-stratus in N. horizon.	D
Cirro-stratus N. of zenith.	J H
Cirro-stratus prevalent.	
Cumulo-stratus in N. horizon: small cirro-strati nearer zenith, and light scud S. of zenith.	
A thin cirro-stratus covers the whole of the southern portion of the sky: cirri to the northward.	
Thin cirro-stratus: partial breaks N. of zenith.	J H
Large masses of scud covering the greater portion of the sky.	P
Scud in large masses covering about half the sky, leaving however the zenith clear.	
Overcast: a heavy shower of rain commenced falling soon after $1^h.\ 50^m$, and still continues: a break or two in S.W.	P
Breaks in the clouds East of the zenith; large masses of scud West of the meridian: a squall of rain directly after this observation: distant thunder heard at $4^h.\ 17^m$.	J H
Southern part of the sky nearly cloudless: cumulo-strati and masses of scud north of the zenith: heavy squalls of rain since the last observation.	
North of the zenith, there are detached opening clouds of no definite modification: remainder of sky clear.	
Cirro-stratus and scud in the West horizon, otherwise clear: the air cold.	J H
The sky remarkably clear.	P
Cloudless.	
Since the last observation a cirro-stratus cloud has almost covered the sky, there being only a break near the horizon.	
Overcast: cirro-stratus and scud.	
Scud covering the greater portion of the sky: small breaks in various parts.	P
Scud in the zenith: light cumuli in the horizon in all directions.	J H
Sky generally covered with a loose scud: heavy showers of rain.	
Cumulo-strati and scud: a showery unsettled sky.	J H
The greater part of the sky overcast: nimbi in S. and S.W.: a fine cumulo-stratus in N. and N.W.	P

June $21^d.\ 2^h$. After this a considerable change took place in the hygrometrical state of the atmosphere. (See Section of Term-day Meteorological Observations.)

June $22^d.\ 0^h$. The anemometer traversing-board moved correctly after this.

June $23^d.\ 0^h\pm$. The temperature very variable.

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-guage 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.						
June 23. 6	29·727	62·4	57·2	5·2	..	..	..	..	Calm	SW	..	¼	..	..	..	9¾	..
8	29·705	58·8	55·4	3·4	..	..	..	..	Calm	SW	..	¼	..	..	..	1	..
10	29·717	54·3	52·3	2·0	52·0	2·3	..	..	Calm	Calm	..	..	..	..	..	2	..
12	29·714	50·5	49·5	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
14	29·682	48·5	48·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
16	29·661	47·3	46·6	0·7	45·0	2·3	..	..	Calm	Calm	..	..	..	..	..	1	..
18	29·654	48·8	48·4	0·4	..	..	..	..	Calm	WSW	..	½	..	..	..	4	..
20	29·638	59·7	56·2	3·5	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
22	29·627	67·0	59·5	7·5	..	..	73·4 45·7	86·0 39·5	Calm	Calm	..	..	4·52	0·10	9·025	7	..
June 24. 0	29·627	55·5	54·5	1·0	..	..	..	..	Calm	ENE	..	¼	..	..	..	10	..
2	29·589	59·8	58·0	1·8	..	..	..	..	Calm	E by S	..	¼	..	..	..	10	..
4	29·571	64·7	58·1	6·6	55·0	9·7	..	..	S by W	SW	..	¼	..	..	..	5	..
6	29·548	65·7	57·0	8·7	..	..	..	..	SSE	S	..	¼	..	..	..	7	Transit
8	29·546	60·4	55·2	5·2	..	..	..	..	Calm	S	..	¼	..	..	..	7	..
10	29·549	57·3	54·2	3·1	53·5	3·8	..	..	Calm	SSE	..	Very light	..	..	..	10	..
12	29·519	55·9	54·8	1·1	..	..	..	..	Calm	SE	..	¼	..	..	..	10	..
14	29·491	54·6	54·0	0·6	..	..	..	..	Calm	SSE	..	¼	..	..	..	10	In Equator
16	29·427	55·4	54·8	0·6	55·0	0·4	..	..	Calm	E	..	¼	..	..	..	10	..
18	29·424	55·6	55·2	0·4	..	..	..	..	Calm	ESE	..	¼	..	..	..	10	..
20	29·413	55·8	55·3	0·5	..	..	..	..	E	E	..	¼	..	..	..	10	..
22	29·386	56·8	56·0	0·8	54·0	2·8	68·1 54·7	74·0 40·5	E	E by N	..	Very light	5·30	1·03	10·183	10	..
June 25. 0	29·388	58·0	56·8	1·2	..	..	..	..	SE	ENE	..	½	..	..	..	10	..
2	29·392	65·4	60·8	4·6	..	..	..	..	SSW	SW	0 to 1	½	..	..	..	3	..
4	29·401	67·1	60·3	6·8	57·0	10·1	..	..	SSW	SSW	0 to 1½	1	..	..	..	4	..
6	29·408	67·3	59·8	7·5	..	..	..	..	SSW	SSW	0 to 2	1	..	..	..	3	Transit
8	29·429	63·1	57·7	5·4	..	..	..	..	S	SSW	..	½	..	..	..	½	..
10	29·443	57·6	55·5	2·1	56·0	1·6	..	..	Calm	S	..	¼	..	..	..	3	..
12	29·439	56·5	54·7	1·8	..	..	..	..	Calm	S	..	¼	..	..	..	9½	1st Qr.
14	29·444	55·8	54·0	1·8	..	..	..	..	S	S	..	½	..	..	..	10	..
16	29·449	55·0	53·5	1·5	52·0	3·0	..	..	S	SSW	0 to ½	1	..	..	..	1	..
18	29·465	56·4	53·8	2·6	..	..	..	..	S	SSW	1 to 3	1	..	..	..	½	..
20	29·490	61·2	56·1	5·1	..	..	..	..	SSW	SW	3 to 4½	1+	..	..	..	8	..
22	29·512	65·8	59·4	6·4	57·0	8·8	69·1 55·1	80·0 55·4	SSW	SSW	2 to 3½	2	5·48	0·13	10·430	6	..
June 26. 0	29·544	63·7	57·8	5·9	.	..	..	..	SSW	SSW	4 to 5	2	..	..	..	9	..
2	29·561	65·8	59·2	6·6	..	..	..	..	SSW	SSW	2 to 4	2	..	..	..	10	..
4	29·596	64·7	59·2	5·5	58·5	6·2	..	..	SSW	SW	1 to 2½	1½–	..	..	..	9	..
6	29·608	63·7	58·5	5·2	..	..	..	..	SSW	SW	½ to 1	1	..	..	..	9	..
8	29·637	61·2	56·7	4·5	..	..	..	..	SSW	SW	½ to 1	½	..	..	..	7	Transit
10	29·652	57·3	55·0	2·3	52·5	4·8	..	..	SSW	SW	..	½	..	..	..	2	..
12	29·676	54·0	52·8	1·2	..	..	..	..	SSW	SW	..	¼	..	..	..	0	..
14	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SW	...	½ to 1	..	..	..	..	..	..
22	..	..	..	..	..	..	69·9 52·7	82·0 53·0	SW	...	1 to 2	..	5·48	0·00	10·462	..	..

June 23d. 10h. Hourly observations commenced. (See Section of Term-day Observations.)

June 23d. 22h. The observer was engaged in the Magnetic Term Observations; this is the cause that no observation of the Dew Point was made.

June 24d. 22h. Rain-gauge No. 4 has 1in·51 of water in it; yesterday, at 22h, it had 0in·36, and therefore 1in·15 of rain has fallen in the twenty-four hours.

GENERAL REMARKS.	Observer.
The sky covered with scud, with a few partial breaks in the North, the N.W., and in the zenith.	P
A few light patches of scud floating about the zenith and north of it: haze in the W. and N.W., where there is also a dark cloud obscuring the Sun.	P
Clouds are near the horizon in the North and in the N.W., remainder of sky free of cloud.	G
A few strati near the horizon in the North, otherwise clear.	G
Cirro-stratus in the north horizon, otherwise cloudless.	D
Ditto. ditto.	D
Fleecy clouds and scud West of the zenith: cirri near the S. E. horizon.	J H
A fine morning.	M
Cumuli scattered over every part of the sky.	P
Heavy rain, with hail, since the last observation; several claps of thunder have also been heard.	D
Overcast: rain falling.	P
Cirro-stratus in N.: large cumuli and cumulo-strati in S.	D
Electrical clouds in S. E.; large dark cumulo-stratus in N.: nimbi in N.W.	G
Patches of undefined cloud scattered over the sky, and clouds of a denser cast in the W. horizon.	P
Cirro-stratus and scud; the air extremely close.	J H
Overcast: rain falling.	D
Ditto: the rain ceased a few minutes before the observation.	
Ditto: cirro-stratus.	
Ditto: commenced raining at $17^h.\ 20^m$.	
Ditto: rain without intermission since the last observation.	D
Ditto: cirro-stratus: steady rain.	J H
Clouds more broken: still raining: gusts of wind. [S.W.	
At $0^h.\ 55^m$, the sky partially cleared from W. S.W.: the wind veering more S.: at present large white cumuli floating over from	J H
Large cumuli scattered equally in every direction.	D
Large white cumuli in all directions.	
A few small cumuli near the W. horizon, otherwise cloudless.	
Light clouds S. and S. E. of zenith, otherwise clear.	D
A break in the N. horizon; elsewhere cloudy: cirro-stratus.	J H
Heavy vapour: sky at times partially clear.	
Cirro-stratus in the N. and N. E. horizon, otherwise clear: strong gusts of wind.	
Scud and cirro-stratus in the W. horizon: wind blowing in strong gusts.	
Large fleecy cumuli and cirro-stratus: strong gusts of wind.	J H
Large masses of scud floating in every direction.	P
The heavens almost covered with clouds floating in nearly one unbroken mass from the W. S.W.	
Overcast: cirro-stratus and scud.	P
The sky nearly covered with dark scud: squally, with heavy gusts of wind.	J H
Cumulo-strati and fleecy clouds: scud passing rapidly from S.W. by W., and wind in gusts: there have been slight showers of rain at intervals from $4^h.\ 0^m$ to $5^h.\ 10^m$.	
Cumulo-stratus in the N.-western horizon, and light scud in other parts of sky passing over from the W. S.W.	
Scud floating over from the W. S.W., several lower and darker portions of which are moving in the direction of the wind.	J H
Vapour in S. and S. E., otherwise perfectly clear.	P

June $24^d.\ 22^h$. This is the lowest reading of the barometer during the month.

June 25^d, civil reckoning. The mean height of the barometer was less on this day than on any other during the month, being $29^{in}\cdot420$, 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.						
June 27. 0	29·870	58·0	56·0	2·0	..	..	..	..	WSW	...	1 to 4	1½	..	..	..	10	..
2	..	..	..	..	..	..	..	..	WSW	...	0 to 2	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	W	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	WSW	...	1 to 1½	..	..	..	..	..	..
8	29·996	61·0	57·0	4·0	..	..	..	..	SW	SW	..	½	..	..	..	10	Transit
10	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
14	29·997	52·8	51·7	1·1	..	..	..	..	SSW	SSW	..	½	..	..	..	10	..
16	29·937	53·6	51·9	1·7	51·5	2·1	..	..	S	S by W	..	¼	..	..	..	10	..
18	29·931	54·6	53·0	1·6	..	..	..	..	S	S by W	..	½	..	..	..	10	..
20	29·901	56·4	54·2	2·2	..	..	..	..	S	S by W	1 to 2	½	..	..	..	10	..
22	29·850	56·7	55·7	1·0	55·0	1·7	68·6 51·1	— 50·5	SSW	SW	1 to 3	1½	5·60	0·13	10·671	10	..
June 28. 0	29·836	57·4	56·0	1·4	..	..	..	..	SSW	SSW	1 to 3	½	..	..	..	10	..
2	29·820	58·5	58·0	0·5	..	..	..	..	SW	SSW	1 to 1½	½	..	..	..	10	..
4	29·786	59·0	56·8	2·2	56·5	2·5	..	..	SSW	SSW	0 to ½	½	..	..	..	10	..
6	29·742	59·0	57·4	1·6	..	..	..	..	SSW	SSW	..	½	..	..	..	10	..
8	29·706	57·9	57·1	0·8	..	..	..	..	SSW	SSW	0 to 1	½	..	..	..	10	Transit
10	29·683	57·0	56·3	0·7	55·0	2·0	..	..	SSW	SSW	..	¼	..	..	..	10	..
12	29·634	55·5	55·0	0·5	..	..	..	..	Calm	SSW	..	¼	..	..	..	10	..
14	29·593	54·7	54·7	0·0	..	..	..	..	W	Calm	..	..	..	..	..	10	..
16	29·611	50·2	50·2	0·0	50·0	0·2	..	..	WSW	Calm	..	..	..	..	..	10	..
18	29·636	49·6	49·6	0·0	..	..	..	..	SW	Calm	..	..	..	..	..	5	..
20	29·658	55·7	54·4	1·3	..	..	..	..	SW	W	..	¼	..	..	..	3	..
22	29·654	63·0	57·2	5·8	54·0	9·0	64·6 50·1	66·0 48·2	SW	SW	..	¼	6·04	0·60	11·300	7	..
June 29. 0	29·646	63·1	56·0	7·1	..	..	..	..	SW	SW	½ to 2	½	..	..	..	8	..
2	29·649	61·5	57·6	3·9	..	..	..	..	SSW	SSW	½ to 1	½	..	..	..	6	..
4	29·659	56·8	53·2	3·6	50·0	6·8	..	..	WSW	W	..	¼	..	..	..	10	..
6	29·666	58·8	54·8	4·0	..	..	..	..	SSW	W	..	¼	..	..	..	8	..
8	29·697	54·4	52·4	2·0	..	..	..	..	Calm	W	..	¼	..	..	..	8	..
10	29·706	51·5	50·4	0·9	49·0	2·5	..	..	Calm	W	..	¼	..	..	..	9	Transit
12	29·731	49·9	49·1	0·8	..	..	..	..	Calm	W	..	¼	..	..	..	6	..
14	29·759	50·6	50·1	0·5	..	..	..	..	Calm	W	..	¼	..	..	..	4	..
16	29·774	50·0	49·4	0·6	49·0	1·0	..	..	W by S	W	..	¼	..	..	..	9	..
18	29·823	49·7	48·9	0·8	..	..	..	..	W by S	W	..	¼	..	..	..	2	..
20	29·846	54·2	51·4	2·8	..	..	..	..	W by N	WNW	..	¼	..	..	..	1	..
22	29·865	56·5	53·3	3·2	52·0	4·5	67·0 49·5	70·0 45·0	W by N	W by N	..	¼	6·08	0·06	11·360	10	..
June 30. 0	29·884	59·2	55·0	4·2	..	..	..	..	WSW	W	..	¼	..	..	..	8	..
2	29·900	65·7	58·6	7·1	..	..	..	..	W by N	WNW	½ to 1	½	..	..	..	6	..
4	29·924	61·1	54·6	6·5	55·0	6·1	..	..	W	WNW	..	½	..	..	..	10	..
6	29·941	62·3	55·5	6·8	..	..	..	..	W by N	WNW	..	¼	..	..	..	9	..
8	29·965	59·0	54·6	4·4	..	..	..	..	W by S	W	..	¼	..	..	..	10	..
10	29·986	57·1	52·6	4·5	52·0	5·1	..	..	W by N	WNW	..	¼	..	..	..	10	Transit
12	29·983	52·5	50·8	1·7	..	..	..	..	SW	WSW	..	¼	6·08	0·00	11·370	4	..
14	29·988	51·8	50·8	1·0	..	..	..	..	SW	WSW	..	¼	..	..	..	4	..
16	29·970	51·8	50·8	1·0	50·0	1·8	..	..	SW	W by N	..	¼	..	..	..	10	..
18	29·968	53·5	52·5	1·0	..	..	..	..	SW	W	..	¼	..	..	..	10	..

June 27d. 22h. The highest reading of the thermometer placed in the full rays of the Sun was not seen.

June 28d, 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°·2, as deduced from the two-hourly observations.

June 28d. 14h. 20m to 14h. 50m. The wind blew at the Anemometer with a pressure varying from 1½ lb. to 3 lbs. on the square foot; at 14h. 20m it commenced blowing suddenly with a pressure of 3 lbs., at 14h. 50m it suddenly ceased blowing: one minute before its cessation a pressure of 3 lbs. is recorded.

GENERAL REMARKS.	Observer.
Overcast: heavy rain falling and wind blowing in heavy gusts: the rain began falling about $23^h.\ 40^m$, previous to which time there was a fine blue sky, with light scud from the S.W.	P
At $1^h.\ 5^m$ thunder, accompanied with a very slight rain.	G
Overcast: rain falling, having this moment commenced.	P
Overcast: cirro-stratus and scud.	
Ditto ditto.	
Ditto ditto.	
Ditto ditto: a thin rain falling.	P
Ditto ditto: a fine steady rain.	D
Overcast: slight rain.	
Ditto: cirro-stratus.	D
Ditto ditto.	P
Ditto ditto.	
Ditto ditto: a thin misty rain falling.	
Ditto: a fine steady rain.	P
Ditto ditto.	G
Ditto ditto.	
Ditto: the rain not quite so heavy. [about the North.	
The rain ceased falling directly after the last observation: at present, a dull blue sky in the South: a thin cirro-stratus generally Cumulo-stratus near the horizon: some scud passing quickly from the West: sky generally deep blue.	G
Cumulo-stratus and scud.	D
Extensive breaks in the clouds in the E. and in the N.W. where cumuli are forming; wind blowing in gusts.	P
Clear blue sky N. of zenith, cumulo-stratus and scud S. of it; cumulo-stratus near the horizon in the N.W.: sky very unsettled: a heavy shower of rain fell at $1^h.\ 25^m$.	D
Overcast: a light rain falling.	G
Frequent showers of rain since the last observation: at present, the sky nearly covered with cirro-stratus and scud.	
Frequent showers: rain falling at present.	
Sky generally covered with strati: occasional breaks.	G
Zenith clear: various breaks at every part of the sky.	D
Cirro-stratus in N. and near the horizon all round.	
Fleecy clouds about the zenith; every other part of sky covered with cirro-stratus.	
Fleecy clouds in the East; remainder of sky cloudless.	
Small fragments of scud floating from W.N.W., otherwise clear.	D
Sky quite covered with scud.	P
In the North, cumuli on a dark ground, as if of vapour: scud every where else, with an extensive break in the East.	
Large masses of scud floating from the North: stratus in the northern horizon: the zenith, and S.E. of it free from clouds.	
Overcast.	P
Cirro-stratus and fleecy clouds.	D
Sky covered with cirro-stratus.	
Overcast: cirro-stratus.	D
Fleecy clouds about the zenith; cirro-stratus near the horizon: the Moon scarcely visible: Jupiter quite obscured.	P
Cirro-stratus in horizon: the stars shine dimly from the prevalence of vapour.	
Overcast: cirro-stratus and scud.	
Ditto ditto.	

June $30^d.\ 12^h$. The amount of rain collected during the month of June, in the rain-gauge No. 4, was $2^{in}.70$.

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.						
June 30. 20	29·971	56·6	54·5	2·1	..	..	..	..	SW	W	..	½	..	..	..	10	..
22	29·969	58·2	56·0	2·2	56·0	2·2	64·2 54·3	91·0 50·8	SW	WSW	½ to 1	½	6·08	0·00	11·370	10	..
July 1. 0	29·958	59·3	57·6	1·7	..	..	..	..	WSW	WSW	½ to 1	¼	..	..	..	10	..
2	29·945	62·5	60·0	2·5	..	..	..	..	WSW	WSW	2 to 3	¼	..	..	..	10	..
4	29·944	62·4	59·8	2·6	59·0	3·4	..	..	WSW	W by S	½ to 1	¼	..	..	..	10	..
6	29·933	62·8	60·4	2·4	..	..	..	..	WSW	W by S	½ to 1	¼	..	..	..	10	..
8	29·950	60·7	58·5	2·2	..	..	..	..	WSW	W by S	..	¼	..	..	..	10	..
10	29·959	59·7	58·0	1·7	57·0	2·7	..	..	WSW	W by S	..	¼	..	..	..	10	..
12	29·966	58·9	57·8	1·1	..	..	..	..	SW	Calm	..	..	..	..	..	10	Transit
14	29·964	58·6	58·0	0·6	..	..	..	..	SW	W	..	¼	..	..	..	10	..
16	29·957	58·5	58·4	0·1	58·0	0·5	..	..	SW	Calm	..	..	..	..	..	10	Greatest Declination S.
18	29·955	59·7	59·2	0·5	..	..	..	..	WSW	Calm	..	..	..	..	..	10	..
20	29·982	60·8	60·7	0·1	..	..	..	..	WSW	W	..	¼	..	..	..	10	..
22	26·992	62·1	61·8	0·3	60·0	2·1	63·9 58·5	65·0 58·8	WSW	W	..	¼	6·11	0·05	11·454	10	..
July 2. 0	29·991	63·9	61·3	2·6	..	..	..	..	WSW	W	..	½	..	..	..	10	..
2	30·010	66·8	62·3	4·5	..	..	..	..	WSW	W	..	¼	..	..	..	10	..
4	30·005	66·4	63·0	3·4	62·0	4·4	..	..	W	W	..	¼	..	..	..	10	..
6	30·011	64·4	61·8	2·6	..	..	..	..	Calm	N	..	¼	..	..	..	10	..
8	30·024	62·7	60·8	1·9	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	30·035	60·7	60·5	0·2	60·0	0·7	..	..	Calm	Calm	..	..	..	..	..	10	..
12	30·038	60·5	60·4	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
14	30·037	59·5	59·2	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·026	58·8	58·7	0·1	58·5	0·3	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·023	59·8	59·6	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·027	63·3	61·6	1·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·024	68·6	65·0	3·6	64·0	4·6	70·3 59·1	72·0 57·7	Calm	Calm	..	..	6·11	0·01	11·480	10	..
July 3. 0	30·007	66·4	63·2	3·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
2	29·983	74·8	67·0	7·8	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
4	29·952	74·2	66·9	7·3	66·0	8·2	..	..	SSW	SSW	..	¼	..	..	..	9	..
6	29·927	75·3	66·0	9·3	..	..	..	..	SW	SW	..	¼	..	..	..	7	..
8	29·913	67·5	63·8	3·7	..	..	..	..	SSW	SSW	..	¼	..	..	..	2	Full
10	29·907	61·9	60·0	1·9	58·0	3·9	..	..	SSW	SSW	..	¼	..	..	..	2	..
12	29·887	60·8	58·0	2·8	..	..	..	..	Calm	SW	..	¼	..	..	..	4	Transit
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	76·6 62·9	100·0 52·0	SW	...	..	..	6·14	0·03	11·525	..	..
July 4. 0	29·857	66·9	62·0	4·9	..	..	..	..	SW	W	..	¼	..	..	..	10	..
2	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
6	29·863	64·5	60·5	4·0	..	..	..	..	W	W	..	¼	..	..	..	9	..
8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..

July 1d. 2h. A pressure of 2+lbs. is recorded by the Anemometer, the estimated strength at the same time being only ¼; the latter is most likely wrong.

July 1d. 12h. Examined the perpendicularity of the barometer.

July 2d, civil reckoning. The mean height of the barometer was greater on this day than on any other during the month, being 29in·997, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and scud.	P
Ditto ditto.	D
Ditto ditto: rain has been falling during the last hour.	
Ditto ditto.	D
Ditto ditto.	P
Ditto ditto: the cirro-stratus seems breaking in the southern horizon, a very few small patches of blue sky being visible, but not sufficient to affect the notation.	
Ditto ditto.	
Overcast: cirro-stratus and scud.	P
Quite overcast: light rain has been falling.	G
Ditto: very dark.	
Ditto: light rain falling.	
Ditto: very gloomy; a Scotch mist.	
Ditto: cirro-stratus.	G
Ditto ditto: very gloomy.	D
Overcast.	P
Ditto.	D
Overcast: clouds a little lighter in some directions.	G
Same as at the last observation: shortly after 4^h the wind shifted to the N., and continues blowing from that quarter.	
No change whatever: the Sun has not been visible during the day.	
Slight rain since the last observation: very dull and gloomy.	G
Remarkably calm and gloomy: light misty rain falling.	D
Quite overcast.	
Ditto.	
Ditto.	
Overcast: the clouds appear to be breaking: at $19^h.\ 40^m$ the Sun's place was visible for a short time, being the first time it has been seen during the last two days.	D
Overcast again: very warm and close to the sense.	G
Overcast: cirro-stratus: the air extremely close.	P
Fine cumulo-strati in horizon, and cumuli stretching towards zenith, where it is partially clear: cirro-stratus in other parts of [the sky.	
Cirro-stratus of a dark character N. of zenith: cumuli in W., and a few breaks near zenith.	P
Cumuli, and cumulo-strati in various parts of the sky.	D
Cirro-stratus in N. horizon: small light fleecy clouds in different parts.	
Clear, except in N. horizon, where cirro-stratus is prevalent.	D
A great quantity of scud scattered in every part of sky: South horizon remarkably clear: a kind of cirro-cumulus forming in S.S.E. about 20° from zenith.	P
Overcast: cirro-stratus and scud: the air close.	G
Cirro-stratus and scud: clouds of an electrical appearance near southern horizon.	G

July 3^d. The highest reading of the thermometer during the month took place on this day; and this day, civil reckoning, was the hottest day in the month, the mean temperature being 65°·9, as deduced from the two-hourly observations.

July $3^d.\ 2^h$. The clouds became broken, for the first time, since June $30^d.\ 16^h$; it is the longest interval without clear sky of any 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 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.						
July 4. 12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Apogee
14	29·904	52·0	51·8	0·2	..	..	..	..	Calm	N	..	¼	..	..	..	1	Transit
16	29·915	55·4	55·2	0·2	55·0	0·4	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·937	54·9	54·2	0·7	..	..	..	..	NNE	N	..	¼	..	..	..	2	..
20	29·955	59·0	57·5	1·5	..	..	..	..	NNE	N	..	¼	..	..	..	6	..
22	29·975	62·7	59·8	2·9	59·0	3·7	71·0 54·7	91·0 47·0	NNE	Calm	..	..	6·14	0·00	11·525	10	..
July 5. 0	29·972	65·2	60·8	4·4	..	..	..	..	N by E	NNE	..	¼	..	..	..	10	..
2	29·958	70·5	63·2	7·3	..	..	..	..	N	NNE	..	¼	..	..	..	3	..
4	29·921	70·2	64·7	5·5	65·0	5·2	..	..	N	N by E	..	¼	..	..	..	2	..
6	29·893	69·4	63·7	5·7	..	..	..	..	Calm	N by E	..	¼	..	..	..	10	..
8	29·865	65·8	63·0	2·8	..	..	..	..	Calm	S	..	¼	..	..	..	10	..
10	29·830	62·2	60·0	2·2	58·5	3·7	..	..	SSW	S by W	..	½	..	..	..	10	..
12	29·777	59·6	58·6	1·0	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
14	29·721	58·2	57·3	0·9	..	..	..	..	SSW	SW	..	½	..	..	..	10	Transit
16	29·638	57·8	57·0	0·8	56·5	1·3	..	..	SW	SW	½ to 1	¼ to ½	..	..	..	10	..
18	29·558	57·0	56·6	0·4	..	..	..	..	SW	SW	1 to 2½	1 to 2	..	..	..	10	..
20	29·532	58·5	58·2	0·3	..	..	..	..	SW	SW	2 to 3	1 to 2	..	..	..	10	..
22	29·529	63·5	60·3	3·2	58·0	5·5	63·1 57·5	106·0 56·0	W	W	½ to 2½	1	6·44	0·40	12·063	8	..
July 6. 0	29·557	64·4	59·8	4·6	..	..	..	..	W by N	WNW	½ to 1	1½	..	..	..	7	..
2	29·580	67·0	58·1	8·9	..	..	..	..	NW	NW	1½ to 2	1½	..	..	..	7	..
4	29·610	67·0	57·6	9·4	50·0	17·0	..	..	NW	NNW	2 to 3	1½	..	..	..	6	..
6	29·644	65·3	57·0	8·3	..	..	..	..	NW	NNW	2 to 3	1½	..	..	..	1	..
8	29·685	63·4	55·8	7·6	..	..	..	..	NW	NW	½ to 1	1	..	..	..	0	..
10	29·715	58·5	54·2	4·3	52·0	6·5	..	..	W	W	..	¼	..	..	..	2	..
12	29·730	57·7	54·5	3·2	..	..	..	..	WSW	W	..	¼	..	..	..	5	..
14	29·750	53·4	51·6	1·8	..	..	..	..	WSW	W	..	¼	..	..	..	1	..
16	29·759	53·2	51·4	1·8	50·0	3·2	..	..	Calm	W	..	¼	..	..	..	9	Transit
18	29·771	53·3	51·4	1·9	..	..	..	..	Calm	W	..	¼	..	..	..	3	..
20	29·778	57·5	53·6	3·9	..	..	..	..	W	W	..	¼	..	..	..	8	..
22	29·766	62·7	56·3	6·4	56·0	6·7	68·5 52·1	— 48·5	W	W by N	..	¼	6·44	0·00	12·063	9	..
July 7. 0	29·729	62·9	55·7	7·2	..	..	..	..	WSW	W by N	¼ to 1½	¼	..	..	..	8	..
2	29·703	68·8	60·6	8·2	..	..	..	..	WSW	W by N	1 to 2	¼+	..	..	..	7	..
4	29·655	61·5	57·5	4·0	57·0	4·5	..	..	SW	SW	½ to 1	1	..	..	..	10	..
6	29·580	58·8	58·0	0·8	..	..	..	..	SW	SW	1 to 2	1½	..	..	..	10	..
8	29·532	59·6	58·7	0·9	..	..	..	..	WSW	SW	1 to 2	1½	..	..	..	10	..
10	29·525	57·0	57·0	0·0	57·0	0·0	..	..	WSW	WSW	½ to 1	1	..	..	..	10	..
12	29·521	56·7	56·0	0·7	..	..	..	..	WSW	WSW	0 to ½	½	..	..	..	10	..
14	29·511	56·4	56·0	0·4	..	..	..	..	WSW	WSW	0 to 1	½	..	..	..	10	..
16	29·539	54·2	53·0	1·2	53·5	0·7	..	..	NNW	NW	..	¼	..	..	..	10	Transit
18	29·568	53·7	51·3	2·4	..	..	..	..	NNW	NW	..	¼	..	..	..	9	..
20	29·608	54·3	50·6	3·7	..	..	..	..	NW	NW	0 to 1	½+	..	..	..	7	..
22	29·640	59·4	52·6	6·8	55·0	4·4	68·5 52·3	— 52·6	NW	WNW	..	½	6·54	0·21	12·309	5	..
July 8. 0	29·667	60·5	52·5	8·0	..	..	..	..	WNW	WNW	..	½	..	..	..	6	..

July 5d and 6d. 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, it being 0in·284, as deduced from the two-hourly observations.

July 6d. 22h and 7d. 22h. The highest reading of the thermometer exposed to the Sun was not seen.

GENERAL REMARKS.	Observer.
About five minutes before the observation, no clouds were visible except a few of a fleecy character in zenith. In about three minutes afterwards the heavens were overcast, even the Moon was obscured by dense clouds: before the observation was terminated, the sky was clear except in the South, where a dark bank of clouds remained.	P
Cloudless: a small lunar halo.	
Long lines of cloud in West: light scud in South and haze in the horizon.	
Great quantities of light scud scattered over the sky, verging, in N.W., upon cirro-stratus.	P
Overcast.	D
Thin cirro-stratus.	
Fragments of cirro-stratus in S. and in N. horizon.	D
Patches of white scud scattered thinly over the sky; cumuli in South and haze prevalent in West and N.W.	P
Overcast: thin cirro-stratus.	
Ditto: cirro-stratus and scud.	
Ditto: ditto: a gloomy-looking sky.	P
Ditto: cirro-stratus: signs of rain.	G
Ditto: an unbroken cloud: strong appearances of rain.	
About three-quarters of an hour since, rain began to fall, and is still falling.	
Rain falling, alternately fast and in dashing showers since the last observation: at present raining fast: the wind has risen considerably, and is now blowing in gusts to 2.	
Nearly continuous rain since the last observation.	G
Clear breaks in all directions: every appearance of a change in the weather: the rain ceased at $21^h.\ 10^m$.	D
A very unsettled sky: clear in the N.W., and large masses of scud in zenith, and in the South.	
Rough looking cumuli, and cumulo-strati mingled with scud, in every part of the sky.	D
A wild-looking sky; large masses of dark cloud being diffused over every part of it: dark cumuli in S.	P
A few cumuli South of zenith and near S. horizon; every other part of sky being clear.	D
Cloudless.	D
Cloudless, with the exception of a few dark clouds in the W. and North-western horizon.	G
Fleecy clouds in zenith and about the Moon: large cirro-stratus clouds in North; clear S. of zenith.	D
A few cirri only N.E. of zenith.	
The sky nearly covered with cirro-stratus.	
Cirro-cumulus S.W. of zenith, and cirro-stratus in southern horizon.	
Fleecy clouds scattered over every part of sky.	D
Dark scud from the west extending over nearly the whole sky, with the exception of a few breaks in zenith.	P
The sky has much the same appearance as during the last observation, except that the breaks are more extensive.	
Loose scud in zenith resembling cirro-cumuli; cumuli of a dark character in the W. and N.W.; and cirro-stratus lining the whole horizon.	P
Overcast: rain commenced falling at the time of observation.	D
Rain has been falling for the last twenty minutes: it ceased directly after the observation.	
Overcast: cirro-stratus, and scud.	
Immediately after the last observation rain began to fall in torrents, and continued about half an hour, when it suddenly ceased, leaving a break near W. horizon: overcast at present.	D
Overcast: the sky has a threatening appearance.	P
Ditto: a thin rain also falling.	
Ditto: a dark and gloomy-looking sky.	
Cirro-stratus and scud: a few breaks in horizon to windward.	
The weather much brighter, and Sun shining through the clouds: extensive breaks in many parts, and light broken clouds in zenith.	P
Large heavy cumuli in all directions.	D
Fleecy cumuli in zenith: cumulo-strati in N.	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.						
July 8. 2	29·702	63·1	54·8	8·3	..	..	..	..	WNW	NW	..	½	..	..	..	9	..
4	29·727	64·0	55·0	9·0	48·5	15·5	..	..	W by S	W	..	1	..	..	..	6	..
6	29·740	56·0	53·5	2·5	..	..	..	..	WNW	NW	..	1	..	..	..	10	..
8	29·751	57·2	54·5	2·7	..	..	..	..	W by S	W	..	¼	..	..	..	3	..
10	29·777	53·6	52·1	1·5	51·0	2·6	..	..	Calm	W	..	¼	..	..	..	5	..
12	29·795	50·5	50·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
14	29·799	49·4	49·2	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
16	29·800	47·2	47·2	0·0	47·0	0·2	..	..	Calm	Calm	..	..	..	..	..	0	Transit
18	29·810	48·2	47·7	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
20	29·822	54·0	51·4	2·6	..	..	..	..	W by N	W	..	¼	..	..	..	8	..
22	29·838	57·6	53·0	4·6	52·5	5·1	66·5 47·1	— 45·0	NNW	W	..	½	6·61	0·09	12·439	8	..
July 9. 0	29·836	61·6	55·0	6·6	..	..	..	..	W by N	WNW	..	¼	..	..	..	7	..
2	29·829	63·7	54·0	9·7	..	..	..	..	NNW	NW	..	¼	..	..	..	5	..
4	29·827	64·4	53·4	11·0	48·5	15·9	..	..	W	W	..	½	..	..	..	7	In Equator
6	29·825	64·4	54·5	9·9	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
8	29·819	60·9	52·8	8·1	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
10	29·822	53·0	52·1	0·9	50·5	2·5	..	..	Calm	N	..	¼	..	..	..	7	..
12	29·838	50·6	49·5	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·831	48·5	47·6	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·836	46·5	46·1	0·4	45·0	1·5	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·827	46·8	46·5	0·3	..	..	..	..	Calm	W	..	¼	..	..	..	0	Transit
20	29·827	54·5	52·2	2·3	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
22	29·758	58·7	53·3	5·4	52·5	6·2	67·7 46·3	88·5 42·5	SW	Calm	..	..	6·61	0·03	12·484	7	..
July 10. 0	29·768	61·7	53·7	8·0	..	..	..	..	W	W	..	¼	..	..	..	8	..
2	29·717	66·7	55·6	11·1	..	..	..	..	SW	W by S	..	¼	..	..	..	8	..
4	29·655	64·4	54·7	9·7	46·0	18·4	..	..	SW	WSW	..	¼	..	..	..	7	..
6	29·590	64·2	55·6	8·6	..	..	..	..	SW	WSW	½ to 2	½	..	..	..	6	..
8	29·534	57·0	51·5	5·5	..	..	..	..	SW	SSW	½ to 2	½	..	..	..	10	..
10	29·466	54·2	50·6	3·6	51·0	3·2	..	..	SSW	SSW	⅓ to 1	¾	..	..	..	10	..
12	29·336	51·1	50·1	1·0	..	..	..	..	SSW	SSW	1 to 3	1	..	..	..	10	..
14	..	..	..	..	..	..	..	..	SSE	...	3 to 4	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	S	...	1 to 2	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	Transit
20	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	69·6 48·9	95·0 48·6	WSW	...	..	..	6·78	0·21	12·773	..	..
July 11. 0	29·137	57·0	51·8	5·2	..	..	..	..	W by S	SSW	..	½	..	..	..	10	..
2	..	..	..	..	..	..	..	..	WNW	...	..	..	..	..	..	..	..
4	29·229	54·1	52·3	1·8	..	..	..	..	WNW	W	1 to 2	2	..	..	..	10	..
6	..	..	..	..	..	..	..	..	WNW	...	2 to 3	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	WNW	...	2 to 3	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	WNW	...	0 to ⅓	..	..	..	..	..	3rd Qr.
12	..	..	..	..	..	..	..	..	W	...	1 to 1½	..	..	..	..	..	..
14	29·401	50·8	47·0	3·8	..	..	..	..	WSW	W	..	⅓	..	..	..	9½	..
16	29·420	49·0	46·5	2·5	43·0	6·0	..	..	WSW	W	..	¼	..	..	..	10	..
18	29·445	48·5	46·8	1·7	..	..	..	..	WSW	W	..	¼	..	..	..	5	Transit

July 8d. 22h. The highest reading of the thermometer exposed to the Sun was not seen.

July 9d. 12h to 20h+. During this time there was no cloud or mist; it is the longest clear period in the month.

July 10d. 12h. This was the lowest reading of the barometer during the month at the two-hourly observations, but the barometer continued falling until 16h, when it stood at 29in·0, having fallen three-fourths of an inch in the previous 18h; the pressure then very slowly began to increase. Nothing particular followed this extraordinary fall for July, except the great cold.

GENERAL REMARKS.	Observer.
Clear breaks in zenith, sky otherwise covered with cirro-stratus and cumulo-stratus.	D
Large loose cumuli floating over the sky from the N.W. [since.	G
Cumuli and cumulo-strati prevailed till $5^h.\ 40^m$, when a large mass of cloud rather suddenly formed, and heavy rain has been falling	G
The rain continued until $6^h.\ 40^m$, after which the clouds gradually dispersed and left the sky nearly cloudless: at present cumuli round the horizon: nimbi in N.	D
Dark banks of cloud in W. horizon; loose scud in zenith; and cirro-stratus in southern horizon.	P
Nearly cloudless; a few clouds only near the horizon.	G
Alternately clear and cloudy since the last observation: at present thin scud to the South, every other part of sky clear.	
Cloudless.	
A few light clouds to the South, otherwise clear.	
Sky at present nearly covered with light thin clouds, moving slowly from the W.	G
Light scud over a greater part of the sky.	D
Large cumuli and cumulo-strati in N.W., and clouds partaking of the cumulus character in all parts of the sky.	
Heavy cumuli equally distributed over the sky.	D
Near the horizon ill-shaped cumuli; above them, and reaching nearly to the zenith, thin cumulo-strati; dirty blue sky seen between	G
Small cirro-cumuli and scud pretty equally distributed all over the sky: a fine calm day. [the clouds.	
Fine cumuli all round: in N.W. the cumuli are dark with their edges gilded: a good deal of fine blue sky.	
At 9^h a faint flash of lightning, within the next 20^m several very bright flashes occurred, followed by thunder at an interval of 10^s, principally from the East: at present large heavy masses of dark cloud to the North, the S. is half clear: a turbid, very unsettled looking sky.	G
Cloudless.	
Ditto.	
Ditto.	
Ditto.	
Ditto.	
Cirro-stratus every where but in zenith, and about 20° West of it, where cumuli are faintly visible through haze, which is very prevalent: the Sun shining occasionally.	P
[clear.	
Cumulo-stratus in West, and scud covering nearly the rest of the heavens, leaving the zenith and sky about 10° South of it pretty	
Undefined clouds extending generally over the heavens, verging on the cirro-stratus: breaks in zenith, and in other parts of the sky.	P
Clear blue sky N.W. of zenith: fleecy clouds scattered in small portions in different parts: cirro-stratus in S.	D
Cumuli in all parts of the sky, more particularly near the horizon: in zenith, a modification of cloud approaching to cirro-cumulus.	
Thin cirro-stratus.	
Overcast: cirro-stratus.	D
Ditto: rain falling: wind increasing in force.	P
Overcast.	D
Overcast: the Sun has not been visible the whole day; it has been quite a winter's day, having been rough and cold.	G
Overcast: cirro-stratus and scud: the Moon at intervals breaking through the clouds.	P
Ditto ditto: the Moon partially visible. [of cirro-stratus, with occasional breaks.	
Thin vapour in zenith (through which the Moon is visible) and clear S. of it, every other part of the heavens covered with a kind	

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.						
July 11. 20	29·451	53·4	50·0	3·4	..	..	..	..	W	W	..	¼	..	..	..	2	..
22	29·462	57·8	52·0	5·8	50·0	7·8	57·4 48·1	59·0 45·3	W	W	..	¼	6·78	0·00	12·790	4	..
July 12. 0	29·476	59·1	54·5	4·6	..	..	..	..	WSW	SW	..	¼	..	..	..	9	..
2	29·483	57·0	52·2	4·8	..	..	..	..	W	SW	..	¼	..	..	..	10	..
4	29·481	61·2	55·7	5·5	53·0	8·2	..	..	SW	SW	..	¼	..	..	..	10	..
6	29·470	59·5	52·7	6·8	..	..	..	..	W	W	..	¼	..	..	..	5	..
8	29·466	57·4	51·5	5·9	..	..	..	..	W	W	..	¼	..	..	..	9¾	..
10	29·479	52·3	50·5	1·8	49·0	3·3	..	..	WSW	WSW	..	¼	..	..	..	5	..
12	29·491	50·6	48·8	1·8	..	..	..	..	WSW	W	..	¼–	..	..	..	10	..
14	29·488	49·4	48·4	1·0	..	..	..	..	WSW	Calm	..	..	..	..	..	10	..
16	29·485	45·6	45·0	0·6	44·8	0·8	..	..	WSW	W	..	¼	..	..	..	8	..
18	29·494	46·2	46·0	0·2	..	..	..	..	SW	W	..	¼	..	..	..	3	..
20	29·515	53·4	50·5	2·9	..	..	..	..	W by S	W	..	¼	..	..	..	4	Transit
22	29·522	57·8	52·7	5·1	50·5	7·3	64·2 44·3	— 39·0	W by S	W	..	¼	6·81	0·04	12·849	7	..
July 13. 0	29·528	62·8	55·8	7·0	..	..	..	..	WSW	WSW	..	¼	..	..	..	6	..
2	29·534	62·3	53·4	8·9	..	..	..	..	W by S	WSW	½ to 1½	½	..	..	..	5	..
4	29·554	62·3	55·0	7·3	52·0	10·3	..	..	W by S	W	..	¼	..	..	..	8	..
6	29·565	59·6	52·7	6·9	..	..	..	..	W	W	..	¼	..	..	..	5	..
8	29·587	57·0	52·6	4·4	..	..	..	..	WSW	W	..	¼	..	..	..	3	..
10	29·613	52·0	49·9	2·1	48·5	3·5	..	..	SSW	WSW	..	¼	..	..	..	0	..
12	29·627	48·9	47·8	1·1	..	..	..	..	SSW	WSW	..	¼	..	..	..	0	..
14	29·629	47·5	46·8	0·7	..	..	..	..	SSW	WSW	..	¼	..	..	..	0	..
16	29·628	47·3	46·9	0·4	46·0	1·3	..	..	SSW	SW	..	¼	..	..	..	0	..
18	29·626	48·5	47·3	1·2	..	..	..	..	SSW	SSW	..	¼–	..	..	..	2	..
20	29·617	58·8	54·9	3·9	..	..	..	..	SSW	SSW	..	¼	..	..	..	1	Transit
22	29·594	60·0	55·4	4·6	54·0	6·0	66·9 46·9	107·0 42·0	S	SSW	..	¼–	6·81	0·00	12·849	9¾	..
July 14. 0	29·562	58·0	55·2	2·8	..	..	..	..	Calm	SSW	..	¼	..	..	..	9	..
2	29·535	56·6	54·2	2·4	..	..	..	..	Calm	S	..	¼	..	..	..	10	..
4	29·504	57·9	54·5	3·4	..	..	..	..	Calm	E	..	¼	..	..	..	10	..
6	29·482	57·6	54·7	2·9	..	..	..	..	Calm	NE	..	¼–	..	..	..	10	..
8	29·451	55·5	53·2	2·3	..	..	..	..	N by E	NNE	..	½	..	..	..	10	..
10	29·461	54·2	53·6	0·6	53·5	0·7	..	..	Calm	NE	..	¼	..	..	..	10	..
12	29·462	52·0	51·1	0·9	..	..	..	..	Calm	SSW	..	¼	..	..	..	9¾	..
14	29·466	51·1	50·8	0·3	..	..	..	..	Calm	SSW	..	¼–	..	..	..	9	..
16	29·477	48·2	48·2	0·0	47·0	1·2	..	..	Calm	SSW	..	¼	..	..	..	4	..
18	29·500	49·0	48·8	0·2	..	..	..	..	SSW	SSW	..	¼	..	..	..	5	..
20	29·523	54·0	52·5	1·5	..	..	..	..	SSW	SSW	..	¼	..	..	..	0	..
22	29·536	61·0	57·5	3·5	55·0	6·0	66·1 48·4	80·0 46·5	SSW	SW	..	¼	7·38	0·79	13·560	0	Transit
July 15. 0	29·546	65·3	58·5	6·8	..	..	..	..	WSW	WSW	..	¼	..	..	..	7	..
2	29·579	56·0	54·0	2·0	..	..	..	..	SSW	WSW	..	½	..	..	..	10	..

July 11d. 22h. The quantity of water registered by Crosley's gauge is 0in·017 larger than it was yesterday: none was registered at the Anemometer, and none was found in gauge No. 2.

July 12d. The lowest reading of the thermometer during the month took place on this day.

July 12d. 22h. The highest reading of the thermometer exposed to the Sun was not seen.

July 13d. 18h and 20h. Between these times the temperature of the air increased 10°·3.

July 14d. 6h. The observation of the Dew Point was inadvertently omitted.

GENERAL REMARKS.	Observer.
Light scud in East and North and cumuli in South: fleecy clouds also of the cirrus class scattered about.	P
Cumuli and light scud scattered over the sky.	D
Clear breaks in South, sky otherwise quite overcast.	
Overcast: a heavy shower of rain soon after the last observation.	D
Ditto: cirro-stratus and scud, the scud of a dark and threatening appearance.	P
Zenith generally clear: cumuli in South, and cumulo-stratus of a fine character in West; light scud in other parts of the sky, leaving large breaks.	
A few small breaks in various directions.	
Fleecy clouds in zenith: dark clouds in northern horizon, above which long streaks of clear sky appear; cirro-stratus elsewhere.	P
One uniform mass of cloud: a wintry night, extremely cold.	G
No change whatever: about 13^h something resembling a break in the clouds appeared near S. horizon: at present quite overcast.	
The clouds broke a little near S. horizon about a half an hour since: at present the Moon just visible: sky principally covered with scud.	
The sky has been gradually clearing since the last observation: at present a few light clouds only near the horizon: very cold.	
The sky remained clear till near $19^h.\ 40^m$, when small light clouds passed over; since then many clouds have collected about the Sun, and generally near the horizon.	G
Scud principally in N.; cumuli near S. horizon.	D
Large massive cumulo-strati near horizon in all directions; clear blue sky in zenith, and to the East of it.	
Cirro-stratus and scud scattered about near the zenith: cumulo-strati and small cumuli near horizon.	D
Cirro-stratus in W. and N.W. extending to within 10° of zenith: dark scud in other parts of sky, leaving extensive breaks in zenith: a few cumuli in N.N.E.	P
Cirro-stratus in N and S.: light clouds in zenith, and generally around it.	D
Cirro-stratus in N., and small patches of clouds in different parts of the sky.	D
Cloudless: a few very small patches of scud excepted.	P
Ditto: several flashes of lightning visible in E. horizon between $10^h.\ 40^m$ and $11^h.\ 40^m$.	D
Ditto.	
Ditto.	
Clouds collecting in different parts.	
Soon after last observation clouds covered the sky except in N. and W. horizon, since then they have been gradually disappearing: at present only a few detached portions in S. and in zenith.	D
Overcast: except a few small breaks in zenith.	P
Cirro-stratus and dark scud: an extensive break in E. About 10^m before the observation, a heavy shower of rain fell.	
Overcast: rain falling.	P
Showery: rain now falling: dark nimbi to the South, white cumuli to the North.	G
Sky covered with scud: frequent showers since the last observation.	G
Overcast: the sky lowering and showers frequent.	P
Rain descending in torrents for the last three-quarters of an hour, and still the same.	D
In zenith the cirro-stratus is breaking; a few stars being visible.	P
A few stars shining in the zenith and east of it; otherwise overcast.	
Clear S. and E. of zenith, and also S.W. of it: Moon shining brilliantly: cirro-stratus extending from the N. and N.W. horizon	
Light scud scattered in different parts of the sky. [to the zenith.	
Cloudless.	P
Ditto: slight haze.	D
Sky N. of zenith covered with a dark, heavy-looking cloud: small cumuli in S.: low distant thunder in W.	
Since last observation and up to the present time, there has been a continual rolling of thunder, at one time rather loud and at another as if at some distance; at noon it was accompanied by a heavy shower of rain and hail: the wind at the time veered to N., but again returned to W.S.W.	D

July 14^d. Between $9^h.\ 20^m$ and $9^h.\ 50^m$ the quantity of rain registered by the anemometer rain-gauge was $0^{in}\cdot 54$.

July $14^d.\ 22^h$. The quantity of water in rain-gauge No. 4 was $2^{in}\cdot 00$.

July $14^d.\ 23^h$ to $15^d.\ 7^h.\ 45^m$. A thunder storm. (See Section of Extraordinary Observations.)

July $15^d.\ 0^h.$ The wind was at this time N.W.; at $0^h.\ 30^m$ it was W.; at $0^h.\ 50^m$ it was W.N.W.; at $1^h.\ 0^m$ W. by N.; at $1^h.\ 5^m$ it was W.; at $1^h.\ 10^m$ it was W.S.W., and for ten minutes subsequently, it blew with a constant pressure of nearly 2lbs. on the square foot, and then suddenly lulled, the direction being S.W.; at $1^h.\ 50^m$ it was 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-guage 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.						
July 15. 4	29·592	55·9	54·2	1·7	53·0	2·9	..	..	Calm	S	..	½	..	..	..	10	..
6	29·608	55·4	53·8	1·6	..	..	..	..	E by S	E	..	½–	..	..	..	10	..
8	29·623	52·0	51·7	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	29·645	51·4	50·8	0·6	49·0	2·4	..	..	Calm	Calm	..	..	..	..	..	10	..
12	29·667	51·0	50·6	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·679	51·0	50·9	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·693	51·2	50·9	0·3	51·0	0·2	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·716	51·4	51·0	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
20	29·746	53·0	52·7	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·774	56·0	54·7	1·3	54·0	2·0	67·7 51·3	69·0 49·8	Calm	Calm	..	..	8·19	0·95	14·504	10	Transit Greatest declination N.
July 16. 0	29·803	61·9	57·2	4·7	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
2	29·808	66·1	59·4	6·7	..	..	..	..	N	Calm	..	..	..	..	..	6	..
4	29·824	62·6	57·5	5·1	55·0	7·6	..	..	N	N	..	..	..	..	..	9¾	..
6	29·835	65·4	58·2	7·2	..	..	..	..	Calm	NE	..	..	..	..	..	6	..
8	29·856	57·0	54·5	2·5	.	..	..	..	Calm	Calm	..	..	..	..	..	4	..
10	29·887	53·5	52·5	1·0	50·0	3·5	..	..	Calm	Calm	..	..	..	..	..	4	..
12	29·881	51·7	51·4	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·878	49·7	49·5	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·878	48·0	48·0	0·0	48·0	0·0	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·897	48·0	48·0	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	29·914	56·5	55·6	0·9	..	..	..	..	...	Calm	..	..	..	..	..	0	..
22	29·900	65·3	59·0	6·3	59·0	6·3	68·7 47·2	84·0 39·2	...	Calm	..	..	8·19	0·00	14·504	5	..
July 17. 0	29·875	67·8	60·0	7·8	..	..	..	..	Calm	Calm	..	..	..	..	..	6	Transit
2	29·855	71·0	61·6	9·4	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
4	29·843	66·7	61·8	4·9	60·0	6·7	..	..	E by S	Calm	..	..	..	..	..	7	..
6	29·800	65·2	60·2	5·0	..	..	..	..	Calm	E	..	¼	..	..	..	5	..
8	29·782	62·7	59·6	3·1	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
10	29·777	57·6	55·1	2·5	55·0	2·6	..	..	Calm	Calm	..	..	..	..	..	1	..
12	29·761	54·2	52·7	1·5	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	73·3 51·3	— 44·5	...	...	..	..	8·19	0·00	14·504	..	..
July 18. 0	29·532	59·6	56·6	3·0	..	..	..	..	NNW	N	..	½	..	..	..	10	Transit
2	..	..	..	..	..	..	..	..	NW	...	..	..	..	..	..	..	New
4	29·602	63·2	56·7	6·5	..	..	..	..	W	W	..	¼	..	..	..	10	..
6	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	Perigee
8	..	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..
14	29·689	51·0	50·6	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..

July 15d. At 7h. 35m the cistern of the anemometer-gauge emptied itself; and it again emptied itself at 8h. 25m; and again at 9h. 30m: the quantity of water registered between 7h. 35m and 9h. 30m was 0in·58.

July 15d. 14h. Examined the perpendicularity of the barometer.

July 15d. 22h. The quantity of water in rain-gauge No. 4 was 2in·95; as it had 2in·00 in it yesterday, the quantity of water collected in it during the last 24 hours has been 0in·95: in gauge No. 1 there was 0in·81; in No. 2 there was 0in·95; and in No. 3 there was 0in·944 collected in the same time.

GENERAL REMARKS.	Observer.
Overcast, clouds coming up from the West. At $3^h.\ 30^m$ thunder was heard in the N.E., and continued at short intervals with heavy rain until $4^h.\ 13^m$; no lightning seen.	P
Overcast: distant, low mutterings of thunder have been constant since the last observation.	
Overcast: rain falling heavily: the thunder has been frequent, and loud at intervals, since last observation, terminating at $7^h.\ 25^m$: lightning bright, the thunder following in 3^s to 10^s.	
Overcast: a steady and heavy rain, which has continued falling since the last observation.	P
Rain falling since last observation.	G
The rain ceased falling shortly after 12^h: at present quite overcast.	
Rain commenced falling about 14^h: at present the sky quite overcast.	
Rain has not fallen for the last hour: the W. and S. horizon quite clear; every other part of the sky cloudy.	
About $18^h.\ 40^m$ the sky became overcast and still remains quite covered.	G
Overcast.	D
A few breaks in the clouds; the Sun occasionally visible.	
The sky covered with a thin cirro-stratus, except E. of zenith, where it is clear.	D
Cumuli and cumulo-strati nearly cover the southern portion of the sky: small cumuli near the N. horizon, strati in other portions, a very little blue sky here and there: all the clouds without motion.	G
White cumuli mixed with dark cloud in the eastern horizon; pale yellow, fleecy clouds in the South, other portions of the sky generally covered with clouds of no modification; about the zenith blue sky: Sun shining.	
For an hour previous the southern hemisphere has been quite clear, and the northern quite cloudy, the prime vertical dividing the clouds from the clear sky: at present the clouds are moving slowly towards the N. horizon, so that a portion of the northen hemisphere is now clear.	
A few clouds near the horizon in the North, otherwise clear: misty, the clouds dispersed soon after this.	G
Cloudless.	D
Ditto: air quite saturated with moisture.	
Ditto: thick mist. The Observatory invisible from the Magnetic House.	
Ditto: fog in the valley.	
Ditto.	
Light scud in zenith: cumuli in different parts of the sky. and cumulo-stratus in the horizon.	D
Light scud in zenith: cumulo-stratus in horizon and fine cumuli in every part of the sky.	P
The whole horizon lined with cumulo-stratus, and fine cumuli floating in every part of the heavens.	P
Cumuli and cumulo-strati in all parts of the sky.	D
Ditto ditto.	
Light clouds N. E. of zenith, otherwise clear.	
A small bank of cirro-stratus in the N.W. horizon: a few cirri in the zenith.	D
Several clouds since the last observation: a fine calm night.	G
Overcast: rain falling.	P
Overcast: faint gleams of sunshine occasionally.	G
A few dark clouds near the horizon in the North: thin dark strati generally S. of zenith: zenith, and [horizon thick and misty. N.E. and W. very clear:	

July $16^d.\ 20^h.$ The vane of the Anemometer had turned quite round, and unshipped the rack-work.
July $17^d.\ 22^h.$ The highest reading of the thermometer exposed to the Sun was not seen.
July $17^d.\ 23^h.$ Found the Anemometer travelling-board not moving; it had not moved from $16^h \pm$.

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.						
July 18. 16	29·681	51·0	50·6	0·4	50·0	1·0	..	..	Calm	Calm	..	..	..	..	..	9	..
18	29·679	53·1	52·8	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
20	29·685	59·2	57·7	1·5	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
22	29·686	61·0	58·2	2·8	57·0	4·0	65·9 50·7	— 45·5	SW	W	..	$\frac{1}{4}$	8·20	0·03	14·575	7	..
July 19. 0	29·692	71·2	62·3	8·9	..	..	..	..	SW	W by S	..	$\frac{1}{4}$−	..	..	..	6	..
2	29·705	69·0	60·5	8·5	..	..	..	..	SW	W by S	..	$\frac{1}{4}$	..	..	..	8	Transit
4	29·716	69·2	61·0	8·2	58·5	10·7	..	..	SW	WSW	..	$\frac{1}{4}$	..	..	..	5	..
6	29·713	67·7	61·7	6·0	..	..	..	..	SSW	W	..	$\frac{1}{4}$	..	..	..	7	..
8	29·717	61·0	57·5	3·5	..	..	..	..	SSW	W	..	$\frac{1}{4}$	..	..	..	8	..
10	29·735	56·0	55·0	1·0	54·0	2·0	..	..	S	W	..	$\frac{1}{4}$	..	..	..	7	..
12	29·716	53·2	52·4	0·8	..	..	..	..	S	W	..	$\frac{1}{4}$	..	..	..	0	..
14	29·695	55·3	53·7	1·6	..	..	..	..	S	W	..	$\frac{1}{4}$	..	..	..	10	..
16	29·665	55·4	53·8	1·6	53·0	2·4	..	..	S	WSW	..	$\frac{1}{4}$	..	..	..	10	..
18	29·639	54·7	53·5	1·2	..	..	..	..	S	WSW	..	$\frac{1}{4}$	..	..	..	10	..
20	29·608	55·5	54·3	1·2	..	..	..	..	S by E	SW	..	$\frac{1}{4}$	.	..	..	10	..
22	29·565	57·6	55·6	2·0	55·0	2·6	73·0 53·6	80·0 50·5	SSE	SSW	$\frac{1}{2}$ to 2	$\frac{3}{4}$	8·22	0·02	14·622	10	..
July 20. 0	29·511	56·6	55·8	0·8	..	..	..	..	S	S	$1\frac{1}{2}$ to $2\frac{1}{2}$	$\frac{3}{4}$	..	..	..	10	..
2	29·464	59·5	58·7	0·8	..	..	..	..	SSW	S	$1\frac{1}{2}$ to 2	$\frac{1}{2}$	..	..	..	10	Transit
4	29·442	61·5	60·3	1·2	59·2	2·3	..	..	SSW	S by W	$1\frac{1}{2}$ to 2	$\frac{1}{4}$+	..	..	..	10	..
6	29·394	62·1	60·7	1·4	..	..	..	..	SSW	SW	2 to 3	$\frac{1}{2}$	..	..	..	10	..
8	29·408	58·7	56·2	2·5	..	..	..	..	SSW	SW	1 to 2	$\frac{1}{2}$	..	..	..	7	..
10	29·410	56·8	54·8	2·0	53·5	3·3	..	..	SSW	SW	0 to $\frac{1}{2}$	$\frac{1}{2}$	..	..	..	10	..
12	29·380	56·5	55·2	1·3	..	..	..	..	SSW	SW	$\frac{1}{2}$ to 1	$\frac{1}{2}$	..	..	..	10	..
14	29·356	56·1	55·8	0·3	..	..	..	..	SSW	SW	..	$\frac{1}{2}$	..	..	..	10	..
16	29·352	56·5	55·7	0·8	55·5	1·0	..	..	SW	SW	..	$\frac{1}{2}$	..	..	..	9	..
18	29·358	57·2	55·8	1·4	..	..	..	..	SSW	SW	..	$\frac{1}{2}$	..	..	..	10	..
20	29·370	59·5	57·0	2·5	..	..	..	..	SSW	SW	0 to $\frac{1}{2}$	$\frac{1}{4}$	..	..	..	10	..
22	29·362	60·2	58·2	2·0	57·0	3·2	72·7 54·0	76·0 50·4	SSW	SW	0 to 1	$\frac{1}{4}$	8·42	0·29	14·925	10	..
July 21. 0	29·359	62·5	60·0	2·5	..	..	..	..	SSW	SW	..	$\frac{1}{4}$	..	..	..	10	..
2	29·356	59·7	59·0	0·7	..	..	..	..	SW	SW	..	$\frac{1}{4}$	..	..	..	10	..
4	29·380	58·4	57·3	1·1	57·0	1·4	..	..	WSW	WSW	$\frac{1}{2}$ to 2	$\frac{3}{4}$	..	..	..	8	Transit
6	29·426	56·5	54·4	2·1	..	..	..	..	WSW	WSW	4 to $5\frac{1}{2}$	$1\frac{1}{2}$	..	..	..	10	..
8	29·471	54·6	54·6	0·0	..	..	..	..	WSW	WSW	1 to 2	$1\frac{1}{2}$	..	..	..	10	..
10	29·525	55·5	54·5	1·0	53·8	1·7	..	..	WSW	W	$\frac{1}{2}$ to 1	$1\frac{1}{2}$	..	..	..	$9\frac{3}{4}$	..
12	29·558	53·5	52·5	1·0	..	..	..	..	WSW	W	$\frac{1}{2}$ to 1	1	..	..	..	6	..
14	29·571	54·2	52·6	1·6	..	..	..	..	WSW	W	$\frac{1}{2}$ to 1	$\frac{1}{2}$+	..	..	..	10	..
16	29·572	53·7	52·2	1·5	50·0	3·7	..	..	SW	WSW	0 to $\frac{1}{2}$	$\frac{1}{2}$	..	..	..	9	..
18	29·582	53·7	52·0	1·7	..	..	..	..	SW	WSW	..	$\frac{1}{4}$	..	..	..	8	..
20	29·603	56·3	53·7	2·6	..	..	..	..	SW	WSW	..	$\frac{1}{4}$	..	..	..	9	..
22	29·615	59·7	55·1	4·6	51·0	8·7	66·7 53·7	68·0 50·8	WSW	W	1 to 2	1	8·48	0·15	15·083	4	In Equator
July 22. 0	29·621	62·8	56·0	6·8	..	..	..	..	WSW	WSW	0 to $1\frac{1}{2}$	$\frac{3}{4}$	..	..	..	8	..
2	29·626	61·2	55·2	6·0	..	..	..	..	WSW	W by S	..	$\frac{1}{4}$	..	..	..	8	..

July 18d. 22h. The highest reading of the thermometer exposed to the Sun was not seen.

July 20d. 18h. Hourly observations commenced. (See Section of Term-day Observations.)

July 20d. 22h. The solar radiation thermometer had been returned by Mr. Newman previously to this time.

July 21d, civil reckoning. The mean height of the barometer was less on this day than on any other day during the month, being 29in·406, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Sky covered with cloud except near the E. horizon.	G
Frequent showers since the last observation: at present clouds much broken; clear patches of blue sky, with cirri here and there: prevailing cloud, cirro-stratus.	
Morning finer: cirro-cumulus nearly all over the sky, blue sky seen between.	G
A great quantity of cloud in every part of the sky, predominating in South: two large nimbi in N.: cumulo-stratus in N.W.	P
Cumuli in S. and E. horizon, and floating in other parts of the sky: cumulo-stratus predominating in N. and W. and stretching [almost to zenith.	
Cirro-stratus extending from the horizon to within 10° of zenith: light scud in zenith: a shower of rain commenced falling at the end of the last observation.	P
Clear East of zenith: cirro-stratus and small cumulo-stratus in horizon. [between.	D
Very black clouds S. of zenith, particularly near the horizon: fine white-topped cumuli to the North, with dark bases; blue sky	G
Deep red tinge over the clouds in N.W.: large quantities of cloud in every part of the sky: heavy, as if with rain.	
A shower of rain since the last observation: at present Jupiter and a few stars visible: all the northern portion of the heavens covered with large dark clouds.	G
Cloudless.	P
Overcast: a thin rain falling.	
Ditto.	
Ditto: a thin rain falling.	
Ditto ditto.	P
Ditto ditto.	D
Overcast: heavy rain.	
Ditto: rain falling.	D
Ditto: a thin misty rain falling.	P
Ditto ditto.	
South of the zenith clear; a few clouds are, however, near the South horizon; to the North of the zenith cirro-stratus.	
Overcast: cirro-stratus and scud.	P
Ditto: a thin misty rain falling.	D
Ditto ditto.	
A break in the N.E. near the horizon, otherwise overcast.	
Overcast: cirro-stratus.	
Ditto ditto.	D
Ditto: a thin misty rain falling.	P
Ditto: a gloomy looking sky: wind occasionally blowing in gusts.	
Ditto: a fine steady rain falling.	P
Clear breaks in N.W., otherwise overcast: a shower of rain falling.	D
Overcast: a slight misty rain has been falling since last observation.	
Ditto: rain falling. [October night.	D
Clear near the horizon in N.W.; every other part of the sky covered with cirro-stratus and nimbi: the night is like a rough	G
Zenith, and round it, including Ursa Major on the north, and Aquila to the South, and about the same distance East and West, free from clouds: horizon dark all round.	G
Overcast: cirro-stratus: wind blowing in gusts to 1.	J H
Loose scud: partial breaks in various directions.	J H
Small breaks in every part of the sky: the sky of a lowering character.	P
Fleecy clouds in the zenith: the remainder of the sky overcast.	D
Scud and loose cumuli: whitish-blue sky between the clouds.	G
Large white cumuli and cumulo-strati: wind in gusts.	J H
Large electrical clouds in the North, and also near the horizon in the West.	D

July 21d. 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°·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.						
July 22. 4	29·639	58·8	55·5	3·3	54·0	4·8	..	..	WSW	WNW	..	½	..	..	..	9¾	Transit
6	29·649	57·6	56·0	1·6	..	..	..	..	WSW	W by N	..	¼	..	..	..	9¾	..
8	29·689	57·4	52·7	4·7	..	..	..	..	NW	WNW	..	½	..	..	..	4	..
10	29·726	55·0	51·2	3·8	50·0	5·0	..	..	NW	WNW	..	½	..	..	..	2	..
12	29·739	52·5	49·3	3·2	..	..	..	..	W	WNW	..	½	..	..	..	9½	..
14	29·751	51·7	49·2	2·5	..	..	..	..	WSW	WNW	..	½	..	..	..	10	..
16	29·757	51·9	49·5	2·4	47·5	4·4	..	..	WSW	WNW	..	½	..	..	..	10	..
18	29·774	52·3	49·5	2·8	..	..	..	..	WSW	W by N	..	½	..	..	..	9¾	..
20	29·794	53·4	49·2	4·2	..	..	..	..	W	W by N	..	¼	..	..	..	7	..
22	29·815	55·2	49·5	5·7	48·0	7·2	65·7 51·8	91·7 49·5	W	WNW	½ to 1	½	8·52	0·12	15·210	10	..
July 23. 0	29·829	56·7	51·0	5·7	..	..	..	..	WNW	W	..	½	..	..	..	10	..
2	29·841	58·5	52·6	5·9	..	..	..	..	WNW	WNW	..	½	..	..	..	10	..
4	29·856	58·4	52·6	5·8	52·0	6·4	..	..	WNW	WNW	..	¼	..	..	..	10	..
6	29·862	58·0	52·5	5·5	..	..	..	..	WNW	WNW	..	¼	..	..	..	10	Transit
8	29·883	55·7	52·5	3·2	..	..	..	..	NW	NNW	..	¼	..	..	..	10	..
10	29·912	54·8	52·6	2·2	50·0	4·8	..	..	NNW	NNW	..	¼	..	..	..	10	..
12	29·927	54·1	52·5	1·6	..	..	..	..	NNW	NNW	..	¼	..	..	..	10	..
14	29·936	53·6	52·0	1·6	..	..	..	..	NNW	NNW	..	¼	..	..	..	10	..
16	29·944	53·2	51·6	1·6	51·0	2·2	..	..	NNW	NNW	..	¼	..	..	..	10	..
18	29·960	52·5	51·3	1·2	..	..	..	..	NNW	N	..	¼	..	..	..	10	..
20	29·976	53·6	52·1	1·5	..	..	..	..	NNW	NNW	..	¼	..	..	..	10	..
22	29·991	56·1	53·5	2·6	52·5	3·6	60·5 53·4	71·2 52·7	NNW	NNE	..	¼	8·52	0·00	15·215	10	..
July 24. 0	30·011	56·2	52·8	3·4	..	..	..	..	N	N	..	½	..	..	..	10	..
2	30·022	58·5	54·2	4·3	..	..	..	..	N	N	..	¼	..	..	..	10	..
4	30·024	59·5	55·0	4·5	54·5	5·0	..	..	N	N	..	¼	..	..	..	10	..
6	30·022	58·9	55·0	3·9	..	..	..	..	N	N	..	¼	..	..	..	10	Transit
8	30·033	56·6	54·0	2·6	..	..	..	..	N	Calm	..	..	..	..	..	10	..
10	30·050	53·0	51·8	1·2	50·5	2·5	..	..	Calm	Calm	..	..	..	..	..	2	..
12	30·049	52·3	51·4	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	9½	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	30·023	63·0	56·3	6·7	..	..	61·4 53·1	85·0 48·5	NNW	N by W	..	¼	8·52	0·00	15·215	8	1st Qr.
July 25. 0	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	Transit
8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	29·958	52·7	51·7	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	..	..
16	29·946	53·2	52·0	1·2	52·5	0·7	..	..	Calm	Calm	..	..	..	..	..	..	..
18	29·937	53·5	52·2	1·3	..	..	..	..	Calm	Calm	..	..	..	..	..	..	..

July 22d. 3h. The wind suddenly blew with a pressure of 4lbs. on the square foot; at 3h. 5m with 2lbs.; and at 3h. 10m it ceased: during the squall the wind went to W. by N.; on its cessation it returned to W. S.W.

July 24d. 10h. The highest reading of the barometer during the month.

GENERAL REMARKS.	Observer.
Scud and cumulo-strati: occasional showers.	J H
Overcast: a dense nimbus in the zenith: a violent shower of rain fell a few minutes since: a break in the clouds North of zenith.	P
About 10 minutes since there was no cloud higher than 20° above the horizon: at present the clouds occupy a good part of the northern hemisphere, being a loose kind of cirro-cumuli: the Sun has been shining for more than an hour.	G
Light fleecy clouds about the zenith: small portions of cirro-stratus in S.E.: North of the zenith nearly clear.	D
Cirro-stratus and heavy vapour: the brighter stars occasionally visible.	J H
Overcast: cirro-stratus: very dark.	
Ditto ditto.	
Ditto ditto: small breaks in the western horizon.	
A bank of cloud, chiefly scud, passing off East of the meridian: generally clear in the western part of the sky.	J H
Overcast: very cold.	D
Ditto: cirro-stratus.	
Ditto ditto.	D
Heavy electrical cumulo-strati, and cirro-strati in every direction.	J H
Scud and cumulo-strati of a dense electrical character: sudden gusts of wind.	
Light rain commenced falling at $7^h.\ 10^m$, and continues.	
Overcast: cirro-stratus.	J H
Ditto ditto.	D
Ditto ditto.	
Ditto ditto.	
Ditto ditto.	
Ditto ditto.	D
Sky covered with large and undefined clouds, approaching the cirro-stratus.	J H
Very cloudy: cirro-stratus: wind in gusts.	J H
Overcast: cirro-stratus: a dull looking sky.	P
Ditto ditto.	D
Ditto ditto.	
Soon after the last observation there were many clear breaks in the clouds, and the sky appeared to be on the eve of a perfect change; it, however, soon settled into its former state, and is at present quite overcast.	
At $8^h.\ 10^m$ the clouds again began to break, and in a short time had disappeared: at present clear, except all round near the horizon, which remains thick.	D
Overcast, except a partial break, in which α Ursæ Majoris is visible, with a few other stars.	P
The sky nearly covered with cumulo-stratus.	G
	—
Overcast: at 11^h it was pretty clear in the horizon, and many stars were shining within several degrees North and South of zenith: the Moon was also visible when near the horizon.	
Overcast: cirro-stratus.	P
Clear about the zenith, and generally clear to the South: cirro-stratus in the north, extending about 30° above the horizon; a thin [cirro-stratus in the East: Sun shining.	

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.						
July 25. 20	29·960	55·5	53·6	1·9	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·977	57·5	55·9	1·6	..	..	71·3 53·1	103·0 41·0	Calm	Calm	..	..	8·52	0·00	15·215	10	..
July 26. 0	29·966	63·0	58·9	4·1	..	..	..	..	W	WNW	..	½	..	..	..	8	..
2	29·946	71·6	63·0	8·6	..	..	..	..	WSW	WNW	..	¼	..	..	..	7	..
4	29·920	66·7	59·3	7·4	57·5	9·2	..	..	W by S	Calm	..	..	..	..	..	8	..
6	29·905	68·2	60·8	7·4	..	..	..	..	W	W	..	¼	..	..	..	7	..
8	29·913	63·4	53·4	10·0	..	..	..	..	W	W	..	¼	..	..	..	2	Transit
10	29·911	57·5	56·3	1·2	55·0	2·5	..	..	Calm	Calm	..	..	..	..	..	7	..
12	29·912	56·8	55·7	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
14	29·900	57·3	56·3	1·0	..	..	..	..	Calm	W	..	½	..	..	..	10	..
16	29·893	57·5	56·5	1·0	54·5	3·0	..	..	Calm	W	..	¼	..	..	..	8	..
18	29·877	58·2	57·3	0·9	..	..	..	..	Calm	W	..	½	..	..	..	9	..
20	29·880	62·0	60·2	1·8	..	..	..	..	Calm	W	..	½	..	..	..	8	..
22	29·885	65·1	61·5	3·6	61·0	4·1	72·3 56·9	98·0 53·5	WSW	W	..	¼	8·52	0·00	15·215	10	..
July 27. 0	29·877	70·9	64·5	6·4	..	..	..	..	WSW	W	..	¼	..	..	..	10	..
2	29·861	66·0	62·0	4·0	..	..	..	..	NNW	NNW	..	¼	..	..	..	10	..
4	29·854	64·3	59·8	4·5	56·5	7·8	..	..	NNW	NW	..	¼	..	..	..	10	..
6	29·835	62·8	57·1	5·7	..	..	..	..	W	WNW	..	¼	..	..	..	10	..
8	29·835	60·6	53·7	6·9	..	..	..	..	W	W by N	..	¼	..	..	..	9¾	Transit
10	29·841	57·0	52·4	4·6	51·0	6·0	..	..	WSW	Calm	..	..	..	..	..	7	..
12	29·833	54·0	52·0	2·0	..	..	..	..	SW	SW	..	¼	..	..	..	2	..
14	29·804	52·8	51·4	1·4	..	..	..	..	SW	SW	0 to ½	½	..	..	..	0	..
16	29·771	52·3	51·1	1·2	50·0	2·3	..	..	SSW	SW	0 to 1	¾	..	..	..	8	..
18	29·759	56·1	54·3	1·8	..	..	..	..	SSW	SSW	½ to 1½	1	..	..	..	10	..
20	29·735	58·7	56·7	2·0	..	..	..	..	SW	SW	1 to 1½	¾	..	..	..	10	..
22	29·719	63·4	59·9	3·5	59·0	4·4	70·3 52·5	91·5 48·8	SW	WSW	1 to 4	1	8·52	0·00	15·215	9	..
July 28. 0	29·701	66·7	61·6	5·1	..	..	..	..	WSW	WSW	2 to 3	1	..	..	..	7	..
2	29·670	70·0	59·0	11·0	..	..	..	..	W by S	W by S	3 to 4	1	..	..	..	10	..
4	29·666	62·8	58·4	4·4	59·0	3·8	..	..	W	W	2 to 3	1	..	..	..	10	..
6	29·655	65·1	59·8	5·3	..	..	..	..	W by SW	WSW	½ to 1	1	..	..	..	3	..
8	29·670	62·1	55·2	6·9	..	..	..	..	W	W	..	½	..	..	..	4	..
10	29·691	56·0	50·3	5·7	48·5	7·5	..	..	W	W	..	½	..	..	..	0	Transit
12	29·687	52·1	48·5	3·6	..	..	..	..	WSW	W by S	..	¼	..	..	..	0	..
14	29·679	50·8	48·6	2·2	..	..	..	..	WSW	W by S	..	¼	..	..	..	0	..
16	29·661	50·2	48·3	1·9	48·0	2·2	..	..	WSW	W by S	..	¼	..	..	..	7	..
18	29·667	49·6	47·6	2·0	..	..	..	..	WSW	W by S	..	¼	..	..	..	4	..
20	29·660	53·3	49·5	3·8	..	..	..	..	WSW	W by S	..	¼	..	..	..	1	..
22	29·625	57·5	50·0	7·5	46·5	11·0	71·2 49·6	94·7 45·5	W	W	1 to 3	1½	8·52	0·00	15·215	3	Greatest Declination S.
July 29. 0	29·613	61·6	52·3	9·3	..	..	..	..	W by N	WNW	2 to 3	1½	..	..	..	6	..
2	29·610	58·0	51·5	6·5	..	..	..	..	WNW	WNW	½ to 1	1½	..	..	..	8	..
4	29·598	59·8	50·2	9·6	47·0	12·8	..	..	WNW	W by N	1 to 2½	½	..	..	..	10	..
6	29·591	60·5	51·3	9·2	..	..	..	..	WNW	W by N	1 to 2½	½	..	..	..	4	..
8	29·592	55·9	49·8	6·1	..	..	..	..	W	W	1 to 2	¼	..	..	..	2	..

July 25d, 22h. The observation of the Dew Point was inadvertently omitted.

July 26d. The air in a very dry state until 10h, when a great and sudden change took place.

July 28d. The state of the atmosphere very variable with respect to the moisture in it. At 2h there was much less relative moisture than at 0h or at 4h; at the latter time the difference of the Dry and Wet Thermometers was greater than the difference of the Dry Thermometer and temperature of the Dew Point. The observations are undoubtedly correct.

July 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 4°·8, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus.	P
Ditto ditto	D
Cirro-stratus and light vapour: hazy.	J H
Fleecy cumuli in various directions: electrical clouds E.N.E. of zenith.	J H
A dense cirro-stratus in N. and W. extending to zenith, where a few breaks are visible: patches of blue sky in S.E.: in this direction there are two layers of cumulo-stratus, the lighter being the more remote: air close.	P
Undefined clouds resembling the cirro-cumulus in zenith: cirro-stratus in N., and cumulo-stratus in E. and S.	
A few fleecy clouds in zenith: cirro-stratus in N. and W., extending about 15° from horizon.	
Vapour and cirro-stratus predominant.	P
Heavy vapour and cirro-stratus: a few stars visible N.N.W. of zenith.	J H
Overcast: cirro-stratus.	
Loose scud generally scattered over the sky.	
Cirro-stratus: overcast: a damp air.	
Vapour and cirro-stratus: clear W.N.W. of zenith.	J H
Cirro-stratus and thick vapour all over the sky.	D
Thick vapour about: the air very close.	
Overcast.	D
Cirro-stratus and cumulo-stratus breaking up into loose scud.	J H
Electrical clouds prevalent; cumulo-stratus and scud: wind gradually approaching the West: a few slight openings in the cloud in W. without any decided break.	
Cirro-stratus and scud: gloomy-looking sky.	
Cirro-stratus: a few stars shining through vapour: immediately after this observation the sky cleared considerably.	J H
Cirro-stratus in N., every other part of the sky clear.	D
Cloudless.	
Sky generally covered with loose scud.	
Overcast: cirro-stratus.	
Ditto ditto.	D
Cirro-stratus and scud: a few breaks only visible: the wind blowing in heavy gusts.	P
Fleecy clouds in zenith, and scud covering most of the sky, and flying with great rapidity from the W.: cirro-stratus in horizon.	
Overcast: cirro-stratus and scud: the wind blowing in heavy gusts.	P
Ditto ditto ditto.	D
Cumuli in N. horizon: small fragments of cirro-stratus scattered about in every other part of sky.	
Cumulo-strati in S. horizon: the sky otherwise similar to last observation.	
Cloudless.	D
Ditto.	P
Ditto: the air rather cold.	
Much cloud in zenith and other parts of sky, leaving the whole horizon clear: at $15^h.25^m$ a brilliant meteor shot from zenith in a direction due North, traversing a space of 10° to 15°.	
A great quantity of beautifully formed cirri scattered over zenith and N. of it, both of the fleecy and thin fibrous species.	
A few lines of light cloud in S.E. horizon, and a few cirrus clouds above them, elsewhere clear.	P
Scud and white cumuli: strong gusts of wind.	J H
White cumuli: wind in heavy gusts.	
Squalls of rain and hail: cumulo-stratus and scud.	J H
Overcast.	P
A considerable quantity of scud in different parts of the sky, predominating in W. and N.W., where it seems forming into cirro-stratus.	
A kind of mottled cloud here and there: cirro-stratus in W. and N. horizon; otherwise clear.	

July 29^d, civil reckoning. This day had the least relative moisture in the atmosphere of any day in the month, the difference of the Dry and Wet Thermometers being $5°\cdot2$, as deduced from the two-hourly observations.

July 29^d. At 8^h the wind was West, with a pressure of 1lb. to 2lbs.: at $8^h.5^m$ direction W. by N., pressure 2lb.: at $8^h.8^m$ direction N.W., pressure $2\frac{1}{2}$lbs.: at $8^h.12^m$ direction N.N.W., with a pressure of $3\frac{1}{2}$lbs.: at $8^h.17^m$ still N.N.W., pressure 2lbs.: at $8^h.19^m$ direction N.W., pressure 1lb.: at $8^h.40^m$ direction W., with no pressure: at $9^h.0^m$ direction W.S.W., with no pressure; at that direction it remained.

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.						
July 29. 10	29·591	52·0	50·0	2·0	49·5	2·5	..	..	SW	W	..	¼−	..	..	..	7	Transit
12	29·578	50·7	48·4	2·3	..	..	..	..	...	WSW	..	½	..	..	..	10	..
14	29·563	50·2	47·7	2·5	..	..	..	..	...	WSW	..	½	..	..	..	8	..
16	29·553	49·3	47·0	2·3	46·0	3·3	..	..	...	WSW	..	½	..	..	..	8	..
18	29·566	48·5	46·6	1·9	..	..	..	..	...	W by S	..	½	..	..	..	1	..
20	29·592	53·3	51·0	2·3	..	..	..	..	...	WSW	..	½	..	..	..	3	..
22	29·602	56·3	50·0	6·3	52·0	4·3	63·9 48·2	88·1 43·5	...	WNW	..	¼	8·54	0·02	15·265	10	..
July 30. 0	29·589	56·6	49·8	6·8	..	..	..	..	...	WNW	..	¼	..	..	..	10	..
2	29·575	57·8	50·6	7·2	..	..	..	..	W	WSW	..	¼	..	..	..	10	..
4	29·563	57·0	50·6	6·4	49·0	8·0	..	..	WSW	WSW	..	¼	..	..	..	10	..
6	29·539	57·3	50·8	6·5	..	..	..	..	WSW	WSW	..	¼	..	..	..	9¾	..
8	29·524	53·3	49·7	3·6	..	..	..	..	SW	WSW	..	¼	..	..	..	8	..
10	29·521	51·0	48·4	2·6	46·0	5·0	..	..	SW	WSW	..	¼	..	..	..	9	Transit
12	29·514	48·2	47·8	0·4	..	..	..	..	SW	WSW	..	¼	..	..	..	5	..
14	29·499	50·1	48·2	1·9	..	..	..	..	SW	WSW	..	¼	..	..	..	10	..
16	29·482	48·2	47·1	1·1	46·0	2·2	..	..	SW	WSW	..	¼	..	..	..	9	..
18	29·477	48·7	48·0	0·7	..	..	..	..	SW	WSW	..	¼	..	..	..	9	..
20	29·469	54·0	50·6	3·4	..	..	..	..	SW	WSW	..	¼	..	..	..	3	..
22	29·467	57·3	52·0	5·3	50·0	7·3	60·6 48·2	71·0 44·0	SW	W	..	¼	8·54	0·00	15·270	10	..
July 31. 0	29·463	59·3	52·3	7·0	..	..	..	..	WSW	W by N	½ to 2	½+	..	..	..	10	..
2	29·460	59·2	53·2	6·0	..	..	..	..	WSW	WNW	0 to ½	¼	..	..	..	10	..
4	29·471	54·0	52·0	2·0	51·0	3·0	..	..	W	W	..	¼	..	..	..	10	..
6	29·452	58·1	55·0	3·1	..	..	..	..	SW	WSW	..	¼	..	..	..	5	..
8	29·483	54·3	51·9	2·4	..	..	..	..	WSW	WSW	..	¼	..	..	..	9	..
10	29·511	51·9	50·9	1·0	50·5	1·4	..	..	WSW	WSW	..	¼	..	..	..	8	..
12	29·522	48·3	47·8	0·5	..	..	..	..	SW	WSW	..	¼−	8·59	0·06	15·345	1	Transit
14	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	W by S	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	Apogee
20	..	..	..	..	..	..	..	..	W	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	61·6 46·1	68·0 43·9	W by S	...	..	..	..	..	..	..	..
Aug. 1. 0	29·701	57·5	53·0	4·5	..	..	..	..	WNW	WNW	..	½	..	..	..	9	..
2	29·730	59·8	52·9	6·9	..	..	..	..	WNW	NW	..	½	..	..	..	10	..
4	..	..	..	..	..	..	..	..	W	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
8	29·786	58·2	55·0	3·2	..	..	..	..	W	W by S	..	¼	..	..	..	9	..
10	..	..	..	..	..	..	..	..	NW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	W by N	...	..	..	..	..	..	..	Transit
14	29·831	52·8	51·1	1·7	..	..	..	..	WSW	W by S	..	¼	..	..	..	3	..
16	29·823	51·5	50·4	1·1	50·0	1·5	..	..	SW	W by S	..	¼	..	..	..	10	..
18	29·826	52·0	50·6	1·4	..	..	..	..	SW	W by S	..	¼	..	..	..	10	..
20	29·833	55·5	53·5	2·0	..	..	..	..	SW	W by S	..	¼	..	..	..	10	..
22	29·827	63·5	58·2	5·3	57·0	6·5	65·8 52·0	70·0 51·9	SW	W by S	0 to ½	¾	8·59	0·00	15·355	10	Full
Aug. 2. 0	29·818	64·3	56·7	7·6	..	..	..	..	WSW	W by S	0 to ½	½	..	..	..	8	..
2	29·798	66·0	58·3	7·7	..	..	..	..	WSW	W by S	0 to 1	½	..	..	..	8	..

July 29d. 10h. After this the traversing rope of the Anemometer became too loose, and, consequently, the travelling-board did not move.

July 30d, civil reckoning, was the coldest day in the month, the mean temperature being 53°·2, as deduced from the two-hourly observations.

July 30d. 22h. Found the index of the solar radiation thermometer plunged into the mercury, and the mercury broken in several places. A mercurial thermometer was again placed in the Sun and its readings frequently watched, to detect the maximum; the highest reading seen is inserted.

GENERAL REMARKS.	Observer.
Large masses of dark cloud in zenith and South of it, between which, breaks are occasionally visible: in N. horizon, a broad clear break extending 30° towards zenith.	P
Very cloudy: loose scud and cirro-stratus: at $12^h.\ 10^m$ clouds broken: light fleecy clouds prevalent: clear W.N.W. of zenith.	J H
Vapour and cirro-stratus, at times nearly overcast.	
Loose scud and vapour: wind rising again in gusts: at $17^h.\ 10^m$ sky clearing rapidly.	
A few dark grey clouds passing N. of zenith: otherwise clear.	
Cumuli and undefined clouds in the horizon in all directions.	J H
Overcast: cirro-stratus.	D
Ditto ditto.	P
Ditto ditto.	D
Cirro-stratus and scud: slight rain at intervals from $4^h.\ 40^m$ to $5^h.\ 20^m$.	J H
Sky generally covered with an undefined cloud approaching a cirro-stratus.	
A shower of rain at $7^h.\ 25^m$: at present generally cloudy S. of zenith: North partially covered with small cirro-strati.	
Sky covered with scud and cirro-stratus, except a long narrow break near the horizon from N.E. to W.	J H
Sky S. of zenith free from cloud: cirro-stratus in N.	D
Overcast: cirro-stratus.	
Cirro-stratus and loose scud nearly covers the sky.	
Clear in N.W. horizon: every other part of sky overcast.	
Large loose fragments of scud in various directions.	D
Overcast, except a slight break in S. horizon: cirro-stratus and scud.	P
Ditto: cirro-stratus and scud: large dark cumuli in N.W.	
Ditto: cirro-stratus and cumulo-stratus.	P
Overcast: rain falling.	D
Loose scud in zenith: cumuli and cumulo-strati in N.W.	
Clear in N. horizon, every other part of sky cloudy: slight rain from low scud.	
Clear in N.W., in every other part cirro-stratus and cumulo-stratus.	D
Detached portions of scud extending from S.W. horizon beyond zenith, otherwise cloudless.	P
Cumulo-stratus and heavy vapours: electrical showers passing over from the N.W.	J H
Cumulo-stratus and passing electrical showers from N. by W.	
Scud and cirro-stratus in various directions.	J H
Light scud scattered about N. of zenith: a few light clouds in the S. horizon: it cleared about 20^m since.	P
Overcast: cirro-stratus and scud.	
Ditto ditto.	
Ditto ditto.	P
Cirro-stratus and heavy cumuli: hazy: wind strong in gusts.	J H
Cumulo-stratus and cirro-stratus.	
Cumulo-stratus and scud.	J H

July $31^d.\ 12^h$. The amount of rain collected during the month of July in the rain-gauge No. 4, was $3^{in}\cdot 60$.

Aug. 2^d. The solar radiation thermometer was again sent to Mr. Newman.

Aug. $2^d.\ 1^h.\ 50^m$. Wind in gusts, rendering a pressure of 4lbs. on the square foot.

Aug. $2^d.\ 2^h$. 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.						
Aug. 2. 4	29·778	64·0	59·6	4·4	56·0	8·0	..	..	SW	W by S	0 to 1	¼	..	..	..	9½	..
6	29·747	58·0	57·5	0·5	..	..	..	..	SSW	SW	..	¼–	..	..	..	10	..
8	29·698	57·4	56·8	0·6	..	..	..	..	S by W	SW	..	¼	..	..	..	10	..
10	29·656	58·0	57·5	0·5	56·0	2·0	..	..	S by W	SW	..	¼	..	..	..	10	..
12	29·621	58·5	58·2	0·3	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
14	29·583	58·2	58·2	0·0	..	..	..	..	WSW	SW	..	¼	..	..	..	10	Transit
16	29·561	58·0	58·0	0·0	55·0	3·0	..	..	W by S	WSW	..	¼	..	..	..	10	..
18	29·571	58·3	58·3	0·0	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
20	29·575	59·2	58·8	0·4	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
22	29·586	62·8	61·0	1·8	61·0	1·8	70·1 57·3	85·0 57·9	WSW	WSW	..	¼	8·76	0·29	15·663	10	..
Aug. 3. 0	29·583	67·2	62·3	4·9	..	..	..	..	SW	WSW	..	¼	..	..	..	10	..
2	29·556	72·5	64·8	7·7	..	..	..	..	SW	WSW	..	¼	..	..	..	7	..
4	29·516	69·7	63·3	6·4	63·0	6·7	..	..	SSW	SSW	0 to 1½	¼	..	..	..	7	..
6	29·473	62·2	58·5	3·7	..	..	..	..	SSW	SSW	..	½+	..	..	..	10	..
8	29·381	57·2	56·5	0·7	..	..	..	..	SSE	S by W	..	½	..	..	..	10	..
10	29·312	59·7	59·4	0·3	58·0	1·7	..	..	S	S by W	0 to 1	½+	..	..	..	10	..
12	29·243	59·4	59·2	0·2	..	..	..	..	S	SSW	0 to ½	½	..	..	..	10	..
14	29·171	59·5	59·5	0·0	..	..	..	..	S	SSW	..	½	..	..	..	10	Transit
16	29·156	59·4	59·4	0·0	59·0	0·4	..	..	SSW	SSW	..	½	..	..	..	10	..
18	29·181	59·6	59·5	0·1	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
20	29·215	60·4	60·4	0·0	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
22	29·325	58·9	56·7	2·2	57·0	1·9	72·5 57·4	92·0 58·7	N by W	N	2 to 4	1	9·07	0·46	16·170	10	..
Aug. 4. 0	29·419	67·0	60·6	6·4	..	..	..	..	N	N	2 to 4½	1	..	..	..	4	..
2	29·486	66·6	60·5	6·1	..	..	..	..	N by W	N	½ to 1	¼	..	..	..	9	..
4	29·585	63·5	59·3	4·2	59·0	4·5	..	..	N by W	N	0 to ½	¼	..	..	..	10	..
6	29·636	62·4	58·2	4·2	..	..	..	..	NNW	NNW	..	¼	..	..	..	10	..
8	29·681	59·1	57·5	1·6	..	..	..	..	Calm	NNW	..	¼	..	..	..	7	..
10	29·703	57·0	56·0	1·0	56·0	1·0	..	..	SSE	SSE	..	¼	..	..	..	8	..
12	29·703	58·0	56·5	1·5	..	..	..	..	SSE	SSE	..	¼	..	..	..	10	..
14	29·688	58·8	56·8	2·0	..	..	..	..	S by E	S	..	¼	..	..	..	10	Transit
16	29·676	58·4	57·2	1·2	56·0	2·4	..	..	S	S	..	¼	..	..	..	10	..
18	29·661	58·0	56·0	2·0	..	..	..	..	S by W	SSW	..	¼	..	..	..	8	..
20	29·651	60·2	57·6	2·6	..	..	..	..	SSW	SSW	½ to 2½	¼+	..	..	..	7	..
22	29·629	65·9	61·0	4·9	60·0	5·9	68·6 57·2	98·5 52·2	SSW	SSW	1½ to 3	¾+	9·07	0·00	16·170	9	..
Aug. 5. 0	29·620	62·0	59·8	2·2	..	..	..	..	SSW	SW by S	½ to 3½	¾	..	..	..	10	..
2	29·583	63·7	60·5	3·2	..	..	..	..	SSW	SW	1½ to 2½	1	..	..	..	9¾	..
4	29·541	62·0	60·8	1·2	60·0	2·0	..	..	SSW	SW	2 to 5	½	..	..	..	10	..
6	29·503	62·5	59·7	2·0	..	..	..	..	SSW	SW	1 to 2½	¾	..	..	..	9	..
8	29·497	57·9	55·9	2·0	..	..	..	..	SW	SW	1½ to 2	½	..	..	..	¾	..
10	29·438	57·0	52·8	4·2	—	..	..	..	SW	SW	1½ to 3	½	..	..	..	4	In Equator
12	29·480	57·0	55·7	1·3	..	..	..	..	SW	SW	½ to 1½	½	..	..	..	10	..
14	29·461	57·5	55·7	1·8	..	..	..	..	SW	SW	1 to 2	¼+	..	..	..	10	..
16	29·452	57·0	55·2	1·8	54·0	3·0	..	..	SW	SW	1½ to 2	1	..	..	..	9½	Transit
18	29·493	56·7	55·3	1·4	..	..	..	..	WSW	SW	1 to 1½	1	..	..	..	10	..

Aug. 2d. 4h and 6h. Between these times the temperature decreased 6°·0; by 8h. 0m it had only further decreased 0°·6, and then there was a small nocturnal rising temperature.

Aug. 3d. After 8h the temperature rose, as it had done on the previous night.

Aug. 3d. 16h. The lowest reading of the barometer during the month: the pressure had been constantly decreasing since the beginning of the month, it now began to increase, and by 4d. 10h the barometer reading had increased ½ an inch.

GENERAL REMARKS.	Observer.
Nearly overcast: cirro-stratus and scud: light breaks visible in E. and W only.	P
Overcast: a thick, drizzling rain falling, having commenced about 20^m since.	
Overcast: a thin rain still continues falling,	
Ditto ditto.	P
Cirro-stratus and scud: steady rain falling: clouds more broken in the neighbourhood of the Moon.	J H
Overcast: rain falling.	
Ditto: cirro-stratus: steady rain. [18^h. 10^m.	
Ditto: ditto: the rain has ceased: no change in the appearance of the sky during the night: a damp fog coming on at	
At 18^h. 25^m, scud was noticed moving very rapidly from the N.W.: overcast: cirro-stratus: the fog has nearly disappeared.	J H
Overcast: cirro-stratus.	D
Clouds lighter in zenith: appearances of finer weather.	
Cumuli in S.: cumulo-strati and scud N. of zenith.	D
Cirro-stratus, scud, and small low cumuli: the sky threatens rain: about 4^h. 40^m the sky clouded considerably.	J H
Overcast: cirro-stratus and scud: cumulo-strati passing off in the W. horizon: some small white clouds of an electrical character: a low murmuring, resembling thunder, has been heard several times since the last observation: sudden gusts of wind.	
Overcast: cirro-stratus and scud: steady rain commenced at 6^h. 35^m: at 8^h. 40^m scud passing rapidly from the S.	
Overcast: cirro-stratus and steady rain: gusts of wind at intervals.	J H
Overcast: steady rain: wind blowing in gusts.	D
Ditto: no rain falling.	
Ditto ditto.	
Ditto: rain falling.	
Ditto ditto. During the observation the wind veered suddenly to the N.	D
Ditto: cirro-stratus: scud passing rapidly from the N.	J H
Fine cumuli in various parts of the sky, with a considerable quantity of light scud, elsewhere clear.	P
Nearly overcast: dark cumulo-stratus in the N.: loose scud in other parts: wind blowing in gusts.	P
Overcast: cirro-stratus.	D
Ditto ditto.	
Cumulo-stratus and scud: clear S. of zenith.	
Clear in S.E.; the rest of the sky is covered with cirro-stratus and vapour.	D
Overcast: scud moving from the N.W. [broken.	P
Overcast: a thin rain has this moment been falling, a few minutes only prior to which, the Moon was visible, and the clouds much	
Overcast: the place of the Moon well defined, and the clouds floating from the W. S.W.	
Most of the sky covered with cloud South of zenith, and long lines of scud in the N. and N.W.	
Large quantities of scud moving slowly from the S.W., the openings revealing a fine blue sky.	P
Clear in the S. E., every other part of the sky covered with cumulo-stratus and scud.	J H
Cirro-stratus and scud: occasionally small rain falling.	
Ditto ditto: rain occasionally in showers, and wind in gusts.	J H
Ditto ditto: rain falling: at 4^h. 7^m the rain ceased, and many breaks were visible in zenith and in S.W.	P
The sky principally covered with large masses of wild, dark-looking scud, momentarily dividing and leaving extensive breaks: there is also an under current driving the scud from a quarter a few points more to the West.	
Cloudless, if a thin range of cloud in W. horizon be excepted: showers have frequently fallen since 4^h, and the heavens have been alternately clear and cloudy.	
A considerable quantity of dark scud rapidly coming up from the S.W. and as rapidly passing over: zenith nearly clear: wind in heavy gusts.	P
Overcast: cirro-stratus and scud: the sky clouded over about 10^h. 40^m.	J H
Ditto ditto: wind in gusts.	
Nearly overcast: scud flying rapidly over from S.W.: a wild looking sky.	
Overcast: cirro-stratus and scud: the sky has been very threatening since the last observation: heavy gusts of wind.	

Aug. 3^d. At 20^h. 5^m the direction of the wind was W.: at 20^h. 10^m the direction was N.W.: at 20^h. 15^m the direction was N. by W., and it remained there.

Aug. 5^d. 10^d. The observation of the Dew Point was 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.	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.						
Aug. 5. 20	29·536	58·0	55·6	2·4	..	..	..	..	WSW	SW	2 to 3	1	..	..	..	10	..
22	29·593	59·6	56·0	3·6	54·0	5·6	66·5 56·3	73·0 52·8	WSW	WSW	2½ to 5	1	9·10	0·02	16·215	10	..
Aug. 6. 0	29·649	60·4	55·2	5·2	..	..	..	..	W by S	W by S	2½ to 4½	1	..	..	..	10	..
2	29·689	63·6	60·6	3·0	..	..	..	..	W by S	W	2 to 6	1	..	..	..	6	..
4	29·708	65·2	55·8	9·4	54·5	10·7	..	..	W by S	WSW	2½ to 4	1	..	..	..	6	..
6	29·724	63·2	55·4	7·8	..	..	..	..	W by S	WSW	2½ to 4	1	..	..	..	8	..
8	29·740	60·0	56·0	4·0	..	..	..	..	WSW	WSW	0 to 1	½	..	..	..	9	..
10	29·740	57·8	56·9	0·9	55·0	2·8	..	..	WSW	WSW	0 to ½	½	..	..	..	10	..
12	29·752	58·6	57·6	1·0	..	..	..	..	WSW	WSW	½ to 1½	½	..	..	..	10	..
14	29·762	59·0	57·8	1·2	..	..	..	..	WSW	WSW	0 to ½	½	..	..	..	10	..
16	29·773	59·3	58·0	1·3	58·0	1·3	..	..	WSW	WSW	0 to ½	½	..	..	..	10	Transit
18	29·776	57·4	56·2	1·2	..	..	..	..	WSW	WSW	½ to 1	½	..	..	..	5	..
20	29·792	60·0	56·5	3·5	..	..	..	..	SW	WSW	½ to 1½	¼	..	..	..	8	..
22	29·798	62·3	57·2	5·1	54·5	7·8	67·0 57·4	84·0 49·5	SW	WSW	½ to 2½	¼+	9·17	0·09	16·326	9½	..
Aug. 7. 0	29·792	60·8	58·0	2·8	..	..	..	..	WSW	WSW	1 to 2	½	..	..	..	8	..
2	29·768	69·1	61·1	8·0	..	..	..	..	SW	WSW	0 to 1	¼	..	..	..	6	..
4	29·748	68·8	62·4	6·4	61·0	7·8	..	..	SW	WSW	½ to 1½	½	..	..	..	5	..
6	29·729	65·4	60·7	4·7	..	..	..	..	SW	SW	½ to 2	½	..	..	..	3	..
8	29·724	60·4	58·7	1·7	..	..	..	..	SSW	SW	..	¼	..	..	..	8	..
10	29·722	56·6	55·5	1·1	55·0	1·6	..	..	SW	SSW	..	¼	..	..	..	10	..
12	29·692	58·3	57·0	1·3	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
14	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	Transit
18	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	73·1 56·8	98·0 53·0	SSW	...	..	..	9·17	0·00	16·328	..	..
Aug. 8. 0	29·583	60·7	59·4	1·3	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
2	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
6	29·526	64·0	61·5	2·5	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
8	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
14	29·465	54·4	53·9	0·5	..	..	..	..	SW	SW	..	¼	..	..	..	7	..
16	29·468	53·5	53·3	0·2	53·0	0·5	..	..	Calm	SW	..	¼	..	..	..	10	..
18	29·461	53·5	52·5	1·0	..	..	..	..	WSW	W by S	..	¼	..	..	..	9	Transit
20	29·472	54·2	52·8	1·4	..	..	..	..	WSW	W by S	..	¼	..	..	..	9	..
22	29·502	59·0	55·0	4·0	54·5	4·5	65·0 53·9	67·0 50·9	WSW	WSW	..	¼	9·18	0·01	16·361	9	..
Aug. 9. 0	29·496	63·1	56·0	7·1	..	..	..	..	W	WNW	..	¼	..	..	..	9	..
2	29·506	66·2	57·3	8·9	..	..	..	..	W by S	WNW	..	½	..	..	..	4	..

Aug. 6d. The state of the atmosphere with respect to the moisture in it was very variable; the difference in the readings of the Dry and Wet Thermometers at 4h is anomalous as compared with the difference of the Dry Thermometer and the temperature of the Dew Point.

Aug. 7d. The temperature very variable; between 0h and 2h it rose 8°·3, it having previously been falling; it then fell till 10h: afterwards it again rose, and after midnight it again began to fall.

Aug. 9d. For the observations of meteors, see the Section of Extraordinary Observations.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and scud.	J H
Ditto: the sky very unsettled.	D
Ditto: cirro-stratus.	D
Cumulo-stratus and scud passing rapidly from the West.	J H
Ditto ditto: wind in gusts to $1\frac{1}{2}$.	
Cirro-stratus and undefined clouds.	
Cirro-stratus and scud: a low murmuring, resembling distant thunder, has been heard several times during the last 40 minutes: a tendency to break in the N.E.	
Overcast: cirro-stratus: rain began falling at $8^h.\ 30^m$ and ceased about $9^h.\ 40^m$.	J H
Ditto: a heavy shower at $10^h.\ 40^m$: the clouds lighter in zenith.	D
Ditto: cirro-stratus.	
Ditto ditto.	
Scud and cirro-stratus scattered in large quantities over the sky.	
Ditto ditto in almost every part of sky: clear in N.W.	D
Nearly overcast; a few partial breaks only in West: the wind in gusts, and the clouds occasionally breaking.	P
The scud resembling cirro-stratus in S. and S.E; and in N. and N.W. the cumulo-stratus: a few rather extensive breaks in W.: the wind in gusts, but less powerful.	
Clouds that admit not of definition scattered about in every direction; in zenith, however, they somewhat resemble cirri: the wind has much abated.	P
Cirri, with patches of scud in every direction.	D
Light scud scattered about the sky.	
The horizon clear in the N. and also in the S.: cirro-stratus prevailing elsewhere.	
The sky was nearly free from cloud till within a short time of the observation, when it suddenly became overcast.	
Overcast: cirro-stratus.	
Ditto: rain falling.	D
Overcast, with dark cumuli in different directions: a thin rain has just commenced falling.	P
Most of the sky covered with thick cloud, nearly obscuring the Moon; there is, however, a tendency to clear, a few breaks in North extending themselves: a small halo around the Moon: at $14^h.\ 30^m$ the sky became overcast.	
Overcast: a thin cirro-stratus: the Moon's place being just visible.	
The horizon in W., N., and E., clear; the rest of sky covered with a thin cirro-stratus: meteors were carefully looked for whenever a break occurred, but without success.	
Overcast, with the exception of the break in the W., N., and E. horizon, as indicated in last observation.	P
Clear streaks of blue sky in N.W., otherwise overcast.	D
Scud and cumulo-stratus: electrical clouds North of zenith.	J H
Large white cumuli, and electrical clouds in various directions.	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.						
Aug. 9. 4	29·527	61·6	56·9	4·7	55·0	6·6	..	..	WSW	W by S	½ to 1	¼—	..	..	..	4	..
6	29·545	62·0	55·5	6·5	..	..	..	..	SW	WSW	0 to 2	¼	..	..	..	5	..
8	29·589	56·3	54·0	2·3	..	..	..	..	SW	SW	0 to 1	¼	..	..	..	7	..
10	29·597	52·1	50·3	1·8	49·5	2·5	..	..	SW	SW	..	¼	..	..	..	0	..
12	29·615	51·3	49·5	1·8	..	..	..	..	SW	WSW	..	½	..	..	..	0	..
14	29·637	50·0	48·7	1·3	..	..	..	..	SW	SW	0 to ½	½	..	..	..	3	..
16	29·645	49·4	48·3	1·1	46·0	3·4	..	..	SW	SW	..	½	..	..	..	1½	..
18	29·663	49·0	48·0	1·0	..	..	..	..	SSW	SW	..	½	..	..	..	1	3rd Quarter Transit
20	29·686	56·7	53·3	3·4	..	..	..	..	SW	SW	0 to ½	½	..	..	..	0	..
22	29·711	62·9	56·8	6·1	52·0	10·9	68·9 49·3	96·0 46·0	SW	SW	0 to 1	¼	9·20	0·03	16·422	4	..
Aug. 10. 0	29·711	64·7	57·0	7·7	..	..	..	..	SSW	SW	0 to 1½	½	..	..	..	4	..
2	29·705	66·5	57·5	9·0	..	..	..	..	SW	SSW	1 to 1½	½	..	..	..	6	..
4	29·710	61·7	58·0	3·7	57·5	4·2	..	..	SSW	SW by S	0 to 1	½	..	..	..	9	..
6	29·693	62·2	56·8	5·4	..	..	..	..	S by W	SW by S	½ to 1½	½	..	..	..	7	..
8	29·663	58·1	55·3	2·8	..	..	..	..	S by E	SW	..	½	..	..	..	9¾	..
10	29·626	56·5	55·0	1·5	54·0	2·5	..	..	SSE	SW	0 to ½	½+	..	..	..	10	..
12	29·556	55·6	55·0	0·6	..	..	..	..	S by E	S	2 to 3	1	..	..	..	10	..
14	29·497	56·0	55·7	0·3	..	..	..	..	S	S	1 to 1½	1	..	..	..	10	..
16	29·455	56·2	56·0	0·2	56·0	0·2	..	..	S by E	S	½ to 2½	1	..	..	..	10	..
18	29·411	56·6	55·6	1·0	..	..	..	..	S by E	SSW	1½ to 4	1½	..	..	..	10	..
20	29·367	58·5	57·3	1·2	..	..	..	..	S	S	2 to 3½	1½	..	..	..	10	Transit
22	29·359	61·3	59·9	1·4	59·0	2·3	68·7 55·5	92·0 55·0	S by W	S by W	1 to 2	¾	9·42	0·25	16·774	10	..
Aug. 11. 0	29·355	62·5	60·5	2·0	..	..	..	..	SSW	SSW	1 to 2½	1	..	..	..	10	..
2	29·345	67·1	62·7	4·4	..	..	..	..	SW	S by W	½ to 3	1	..	..	..	7	..
4	29·363	59·8	59·2	0·6	59·0	0·8	..	..	WNW	WNW	0 to 2	½	..	..	..	10	..
6	29·424	58·2	54·4	3·8	..	..	..	..	WNW	WNW	1 to 4½	1½	..	..	..	10	..
8	29·492	55·8	53·4	2·4	..	..	..	..	WNW	WNW	½ to 2	1	..	..	..	10	..
10	29·571	54·7	52·4	2·3	51·5	3·2	..	..	W by N	WNW	1 to 3	1½	..	..	..	10	..
12	29·617	53·3	49·5	3·8	..	..	..	..	W	W	½ to 2	1	..	..	..	9¾	..
14	29·659	52·5	48·0	4·5	..	..	..	..	W by N	WSW	0 to 1	¼	..	..	..	10	..
16	29·700	49·5	47·0	2·5	46·5	3·0	..	..	WSW	WSW	..	¼	..	..	..	1	..
18	29·732	46·8	45·5	1·3	..	..	..	..	WSW	WSW	..	¼	..	..	..	¼	..
20	29·775	53·3	49·8	3·5	..	..	..	..	W	W	0 to 1	¼	..	..	..	1	Transit
22	29·801	57·5	51·4	6·1	48·5	9·0	68·7 46·8	75·0 42·3	W by N	W	0 to 1	¼	9·43	0·05	16·835	8	..
Aug. 12. 0	29·805	59·5	51·8	7·7	..	..	..	..	W by N	WNW	..	½	..	..	..	8	..
2	29·820	60·7	52·6	8·1	..	..	..	..	W	WNW	..	½	..	..	..	9	..
4	29·820	59·9	52·7	7·2	52·5	7·4	..	..	W by S	W	0 to ½	¼	..	..	..	9	..
6	29·809	60·5	52·3	8·2	..	..	..	..	W by S	W	..	¼	..	..	..	3	Greatest declination N.
8	29·827	54·5	50·3	4·2	..	..	..	..	WSW	W	..	¼—	..	..	..	¼	..
10	29·829	50·3	48·0	2·3	47·0	3·3	..	..	SW	W	..	¼	..	..	..	1	..
12	29·826	48·0	46·2	1·8	..	..	..	..	SW	SW	..	¼—	..	..	..	½	..

Aug. 10d. 2h. Examined the perpendicularity of the barometer.

Aug. 10d. Between 2h and 4h the reading of the Dry Thermometer fell 4°·8; the reading of the Wet Thermometer rose 0°·5; so that a considerable change took place in the hygrometrical state of the air.

Aug. 11d, civil reckoning. The mean height of the barometer was less on this day than on any other day during the month, being 29in·438, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Light scud scattered over every part of the sky (predominating in E.) leaving the zenith, however, tolerably clear: fine cumulo-strati also in western horizon: nimbi are constantly passing over, teeming with fine steady showers.	P
The sky presents the same general appearance as during the last observation.	
A dense and extensive nimbus, extending from the south-western horizon to the zenith, dropping a fine steady rain.	
Cloudless.	P
Cloudless: eighteen meteors have been observed since $11^h.4^m$. (Vide Extraordinary Observations.)	J H
Fleecy clouds in North, coming up before the wind: fifty-four meteors observed from $12^h.0^m$ to $15^h.15^m$.	
A few small cirro-strati low down in North; otherwise clear: at $16^h.10^m$ the sky north of zenith covered with a heavy scud: at $16^h.25^m$ cloudless, except low down in North.	
The scud has been passing over from the S.W. since the last observation: at present the sky is clear.	
Cloudless.	J H
Large white cumuli in every direction, especially near the horizon.	D
Cumuli and cumulo-strati in various directions: a nimbus N.W. of zenith.	
Cumulo-stratus in N.: white cumuli and cirri in, and S. of, zenith: wind in gusts.	D
Cumulo-stratus and scud: a shower of rain at $3^h.40^m$.	J H
Ditto: breaks in N.E.: very heavy clouds in W. and N.W.: gusts of wind.	
Cirro-stratus and scud: appearances of rain: clouds coming up rapidly from S.W.	
Rain commenced falling at $8^h.25^m$, and continued until $9^h.20^m$: at present the sky is quite overcast: wind blowing in gusts: rain again commenced falling during the observation.	J H
Overcast: rain falling steadily.	D
Ditto: misty rain: heavy gusts of wind.	
Ditto: thick misty rain.	
Ditto: the rain ceased a short time before the observation: wind in gusts.	
Ditto: rain is falling heavily, and continues to do so at intervals.	D
Ditto: a thin misty rain at intervals, and wind in heavy gusts: the Sun occasionally breaking partially through the cirro-stratus.	P
Overcast, with a tendency however in the cirro-stratus to break up: the wind still in gusts.	
The cirro-stratus now existing alone in W. and N.: large breaks in zenith, and both S. and E. of it: large masses of light scud scattered over the rest of the sky.	P
Overcast: rain falling.	D
Ditto: heavy gusts of wind.	
Ditto: cirro-stratus and scud.	
Ditto: shortly after the last observation breaks appeared in the north-western horizon, which gradually extended themselves towards the zenith, which at one time was free from cloud.	D
Nearly overcast, the only break being in the neighbourhood of the Moon: a few minutes prior to the observation a few stars were faintly visible in zenith.	P
Overcast: cirro-stratus and scud: the wind has much subsided.	
A few minutes before $15^h.40^m$ the clouds suddenly cleared away, leaving almost a cloudless sky: five meteors were seen, but of very inferior brilliancy, the Moon being so powerful.	
A few clouds only low down in eastern horizon.	
Light scud scattered about zenith, and South of it.	P
Cumulo-strati and scud: haze about the horizon:	J H
Ditto ditto: electrical clouds S.W. of zenith.	
Ditto ditto: wind in gusts.	J H
A single break only in West: dark cumulo-stratus in N.W.	P
Fine cumulo-stratus in W. and N.W. towering about 30° above the horizon: a few patches of light scud scattered about in other	
A few clouds only of a very lurid colour in the horizon. [parts of the sky.	
A collection of dark clouds in northern horizon.	P
A few small cirro-strati in southern horizon: about twelve meteors before $11^h.40^m$.	J H

Aug. 12^d, civil reckoning. This day had the least relative moisture in the atmosphere of any day in the month (except the 20th day, which had the same quantity), the mean difference of the Dry and Wet Thermometers being $4^\circ.8$, 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.						
Aug. 12. 14	29·804	47·0	45·9	1·1	..	..	..	..	SW	SW	..	¼	..	..	..	4	..
16	29·801	44·9	44·4	0·5	42·5	2·4	..	..	Calm	Calm	..	..	..	..	..	½	..
18	29·778	48·7	46·8	1·9	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
20	29·782	55·2	51·8	3·4	..	..	..	..	Calm	WSW	..	¼	..	..	..	8	..
22	29·776	61·2	57·6	3·6	55·0	6·2	65·6 45·5	93·0 39·0	SSW	W by S	..	¼	9·43	0·00	16·835	8	Transit
Aug. 13. 0	29·764	62·7	57·7	5·0	..	..	..	..	SSW	SW	0 to 1½	¼	..	..	..	9	..
2	29·743	66·0	59·8	6·2	..	..	..	..	SW	SSW	0 to ½	¼	..	..	..	9	..
4	29·730	60·7	55·5	5·2	52·5	8·2	..	..	SW	WSW	..	¼	..	..	..	10	..
6	29·710	58·9	55·8	3·1	..	..	..	..	Calm	SW	..	¼	..	..	..	10	..
8	29·682	56·8	54·5	2·3	..	..	..	..	Calm	WSW	..	¼	..	..	..	9	..
10	29·665	55·7	53·5	2·2	52·5	3·2	..	..	Calm	WSW	..	½	..	..	..	10	..
12	29·615	54·5	52·5	2·0	..	..	..	..	SSE	SSW	..	¼	..	..	..	9	..
14	29·577	55·6	53·6	2·0	..	..	..	..	SSE	SSE	..	¼	..	..	..	10	..
16	29·537	55·9	54·5	1·4	54·5	1·4	..	..	S	S	..	½	..	..	..	10	..
18	29·495	55·5	55·2	0·3	..	..	..	..	S by E	S	..	¼	..	..	..	10	..
20	29·491	58·7	57·2	1·5	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
22	29·498	62·0	59·7	2·3	59·5	2·5	67·2 54·5	75·0 52·0	SSW	W by S	½ to 2	¼	9·52	0·09	16·946	10	Transit
Aug. 14. 0	29·513	66·4	61·4	5·0	..	..	..	..	WSW	WSW	1 to 2	¾	..	..	..	7	..
2	29·537	66·2	60·7	5·5	..	..	..	..	SW	WSW	1 to 2½	¾	..	..	..	9	..
4	29·563	64·7	60·2	4·5	61·5	3·2	..	..	SW	SW	0 to 2	¾	..	..	..	5	..
6	29·575	62·7	57·7	5·0	..	..	..	..	SW	SW	1 to 3	¾	..	..	..	4	..
8	29·600	57·8	55·7	2·1	..	..	..	..	SW	SW	..	½	..	..	..	6	..
10	29·606	55·2	53·8	1·4	53·0	2·2	..	..	SSW	SW	..	¼	..	..	..	0	..
12	29·622	54·4	53·2	1·2	..	..	..	..	Calm	SW	..	¼	..	..	..	10	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	70·1 54·0	78·0 48·5	SW	...	½ to 2	..	9·59	0·05	17·048	..	..
Aug. 15. 0	29·599	65·0	59·5	5·5	..	..	..	..	SW	SW	..	½	..	..	..	4	Transit
2	..	..	..	..	..	..	..	..	SW	...	½ to 2	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
8	29·632	59·5	55·5	4·0	..	..	..	..	SSW	SW	..	¼	..	..	..	8	..
10	..	..	..	..	..	..	..	..	S by W	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
14	29·669	52·5	52·2	0·3	..	..	..	..	Calm	S	..	¼	..	..	..	¼	Perigee
16	29·673	52·2	52·0	0·2	50·0	2·2	..	..	SW	WSW	..	¼	..	..	..	2	..
18	29·698	53·0	52·6	0·4	..	..	..	..	SW	WSW	..	¼	..	..	..	8	..
20	29·723	58·0	56·5	1·5	..	..	..	..	SW	WSW	..	¼	..	..	..	7	..
22	29·773	62·5	59·2	3·3	59·0	3·5	68·9 52·9	— 46·4	WSW	WSW	..	¼	9·59	0·00	17·048	3	..
Aug. 16. 0	29·786	66·7	61·3	5·4	..	..	..	..	WSW	WSW	..	½	..	..	..	9¾	Transit
2	29·793	73·3	64·5	8·8	..	..	..	..	WSW	WNW	..	½	..	..	..	6	..
4	29·792	69·8	61·0	8·8	61·0	8·8	..	..	W	Calm	..	..	..	..	..	8	..
6	29·795	68·3	61·0	7·3	..	..	..	..	WSW	WSW	..	¼	..	..	..	7	..

GENERAL REMARKS.	Observer.
Small fragments of scud scattered about the sky.	J H
Small fragments of scud W. of zenith: the Moon shining brilliantly: no meteors seen since $11^h.\ 40^m$.	
Loose scud in various directions.	
Cirro-stratus in North, and scud covering the sky generally elsewhere.	J H
Cirro-stratus covering most of the sky.	D
The sky nearly covered with cirro-stratus and scud.	
Overcast, except in South.	D
Cirro-stratus and scud: cumulo-strati in W. horizon: rain has been falling at intervals up to $5^h.\ 40^m$.	J H
Cirro-stratus and scud.	
Ditto ditto.	
Overcast: cirro-stratus and scud.	J H
Nearly overcast: the sky has been alternately clear and cloudy since last observation.	D
Overcast: rain falling.	
Ditto: cirro-stratus.	
Ditto: a steady rain falling: the rain ceased a few minutes after observation.	
Ditto: a shower of rain at $19^h.\ 10^m$.	D
Ditto: rain falling, having this moment commenced: prior to the observation there were many extensive breaks in different parts of the sky.	P
Scud covering the greater portion of the sky, and cumulo-strati in East, towering to an immense height above the horizon: the scud constantly clearing off: wind in gusts.	
Cirro-stratus: two breaks only, the one in N. the other in eastern horizon: cumulo-strati in West and North-west.	P
Cumulo-strati and fragments of scud in all parts of the sky: showers of rain at $2^h.\ 40^m$.	D
Cumulo-strati passing over rapidly from S.W.: pretty clear N. of zenith.	
Cirro-stratus in N. and S. horizon: small patches of scud in every part of the sky.	
Cloudless.	D
Overcast: about $11^h.\ 40^m$ clouds came up rapidly, and in less than five minutes wholly covered the sky: at $11^h.\ 30^m$ a bright meteor was seen to pass through the foot of Perseus.	P
Cirro-stratus prevailing in the whole horizon, and extending about 20° therefrom in S., and about 10° or less in N.E. and W.: the zenith dotted only with a few light patches of scud.	
Clouds cover the greater part of the sky.	
A few clouds only in S. horizon.	
Clouds coming up from the S.W.: in less than 5^m they wholly covered the sky, clearing however at intervals.	
A few breaks in zenith, and a visible tendency in the cirro-stratus to break up: at $18^h.\ 15^m$ breaks in every direction.	
Most of the sky covered with cloud: breaks of more or less extent in different quarters.	P
Light cumuli in S. horizon, and small pieces of undefined cloud in different parts of sky.	D
Cumulo-stratus and scud.	J H
Light cumuli scattered about the sky: the clouds broken about noon.	J H
Clouds and vapour covering most of the sky, and fine cumulo-strati in N. and N.W.: the air close. [other direction.	P
Cumulo-stratus in the whole horizon, towering about 50° from its base in some parts: light scud in zenith, and in almost every	

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.						
Aug. 16. 8	29·822	63·0	60·2	2·8	..	..	..	..	SSW	WSW	..	¼	..	..	..	8	..
10	29·833	59·1	57·2	1·9	56·5	2·6	..	..	S by W	WSW	..	¼	..	..	..	7	New
12	29·889	56·9	56·1	0·8	..	..	..	..	Calm	SW	..	½	..	..	..	7	..
14	29·842	57·2	56·3	0·9	..	..	..	..	S by W	SW	..	¼	..	..	..	8	..
16	29·823	56·7	55·5	1·2	54·0	2·7	..	..	S by W	SW	..	½	..	..	..	10	..
18	29·819	57·9	56·7	1·2	..	..	..	..	S by W	SW by W	..	½	..	..	..	10	..
20	29·849	61·6	59·7	1·9	..	..	..	..	S by W	WSW	..	½	..	..	..	10	..
22	29·856	66·5	62·6	3·9	62·0	4·5	74·5 56·8	107·0 52·9	SSW	SW	0 to ½	¼	9·59	0·00	17·048	9	..
Aug. 17. 0	29·863	71·2	65·0	6·2	..	..	..	..	SW	SW	..	¼	..	..	..	8	..
2	29·877	70·8	64·7	6·1	..	..	..	..	SW	SW	..	¼	..	..	..	9	Transit
4	29·889	68·3	63·4	4·9	63·0	5·3	..	..	SW	SW	..	¼	..	..	..	10	..
6	29·899	65·0	61·7	3·3	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
8	29·923	62·0	59·8	2·2	..	..	..	..	SSW	WSW	..	¼	..	..	..	7	..
10	29·939	60·8	59·2	1·6	58·2	2·6	..	..	SSW	WSW	..	¼	..	..	..	10	..
12	29·961	60·5	59·3	1·2	..	..	..	..	S by W	Calm	..	..	..	..	..	10	..
14	29·965	58·7	58·2	0·5	..	..	..	..	SW	Calm	..	..	..	..	..	4	..
16	29·972	56·6	56·2	0·4	56·8	−0·2	..	..	SW	Calm	..	..	..	..	..	10	..
18	30·003	55·5	54·8	0·7	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
20	30·033	59·6	57·7	1·9	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
22	30·041	61·9	59·7	2·2	59·0	2·9	71·1 56·0	93·0 54·2	SW	W by S	..	¼	9·59	0·00	17·048	10	..
Aug. 18. 0	30·050	66·5	62·0	4·5	..	..	..	..	WSW	SW by W	..	¼	..	..	..	9	..
2	30·052	63·5	59·5	4·0	..	..	..	..	WSW	W by S	..	¼−	..	..	..	10	Transit
4	30·050	69·5	63·8	5·7	62·3	7·2	..	..	N	Calm	..	..	..	..	..	5	..
6	30·051	70·2	64·2	6·0	..	..	..	..	Calm	Calm	..	..	..	..	..	4	..
8	30·059	61·6	59·5	2·1	..	..	..	..	Calm	Calm	..	..	..	..	..	1	In Equator
10	30·084	57·6	56·8	0·8	59·0	−1·4	..	..	Calm	Calm	..	..	..	..	..	0	..
12	30·088	54·3	53·9	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
14	30·085	52·3	52·3	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
16	30·074	50·7	50·7	0·0	50·0	0·7	..	..	Calm	Calm	..	..	..	..	..	2	..
18	30·086	49·9	49·7	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	30·099	55·7	54·7	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
22	30·110	65·8	62·2	3·6	61·9	3·9	70·1 50·2	90·5 43·8	Calm	WSW	..	¼−	9·59	0·00	17·048	0	..
Aug. 19. 0	30·099	69·6	63·0	6·6	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
2	30·080	73·8	65·0	8·8	..	..	..	..	SW	SSW	..	¼−	..	..	..	3	Transit
4	30·048	73·2	63·8	9·4	61·8	11·4	..	..	SW	W by S	..	¼	..	..	..	½	..
6	30·023	70·8	63·2	7·6	..	..	..	..	Calm	WSW	..	¼	..	..	..	1	..
8	30·013	62·9	59·3	3·6	..	..	..	..	WSW	WSW	..	¼	..	..	..	¼	..
10	30·018	58·2	56·0	2·2	55·6	2·6	..	..	Calm	WSW	..	¼−	..	..	..	0	..
12	29·992	54·8	54·0	0·8	..	..	..	..	Calm	SSW	..	¼−	..	..	..	0	..
14	29·958	53·8	53·0	0·8	..	..	..	..	Calm	SSW	..	¼−	..	..	..	0	..
16	29·914	51·8	51·2	0·6	51·1	0·7	..	..	Calm	SE	..	¼−	..	..	..	0	..
18	29·889	51·3	51·0	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
20	29·866	59·7	57·7	2·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
22	29·832	68·6	62·2	6·4	61·5	7·1	76·6 51·5	101·0 46·3	S by E	S by E	..	¼	9·59	0·00	17·048	0	..
Aug. 20. 0	29·802	75·2	66·3	8·9	..	..	..	..	S by E	S	..	¼	..	..	..	1	..

Aug. 17d. The solar radiation thermometer was returned by Mr. Newman.

Aug. 17d. 16h and 18d. 10h. The temperature of the Dew Point is higher than the temperature of the Dry Thermometer: the observations were all confirmed.

Aug. 18d. 20h to 22h. The temperature rose 10°·1.

Aug. 19d. 18h to 24h. The temperature rising at the rate of 4° per hour.

GENERAL REMARKS.	Observer.
Nearly overcast: in western and southern horizon the clouds are of a dirty yellowish colour.	P
Stars faintly visible in zenith and a few degrees around it, the rest of the sky being covered by clouds or by a dense vapour.	P
Heavy vapour partially obscuring the stars, especially round the horizon.	J H
Much vapour: thin cirro-stratus in N.W. horizon.	
Overcast: thin cirro-stratus and heavy vapour.	
Ditto ditto.	
Ditto ditto: appearances of the clouds breaking in several directions, S.E., N.E., &c.	J H
Clear breaks in S., the rest of the sky being overcast.	D
Clear in the zenith, the rest of the sky being covered with cumulo-strati generally: the sky clear and cloudy alternately.	
Blue sky east of zenith, otherwise overcast.	D
Heavy electrical cumulo-strati in N.W. and W., and large masses of scud in every quarter.	J H
Cumulo-strati and scud, with passing squalls of rain: very heavy in N. W. and W.: clouds electrical.	
The sky cleared considerably at $7^h.\ 15^m$: at present, scud and scattered clouds of no definite modification prevail.	
Overcast: cirro-stratus and scud: the air very close.	J H
Ditto ditto.	D
Cirro-stratus lining the whole horizon, the rest of the sky clear.	
Overcast: cirro-stratus.	
Ditto ditto.	
Ditto ditto.	D
Ditto ditto and vapour.	P
Cirro-stratus and heavy vapour.	J H
Overcast: cirro-stratus.	P
Cumulo-strati and vapour prevalent.	D
Ditto ditto.	
Haze in N.W., otherwise cloudless.	
Cloudless.	D
Vapour in various directions near the horizon, otherwise clear: the air close.	J H
Heavy vapour in every direction.	
Very heavy vapour at times.	
Cloudless.	
Ditto: light haze round the horizon.	J H
Ditto: very light wind.	P
Cloudless.	
Scud in various parts of the sky: a few cumuli in N.	P
A few light cirri in various directions: the air very close.	J H
Cirri and light fleecy clouds.	
A few small cirro-strati in N. horizon: very hazy.	
Cloudless: horizon hazy.	J H
Cloudless: a meteor equal in brilliancy to α Lyræ was seen at $12^h.\ 15^m$ to take a direction from S. E. to N.W., passing a few degrees E. of Ursa Major: its duration was about 1^s.	P
Cloudless.	
Ditto.	
The sky is chiefly covered with very dense vapour.	
Cloudless.	
Ditto.	P
A few small white cumuli in N. and N.W.	D

Aug. 20^d, civil reckoning. The mean difference of the Dry and Wet Thermometers is $4°{\cdot}8$. (See note to August 12.)

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.						
Aug. 20. 2	29·759	78·5	68·6	9·9	..	..	..	..	S by E	S	..	¼	..	..	..	1	..
4	29·699	77·2	67·0	10·2	65·0	12·2	..	..	S by E	SSW	..	¼	..	..	..	¾	Transit
6	29·663	74·3	65·3	9·0	..	..	..	..	SSE	S	..	¼	..	..	..	0	..
8	20·653	68·3	63·6	4·7	..	..	..	..	Calm	S	..	¼	..	..	..	1	..
10	29·642	64·5	61·6	2·9	61·3	3·2	..	..	Calm	S	..	¼	..	..	..	0	..
12	29·611	62·0	60·2	1·8	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·575	61·8	59·5	2·3	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·514	61·4	58·7	2·7	58·0	3·4	..	..	Calm	Calm	..	..	..	..	..	5	..
18	29·499	61·5	59·2	2·3	..	..	..	..	Calm	SSE	..	¼	..	..	..	7	..
20	29·509	64·0	61·8	2·2	..	..	..	..	SW	SW	0 to ½	½	..	..	..	10	..
22	29·522	68·3	64·0	4·3	63·5	4·8	79·3 61·0	101·5 54·0	SW	SW	0 to ½	½	9·59	0·00	17·048	8	..
Aug. 21. 0	29·531	69·4	62·5	6·9	..	..	..	..	WSW	SW	0 to ½	¼	..	..	..	10	..
2	29·562	69·4	60·1	9·3	..	..	..	..	W by S	WSW	½ to 2½	½	..	..	..	6	..
4	29·592	68·6	57·4	11·2	54·0	14·6	..	..	WSW	SW	1 to 2½	½	..	..	..	3	Transit
6	29·625	65·1	55·5	9·6	..	..	..	..	W by S	WSW	0 to 1½	1	..	..	..	1	..
8	29·685	57·6	52·4	5·2	..	..	..	..	W by S	WSW	..	¼	..	..	..	0	..
10	29·721	52·6	49·6	3·0	48·5	4·1	..	..	Calm	WSW	..	¼	..	..	..	0	..
12	29·739	51·5	48·3	3·2	..	..	..	..	Calm	WSW	..	¼	..	..	..	2	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	72·8 49·5	96·3 43·3	SSW	...	..	..	9·62	0·03	17·050	..	..
Aug. 22. 0	29·817	63·7	58·8	4·9	..	..	..	..	SW	SW by S	½ to 1½	1	..	..	..	8	..
2	29·813	64·9	58·3	6·6	..	..	..	..	SSW	SW by S	1 to 2½	1½	..	..	..	9½	..
4	..	..	..	..	..	..	..	..	SSW	...	½ to 2	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	Transit
8	29·762	58·3	53·4	4·9	..	..	..	..	S	SW	..	½	..	..	..	7	..
10	..	..	..	..	..	..	..	..	S by E	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	S by W	...	..	..	..	..	..	..	..
14	29·735	55·0	53·5	1·5	..	..	..	..	SSW	S by W	..	¾	..	..	..	10	..
16	29·708	54·5	54·0	0·5	52·5	2·0	..	..	S by W	S	..	¾	..	..	..	10	..
18	29·701	54·7	54·3	0·4	..	..	..	..	S by E	S	..	¾	..	..	..	10	..
20	29·708	55·5	55·5	0·0	..	..	..	..	W by S	Calm	..	..	..	..	..	10	..
22	29·740	56·3	55·3	1·0	55·8	0·5	68·6 54·8	85·0 54·5	WSW	W	..	¼	9·92	0·36	17·384	6	..
Aug. 23. 0	29·745	63·6	58·0	5·6	..	..	..	..	W by S	SW	..	¼	..	..	..	7	..
2	29·753	66·6	58·8	7·8	..	..	..	..	WSW	WSW	..	¼	..	..	..	5	..
4	29·755	65·0	57·0	8·0	49·3	15·7	..	..	W by S	W by N	..	¼	..	..	..	8	..
6	29·761	61·8	55·3	6·5	..	..	..	..	SW	W	..	¼	..	..	..	7	Transit
8	29·786	57·5	53·3	4·2	..	..	..	..	SW	W	..	¼	..	..	..	8½	..
10	29·801	53·8	51·0	2·8	49·8	4·0	..	..	W	WNW	..	¼	..	..	..	6	1st Qr.
12	29·836	52·4	50·5	1·9	..	..	..	..	W by S	WSW	..	¼	..	..	..	9	..
14	29·844	51·5	50·5	1·0	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
16	29·856	49·5	48·8	0·7	48·0	1·5	..	..	WSW	WSW	..	¼	..	..	..	8	..
18	29·896	46·2	46·0	0·2	..	..	..	..	WSW	WSW	..	¼	..	..	..	0	..

Aug. 20d. 18h. Hourly observations commenced. (Vide Section of Term-Day Observations.)

Aug. 23d. The lowest reading of the thermometer during the month took place on this day.

GENERAL REMARKS.	Observer.
Small cumuli scattered about.	D
A link of small cumuli in W. and N.W., with small portions of light scud sparingly scattered about the sky.	P
Cloudless.	
A considerable bank of cloud in the western horizon; above it are a few finely-formed spiral clouds, extending horizontally.	
Cloudless.	P
Ditto.	D
Dttto. Since the last observation clouds have appeared.	
Fleecy clouds in N. and E., and a large bank of cirro-stratus coming up from the W.: clear in the zenith and South of it: several flashes of lightning have been seen at short intervals in the N.W.	
Fleecy clouds in all parts of the sky.	
Overcast: cirro-stratus and scud.	D
Cirro-stratus every where but in the zenith, which is occupied by scud, a lower current impelling the scud in large masses from [the West.	P
Overcast: cirro-stratus and scud: an extensive break was visible in the south-western horizon shortly after the observation: the wind in gusts.	
Large masses of light scud scattered over every part of the sky, together with fine cumuli: cumulo-strati in N. and N.W.: the wind is still blowing in moderate gusts.	P
White cumuli in N.; light cirri and fragments of cirro-strati scattered about in different parts of the sky.	D
Small cumuli in horizon, otherwise cloudless.	
Cloudless.	
Ditto.	D
Clouds coming up from N.W., and covering that part of the sky; elsewhere clear.	P
Cumulo-strati in various parts of the sky.	J H
Heavy cumulo-strati in every direction.	
Heavy cirro-strati West and South of zenith.	
Overcast: rain: gusts of wind: rain commenced falling at $11^h.35^m$.	
Ditto: rain falling.	
Ditto ditto: gusts of wind. [falling and continues.	
About $18^h.10^m$. the wind gradually veered to N. of W. and became calm; the rain ceased a few minutes, but again commenced	J H
At the time of observation the cirro-stratus suddenly broke up, leaving extensive breaks in every part of the sky.	P
Cumulo-stratus and scud cover the greater part of the sky.	D
Cumulo-stratus and vapour in N.: zenith clear.	D
Cumulo-stratus and scud: Electrical clouds N. of zenith.	J H
Cumulo-stratus and cirro-stratus: breaks in every direction. [direction.	
Dark masses of curled scud, not unlike the thunder-cloud, N.W. of zenith: cirro-stratus and scud more or less in every other	
Heavy vapour, especially about the N.E. horizon.	J H
Stars visible in zenith; every other part of the sky overcast.	D
Overcast: a shower of rain fell shortly before this observation.	
The sky is generally covered with cirro-stratus: clear breaks in zenith, through which the stars are shining.	
Cloudless: the sky has been gradually becoming clear since the last observation.	

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.						
Aug. 23. 20	29·937	49·6	48·2	1·4	..	..	..	..	WSW	WSW	..	¼	..	..	..	4	..
22	29·956	56·0	51·6	4·4	51·2	4·8	69·1 46·6	96·3 41·5	W	W	..	¼	9·92	0·00	17·404	5	..
Aug. 24. 0	29·979	57·8	51·4	6·4	..	..	..	..	NW	NNW	..	¼	..	..	..	7	..
2	29·989	58·9	51·6	7·3	..	..	..	..	WNW	WNW	..	¼	..	..	..	4	..
4	29·989	64·4	53·8	10·6	48·8	15·6	..	..	NW	WNW	0 to ½	½	..	..	..	6	..
6	30·017	57·5	51·6	5·9	..	..	..	..	WNW	WNW	0 to 1	¼	..	..	..	5	..
8	30·055	53·8	49·8	4·0	..	..	..	..	W by S	W	..	¼	..	..	..	3	Transit
10	30·072	51·0	48·7	2·3	49·0	2·0	..	..	WSW	Calm	..	..	..	..	..	0	..
12	30·059	47·5	46·8	0·7	..	..	..	..	SW	SW	..	¼	..	..	..	0	..
14	30·042	46·5	45·8	0·7	..	..	..	..	SW	SW	..	¼	..	..	..	2	..
16	30·020	49·8	48·2	1·6	48·0	1·8	..	..	SSW	SSW	..	½	..	..	..	10	..
18	30·002	49·6	49·1	0·5	..	..	..	..	Calm	SSW	..	½–	..	..	..	10	..
20	29·996	51·8	51·3	0·5	..	..	..	..	Calm	SSW	..	¼	..	..	..	10	..
22	29·986	56·3	55·3	1·0	54·5	1·8	65·6 51·5	85·0 41·0	S by W	SW	..	½	10·00	0·10	17·520	10	..
Aug. 25. 0	29·967	58·4	57·4	1·0	..	..	..	..	SSW	SSW	..	½	..	..	..	10	..
2	29·956	60·9	59·2	1·7	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
4	29·956	63·3	61·2	2·1	60·8	2·5	..	..	SW	SW	..	½	..	..	..	10	Greatest Declination S.
6	29·964	62·5	60·8	1·7	..	..	..	..	SW	WSW	..	¼	..	..	..	10	..
8	29·969	61·0	60·2	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	9½	Transit
10	30·009	60·5	60·0	0·5	57·8	2·7	..	..	SSW	Calm	..	..	..	..	..	10	..
12	30·015	59·3	58·7	0·6	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
14	30·020	59·0	58·2	0·8	..	..	..	..	WSW	SSW	..	¼	..	..	..	10	..
16	30·017	58·7	58·0	0·7	55·5	3·2	..	..	WSW	Calm	..	..	..	..	..	10	..
18	30·042	59·0	58·4	0·6	..	..	..	..	SW	Calm	..	..	..	..	..	10	..
20	30·079	60·7	59·7	1·0	..	..	..	..	WSW	Calm	..	..	..	..	..	10	..
22	30·110	64·0	62·2	1·8	62·0	2·0	63·3 56·9	71·0 55·3	SW	Calm	..	..	10·04	0·04	17·569	10	..
Aug. 26. 0	30·122	67·5	64·7	2·8	..	..	..	..	WSW	SW	..	¼	..	..	..	10	..
2	30·116	72·6	68·0	4·6	..	..	..	..	WSW	SW	..	¼	..	..	..	1	..
4	30·120	73·4	68·0	5·4	67·3	6·1	..	..	WSW	W	..	¼	..	..	..	2	..
6	30·125	71·3	68·0	3·3	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
8	30·136	68·8	66·5	2·3	..	..	..	..	Calm	WSW	..	¼–	..	..	..	9	Transit
10	30·170	64·5	63·8	0·7	63·8	0·7	..	..	Calm	Calm	..	..	..	..	..	0	..
12	30·165	62·7	62·1	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·150	63·0	62·5	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·141	63·3	62·7	0·6	63·0	0·3	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·143	63·2	62·6	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·152	65·1	64·0	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·157	71·0	67·9	3·1	68·5	2·5	74·7 63·3	96·7 60·1	SW	Calm	..	..	10·04	0·00	17·569	2	..
Aug. 27. 0	30·141	75·6	70·8	4·8	..	..	..	..	SW	WSW	..	½–	..	..	..	8	..
2	30·123	76·2	70·8	5·4	..	..	..	..	S by W	WSW	..	¼–	..	..	..	8	..
4	30·102	78·7	71·6	7·1	71·5	7·2	..	..	SW	W by S	..	¼	..	..	..	7	..
6	30·077	74·6	70·2	4·4	..	..	..	..	Calm	Calm	..	..	..	..	..	4	..
8	30·079	69·3	67·8	1·5	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
10	30·091	64·8	64·3	0·5	64·0	0·8	..	..	Calm	S	..	½–	..	..	..	2	Transit
12	30·094	62·5	62·0	0·5	..	..	..	..	SW	SW	..	½–	..	..	..	2	..

Aug. 24d, civil reckoning. This was the coldest day in the month, the mean temperature being 53°·6, as deduced from the two-hourly observations. It is remarkable that within three days after this the mean daily temperature should be the highest in the year.

Aug. 24d at 12h, 14h, 16h and 18h, the readings of the Dry Thermometer were lower than the minimum temperature, as shewn by the Minimum Thermometer.

Aug. 25d and 26d. The greatest difference between the mean temperatures of one civil day and the next took place between these two days, being 8°·5, as deduced from the two-hourly observations.

Aug. 25d, 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 1°·1, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Fleecy clouds in, and S. of, zenith: the northern part of the sky is quite clear.	D
Cumulo-stratus in horizon, extending in some places nearly to zenith: light scud in various parts of the sky: vapour in N. and W.	P
The appearance of the sky is nearly similar to that at the last observation.	
Zenith clear: cumulo-stratus, in W. and S., near horizon: fragments of loose scud in other parts of the sky.	P
Massive cumulo-strati in S., reaching almost to zenith; clouds also of the same denomination in N.: loose scud in zenith.	D
Cumulo-strati and fleecy clouds N. of zenith: nearly clear in S.	
Cirro-stratus in N. and W. near the horizon, also a few lines W. of zenith, the rest of the sky clear.	
Cloudless.	D
Ditto.	P
Clouds coming up to windward, and obscuring the stars about 20° above the horizon.	
Overcast: a thin rain also falling.	
Ditto ditto.	
Ditto ditto.	P
Ditto ditto.	J H
Overcast: rain falling.	
Clouds much broken: rain ceased falling at $0^h.\ 40^m$.	J H
Overcast: cirro-stratus and scud.	P
Ditto ditto: the clouds appear much lighter than at the last observation.	
Nearly overcast: a few very small breaks are visible in zenith and other parts.	
Overcast: cirro-stratus.	P
Ditto: vapour and thin cirro-stratus: stars visible in, and N. of, zenith.	J H
Ditto ditto.	
Ditto ditto.	
Ditto ditto.	
Ditto ditto: clouds lighter in S.S.W.	J H
Ditto ditto.	D
Ditto: the clouds appear much lighter: symptoms of clearing.	
Small breaks appeared immediately after 0^h, and the sky began to clear gradually: at present the sky is cloudless, with the exception of a few fragments of cirro-stratus.	D
Light cumuli in various directions: hazy N.W. of zenith.	J H
Heavy electrical clouds: the air very close.	
Cumulo-stratus and heavy undefined clouds: a very fine sunset.	
Cloudless.	J H
The sky is again quite overcast: the clouds rapidly collected shortly before the observation.	D
Overcast: the stars are at intervals faintly visible in zenith.	
Ditto: cirro-stratus.	
Ditto ditto.	
Ditto ditto.	D
Streaks of cirri in various directions: several long cirro-strati in N.N.W.	J H
Sky generally covered with scud: air very close.	P
Ditto ditto.	P
Heavy cumulo-strati in N. and in horizon on all sides.	D
Cirro-stratus and fleecy clouds N. of zenith: the southern portion of the sky is almost clear.	
A few long lines of cirro-stratus in N. near horizon, otherwise clear.	D
Light cirri scattered here and there: a fine, calm, clear night.	G
A dark stratus near the N. horizon: a few loose clouds S. of zenith: all stationary.	G

Aug. $26^d.\ 10^h$. The highest reading of the barometer during the month.

Aug. 27^d, civil reckoning. This was the hottest day in the year, the mean temperature being $68°{\cdot}9$, as deduced from the two-hourly observations.

Aug. 27^d. The highest reading of the thermometer during the month happened on this day.

Aug. 27^d, civil reckoning. The mean height of the barometer was greater on this day than on any other day during the month, being $30^{in}{\cdot}121$, as deduced from the two-hourly observations.

Aug. $27^d.\ 10^h$. 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.						
Aug. 27. 14	30·075	60·0	58·8	1·2	..	..	..	..	SW	SW	..	¼	..	..	..	2	..
16	30·065	56·1	55·1	1·0	56·3	−0·2	..	..	Calm	SW	..	¼	..	..	..	½	..
18	30·060	54·0	53·3	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
20	30·077	59·2	57·5	1·7	..	..	..	..	Calm	WSW	..	¼	..	..	..	2	..
22	30·090	61·0	58·8	2·2	58·5	2·5	79·6 54·3	104·7 48·3	WSW	WSW	..	¼	10·04	0·00	17·569	2	..
Aug. 28. 0	30·093	66·5	61·8	4·7	..	..	..	..	W	W	..	¼	..	..	..	10	..
2	30·075	70·5	63·2	7·3	..	..	..	..	WSW	WSW	..	¼	..	..	..	1	Apogee
4	30·053	72·3	64·8	7·5	66·0	6·3	..	..	WSW	W	..	¼	..	..	..	0	..
6	30·052	69·8	61·5	8·3	..	..	..	..	W	W	..	¼	..	..	..	0	..
8	30·055	64·0	60·3	3·7	..	..	..	..	Calm	WSW	..	¼	..	..	..	1	..
10	30·068	60·7	58·5	2·2	58·8	1·9	..	..	Calm	Calm	..	..	..	..	..	0	Transit
12	30·069	57·5	56·7	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	73·4 53·2	95·0 45·0	Calm	...	..	..	10·04	0·00	17·569	..	..
Aug. 29. 0	30·034	72·7	67·0	5·7	..	..	..	..	SW	S	..	¼	..	..	..	1	..
2	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
14	29·898	56·3	55·5	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·872	55·0	55·0	0·0	54·2	0·8	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·874	56·0	55·5	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	29·888	58·4	57·3	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	¼	..
22	29·883	65·4	63·4	2·0	60·8	4·6	79·1 63·0	100·0 49·0	WSW	Calm	..	..	10·04	0·00	17·569	1	..
Aug. 30. 0	29·855	69·5	64·8	4·7	..	..	..	..	WNW	NW by N	..	¼	..	..	..	½	..
2	29·816	75·7	65·4	10·3	..	..	..	..	SSW	W by S	..	½	..	..	..	1	..
4	29·777	75·7	67·0	8·7	67·0	8·7	..	..	SW	W by S	..	¼	..	..	..	1	..
6	29·759	71·3	64·5	6·8	..	..	..	..	SSW	WSW	..	¼	..	..	..	1	..
8	29·734	64·8	61·1	3·7	..	..	..	..	Calm	SW	..	¼	..	..	..	2	..
10	29·726	61·3	59·8	1·5	60·0	1·3	..	..	Calm	SSW	..	¼	..	..	..	2	..
12	29·723	60·3	58·8	1·5	..	..	..	..	Calm	SSW	..	¼	..	..	..	5	Transit
14	29·693	59·7	58·5	1·2	..	..	..	..	Calm	SSW	..	¼	..	..	..	8	..
16	29·663	59·8	58·5	1·3	56·0	3·8	..	..	Calm	SSW	..	¼	..	..	..	10	..
18	29·645	59·7	58·5	1·2	..	..	..	..	Calm	SW	..	¼	..	..	..	9	..
20	29·650	63·5	61·7	1·8	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
22	29·649	66·9	63·9	6·0	62·8	4·1	78·1 60·0	99·5 55·0	SW	Calm	..	..	10·04	0·00	17·569	10	..
Aug. 31. 0	29·644	70·6	64·0	6·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
2	29·635	68·8	63·7	5·1	..	..	..	..	NNW	Calm	..	..	..	..	..	10	..
4	29·637	67·5	62·5	5·0	62·5	5·0	..	..	NNW	NW	..	½	..	..	..	10	..
6	29·677	58·2	57·8	0·4	..	..	..	..	NNW	NE	..	½	..	..	..	10	..
8	29·717	57·3	56·0	1·3	..	..	..	..	NNW	NNW	..	½	..	..	..	10	..

Aug. 27d. 16h. The temperature of the Dew Point is higher than the temperature of the Dry Thermometer.

Aug. 29d. 22h. Examined the perpendicularity of the barometer: it seems almost certain that the minimum reading of the Free Thermometer at this hour is 10° too great.

Aug. 30d. 2h. In the preceding two hours the air became relatively much drier.

GENERAL REMARKS.	Observer.
Heavy vapour, especially near the horizon.	J H
Vapour near the horizon in the North, otherwise clear: Venus shining brilliantly.	J H
Cirrus clouds, beautifully formed, extending almost from East to West across the zenith; numerous also in other parts of the sky.	P
Cirri in lines in the zenith: hazy in the North.	D
Nearly calm: a little haze over the sky.	G
A thin cirro-stratus covering the whole of the sky, with haze.	P
A few small cirri scattered about: hazy.	J H
Cloudless.	D
Ditto.	G
Small cirro-strati in W. horizon: hazy.	J H
Cloudless.	P
Ditto.	
A few light cumuli, otherwise cloudless.	D
Cloudless.	
Ditto.	
Ditto.	
A few cirri in N.W., otherwise cloudless.	P
Cirri scattered about.	G
Light cirri and vapour.	J H
Cumuli and cirri: vapour S. of zenith.	J H
Cumuli in N. and N.W.: cirri in, and N. of, zenith.	P
Cumuli in N. near horizon, and cirri in zenith.	
Lines of dark cloud in W. horizon, admitting of no distinct classification.	
Cirro-cumulus in S.S.E.: light scud in zenith, and in W. and N.W.	P
Light cirro-cumulus and fleecy clouds.	J H
Fleecy clouds cover a great part of the sky: small fragments of scud.	
Overcast: the clouds have now assumed the form of cirro-stratus; large dark masses of scud also prevalent.	
Heavy cirro-stratus, and clouds verging on the cumulo-stratus.	
Detached opening clouds approaching the cirro-cumulus in every direction.	J H
Overcast: cirro-stratus.	P
Overcast: cirro-stratus and haze.	
Ditto ditto.	P
Ditto ditto.	J H
Ditto ditto: rain fell from $5^h.\ 20^m$ to within a few minutes of the observation.	
Ditto ditto: small rain.	

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.						
Aug. 31. 10	29·754	57·3	54·3	3·0	54·2	3·1	..	..	NW	NNW	..	¼	..	..	..	10	..
12	29·774	54·6	51·2	8·4	..	..	..	..	NW	NNW	..	¼	10·05	0·02	17·600	10	Transit
14	29·796	53·3	49·8	3·5	..	..	..	..	WNW	NNW	..	¼	..	..	..	10	Full.
16	29·809	51·3	48·6	2·7	47·0	4·3	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·860	48·7	47·2	1·5	..	..	..	..	Calm	W	..	¼	..	..	..	10	..
20	29·873	51·0	49·2	1·8	..	..	..	..	Calm	W	..	¼	..	..	..	9¾	..
22	29·900	55·8	53·5	2·3	53·0	2·8	72·4 48·6	90·2 46·4	Calm	Calm	..	..	10·05	0·00	17·600	8	..
Sep. 1. 0	29·901	60·1	55·4	4·7	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
2	29·893	63·6	58·0	5·6	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
4	29·875	63·6	57·6	6·0	52·0	11·6	..	..	Calm	Calm	..	..	..	..	..	7	..
6	29·859	61·2	54·7	6·5	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
8	29·855	54·7	52·0	2·7	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
10	29·859	50·3	48·2	2·1	47·0	3·3	..	..	Calm	S	..	¼	..	..	..	2	..
12	29·845	47·4	45·5	1·9	..	..	..	..	Calm	S	..	¼	..	..	..	0	..
14	29·818	45·4	44·0	1·4	..	..	..	..	Calm	S	..	¼	..	..	..	2	Transit
16	29·775	43·1	42·3	0·8	42·0	1·1	..	..	Calm	S	..	¼	..	..	..	0	In Equator
18	29·763	43·9	43·4	0·5	..	..	..	..	Calm	S	..	¼	..	..	..	7	..
20	29·756	52·1	50·5	1·6	..	..	..	..	Calm	S	..	¼	..	..	..	8	..
22	29·731	60·5	56·9	3·6	56·1	4·4	68·4 42·7	92·7 36·0	SSW	S	..	¼	10·05	0·00	17·600	7	..
Sep. 2. 0	29·668	68·7	61·8	6·9	..	..	..	..	...	S	0 to 2	1	..	..	..	3	..
2	29·655	68·5	58·7	9·8	..	..	..	..	...	S	½ to 3	1½+	..	..	..	¼	..
4	29·645	64·8	59·0	5·8	56·3	8·5	..	..	...	SW	0 to 1	½	..	..	..	4	..
6	29·639	62·8	57·6	5·2	..	..	..	..	...	SW	..	½	..	..	..	2	..
8	29·655	55·8	53·0	2·8	..	..	..	..	SSW	SSW	..	¼	..	..	..	1	..
10	29·689	51·7	50·6	1·1	51·3	0·4	..	..	SSW	SW	..	¼	..	..	..	0	..
12	29·663	51·7	50·5	1·2	..	..	..	..	Calm	SSW	..	¼	..	..	..	½	..
14	29·637	50·1	49·5	0·6	..	..	..	..	Calm	SSW	..	¼	..	..	..	0	Transit
16	29·619	51·3	49·9	1·4	49·0	2·3	..	..	Calm	SSW	..	¼	..	..	..	4	..
18	29·605	54·7	53·3	1·4	..	..	..	..	Calm	SSW	..	¼	..	..	..	4	..
20	29·592	60·3	58·0	2·3	..	..	..	..	S by E	SSW	..	¼	..	..	..	7	..
22	29·572	65·8	62·0	3·8	62·0	3·8	70·6 50·1	89·5 44·0	SSE	SW	..	¼	10·05	0·00	17·600	6	..
Sep. 3. 0	29·552	70·3	65·3	5·0	..	..	..	..	S	S	..	¼	..	..	..	10	..
2	29·500	75·2	67·5	7·7	..	..	..	..	S by W	S	..	¼	..	..	..	7	..
4	29·484	67·2	63·8	3·4	62·8	4·4	..	..	SSW	SSW	..	¼	..	..	..	10	..
6	29·426	64·6	64·3	0·3	..	..	..	..	Calm	SE	..	¼	..	..	..	10	..
8	29·365	62·5	61·8	0·7	..	..	..	..	E by N	Calm	..	..	..	..	..	9	..
10	29·343	59·8	58·9	0·9	57·8	2·0	..	..	ESE	SSE	..	¼	..	..	..	8	..
12	29·337	60·8	59·4	1·4	..	..	..	..	S by E	S	..	1	..	..	..	10	..
14	29·310	59·4	58·0	1·4	..	..	..	..	S by E	S	..	½	..	..	..	3	Transit
16	29·307	58·0	58·0	0·0	56·5	1·5	..	..	SSE	S	0 to ½	¾	..	..	..	10	..
18	29·305	54·5	53·0	1·5	..	..	..	..	S by W	W	0 to 2½	¾	..	..	..	10	..

Aug. 31d. 12h. The amount of rain collected during the month of August in the rain-gauge No. 4, was 2in·20.

Sep. 2d. 6h+. Found that the pencil for the directions of the wind had not been clamped in its socket, and that, consequently, no directions had been recorded by the Anemometer since 22h.

Sep. 3d. A thunder storm. (See Section of Extraordinary Observations.)

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus: small rain.	J H
Ditto ditto.	G
Ditto ditto.	
Ditto ditto: very cold.	
Still quite cloudy: about $16^h.40^m$ a little break appeared in S.W., and the Moon was visible for a short time through it.	
The clouds appear thinner about the place of the Sun, which is visible, but casts a very faint shadow: the clouds are broken a little below the Sun, every other part overcast.	G
Extensive breaks in zenith, and on each side of it, otherwise overcast.	P
Cumulo-stratus in the whole horizon, reaching to a great height in S. and W.: light scud also in different parts of the sky: clouds moving rather fast from the S.W.	
Cumulo-stratus, with light scud scattered equally over every part of the sky: hazy.	P
About the zenith clear blue sky: cirro-cumulus and cumulo-stratus nearly equally distributed over the remainder of the sky, with fine blue seen between the clouds: a fine afternoon.	G
A few white cumuli near the horizon in the N. and N.W., otherwise a fine clear blue sky everywhere.	
A few cirri here and there, otherwise the sky is free of cloud.	
A few loose woolly clouds about: the Moon shining very brightly.	G
Cloudless: the air rather cold: ten minutes after this observation clouds of a very white character appeared in the southern horizon.	P
The white clouds alluded to in the last observation are approaching the zenith, some similar clouds are in the N. and N. W., but less numerous.	
Cloudless.	
Loose portions of scud covering most of the sky: hazy likewise.	
Loose scud as before, plentifully scattered over the sky.	P
Fleecy clouds and scud in every direction, but for the most part collected in S.S.W.	J H
Fleecy cumuli passing rapidly from the South.	
A few small cumuli near the horizon in the West: wind rising in gusts.	J H
Large masses of loose scud scattered over the sky: cumulo-stratus in the northern horizon: wind in moderate gusts.	P
Cumuli in northern horizon, and cirri of a woolly texture stretch in a long line from N.E. to S.W.	
Cirro-cumulus and cirri near the zenith, and a few bluish clouds in western horizon: the clouds were very numerous about an hour before this observation, but they have gradually decreased.	
Cloudless.	P
Light fleecy clouds: the Moon surrounded by a double halo; the diameter of the interior ring 6°, that of the exterior 14°.	J H
Cloudless: the halos continued visible about an hour: about 20^m after this time the sky became obscured with scud and cirro-stratus.	
Clear S. of zenith: a bank of cloud in N.: scud and small fleecy clouds W. of zenith.	
Cirro-strati in various directions.	
Scud and cumulo-stratus; the latter situated low in horizon from N.W. to W.S.W.	J H
Clouds cover the greater part of the sky: cirro-stratus in horizon.	P
Overcast: cirro-stratus and scud: the clouds almost momentarily clearing away.	
Cumuli and cumulo-strati in N. and S. near the horizon: scud is scattered in large quantities over the sky.	P
Cirro-stratus: cumulo-stratus and scud: rain at intervals since $3^h.20^m$.	J H
Overcast: cirro-stratus and scud: rain ceased falling at $4^h.40^m$, but again commenced at $5^h.10^m$.	
Cirro-stratus and scud: rain falling: thunder, with heavy showers, between $6^h.40^m$ and 8^h: at present, heavy electrical clouds W. of zenith, and in the S.	
Rain continued falling until after $8^h.40^m$: at present electrical clouds prevail: dense masses of scud: the Moon shining through a cirro-stratus.	J H
Sky quite covered with cirro-stratus and dark masses of scud: wind rising: a warm night.	G
Nearly clear: much scud passing rapidly from the South: the Moon shining brilliantly: within 5^m after this the whole of the sky was covered with a quickly-moving white scud, through which the Moon was visible, but cast no shadow.	
Quite overcast: a quickly-moving scud from the South.	
Alternately clear and cloudy since the last observation; quite cloudy at present.	

Sep. 3^d and 4^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 11°·9, as deduced from the two-hourly observations. This difference is the same as the difference between the mean temperatures of Nov. 26 and 27, and it is the greatest difference between any two consecutive days in the year.

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.						
Sep. 3. 20	29·338	51·2	49·4	1·8	..	..	..	..	SSW	W by S	½ to 3	1+	..	..	..	10	..
22	29·395	49·9	48·0	1·9	47·5	2·4	75·4 49·7	94·5 51·3	SSW	W by S	3 to 4	1½	10·14	0·09	17·810	10	..
Sep. 4. 0	29·449	48·8	47·5	1·3	..	..	..	..	WSW	WSW	4 to 5	2	..	..	..	10	..
2	29·513	46·8	46·7	0·1	..	..	..	..	WSW	W by S	3½ to 4	2	..	..	..	10	..
4	29·575	47·2	47·2	0·0	47·0	0·2	..	..	W by S	W by S	2½ to 4½	1½	..	..	..	10	..
6	29·630	47·4	47·3	0·1	..	..	..	..	W	W	0 to 1	1	..	..	..	10	..
8	29·671	46·8	46·6	0·2	..	..	..	..	SW	W	..	¼	..	..	..	10	..
10	29·685	45·3	44·4	0·9	44·0	1·3	..	..	WSW	W	..	¼	..	..	..	8	..
12	29·704	44·5	43·5	1·0	..	..	..	..	WSW	W	..	¼	..	..	..	10	..
14	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	Transit
18	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
22	29·709	54·4	49·8	4·6	..	..	50·8 41·9	55·0 39·0	Calm	Calm	..	..	10·32	0·42	18·210	10	..
Sep. 5. 0	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
4	29·677	53·8	51·5	2·3	..	..	..	..	N.	N	..	¼	..	..	..	10	..
6	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	29·630	41·2	41·1	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
16	29·612	39·0	39·0	0·0	39·0	0·0	..	..	Calm	Calm	..	..	..	..	..	0	Transit
18	29·599	37·0	36·8	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·612	40·0	40·0	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
22	29·620	52·4	50·7	1·7	48·3	4·1	57·9 36·6	73·0 31·0	Calm	E by N	..	¼	10·32	0·00	18·230	10	..
Sep. 6. 0	29·615	56·3	50·6	5·7	..	..	..	..	Calm	SSW	..	¼	..	..	..	4	..
2	29·606	59·7	54·0	5·7	..	..	..	..	Calm	SSW	..	¼	..	..	..	9	..
4	29·596	57·8	54·0	3·8	52·3	5·5	..	..	Calm	Calm	..	..	..	..	..	9¾	..
6	29·602	53·5	51·8	1·7	..	..	..	..	Calm	Calm	..	..	..	..	..	6	..
8	29·622	49·5	48·5	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
10	29·630	45·7	45·7	0·0	45·3	0·4	..	..	Calm	Calm	..	..	..	..	..	¼	..
12	29·664	43·4	43·2	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	¼	..
14	29·664	41·8	41·7	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29 656	40·8	40·7	0·1	38·0	2·8	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·650	39·5	39·3	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	½	Transit
20	29·649	48·2	48·1	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
22	29·650	56·7	53·1	3·6	51·5	5·2	60·6 39·5	81·0 35·0	S by E	Calm	..	..	10·32	0·00	18·230	10	..
Sep. 7. 0	29·602	57·4	53·5	3·9	..	..	..	..	S	S by W	..	¼	..	..	..	10	..
2	29·560	55·3	54·5	0·8	..	..	..	..	SSE	S	0 to 1	½	..	..	..	10	..
4	29·478	57·0	56·5	0·5	54·4	2·6	..	..	S by E	SSW	0 to ½	¾	..	..	..	10	..
6	29·475	58·5	57·3	1·2	..	..	..	..	WSW	WSW	..	¾	..	..	..	8	..
8	29·494	57·0	56·8	0·2	..	..	..	..	SW	WSW	0 to 1	½+	..	..	..	10	..
10	29·493	56·5	54·5	2·0	51·5	5·0	..	..	SW	WSW	½ to 2	½	..	..	..	9¾	..

Sep. 3d. 22h. The reading of the thermometer, whose bulb is in the parabolic reflector, is higher than the minimum temperature; it was most likely read erroneously, particularly as at 12h it was principally cloudless, but the evidence is not considered sufficient to authorize alteration, and it has consequently been used in the means.

Sep. 4d, civil reckoning. This day had the least moisture in the atmosphere of any day in the month, the mean difference of the Dry and Wet Thermometers being 0°·9, as deduced from the two-hourly observations.

Sep. 5d. The lowest reading of the thermometer during the month took place on this day.

Sep. 5d. 22h. Examined the perpendicularity of the barometer.

GENERAL REMARKS.	Observer.
Quite overcast: the wind has been blowing strongly since last observation.	G
Ditto: the wind blowing strongly and sky lowering.	P
Overcast: cirro-stratus and scud, the latter flying with great rapidity from the West: a slight rain falling.	
Overcast and heavy rain falling, which has continued without intermission since the last observation.	P
Heavy rain without ceasing during the last two hours: very cold.	G
Rain without interruption, but not so heavy as before; a wild, cold, and winterly day: the Sun has not been seen during the day.	
The wind has lulled since last observation, the rain has also ceased falling: a sultry-looking sky: the temperature is now 16° lower than it was at this time yesterday; this has been a very unseasonable day.	
A few stars have been seen: at present the Moon is the only object visible, and she is imbedded in small, white, but dense clouds, below her however the sky is clear.	G
Overcast: the Moon at intervals partially breaking through the dense cirro-stratus.	P
Overcast.	G
Overcast: about $23^h.\ 40^m$ rain began to fall.	G
Cloudless, with the exception of a considerable bank of cloud in the southern horizon.	P
Cloudless: the air extremely cold: hoar frost.	
Overcast: a dense fog also prevailing; every thing is wet with the humidity of the fog.	
Cirro-stratus in S. extending about 60° from the horizon; clear elsewhere: the fog still prevails, but it is not so dense.	P
Overcast.	G
Light cumuli: hazy.	J H
Sky generally covered with dark scud and heavy electrical clouds.	J H
Overcast, with the exception of a narrow break in the N.	P
Cumulo-strati cover the greater portion of the sky.	
Dark clouds in the W. and N.: vapour in the S.	
Nearly cloudless, a small portion of scud only being visible.	P
A few light cirri, otherwise clear: a fine night.	J H
Cloudless: the air very cold.	
Ditto.	
A few small cirri scattered about: a white fog over the river, and in the low parts of the Park.	
Fleecy clouds and scud.	J H
The sky is covered with one uniform white cloud, the place of the Sun is just discernible.	G
Overcast: cirro-stratus and scud: wind in moderate gusts.	P
Ditto: steady rain falling.	P
Ditto: small rain: wind in gusts: scud passing over rapidly from W. S.W.	J H
Cirro-stratus and scud: extensive breaks to windward and in W. N.W.: gusts of wind: the rain ceased falling at $5^h.\ 10^m$.	
Overcast: cirro-stratus and scud: wind in gusts.	
Cirro-stratus and scud: a few stars visible.	J H

Sep. 6^d, civil reckoning, was the coldest day in the month, its mean temperature being $47°{\cdot}9$, as deduced from the two-hourly observations.

Sep. $7^d.\ 5^h.\ 10^m$. The wind began to blow with a pressure of 2lbs. on the square foot, and continued with the same strength till $5^h.\ 25^m$; it then blew in gusts to $2\frac{1}{2}$lbs.; afterwards diminished in strength to $\frac{1}{2}$lb.; and ceased entirely at $5^h.\ 40^m$.

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.						
Sep. 7. 12	29·512	55·1	53·1	2·0	..	..	..	..	WSW	WSW	..	½	..	..	..	8	..
14	29·522	52·7	51·7	1·0	..	..	..	..	SW	WSW	..	½−	..	..	..	2	..
16	29·527	50·7	50·0	0·7	49·5	1·2	..	..	SW	WSW	..	¼	..	..	..	0	..
18	29·552	51·6	50·6	1·0	..	..	..	..	SW	WSW	..	½ to 1	..	..	..	0	Transit
20	29·593	56·2	54·8	1·4	..	..	..	..	SW	WSW	1 to 1½	½	..	..	..	10	..
22	29·655	61·2	56·7	4·5	58·3	2·9	60·8 ~~40·7~~	77·0 46·0	WSW	WSW	½ to 2	¾	10·50	0·20	18·478	6	..
Sep. 8. 0	29·690	63·6	57·0	6·6	..	..	..	..	W	W by S	0 to 1½	½	..	..	..	6	..
2	29·729	66·5	59·0	7·5	..	..	..	..	W by S	W	0 to 2	¼+	..	..	..	5	3rd Qr.
4	29·754	66·0	57·7	8·3	56·2	9·8	..	..	W by S	W SW	0 to 1½	½+	..	..	..	3	..
6	29·787	63·2	57·7	5·5	..	..	..	..	SW	WSW	..	¼	..	..	..	8	..
8	29·834	58·5	56·0	2·5	..	..	..	..	SW	WSW	..	½	..	..	..	10	..
10	29·859	54·5	53·5	1·0	53·0	1·5	..	..	Calm	W	..	¼	..	..	..	5	..
12	29·879	52·8	52·5	0·3	..	..	..	..	Calm	SSW	..	¼	..	..	..	0	..
14	29·884	52·0	52·0	0·0	..	..	..	..	Calm	SSW	..	¼	..	..	..	0	Greatest Declination N.
16	29·895	53·7	53·4	0·3	52·0	1·7	..	..	Calm	SSW	..	¼	..	..	..	0	..
18	29·905	52·7	52·5	0·2	..	..	..	..	Calm	SSW	..	¼	..	..	..	9	..
20	29·926	55·3	54·7	0·6	..	..	..	..	Calm	SSW	..	¼	..	..	..	10	Transit
22	29·920	58·1	57·9	0·2	56·3	1·8	68·7 52·2	91·0 47·7	Calm	SSW	..	¼	10·50	0·00	18·478	10	..
Sep. 9. 0	29·923	63·7	61·2	2·5	..	..	..	..	S by W	S	..	¼	..	..	..	9	..
2	29·915	66·5	62·4	4·1	..	..	..	..	SSW	S	..	¼	..	..	..	8	..
4	29·901	65·7	62·0	3·7	61·0	4·7	..	..	SSW	S by W	..	¼	..	..	..	9½	..
6	29·894	65·3	61·4	3·9	..	..	..	..	S by W	S by W	..	¼	..	..	..	7	..
8	29·892	61·8	60·6	1·2	..	..	..	..	Calm	S	..	¼−	..	..	..	9½	..
10	29·884	62·0	60·8	1·2	60·0	2·0	..	..	Calm	Calm	..	..	..	..	..	10	..
12	29·855	62·8	61·4	1·4	..	..	..	..	S by E	Calm	..	..	..	..	..	0	..
14	29·842	62·5	60·9	1·6	..	..	..	..	Calm	SSW	..	¼	..	..	..	0	..
16	29·837	60·8	60·1	0·7	58·5	2·3	..	..	Calm	SSW	..	¼	..	..	..	0	..
18	29·847	61·4	60·7	0·7	..	..	..	..	S by W	SW by S	..	½	..	..	..	7	..
20	29·878	61·8	60·3	1·5	..	..	..	..	SW	SW	..	¾	..	..	..	10	Transit
22	29·907	64·2	62·0	2·2	61·0	3·2	67·8 60·3	82·5 55·5	SW	SW	..	¼−	10·50	0·00	18·478	10	..
Sep. 10. 0	29·916	66·5	63·8	2·7	..	..	..	..	SW	SSW	..	¼	..	..	..	9¾	..
2	29·903	69·6	65·0	4·6	..	..	..	..	SW	SW	..	¼−	..	..	..	0	..
4	29·898	69·8	64·7	5·1	64·9	4·9	..	..	SW	WSW	..	½	..	..	..	0	..
6	29·891	66·5	62·9	3·6	..	..	..	..	Calm	WSW	..	½	..	..	..	0	..
8	29·911	60·5	58·3	2·2	..	..	..	..	Calm	SSW	..	¼	..	..	..	3	..
10	29·921	57·8	57·0	0·8	57·0	0·8	..	..	Calm	SSW	..	¼	..	..	..	3	..
12	29·907	56·5	56·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·906	55·9	55·7	0·2	..	..	..	..	W by S	Calm	..	..	..	..	..	2	..
16	29·904	56·0	56·0	0·0	..	..	..	..	W by S	Calm	..	..	..	..	..	10	..
18	29·921	56·1	56·0	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·949	56·2	56·0	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·958	59·0	58·1	0·9	58·8	0·2	71·4 55·5	93·4 45·0	Calm	Calm	..	..	10·50	0·00	18·478	10	Transit
Sep. 11. 0	29·947	66·4	63·5	2·9	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
2	29·934	72·0	67·5	4·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..

50.4

Sep. 7d. 22h. The reading of the Thermometer, whose bulb is in the parabolic reflector, is higher than the minimum temperature; it was most likely read erroneously, particularly as at 16h and 18h the sky was cloudless; it has, however, been used in the means.

Sep. 10d. 16h. The observation of the Dew Point was inadvertently omitted.

GENERAL REMARKS.	Observer.
A turbid looking sky, cloudy and clear alternately: at present nearly overcast, though, at the beginning of the observation, the zenith and sky N. and S. of it, were clear.	G
Cirro-stratus about the Moon: the character of the sky was varying from clear to cloudy until about half an hour after the last observation.	
The sky cloudless, and has remained nearly so since last observation: the Moon shining brilliantly.	
Ditto: the wind in gusts.	
Overcast: about $18^h.40^m$ clouds began to collect in the N.E., and by $19^h.10^m$ had come up against the wind, and completely covered the sky.	G
Large cumuli floating over rapidly.	J H
Large cumuli and cumulo-strati in North: large masses of scud, and smaller portions indiscriminately scattered over the rest of the sky.	P
Fine cumulo-strati in W., N., and S., and scud covering a large portion of the sky: wind in gusts.	P
Fine white cumuli around the whole horizon and in other parts of the sky: the day very fine.	G
Large dark masses of cumulo-strati about the Sun: loose cirri a little North of zenith; and large straggling clouds in S. and S.W.	
The sky covered with large masses of scud, as well as with an uniform upper cloud.	
Black clouds round the whole horizon, but the zenith and its neighbourhood pretty clear.	G
Cloudless, except a few scarcely perceptible streaks of cloud, which will not affect the notation.	P
Cloudless.	
Ditto.	
Nearly overcast, a thin cirro-stratus covering most of the sky: the Moon visible.	
Overcast.	P
Overcast: cirro-stratus and scud.	J H
Cirro-stratus and scud.	
Ditto ditto: the clouds appear high.	J H
Overcast, with the exception of a long narrow break in the horizon to windward.	P
Cirro-cumuli in the zenith, and clouds of an indefinable character in other parts of the sky: breaks extensive and numerous, principally in and about the zenith.	
Nearly overcast: a few very small breaks only in the South and near the zenith: there is a tendency in the cirro-stratus to break up.	
Overcast: the air very mild.	P
Cloudless: the clouds suddenly dispersed about $11^h.25^m$: a fine warm night.	J H
Ditto.	
Ditto: at $16^h.40^m$ scud suddenly appeared floating rapidly past the Moon.	
Scud in every direction moving rapidly from the S.W.	
Overcast: cirro-stratus and scud: at $20^h.10^m$, breaks in southern horizon.	J H
Overcast: a dense cirro-stratus: the air very sultry.	P
A thin cirro-stratus covering most of the sky: the weather seems brighter to windward.	
Cloudless.	P
Ditto.	J H
Ditto.	
Light fleecy cumuli in various directions.	
Cirro-stratus partially covering the sky South of zenith, that to the North of it being very clear.	J H
Cloudless.	G
A few dark clouds floating about South of the zenith.	
Overcast: about $14^h.40^m$ the sky became generally obscured, and shortly afterwards a thin black cloud completely covered it: misty.	
Ditto.	
Ditto: a slight fog.	G
Ditto.	P
A thin cirro-stratus in South and South-west, otherwise cloudless.	
Cloudless.	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 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.						
Sep. 11. 4	29·917	72·2	68·0	4·2	68·0	4·2	..	..	Calm	Calm	..	..	..	..	..	4	..
6	29·909	70·8	67·5	3·3	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
8	29·904	66·6	64·7	1·9	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
10	29·894	63·2	62·2	1·0	62·5	0·7	..	..	Calm	Calm	..	..	..	..	..	0	..
12	29·873	61·7	61·2	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	..	..	..	..	..	..	..	..	SSE	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SE	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SE	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	76·2 60·1	100·0 56·0	SE	...	..	..	10·50	0·00	18·478	..	Transit
Sep. 12. 0	29·804	75·6	67·0	8·6	..	..	..	..	SE	S by E	..	¼	..	..	..	0	..
2	..	..	..	..	..	..	..	..	SE	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	SE	...	0 to ½	..	..	..	..	..	..
6	29·738	71·0	68·2	2·8	..	..	..	..	SE	Calm	..	..	..	..	..	0	..
8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	ESE	...	..	..	..	..	..	..	..
14	29·723	61·7	58·3	3·4	..	..	..	..	Calm	E	..	¼	..	..	..	0	..
16	29·733	57·0	56·0	1·0	55·0	2·0	..	..	Calm	E	..	¼	..	..	..	0	..
18	29·724	58·0	56·4	1·6	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
20	29·747	61·4	59·0	2·4	..	..	..	..	E	Calm	..	..	..	..	..	0	Perigee
22	29·762	67·5	63·5	4·0	62·7	4·8	79·6 57·9	101·8 46·2	E by N	E by N	..	¼	10·50	0·00	18·478	0	Transit
Sep. 13. 0	29·762	73·1	67·1	6·0	..	..	..	..	Calm	E	..	¼	..	..	..	½	..
2	29·754	74·8	68·1	6·7	..	..	..	..	Calm	E	..	¼	..	..	..	0	..
4	29·727	74·2	68·0	6·2	69·0	5·2	..	..	Calm	ENE	..	¼	..	..	..	¼	..
6	29·720	71·6	66·6	5·0	..	..	..	..	Calm	ENE	..	¼	..	..	..	0	..
8	29·725	66·7	63·5	3·2	..	..	..	..	Calm	ENE	..	¼	..	..	..	0	..
10	29·736	64·5	62·1	2·4	61·0	3·5	..	..	Calm	ENE	..	¼	..	..	..	0	..
12	29·741	62·3	60·2	2·1	..	..	..	..	Calm	Calm	..	..	..	..	..	4	..
14	29·713	61·3	59·6	1·7	..	..	..	..	Calm	ENE	..	¼	..	..	..	1	..
16	29·723	60·0	58·2	1·8	57·0	3·0	..	..	Calm	ENE	..	¼	..	..	..	2	..
18	29·770	58·9	57·5	1·4	..	..	..	..	Calm	ENE	..	¼	..	..	..	2	..
20	29·738	62·5	62·1	0·4	..	..	..	..	Calm	ESE	..	¾+	..	..	..	3	..
22	29·708	65·8	62·4	3·4	61·8	4·0	76·0 59·1	99·5 55·5	Calm	E	..	¼−	10·50	0·00	18·478	4	..
Sep. 14. 0	29·711	71·5	66·6	4·9	..	..	..	..	...	E	..	¼	..	..	..	4	Transit
2	29·701	72·4	67·1	5·3	..	..	..	..	...	E	..	¼	..	..	..	7	..
4	29·688	74·5	69·2	5·3	69·2	5·3	..	..	...	E	..	¼	..	..	..	3	..
6	29·681	72·1	68·1	4·0	..	..	..	..	...	SE	..	¼	..	..	..	5	..
8	29·697	68·1	66·0	2·1	..	..	..	..	...	SSE	..	¼	..	..	..	6	..
10	29·698	65·7	64·7	1·0	62·8	2·9	..	..	...	SSE	..	¼	..	..	..	9¾	..
12	29·717	64·4	63·4	1·0	..	..	..	..	...	Calm	..	..	..	..	..	10	..
14	29·718	60·7	60·2	0·5	..	..	..	..	...	Calm	..	..	..	..	..	8	..
16	29·739	58·5	57·7	0·8	57·0	1·5	..	..	...	Calm	..	..	..	..	..	4	..
18	29·742	58·8	57·0	1·8	..	..	..	..	...	Calm	..	..	..	..	..	10	New In Equator
20	29·779	59·7	57·2	2·5	..	..	..	..	...	Calm	..	..	..	..	..	9	..
22	29·789	63·8	59·9	3·9	59·7	4·1	74·9 59·1	97·4 53·6	...	Calm	..	..	10·50	0·00	18·478	4	..

Sep. 12d. The highest reading of the thermometer during the month took place on this day.

Sep. 13d. 0h. Examined the perpendicularity of the barometer.

Sep. 14d, civil reckoning. This day was the hottest in the month, the mean temperature being 66°·4, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
The sky North of the zenith covered with cirro-cumuli: stratus in western horizon.	G
Since the last observation the sky has been getting more and more cloudy, till the only place now free from cloud is the north-western horizon and about the place of the Sun, which is shining.	
Cirro-cumuli pretty generally distributed, with circular masses of cloud in the N.W.	
Immediately after the last observation the clouds began to disperse, and the sky for the last hour and a quarter has been cloudless.	G
Cloudless.	P
Ditto.	P
Ditto.	G
Ditto.	P
Ditto.	
A thin cirro-stratus, or dense haze, lining the whole horizon, the rest of the sky being cloudless.	
Cloudless.	P
Ditto.	J H
Light fleecy clouds, principally East of zenith.	
Cloudless.	J H
A few cirri only in zenith.	P
Cloudless.	
Ditto.	
Ditto.	P
Heavy vapour coming up from the North, and gradually assuming the appearance of the cirro-stratus.	J H
Vapour, principally in the South horizon.	
Vapour, principally near the horizon.	
Clouds of a fleecy character tinged by the Sun with a reddish hue: about $16^h.\ 40^m$ a vivid flash of lightning was seen.	
Light scud scattered in every direction: the wind in gusts.	J H
Cirri in zenith and in other parts of the sky, with scud, in considerable masses, coming up from the S.E.	P
Cirri and light scud diffused indiscriminately over the sky.	
Scud scattered over the greater portion of the heavens.	P
Fleecy clouds, principally E. and N.E. of the zenith.	J H
Scud moving from the South, and light vapour forming in, and around, the zenith.	
Cirro-stratus and scud, principally West of the zenith.	
The sky nearly covered with cirro-stratus.	J H
Overcast.	G
Clear and cloudy alternately, the changes from one state to the other being very rapid.	
Since the last observation it has been chiefly clear; at present, some large dark clouds only East of the zenith, and spreading downwards.	
Overcast: about half an hour before the observation a slight rain was falling.	
Clear only in the N.W., the rest of the sky being covered with strati and nimbi.	G
Cirro-stratus in the eastern horizon, extending some considerable distance therefrom; cirro-cumuli forming in the zenith, and its immediate neighbourhood; and cirri, somewhat numerous and well-defined, with scud in various directions.	P

Sep. 14d. On changing the anemometer sheet, it was found that the rack-work for the direction of the wind had by some means become unshipped, and its failure was not discovered until next 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-guage 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.						
Sep. 15. 0	29·784	71·3	62·5	8·8	..	..	..	..	S by W	SSW	..	¼	..	..	..	½	Transit
2	29·764	72·0	62·4	9·6	..	..	..	..	SW	WSW	..	¼+	..	..	..	1	..
4	29·772	69·8	60·7	9·1	56·5	13·3	..	..	SSW	SW	..	½	..	..	..	1	..
6	29·774	66·6	59·5	7·1	..	..	..	..	Calm	SSW	..	½	..	..	..	2	..
8	29·775	60·4	58·0	2·4	..	..	..	..	Calm	SSW	..	¼	..	..	..	9	..
10	29·781	59·3	56·8	2·5	57·0	2·3	..	..	Calm	Calm	..	..	..	..	..	9	..
12	29·750	57·5	55·5	2·0	..	..	..	..	Calm	S by W	..	¼	..	..	..	½	..
14	29·749	57·0	54·5	2·5	..	..	..	..	Calm	S by W	..	¼	..	..	..	2	..
16	29·733	55·2	54·5	0·7	53·2	2·0	..	..	Calm	S by W	..	¼	..	..	..	1	..
18	29·725	57·2	56·5	0·7	..	..	..	..	Calm	S by W	..	¼	..	..	..	8	..
20	29·731	60·1	58·8	1·3	..	..	..	..	S	S by W	..	¼	..	..	..	10	..
22	29·738	63·5	60·8	2·7	60·5	3·0	74·6 ~~58·2~~	96·1 51·1	S by W	SW	..	½	10·50	0·00	18·478	7	..
Sep. 16. 0	29·735	63·3	60·7	2·6	..	..	..	..	SSW	SW	..	¾	..	..	..	8	..
2	29·723	65·8	59·5	6·3	..	..	..	..	SSW	SW	..	1	..	..	..	8	Transit
4	29·713	65·0	57·0	8·0	52·3	12·7	..	..	SW	SW	..	½	..	..	..	2	..
6	29·733	61·5	55·6	5·9	..	..	..	..	SW	SW	..	¼	..	..	..	1	..
8	29·755	54·8	52·6	2·2	..	..	..	..	SW	SW	..	¼−	..	..	..	0	..
10	29·784	51·5	50·6	0·9	49·5	2·0	..	..	SW	SW	..	¼	..	..	..	0	..
12	29·803	49·8	49·2	0·6	..	..	..	..	SW	W by N	..	½	..	..	..	0	..
14	29·812	48·1	47·7	0·4	..	..	..	..	WSW	WNW	..	½	..	..	..	½	..
16	29·818	46·6	46·5	0·1	46·5	0·1	..	..	SW	W	..	½	..	..	..	0	..
18	29·829	45·2	45·0	0·2	..	..	..	..	Calm	WSW	..	¼	..	..	..	¼	..
20	29·859	47·9	47·3	0·6	..	..	..	..	SSW	WSW	..	¼	..	..	..	¼	..
22	29·866	55·7	52·2	3·5	50·5	5·2	69·8 45·3	91·0 39·5	WSW	W	..	¼	10·50	0·02	18·518	0	..
Sep. 17. 0	29·858	61·3	54·0	7·3	..	..	..	..	W	W	..	¼	..	..	..	0	..
2	29·847	62·8	54·7	8·1	..	..	..	..	WSW	W by S	..	¼	..	..	..	2	Transit
4	20·833	63·7	56·1	7·6	49·5	14·2	..	..	N	NNE	..	¼	..	..	..	3	..
6	29·833	59·7	54·2	5·5	..	..	..	..	N by E	N by E	..	¼	..	..	..	½	..
8	29·825	53·4	50·0	3·4	..	..	..	..	Calm	N by E	..	¼	..	..	..	½	..
10	29·818	50·7	48·7	2·0	47·0	3·7	..	..	Calm	Calm	..	..	..	..	..	0	..
12	29·810	47·4	46·7	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·814	46·8	46·0	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·795	44·6	44·0	0·6	43·5	1·1	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·793	44·0	43·5	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	29·797	45·6	45·0	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
22	29·793	56·3	53·4	2·9	52·0	4·3	66·2 43·5	87·4 36·4	Calm	Calm	..	..	10·50	0·00	18·518	0	..
Sep. 18. 0	29·782	63·6	58·2	5·4	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
2	29·797	67·8	60·7	7·1	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
4	29·792	66·8	60·0	6·8	56·0	10·8	..	..	Calm	Calm	..	..	..	..	..	10	Transit
6	29·797	63·0	58·5	4·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
8	29·804	58·0	55·0	3·0	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
10	29·825	52·2	51·0	1·2	50·0	2·2	..	..	Calm	Calm	..	..	..	..	..	0	..
12	29·829	50·8	49·5	1·3	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..

Sep. 15d, civil reckoning. This day had the least moisture in the atmosphere of any day in the month, the mean difference of the readings of the Dry and Wet Thermometers being 4°·3, as deduced from the two-hourly observations.

Sep. 17d. 10h to 22h+ was without cloud; this is the longest interval of clear sky in the month.

GENERAL REMARKS.	Observer.
A few cumuli in the north-western horizon, and loose scud scattered here and there.	P
Cumuli in N. and N.W., and a few cirri in the S.E. with light scud: the wind somewhat steadier.	P
Small detached portions of cumuli all round the horizon.	G
Cirro-cumuli in the North, and also in the N.W., where it is mixed with strati: the horizon sharply defined.	
The sky remained without change until about $6^h.\ 40^m$, when a dark bank of cloud rose in the N. which has since extended itself over the greater portion of the sky: at $8^h.\ 40^m$ several flashes of sheet lightning were seen in the South.	
The sky alternately clear and cloudy.	G
A few dark clouds in the eastern horizon, behind which, flashes of sheet lightning are somewhat frequent.	P
Dark scud lining the N. and north-western horizon; otherwise cloudless.	
A few dark clouds only in the western horizon.	
Light scud in every part of the sky, in appearance somewhat resembling snow.	
Overcast: cirro-stratus and scud coming up rapidly from the S.W.	P
Cumulo-stratus in the horizon from S.W. to N., and extending about 15° towards the zenith: scud and linear-cirri extensively scattered about the sky in other directions: passing showers.	J H
Cumulo-stratus and scud: gusts of wind to 1+, and passing showers.	
Large white cumuli and dark masses of scud, the latter chiefly east of zenith.	J H
Cumuli and cumulo-strati in N., and small portions of scud in other parts of the sky.	P
Cumuli still numerous in North.	
A small portion of scud only in North.	
Cloudless.	P
Light vapour around the horizon; otherwise clear.	J H
Vapour in South horizon; otherwise clear.	
Cloudless.	
A small portion of scud only, passing off in the S.E.	
Small light cirri.	J H
Cloudless; haze, however, in the horizon.	G
Ditto.	P
Cumuli and cumulo-strati in N. and N.W.; otherwise cloudless.	P
Light cumuli: very hazy to windward.	J H
Ditto ditto.	
Cirro-stratus only West of zenith, and near the horizon.	
Cloudless.	J H
Ditto.	G
Ditto.	
Ditto: a thick haze has prevailed in the South during the last hour.	
Ditto: the haze was dissipated shortly after the last observation.	
Ditto.	G
Ditto: a thick fog hanging over the river and the lower part of the Park.	P
Well-defined cirri in the zenith and in its neighbourhood, and small quantities in the N.W.	
Cirri and scud scattered in various directions.	P
Overcast.	G
Cloudless.	
Dark detached cumuli in the N., and loose scud about the whole horizon.	
Cloudless.	G
Ditto.	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 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.						
Sep. 18. 20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	69·8 43·1	96·8 40·2	Calm	...	..	..	10·50	0·00	18·518	..	..
Sep. 19. 0	29·912	66·2	58·8	7·4	..	..	..	..	E	ESE	..	$\frac{1}{4}$	..	..	..	0	..
2	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	Transit
6	29·923	63·7	59·5	4·2	..	..	..	..	E	ESE	..	$\frac{1}{4}$	.	..	..	$\frac{1}{2}$	..
8	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	29·963	59·2	59·0	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
16	29·982	59·0	58·7	0·3	58·5	0·5	..	..	Calm	Calm	..	..	..	..	..	9	..
18	29·991	58·9	58·6	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·004	60·3	59·7	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
22	30·015	62·9	61·0	1·9	60·4	2·5	68·9 58·4	94·5 54·3	Calm	NE	..	$\frac{1}{4}$	10·50	0·00	18·518	10	..
Sep. 20. 0	30·008	68·0	63·8	4·2	..	..	..	..	NE	ENE	..	$\frac{1}{4}$	..	..	..	9	..
2	29·996	69·7	64·7	5·0	..	..	..	..	ENE	ENE	..	$\frac{1}{4}$	..	..	..	8	..
4	29·981	64·9	62·0	2·9	61·0	3·9	..	..	E by N	ENE	..	$\frac{1}{4}$	..	..	..	8	Transit
6	29·977	60·8	58·8	2·0	..	..	..	..	E by N	ENE	..	$\frac{1}{4}$	..	..	..	10	..
8	29·974	59·5	58·3	1·2	..	..	..	..	ENE	ENE	..	$\frac{1}{4}$	..	..	..	10	..
10	29·957	59·3	58·3	1·0	57·3	2·0	..	..	ENE	ENE	..	$\frac{1}{4}$	..	..	..	10	..
12	29·956	59·0	57·8	1·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·941	58·5	57·8	0·7	..	..	..	..	NE	ENE	..	$\frac{1}{4}$	..	..	..	10	..
16	29·897	58·7	58·0	0·7	57·0	1·7	..	..	NE	ENE	..	$\frac{1}{4}$	..	..	..	10	..
18	29·889	58·7	58·0	0·7	..	..	..	..	NE	ENE	..	$\frac{1}{2}$	..	..	..	10	..
20	29·865	58·8	58·0	0·8	..	..	..	..	NE	ENE	..	$\frac{1}{2}$	..	..	..	10	..
22	29·843	60·3	59·5	0·8	58·2	2·1	71·1 58·5	94·0 56·2	ENE	ENE	0 to 1	$\frac{1}{4}$	10·50	0·09	18·518	10	..
Sep. 21. 0	29·818	64·0	61·0	3·0	..	..	..	..	ENE	ENE	0 to $\frac{1}{2}$	$\frac{1}{2}$	..	..	..	$9\frac{1}{2}$	..
2	29·782	65·6	61·4	4·2	..	..	..	..	ENE	E	0 to 1	$\frac{1}{4}$	..	..	..	6	..
4	29·747	63·5	59·7	3·8	59·3	4·2	..	..	ENE	E by N	0 to $\frac{1}{2}$	$\frac{3}{4}$	..	..	..	6	..
6	29·709	60·3	57·6	2·7	..	..	..	..	NE	E by N	..	$\frac{1}{4}$	..	..	..	10	Transit
8	29·688	58·3	57·0	1·3	..	..	..	..	NNE	E by N	..	$\frac{1}{2}$	..	..	..	1	..
10	29·644	57·2	56·5	0·7	55·2	2·0	..	..	Calm	E by N	..	$\frac{1}{4}$	..	..	..	1	..
12	29·590	57·0	55·8	1·2	..	..	..	..	Calm	NE	..	1	..	..	..	3	Greatest Declination S.
14	29·556	56·8	55·7	1·1	..	..	..	..	Calm	NE	..	1	..	..	..	5	..
16	29·529	57·1	55·6	1·5	55·0	2·1	..	..	NE	NE	..	$\frac{1}{2}$	..	..	..	6	..
18	29·521	57·0	55·2	1·8	..	..	..	..	Calm	NE	..	$\frac{1}{2}$	..	..	..	10	..
20	29·515	56·8	56·4	0·4	..	..	..	..	Calm	E	..	$\frac{1}{4}$	..	..	..	10	..
22	29·520	62·8	60·5	2·3	60·0	2·8	68·0 56·5	86·2 53·2	S by E	SW	..	$\frac{1}{4}$	10·75	0·09	18·625	2	..
Sep. 22. 0	29·549	64·5	59·6	4·9	..	..	..	..	SSW	SSW	..	$\frac{1}{4}$	..	..	..	7	..
2	29·549	63·6	58·3	5·3	..	..	..	..	SSW	SSW	0 to $1\frac{1}{2}$	$\frac{1}{4}$	..	..	..	4	1st Qr.
4	29·534	65·0	58·7	6·3	57·5	7·5	..	..	SSW	SSW	..	$\frac{3}{4}$	..	..	..	2	..
6	29·530	61·3	56·6	4·7	..	..	..	..	S	SSW	..	$\frac{1}{2}$	..	..	..	3	Transit
8	29·537	55·7	54·7	1·0	..	..	..	..	Calm	SSW	..	$\frac{1}{4}$	..	..	..	6	..
10	29·534	56·4	55·1	1·3	56·0	0·4	..	..	Calm	SW	..	$\frac{1}{2}$	..	..	..	6	..
12	29·526	56·0	54·5	1·5	..	..	..	..	Calm	SW	..	$\frac{1}{4}$	..	..	..	10	..

Sep. 19d. 22h. Examined the perpendicularity of the barometer.

Sep. 19d. 22h. The highest reading of the barometer during the month.

Sep. 20d, civil reckoning. The mean height of the barometer was greater on this day than on any other day during the month, being 29in·984, as deduced from the two-hourly observations.

Sep. 20d. 18h. Hourly observations commenced. (Vide Section of Term-Day Observations.)

GENERAL REMARKS.	Observer.
Cloudless.	J H
A few light cumuli only.	J H
The zenith only clear; a total obscurity generally prevails.	P
A few stars shining faintly in the zenith; the sky otherwise overcast.	
Overcast: cirro-stratus.	
Cirri in every direction, with a thin cirro-stratus in the horizon.	P
Overcast: cirro-stratus and scud: the scud moves from E. S. E.: at $22^h.\ 15^m$ the clouds were broken in the zenith.	J H
Scud and undefined clouds: breaks in the zenith: the clouds move from E. S. E.	
Ditto ditto: cumuli in the northern horizon: hazy.	J H
A thin cirro-stratus covering most of the sky, and cirri East of the zenith.	P
Overcast: cirro-stratus.	
Ditto ditto.	
Ditto ditto.	P
Ditto ditto: the air very close.	J H
Ditto ditto.	
Ditto ditto.	
Ditto ditto: scud passing rapidly from the E. S. E.	
Ditto ditto: the wind in gusts.	J H
Ditto ditto: the cirro-stratus much thinner to windward; a few drops of rain occasionally falling.	P
Two trifling breaks only East of the zenith.	
Extensive breaks in every part of the sky, with cumulo-strati and scud scattered about indiscriminately.	P
Large masses of scud passing from the S. E.	J H
Scud and undefined clouds.	
Cirro-strati in N.W., otherwise clear.	
Scud and heavy vapour: the stars shine dimly.	J H
Clear, except in the horizon.	G
Alternately clear and cloudy.	
Ditto ditto.	
Overcast.	
Ditto: rain has been falling fast during the last hour which still continues.	G
Cumulo-strati in the N. and round the whole horizon.	D
Large, massive cumulo-strati in every direction.	
Large cumulo-strati in every direction, especially near the horizon.	D
White cumuli: wind in gusts.	J H
Small fragments of scud floating in every direction: cumulo-strati in N.W.	J H
Clouds numerous, principally in the South.	P
Several dark linear clouds in the N. and N.W., and detached black clouds in every other direction; also thick and vapourish, so that the stars are but dimly seen.	G
Overcast: the clouds must be thin, as stars are occasionally seen faintly near the zenith.	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.						
Sep. 22. 14	29·509	55·0	54·1	0·9	..	..	..	..	Calm	SSW	..	½	..	..	..	10	..
16	29·496	53·0	52·8	0·2	53·0	0·0	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·485	54·0	53·7	0·3	..	..	..	..	Calm	S	..	¼	..	..	..	10	..
20	29·506	55·0	53·9	1·1	..	..	..	..	Calm	SW by S	..	1	..	..	..	8	..
22	29·527	58·5	56·4	2·1	54·0	4·5	67·8 53·1	86·3 48·8	Calm	WSW	..	¼	10·75	0·23	18·860	9	..
Sep. 23. 0	29·514	55·2	54·2	1·0	..	..	..	..	Calm	SW	..	¼	..	..	..	10	..
2	29·511	58·8	57·8	1·0	..	..	..	..	Calm	SSW	..	½	..	..	..	9	..
4	29·489	60·6	58·4	2·2	57·3	3·3	..	..	Calm	SSW	..	¼	..	..	..	7	..
6	29·494	58·4	56·2	2·2	..	..	..	..	Calm	SSW	..	¼	..	..	..	8	..
8	29·493	54·6	53·3	1·3	..	..	..	..	Calm	S	..	¼	..	..	..	0	Transit
10	29·492	53·1	52·6	0·5	53·0	0·1	..	..	Calm	Calm	..	..	..	..	..	6	..
12	29·465	54·0	53·2	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·449	55·7	54·7	1·0	..	..	..	..	Calm	SSE	..	¼	..	..	..	10	..
16	29·424	55·0	54·7	0·3	53·3	1·7	..	..	Calm	SSE	..	¼	..	..	..	10	..
18	29·415	53·3	53·0	0·3	..	..	..	..	Calm	SSE	..	¼	..	..	..	10	..
20	29·416	54·0	54·0	0·0	..	..	..	..	Calm	S	..	¼	..	..	..	7	..
22	29·423	56·1	54·8	1·3	55·3	0·8	62·1 53·3	87·0 48·6	Calm	S	..	½	11·43	1·03	19·690	10	..
Sep. 24. 0	29·427	56·5	55·2	1·3	..	..	..	..	SSW	SSW	..	½	..	..	..	10	..
2	29·424	53·7	52·7	1·0	..	..	..	..	SSW	WSW	..	½	..	..	..	9½	..
4	29·416	59·6	55·8	3·8	55·0	4·6	..	..	SW	SSW	..	½	..	..	..	7	..
6	29·436	56·2	52·4	3·8	..	..	..	..	SW	SW	..	½	..	..	..	0	..
8	29·446	52·4	51·0	1·4	..	..	..	..	Calm	SW	..	¼	..	..	..	10	Transit
10	29·425	51·5	50·5	1·0	49·3	2·2	..	..	Calm	SW	..	¼	..	..	..	10	..
12	29·371	53·5	52·5	1·0	..	..	..	..	SE	SE	..	¼	..	..	..	10	..
14	29·315	53·8	52·5	1·3	..	..	..	..	SSE	SSE	..	1	..	..	..	10	..
16	29·306	54·0	52·3	1·7	52·3	1·7	..	..	SSW	SSW	..	1½	..	..	..	8	Apogee
18	29·302	50·8	49·3	1·5	..	..	..	..	SSW	SW by S	..	1	..	..	..	2	..
20	29·291	55·7	53·0	2·7	..	..	..	..	S	SW	0 to 2	¾+	..	..	..	6	..
22	29·326	58·2	55·8	2·4	56·0	2·2	60·9 50·9	72·7 45·7	SSW	SW	0 to 1	½	11·60	0·30	20·015	10	..
Sep. 25. 0	29·342	62·0	57·6	4·4	..	..	..	..	SSW	SSW	1 to 3	½+	..	..	..	5	..
2	29·344	61·4	57·3	4·1	..	..	..	..	SSW	SSW	1 to 3	1—	..	..	..	8	..
4	29·364	61·3	57·7	3·6	56·2	5·1	..	..	SW	SW	0 to 2	1½	..	..	..	4	..
6	29·383	57·3	54·5	2·8	..	..	..	..	SSW	SW	..	1	..	..	..	2	..
8	29·401	54·0	53·0	1·0	..	..	..	..	S	SW	..	½	..	..	..	2	..
10	29·410	53·8	53·0	0·8	51·0	2·8	..	..	Calm	SW	..	½	..	..	..	9	Transit
12	29·409	52·0	51·4	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	29·353	56·5	55·0	1·5	..	..	62·8 50·3	78·5 46·0	Calm	WSW	..	¼	11·72	0·19	20·230	5	..
Sep. 26. 0	29·353	56·4	54·4	2·0	..	..	..	..	SSW	SW	0 to 2	¼	..	..	..	10	..
2	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
6	29·339	55·2	54·2	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	4	..
8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..

Sep. 24^{d}. 14^{h}. 10^{m}. The wind suddenly blew with a pressure of 2lbs. on the square foot; at 15^{m} a pressure of 1lb. continued for a few minutes; between 14^{h}. 20^{m} and 14^{h}. 30^{m} the pressure diminished to ½lb.; then at 14^{h}. 32^{m} it rose generally to 1½lb. and blew with this pressure till 14^{h}. 36^{m}: it then sunk to ½ lb., and by 14^{h}. 40^{m} rose to 3lbs.; at 14^{d}. 45^{m} it sunk to 2lbs.; at 14^{h}. 50^{m} it still decreased to 1½lb., and by 15^{h}. 0^{m} it had decreased to ¾lb., and then blew with a pressure of ½lb. until 15^{h}. 30^{m}; after which no pressure is recorded. During the squall the wind gradually shifted from S. S. E. to S.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and heavy vapour.	J H
Cloudless: light vapour in horizon.	D
Overcast: cirro-stratus and scud.	P
The clouds breaking in the South, and blue sky in the N.: rain began falling at $19^h.3^m$, and still continues.	M
Clouds much broken: the rain ceased about half an hour since: at $21^h.59^m$ a loud clap of thunder was heard in S.S.E.; other claps subsequently.	G
Overcast, with heavy rain.	P
Cumulo-strati and scud, with occasional breaks: the weather threatening to windward.	J H
Cumulo-stratus lining the whole horizon; cumuli, and light scud in large bodies floating slowly from S.W.	P
A thin cloud generally covering the sky: the Sun shining through the cirro-stratus.	G
Cloudless.	J H
Clouds collecting in all parts of the sky, particularly South of the zenith: a short time previous to the observation it was cloudless.	D
Overcast.	P
Ditto: the clouds at times partially clearing away.	
Ditto: a fine steady rain falling.	
Ditto: a heavy shower has just begun falling, a few minutes only prior to which there were breaks in every part of the sky.	
Clouds of an undefinable character scattered indiscriminately over the heavens.	P
Cirro-stratus of a heavy character to windward, a thinner kind covering the sky in other directions.	J H
Cirro-stratus and scud S. of zenith, and heavy nimbi in N. horizon, with stormy appearances elsewhere.	
Cirro-stratus and scud: rain in heavy showers.	J H
Cumulo-stratus and scud: nimbi occasionally passing over.	P
Cloudless.	
Overcast: the clouds came up from the S.W. shortly after the last observation.	
Ditto.	P
Ditto: rain was falling from $10^h.40^m$ to within a few minutes of the observation.	J H
Ditto: heavy showers and strong gusts of wind. [the N.N.W.	
The clouds broken S. of zenith, but more congregated in other directions: a bright, steady, auroral light of about 20° altitude in Scud in the southern horizon, and to windward.	
Clear South of zenith, and cirro-stratus and scud elsewhere: a double rainbow was seen at $19^h.55^m$: the wind in gusts.	J H
Rain falling: showers have been frequent since the last observation.	D
Clear N. of zenith, and large cumulo-strati occupying the whole horizon: wind in gusts.	D
Cumuli and cumulo-strati in horizon, with scud: nimbi constantly passing over.	P
Scattered cumuli and dark masses of scud.	J H
Cirri thin, scattered in every direction.	P
Scud South of zenith: a paraselené visible.	J H
Clear in southern horizon: cirro-stratus and scud elsewhere.	J H
Scud and cirri in North: generally clear in South: stars shining dimly.	D
Heavy rain this morning about 18^h: nearly the whole of the northern portion of the sky clear, and the sky South of zenith nearly covered with cirro-stratus.	G
Overcast: rain falling.	
The rain ceased at $2^h.40^m$: large cumuli and cumulo-strati.	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.						
Sep. 26. 10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	29·304	51·3	50·6	0·7	..	..	..	..	S	S	..	$\frac{1}{4}$	..	..	..	3	..
16	29·284	52·5	51·6	0·9	52·0	0·5	..	..	S	S	..	$\frac{1}{4}$	..	..	..	8	..
18	29·301	52·7	52·4	0·3	..	..	..	..	SW	SW	..	$\frac{1}{4}$	..	..	..	10	..
20	29·343	53·2	52·6	0·6	..	..	..	..	SW	SW	1 to $1\frac{1}{2}$	$\frac{1}{2}$	..	..	..	10	..
22	29·400	55·4	53·5	1·9	52·5	2·9	63·5 51·4	74·0 48·7	WSW	W	0 to $\frac{1}{2}$	$\frac{1}{4}$+	12·02	0·42	20·630	5	..
Sep. 27. 0	29·454	59·4	56·4	3·0	..	..	..	..	WSW	W by S	..	$\frac{3}{4}$	..	..	..	6	..
2	29·460	62·8	56·4	6·4	..	..	..	..	WSW	W by S	$\frac{1}{2}$ to 3	$\frac{3}{4}$	..	..	..	5	..
4	29·466	62·1	57·3	4·8	58·0	4·1	..	..	WSW	WSW	..	$\frac{1}{2}$	..	..	..	5	..
6	29·482	57·2	54·6	2·6	..	..	..	..	SSW	SSW	..	$\frac{1}{4}$	..	..	..	8	..
8	29·469	55·1	53·8	1·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	29·446	56·4	54·6	1·8	55·0	1·4	..	..	S by E	SSW	0 to 1	$\frac{1}{2}$+	..	..	..	10	Transit
12	29·387	55·0	54·3	0·7	..	..	..	..	S by E	SSW	1 to 3	$2\frac{1}{2}$	..	..	..	10	..
14	29·327	57·5	56·0	1·5	..	..	..	..	S by E	SSW	$2\frac{1}{2}$ to $3\frac{1}{2}$	2	..	..	..	10	..
16	29·269	57·7	56·7	1·0	56·0	1·7	..	..	S	SSW	3 to $4\frac{1}{2}$	2	..	..	..	10	..
18	29·229	57·0	56·5	0·5	..	..	..	..	S by W	SSW	$3\frac{1}{2}$ to 5	3	..	..	..	10	..
20	29·211	58·6	58·0	0·6	..	..	..	..	SSW	SSW	$1\frac{1}{2}$ to 5	3	..	..	..	10	..
22	29·247	55·9	54·5	1·4	53·2	2·7	64·2 55·3	82·0 51·3	SSW	SW	1 to 2	1	12·23	0·31	20·989	10	..
Sep. 28. 0	29·246	59·0	58·2	0·8	..	..	..	..	S	S by E	..	$\frac{1}{2}$	..	..	..	10	..
2	29·216	61·0	59·9	1·1	..	..	..	..	SSW	S	0 to $2\frac{1}{2}$	$1\frac{1}{2}$	..	..	..	10	..
4	29·186	62·8	61·7	1·1	60·0	2·8	..	..	SSW	SW	2 to 4	$1\frac{1}{2}$	..	..	..	10	..
6	29·176	63·4	60·8	2·6	..	..	..	..	SSW	SW	1 to $2\frac{1}{2}$	$1\frac{1}{2}$	..	..	..	5	..
8	29·107	62·5	59·5	3·0	..	..	..	..	S	SW	$\frac{1}{2}$ to 2	$\frac{1}{2}$	..	..	..	10	..
10	29·058	64·5	59·3	5·2	58·3	6·2	..	..	S by E	SW	2 to 4	$\frac{3}{4}$	..	..	..	10	..
12	28·983	65·5	59·7	5·8	..	..	..	..	S	S	4 to 7	3+	..	..	..	10	Transit
14	28·985	64·2	59·7	4·5	..	..	..	..	SSW	SW	4 to 7	3	..	..	..	9	..
16	29·000	59·2	55·5	3·7	54·0	5·2	..	..	SW	SW	5 to 6	3	..	..	..	0	..
18	29·008	56·2	55·5	0·7	..	..	..	..	SSW	SW	1 to 5	3	..	..	..	10	..
20	29·055	56·5	53·6	2·9	..	..	..	..	SSW	SW	$3\frac{1}{2}$ to 5	$2\frac{1}{2}$	..	..	..	5	..
22	29·099	60·3	55·8	4·5	55·9	4·4	65·9 54·8	70·0 50·8	SSW	SW	3 to 4	$2\frac{1}{2}$	12·29	0·06	21·100	6	..
Sep. 29. 0	29·154	61·4	57·0	4·4	..	..	..	..	SW	SW	$2\frac{1}{2}$ to 5	3	..	..	..	$8\frac{1}{2}$	In Equator
2	29·171	63·5	58·5	5·0	..	..	..	..	SW	SW	4 to 5	$2\frac{1}{2}$	..	..	..	5	..
4	29·213	61·0	57·0	4·0	56·0	5·0	..	..	SW	SW	3 to 4	3	..	..	..	10	..
6	29·250	57·6	55·2	2·4	..	..	..	..	SW	SW	2 to $3\frac{1}{2}$	2	..	..	..	10	..
8	29·284	56·1	53·3	2·8	..	..	..	..	SW	SW	2 to 3	2	..	..	..	1	..
10	29·288	55·5	53·1	2·4	53·0	2·5	..	..	SW	SW	0 to $\frac{1}{2}$	1	..	..	..	10	..
12	29·284	55·3	54·4	0·9	..	..	..	..	SSW	SSW	..	1	..	..	..	10	Transit
14	29·245	56·1	55·2	0·9	..	..	..	..	SSW	SSW	..	1	..	..	..	10	..
16	29·136	55·4	54·7	0·7	53·0	2·4	..	..	S	SSW	..	$\frac{3}{4}$	..	..	..	10	..
18	29·091	54·5	53·9	0·6	..	..	..	..	SSE	SW	..	$\frac{3}{4}$	..	..	..	10	..
20	29·081	56·0	55·3	0·7	..	..	..	..	SSE	SSW	0 to 2	$\frac{1}{2}$	..	..	..	10	..
22	29·099	61·3	59·6	1·7	61·0	0·3	63·8 54·6	76·2 50·1	SSW	SSW	0 to 2	$\frac{1}{2}$	12·54	0·26	21·330	10	..

Sep. 27d. 8h— to 28d. 12h+. With the exception of a few breaks at 28d. 6h, this period was cloudy throughout, and it is the longest interval in the month without any clear sky.

Sep. 28d. Extra observations were taken. (Vide Section of Extraordinary Observations.)

Sep. 28d. 11h. A pressure of 8lbs. on the square foot at the Anemometer.

Sep. 28d. 12h. This is the lowest reading of the barometer during the month.

Sep. 28d. 13h. 5m. Wind in gusts, recording a pressure of 12lbs. on the square foot at the Anemometer.

GENERAL REMARKS.	Observer.
A large black cloud coming up from the West: vapour around the whole horizon.	D
Clear only in the zenith, the stars there shining but dimly: rain has just begun falling.	
Overcast: a steady rain falling.	
Ditto: wind in gusts.	D
Cirro-stratus lining the whole horizon, with cumulo-stratus in N.W., and light scud in zenith.	P
Cumulo-stratus and scud: the sky still unsettled.	J H
Ditto ditto: wind in gusts.	J H
Ditto ditto.	D
A small portion only of the sky clear East of the zenith.	
Overcast: cirro-stratus.	
Ditto ditto: rain falling, and wind in gusts.	D
Ditto: rain falling, and wind very violent.	P
Ditto: occasional lulls in the wind.	
Ditto ditto: a few drops of rain falling.	
Ditto and rain.	
Ditto: cirro-stratus and scud.	P
Ditto ditto: steady rain.	J H
Overcast: cirro-stratus and scud, and small rain.	
Ditto ditto: rain falling: the wind in gusts.	J H
Ditto: rain falling: the wind in heavy gusts, but somewhat steadier.	P
Breaks in every direction: cirro-cumuli and cirri in zenith, with clouds of an undefinable character in other parts of the sky.	
Overcast: there are, however, occasional breaks: the cirro-stratus is thin, as the Moon's place is visible, and her limb distinct: a slight lunar halo was seen about 10^m prior to the observation.	
Overcast; a dense cirro-stratus.	P
A gale of wind, and gusts to 4: the night warm, with a rising temperature and a rapidly falling barometer: the clouds are collected in knots, and diverging from a center: dark nimbi in the South, mixed with cirro-stratus and scud.	G
Wind as before: scud flying rapidly, and clouds broken about the Moon: the night extremely mild.	
The gale still continues. Since the last observation large masses of cloud have passed over: within the last quarter of an hour the clouds have entirely passed away.	
Overcast: the sky remained clear but a very short time: about 10^m since a violent shower fell.	
Clear and cloudy alternately: scud passing rapidly from the S.W.; also, a very perfect and splendid rainbow.	G
Scud passing over rapidly: the wind in strong gusts.	J H
The sky principally covered with a loose scud passing quickly from the S.W.: the wind in gusts.	
Scud and fleecy clouds: wind in gusts.	J H
The sky quite covered with scud: wind in gusts to $3\frac{1}{2}$.	G
Ditto: the wind less violent: about $4^h.\ 40^m$ a heavy shower of rain fell.	
Nearly cloudless, there being a few clouds only in the S.W.	
Large masses of dark scud passing quickly from the S.W.: the Moon is seen as the scud occasionally breaks, and it would seem from this that there is no upper cloud: at $10^h.\ 10^m$ a perfect lunar halo of about 60° diameter.	G
Overcast: cirro-stratus and scud, and a thin rain.	J H
Ditto: the air very cold.	
Ditto: heavy rain: a rapid fall of the barometer.	
Ditto: steady rain.	
Ditto: cirro-stratus: slight rain: the wind has lulled since $15^h.\ 40^m$.	J H
Ditto ditto: rain.	D

Sep. $28^d.\ 20^h.\ 10^m$. Wind in gusts to 8lbs.; between $20^h.\ 22^m$ and $20^h.\ 30^m$ the wind lulled to $\frac{1}{2}$ lb.

Sep. $28^d.\ 20^h.\ 30^m$ to $20^h.\ 45^m$. The wind blew with a pressure varying from 4lbs. to $4\frac{1}{2}$lbs. on the square foot.

Sep. $28^d.\ 20^h.\ 45^m$ to $21^h.\ 0^m$. A pressure varying from 8lbs. to 10lbs.; it then decreased to $1\frac{1}{2}$lb., and five minutes afterwards increased to 8lbs.; and between $21^h.\ 0^m$ and $21^h.\ 50^m$, the pressure varied from 4lbs. to 7lbs.

Sep. 29^d, civil reckoning. The mean height of the barometer was less on this day than on any other day during the month, being $29^{in}.149$, 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.						
Sep. 30. 0	29·092	63·5	61·0	2·5	..	..	..	..	SSW	SSW	2 to 3	1	..	..	..	10	..
2	29·081	62·1	58·8	3·3	..	..	..	..	SSW	SSW	3 to 5	2	..	..	..	10	..
4	29·113	62·3	59·2	3·1	57·5	4·8	..	..	WSW	SW	3 to 3½	1	..	..	..	8	Full.
6	29·196	57·1	54·9	2·2	..	..	..	..	WSW	WSW	..	¾	..	..	..	4	..
8	29·264	54·0	52·8	1·2	..	..	..	..	SW	WSW	..	½	..	..	..	½	..
10	29·304	53·8	52·2	1·6	52·0	1·8	..	..	Calm	WSW	..	½	..	..	..	8	..
12	29·331	51·0	50·4	0·6	..	..	..	..	Calm	SW	..	¼	12·54	0·00	21·340	1	Transit
14	29·348	50·6	50·6	0·0	..	..	..	..	Calm	SSW	..	¼—	..	..	..	5	..
16	29·332	50·6	50·6	0·0	50·0	0·6	..	..	Calm	SSW	..	¼	..	..	..	9	..
18	29·328	50·7	50·6	0·1	..	..	..	..	Calm	SSW	..	¼	..	..	..	10	..
20	29·327	54·2	53·8	0·4	..	..	..	..	Calm	SSW	..	¼	..	..	..	10	..
22	29·327	57·3	56·7	0·6	55·0	2·3	63·6 50·5	71·8 46·4	Calm	SSW	..	¼—	12·54	0·05	21·393	9	..
Oct. 1. 0	29·335	56·9	57·3	−0·4	..	..	..	..	Calm	WNW	..	¼	..	..	..	10	..
2	29·344	60·7	59·3	1·4	..	..	..	..	SSW	SW by W	..	½	..	..	..	8	..
4	29·371	57·8	57·4	0·4	57·5	0·3	..	..	SW	SW	..	¼	..	..	..	10	..
6	29·384	56·1	55·2	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	29·425	54·6	54·5	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	29·466	53·1	52·7	0·4	53·0	0·1	..	..	NNW	Calm	..	..	..	..	..	10	..
12	29·516	52·5	52·2	0·3	..	..	..	..	WSW	W	..	¼	..	..	..	10	..
14	29·547	50·1	50·0	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	2	Transit
16	29·566	49·4	49·2	0·2	49·0	0·4	..	..	SW	Calm	..	..	..	..	..	10	..
18	29·594	46·5	46·2	0·3	..	..	..	..	SW	Calm	..	..	..	..	..	1	..
20	29·619	47·0	46·6	0·4	..	..	..	..	SW	Calm	..	..	..	..	..	2	..
22	29·665	51·5	49·2	2·3	48·8	2·7	64·6 45·9	80·2 42·3	SW	WSW	..	½	12·82	0·44	21·663	0	..
Oct. 2. 0	29·666	57·7	53·4	4·3	..	..	..	..	WSW	WSW	..	½	..	..	..	½	..
2	29·662	59·0	52·2	6·8	..	..	..	..	Calm	W	..	¼	..	..	..	4	..
4	29·655	58·7	54·0	4·7	51·0	7·7	..	..	Calm	Calm	..	..	..	..	..	2	..
6	29·665	55·7	52·7	3·0	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
8	29·667	50·9	49·8	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
10	29·684	50·0	49·2	0·8	47·5	2·5	..	..	Calm	Calm	..	..	..	..	..	8	..
12	29·674	48·3	47·1	1·2	..	..	..	..	Calm	Calm	..	..	..	..	..	6	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	62·5 42·3	83·3 39·8	N	...	..	..	12·82	0·00	21·663	..	..
Oct. 3. 0	29·687	52·0	50·3	1·7	..	..	..	..	Calm	NNE	..	¼	..	..	..	10	..
2	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
4	29·681	54·6	52·6	2·0	..	..	..	..	NNE	Calm	..	..	..	..	..	10	..

Sep. 30d. Crosley's gauge failed to register the rain; the water, however, had been collected, and was passed through the gauge again, the number of times the bucket fell being counted, and added to its previous reading.

Sep. 30d. 12h. The amount of rain collected during the month of September, in rain-gauge No. 4, was 3in·95.

Oct. 1d. The highest reading of the thermometer during the month took place on this day.

Oct. 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°·4, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and scud: a light drizzling rain.	D
Ditto: wind blowing in heavy gusts.	D
Cirro-stratus and scud: a heavy nimbus in N.W.: breaks in the zenith.	J H
Ditto ditto: the wind in gusts.	
Since the last observation the clouds have gradually disappeared, and it is now cloudless, with the exception of a few small undefined clouds in the N.W.: the clouds moved from the West at $6^h.40^m$.	
At $9^h.20^m$ a very perfect lunar halo, the prismatic colours being exceedingly vivid: within the halo was a coloured corona about 3° from the Moon; the halo was about 24° in diameter: at present fleecy clouds cover a great portion of the sky.	J H
A few clouds only, resembling cirro-cumuli, near the southern horizon: another lunar halo, precisely similar to the last, was visible at $11^h.10^m$.	D
At $12^h.20^m$ the sky South of the zenith was covered with fleecy clouds, which, at $12^h.40^m$, had spread themselves over the whole sky: at present they prevail South of the zenith, the northern part of the sky being quite clear.	
A small portion of clear sky North of the zenith; the rest of the sky covered with fleecy clouds.	
Overcast: cirro-stratus and scud: a thin misty rain, which commenced at $17^h.40^m$, is still falling.	
Ditto: a steady rain falling.	D
Breaks in the zenith; scud and fleecy clouds elsewhere.	J H
Overcast: cirro-stratus and scud: rain falling: a thick fog, extending over the N.W., N., and N. E. parts of the Park.	
Scud and undefined clouds: the rain fell heavily until $0^h.55^m$ and then ceased: the fog has also disappeared.	J H
Overcast: a heavy shower ~~shower~~ of rain falling.	D
Ditto: rain.	
Ditto ditto.	
Continued rain since last observation: breaks have appeared South of the zenith.	D
The rain continued till $10^h.25^m$, when the Moon shone till within the last quarter of an hour: the sky was then, and still continues to be covered with scud, moving rapidly from the West.	G
The sky remained overcast for about 15^m, when in two or three minutes every particle of cloud vanished: shortly afterwards a low scud formed and passed at a most rapid rate from the N.W.: other clouds also formed in the higher regions and moved slowly from the West; it was quite calm on the earth's surface at the time: for the last hour clouds have been slowly collecting in the S.W.	
Generally cloudless till $15^h.40^m$, when a large mass of scud covered the sky.	
Generally clear since the last observation: at present a few scattered clouds about the zenith and South of it.	
A few cirri only.	G
Cloudless.	J H
A few small cumuli scattered in various directions: hazy N. and N.W. of the zenith.	
Cumuli principally North of the zenith.	J H
A little cloud to the North: a thick haze covering the sky.	G
The sky principally covered with cloud: a bright streak in the North.	
A thin film of cloud continued spread over the sky till about $7^h.40^m$, when α Aquilæ could just be seen through it, since which time the Moon has become visible, and the clouds are generally breaking.	
It remained nearly clear till $8^h.40^m$, when a cirro-cumulus spread every where: the clouds are thinnest in the zenith and East of it.	G
Cirri and fleecy clouds scattered over the sky: the Moon shining through a thin veil of cloud resembling a cirro-stratus.	J H
Overcast: rain falling.	D
Ditto.	G

Oct. 1d. Examined Crosley's gauge; it was found to fail registering when the index pointed to 0·02; the bucket failed carrying the index to 0·025 next time; the index then came back to 0·02, and so on many times before it advanced to 0·03, &c.

Oct. 2d. Beginning with this day a very marked change took place in the temperature, the mean daily temperatures ranging 7° or 8° lower than they had lately been.

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.						
Oct. 3. 6	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
8	29·655	52·7	51·6	1·1	..	..	..	..	N by E	Calm	..	..	..	..	..	5	..
10	..	..	..	..	..	..	..	..	N by E	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	29·629	51·9	51·7	0·2	..	..	..	..	Calm	NNE	..	$\frac{1}{2}$	..	..	..	10	..
16	29·615	51·4	51·3	0·1	49·5	1·9	..	..	Calm	NNE	..	$\frac{1}{2}$	..	..	..	10	Transit
18	29·590	49·1	49·1	0·0	..	..	..	..	Calm	NE	..	$\frac{1}{2}$	..	..	..	5	..
20	29·588	51·0	50·7	0·3	..	..	..	..	Calm	NE	..	$\frac{1}{2}$—	..	..	..	7	..
22	29·558	56·3	54·5	1·8	53·5	2·8	56·6 49·7	62·4 48·7	Calm	NNE	..	$\frac{1}{4}$	13·05	0·38	21·879	9	..
Oct. 4. 0	29·534	59·0	56·0	3·0	..	..	..	..	N	N by E	..	$\frac{1}{4}$	..	..	..	10	..
2	29·466	59·5	56·4	3·1	..	..	..	..	N	N by E	..	$\frac{1}{4}$	..	..	..	10	..
4	29·413	57·2	55·8	1·4	54·5	2·7	..	..	N	N	..	$\frac{1}{4}$	..	..	..	10	..
6	29·358	55·0	54·3	0·7	..	..	..	..	N by E	ENE	..	$\frac{1}{4}$	..	..	..	$9\frac{1}{2}$	..
8	29·316	54·1	54·0	0·1	..	..	..	..	Calm	ENE	..	$\frac{1}{4}$	..	..	..	10	..
10	29·265	52·0	52·0	0·0	50·8	1·2	..	..	Calm	ENE	..	$\frac{1}{4}$	..	..	..	$9\frac{1}{2}$	..
12	29·204	51·8	51·7	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·129	52·0	51·3	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·083	50·4	50·0	0·4	50·5	—0·1	..	..	Calm	Calm	..	..	..	..	..	10	Transit
18	29·034	50·2	50·0	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·017	49·0	48·6	0·4	..	..	..	..	Calm	S	..	$\frac{1}{4}$	..	..	..	2	..
22	29·016	54·6	52·2	2·4	49·5	5·1	61·3 49·4	79·8 46·3	SSW	SW	..	$\frac{1}{2}$	13·33	0·37	22·079	1	..
Oct. 5. 0	28·998	57·7	53·2	4·5	..	..	..	..	SSW	SW	0 to $1\frac{1}{2}$	$\frac{3}{4}$	..	..	..	3	..
2	28·945	58·5	53·6	4·9	..	..	..	..	SSW	SW	..	$\frac{3}{4}$	..	..	..	2	..
4	28·911	54·7	51·6	3·1	50·5	3·2	..	..	SSW	SSW	0 to $\frac{1}{2}$	$\frac{1}{2}$	..	..	..	7	..
6	28·888	52·6	49·5	3·1	..	..	..	..	S	SSW	..	$\frac{1}{2}$	..	..	..	6	..
8	28·856	49·5	48·8	0·7	..	..	..	..	SSE	S	..	$\frac{1}{4}$	..	..	..	7	..
10	28·812	49·6	49·0	0·6	48·0	1·6	..	..	Calm	S	..	$\frac{1}{2}$	..	..	..	10	..
12	28·769	48·6	48·4	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	28·731	48·5	48·5	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	28·720	48·5	48·5	0·0	48·5	0·0	..	..	Calm	Calm	..	..	..	..	..	10	Transit
18	28·704	46·7	46·6	0·1	..	..	..	..	WSW	Calm	..	..	..	..	..	8	Greatest Declination N.
20	28·712	44·5	44·3	0·2	..	..	..	..	S by W	Calm	..	..	..	..	..	2	..
22	28·711	51·6	49·6	2·0	49·5	2·1	59·9 44·8	75·3 41·7	S by W	SW	0 to $\frac{1}{2}$	$\frac{3}{4}$	13·53	0·27	22·254	7	..
Oct. 6. 0	28·706	58·8	54·3	4·5	..	..	..	..	WSW	SW	0 to $\frac{1}{2}$	$\frac{1}{2}$	..	..	..	8	..
2	28·717	56·2	52·6	3·6	..	..	..	..	WSW	W by N	0 to 1	1	..	..	..	8	..
4	28·728	56·7	52·7	4·0	51·5	5·2	..	..	SW	W by S	..	1	..	..	..	8	..
6	28·762	52·2	50·7	1·5	..	..	..	..	SW	SW	..	1	..	..	..	10	..
8	28·782	50·7	48·9	1·8	..	..	..	..	SW	SW	..	$1\frac{1}{2}$	..	..	..	8	..
10	28·805	47·7	47·2	0·5	47·0	0·7	..	..	SSW	SW	..	1	..	..	..	0	..

Oct. 3d. 22h. Examined the perpendicularity of the barometer.

Oct. 4d and 5d, civil reckoning. The difference between the mean heights of the barometer for these days is 0in·506.

Oct. 5d. 18h. This is the lowest reading of the barometer at the two-hourly observations during the year. The lowest reading during the year took place at 22h. 57m, when the reading was 28in·697; it continued at this reading during twenty-eight minutes. (See Section of Extraordinary Observations.)

Oct. 5d. 1h. 1m. From this time for a quarter of an hour the wind was blowing with a pressure of $2\frac{1}{2}$lbs. on the square foot.

GENERAL REMARKS.	Observer.
The zenith, and the sky East and South of it, free from clouds; cirro-stratus elsewhere.	D
Overcast: a thin rain falling: between $12^h.\ 10^m$ and $13^h.\ 10^m$ the rain was very heavy.	J H
Ditto: cirro-stratus and scud: the rain has ceased.	
Scud flying past the Moon with very great rapidity, but the wind is pretty constant on the surface of the earth: the highest current is E.N.E., but there appears to be another middle current from the N.E. much slower than the lowest one, which is also from the N.E.: coloured coronæ reflected on the passing cloud.	
Scud and cirro-stratus.	J H
Clear breaks in different directions; otherwise overcast.	D
Overcast: cirro-stratus.	
Ditto ditto.	D
Ditto ditto and scud: a slight rain between $3^h.\ 20^m$ and $3^h.\ 40^m$: it again commenced at $3^h.\ 55^m$, and still continues.	J H
Cirro-stratus and scud: breaks in S.W. horizon.	
Overcast: cirro-stratus: rain falling heavily.	
Cirro-stratus and scud: the Moon visible, and the clouds more broken E. of zenith: the rain ceased at $9^h.\ 5^m$.	J H
Overcast.	D
Ditto: rain falling.	
Ditto ditto.	
Ditto ditto.	
The rain ceased at $18^h.\ 25^m$: a clear break then first appeared in the S.W. and extended itself quickly over the sky: at present cumulo-strati and patches of cirri in horizon, and fragments of scud in various directions.	D
A few light cumuli only.	J H
Cumuli and scud; also, a cumulo-stratus in N.W.: the wind in gusts.	
Cumulo-stratus and scud.	J H
Heavy cumulo-strati in N.W., and light sprinklings of rain from low scud.	D
Scud and cumulo-strati in all directions: at $5^h.\ 25^m$ a well-defined and fine coloured parhelion about 20° to the right of the Sun: the clouds around the Sun turbid, as is, indeed, the general appearance of the sky.	
Stars visible in zenith, elsewhere overcast.	D
Overcast: cirro-stratus: rain commenced falling at $9^h.\ 10^m$ and still continues: the sky lighter in S. horizon: a few portions of scud appear beneath the cirro-stratus East of the zenith: the barometer rapidly falling, and the external temperature rising.	J H
Overcast: rain has been falling fast the last two hours, and continues.	G
Ditto: steady rain.	
Ditto: rain still falling, but not quite so heavily.	
The rain ceased about an hour since: the Moon and a few stars faintly shining.	
The clouds continued to disperse until $18^h.\ 40^m$, when the sky was generally clear; it continues so, there being but a few cirri scattered here and there.	
Cumulo-stratus and scud: the sky clear generally South of zenith.	G
Cumulo-stratus and scud: at $0^h.\ 40^m$ the wind rising in gusts, and gradually veering to the North of West.	J H
Ditto ditto: the sky heavy North of zenith: between $1^h.\ 38^m$ and $2^h.\ 0^m$ the surface of the mercury from being decidedly concave became very quickly convex, but is now in its usual state: the wind in gusts, and veering further to the North.	J H
Heavy cumuli all round the horizon: cumulo-strati and scud about every other part of the sky; the scud passing from the West.	G
A faint parhelion at $4^h.\ 15^m$ to the right of the Sun, the clouds below being of a deep orange tint; the rest of the sky is covered with cirro-stratus and scud: a sharp shower of rain fell at about $4^h.\ 40^m$.	
Since the last observation the sky had been tolerably clear till about half an hour since, when the entire sky South of the zenith was covered with clouds: at present, a few stars visible in the North: about five minutes after the observation, cloudless.	
Cloudless: at about $11^h.\ 20^m$ a most vivid flash of lightning was seen, almost due South, illuminating the whole horizon.	G

Oct. $5^d.\ 2^h.\ 20^m$ to $3^h.\ 20^m$. The wind blew with a pressure varying from 1lb to 2lbs. on the square foot, and then suddenly ceased.

Oct. 6^d, civil reckoning. The mean height of the barometer was less on this day than on any other day during the year, being $28^{in}\cdot741$, as deduced from the two-hourly observations.

Oct. $6^d.\ 4^h.\ 40^m$. From this time for about half an hour the wind blew with a pressure varying from 1lb. to 2lbs. on the square foot.

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.						
Oct. 6. 12	28·814	46·4	45·7	0·7	..	..	..	..	SSW	SW	..	¾	..	..	..	¼	..
14	28·830	47·7	47·2	0·5	..	..	..	..	SSW	SW	..	¾	..	..	..	3	..
16	28·832	45·5	45·3	0·2	44·5	1·0	..	..	SSW	SW	..	¾	..	..	..	0	..
18	28·839	46·4	45·2	1·2	..	..	..	..	S	SW	..	¾	..	..	..	3	Transit
20	28·875	47·7	47·2	0·5	..	..	..	..	SSW	SW	..	½	..	..	..	2	..
22	28·904	52·5	50·6	1·9	51·5	1·0	59·9 45·4	77·0 43·0	SSW	SW	..	¼	13·53	0·02	22·262	3	..
Oct. 7. 0	28·921	59·0	54·0	5·0	..	..	..	..	SW	SW	..	¼	..	..	..	5	..
2	28·923	58·5	53·4	5·1	..	..	..	..	SW	SW	0 to 1	¼	..	..	..	6	..
4	28·932	56·5	52·6	3·9	51·0	5·5	..	..	SSW	SW	..	¾	..	..	..	3	..
6	28·941	51·7	50·0	1·7	..	..	..	..	SSW	SW	..	½	..	..	..	3	..
8	28·961	48·5	47·5	1·0	..	..	..	..	Calm	SW	..	½	..	..	..	½	..
10	28·967	48·5	47·5	1·0	46·5	2·0	..	..	S	SW	..	¼	..	..	..	½	3rd Qr.
12	28·954	48·5	48·0	0·5	..	..	..	..	S	Calm	..	..	..	..	..	10	..
14	28·963	46·8	46·6	0·2	..	..	..	..	SSW	SW	..	¼	..	..	..	7	..
16	28·980	47·4	47·2	0·2	47·0	0·4	..	..	WSW	SW	..	¼	..	..	..	10	..
18	29·018	45·9	45·5	0·4	..	..	..	..	SW	SW	..	¼	..	..	..	9	Transit
20	29·044	48·0	47·4	0·6	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
22	29·064	51·0	49·5	1·5	50·5	0·5	60·5 46·0	76·7 43·6	SW	SW	0 to ½	¾	13·59	0·07	22·289	8	..
Oct. 8. 0	29·097	55·0	52·8	2·2	..	..	..	..	WSW	SW	½ to 2½	½	..	..	..	9	..
2	29·124	54·1	51·5	2·6	..	..	..	..	WSW	SW by W	½ to 1½	½	..	..	..	10	..
4	29·162	52·5	50·1	2·4	48·5	4·0	..	..	W by S	W	½ to 1½	1	..	..	..	10	..
6	29·241	51·4	50·0	1·4	..	..	..	..	W by N	W by N	..	¾	..	..	..	10	..
8	29·318	51·2	49·5	1·7	..	..	..	..	W by N	W by N	..	1	..	..	..	10	..
10	29·390	50·0	48·8	1·2	47·0	3·0	..	..	W by S	W	..	¾	..	..	..	3	..
12	29·441	48·2	47·6	0·6	..	..	..	..	WSW	W	..	¼	..	..	..	3	..
14	29·487	47·0	46·4	0·6	..	..	..	..	WSW	Calm	..	..	..	..	..	9	..
16	29·525	46·0	45·2	0·8	45·2	0·8	..	..	WSW	Calm	..	..	..	..	..	5	..
18	29·565	45·6	45·0	0·6	..	..	..	..	SW	NW	..	½	..	..	..	9+	..
20	29·606	47·0	46·5	0·5	..	..	..	..	SW	W	..	¼	..	..	..	10	Transit
22	29·646	49·8	48·7	1·1	47·0	2·8	56·6 45·9	65·3 47·0	SW	W	..	¼	13·60	0·05	22·325	10	..
Oct. 9. 0	29·676	52·8	50·2	2·6	..	..	..	..	WNW	W	..	¼	..	..	..	10	..
2	29·681	54·2	51·3	2·9	..	..	..	..	WSW	W by N	..	¼	..	..	..	8	..
4	29·689	54·5	50·0	4·5	47·0	7·5	..	..	W	W by N	..	¼	..	..	..	8	..
6	29·720	49·7	47·0	2·7	..	..	..	..	W by S	W	..	¼	..	..	..	5	..
8	29·749	47·5	45·0	2·5	..	..	..	..	WSW	Calm	..	..	..	..	..	9+	..
10	29·772	45·6	44·0	1·6	43·0	2·6	..	..	SW	Calm	..	..	..	..	..	9+	..
12	29·781	45·2	43·8	1·4	..	..	..	..	SW	Calm	..	..	..	..	..	9½	..
14	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	S by W	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	S by W	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	S by E	...	..	..	..	..	..	..	Transit
22	..	..	..	..	..	..	56·3 44·2	69·7 39·6	S by W	...	..	..	13·60	0·00	22·325	..	..

Oct. 7d. 18h. The barometer has been below 29in. from October 5d. 0h to the present time, a very unusual circumstance for so low a pressure.

Oct. 8d and 9d, civil reckoning. The difference between the mean heights of the barometer for these days is 0in·404.

Oct. 8d. 22h. The reading of the thermometer, whose bulb is in the parabolic reflector, is higher than the minimum temperature.

GENERAL REMARKS.	Observer.
Small cirri, otherwise clear: at $12^h.55^m$ the sky was generally cloudy.	J H
Fleecy clouds, principally East of zenith; a coloured corona round the Moon.	
Cloudless: gusts of wind.	
Clouds of a fleecy character prevalent: a lunar halo and corona, the former of about 3° radius.	
Scud in every direction: light cirri around the zenith, and cirro-stratus in S. horizon.	J H
Scud and light cirri in various directions.	D
Scud and cumulo-stratus.	
Dark, heavy cumulo-strati in the North, and cumuli and cirri scattered in the southern part of the sky.	D
Cumulo-stratus and scud, principally N.W. and W. of zenith.	J H
Orange-tinted cumuli, and dark masses of scud, of the most singular shapes, more numerous North of the zenith than elsewhere: cumulo-stratus in N.E., and also heavy electrical appearances in the same direction.	
Cirro-stratus near the horizon.	
Cirro-stratus to windward: vapour occasionally obscuring part of the sky: a few slight showers since the last observation.	
Overcast: cirro-stratus: a heavy shower of rain at $10^h.55^m$.	J H
Clear about the Moon, the rest of the sky being covered with cirro-stratus.	D
Overcast; the Moon's place is, however, visible.	
The sky nearly covered with a light scud; the Moon and Venus visible through it.	
Overcast: cirro-stratus.	
Scud and undefined clouds.	D
	J H
Scud and cirro-stratus: gusts of wind to 1.	
Cirro-stratus and scud: the scud has assumed a curled and ragged form: the wind in gusts.	
Overcast, with a quick running scud: rain since the last observation.	J H
Ditto: cirro-stratus and scud.	G
Ditto ditto: the wind in gusts.	J H
Cirro-stratus East of the zenith, and vapour partially obscuring the stars in many other directions.	
The horizon misty and hazy, and vapour in the S.W., so that the stars look small.	G
A few stars only visible in the South, the rest of the sky being overcast.	
The northern part of the sky cloudy, and vapour where it is clear: a lunar halo visible, which has existed about an hour: the distance from the Moon to the inner edge $5^{in}\cdot5$; to the outer edge $5^{in}\cdot9$; radius 11^{in}.	
Clouds of a fleecy texture have prevailed: scud now passing from the North under the Moon, which is just visible.	
Overcast.	G
Ditto: cirro-stratus: a very heavy-looking sky.	J H
Ditto: cirro-stratus and scud: hazy.	
Scud and undefined clouds in zenith and other directions, and large white clouds of the cumulo-stratus character in the N.W.: hazy.	J H
Cumulo-stratus clouds prevail everywhere: the clouds are a little broken about the Sun and S.E. of zenith, in which places a fine blue sky appears.	G
Large dark cirro-stratus in N. horizon: long thin bars of yellow cloud extending from the North of zenith to 60° South of it, and slowly moving from the North: slate-coloured cloud near S. horizon.	
A few stars dimly seen in the zenith, every other part of the sky being overcast.	
Exactly similar to the last observation; no change whatever.	G
Cirro-stratus and scud: a few stars visible at times through small breaks N. and E. of zenith.	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-guage 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.						
Oct. 10. 0	29·732	57·9	54·8	3·1	..	..	..	..	SSW	SSW	1 to 2	¾	..	..	..	10	..
2	29·704	55·3	53·7	1·6	..	..	..	..	S by W	SSW	1 to 2½	1½	..	..	..	10	..
4	..	..	..	..	..	..	..	..	S	...	1 to 4½	..	..	..	..	..	..
6	29·607	54·2	53·2	1·0	..	..	..	..	S by W	W by S	1 to 2½	1	..	..	..	10	..
8	..	..	..	..	..	..	..	..	S by W	...	1 to 2½	..	..	..	..	..	Perigee
10	..	..	..	..	..	..	..	..	S	...	1 to 2	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	S by W	...	½ to 3	..	..	..	..	..	..
14	29·420	55·1	54·7	0·4	..	..	..	..	S	SSW	1½ to 3½	1½+	..	..	..	10	..
16	29·375	56·0	55·5	0·5	53·5	2·5	..	..	S by W	SSW	2 to 3½	1½+	..	..	..	10	..
18	29·382	55·7	55·1	0·6	..	..	..	..	SSW	SSW	½ steadily	1	..	..	..	3	..
20	29·465	50·7	49·4	1·3	..	..	..	..	SW	SSW	..	¾+	..	..	..	3	..
22	29·521	53·2	50·7	2·5	51·5	1·7	58·2 50·8	64·3 47·0	SW	SSW	..	½	13·76	0·29	22·553	2	Transit
Oct. 11. 0	29·524	57·5	51·5	6·0	..	..	..	..	WSW	SW	0 to 1	½	..	..	..	2	..
2	29·503	59·5	53·5	6·0	..	..	..	..	SSW	SW	0 to 1½	½	..	..	..	2	..
4	29·483	56·4	52·0	4·4	49·0	7·4	..	..	S by W	SW	0 to 1	¾	..	..	..	1	..
6	29·452	50·6	49·5	1·1	..	..	..	..	S by W	SSW	..	½	..	..	..	7	..
8	29·414	51·2	49·0	2·2	..	..	..	..	S by W	SSW	..	¾	..	..	..	7	..
10	29·368	50·7	48·9	1·8	48·6	2·1	..	..	S by W	SW	..	¾	..	..	..	7	..
12	29·328	48·0	47·5	0·5	..	..	..	..	SW	SW	0 to 1½	..	..	..	..	10	..
14	29·289	47·7	47·3	0·4	..	..	..	..	S by E	SSW	..	..	..	..	..	..	..
16	29·225	47·1	46·4	0·7	46·0	1·1	..	..	S	S	..	..	..	..	..	..	..
18	29·171	48·5	46·7	1·8	..	..	..	..	S	SSW	0 to 1	..	..	..	..	..	..
20	29·147	48·5	47·8	0·7	..	..	..	..	S	SSW	..	¼	..	..	..	10	..
22	29·113	52·3	51·1	1·2	50·5	1·8	60·1 46·5	79·0 43·3	S	SSW	..	½	14·16	0·57	23·153	7½	Transit
Oct. 12. 0	29·067	51·8	50·6	1·2	..	..	..	..	SW	SW	0 to 2	½	..	..	..	9½	..
2	29·120	50·5	50·0	0·5	..	..	..	..	WNW	NW	½ to 2	¾	..	..	..	9½	..
4	29·224	50·6	49·5	1·1	49·0	1·6	..	..	W	W	½ to 2	½	..	..	..	10	In Equator
6	29·313	50·0	48·6	1·4	..	..	..	..	W by S	W	0 to ½	½	..	..	..	8	..
8	29·387	49·0	47·8	1·2	..	..	..	..	W	W	0 to 1	½	..	..	..	6	..
10	29·447	47·6	45·8	1·8	44·5	3·1	..	..	W by S	W	0 to ½	1	..	..	..	0	..
12	29·506	46·5	45·0	1·5	..	..	..	..	W by S	W	..	1	..	..	..	9	..
14	29·542	44·2	43·3	0·9	..	..	..	..	SW	W	..	½	..	..	..	0	..
16	29·577	44·2	43·6	0·6	43·2	1·0	..	..	WSW	W	..	¼	..	..	..	10	..
18	29·622	46·3	46·0	0·3	..	..	..	..	W	W	..	½	..	..	..	10	..
20	29·704	47·2	45·2	2·0	..	..	..	..	W by N	W by N	..	½	..	..	..	5	..
22	29·782	48·8	44·5	4·3	42·5	6·3	54·7 42·8	63·8 38·0	NW	NW	½ to 4	¾	14·22	0·21	23·275	1	..
Oct. 13. 0	29·840	50·8	45·4	5·4	..	..	..	..	WNW	NW	1 to 4	1	..	..	..	7	Transit
2	29·874	51·9	45·3	6·6	..	..	..	..	W by N	NW	½ to 1	¾	..	..	..	8½	..
4	29·909	51·8	46·7	5·1	43·5	8·3	..	..	W	W	..	½	..	..	..	10	..
6	29·908	49·7	46·2	3·5	..	..	..	..	SSW	W by S	..	¼	..	..	..	10	..
8	29·885	49·4	46·0	3·4	..	..	..	..	SSW	SW	..	½	..	..	..	10	..
10	29·835	50·5	48·9	1·6	48·0	2·5	..	..	SW	SW	½ to 2	1	..	..	..	10	..
12	29·781	52·5	49·5	3·0	..	..	..	..	SW	SW	1½ to 4	1½	..	..	..	9½	..
14	29·757	55·6	54·2	1·4	..	..	..	..	SW	SW	2 to 3½	1½	..	..	..	10	..
16	29·730	55·7	54·5	1·2	52·5	3·2	..	..	SW	SW	1½ to 3½	1½	..	..	..	10	..
18	29·726	55·2	55·0	0·2	..	..	..	..	SW	SW	1½ to 3½	1½+	..	..	..	10	..

Oct. 10d. 18h. 10m. From this time, for ten minutes, the wind blew with a pressure of 5lbs. on the square foot and then suddenly lulled.

Oct. 11d. 22h. Examined the perpendicularity of the barometer.

Oct. 12d and 13d, civil reckoning. The difference between the mean heights of the barometer for these days is 0in·521.

Oct. 12d. 20h. Directly after the observation, the wind began to blow with a pressure of 1lb., and increasing.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and scud: a few drops of rain falling.	J H
Ditto ditto: rain in squalls.	J H
Ditto ditto: upper current S. by W.	G
Overcast: cirro-stratus: rain in squalls, and very strong gusts of wind at intervals.	J H
Ditto: cirro-stratus and scud: the gusts of wind very heavy.	
Cirro-stratus and scud: the wind has somewhat subsided, and is blowing more steadily.	
Scud floating over from the S.W., and small undefined clouds near S. horizon.	J H
Small fragments of scud passing over from the S.W.	D
Light cumuli scattered in all directions.	
Ditto ditto.	D
Ditto ditto: wind in gusts.	J H
Scud and cirro-stratus: heavy to windward: there have been heavy showers at intervals since the last observation: a double rainbow also at $4^h.\ 30^m$.	
Scud and heavy cirro-stratus: from $8^h.\ 20^m$ to $9^h.\ 40^m$ showers at intervals.	
Alternately clear and cloudy, or nearly so: at $10^h.\ 6^m$ heavy showers.	J H
Raining very hard: completely overcast: the rain comes on at intervals in very heavy showers.	M
It has rained incessantly since the last observation: at present the rain has ceased: the stars are shining brightly, and the wind is light.	
A shower a few minutes since: it is now very fine.	
Clouds and rain have come on suddenly: previously fine for some time: blowing hard.	M
Overcast: steady rain.	D
Scud and light clouds of the cumulous character.	J H
Scud and cirro-stratus: showers at intervals.	
Ditto ditto ditto.	J H
Overcast: ditto.	D
Large clear breaks in the N.W.; every other part of the sky covered with a thin scud.	
The greater part of the sky North of the zenith clear; the stars, however, are looking waterish: the sky South of the zenith overcast.	
The sky became cloudless at $8^h.\ 55^m$, and continues so.	D
The sky remained clear till within the last half hour, when clouds collected on all sides and now a few stars only are visible in	G
The clouds mentioned in the last observation continued but a very short time: it is now cloudless. [zenith.	
The clouds came up about $14^h.\ 40^m$, and now not a star is visible.	
Cirro-stratus and scud.	
The sky cleared again at $18^h.\ 40^m$: at $19^h.\ 10^m$ scud came up from the North, and still continues to pass from the same quarter; the upper current is therefore North: cumuli are forming round the horizon.	G
Light cirri: the upper current due North.	J H
Scud and undefined clouds.	
Scud and cumuli, with undefined clouds.	J H
Scud passing from N. by E.; stratus clouds generally, particularly about the Sun, whose place is just visible.	G
The sky covered with scud and strati	
Overcast: a few drops of rain falling.	
Ditto.	G
Cirro-stratus and heavy vapour: a few stars occasionally visible: the wind increasing, and in strong gusts.	J H
Cirro-stratus: the wind in frequent and heavy gusts.	
Ditto. ditto.	
Ditto: rain falling.	

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.						
Oct. 13. 20	29·716	56·3	55·3	1·0	..	..	..	..	SW	WSW	3 constant	1½+	..	..	..	9½	..
22	29·717	59·0	57·1	1·9	57·5	1·5	58·1 49·4	61·5 46·0	SW	WSW	3½ to 4	1½+	14·22	0·00	23·300	8	..
Oct. 14. 0	29·713	63·5	58·0	5·5	..	..	..	..	WSW	WSW	5 steadily	2	..	..	..	7	Transit
2	29·714	61·7	57·0	4·7	..	..	..	..	WSW	WSW	1 to 4	1½	..	..	..	7	..
4	29·689	59·0	55·8	3·2	55·6	3·6	..	..	WSW	WSW	1½ to 4½	1	..	..	..	7	..
6	29·679	56·3	53·5	2·8	..	..	..	..	SSW	WSW	..	¾	..	..	..	10	New
8	29·642	55·7	53·8	1·9	..	..	..	..	SW	WSW	½ to 3	1	..	..	..	6	..
10	29·591	54·9	52·5	2·4	52·5	2·4	..	..	SW	WSW	½ to 4½	¾	..	..	..	10	..
12	29·524	54·5	52·2	2·3	..	..	..	..	SW	WSW	3 to 5	1½+	..	..	..	10	..
14	29·463	54·5	52·8	1·7	..	..	..	..	SW	WSW	2 to 4½	2	..	..	..	10	..
16	29·388	54·7	53·8	0·9	53·0	1·7	..	..	SW	WSW	3 to 5	2	..	..	..	5	..
18	29·373	54·0	50·5	3·5	..	..	..	..	WSW	WSW	3 to 4	1½	..	..	..	4	..
20	29·374	53·0	50·4	2·6	..	..	..	..	WSW	WSW	2½ to 8	1½	..	..	..	7	..
22	29·405	55·4	52·0	3·4	50·5	4·9	63·5 52·4	76·2 48·3	WSW	WSW	3 to 5	1½	14·22	0·00	23·315	8	..
Oct. 15. 0	29·435	57·4	51·7	5·7	..	..	..	..	WSW	WSW	3 to 4½	1½	..	..	..	6	Transit
2	29·464	57·0	52·2	4·8	..	..	..	..	W by S	WSW	2 to 3	1	..	..	..	8	..
4	29·496	56·6	51·8	4·8	51·6	5·0	..	..	W by S	W	1 to 3	1½	..	..	..	9	..
6	29·567	53·3	49·3	4·0	..	..	..	..	WNW	WNW	0 to 3½	1½	..	..	..	9	..
8	29·641	48·5	46·3	2·2	..	..	..	..	W	W	..	½+	..	..	..	1	..
10	29·697	47·6	44·6	3·0	43·0	4·6	..	..	W by S	W	..	1	..	..	..	8	..
12	29·711	45·8	43·4	2·4	..	..	..	..	W by S	W	..	¾	..	..	..	2	..
14	29·715	42·7	41·2	1·5	..	..	..	..	WSW	W	..	½	..	..	..	1	..
16	29·667	43·5	42·1	1·4	41·0	2·5	..	..	SW	W	..	½	..	..	..	10	..
18	29·627	45·5	44·8	0·7	..	..	..	..	SSW	W	..	½	..	..	..	10	..
20	29·489	46·1	45·8	0·3	..	..	..	..	S by E	SW	..	¼	..	..	..	10	..
22	29·330	52·4	51·9	0·5	51·0	1·4	58·0 42·1	70·3 35·1	S by W	SW	3 to 4	1+	14·57	0·49	23·570	10	..
Oct. 16. 0	29·294	55·2	55·0	0·2	..	..	..	..	WSW	WSW	2 to 3	1½	..	..	..	10	..
2	29·238	57·5	55·7	1·8	..	..	..	..	WSW	WSW	2 to 3	¾+	..	..	..	10	Transit
4	29·227	57·3	54·4	2·9	52·0	5·3	..	..	WSW	W	2 to 3	¾	..	..	..	10	..
6	29·267	54·5	50·7	3·8	..	..	..	..	W by S	W	1 to 2	1½	..	..	..	7	..
8	29·304	52·8	49·5	3·3	..	..	..	..	WSW	W	1 to 2	1½	..	..	..	9	..
10	29·358	51·3	48·5	2·8	47·0	4·3	..	..	W	W	0 to ½	1—	..	..	..	0	..
12	29·437	50·2	46·7	3·5	..	..	..	..	WNW	NW	..	1	..	..	..	2	..
14	..	..	..	..	..	..	..	..	W by N	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	S by W	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	58·1 44·2	65·0 36·0	SSW	...	1½ to 3	..	14·57	0·05	23·680	..	..
Oct. 17. 0	29·361	57·7	55·9	1·8	..	..	..	..	SW	W	2 to 5	1½	..	..	..	10	..
2	..	..	..	..	..	..	..	..	WSW	...	2½ to 10	..	..	..	..	..	Transit
4	29·364	54·2	48·7	5·5	..	..	..	..	WSW	W	1½ to 8	2+	..	..	..	1	..
6	..	..	..	..	..	..	..	..	WSW	...	2 to 4	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	SW	...	1 to 4½	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	SW	...	4 to 9	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SW	...	4½ to 12	..	..	..	..	..	..

Oct. 14d. From the beginning of the month to the present time 2in·68 of rain have been collected in the gauge No. 4, and Crosley's gauge has registered only 1in·98, so that it has failed to register 0in·7 of rain in the fourteen days.

Oct. 16d. 0h. 50m. Gusts of wind to 5lbs. pressure on the square foot.

Oct. 17d. 1h. 10m. A pressure of 12lbs. on the square foot.

GENERAL REMARKS.	Observer.
Ditto: scud passing rapidly, at a low elevation, from W. S.W.	J H
Light scud passing over rapidly: several clear breaks south of zenith.	D
Cumulo-stratus and scud: a gale of wind.	
Ditto ditto.	D
Cirro-stratus and scud: a gale of wind: the upper current is N. of W., and the lower W. S.W.	J H
Ditto ditto: the wind has much subsided.	
Cirro-stratus and vapour: less cloud East of the meridian: the wind is again rising.	
Ditto ditto: wind in gusts.	J H
Overcast: the sky very black: heavy gusts of wind, which appear to be gradually increasing.	D
Ditto: cirro-stratus.	
Large black masses of cirro-stratus in different parts of the sky: zenith quite clear: at $14^h.\ 20^m$ a few drops of rain fell.	
The zenith and the sky north of it quite free from cloud: cirro-stratus in the S. and E., more particularly near the horizon.	
Scud in fragments passing over rapidly from W. S.W.: dark, heavy, undefined clouds, N. and E. of the zenith, and also in the whole horizon.	D
Fleecy clouds and scud: heavy gusts of wind.	J H
Cumuli and fleecy clouds: ditto.	
Cirro-stratus and scud, and cumuli N. of the zenith: wind in gusts.	J H
Ditto ditto: a few patches of blue sky here and there.	D
Ditto ditto: clear in the N.W. horizon.	
Vapour in the south-eastern horizon; every other part of the sky quite clear.	
Cirro-stratus and vapour.	D
Cloudless, except a few strati in the North, and a little vapour also in the North.	G
A thin vapour collects and disperses alternately.	
Overcast: the clouds came up at $15^h.\ 10^m$, and completely covered the sky.	
Rain has been falling this last hour, and continues falling fast.	
Steady incessant rain: a rapidly falling barometer.	G
Cirro-stratus and scud: stormy gusts of wind: rain at times and squalls: a rapidly-falling barometer.	J H
Overcast: cirro-stratus and scud: small rain: the wind blowing in gusts.	
Ditto ditto.	J H
Ditto ditto.	G
Bright breaks to windward: the clouds move from the N.W.: wind in gusts.	
A few stars at present glimmering South of the zenith: a few minutes before the observation the sky was totally overcast.	G
Cloudless.	J H
Vapour and cirro-stratus: occasionally the sky is nearly overcast.	J H
Overcast.	G
The sky remained overcast until about 2^h: the scud previously passing alternately from W. to N.W.; several cross currents appeared in the higher regions, varying from W. to S.	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 Cloud: 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.						
Oct. 17. 14	29·255	49·3	46·2	3·1	..	..	..	..	SW	SW	5 to 7	2	..	..	..	8	..
16	29·264	48·8	46·2	2·6	43·0	5·8	..	..	WSW	SW by W	4 to 5½	2½	..	..	..	2	..
18	29·289	51·3	46·3	5·0	..	..	..	..	WSW	WSW	8 to 16	2½+	..	..	..	6	..
20	29·431	50·3	45·2	5·1	..	..	..	..	W by S	W by N	4 to 9	2½	..	..	..	1	..
22	29·574	51·2	45·6	5·6	43·0	8·2	60·2 ~~51·5~~	76·3 38·6	W by N	W by N	5 to 9	2½	14·57	0·00	23·680	3	..
Oct. 18. 0	29·698	51·1	45·0	6·1	..	..	..	..	WNW	WNW	2 to 5	2	..	..	..	1	..
2	29·745	51·5	45·1	6·4	..	..	..	..	WNW	WNW	0 to 1	1—	..	..	..	3	..
4	29·773	51·9	44·7	7·2	39·5	12·4	..	..	W	WNW	0 to 1	¾	..	..	..	2	Transit
6	29·794	47·8	44·5	3·3	..	..	..	..	SW	WNW	..	½	..	..	..	9½	..
8	29·788	46·1	43·2	2·9	..	..	..	..	SW	WNW	..	½	..	..	..	3	..
10	29·747	45·6	43·6	2·0	42·5	3·1	..	..	Calm	WSW	..	¼	..	..	..	10	..
12	29·659	45·3	44·0	1·3	..	..	..	..	SSE	Calm	..	..	..	..	..	10	..
14	29·523	45·5	45·1	0·4	..	..	..	..	SSE	S	..	¼	..	..	..	10	..
16	29·404	47·3	46·3	1·0	47·0	0·3	..	..	SSW	S	..	½	..	..	..	5	..
18	29·354	47·2	46·2	1·0	..	..	..	..	...	WSW	..	¼	..	..	..	10	..
20	29·380	47·4	46·5	0·9	..	..	..	..	WSW	WSW	..	¼	..	..	..	9	Greatest Declination S.
22	29·489	44·2	43·8	0·4	40·5	3·7	54·1 44·7	69·4 40·2	NW	WNW	4 to 6	¾	15·02	0·50	23·980	9½	..
Oct. 19. 0	29·625	43·1	41·1	2·0	..	..	..	..	NNW	WNW	1 to 2½	¾	..	..	..	9½	..
2	29·694	48·3	42·7	5·6	..	..	..	..	NW	WNW	0 to 1	¾	..	..	..	3	..
4	29·757	49·3	44·4	4·9	43·0	6·3	..	..	W by N	WNW	0 to ½	½	..	..	..	6	Transit
6	29·804	44·9	41·8	3·1	..	..	..	..	W by S	W	..	¼	..	..	..	0	..
8	29·840	42·6	40·8	1·8	..	..	..	..	WSW	W	..	½	..	..	..	0	..
10	29·861	41·9	40·2	1·7	41·0	0·9	..	..	WSW	W	..	¼	..	..	..	0	..
12	29·880	41·5	39·5	2·0	..	..	..	..	WSW	SW	..	½	..	..	..	0	..
14	29·882	41·1	39·2	1·9	..	..	..	..	SW	SW	..	½	..	..	..	0	..
16	29·843	41·5	40·0	1·5	39·0	2·5	..	..	SW	SW	0 to ½	½	..	..	..	0	..
18	29·830	41·8	40·3	1·5	..	..	..	..	SW	SW	..	½	..	..	..	0	..
20	29·824	41·0	40·0	1·0	..	..	..	..	SSW	SW	..	½	..	..	..	½	..
22	29·796	48·5	45·9	2·6	43·5	5·0	49·5 40·1	58·5 33·4	SW	SW by W	0 to 1½	½	15·02	0·00	23·980	0	..
Oct. 20. 0	29·761	51·9	47·7	4·2	..	..	..	..	WSW	SW by W	1½ to 3½	¾	..	..	..	1½	..
2	29·713	52·6	48·1	4·5	..	..	..	..	SW	WSW	0 to 1	½	..	..	..	1	..
4	29·671	50·7	48·1	2·6	45·5	5·2	..	..	SW	WSW	..	¾	..	..	..	1	..
6	29·625	47·0	44·6	2·4	..	..	..	..	SW	WSW	0 to 2	½	..	..	..	2	Transit
8	29·568	45·8	44·2	1·6	..	..	..	..	SSW	WSW	1½ to 4	½+	..	..	..	1	..
10	29·522	46·2	45·6	0·6	43·5	2·7	..	..	SW	SW	3 to 7	2	..	..	..	0	..
12	29·481	48·3	48·3	0·0	..	..	..	..	SW	SW	2 to 5½	3	..	..	..	10	..
14	29·516	43·8	43·5	0·3	..	..	..	..	WSW	SW	0 to 1½	1½	..	..	..	10	..
16	29·546	40·8	38·0	2·8	35·0	5·8	..	..	WSW	SW	½ to 2	¾	..	..	..	½	..
18	29·589	38·0	35·2	2·8	..	..	..	..	WSW	SW	0 to 1	½	..	..	..	0	..
20	29·667	38·8	36·1	2·7	..	..	..	..	WSW	W	0 to 2	1	..	..	..	1	..
22	29·765	42·0	38·5	3·5	37·0	5·0	54·3 36·9	69·3 29·0	WNW	NW	0 to 2	1	15·02	0·00	23·980	5	..
Oct. 21. 0	29·846	44·7	39·8	4·9	..	..	..	..	WNW	WSW	1 to 2	½	..	..	..	4	..
2	29·896	46·8	41·2	5·6	..	..	..	..	WNW	WNW	1½ steady	½	..	..	..	3	..
4	29·934	44·3	39·5	4·8	35·5	8·8	..	..	W by N	WNW	..	¼+	..	..	..	7	..

Oct. 17d. 14h. 20m. A pressure of 12lbs., and at 14h. 45m a pressure of 14lbs.; it decreased to 5lbs. at 14h. 50m; increased to 7lbs. at 15h. 0m; between 15h. 0m and 15h. 10m, a constant pressure of 2½lbs.; it increased to 7lbs. at 15h. 12m; and for twenty minutes there was a pressure between 5lbs. and 10lbs.; at 15h. 35m a pressure of 13lbs.; by 15h. 40m it had decreased to 4lbs.

Oct. 17d. 17h. For twenty minutes after this there was a constant pressure of 12lbs.

Oct. 17d. 17h. 40m. A pressure of 18lbs. on the square foot.

Oct. 17h. 21h. 40m. A pressure of 15lbs. on the square foot.

Oct. 17d. 22h. After this a nearly steady wind with a pressure of 5lbs. with occasional gusts to 10lbs on the square foot.

Oct. 18d. The afternoon's tide on this day was very remarkable; one hour before the time of high water the river Thames had flowed above its ordinary level, and it was one hour after the time of high water by the tables before the water began to subside. The water flowed up the principal street in Greenwich to a distance of about 450 feet from the river's side, and to this extent was deep enough to float a large boat.

GENERAL REMARKS.	Observer.
Vapour and cirro-stratus: very heavy gusts of wind.	J H
Cirro-stratus and scud: ditto.	
Scud moving from West: the wind in very violent gusts.	
Scud moving rapidly from W. N.W.: the gusts stronger: during the whole of the night to $18^h.\ 40^m$, many meteors were seen when the sky partially cleared.	J H
Scud passing rapidly before the wind.	D
Small fragments of scud scattered about: strong gusts of wind, and a rapidly-rising barometer.	
A few scattered cumuli and cumulo-strati: the wind has much subsided.	D
Cumuli passing slowly. An exceedingly high tide this afternoon.	J H
Cirro-stratus and scud.	
Cirro-stratus and vapour.	
Ditto ditto.	J H
Overcast: a thick rain falling.	D
Ditto. Rain has been falling without intermission since the last observation.	
Rain continued to fall heavily until $15^h.\ 15^m$, when it suddenly ceased: at present the sky in the zenith, and to the north of it, is generally clear: the remainder of the sky overcast.	
Overcast: rain falling.	
A few clear breaks in the zenith; every other part of the sky overcast.	D
Scud and heavy clouds approaching the nimbus.	J H
Scud and cumulo-stratus: wind in gusts.	
Cumuli and light clouds: the clouds broke shortly before $0^h.\ 40^m$.	J H
Cumuli and fleecy clouds, and a heavy nimbus South of the zenith.	D
Cloudless.	
Ditto.	
Ditto.	D
Ditto.	G
Ditto.	
Ditto.	
Ditto.	
A few light cirri near the horizon, both in N. and S.; otherwise cloudless.	G
Cloudless.	J H
Light cumuli in various directions.	
Ditto.	J H
A fine cumulus near the horizon in South, and light cumuli in other directions.	G
Scud and undefined clouds N. of zenith, and in other directions.	J H
Cirro-stratus in S. horizon; otherwise clear.	D
Cloudless, but the stars are small: the wind rising.	G
Overcast: a gale of wind.	G
Ditto.	D
Loose scud and vapour.	J H
Cloudless: the wind blowing in gusts.	P
A bright sunny morning: cold, with a fresh breeze.	M
South of the zenith loose cirri: near the horizon all round cloudy and misty.	G
Haze thick along the whole E., W., and N. horizon, with scud thinly scattered over the sky.	P
Light cumuli scattered about the sky.	J H
Cumulo-stratus and scud: the wind in gusts.	P

The perpendicular height of the water was about four feet above its ordinary height. Above six inches of rain had fallen in the previous three weeks, and all over the country accounts are given of very destructive floods having been caused by the late heavy rains.

Oct. $18^d.\ 19^h.\ 30^m$. Found that the vane of the Anemometer had at 15^h+ gone quite round from S. to W., N. E. to S., and a further change of the wind in the same direction at 17^h had taken the rack-work beyond its range: hence no direction was registered by the Anemometer at 18^h.

Oct. $19^d.\ 0^h$. Examined the perpendicularity of the barometer. [in the month.

Oct. $19^d.\ 6^h-$ to 22^h+. With the exception of a few clouds at 20^h, this period was cloudless, and was the longest interval with clear sky of any

Oct. $20^d.\ 3^h.\ 0^m$ to $3^h.\ 35^m$. The wind blew with a pressure varying from $\frac{1}{2}$lb. to 2lbs. on the square foot.

Oct. $20^d.\ 9^h.\ 35^m$. A pressure of 8lbs. on the square foot. Oct. $20^d.\ 10^h$. Hourly observations were commenced. (See Section

Oct. $20^d.\ 11^h.\ 40^m$. A pressure of 9lbs. on the square foot. [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.						
Oct. 21. 6	29·980	40·6	38·0	2·6	..	..	..	..	W by S	W	..	¼	..	..	..	1	Transit
8	30·024	37·5	35·6	1·9	..	..	..	..	WSW	W	..	¼	..	..	..	3	..
10	30·047	35·9	34·3	1·6	32·5	3·4	..	..	WSW	W	..	½	..	..	..	¼	..
12	30·055	34·6	33·6	1·0	..	..	..	..	SW	SW	..	¼	..	..	..	0	..
14	30·060	33·6	32·5	1·1	..	..	..	..	SW	SW	..	¼	..	..	..	0	..
16	30·058	33·3	32·0	1·3	29·8	3·5	..	..	Calm	SW	..	¼—	..	..	..	6	..
18	30·051	33·8	32·5	1·3	..	..	..	..	Calm	SW	..	¼—	..	..	..	10	..
20	30·052	36·3	35·0	1·3	..	..	..	..	Calm	SW	..	¼—	..	..	..	9¾	..
22	30·044	41·3	38·6	2·7	39·0	2·3	46·6 32·2	61·8 24·3	Calm	SW	..	¼	15·02	0·00	23·980	10	1st Qr.
Oct. 22. 0	30·003	46·1	42·2	3·9	..	..	..	..	SE	SSE	..	¼	..	..	..	10	..
2	29·963	48·9	45·3	3·6	..	..	..	..	SSE	S	..	¼	..	..	..	9½	..
4	29·892	47·8	43·7	4·1	39·8	8·0	..	..	S by E	S	..	¼	..	..	..	9	..
6	29·869	44·0	41·0	3·0	..	..	..	..	S by E	S	..	¼	..	..	..	5	Transit
8	29·827	42·0	39·5	2·5	..	..	..	..	SE	S	..	¼	..	..	..	10	..
10	29·767	42·7	40·3	2·4	38·5	4·2	..	..	SSE	S	..	¼	..	..	..	9	Apogee
12	29·696	41·5	39·6	1·9	..	..	..	..	Calm	SSE	..	¼	..	..	..	0	..
14	29·616	41·7	40·0	1·7	..	..	..	..	Calm	SE	..	¼	..	..	..	8	..
16	29·543	42·7	42·0	0·7	42·0	0·7	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·450	47·0	45·3	1·7	..	..	..	..	SE	SE	..	¼	..	..	..	10	..
20	29·384	50·9	50·1	0·8	..	..	..	..	S by E	S	..	¼	..	..	..	10	..
22	29·336	53·7	53·4	0·3	52·0	1·7	54·1 40·5	63·0 34·6	S by E	SSW	0 to 1	½	15·05	0·06	24·095	9	..
Oct. 23. 0	29·271	56·7	55·8	0·9	..	..	..	..	SSW	SSW	1 to 2½	½	..	..	..	9	..
2	29·201	56·5	54·5	2·0	..	..	..	..	SSW	SSW	1½ to 3	¾	..	..	..	10	..
4	29·124	55·1	53·5	1·6	53·5	1·6	..	..	SSW	SW	2 to 3	1	..	..	..	9	..
6	29·104	50·6	48·7	1·9	..	..	..	..	SW	SW	..	½	..	..	..	3	..
8	29·036	47·0	46·0	1·0	..	..	..	..	S	SW	..	¼	..	..	..	3	Transit
10	28·957	49·3	47·4	1·9	47·0	2·3	..	..	S	SW	..	¼	..	..	..	8	..
12	28·905	47·3	47·3	0·0	..	..	..	..	SW	SW	0 to 3	¾	..	..	..	10	..
14	..	..	..	..	..	..	..	..	SSW	...	1 to 2	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SSW	...	½ to 2	..	..	..	..	..	..
18	28·735	..	..	..	..	..	..	..	SSW	SW	2 to 3½	2	..	..	..	9	..
20	28·766	47·7	46·5	1·2	..	..	..	..	SW	WSW	1 to 2½	1½	..	..	..	8	..
21	28·782	47·6	46·4	1·2	..	..	..	..	...	WSW	..	2	..	..	..	8	..
22	..	..	..	..	..	..	57·1 46·2	59·2 41·5	SW	...	3 to 4½	..	15·25	0·27	..	..	..
Oct. 24. 0	28·843	51·7	48·1	3·6	..	..	..	..	WSW	W	1½ to 3	1	..	..	..	9	..
2	..	..	..	..	..	..	..	..	SW	...	0 to 1½	..	..	..	..	..	..
4	28·833	48·8	47·2	1·6	..	..	..	..	Calm	W	..	¼	..	..	..	9	..
6	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	28·849	39·4	39·0	0·4	..	..	..	..	Calm	SW	..	¼	..	..	..	2	..
16	28·860	40·7	40·4	0·3	39·0	1·7	..	..	Calm	SW	..	¼	..	..	..	10	..
18	28·892	42·1	41·7	0·4	..	..	..	..	Calm	SW	..	¼	..	..	..	10	..
20	28·939	43·1	42·7	0·4	..	..	..	..	WSW	SW	..	¼	..	..	..	10	..
22	28·984	43·6	43·2	0·4	43·0	0·6	54·0 39·0	72·2 34·8	SW	SW	..	¼	15·30	0·06	..	10	..

Oct. 21d. The lowest reading of the thermometer during the month took place on this day, being only 0°·2 above the freezing point.

Oct. 21d, civil reckoning. This was the coldest day during the month, the mean temperature being 40°·7, as deduced from the two-hourly observations.

Oct. 21d. 8h. This is the first time during this month that the barometer has been so high as 30in.

Oct. 21d. 14h. This is the highest reading of the barometer during the month.

Oct. 22d and 23d, civil reckoning. The greatest difference in the mean heights of the barometer between any two consecutive days in the year took place between these two days, being 0in·696, as deduced from the two-hourly observations.

Oct. 22d, civil reckoning. The mean height of the barometer was greater on this day than on any other day during the month, being 29in·940, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Nearly a cloudless sky: a few dark strati near the horizon in North.	G
Much cirrus South of the zenith, every other part of the sky being clear.	D
Cloudless, with the exception of a small cirro-stratus near the horizon in the N.N.W.	J H
Cloudless.	P
Ditto.	
The sky, with the exception of that part East of the zenith, covered with a dense cirro-stratus, moving apparently from the West.	
Overcast: cirro-stratus.	
A few small cirri only in the zenith.	P
Overcast.	D
Overcast: cirro-stratus.	
Breaks South of the zenith; otherwise overcast.	D
Overcast, except an extensive break in the N. horizon, and one of less magnitude in the E. horizon.	P
Clouds of an undefinable character scattered indiscriminately over the sky: a small lunar halo visible.	
Overcast: a single star faintly glimmering in the zenith, and the place of the Moon distinctly visible; from this it would seem that the stratus is thin.	P
Cirro-stratus and heavy vapour: the larger stars visible, and the place of the Moon distinctly seen.	J H
The sky cleared at $11^h.\ 20^m$, and is at present cloudless.	D
Stars shining in the zenith: cirro-stratus and vapour elsewhere.	
At $15^h.\ 10^m$ rain commenced falling heavily: at present the sky is overcast, with a few drops only falling.	
Overcast: cirro-stratus: heavy rain fell between this and the last observation, particularly at $16^h.\ 40^m$.	
Overcast: at $20^h.\ 5^m$ extensive breaks in various directions.	D
Cumulo-stratus and scud: heavy rain at intervals since $20^h.\ 40^m$.	J H
Cirro-stratus and scud: breaks occasionally visible: rain in slight showers.	J H
Overcast: cirro-stratus and scud.	P
Occasional breaks in various parts of the sky: heavy cumulo-strati and nimbi in all directions.	D
Scud and cirro-stratus S.E. of the zenith; the rest of the sky clear.	
Cirri in the zenith, and about the Moon.	
A few stars glimmering in the zenith; cirro-stratus elsewhere.	D
Overcast: rain falling very heavily, with gusts of wind to 1+.	J H
Cirro-stratus and scud.	G
The sky nearly covered with rapidly moving scud.	
Ditto ditto.	G
Cirro-stratus covering nearly the whole of the sky: very few breaks are visible, and those of small extent.	P
Cirro-stratus: blue sky in N.: rain falling.	G
Clouds approaching to cirro-stratus in the neighbourhood of the Moon; otherwise clear: at $14^h.\ 10^m$ the clouds more numerous.	J H
Imperviously overcast: very dark.	
Cirro-stratus and scud: rain at times.	
Overcast: one unbroken cirro-stratus.	J H
Ditto ditto.	D

Oct. 22^d and 23^d. 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°·0, as deduced from the two-hourly observations.

Oct. $22^d.\ 2^h$. The barometer has fallen below $30^{in.}$, it having been at that elevation sixteen hours; during the remainder of the month it did not again attain to that elevation.

Oct. 23^d, civil reckoning. This day had the least relative moisture in the atmosphere of any day during the month, the mean difference of the Dry and Wet Thermometers being 4°·6, as deduced from the two-hourly observations.

Oct. $23^d.\ 10^h.\ 40^m$ to $11^h.\ 40^m$. The wind blew with a pressure varying from 4lbs. to 5lbs. on the square foot.

Oct. $23^d.\ 18^h$. The barometer ceased falling, its reading having been decreasing for about the previous forty-eight hours, during

Oct. $23^d.\ 22^h$. Crosley's rain-gauge out of order. [which time it fell $1^{in.}$·33.

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.						
Oct. 25. 0	29·021	47·3	46·2	1·1	..	..	..	..	SW	SW	..	¼	..	..	..	9	..
2	29·033	52·3	48·5	3·8	..	..	..	..	SW	SW	..	¼	..	..	..	5	..
4	29·056	50·3	47·1	3·2	45·0	5·3	..	..	Calm	SW	..	¼	..	..	..	3	..
6	29·078	45·3	44·0	1·3	..	..	..	..	Calm	SW	..	¼	..	..	..	4	..
8	29·097	42·3	41·8	0·5	..	..	..	..	Calm	SW	..	¼	..	..	..	3	..
10	29·107	40·7	40·2	0·5	40·5	0·2	..	..	Calm	SW	..	¼	..	..	..	0	Transit
12	29·127	38·7	38·6	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·138	34·5	34·5	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·149	33·1	33·3	−0·2	33·0	0·1	..	..	Calm	Calm	..	..	..	..	..	9	..
18	29·159	33·8	33·5	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·195	34·5	34·5	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·232	38·0	37·8	0·2	36·0	2·0	53·8 32·6	70·8 29·1	N	Calm	..	..	15·30	0·00	..	10	..
Oct. 26. 0	29·265	46·1	45·6	0·5	..	..	..	..	N	Calm	..	..	..	..	..	10	..
2	29·260	51·2	49·6	1·6	..	..	..	..	N	N	..	¼−	..	..	..	8	..
4	29·281	48·7	47·4	1·3	45·0	3·7	..	..	N by E	E by N	..	½	..	..	..	10	..
6	29·289	46·2	45·7	0·5	..	..	..	..	N by E	E by N	..	¼	..	..	..	8	..
8	29·315	44·5	43·8	0·7	..	..	..	..	NNE	N	..	¼	..	..	..	8	In Equator
10	29·327	46·8	45·7	1·1	44·0	2·8	..	..	NNE	NE	1 to 3	1	..	..	..	10	Transit
12	29·339	46·3	45·2	1·1	..	..	..	..	NNE	NNE	1½ to 4	1½	..	..	..	10	..
14	29·344	46·0	44·2	1·8	..	..	..	..	NNE	N	2½ to 4½	1½	..	..	..	10	..
16	29·345	45·7	43·5	2·2	44·0	1·7	..	..	N	N	2 to 5	1½	..	..	..	10	..
18	29·342	45·5	43·1	2·4	..	..	..	..	N	N	3 to 5	1½	..	..	..	10	..
20	29·347	45·5	43·2	2·3	..	..	..	..	N	N	3 to 4½	1½	..	..	..	10	..
22	29·329	46·9	44·8	2·1	42·0	4·9	51·5 38·9	62·7 41·0	N	NNE	3½ to 5	1	15·32	0·03	..	10	..
Oct. 27. 0	29·314	47·5	45·4	2·1	..	..	..	..	N	N by E	2½ to 4	1+	..	..	..	10	..
2	29·285	47·2	46·5	0·7	..	..	..	..	N	N	1½ to 6	1+	..	..	..	10	..
4	29·292	47·5	47·2	0·3	47·5	0·0	..	..	N	N	2½ to 4½	1	..	..	..	10	..
6	29·304	47·0	46·7	0·3	..	..	..	..	N	N	1½ to 4	1	..	..	..	10	..
8	29·314	46·8	45·9	0·9	..	..	..	..	N	N	2 to 6	1½	..	..	..	10	..
10	29·330	46·8	45·7	1·1	46·5	0·3	..	..	N	N	2 to 4	1½	..	..	..	10	Transit
12	29·343	47·1	46·2	0·9	..	..	..	..	N	N	1 to 2	1½	..	..	..	10	..
14	29·356	47·1	46·9	0·2	..	..	..	..	N	N	2 to 0	1	..	..	..	10	..
16	29·375	47·4	47·2	0·2	43·5	3·9	..	..	N	N	½ to 2	1	..	..	..	10	..
18	29·418	47·2	46·9	0·3	..	..	..	..	N	N	..	1	..	..	..	10	..
20	29·458	46·7	46·5	0·2	..	..	..	..	N	N	0 to 1	¾	..	..	..	10	..
22	29·522	47·8	47·6	0·2	47·5	0·3	47·8 46·6	48·0 46·0	N	N	0 to ½	½	15·72	1·03	..	10	..
Oct. 28. 0	29·563	47·1	46·6	0·5	..	..	..	..	NNE	N	½ to 2½	½	..	..	..	10	..
2	29·577	48·0	46·6	1·4	..	..	..	..	NNE	NNE	½ to 3	½	..	..	..	10	..
4	29·601	47·3	46·3	1·0	42·5	4·8	..	..	NE	NE	½ to 3	¾	..	..	..	10	..
6	29·645	44·2	43·2	1·0	..	..	..	..	NNE	NE	1½ to 3	1	..	..	..	10	..
8	29·676	43·9	42·6	1·3	..	..	..	..	NNE	NNE	1 to 2½	1	..	..	..	10	..
10	29·691	44·5	43·6	0·9	42·5	2·0	..	..	NNE	NNE	½ to 2	1−	..	..	..	10	..
12	29·700	44·7	43·7	1·0	..	..	..	..	NNE	NE	½ to 1½	1	..	..	..	10	Transit
14	29·698	43·7	43·1	0·6	..	..	..	..	NNE	NNE	0 to 2	½	..	..	..	10	..
16	29·698	43·7	43·0	0·7	42·5	1·2	..	..	N by E	NNE	½ to 2	½	..	..	..	10	..

Oct. 25d. 10h, The Dew Point was set down 35°·5: it has been altered conjecturally.

Oct. 25d. 16h. The reading of the Wet-bulb Thermometer is higher than the reading of the Dry-bulb Thermometer.

Oct. 25d. 18h. Examined the perpendicularity of the barometer.

Oct. 26d. 4h and 6h. The directions of the wind registered by the Anemometer are wrong; the wind was light and apparently not sufficient to move the vane: its bearing points were oiled after this.

Oct. 26d. 9h. The wind began to blow, recording a pressure of ½lb. on the square foot; the pressure gradually increased up to the time of observation.

GENERAL REMARKS.	Observer.
Cirro-stratus: breaks in the South.	D
Sky generally clear South of zenith: dark heavy-looking cirro-stratus in North.	D
Light cumuli scattered in various directions.	J H
Cumulo-stratus and scud.	
Light fleecy clouds: a bright yellow light distinct from moonlight due North.	
Cloudless.	J H
Ditto.	G
Ditto.	
The Moon directly after the last observation became of a copper colour, and shortly afterwards was imbedded in clouds: this was followed by a fog coming up, the Observatory not being visible from the Magnetic House, and only a few stars glimmering in the zenith: at present every thing the same.	
Foggy: the deposition great.	
Ditto: the outline of the Observatory just visible from the Magnetic House.	G
Ditto.	D
The fog not so dense, the Sun being faintly visible through it.	
Cirro-stratus and vapour.	D
At $2^h.25^m$ a large mass of black cloud came up from the East: at $2^h.40^m$ rain began to fall, and continued about ten minutes, leaving the sky quite covered with cirro-stratus and nimbi.	G
The sky nearly covered with scud and cirro-stratus: a few breaks in the N. and N.W.: the Moon visible.	
The Moon imbedded in light cirro-cumulus clouds, and the greater portion of the sky overcast.	
Overcast: cirro-stratus and scud: the upper current S.W., the under current N.E.	G
Ditto: a very stormy looking sky: a slight misty rain has been falling some time.	D
Ditto: the wind in strong gusts.	
Ditto ditto.	
Ditto: cirro-stratus and scud: the wind still blowing hard, and at times in heavy gusts.	
Ditto ditto.	D
Ditto ditto.	J H
Ditto ditto: gusts of wind.	
Ditto: rain falling, which commenced at $0^h.20^m$.	J H
Ditto: rain has continued since the last observation.	D
Ditto ditto.	
Ditto: the rain ceased at $7^h.40^m$.	
Ditto: cirro-stratus and scud: a very stormy looking sky: gusts of wind.	D
Ditto ditto: wind in gusts.	J H
Ditto: heavy rain, which commenced falling shortly before $12^h.40^m$.	
Ditto: rain falling.	
Ditto ditto.	
Ditto ditto.	J H
Ditto ditto.	D
Ditto: slight rain falling.	
Ditto: cirro-stratus.	D
Ditto: cirro-stratus and scud.	J H
Ditto: drops of rain falling: wind blowing in gusts.	
Ditto ditto ditto.	
Ditto: cirro-stratus and scud: light rain since the last observation.	J H
Ditto: scud passing rapidly from the N.E.: the Moon occasionally visible.	G
The sky quite covered with scud moving quickly.	
The sky presents much the same appearance; the scud, however, is darker than before, and slight nimbi are about.	

Oct. $26^d.10^h$. From this time to the end of the month there was not a break in the clouds; it is the longest cloudy period in the month.

Oct, $26^d.22^h$. The reading of the thermometer, whose bulb is in the parabolic reflector, is higher than the minimum temperature.

Oct. $27^d.22^h$. In the previous twenty-four hours more than an inch of rain has fallen, and Crosley's gauge has not registered any.

Oct. 28^d. Crosley's gauge was well examined, the escapement and all its works well cleaned, and oiled; afterwards it appeared to act well.

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.						
Oct. 28. 18	29·714	43·8	42·6	1·2	..	..	..	..	N by E	NNE	0 to ½	½	..	..	..	10	..
20	29·714	44·7	43·4	1·3	..	..	..	..	N by E	NNE	..	¼	..	..	..	10	..
22	29·720	46·6	44·9	1·7	43·0	3·6	48·0 43·9	49·5 41·8	N	N	½ to 2	¾	15·73	0·10	..	10	..
Oct. 29. 0	29·702	48·6	46·3	2·3	..	..	..	..	NNE	NNE	1 to 2½	¾	..	..	..	10	..
2	29·690	48·0	46·5	1·5	..	..	..	..	NNE	NNE	1 to 2½	¾	..	..	..	10	..
4	29·707	48·3	47·4	0·9	44·5	3·8	..	..	N by E	NNE	0 to 1	½	..	..	..	10	..
6	29·717	48·3	47·0	1·3	..	..	..	..	N by E	NNE	..	½	..	..	..	10	..
8	29·725	47·7	46·5	1·2	..	..	..	..	N	NNE	0 to 2	½	..	..	..	10	..
10	29·724	47·2	46·1	1·1	45·0	2·2	..	..	N	NNE	..	¼	..	..	..	10	..
12	29·700	47·6	46·3	1·3	..	..	..	..	N	N	0 to 1½	¼+	..	..	..	10	Transit
14	29·698	46·0	44·8	1·2	..	..	..	..	N	N	½ to 3½	1	..	..	..	10	..
16	29·673	45·2	44·3	0·9	44·5	0·7	..	..	N	N	1 to 2½	1	..	..	..	10	..
18	29·652	45·5	44·5	1·0	..	..	..	..	N by W	N	2 to 3	1	..	..	..	10	Full.
20	29·641	45·2	44·6	0·6	..	..	..	..	N by W	N	1½ to 3½	1	..	..	..	10	..
22	29·642	45·3	44·9	0·4	42·0	3·3	48·7 45·1	51·7 42·4	N by W	N	1 to 4	1	15·73	0·09	..	10	..
Oct. 30. 0	29·633	45·7	45·7	0·0	..	..	..	..	N by E	N	1 to 2	1—	..	..	..	10	..
2	29·612	46·2	45·9	0·3	..	..	..	..	N by E	N	1 to 2½	¾	..	..	..	10	..
4	29·594	46·3	46·0	0·3	46·0	0·3	..	..	N by E	N	½ to 1	½—	..	..	..	10	..
6	29·604	46·3	46·2	0·1	..	..	..	..	N by E	N	..	½	..	..	..	10	..
8	29·606	46·5	46·4	0·1	..	..	..	..	N by E	N	..	¼	..	..	..	10	..
10	29·615	46·7	45·8	0·9	46·0	0·7	..	..	N	N	..	¼	..	..	..	10	..
12	29·625	47·1	47·1	0·0	..	..	..	..	N by E	N	..	¼	..	..	..	10	Transit
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	48·0 43·9	49·0 43·0	Calm	...	..	..	15·75	0·18	..	..	..
Oct. 31. 0	29·727	51·0	50·8	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
2	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
8	29·755	49·3	49·2	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SW	...	..	..	15·77	0·05	..	..	..
14	29·759	46·8	46·8	0·0	..	..	..	..	SW	SW	..	¼	..	..	..	10	Transit
16	29·757	46·4	46·4	0·0	43·5	2·9	..	..	SW	SW	..	¼	..	..	..	10	..
18	29·761	46·3	46·3	0·0	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
20	29·787	44·4	44·4	0·0	..	..	..	..	...	WNW	..	¼	..	..	..	10	..
22	29·817	45·0	44·5	0·5	45·0	0·0	53·6 45·7	57·5 43·6	W	W	..	¼	15·87	0·26	27·290	10	..
Nov. 1. 0	29·837	46·5	46·0	0·5	..	..	..	..	W	W	..	¼	..	..	..	10	..
2	29·849	46·4	45·8	0·6	..	..	..	..	WSW	W	..	¼	..	..	..	10	..
4	29·855	46·5	46·2	0·3	44·0	2·5	..	..	W	WNW	..	¼	..	..	..	10	..
6	29·883	46·2	45·7	0·5	..	..	..	..	Calm	NW	..	¼	..	..	..	10	..
8	29·918	46·3	45·5	0·8	..	..	..	..	NNW	NW	..	¼	..	..	..	9½	..
10	29·945	45·9	44·5	1·4	42·5	3·4	..	..	NW	NNW	..	¼	..	..	..	10	..
12	29·979	45·7	44·6	1·1	..	..	..	..	WNW	Calm	..	..	..	..	..	10	..

Oct. 31d. 12h. The amount of rain collected during the month of October in the rain-gauge No. 4, was 5in·95: this is much more than usually falls in an autumnal month.

Oct. 31d. 20h. The reading of the Dry Thermometer is lower than the minimum temperature, as shewn by the Minimum Thermometer.

Oct. 31d. 20h. The direction of the wind was not recorded by the Anemometer, the rack-work being beyond its range.

Oct. 31d. 22h. The quantity of water collected in each month has been the same by Crosley's gauge, and by gauge No. 4: the reading 27in·290 for Crosley's gauge, is obtained by adding 5in·95 to the reading at the end of September.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus.	G
Ditto ditto.	G
Ditto ditto and scud.	D
Ditto ditto.	
Ditto ditto.	D
Ditto ditto.	G
Ditto ditto.	
Ditto ditto: surprising masses of scud, moving very rapidly from the N.N.E., have been passing during the whole day.	
Ditto: a very fine rain falling, the rain being literally as fine as dust.	G
Ditto · cirro-stratus and scud.	D
Ditto ditto.	
Ditto ditto.	
Ditto ditto.	
Ditto ditto: rain falling.	D
Ditto ditto ditto.	J H
Ditto: squally: scud passing rapidly from N. by E.	
Ditto: cirro-stratus and scud: rain falling slightly.	J H
Ditto ditto ditto.	D
Ditto ditto ditto.	
Ditto ditto ditto.	
Ditto ditto.	D
Ditto ditto: light rain recommenced falling at $10^h.40^m$.	J H
Ditto: a slight misty rain falling.	D
Ditto: cirro-stratus.	D
Ditto: cirro-stratus: rain falling: a thin mist.	J H
Ditto ditto ditto.	
Ditto ditto ditto.	
Ditto ditto steady rain falling.	J H
Ditto ditto ditto	D
Ditto: cirro-stratus: about ten minutes since the Sun's place became visible.	
Ditto ditto.	D
Ditto ditto: rain falling.	J H
Ditto ditto ditto.	
Clouds broken, and the Moon is visible through a cirro-stratus: light rain falling.	
Cirro-stratus and scud: light rain at times since the last observation: the clouds are broken in the neighbourhood of the Moon.	J H
Overcast: the clouds quite on the Earth's surface.	G

Nov. 1d, civil reckoning. This day was one of the three days in which the greatest quantity of relative moisture prevailed in the atmosphere during the month, the mean difference of the Dry and Wet Thermometers being 0°·4, as deduced from the two-hourly observations, the same difference being shewn on the 8th and also on the 29th.

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.						
Nov. 1. 14	29·996	45·7	44·7	1·0	..	..	..	..	WNW	Calm	..	..	..	..	..	10	Transit
16	30·011	45·6	44·4	1·2	43·0	2·6	..	..	NNW	NNW	..	¼	..	..	..	10	..
18	30·038	45·5	44·3	1·2	..	..	..	..	NW	NNW	..	¼	..	..	..	10	..
20	30·070	45·6	44·6	1·0	..	..	..	..	NNW	NNW	..	¼	..	..	..	10	..
22	30·112	45·4	44·2	1·2	41·0	4·4	47·3 45·8	50·2 43·4	NNW	N	..	¼	15·89	0·08	27·350	10	..
Nov. 2. 0	30·023	48·0	46·7	1·3	..	..	..	..	NNW	NNW	..	¼	..	..	..	10	Greatest Declination N.
2	30·102	50·0	48·3	1·7	..	..	..	..	NNE	NNE	..	¼	..	..	..	9	..
4	30·061	48·9	47·4	1·5	44·0	4·9	..	..	Calm	NNE	..	¼	..	..	..	10	..
6	30·120	47·5	46·5	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	30·128	42·3	41·9	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
10	30·138	44·7	44·5	0·2	44·0	0·7	..	..	Calm	Calm	..	..	..	..	..	8	..
12	30·158	44·8	44·5	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·166	44·6	44·4	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
16	30·179	44·5	44·3	0·2	44·0	0·5	..	..	Calm	Calm	..	..	..	..	..	10	Transit
18	30·192	44·0	43·9	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·209	44·0	43·9	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
22	30·240	46·8	46·5	0·3	43·5	3·3	51·0 44·6	59·5 35·7	Calm	Calm	..	..	15·89	0·00	27·350	10	..
Nov. 3. 0	30·248	50·8	49·5	1·3	..	..	..	..	Calm	SSE	..	¼	..	..	..	10	..
2	30·235	53·5	50·0	3·5	..	..	..	..	Calm	SSE	..	¼	..	..	..	5	..
4	30·233	51·0	49·6	1·4	51·0	0·0	..	..	Calm	Calm	..	..	..	..	..	9	..
6	30·256	48·8	48·0	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	30·269	47·5	47·2	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
10	30·275	46·6	46·5	0·1	46·5	0·1	..	..	Calm	Calm	..	..	..	..	..	10	..
12	30·273	46·5	46·5	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·261	46·3	46·3	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·254	44·8	44·8	0·0	42·0	2·8	..	..	E	Calm	..	..	..	..	..	10	Transit
18	30·253	44·4	44·3	0·1	..	..	..	..	Calm	ESE	..	¼	..	..	..	6	..
20	30·271	42·7	42·7	0·0	..	..	..	..	Calm	ESE	..	¼	..	..	..	3	..
22	30·291	47·0	46·3	0·7	46·0	1·0	54·6 43·7	71·5 41·5	Calm	Calm	..	..	15·89	0·00	27·350	10	..
Nov. 4. 0	30·284	47·5	46·2	1·3	..	..	..	..	ESE	ESE	..	¼	..	..	..	10	..
2	30·260	47·8	45·9	1·9	..	..	..	..	E	E	..	¼	..	..	..	10	..
4	30·252	46·7	45·0	1·7	44·0	2·7	..	..	SE	ESE	..	¼	..	..	..	2	..
6	30·271	42·6	42·1	0·5	..	..	..	..	Calm	SSE	..	¼	..	..	..	¼	Perigee
8	30·273	43·1	42·5	0·6	..	..	..	..	ESE	SSE	..	¼	..	..	..	10	..
10	30·282	42·9	42·1	0·8	—	—	..	..	Calm	SSE	..	¼	..	..	..	8	..
12	30·296	44·7	43·4	1·3	..	..	..	..	Calm	SSE	..	¼	..	..	..	10	..
14	30·254	45·4	44·0	1·4	..	..	..	..	SE	Calm	..	..	..	..	..	10	..
16	30·254	45·2	44·1	1·1	43·0	2·2	..	..	SE	Calm	..	..	..	..	..	10	..
18	30·252	44·7	43·5	1·2	..	..	..	..	SE	Calm	..	..	..	..	..	10	Transit
20	30·246	44·7	43·5	1·2	..	..	..	..	SSE	Calm	..	..	..	..	..	10	..
22	30·276	46·3	44·8	1·5	43·5	2·8	49·2 41·6	53·9 42·7	SSE	S by E	..	¼	15·89	0·00	27·350	10	..
Nov. 5. 0	30·277	48·5	46·5	2·0	..	..	..	..	SSE	S by E	..	¼	..	..	..	10	..
2	30·272	48·2	46·2	2·0	..	..	..	..	S	S	..	¼	..	..	..	10	..

Nov. 1d. 22h. Examined the perpendicularity of the barometer.

Nov. 3d. 20h. The reading of the Dry Thermometer is lower than the minimum temperature, as shewn by the Minimum Thermometer.

Nov. 4d, civil reckoning. The mean height of the barometer was greater on this day than on any other day during the month, being 30in·271, as deduced from the two-hourly observations.

Nov. 4d. 10h. The observation of the Dew Point was omitted by inadvertence.

GENERAL REMARKS.	Observer.
Clouds have risen very much since the last observation; the sky still quite covered with cirro-stratus and dark scud.	G
The wind has risen a little: the sky has the same appearance as at the last observation.	
Overcast: a week has now passed without the Sun, Moon, or stars having been once visible: when the Moon, or rather her place, has been seen, it has been behind clouds.	
Still quite cloudy; but the morning appears finer than the previous mornings have been.	G
Overcast: cirro-stratus.	D
Ditto: the clouds much lighter since the last observation.	
Clear breaks in the N., every other part of the sky overcast.	D
Overcast: cirro-stratus and undefined clouds: air very still and close.	J H
Ditto: quite calm.	G
About $7^h.\ 25^m$ a few stars were first seen very dimly near the zenith, since which time the clouds have been dispersing: the whole horizon, for about 8° high, hazy and much obscured: this is the first time for a week that the stars have been seen.	
Cumulo-strati of a white character in every part of the sky; blue sky, with stars shining between the clouds; upper current S. S. E.	G
The sky at present quite overcast: a very calm night.	D
The sky nearly covered with fleecy clouds: the Moon visible at times through breaks.	
Overcast: cirro-stratus: light fog in the town.	
No change since the last observation.	
Cirro-stratus generally round the whole horizon: the night has been remarkably calm: the morning is the finest we have had for upwards of a week; there appears to be every indication of a change in the weather.	D
Overcast, but the clouds are not of a uniform density.	G
The sky quite covered, ditto ditto.	J H
The clouds generally disappeared about $0^h.\ 40^m$: cumuli and haze at present, with undefined clouds.	J H
Cirro-stratus covers the sky, with the exception of a few clear breaks E. of the zenith.	D
Overcast.	
Stars shining N. of the zenith; overcast in every other part of the sky.	
Overcast.	D
Ditto: damp fog: the Moon's place just visible.	J H
Ditto: cirro-stratus: thick mist.	
Ditto ditto ditto.	
The Moon and several bright stars in the zenith are distinctly visible: a thin stratus elsewhere: the fog has nearly disappeared.	
Cirri and undefined clouds scattered in various directions: a light fog still remains over the lower parts of the Park.	J H
Overcast: cirro-stratus.	D
Ditto ditto.	
Ditto ditto.	D
Undefined clouds scattered about the sky.	J H
Cirro-stratus low in the N.W. horizon; otherwise clear.	
The sky was clouded over at $7^h.\ 25^m$, and remains overcast.	
Cirro-stratus and vapour.	J H
Overcast.	G
Ditto.	
Ditto.	
Ditto.	
Ditto.	G
Ditto.	D
Ditto.	
Ditto.	D

Nov. $4^d.\ 22^h$. The reading of the thermometer, whose bulb is in the parabolic reflector, was set down 52°·7; it is altered conjecturally to 42°·7, on the supposition of an error of 10° in the reading; but even now it is higher than the minimum temperature, which is very unusual.

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.						
Nov. 5. 4	30·272	48·3	46·3	2·0	44·0	4·3	..	..	S	S	..	¼	..	..	..	10	..
6	30·277	47·0	45·3	1·7	..	..	..	..	S by E	Calm	..	..	..	..	..	10	..
8	30·273	46·5	45·2	1·3	..	..	..	..	S	Calm	..	..	..	..	..	10	..
10	30·282	42·8	42·8	0·0	42·0	0·8	..	..	Calm	Calm	..	..	..	..	..	½	..
12	30·296	41·5	41·3	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	30·295	37·0	36·8	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
16	30·286	42·7	42·5	0·2	42·5	0·2	..	..	Calm	Calm	..	..	..	..	..	10	3rd Qr.
18	30·278	44·2	44·0	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
20	30·302	45·8	45·5	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
22	30·324	48·5	47·5	1·0	46·5	2·0	50·4 38·1	51·5 33·8	S	Calm	..	..	15·89	0·00	27·350	8	..
Nov. 6. 0	30·313	52·3	49·8	2·5	..	..	..	..	SSW	S by W	..	½	..	..	..	1	..
2	30·282	55·8	51·4	4·4	..	..	..	..	SSW	S by W	..	¼	..	..	..	½	..
4	30·272	53·5	48·6	4·9	45·5	8·0	..	..	SSW	SSW	..	¼	..	..	..	1	..
6	30·284	47·3	46·0	1·3	..	..	..	..	S by W	SSW	..	¼	..	..	..	1	..
8	30·283	45·2	44·6	0·6	..	..	..	..	S	Calm	..	..	..	..	..	0	..
10	30·293	44·2	44·0	0·2	44·0	0·2	..	..	SSW	Calm	..	..	..	..	..	0	..
12	30·277	43·2	43·2	0·0	..	..	..	..	SSW	Calm	..	..	..	..	..	½	..
14	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	Transit
22	..	..	..	..	..	..	56·0 42·0	74·5 33·0	SW	...	..	..	15·89	0·00	27·350	..	..
Nov. 7. 0	30·318	47·0	46·7	0·3	..	..	..	..	WSW	W	..	¼	..	..	..	5	..
2	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
6	30·281	46·6	46·6	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
14	30·249	40·7	40·7	0·0	..	..	..	..	SW	Calm	..	..	..	..	..	9½	..
16	30·232	40·5	40·4	0·1	39·5	1·0	..	..	SSW	Calm	..	..	..	..	..	10	..
18	30·228	41·5	41·5	0·0	..	..	..	..	SW	S	..	¼	..	..	..	10	..
20	30·231	43·3	43·2	0·1	..	..	..	..	SW	Calm	..	..	..	..	..	10	Transit
22	30·245	46·0	45·8	0·2	46·0	0·0	53·4 41·1	64·6 37·0	SW	Calm	..	..	15·89	0·00	27·350	10	..
Nov. 8. 0	30·236	50·0	49·5	0·5	..	..	..	..	SW	SSW	..	¼	..	..	..	7	..
2	30·211	49·8	48·8	1·0	..	..	..	..	SW	SSW	..	¼	..	..	..	4	..
4	30·200	47·7	46·7	1·0	46·0	1·7	..	..	SSW	SW by W	..	¼	..	..	..	0	..
6	30·217	43·3	42·7	0·6	..	..	..	..	SSW	WSW	..	¼	..	..	..	1	..
8	30·208	41·7	41·1	0·6	..	..	..	..	SW	WSW	..	½	..	..	..	8	..
10	30·221	39·9	39·5	0·4	39·0	0·9	..	..	SW	WSW	..	¼	..	..	..	3	In Equator
12	30·209	40·0	39·5	0·5	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
14	30·204	41·5	41·0	0·5	..	..	..	..	SW	SSW	..	¼	..	..	..	10	..
16	30·188	41·5	40·7	0·8	39·5	2·0	..	..	SW	SSW	..	¼	..	..	..	10	..
18	30·183	41·6	40·5	1·1	..	..	..	..	SW	SSW	..	¼	..	..	..	10	..
20	30·194	40·6	39·5	1·1	..	..	..	..	SW	WSW	..	¼	..	..	..	10	..
22	30·201	42·3	41·0	1·3	40·5	1·8	51·8 40·1	58·5 31·3	SW	SW	..	¼	15·89	0·00	27·350	10	Transit

Nov. 5d. 22h. The highest reading of the barometer during the month.

Nov. 7d. 22h. Examined the perpendicularity of the barometer.

Nov. 8d, civil reckoning. The mean difference of the Dry and Wet Thermometers is 0°·4. (See note Nov. 1d.)

Nov. 8d. Meteors were looked for; none were seen.

GENERAL REMARKS.	Observer.
Overcast.	G
Ditto: cirro-stratus.	J H
Ditto ditto.	P
At present the sky is nearly cloudless, with a little haze.	P
Cloudless.	D
The sky remained clear until $13^h.\ 50^m$, when light clouds suddenly began to appear; at present one half of the sky is covered.	
The sky became overcast soon after the last observation, and continues so.	
Overcast: not a break.	
Breaks in the zenith: the sky has the appearance of clearing.	D
Breaks N.W. and W. of the zenith: cirro-stratus and vapour elsewhere.	J H
A few light clouds.	
Ditto.	J H
Ditto.	D
Cirro-stratus in N.; the sky otherwise clear.	
Cloudless.	
Ditto.	D
Heavy vapour at intervals in the zenith and around: several small meteors were observed since $11^h.\ 10^m$.	J H
Hazy.	G
Very hazy: a few stars dimly shining in the zenith.	G
A few stars visible near the zenith, stratus elsewhere: the fog was very thick at $12^h.\ 40^m$, but it is now considerably less dense.	J H
Overcast: light fog.	
Ditto: cirro-stratus and light fog: the Moon was visible for a few minutes some time previous to the observation.	
Ditto: light fog: trees, &c., damp from the effects of the mist during the night.	J H
Ditto ditto.	D
The fog disappearing: the Sun shining faintly.	
The sky N. of zenith clear: cirri scattered in S.	D
Cloudless: the day is unusually fine for November, and the air very mild.	J H
Cirro-stratus near W. horizon; otherwise clear.	
Cirro-stratus and heavy vapour.	
Ditto ditto.	J H
Overcast: cirro-stratus.	P
Ditto ditto.	
Ditto ditto.	
Ditto ditto.	
Ditto ditto.	P
Ditto ditto.	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.						
Nov. 9. 0	30·193	45·5	43·5	2·0	..	..	..	..	SW	WSW	1½ to 3	¾	..	..	..	9	..
2	30·175	45·8	43·6	2·2	..	..	..	..	SW	WSW	1 to 2	¾	..	..	..	10	..
4	30·144	45·5	43·0	2·5	42·0	3·5	..	..	SW	WSW	½ to 3	½	..	..	..	10	..
6	30·128	45·0	42·8	2·2	..	..	..	..	SW	WSW	1 to 2½	¾	..	..	..	10	..
8	30·112	46·0	43·3	2·7	..	..	..	..	SW	WSW	1 to 2½	¾	..	..	..	10	..
10	30·085	46·6	44·0	2·6	40·5	6·1	..	..	SW	WSW	0 to 1	½	..	..	..	10	..
12	30·067	47·1	45·5	1·6	..	..	..	..	SW	WSW	1½ to 3	1	..	..	..	10	..
14	30·046	47·8	45·4	2·4	..	..	..	..	SW	WSW	1 to 2	1½	..	..	..	10	..
16	30·024	49·2	46·4	2·8	45·5	3·7	..	..	SW	WSW	2 to 3	1	..	..	..	10	..
18	30·012	48·8	45·8	3·0	..	..	..	..	WSW	WSW	1 to 3½	1½	..	..	..	8	..
20	30·024	49·3	46·5	2·8	..	..	..	..	WSW	WSW	1 to 2	1	..	..	..	10	..
22	30·046	49·7	46·5	3·2	44·5	5·2	50·2 44·0	52·8 40·8	WSW	W	½ to 1½	¾	15·89	0·00	27·350	10	Transit
Nov. 10. 0	30·040	50·4	47·2	3·2	..	..	..	..	WSW	W by S	1 to 2	¾	..	..	..	10	..
2	29·992	51·5	48·6	2·9	..	..	..	..	WSW	W	1 to 2½	¾	..	..	..	9	..
4	29·981	50·4	48·0	2·4	47·5	2·9	..	..	WSW	WSW	0 to 1	½	..	..	..	10	..
6	29·977	50·3	48·0	2·3	..	..	..	..	WSW	WSW	0 to 1	½	..	..	..	10	..
8	29·972	49·6	48·0	1·6	..	..	..	..	SW	WSW	..	½	..	..	..	10	..
10	29·969	49·5	48·0	1·5	48·0	1·5	..	..	SW	WSW	..	¼	..	..	..	10	..
12	29·954	49·7	47·6	2·1	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
14	29·930	49·7	47·0	2·7	..	..	..	..	SW	WSW	..	¾	..	..	..	10	..
16	29·905	49·1	46·2	2·9	46·5	2·6	..	..	SW	WSW	..	¾	..	..	..	10	..
18	29·872	47·7	46·2	1·5	..	..	..	..	SW	WSW	..	¾	..	..	..	1	..
20	29·873	46·7	45·1	1·6	..	..	..	..	SW	WSW	..	¾	..	..	..	4	..
22	29·887	49·8	48·0	1·8	48·0	1·8	52·4 47·1	56·2 41·4	SW	WSW	..	½	15·89	0·00	27·350	10	Transit
Nov. 11. 0	29·890	51·0	49·0	2·0	..	..	..	..	W	W	..	¼	..	..	..	10	..
2	29·871	54·6	51·5	3·1	..	..	..	..	WSW	WSW	..	¼	..	..	..	6	..
4	29·866	50·9	46·0	4·9	44·0	6·9	..	..	NW	NW	..	¾	..	..	..	4	..
6	29·868	46·0	42·7	3·3	..	..	..	..	W by S	WNW	..	½	..	..	..	2	..
8	29·875	43·3	41·2	2·1	..	..	..	..	Calm	WNW	..	½	..	..	..	7	..
10	29·874	43·2	41·4	1·8	40·5	2·7	..	..	Calm	Calm	..	..	..	..	..	9	..
12	29·836	43·6	42·1	1·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·741	43·4	42·7	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·636	43·7	43·5	0·2	43·0	0·7	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·527	45·7	45·4	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·481	50·2	49·8	0·4	..	..	..	..	SW	W	1 to 1½	¼	..	..	..	10	..
22	29·456	51·7	50·5	1·2	50·0	1·7	55·2 43·9	67·5 34·5	WSW	W	1 to 3½	1	16·06	0·38	27·703	10	..
Nov. 12. 0	29·442	50·8	48·4	2·4	..	..	..	..	WSW	W	2 to 3	1	..	..	..	3	Transit
2	29·405	49·2	47·2	2·0	..	..	..	..	WSW	W	1 to 4	½	..	..	..	3	..
4	29·392	47·7	47·5	0·2	43·0	4·5	..	..	WSW	W	1 to 2	1	..	..	..	3	..
6	29·387	44·5	41·5	3·0	..	..	..	..	WSW	W	..	½	..	..	..	6	..
8	29·405	40·7	38·7	2·0	..	..	..	..	WSW	W	0 to 1	½	..	..	..	0	..
10	29·402	38·7	36·7	2·0	35·5	3·2	..	..	SW	W	1 to 1½	½	..	..	..	0	..
12	29·392	38·0	36·5	1·5	..	..	..	..	SSW	W	2 to 3	½	..	..	..	0	..
14	29·372	37·7	36·3	1·4	..	..	..	..	SW	W	2 to 3	¾	..	..	..	0	..
16	29·344	38·2	36·7	1·5	35·0	3·2	..	..	SSW	W	1½ to 3½	½	..	..	..	0	..

Nov. 10^{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°·5, as deduced from the two-hourly observations.

Nov. 9^{d} and 10^{d}. Meteors were looked for.

Nov. 11^{d}. 12^{h}. The barometer, which for the previous eighteen hours had scarcely moved, began to fall abruptly at the rate of 0^{in}·1 in two hours: after 20^{h} it ceased to fall so quickly.

GENERAL REMARKS.	Observer.
Cirro-stratus: breaks in N. near horizon.	D
Overcast: cirro-stratus.	D
Ditto ditto.	P
Ditto ditto.	
Ditto ditto.	
Ditto ditto.	P
Ditto ditto.	D
Ditto ditto: wind in gusts.	
Ditto ditto.	
A few stars glimmering in the zenith; the sky is otherwise overcast.	
Overcast: cirro-stratus and scud.	D
Ditto ditto.	J H
Ditto: undefined clouds.	
Undefined clouds: breaks in various directions.	J H
Overcast: cirro-stratus.	D
Ditto ditto.	
Ditto ditto.	
Ditto ditto.	D
Ditto ditto.	J H
Ditto ditto: gusts of wind.	
Ditto ditto ditto.	
Vapour in N. horizon, otherwise clear: no meteors observed though carefully looked for during the night.	
Scud and undefined clouds in every direction.	J H
Overcast: cirro-stratus.	D
Ditto ditto.	
The clouds broke about $0^h.\ 40^m$: at present undefined clouds in all parts of the sky.	D
Cumuli and undefined clouds.	J H
Cirro-stratus: hazy.	
Heavy vapour generally obscuring the stars.	
Heavy vapour: a few stars visible N.E. of zenith: no meteors were observed though carefully looked for since 6^h.	J H
Overcast, one unbroken cloud, very low: a creeping fog on the ground: no opportunity of observing meteors.	G
Ditto: rain commenced falling at $13^h.\ 18^m$, and still continues.	
Ditto: rain has fallen heavily, without intermission, since 14^h: objects at a foot distance are not visible.	
Rain continues falling, but not so heavily: the barometer falling rapidly.	
The rain ceased falling directly after the last observation: the sky is quite covered with cirro-stratus and scud, the latter moving quickly from W. by N.	G
Overcast: cumulo-stratus and scud.	D
Cumulo-stratus near the horizon in N.: fragments of scud and cirro-stratus S. of the zenith.	
The appearance of the sky is the same as at the last observation: a shower of rain fell about $1^h.\ 0^m$.	D
Clear in, and 60° around the zenith: occasionally a few detached clouds of a yellowish tint pass over from W. by N.: banks of cloud in the whole horizon: cirro-cumulus in N.W.	G
Scud scattered about the sky.	D
Cloudless: hazy near the horizon.	J H
Ditto: wind in gusts: no meteors observed since the last observation, though constantly looked for from an elevated part of the Observatory; it is an unusual circumstance on a clear and windy night not to see a single meteor.	J H
Cloudless.	D
Ditto.	
Ditto.	

Nov. $12^d.\ 4^h$. The reading of the Dew Point is correct: the bulb of the Dry Thermometer was quite dry, and that of the Wet Thermometer quite wet, and therefore the fact of the readings of the Wet and Dry Thermometers being the same, with the reading of the Dew Point 4° lower, though anomalous, is certain.

Nov. $12^d.\ 8^h$ to 18^h was without cloud: this is the longest period of clear sky of any in the month.

Nov. 12^d. For observations of meteors, see the Section of Extraordinary 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.						
Nov.12.18	29·314	38·4	36·6	1·8	..	..	..	..	SSW	WSW	3 to 4½	½	..	..	..	0	New
20	29·330	39·5	36·8	2·7	..	..	..	..	SSW	WSW	2½ to 4½	½	..	..	..	6	..
22	29·361	40·8	37·8	3·0	35·0	5·8	53·2 37·7	66·4 32·3	SSW	WNW	1 to 3	1+	16·06	0·00	27·703	3	..
Nov.13. 0	29·358	43·5	38·9	4·6	..	..	..	..	W by S	WNW	2 to 4½	1½	..	..	..	½	Transit
2	29·338	44·5	39·0	5·5	..	..	..	..	W by S	WNW	2 to 3	1	..	..	..	1	..
4	29·276	44·6	40·6	4·0	39·0	5·6	..	..	WSW	SW	0 to 1	½	..	..	..	10	..
6	29·208	41·3	40·6	0·7	..	..	..	..	WSW	SW	..	½	..	..	..	10	..
8	29·128	41·0	40·4	0·6	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
10	29·056	41·8	40·5	1·3	41·0	0·8	..	..	SW	SW	..	½	..	..	..	10	..
12	29·012	39·2	38·2	1·0	..	..	..	..	SW	WSW	..	½	..	..	..	7	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	NW	...	0 to 1	..	..	..	..	..	..
22	..	..	..	..	..	..	46·2 32·6	57·0 31·7	NW	...	1 to 2½	..	16·06	0·27	28·050	..	..
Nov.14. 0	28·947	36·7	36·4	0·3	..	..	..	..	N	NNE	8 to 10	2+	..	..	..	10	..
2	29·013	..	..	..	..	..	..	..	N by W	NNW	5 to 7	2½	..	..	..	10	Transit
4	29·151	37·8	33·6	4·2	..	..	..	..	N by W	N	4 to 9	2	..	..	..	5	..
6	..	..	..	..	..	..	..	..	NNW	...	3 to 6	..	..	..	..	..	..
8	29·249	..	..	..	..	..	..	..	NNW	N	2 to 6	2	..	..	..	6	..
10	..	..	..	..	..	..	..	..	NNW	...	0 to 2	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	NW	...	..	..	..	..	..	..	..
14	29·410	30·7	29·5	1·2	..	..	..	..	Calm	WNW	..	½	..	..	..	0	..
16	29·413	28·9	27·7	1·2	27·0	1·9	..	..	Calm	WNW	..	½	..	..	..	0	..
18	29·388	28·2	31·5	−3·3	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	29·391	28·3	28·3	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
22	29·376	30·3	30·0	0·3	30·0	0·3	39·6 27·2	40·3 19·0	Calm	SW	..	¼	16·06	0·00	28·050	10	..
Nov.15. 0	29·332	35·5	31·6	3·9	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
2	29·275	36·5	34·5	2·0	..	..	..	..	ESE	SE	..	¼	..	..	..	10	Transit
4	29·237	36·1	34·5	1·6	35·5	0·6	..	..	Calm	Calm	..	..	..	..	..	10	Greatest Declination S.
6	29·207	35·0	33·7	1·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	29·202	34·4	33·7	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	29·206	34·5	33·7	0·8	32·0	2·5	..	..	Calm	Calm	..	..	..	..	..	10	..
12	29·213	32·6	31·8	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·216	31·3	30·3	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	4	..
16	29·231	32·1	31·0	1·1	30·0	2·1	..	..	NNE	Calm	..	..	..	..	..	8	..
18	29·266	31·2	30·3	0·9	..	..	..	..	N by E	Calm	..	..	..	..	..	10	..
20	29·298	30·1	28·7	1·4	..	..	..	..	NNW	Calm	..	..	..	..	..	2	..
22	29·349	31·0	29·4	1·6	30·5	0·5	36·9 29·6	37·5 33·5	WSW	Calm	..	..	16·06	0·00	28·050	8	..
Nov.16. 0	29·385	32·5	30·0	2·5	..	..	..	..	W	Calm	..	..	..	..	..	0	..
2	29·394	32·8	30·5	2·3	..	..	..	..	WSW	W	..	¼	..	..	..	4	..
4	29·413	33·1	31·8	1·3	27·0	6·1	..	..	W by S	W	..	¼	..	..	..	5	Transit

Nov. 13d. 11h. The wind suddenly began to blow with a pressure of 1lb., increasing to 2½lbs. in a quarter of an hour; at 11h. 20m there was a pressure of 2lbs.; it then gradually decreased to 1lb. at 11h. 25m; and ceased entirely at 11h. 30m.

Nov. 13d. 20h. 10m. The wind suddenly began blowing with a pressure of 1lb., increasing to 1½lb. by 20h. 30m; at 20h. 35m, it ceased.

Nov. 13d. 20h. 20m. A considerable fall of snow, the flakes being hexagonal, large, and close together; it continued falling till 20h. 35m: this is the first fall of snow this season.

Nov. 13d. 22h. No rain was registered at the Anemometer, as having fallen in the previous twenty-four hours.

GENERAL REMARKS.	Observer.
Cloudless: this has been the clearest night that we have had for some time, not a cloud having appeared during the whole time: the stars have shone brilliantly near the horizon, they not having been intercepted by the least haze or vapour: a more favourable night for the observation of meteors could not have been: twenty-eight only were observed.	D
The sky remained cloudless until about half an hour since, when clouds began to collect: at present one half of the sky is covered.	D
Light clouds in various directions.	J H
A few light clouds: strong gusts of wind.	
Light vapour and cirri, otherwise cloudless.	J H
The sky has been gradually becoming overcast since 2^h: at present every part of the sky is covered with cirro-stratus.	D
Overcast: rain falling.	
Ditto ditto.	
Ditto.	D
Cirro-stratus and vapour.	J H
Overcast: cirro-stratus and scud: squalls of rain at intervals since $21^h.\ 40^m$: sleet, or rather snow, fell early in the morning; at $20^h.\ 20^m$ large flakes fell.	
Overcast: cirro-stratus and scud, with slight rain: violent gusts of wind.	J H
Slate-coloured cumulo-strati near the horizon in the N., and the S. portion of the sky covered with scud moving from N. by E.	G
Scud and vapour.	J H
Cloudless.	
Ditto.	
Ditto: haze and vapour near the horizon.	
Scud and undefined clouds: a splendid crimson sunrise.	J H
Overcast: cirro-stratus and vapour.	D
Ditto.	
Ditto.	D
Ditto: cirro-stratus and scud.	J H
Ditto ditto.	
Ditto ditto: a very dark evening.	
Ditto: sleet falling slightly at intervals.	J H
Snow and sleet fell about $10^h.\ 40^m$; a few stars are at present shining through thin clouds: the appearance of the sky is very black.	G
Directly after the last observation, a bright meteor was observed in the E., which moved rapidly northward under the clouds: about $12^h.\ 30^m$ the clouds became much thinner, and the stars shone generally: at present nearly clear: the horizon cloudy.	
A few stars only dimly seen: the sky nearly covered with dark clouds.	
Quite overcast: the sky remained as it was at the last observation until about a quarter of an hour since.	
A little sleet fell about $18^h.\ 40^m$, since which time the clouds have nearly all disappeared, leaving the greater part of the sky clear.	G
Thick haze all over the sky.	D
Cloudless: hazy.	
Cirri in zenith: hazy.	D
Light cirri scattered all over the sky; the haze continues: the Sun shines, but casts no shadow.	G

Nov. $13^d.\ 22^h.\ 40^m$. A pressure of 5lbs. on the square foot at the Anemometer.

Nov. $14^d.\ 18^h$. The reading of the Wet Thermometer (3° higher than that of the Dry) is correct.

Nov. $14^d.\ 22^h$. Examined the perpendicularity of the barometer.

Nov. 16^d, civil reckoning. This was the coldest day in the month, the mean temperature being 30°·5, as deduced from the two-hourly observations: it froze in the shade all 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-guage 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.						
Nov. 16. 6	29·441	30·3	29·1	1·2	..	..	..	..	W by S	Calm	..	..	..	..	..	5	..
8	29·491	28·8	28·2	0·6	..	..	..	..	WSW	Calm	..	..	..	..	..	5	..
10	29·508	26·7	26·2	0·5	21·0	5·7	..	..	Calm	Calm	..	..	..	..	..	3	..
12	29·535	26·5	26·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·553	26·0	25·5	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·561	25·5	27·5	–2·0	25·5	0·0	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·581	24·8	27·0	–2·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	29·598	23·3	23·5	–0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
22	29·615	28·4	27·5	0·9	25·5	2·9	33·0 22·6	38·5 12·6	Calm	WSW	..	¼	16·06	0·00	28·050	½	..
Nov. 17. 0	29·614	34·6	31·5	3·1	..	..	..	..	Calm	SW	..	½	..	..	..	½	..
2	29·571	36·5	33·4	3·1	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
4	29·518	35·0	32·5	2·5	31·0	4·0	..	..	E by S	Calm	..	..	..	..	..	3	Transit
6	29·477	34·2	33·6	0·6	..	..	..	..	E by S	Calm	..	..	..	..	..	10	..
8	29·416	35·3	33·6	1·7	..	..	..	..	E by S	Calm	..	..	..	..	..	10	..
10	29·352	34·0	33·6	0·4	33·5	0·5	..	..	E	ESE	..	¼	..	..	..	10	..
12	29·304	34·0	33·2	0·8	..	..	..	..	E	ESE	..	¼	..	..	..	10	..
14	29·211	35·2	33·5	1·7	..	..	..	..	E by N	ESE	..	¾	..	..	..	10	..
16	29·188	34·7	33·6	1·1	32·5	2·2	..	..	E	ESE	..	½	..	..	..	10	..
18	29·155	33·0	32·4	0·6	..	..	..	..	ENE	ESE	..	¾	..	..	..	10	..
20	29·152	33·2	32·7	0·5	..	..	..	..	NE	ENE	..	¼	..	..	..	10	..
22	29·173	33·5	33·2	0·3	33·0	0·5	36·2 27·5	74·0 18·3	N by E	ENE	..	¼	16·17	0·21	28·312	10	..
Nov. 18. 0	29·242	34·5	34·2	0·3	..	..	..	..	N by E	N	..	¼	..	..	..	10	..
2	29·295	36·5	35·6	0·9	..	..	..	..	NNE	N	..	¼	..	..	..	9	..
4	29·390	37·2	35·8	1·4	34·0	3·2	..	..	NNE	NNE	..	¼	..	..	..	8	Transit
6	29·461	32·7	32·2	0·5	..	..	..	..	Calm	NNE	..	¼	..	..	..	0	..
8	29·528	29·6	29·4	0·2	..	..	..	..	Calm	NNE	..	¼	..	..	..	0	..
10	29·562	32·5	32·0	0·5	32·0	0·5	..	..	Calm	SW	..	¼	..	..	..	10	..
12	29·584	32·6	32·0	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·568	34·1	33·0	1·1	..	..	..	..	SE	SE	..	¼	..	..	..	10	..
16	29·544	36·6	35·6	1·0	34·0	2·6	..	..	SE	SE	0 to 1	¼	..	..	..	10	..
18	29·479	38·9	38·1	0·8	..	..	..	..	SE	SE	1 to 2½	2	..	..	..	10	..
20	29·410	41·6	40·8	0·8	..	..	..	..	SSE	S	1 to 3	2	..	..	..	10	..
22	29·345	44·0	43·0	1·0	43·5	0·5	43·1 30·2	44·0 21·6	SSE	S	2 to 3	½	16·19	0·06	28·363	10	..
Nov. 19. 0	29·287	44·6	44·0	0·6	..	..	..	..	SSE	SSE	..	½	..	..	..	10	..
2	29·172	45·5	45·0	0·5	..	..	..	..	SE	SE	..	¼	..	..	..	10	..
4	29·149	47·8	47·8	0·0	46·5	1·3	..	..	Calm	W	..	¼	..	..	..	9	..
6	29·189	46·0	45·8	0·2	..	..	..	..	SW	W	..	¼	..	..	..	10	Transit
8	29·238	43·1	41·5	1·6	..	..	..	..	WSW	SW¦	0 to 1½	¼+	..	..	..	10	Apogee
10	29·266	39·8	39·0	0·8	40·5	—0·7	..	..	W by S	Calm		..	..	..	..	0	..
12	29·300	37·8	37·4	0·4	..	..	..	..	SW	SW		¼	..	..	..	0	..
14	29·294	36·0	36·0	0·0	..	..	..	..	Calm	Calm		..	..	..	..	0	..

Nov. 16d. 16h, 18h, and 20h. At these times the readings of the Wet bulb Thermometer are higher than the readings of the Dry bulb Thermometer.

Nov. 16d. The lowest reading of the thermometer during the month took place on this day.

Nov. 19d. 10h. The reading of the temperature of the Dew Point is higher than that of the temperature of the Dry bulb Thermometer.

GENERAL REMARKS.	Observer.
Hazy: stars dimly seen: hoar frost on the ground: the thermometer, whose bulb is in the parabolic reflector, reads 21°·0.	G
A sharp frost set in quite suddenly; the ground quite frozen: atmosphere thick: a good many stars are now shining: the thermometer, whose bulb is in the parabolic reflector, reads 19°.	
A sharp frost: stars shining brightly: the atmosphere, except near the horizon, not so thick: the thermometer, whose bulb is in the parabolic reflector, reads 17°·5.	G
Cloudless: the thermometer, whose bulb is in the parabolic reflector, reads 16°·0.	D
Ditto ditto 15°·0.	
Ditto ditto 14°·0.	
Ditto.	
Ditto ditto 13°·0. There has not been the least change throughout the night: sharp frost.	D
Light clouds: hazy.	J H
A few light clouds in various directions: hazy.	
Light clouds, principally S. of the zenith: hazy.	J H
Light cirri in all parts of the sky: haze near the horizon.	D
The sky covered with a thin cirro-stratus.	
Overcast: cirro-stratus.	
Ditto ditto.	D
Ditto ditto.	J H
Ditto ditto: wind in gusts.	
Ditto ditto ditto: sleet falling.	
Ditto ditto: sleet falling thickly.	
Ditto ditto: sleet and snow falling.	J H
Ditto ditto: sleet and snow falling without intermission since 20^h.	D
Ditto ditto: light rain.	
The clouds breaking in all parts of the sky.	D
Scud and undefined clouds.	J H
Cloudless.	
Ditto	
Overcast: cirro-stratus.	J H
Quite cloudy: a pale yellowish light to the E. of the magnetic meridian, certainly not reflexion from the London lights; this has been visible for half an hour.	G
The same as at the last observation.	
Rain began to fall at $15^h.40^m$; quite black everywhere.	
Overcast: large drops of rain falling: wind in gusts to 2+: several loud claps of thunder heard since 17^h.	
The sky quite overcast.	G
Cirro-stratus and scud: drizzling rain.	D
Overcast: cirro-stratus and scud: rain falling.	
Ditto ditto: the rain continued to fall until within a few minutes of the observation.	D
A clear break in the West near the place of the Sun, and others near the horizon in the South: there is an upper current, driving the clouds rapidly from the N.N.W.: within five minutes after this observation a fog came on, obscuring objects at the distance of thirty yards.	G
Overcast: the fog, or mist, mentioned in the last observation, continued but a short time: at $4^h.0^m$ all the clouds had passed from the N.N.W., and the sky became quite cloudless: at $5^h.40^m$ a large mass of cloud collected in the N.W., and has now spread over the whole sky.	G
Overcast: cirro-stratus and scud: the wind blowing in moderate gusts.	P
Perfectly clear and calm: auroral light in the N.W. shining out of a bank of vapour.	M
Cloudless.	D
Ditto.	

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.						
Nov. 19.16	29·290	34·8	34·6	0·2	35·0	—0·2	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·277	31·5	31·5	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	29·291	33·3	32·0	1·3	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
22	29·259	37·1	36·8	0·3	35·5	1·6	49·0 30·7	49·4 27·1	Calm	Calm	..	..	16·33	0·20	28·580	9	..
Nov. 20. 0	29·189	47·4	47·0	0·4	..	..	..	..	SSE	SSW	..	$\frac{1}{4}$	..	..	..	$9\frac{1}{2}$	..
2	29·095	49·5	49·1	0·4	..	..	..	..	S by E	SSW	1 to $4\frac{1}{2}$	$\frac{3}{4}$	..	..	..	10	..
4	29·093	47·8	46·8	1·0	46·0	1·8	..	..	SW	W	1 to 4	2+	..	..	..	5	..
6	29·095	43·5	42·5	1·0	..	..	..	..	SSW	SW	0 to $1\frac{1}{2}$	$\frac{1}{2}$	..	..	..	1	Transit
8	29·081	44·5	43·5	1·0	..	..	..	..	SSW	SW	2 to 5	$1\frac{1}{2}$	..	..	..	10	..
10	29·125	46·7	43·7	3·0	43·0	3·7	..	..	SW	SW	$3\frac{1}{2}$ to 5	$1\frac{1}{2}$	..	..	..	10	..
12	29·201	45·0	43·3	1·7	..	..	..	..	SW	SW	4 to 8	2+	..	..	..	10	..
14	..	..	..	..	..	..	..	..	SW	...	3 to 5	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SW	...	0 to 2	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	1st. Qr.
20	..	..	..	..	..	..	..	..	SSE	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	51·8 37·4	58·0 35·0	SSE	...	1 to $3\frac{1}{2}$	..	16·47	0·20	28·920	..	..
Nov. 21. 0	29·228	51·5	51·1	0·4	..	..	..	..	SSW	SSW	$3\frac{1}{2}$ to $4\frac{1}{2}$	2	..	..	..	10	..
2	..	..	..	..	..	..	..	..	SSW	...	3 to 5	..	..	..	..	..	..
4	29·192	53·8	52·8	1·0	52·5	1·3	..	..	SSW	SSW	3 to 6	2	..	..	..	10	..
5	29·196	53·0	52·0	1·0	..	..	..	..	SSW	SSW	$4\frac{1}{2}$ to 6	2+	..	..	..	10	..
6	..	..	..	..	..	..	..	..	SSW	...	2 to 4	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	SSW	...	$\frac{1}{2}$ to 2	..	..	..	..	..	Transit
10	..	..	..	..	..	..	..	..	SSW	...	$\frac{1}{2}$ to 3	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SSW	...	$3\frac{1}{2}$ steady	..	..	..	..	..	..
14	29·138	54·2	53·7	0·5	..	..	..	..	SSW	SSW	2 to 4	$\frac{3}{4}$	..	..	..	10	..
16	29·099	55·1	54·5	0·6	52·0	3·1	..	..	SSW	SSW	3 to 4	$1\frac{1}{2}$	..	..	..	10	..
18	29·081	55·0	54·1	0·9	..	..	..	..	S by W	SW	$1\frac{1}{2}$ to 2	$1\frac{1}{2}$	..	..	..	10	..
20	29·074	55·0	54 1	0·9	..	..	..	..	S by W	SW	1 to 2	$1\frac{1}{2}$	..	..	..	10	..
22	29·075	55·2	54·2	1·0	53·0	2·2	55·6 53·0	56·0 51·0	S by W	SW	1 to $2\frac{1}{2}$	1	16·54	0·12	29·090	10	..
Nov. 22. 0	29·095	55·3	53·5	1·8	..	..	..	..	SW	SW	1 to 3	$1\frac{1}{2}$	..	..	..	8	..
2	29·087	55·8	52·6	3·2	..	..	..	..	SW	SW	1 to 4	$1\frac{1}{2}$	..	..	..	7	..
4	29·070	53·9	51·5	2·4	50·0	3·9	..	..	SW	WSW	1 to 4	1+	..	..	..	9	..
6	29·081	51·0	48·7	2·3	..	..	..	..	SW	WSW	$\frac{1}{2}$ to 3	$1\frac{1}{2}$	..	..	..	9	..
8	29·201	47·3	45·0	2·3	..	..	..	..	W by S	WSW	1 to 3	$1\frac{1}{2}$	..	..	..	10	Transit
10	29·327	43·3	41·2	2·1	40·0	3·3	..	..	WSW	WSW	1 to 2	1	..	..	..	0	..
12	29·381	40·4	38·6	1·8	..	..	..	..	WSW	WSW	1 to 3	$1\frac{1}{2}$	..	..	..	0	..
14	29·460	39·4	37·6	1·8	..	..	..	..	WSW	WSW	1 to 3	1	..	..	..	1	..
16	29·509	37·6	36·2	1·4	35·5	2·1	..	..	SW	WSW	$\frac{1}{2}$ to 1	1	..	..	..	0	In Equator
18	29·522	37·5	35·7	1·8	..	..	..	..	SW	WSW	0 to 1	$\frac{1}{4}$	..	..	..	0	..
20	29·542	37·0	35·5	1·5	..	..	..	..	SSW	WSW	..	$\frac{1}{4}$	..	..	..	0	..
22	29·573	40·5	38·3	2·2	34·0	6·5	57·0 37·0	63·4 30·0	Calm	WSW	..	$\frac{1}{4}$	16·55	0·01	29·100	2	..
Nov. 23. 0	29·583	44·0	41·6	2·4	..	..	..	..	Calm	S	..	$\frac{1}{4}$	..	..	..	9	..

Nov. 19d. 16h. The temperature of the Dew Point is higher than the temperature of the air.

Nov. 20d. 9h. 20m to 9h. 30m. Wind in gusts from 7lbs. to 10lbs. pressure on the square foot.

Nov. 20d. 10h. 30m. A gust of wind to 11lbs. on the square foot: a steady wind succeeded with a constant pressure of 7lbs. for twenty minutes: between 11h and 15h, a pressure, never less than 5lbs., frequently 7lbs., and occasionally 8lbs. on the square foot.

Nov. 20d. 16h. The wind suddenly ceased blowing after this, and no pressure is recorded until 21h. 40m, when the wind blew at once with a pressure of 1lb., and increasing.

GENERAL REMARKS.	Observer.
Cloudless: a fog began to collect directly after the observation, and within a quarter of an hour objects at the distance of a dozen yards were invisible; it soon, however, became less dense on the hill.	D
Cloudless: a light fog.	
The sky remained cloudless, with a light fog, until $19^h.\ 10^m$, when streaks of cirro-strati suddenly appeared in the South, which gradually increased until the time of observation, when, with the exception of a long clear break in the S. horizon, the whole sky was covered.	D
Stratus and vapour.	J H
The sky nearly covered with loose scud: the Sun shining at intervals.	
Overcast: cirro-stratus and scud: heavy rain since $1^h.\ 30^m$: the wind in gusts.	J H
The wind in gusts to 3: a fine break in the N.W.; under it, near the horizon, cumuli: a large dark cloud, edged with orange tints, covers the place of the Sun: the scud flying quickly from the West.	G
A bank of cirro-stratus low down in the West; otherwise cloudless.	D
Overcast: cirro-stratus: rain has been falling at intervals since $6^h.\ 40^m$.	D
Ditto ditto: wind in gusts.	J H
Ditto ditto: wind in heavy gusts.	J H
Ditto: rain falling: heavy gusts of wind.	D
Ditto: cirro-stratus and scud: a gale of wind.	D
Ditto ditto ditto.	G
Ditto: heavy rain and stormy gusts of wind.	J H
Ditto: cirro-stratus and scud: rain falling, and wind increasing.	
Ditto ditto ditto.	
Ditto ditto: the rain has ceased: the scud moving rapidly from W. by S.	J H
Ditto: a thick small rain has been falling during the last hour.	G
Cirro-stratus and scud passing rapidly from the S.W.: the sky cleared soon after the last observation.	D
Cumulo-stratus and heavy undefined clouds in all directions: gusts of wind to 2.	D
Very heavy nimbi N. and N.W. of zenith, and cirro-stratus and scud generally prevalent elsewhere.	J H
Scud and cirro-stratus: squalls.	
Ditto ditto ditto	
Cloudless: it suddenly cleared off at $9^h.\ 40^m$.	J H
Ditto: the Moon and stars shining brilliantly.	G
A dark bank of cloud about the place of the Moon, the other parts of the sky being cloudless.	
Cloudless.	
Ditto.	
Ditto.	G
Light cirri scattered about, principally South of the zenith.	D
Clear breaks in the South; the sky is otherwise covered with cirro-stratus.	

Nov. $21^d.\ 22^h.\ 40^m$. A gust of wind recording a pressure of 6lbs. on the square foot.

Nov. $21^d.\ 18^h$. Hourly observations commenced. (See Section of Term-Day Observations.)

Nov. $21^d.\ 22^h$. Examined the perpendicularity of the barometer.

Nov. $22^d.\ 6^h.\ 43^m$. A sudden increase in the pressure of the wind from 2lbs. to 8lbs., and then gradually decreasing in twenty minutes to 3lbs. on the square foot.

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.						
Nov. 23. 2	29·563	46·6	44·2	2·4	..	..	..	..	Calm	S	..	¼	..	..	..	10	..
4	29·543	44·2	42·6	1·6	41·0	3·2	..	..	Calm	SSW	..	¼	..	..	..	10	..
6	29·558	41·8	40·7	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	29·586	40·4	39·7	0·7	..	..	..	..	Calm	E	..	¼	..	..	..	10	Transit
10	29·619	40·2	39·5	0·7	39·0	1·2	..	..	Calm	Calm	..	..	..	..	..	10	..
12	29·657	40·0	39·1	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·675	38·4	37·9	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·708	35·5	34·9	0·6	35·0	0·5	..	..	WSW	Calm	..	..	..	..	..	2	..
18	29·719	34·2	33·5	0·7	..	..	..	..	WSW	Calm	..	..	..	..	..	0	..
20	29·762	34·3	33·6	0·7	..	..	..	..	WSW	Calm	..	..	..	..	..	1	..
22	29·798	35·8	35·1	0·7	33·0	2·8	47·0 33·4	54·5 26·7	SW	WSW	..	¼	16·55	0·00	29·100	0	..
Nov. 24. 0	29·805	41·5	39·4	2·1	..	..	..	..	W	WSW	..	½	..	..	.	0	..
2	29·803	43·7	40·7	3·0	..	..	..	..	W by N	WSW	0 to ½	¾	..	..	.	3	..
4	29·814	41·8	39·5	2·3	39·5	2·3	..	..	W by S	SW	..	¼	..	..	..	2	..
6	29·810	38·0	36·6	1·4	..	..	..	..	SW	SW	0 to ½	¼	..	..	..	1	..
8	29·810	36·0	35·3	0·7	..	..	..	..	WSW	SW	..	¼	..	..	..	3	..
10	29·797	34·4	33·8	0·6	32·5	1·9	..	..	WSW	SW	..	¼	..	..	..	4	Transit
12	29·765	36·3	35·6	0·7	..	..	..	..	SW	WSW	..	¼	..	..	..	10	..
14	29·723	37·4	36·5	0·9	..	..	..	..	Calm	WSW	..	¼	..	..	..	10	..
16	29·680	37·0	36·3	0·7	34·0	3·0	..	..	Calm	WSW	..	¼	..	..	..	10	..
18	29·671	35·3	35·0	0·3	..	..	..	..	Calm	WSW	..	¼	..	..	..	7	..
20	29·673	33·7	33·2	0·5	..	..	..	..	Calm	WSW	..	¼	..	..	..	2	..
22	29·681	31·0	30·6	0·4	31·0	0·0	43·8 31·1	65·0 25·5	Calm	Calm	..	..	16·55	0·00	29·100	10	..
Nov. 25. 0	29·693	35·8	35·0	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
2	29·695	40·0	38·0	2·0	..	..	..	..	NNW	WNW	..	¼	..	..	..	4	..
4	29·719	40·0	37·8	2·2	35·0	5·0	..	..	NNW	NNW	..	¼	..	..	..	1	..
6	29·766	38·6	36·6	2·0	..	..	..	..	NNW	NNW	..	½	..	..	..	9	..
8	29·793	36·5	35·3	1·2	..	..	..	..	NNW	NNW	..	¼	..	..	..	2	..
10	29·809	31·6	31·4	0·2	29·2	2·6	..	..	Calm	NNW	..	¼	..	..	..	10	Transit
12	29·814	31·2	31·0	0·2	..	..	..	..	NW	Calm	..	..	..	..	..	2	..
14	29·816	30·5	30·5	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·812	29·5	29·5	0·0	29·0	0·5	..	..	Calm	Calm	..	..	..	..	..	8	..
18	29·799	28·5	28·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
20	29·792	28·5	28·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·787	29·0	28·7	0·3	27·0	2·0	41·0 27·3	49·5 21·6	Calm	Calm	..	..	16·55	0·00	29·100	0	..
Nov. 26. 0	29·773	34·3	31·4	2·9	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
2	29·748	37·1	36·3	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
4	29·723	40·3	38·9	1·4	37·0	3·3	..	..	Calm	Calm	..	..	..	..	..	9½	..
6	29·726	39·0	37·5	1·5	..	..	..	..	ESE	Calm	..	..	..	..	..	9¾	..
8	29·718	39·2	38·0	1·2	..	..	..	..	ESE	Calm	..	..	..	..	..	10	..
10	29·718	39·6	38·3	1·3	37·0	2·6	..	..	SE	SE	..	¼	..	..	..	10	Transit
12	29·707	39·8	38·3	1·5	..	..	..	..	SE	Calm	..	..	..	..	..	10	..
14	29·682	40·2	39·2	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·645	40·6	40·0	0·6	39·8	0·8	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·625	40·6	40·3	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..

Nov. 26d and 27d. The greatest difference between the mean temperatures of any two consecutive civil days in the year took place between these two days, being 11°·9, as deduced from the two-hourly observations: a difference to the same amount occurred between September 3d and 4d.

Nov. 26d. 4h. From this time to the end of the month, with but few trifling exceptions, the sky was cloudy: it is the longest period without clear sky of any in the month.

Nov. 26d. 10h. Hourly observations commenced. (See the Section of Term-Day Observations.)

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus.	D
Ditto ditto.	G
Ditto ditto.	
Ditto ditto: the scud passing from the East, and the place of the Moon just visible.	
Ditto ditto.	G
Ditto ditto.	D
Ditto ditto. [wise clear.	
The clouds began to break immediately after the last observation: at present, cirro-stratus scattered N. and W. of zenith; other- Cloudless.	
Light clouds in the zenith; otherwise clear.	D
Cloudless: hazy.	J H
Ditto: hazy, especially N. of the zenith.	
Light cumuli: hazy: the clouds move from N.W.	J H
Cirro-stratus in the S.W. horizon, and light clouds in the zenith.	D
A large bank of cirro-stratus in the western horizon; otherwise cloudless.	
Cirro-stratus in the S.W.; otherwise clear.	
Clouds in the N.W., reaching in a fan-like form to the zenith; clouds also collecting near the Moon.	D
Large fleecy clouds and cirro-stratus have gradually collected since the last observation, and the sky is now quite covered with	J H
Overcast: cirro-stratus and scud: rain falling. [cirro-stratus.	
Ditto ditto.	
Scud and cirro-stratus: there has been a bright steady light in the N. for some time (since $14^h.40^m$).	J H
Loose scud scattered about the sky. Immediately after this observation a dense fog came on.	D
Overcast: a dense fog prevailing, so dense, indeed, that objects are undistinguishable at the distance a few yards.	P
Clear in the zenith and some distance around it; the rest of the sky obscured by clouds and dense vapour.	
Vapour still prevalent in the horizon; otherwise clear.	P
Light scud passing over from the N.N.W.: hazy, the domes of the Hospital barely visible.	J H
Scud and fleecy clouds.	
Much heavy vapour round the horizon, especially West of the meridian.	
Foggy; the large stars visible.	J H
Light transparent clouds from the N.N.W., increasing somewhat in density in the neighbourhood of the Moon: a slight fog, also, and vapour in the horizon.	P
A very dense fog, but seemingly otherwise cloudless, the Moon being distinctly visible. [the zenith.	
The fog has much increased in density since the last observation, the Moon being invisible; stars, however, are faintly seen near	
The fog is still thick, but stars are visible in and around the zenith.	
Overcast: foggy.	P
Cloudless: a thin fog prevalent.	J H
Vapour, and a thick fog.	
Light fleecy clouds and vapour.	
The sky generally covered with undefined clouds.	J H
Almost wholly overcast.	P
Overcast: cirro-stratus and scud.	P
Ditto ditto: the scud passing slowly from the East: the Moon, when free of scud, is seen with a halo about $1\frac{1}{2}^\circ$ diameter, being about three of her diameters in width.	G
Ditto ditto: the scud now passing from the South.	G
Ditto ditto.	D
Ditto ditto: small rain at times.	J H
Ditto ditto.	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.						
Nov. 26. 20	29·608	41·5	41·4	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·595	44·7	44·7	0·0	44·5	0·2	44·6 29·9	50·0 22·0	SSE	SSW	..	¼–	16·55	0·00	29·100	10	..
Nov. 27. 0	29·562	48·5	48·1	0·4	..	..	..	..	S by W	S	..	¼–	..	..	..	10	..
2	29·548	50·5	50·0	0·5	..	..	..	..	S by W	S	..	¼	..	..	..	10	..
4	29·523	51·0	50·6	0·4	50·5	0·5	..	..	S by W	Calm	..	..	..	..	..	10	..
6	29·534	49·6	49·0	0·6	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
8	29·475	48·0	47·7	0·3	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
10	29·508	49·0	48·8	0·2	47·5	1·5	..	..	S by E	Calm	..	..	..	..	..	10	..
12	29·498	50·7	50·7	0·0	..	..	..	..	SW	SW	..	¼	..	..	..	10	Transit
14	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	W by S	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
22	29·534	47·6	47·3	0·3	..	..	51·6 44·2	53·0 41·5	SSW	Calm	..	..	16·59	0·07	29·190	10	..
Nov. 28. 0	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	SSW	...	0 to 2	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
6	29·493	45·2	44·0	1·2	..	..	..	..	SW	SE	..	¼	..	..	..	2	..
8	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	Full
10	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	Transit
14	29·238	51·0	50·8	0·2	..	..	..	..	SSW	SSW	4½ to 7	2	..	..	..	10	..
16	29·202	51·7	51·5	0·2	51·5	0·2	..	..	SSW	SSW	5 steadily	2½	..	..	..	10	..
18	29·152	53·6	53·4	0·2	..	..	..	..	SSW	SSW	5 steadily	2½	..	..	..	10	..
20	29·075	52·8	52·5	0·3	..	..	..	..	SSW	SSW	3 to 6	2	..	..	..	10	..
22	29·115	49·4	49·3	0·1	47·0	2·4	53·9 44·9	57·6 40·0	SW	SSW	½ to 3	2	17·07	0·68	30·040	10	..
Nov. 29. 0	29·095	50·2	49·5	0·7	..	..	..	..	SW	SSW	2 to 2½	1½	..	..	..	5	..
2	29·048	51·6	51·1	0·5	..	..	..	..	SW	SSW	1 to 1½	1½	..	..	..	10	..
4	28·964	53·6	53·2	0·4	53·5	0·1	..	..	SSW	SSW	1½ to 3	1½	..	..	..	10	..
6	28·878	53·7	53·4	0·3	..	..	..	..	SSW	SSW	5 to 8	2½	..	..	..	10	..
8	28·872	56·3	55·5	0·8	..	..	..	..	SW	SSW	4½ to 8	3	..	..	..	10	Greatest Declination N.
10	28·881	55·7	54·7	1·0	55·5	0·2	..	..	SW	SSW	3 to 6	1½	..	..	..	10	..
12	28·834	55·7	55·4	0·3	..	..	..	..	SSW	SSW	6 to 10½	2½	..	..	..	10	..
14	28·771	55·7	55·3	0·4	..	..	..	..	SSW	SSW	7 to 16	3	..	..	..	10	Transit
16	28·759	54·9	54·7	0·2	52·0	2·9	..	..	SSW	SSW	4 to 8	3	..	..	..	10	..
18	28·782	51·5	50·0	1·5	..	..	..	..	SSW	SW	4 to 6	3	..	..	..	10	..
20	28·805	52·0	49·8	2·2	..	..	..	..	SSW	SW	5 to 9	2½	..	..	..	9	..
22	28·826	53·4	50·5	2·9	51·5	1·9	58·3 51·8	58·5 46·8	SSW	SSW	4 to 9	2½	17·37	0·35	30·622	10	..
Nov. 30. 0	28·838	51·5	50·2	1·3	..	..	..	..	SW	SSW	2 to 7	2	..	..	..	10	..
2	28·847	52·3	49·8	2·5	..	..	..	..	SW	SSW	3½ to 5½	2	..	..	..	10	..
4	28·886	53·1	49·7	3·4	49·0	4·1	..	..	SSW	SSW	3½ to 6	2½	..	..	..	10	..
6	28·897	49·5	48·7	0·8	..	..	..	..	SSW	SSW	5 to 8	2½	..	..	..	10	..
8	29·031	48·0	46·6	1·4	..	..	..	..	SW	SSW	1 to 3	1+	..	..	..	3	..
10	29·126	46·7	45·3	1·4	44·5	2·2	..	..	SSW	SW	1 to 3	1	..	..	..	3	..
12	29·184	46·2	44·6	1·6	..	..	..	..	SW	SW	0 to ½	¾	17·44	0·12	30·853	5	..

Nov. 27d. 15h. 20m to 15h. 40m. The wind blew with a pressure of ½lb. to 2½lbs. on the square foot; previously it had been quite calm.

Nov. 27d. 18h. Within five minutes afterwards the wind began to blow with a pressure of ½lb. on the square foot, and gradually increased to 3lbs. by 18h. 20m; for the next fifteen minutes it blew with a pressure of 2lbs. to 3lbs.; at 18h. 40m it was quite calm again.

Nov. 28d. 12h. 40m. The wind began to blow at once with a pressure of 3lbs. on the square foot.

Nov. 28d. 15h. 10m to 15h. 20m. A nearly constant pressure of 11lbs. on the square foot; immediately after this the registering pencil broke: by the friction of the pencil socket on the paper, a nearly mean pressure of 5lbs. is shown, and 5lbs. is therefore inserted at 16h and 18h: immediately after 18h, a new pencil was inserted.

Nov. 28d. 21h. 5m. Gusts of wind with a pressure of 11lbs. on the square foot.

Nov. 28d. 22h. Examined the perpendicularity of the barometer.

Nov. 29d. The highest reading of the thermometer during the month took place on this day.

Nov. 29d, civil reckoning. This was the hottest day in the month, its mean temperature being 52°·9, as deduced from the two-hourly observations.

Nov. 29d, civil reckoning. The mean difference of the Dry and Wet Thermometers 0°·4. (See note to Nov. 1d.)

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and scud: small rain at times.	P
Ditto ditto ditto.	G
Overcast: cirro-stratus and scud.	P
Ditto ditto.	J H
Ditto ditto.	D
Ditto ditto: a thin rain falling.	P
Ditto ditto: the clouds somewhat thinner in the neighbourhood of the Moon.	P
Ditto ditto: rain falling.	J H
Ditto ditto ditto.	D
Overcast.	G
A bank of clouds in N.W. and a few about the Moon, the rest of the sky free from clouds: rain fell about $0^h.\ 40^m$.	G
Overcast: rain falling: the wind blowing a gale.	D
Ditto: a thin rain from low scud: the Moon's place visible: heavy gusts of wind.	
Ditto ditto: strong gusts of wind to 3.	
Ditto ditto.	D
Ditto ditto: heavy rain in squalls.	J H
At $22^h.\ 20^m$ a break appeared in N.W., and since that time the clouds have gradually broken, and the sky become less clouded.	
Overcast.	J H
Ditto: rain in squalls.	D
Ditto ditto: heavy gusts of wind.	
Ditto: scud passing rapidly from the S. S.W., the Moon being at times visible behind it: the wind blowing a gale.	
Ditto: cirro-stratus and scud: light rain falling: wind in heavy gusts.	D
Ditto ditto ditto ditto.	J H
Ditto ditto: squalls of rain, and very heavy gusts of wind to 5.	
Ditto ditto ditto.	
Ditto ditto: violent gusts of wind to 4+.	
The sky generally covered with dark scud: the wind still blowing a heavy gale, and in sudden, violent gusts from 3 to 4.	J H
Overcast: cirro-stratus and scud: continued gale of wind.	D
Ditto ditto: at $10^h.\ 40^m$ a violent squall of wind and rain, the wind being in violent gusts to 3+.	
Ditto ditto: wind in heavy gusts.	D
Ditto ditto.	J H
Ditto: scud and nimbi: heavy gusts of wind: heavy squalls of rain at times between $6^h.\ 0^m$ and $6^h.\ 40^m$.	
Scud and cirro-stratus: the wind still blowing in gusts, but much less violently than at $7^h.\ 0^m$.	
Scud; principally South of the zenith.	J H
Cirro-stratus and scud: at $11^h.\ 20^m$ a faint halo around the Moon about four of her diameters in width (about 2°): at $11^h.\ 45^m$ a pretty curved lunar light, the extreme edge being red, the internal blue; in a few minutes another lunar halo appeared, its diameter being about $13\frac{1}{2}°$.	G

Nov. 29d. 2h. 40m. The wind which had been blowing strongly suddenly ceased, and for one hour afterwards it was quite calm; at 3h. 40m it again began to blow as strongly as it had done before: this calm in so long and heavy a gale is remarkable.

Nov. 29d. 6h. 45m. Gusts of wind with a pressure of 13lbs.

Nov. 29d. 14h. 30m. A pressure of 16lbs.; at 14h. 35m a pressure of 24lbs.; about 14h. 45m varying from 19lbs. to 22lbs.; at 14h. 50m the pressure was 18lbs.; about 15h. 10m varying from 18lbs. to 21lbs.; and about 15h. 20m the pressure varied from 10lbs. to 18lbs.

Nov. 29d. 16h. This is the lowest reading of the barometer during the month, each successive reading has been less since November 25d. 14h.

Nov. 29d. 16h. 15m and 22h. 15m. Gusts of wind with a pressure of 13lbs. on the square foot.

Nov. 30d, civil reckoning. The mean height of the barometer was less on this day than on any other day during the month, being 28in·896, as deduced from the two-hourly observations.

Nov. 30d. 4h. 40m. Gusts of wind recording a pressure of 8lbs. on the square foot.

Nov. 30d. 12h. The amount of rain collected during the month of November, in the rain-gauge No. 4, was 3in·70.

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.						
Nov. 30. 14	29·222	45·8	44·4	1·4	..	..	..	..	SSW	SW	..	½	..	..	..	3	Transit
16	29·236	44·8	44·1	0·7	44·0	0·8	..	..	S	SW	..	¼	..	..	..	3	..
18	29·251	45·6	45·3	0·3	..	..	..	..	S by E	SW	..	¼	..	..	..	5	..
20	29·269	46·4	45·9	0·5	..	..	..	..	SSE	S	..	¼	..	..	..	10	..
22	29·282	46·6	46·3	0·3	46·5	0·1	54·8 44·9	55·8 38·8	SSE	SSE	..	¼	17·44	0·00	30·853	10	..
Dec. 1. 0	29·261	49·0	48·5	0·5	..	..	..	..	SSE	SSE	..	¼	..	..	..	10	..
2	29·212	50·0	49·2	0·8	..	..	..	..	SE	SE	..	¼	..	..	..	10	Perigee
4	29·212	49·0	48·8	0·2	48·0	1·0	..	..	Calm	SSE	..	¼	..	..	..	10	..
6	29·234	47·3	46·8	0·5	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
8	29·253	46·8	46·7	0·1	..	..	..	..	SSW	Calm	..	..	..	..	..	9	..
10	29·270	46·7	46·2	0·5	46·0	0·7	..	..	SSW	Calm	..	..	..	..	..	10	..
12	29·271	46·5	46·4	0·1	..	..	..	..	S	Calm	..	..	..	..	..	10	..
14	29·285	47·7	47·2	0·5	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
16	29·309	46·5	45·8	0·7	46·0	0·5	..	..	SSW	SSW	..	¼	..	..	..	3	Transit
18	29·323	45·9	45·3	0·6	..	..	..	..	SSW	SSW	..	¼	..	..	..	3	..
20	29·342	45·5	44·6	0·9	..	..	..	..	S by W	SSW	..	¼	..	..	..	8	..
22	29·358	48·2	47·0	1·2	44·0	4·2	50·8 45·2	51·0 40·1	SSW	SSW	..	¼	17·62	0·20	31·070	4	..
Dec. 2. 0	29·341	49·7	48·0	1·7	..	..	..	..	SSW	SSW	0 to 1½	½	..	..	..	6	..
2	29·333	50·0	47·5	2·5	..	..	..	..	S by W	SW by W	0 to ½	½	..	..	..	9½	..
4	29·320	48·8	47·2	1·6	47·5	1·3	..	..	S by E	S	..	¼	..	..	..	10	..
6	29·295	47·2	46·2	1·0	..	..	..	..	S by E	S	..	¼	..	..	..	9	..
8	29·216	47·2	46·5	0·7	..	..	..	..	SSE	SSE	0 to 1	½	..	..	..	10	..
10	29·183	47·6	46·2	1·4	46·5	1·1	..	..	SSE	SSE	0 to ½	¼	..	..	..	10	..
12	29·099	48·0	46·2	1·8	..	..	..	..	SE	SE	0 to ½	¾	..	..	..	10	..
14	29·008	48·8	46·6	2·2	..	..	..	..	SSE	SE	1½ to 4	1½	..	..	..	10	..
16	28·938	48·7	47·7	1·0	45·0	3·7	..	..	SSE	SE	1 to 3	1+	..	..	..	10	Transit
18	28·904	49·4	48·7	0·7	..	..	..	..	SSE	SSE	0 to 1	1	..	..	..	10	..
20	28·869	49·8	48·8	1·0	..	..	..	..	SSE	SSE	0 to ½	1	..	..	..	10	..
22	28·837	51·7	49·8	1·9	51·0	0·7	52·2 47·7	59·1 42·4	SSE	SSE	1 to 3	¾	17·68	0·07	31·174	10	..
Dec. 3. 0	28·846	52·5	51·4	1·1	..	..	..	..	S by W	S	2 to 3	1	..	..	..	8	..
2	28·878	51·1	49·0	2·1	..	..	..	..	SSW	SSW	1 to 6	1+	..	..	..	8	..
4	28·952	50·2	47·0	3·2	45·0	5·2	..	..	SW	SW	1 to 3	¾	..	..	..	8	..
6	29·003	47·3	45·1	2·2	..	..	..	..	SW	SW	2 to 3	¾	..	..	..	4	..
8	29·031	46·8	44·6	2·2	..	..	..	..	SSW	SW	2 to 4	1½	..	..	..	6	..
10	29·064	47·3	44·3	3·0	43·0	4·3	..	..	SSW	SW	1 to 5	2	..	..	..	7	..
12	29·103	45·8	42·3	3·5	..	..	..	..	SSW	SW	3 to 6	2	..	..	..	4	..
14	29·133	44·5	40·7	3·8	..	..	..	..	SSW	SSW	1 to 3	1	..	..	..	4	..
16	29·141	43·0	40·7	2·3	40·0	3·0	..	..	SSW	SSW	0 to 1	1	..	..	..	4	..
18	29·135	43·1	40·9	2·2	..	..	..	..	SSW	SW	0 to 1	1	..	..	..	5	Transit
20	29·133	43·4	42·0	1·4	..	..	..	..	SSW	SSW	1 to 2½	1	..	..	..	2	..
22	29·153	46.5	44·6	1·9	45·0	1·5	53·3 42·8	55·4 35·9	S by W	SSW	1½ to 3½	1	17·69	0·08	31·323	6	..

Dec. 2d. 22h. This is the lowest reading of the barometer during the month at the two-hourly observations; the lowest reading is 28in·827. (See Section of Extraordinary Observations, December 2d. 23h. 10m.)

Dec. 2d. 23h. Wind with a pressure varying from 4lbs. to 6lbs. on the square foot.

Dec. 3d, civil reckoning. This was the hottest day in the month, the mean temperature being 49°·1, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
A halo 44° in diameter in its vertical direction, and 42° in its horizontal direction; also, a smaller one, about twice the Moon's diameter: cirri and bars of light cloud in several parts of the sky: generally clear in the North.	G
The halo still continues: the distance from the Moon's center to the upper part of the inner ring is $22\frac{1}{2}°$; to the lower part of the inner ring, $22\frac{1}{2}°$; and the distance to the outer edge, 24°, both above and below; its horizontal diameter to the middle of the ring is 42°: a few bars of cirri and cirro-strati in the South.	
Cirri and cumulo-strati in every direction: a very faint halo, about the same dimensions as before, still visible.	
Overcast: the clouds came up shortly after the last observation, and completely obscured the sky: the Moon, when last seen, was surrounded with a faint halo.	G
Overcast: cirro-stratus.	D
Ditto ditto.	
Ditto ditto: a few drops of rain falling.	D
Ditto ditto: rain falling heavily.	J H
Ditto: a Scotch mist prevalent.	G
Light rain has continued falling since the last observation: stars visible in the zenith, and a few also in other parts of the sky, the rest of the sky being covered with nimbi and scud.	
Overcast: the cirro-stratus thin, stars being occasionally faintly seen through it.	G
Ditto: cirro-stratus and scud: light rain falling.	D
Ditto ditto: the cirro-stratus thin.	
Light clouds in different parts of the sky.	
Cirro-stratus only N.W. of the zenith.	
Scud passing over from the S.W.: the whole horizon quite free from cloud: at $20^h.\ 10^m$ the sky was cloudless.	D
Large white cumuli and scud.	J H
Cumuli and cumulo-strati: the wind in gusts.	
Cirro-stratus and scud.	J H
Ditto ditto.	D
Ditto ditto: a few stars glimmering in the zenith.	
Overcast: cirro-stratus.	
Ditto ditto.	D
Broken clouds of no definite modification.	J H
The sky covered with a net-work of cloud resembling scud: the wind in gusts.	
Overcast: cirro-stratus and scud: small rain.	
Ditto ditto ditto.	
Scud passing rapidly from the S. S. E.: the wind in gusts.	J H
Overcast: cirro-stratus and scud.	D
Cirro-stratus and scud: breaks in different parts of the sky: heavy rain has fallen since the last observation.	
Ditto ditto: clear breaks in various directions.	D
Scud and cumulo-stratus.	J H
Scud in various directions: an auroral light in the N. An auroral arch was about this time seen at Cambridge.	
Vapour and cirro-stratus, chiefly West of the zenith: the wind in gusts to $1\frac{1}{2}+$.	
Cirro-stratus and scud: wind in heavy gusts.	J H
Loose scud in the North, the greater portion of the sky being free from cloud: wind in strong gusts.	G
Bars and tufts of cirri collecting, but principally in the northern portion of the sky.	
Scud and patches of cirri only North of the zenith.	
The sky half covered with scud: the Moon shining brightly.	
A bank of cloud in the S. and S. E. horizon, the sky being with this exception clear.	G
Cirro-stratus and light scud scattered about the sky.	D

Dec. 3^d, civil reckoning. The mean height of the barometer was less on this day than on any other day during the month, being $28^{in}\cdot953$, 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.						
Dec. 4. 0	29·183	47·8	45·8	2·0	..	..	..	..	SW	SW	3 to 4½	1+	..	..	..	10	..
2	29·207	45·5	45·2	0·3	..	..	..	..	SW	WSW	3 to 4	1	..	..	..	10	..
4	29·275	46·3	45·8	0·5	45·0	1·3	..	..	SW	WSW	2 to 3	1	..	..	..	10	..
6	29·354	47·6	45·5	2·1	..	..	..	..	WSW	SW	2 to 3	1½	..	..	..	10	..
8	29·434	47·5	45·0	2·5	..	..	..	..	WSW	SW	2 to 3	1	..	..	..	8	..
10	29·512	48·6	45·0	3·6	44·0	4·6	..	..	WSW	SW	2½ to 5	2	..	..	..	10	..
12	29·606	47·3	43·2	4·1	..	..	..	..	WSW	SW	2 to 5	1½	..	..	..	10	..
14	..	..	..	..	..	..	..	..	WSW	...	2 to 3½	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	WSW	...	1½ to 4	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SW	...	1½ to 2	..	..	..	..	..	Transit
20	..	..	..	..	..	..	..	..	SW	...	0 to 1	..	..	..	..	..	..
22	29·846	44·2	41·2	3·0	..	..	49·2 41·8	52·5 36·8	SW	W by N	½ to 1½	¾	17·77	0·13	31·500	8	..
Dec. 5. 0	..	..	..	..	..	..	..	..	WSW	...	½ to 3	..	..	..	..	..	3rd Qr.
2	..	..	..	..	..	..	..	..	W by S	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	W by S	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
8	29·957	41·6	40·1	1·5	..	..	..	..	SW	WNW	..	¼	..	..	..	5	..
10	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
14	29·913	45·8	44·8	1·0	..	..	..	..	SSW	S	..	¼	..	..	..	10	In Equator
16	29·858	45·6	43·7	1·9	44·0	1·6	..	..	S by W	S	0 to ½	½	..	..	..	10	..
18	29·794	48·0	47·4	0·6	..	..	..	..	S by W	S	0 to ½	¾	..	..	..	10	..
20	29·725	48·5	48·2	0·3	..	..	..	..	S	S	1 to 3	1½	..	..	..	10	Transit
22	29·646	49·8	49·5	0·3	47·0	2·8	50·6 41·5	57·5 35·6	S	SSW	1½ to 3	1	17·85	0·10	31·653	10	..
Dec. 6. 0	29·570	51·4	51·0	0·4	..	..	..	..	S	SSW	2 to 3	1	..	..	..	10	..
2	29·480	49·0	48·5	0·5	..	..	..	..	SW	SW	1½ to 2	1+	..	..	..	10	..
4	29·535	45·6	45·3	0·3	45·5	0·1	..	..	W by S	W	0 to 1	½	..	..	..	10	..
6	29·569	44·5	44·3	0·2	..	..	..	..	W by S	WSW	0 to 1½	½	..	..	..	10	..
8	29·609	43·5	42·5	1·0	..	..	..	..	WSW	W	0 to ½	½	..	..	..	8	..
10	29·638	41·3	40·3	1·0	40·0	1·3	..	..	SW	WSW	½ to 1	¾	..	..	..	0	..
12	29·664	40·0	38·6	1·4	..	..	..	..	WSW	SW	0 to 1	½	..	..	..	0	..
14	29·695	38·7	37·5	1·2	..	..	..	..	WSW	SW	..	½	..	..	..	0	..
16	29·723	37·5	36·6	0·9	35·0	2·5	..	..	SW	SW	..	½	..	..	..	9	..
18	29·737	39·7	39·5	0·2	..	..	..	..	SW	SW	..	¼	..	..	..	9½	..
20	29·759	41·8	40·5	1·3	..	..	..	..	SW	SW	..	¼	..	..	..	9	Transit
22	29·799	42·0	40·9	1·1	41·5	0·5	52·5 37·2	53·0 29·0	SW	SW	..	¼	17·95	0·22	31·893	7	..
Dec. 7. 0	29·797	44·8	43·0	1·8	..	..	..	..	SW	WSW	..	¼	..	..	..	1	..
2	29·788	47·7	45·3	2·4	..	..	..	..	SW	SW	..	¼	..	..	..	8	..
4	29·765	46·7	45·2	1·5	43·5	3·2	..	..	SW	SW	..	¼	..	..	..	8	..
6	29·758	47·1	46·1	1·0	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
8	29·730	48·4	47·6	0·8	..	..	..	..	S by W	SW	..	¼	..	..	..	10	..
10	29·694	49·0	48·3	0·7	47·0	2·0	..	..	SSW	SW	..	¼	..	..	..	10	..
12	29·665	48·5	48·0	0·5	..	..	..	..	SSW	SSW	0 to 1	¼	..	..	..	10	..
14	29·588	48·7	48·3	0·4	..	..	..	..	SSW	SSW	0 to ½	¼	..	..	..	10	..
16	29·534	48·7	48·6	0·1	48·4	0·3	..	..	SSW	SSW	½ to 1½	¼	..	..	..	10	..
18	29·450	48·7	48·6	0·1	..	..	..	..	SSW	SSW	½ to 3	¼	..	..	..	10	..
20	29·415	48·8	48·6	0·2	..	..	..	..	SSW	W	0 to ½	¼	..	..	..	10	Transit
22	29·362	50·2	49·6	0·6	50·0	0·2	50·6 42·6	58·0 38·7	SSW	W by S	½ to 2½	¼	18·02	0·14	32·049	10	..

Dec. 4^d, civil reckoning. This day, and also Dec, 9, had less relative moisture in the atmosphere than any other days in the month, the mean difference of the Dry and Wet Thermometers being 2°·2 on both days, as deduced from the two-hourly observations.

Dec. 5^d. 22^h. Examined the perpendicularity of the barometer.

Dec. 6^d. 2^h. 10^m. A sudden increase in the pressure of the wind from 1½lb. to 4lbs., and then a gradual increase for five minutes to 6lbs.; at 2^h. 20^m the pressure was 3lbs.; and then the pressure gradually decreased to ¾lb. at 2^h. 35^m: previous to the squall the direction of the wind was S.W.; at 2^h. 10^m it was W.S.W.; at 2^h. 15^m it was W.; at 2^h. 30^m it was W.N.W.; at 2^h. 45^m it was still W.N.W.; at 3^h. 5^m it was W.; at 3^h. 20^m it was W.S.W., and afterwards changed towards the W.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and scud: light rain falling.	D
Ditto ditto ditto. After this observation the barometer rose quickly.	D
Ditto ditto ditto.	G
Ditto ditto.	
A few stars visible about the zenith and South of it, the rest of the sky being overcast.	
Overcast.	G
Ditto.	D
Fleecy and undefined clouds.	J H
Heavy vapour and mist prevalent.	J H
Overcast: rain falling.	D
Ditto: cirro-stratus.	
Ditto ditto: a slight rain falling.	
Ditto ditto ditto: wind in gusts.	D
Ditto ditto ditto.	J H
Ditto ditto ditto.	
Ditto ditto ditto: at $2^h.\ 15^m$ a violent squall of wind and rain from the W.N.W.	J H
Ditto ditto ditto.	D
Ditto ditto ditto.	
Cirro-stratus and vapour: a few stars faintly visible.	
Cloudless.	D
Ditto.	J H
Ditto.	
A kind of cirro-cumulus generally prevalent South of the zenith; elsewhere cirro-stratus.	
Fleecy clouds nearly covering the sky.	
Dark scud generally scattered over the sky.	J H
Cirro-stratus covering the greater portion of the sky.	D
A few clouds near the horizon; otherwise quite clear.	
Cirro-stratus and fleecy clouds.	D
Ditto ditto.	J H
Overcast: cirro-stratus.	
Ditto ditto: a few drops of rain.	
Ditto ditto: a slight rain has at times fallen since the last observation.	J H
Ditto: rain falling.	G
Ditto: the night extremely dark, so much so, that objects a very inconsiderable distance from the eye are not visible.	
Ditto: rain falling.	
Ditto ditto.	
Ditto: the rain ceased about an hour since.	G
Ditto: slight rain since last observation.	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.						
Dec. 8. 0	29·314	51·5	50·0	0·5	..	..	..	..	WSW	WSW	1 to 3	¾	..	..	..	10	..
2	29·269	52·6	49·6	3·0	..	..	..	..	W	WSW	1 to 3	½	..	..	..	6	..
4	29·268	50·2	45·7	4·5	43·0	7·2	..	..	W	NNW	½ to 3	1	..	..	..	10	..
6	29·278	46·6	44·7	1·9	..	..	..	..	W	NNW	½ to 1	1	..	..	..	8	..
8	29·308	45·2	43·7	1·5	..	..	..	..	W by S	W	..	½	..	..	..	6	..
10	29·354	45·6	43·0	2·6	41·0	4·6	..	..	W by N	W	..	½	..	..	..	9	..
12	29·408	44·4	43·2	1·2	..	..	..	..	W	W	..	¼	..	..	..	0	..
14	29·480	45·3	42·9	2·4	..	..	..	..	NW	NW	0 to 2	½	..	..	..	5	..
16	29·569	42·3	39·5	2·8	39·5	2·8	..	..	NNW	NNW	0 to 1½	⅓	..	..	..	0	..
18	29·674	41·1	37·7	3·4	..	..	..	..	NNW	NW	0 to ½	¼	..	..	..	0	..
20	29·742	38·5	36·1	2·4	..	..	..	..	NNW	NNW	..	¼	..	..	..	0	..
22	29·790	40·7	38·0	2·7	36·0	4·7	53·2 38·8	59·7 31·7	WNW	NW	..	¼	18·02	0·00	32·053	4	Transit
Dec. 9. 0	29·823	42·0	39·5	2·5	..	..	..	..	WNW	NW	..	¼	..	..	..	6	..
2	29·812	42·4	39·0	3·4	..	..	..	..	WNW	NW	..	¼	..	..	..	6	..
4	29·799	40·4	38·5	1·9	38·5	1·9	..	..	W by S	W	..	¼	..	..	..	8	..
6	29·749	40·3	38·5	1·8	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
8	29·683	41·4	39·5	1·9	..	..	..	..	SW	SW	0 to ½	¼	..	..	..	10	..
10	29·577	41·5	40·6	0·9	41·0	0·5	..	..	SSW	SW	1 to 2½	¾	..	..	..	10	..
12	29·468	44·7	44·0	0·7	..	..	..	..	SW	SW	4 to 4½	1	..	..	..	10	..
14	29·407	47·5	46·7	0·8	..	..	..	..	SW	SW	2 to 3	1½	..	..	..	10	..
16	29·362	49·2	48·5	0·7	45·0	4·2	..	..	SW	SW	1 to 1½	1	..	..	..	10	..
18	29·331	50·0	49·0	1·0	..	..	..	..	SW	SW	1 to 3	1	..	..	..	10	..
20	29·318	50·0	48·8	1·2	..	..	..	..	SW	SW	..	¾	..	..	..	9	..
22	29·263	49·7	49·5	0·2	49·5	0·2	50·9 39·9	51·5 33·8	SW	WSW	1 to 2½	½	18·06	0·05	32·148	10	Transit
Dec. 10. 0	29·180	51·8	51·7	0·1	..	..	..	..	WSW	WSW	3½ to 4½	1½	..	..	..	10	..
2	29·138	53·6	51·6	2·0	..	..	..	..	WSW	WSW	4 to 4½	1½	..	..	..	10	..
4	29·269	47·7	45·0	2·7	44·0	3·7	..	..	W by N	WNW	½ to 1	¼	..	..	..	9	..
6	29·356	45·1	41·9	3·2	..	..	..	..	W by N	NNW	1 to 3	¾	..	..	..	8	..
8	29·400	42·3	39·0	3·3	..	..	..	..	W	NNW	2½ to 4½	1	..	..	..	3	..
10	29·480	42·2	38·3	3·9	37·0	5·2	..	..	W by N	NW	2 to 4	1	..	..	..	8	..
12	29·552	42·0	38·3	3·7	..	..	..	..	W by N	NW	1 to 3	1	..	..	..	0	..
14	29·632	39·8	37·7	2·1	..	..	..	..	W	NW	0 to 1	1	..	..	..	0	..
16	29·681	39·4	37·2	2·2	36·0	3·4	..	..	WSW	NW	..	¾	..	..	..	2	..
18	29·721	37·8	36·0	1·8	..	..	..	..	WSW	NW	..	¼	..	..	..	0	..
20	29·770	38·2	35·7	2·5	..	..	..	..	W	W	0 to 1	¼	..	..	..	0	..
22	29·782	39·4	37·3	2·1	37·5	1·9	53·9 37·1	56·4 34·3	WSW	W by S	0 to ½	¼	18·06	0·04	32·309	8	..
Dec. 11. 0	29·801	41·9	39·2	2·7	..	..	..	..	W by S	W	1 to 3	¼	..	..	..	8	Transit
2	29·796	44·3	41·2	3·1	..	..	..	..	W	W	1 to 2	½	..	..	..	0	..
4	29·802	44·0	41·2	2·8	39·5	4·5	..	..	W by S	W	..	½	..	..	..	0	..
6	29·822	40·2	38·5	1·7	..	..	..	..	WSW	W	..	¼	..	..	..	0	..
8	29·832	38·7	37·6	1·1	..	..	..	..	SW	W	0 to ½	¼	..	..	..	0	..

Dec. 8d. 14h. 45m to 15h. 5m. The wind blew with a pressure varying from 2lbs. to 4½lbs. on the square foot.

Dec. 9d, civil reckoning. The mean difference of the Dry and Wet Thermometers 2°·2. (See note to Dec. 4d.)

Dec. 10d. The highest reading of the thermometer during the month took place on this day.

Dec. 10d and 11d. A difference of 0in·436 in the mean height of the barometer took place between these two civil days, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and scud: wind in gusts.	D
The sky generally clear South of the zenith: heavy-looking clouds in N.W.	D
Overcast: the scud moving from the West.	G
The clouds broken about the zenith, and a few stars dimly seen: squally since the last observation.	
Almost immediately after the last observation the zenith, and sky around it for 50°, became quite clear; the horizon remaining obscured, and heavy, dark masses of scud prevailing elsewhere; and continues so at present. An aurora was visible at Cambridge at $8^h.45^m$.	
Very few clouds were visible at $9^h.40^m$; immediately afterwards a dark cloud, running due N. and S., appeared, which has since spread, and the sky is now nearly overcast.	G
Cloudless.	D
Clouds collecting in all parts of the sky: the sky again became clear a short time after this observation.	
Cloudless.	
Ditto.	
Ditto.	D
Light fleecy clouds in every direction: hazy.	J H
Light fleecy clouds in every direction: hazy.	
Vapour and fleecy clouds: hazy.	J H
Sky nearly covered with cirro-stratus and dark scud.	D
Overcast: cirro-stratus.	
Ditto: rain falling.	
Ditto ditto.	D
Ditto: rain in squalls: gusts of wind: a damp unusual feeling in the air.	J H
Overcast: cirro-stratus: strong gusts of wind.	
Ditto ditto.	
Ditto ditto.	
Cirro-stratus and scud.	J H
Overcast: cirro-stratus and scud: small rain.	D
Ditto ditto ditto.	
Ditto ditto.	D
Fleecy clouds and scud: barometer rising rapidly.	J H
Scud passing over rapidly.	
Scud and vapour. At $7^h.20^m$ a fine meteor shot from near α Lyræ towards Cygnus, with (apparently) a vertical motion upwards; it was equal in brilliancy to α Cygni.	
Vapour: stars appear dim and watery. About $10^h.7^m.10^s$ a splendid meteor shot North of Cancer from a point in Ursa Major near the star numbered 9; it was accompanied by a train of light, visible three seconds after the disappearance of the meteor; its colour was pale yellow.	J H
Cloudless; but the horizon very dark.	G
Cloudless: the stars appear large and watery.	
Nearly cloudless: vapour.	
Cloudless.	
Ditto.	
Cirro-stratus and light clouds	G
A clear break extending from W. to N.N.E. horizon, every other part of the sky covered with cirro-stratus.	D
Cloudless: the clouds gradually disappeared after the last observation.	D
Ditto.	G
Nearly cloudless, only a little cloud in N.W. At $7^h.28^m.27^s$ a small meteor passed between γ and β Aquilæ, at right angles (nearly) to a line passing through γ, α and β Aquilæ; motion E. to W.	
A small cloud still in the N.W.; it is a narrow streak of cloud, and has been motionless the last two hours: every other part of the sky cloudless.	

Dec. 10^d. Immediately after 2^h, the wind suddenly changed from W S.W. to N. N.W., with a pressure of 4lbs. to 8lbs. on the square foot: it then gradually approached the West, the pressure decreasing to 1lb.

Dec. 10^d. Between $4^h.10^m$ and $5^h.20^m$ the wind blew from the West, with a pressure on the square foot of 4lbs. to 6lbs.

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-guage 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.						
Dec. 11. 10	29·828	38·2	37·5	0·7	36·0	2·2	..	..	WSW	W	..	¼	..	..	..	1	..
12	29·818	39·3	38·1	1·2	..	..	..	..	SW	W	..	¼	..	..	..	8	..
14	..	..	..	..	..	..	..	..	SW	...	½ to 2½	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SSW	...	0 to ½	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SSW	...	0 to 2	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	S by W	...	½ to 2	..	..	..	..	..	..
22	..	..	..	..	..	..	49·5 37·5	55·0 31·6	SSW	...	1 to 2½	..	18·19	0·17	32·365	..	..
Dec. 12. 0	29·495	49·2	48·3	0·9	..	..	..	..	WSW	WSW	3 to 4½	1½	..	..	..	10	Transit
2	..	..	..	..	..	..	..	..	WSW	...	3 to 4½	..	..	..	..	..	..
4	29·428	51·0	49·8	1·2	..	..	..	..	WSW	W	3 to 4½	1	..	..	..	10	..
6	..	..	..	..	..	..	..	..	WSW	...	2 to 3	..	..	..	..	..	..
8	29·419	49·7	49·5	0·2	..	..	..	..	WSW	W	½ to 1½	½	..	..	..	10	..
10	..	..	..	..	..	..	..	..	WSW	...	½ to 1	..	..	..	..	..	New Greatest Declination S.
12	..	..	..	..	..	..	..	..	WSW	...	1 to 4	..	..	..	..	..	
14	29·390	50·1	48·8	1·3	..	..	..	..	WSW	WSW	2 to 4	1½	..	..	..	8	..
16	29·362	50·2	49·4	0·8	49·5	0·7	..	..	WSW	SW	2 to 3	1½	..	..	..	8	..
18	29·328	50·5	49·5	1·0	..	..	..	..	WSW	SW	2 to 4	1½	..	..	..	10	..
20	29·289	51·0	49·6	1·4	..	..	..	..	WSW	SW	2 to 5	2	..	..	..	10	..
22	29·239	50·8	50·3	0·5	47·5	3·3	51·6 50·5	51·7 46·5	SW	SW	1½ to 5	1	18·27	0·07	32·425	10	..
Dec. 13. 0	29·215	50·7	50·2	0·5	..	..	..	..	SW	WSW	1½ to 4	1	..	..	..	10	..
2	29·184	46·7	46·2	0·5	..	..	..	..	SW	WSW	½ to 2½	1	..	..	..	9	Transit
4	29·147	46·8	45·4	1·4	46·0	0·8	..	..	SW	SW	..	¼	..	..	..	7	..
6	29·157	41·9	40·5	1·4	..	..	..	..	WSW	SW	0 to ½	¼	..	..	..	0	..
8	29·153	42·3	40·4	1·9	..	..	..	..	SW	WSW	0 to ½	¼	..	..	..	0	..
10	29·140	42·2	40·7	1·5	42·0	0·2	..	..	SSW	WSW	½ to 1	½	..	..	..	0	..
12	29·121	43·2	41·8	1·4	..	..	..	..	SSW	WSW	1 to 2	1	..	..	..	2	..
14	29·123	44·6	43·3	1·3	..	..	..	..	SSW	WSW	..	1	..	..	..	10	..
16	29·137	43·2	42·2	1·0	40·0	3·2	..	..	SW	WSW	..	1	..	..	..	10	..
18	29·217	42.5	40·8	1·7	..	..	..	..	NW	WNW	½ to 1	1+	..	..	..	1	..
20	29·297	41·5	39·2	2·3	..	..	..	..	WNW	WNW	2 to 4½	1+	..	..	..	8	..
22	29·432	40·7	38·3	2·4	37·0	3·7	52·0 40·9	53·8 36·5	NNW	NW	3 to 5	1½	18·31	0·09	32·604	10	..
Dec. 14. 0	29·549	39·5	37·3	2·2	..	..	..	..	NNW	NW	½ to 3½	1	..	..	..	10	..
2	29·610	39·1	36·9	2·2	..	..	..	..	NNW	NW	1 to 3½	1+	..	..	..	10	Transit
4	29·701	39·5	37·0	2·5	35·0	4·5	..	..	NNW	NNW	1 to 3½	1½	..	..	..	10	..
6	29·793	39·0	35·2	3·8	..	..	..	..	NNW	NNW	0 to 1	1	..	..	..	9½	..
8	29·870	37·1	33·7	3·4	..	..	..	..	NW	NNW	0 to 1	1	..	..	..	2	..
10	29·915	33·7	31·6	2·1	28·5	5·2	..	..	W	NNW	..	¼	..	..	..	1	..
12	29·937	31·5	30·5	1·0	..	..	..	..	SW	Calm	..	..	..	..	..	½	..
14	29·945	31·7	30·3	1·4	..	..	..	..	SSW	Calm	..	..	..	..	..	0	..
16	29·938	32·4	31·0	1·4	33·0	—0·6	..	..	S by W	Calm	..	..	..	..	..	2	..
18	29·891	36·0	33·6	2·4	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
20	29·842	38·5	36·5	2·0	..	..	..	..	S by W	SSW	½ to 1	½	..	..	..	10	..
22	29·797	43·2	41·9	1·3	42·5	0·7	43·2 31·4	44·0 23·5	S by W	SSW	½ to 1½	¼	18·31	0·00	32·604	10	..

Dec. 12d. 21h. Examined the perpendicularity of the barometer.

Dec. 13d and 14d. 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°·9, as deduced from the two-hourly observations.

Dec. 13d. From 3h. 25m to 4h. 20m nearly calm; the Anemometer did not indicate any pressure: from 4h. 20m to 4h. 40m, a constant pressure is shewn, varying from 2lbs. to 3½lbs. on the square foot; and at 5h. 20m a pressure of 4½lbs. is recorded.

GENERAL REMARKS.	Observer.
Since the last observation twelve or fourteen meteors have been observed, direction from E. to W.: at present light clouds are collecting in S., and the stars are becoming dim.	G
Heavy vapour, stars faintly visible in the zenith.	D
Overcast: cirro-stratus and scud: squally.	J H
Ditto ditto.	G
Ditto ditto: rain falling.	J H
Cirro-stratus and scud: a few stars visible.	D
Cirro-stratus and vapour.	
Overcast: cirro-stratus and scud.	
Ditto ditto.	D
Ditto ditto: wind blowing in gusts.	J H
Ditto ditto: rain in squalls, which have continued since $22^h.\ 10^m$.	
Breaks in the North, near the horizon, the rest of the sky covered with cirro-stratus and scud: immediately after this observation the sky cleared considerably to the W. of the zenith.	J H
Clear East of the zenith, and large masses of cirro-stratus coming up from the S.W., giving indications of rain.	D
Rain began to fall immediately after the last observation and continued about half an hour. Since $4^h.\ 40^m$ the clouds have been gradually disappearing, leaving the sky at present cloudless.	
Cloudless.	
Ditto.	D
Heavy vapour and cirro-stratus.	J H
Overcast.	
Ditto.	
Nearly cloudless.	
Cirro-stratus and scud.	J H
Overcast: cirro-stratus and scud: the wind in strong gusts.	D
Ditto ditto ditto.	
Ditto ditto ditto.	D
Ditto ditto ditto.	J H
Cirro-stratus and scud.	
Heavy vapour, especially South of the zenith.	
Nearly cloudless.	J H
A few lines of dark stratus only near the horizon in the North.	G
Cloudless.	
A large bank of cloud extending nearly from the N.W. to the N.E., and a few light scattered clouds in the South.	
Overcast: the bank of cloud alluded to in the last observation gradually arose and covered the sky.	
Ditto.	G
Ditto.	D

Dec. $14^d.\ 16^h$. The temperature of the Dew Point is higher than the temperature of the air.

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.						
Dec. 15. 0	29·736	47·1	44·6	2·5	..	..	..	..	SW	SSW	4 to 5	¾	..	..	..	10	..
2	29·666	46·3	45·6	0·7	..	..	..	..	SW	SSW	3 to 5	1	..	..	..	10	Transit
4	29·586	47·1	45·8	1·3	44·0	3·1	..	..	SW	SW	3½ to 4½	1	..	..	..	10	..
6	29·522	48·3	46·7	1·6	..	..	..	..	SW	SW	4 to 7	2	..	..	..	10	..
8	29·470	47·4	47·0	0·4	..	..	..	..	SSW	SW	4 to 8	2	..	..	..	10	..
10	29·436	48·2	47·8	0·4	47·5	0·7	..	..	WSW	SW	1 to 5	2½	..	..	..	10	..
12	29·420	46·6	46·0	0·6	..	..	..	..	WSW	SW	½ to 2	1	..	..	..	10	..
14	29·394	43·7	42·6	1·1	..	..	..	..	SW	SW	½ to 2	¾	..	..	..	9	..
16	29·372	42·5	41·1	1·4	42·0	0·5	..	..	SW	SW	..	½	..	..	..	6	..
18	29·330	40·7	40·2	0·5	..	..	..	..	SW	SW	..	½	..	..	..	0	..
20	29·306	39·5	37·8	1·7	..	..	..	..	SSW	SW	..	¼	..	..	..	2	..
22	29·278	40·7	38·8	1·9	38·0	2·7	49·4 38·8	49·8 33·0	SSW	SW	..	¼	18·34	0·04	32·700	2	..
Dec. 16. 0	29·242	43·1	40·4	2·7	..	..	..	..	WSW	SW	1 to 2½	¼	..	..	..	¼	..
2	29·191	43·4	40·1	3·3	..	..	..	..	SW	SW	1 to 3	½	..	..	..	5	..
4	29·164	41·4	38·5	2·9	37·0	4·4	..	..	SW	SW	½ to 2½	½	..	..	..	4	Transit
6	29·143	39·0	36·8	2·2	..	..	..	..	SSW	SW	..	¼	..	..	..	2	..
8	29·141	39·0	37·6	1·4	..	..	..	..	SW	SW	0 to ½	¼	..	..	..	0	..
10	29·177	37·3	36·5	0·8	37·0	0·3	..	..	WSW	SW	..	¼	..	..	..	3	..
12	29·203	35·4	34·6	0·8	..	..	..	..	WSW	SW	..	¼	..	..	..	⅛	..
14	29·215	33·5	32·7	0·8	..	..	..	..	SW	SW	..	¼	..	..	..	1	..
16	29·235	32·7	32·1	0·6	31·5	1·2	..	..	WSW	SW	..	¼	..	..	..	¾	..
18	29·267	32·4	31·9	0·5	..	..	..	..	WSW	WSW	..	¼	..	..	..	0	..
20	29·318	32·2	31·7	0·5	..	..	..	..	WSW	WSW	..	¼	..	..	..	3	..
22	29·400	31·8	31·4	0·4	31·0	0·8	45·3 31·5	54·0 23·5	WSW	SW	..	¼	18·34	0·00	32·700	3	..
Dec. 17. 0	29·428	36·2	34·0	2·2	..	..	..	..	WNW	W	..	¼	..	..	..	3	..
2	29·438	36·5	33·9	2·6	..	..	..	..	W by N	WNW	..	¼	..	..	..	3	Apogee.
4	29·461	36·0	33·6	2·4	30·0	6·0	..	..	W	W	..	¼	..	..	..	2	Transit
6	29·481	32·7	31·3	1·4	..	..	..	..	W by S	W	..	¼	..	..	..	0	..
8	29·499	31·3	30·3	1·0	..	..	..	..	SW	W	..	¼	..	..	..	1	..
10	29·512	30·5	29·7	0·8	27·5	3·0	..	..	SW	W	..	¼	..	..	..	0	..
12	29·508	29·0	28·5	0·5	..	..	..	..	SW	SW	..	¼—	..	..	..	0	..
14	29·501	29·2	29·0	0·2	..	..	..	..	SW	SW	..	¼—	..	..	..	0	..
16	29·496	27·8	27·5	0·3	27·5	0·3	..	..	SW	SW	..	¼—	..	..	..	0	..
18	29·486	26·6	26·4	0·2	..	..	..	..	WSW	SW	..	¼—	..	..	..	0	..
20	29·479	25·7	25·2	0·5	..	..	..	..	Calm	SW	..	¼—	..	..	..	0	..
22	29·481	27·7	27·0	0·7	26·5	1·2	37·0 24·5	42·0 15·6	Calm	Calm	..	..	18·34	0·00	32·700	0	..
Dec. 18. 0	29·460	31·8	30·0	1·8	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
2	29·421	34·3	32·0	2·3	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
4	29·388	32·4	31·7	0·7	26·0	6·4	..	..	Calm	Calm	..	..	..	..	..	0	Transit
6	29·363	31·0	29·4	1·6	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
8	29·342	29·5	28·3	1·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
10	29·316	28·1	27·0	1·1	26·0	2·1	..	..	Calm	Calm	..	..	..	..	..	0	..
12	29·291	27·7	27·0	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..		
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..		
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..		

Dec. 15d and 16d. The greatest differenee in the mean height of the barometer between any two consecutive civil days during the month took place between these two days, being 0in·442, as deduced from the two-hourly observations.

Dec. 15d. 9h. 30m. A pressure of 14lbs. on the square foot is recorded by the Anemometer.

Dec. 16d. 0h. The estimated strength of the wind is recorded as ¼, while a pressure is shewn at the Anemometer varying from 1 lb. to 2½lbs.; it would seem that the strength by estimation is wrong; the estimated strength of the wind at 2h and 4h also looks erroneous.

Dec. 16d. 7h. 20m. The wind blew with a pressure of 3lbs. on the square foot at the Anemometer.

GENERAL REMARKS.	Observer.
Overcast.	D
Ditto: a slight deposition going on.	D
Ditto: cirro-stratus and scud: the wind in gusts.	J H
Ditto ditto: the wind has increased to a gale.	D
Ditto ditto: a misty rain falling.	G
A very wild night and squally: gusts to 3 frequent: one very loud one to 4, at $9^h.25^m$: the rain dashes with great violence: the night extremely dark.	G
The wind has considerably abated since the last observation; with this exception the weather is scarcely altered.	D
A few stars visible here and there: clouds breaking in every part of the sky.	
The sky nearly clear S. of the zenith, but the stars look dull: N. of the zenith quite overcast.	
A shower of rain fell at $16^h.10^m$, immediately after which the clouds began to disperse, and at $16^h.55^m$ the sky was cloudless: at present clear: stars W. of the zenith look small.	
Cirro-stratus in S. and N.W. horizon; the sky otherwise clear.	D
Light fleecy clouds and scud.	J H
A few light cumuli in N.W. horizon; otherwise cloudless: a fine mild morning.	
Cumulo-stratus and scud; gusts of wind.	J H
Ditto ditto.	D
Cirro-stratus in W. and N.W.: the rest of the sky clear.	
Cloudless.	
Cirro-stratus and vapour, W. and S.W. of the zenith.	D
Light vapour in E. horizon; the stars appear dim.	J H
Vapour in various directions.	
Cloudless, with the exception of a bank of vapour in the W. horizon.	
Cloudless.	
Scud West of the zenith: light frost.	J H
Vapour and light fog.	D
Ditto ditto.	
Light clouds S.W. of the zenith; otherwise clear.	D
Vapour: very hazy: light clouds in the neighbourhood of the Sun.	J H
Cloudless: hazy.	
Heavy vapour principally N. of the zenith.	
Cloudless: hazy.	J H
Ditto.	P
Ditto: about $12^h.40^m$ a slight auroral light.	
Ditto	
Ditto: hazy.	
Ditto.	P
Ditto.	D
Ditto.	
Ditto.	D
Ditto.	P
Ditto.	
Ditto: hazy.	
Ditto.	P
Ditto.	D

Dec. $17^d.8^h$ to $18^d.12^h+$ without cloud; it is the longest period of clear sky during the month.

Dec. 18^d. The lowest reading of the thermometer during the month took place on this day.

Dec. 18^d, civil reckoning. This day cloudless; it is one of the five days in the year which are considered without cloud. This day was the coldest day in the month, the mean temperature being $29°\cdot3$, 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.						
Dec. 18. 20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	29·155	30·5	29·8	0·7	..	..	33·4 24·3	56·0 12·5	Calm	Calm	..	..	18·34	0·00	32·700	10	..
Dec. 19. 0	29·149	30·6	30·3	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
2	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
4	29·086	31·7	30·7	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
6	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
8	..	..	..	..	..	..	..	..	N by E	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
14	29·059	30·7	30·1	0·6	..	..	..	..	N	Calm	..	..	..	..	..	10	..
16	29·068	31·0	30·4	0·6	30·5	0·5	..	..	N	Calm	..	..	..	..	..	10	..
18	29·078	30·5	30·2	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·109	30·9	30·3	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·137	30·6	29·0	1·6	25·0	5·6	31·9 28·8	42·5 24·3	Calm	NE	..	¼–	18·34	0·00	32·750	4	In Equator
Dec. 20. 0	29·168	33·5	31·7	1·8	..	..	..	..	Calm	Calm	..	..	..	..	..	6	..
2	29·179	31·5	30·1	1·4	..	..	..	..	Calm	Calm	..	..	..	..	..	4	..
4	29·194	30·2	29·7	0·5	27·0	3·2	..	..	Calm	Calm	..	..	..	..	..	2	..
6	29·221	30·1	29·3	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	2	Transit
8	29·273	30·0	29·2	0·8	..	..	..	..	N by E	Calm	..	..	..	..	..	9	..
10	29·315	30·5	29·0	1·5	29·5	1·0	..	..	Calm	Calm	..	..	..	..	..	10	..
12	29·346	30·5	29·0	1·5	..	..	..	..	N by E	Calm	..	..	..	..	..	10	..
14	29·369	30·9	30·1	0·8	..	..	..	..	N	Calm	..	..	..	..	..	10	..
16	29·394	31·6	30·7	0·9	28·8	2·8	..	..	N	Calm	..	..	..	..	..	10	1st. Qr.
18	29·455	31·8	31·0	0·8	..	..	..	..	N	Calm	..	..	..	..	..	10	..
20	29·475	30·5	30·7	−0·2	..	..	..	..	N	Calm	..	..	..	..	..	10	..
22	29·540	27·9	27·5	0·4	28·0	−0·1	33·2 27·5	40·5 19·0	Calm	Calm	..	..	18·34	0·00	32·750	10	..
Dec. 21. 0	29·551	30·5	30·2	0·3	..	..	..	..	WSW	Calm	..	..	..	..	..	2	..
2	29·542	32·2	30·5	1·7	..	..	..	..	WSW	WSW	..	¼–	..	..	..	0	..
4	29·563	30·7	30·0	0·7	26·5	4·2	..	..	WSW	SW	..	¼–	..	..	..	1	..
6	29·582	29·4	28·4	1·0	..	..	..	..	WSW	WSW	..	¼	..	..	..	2	Transit
8	29·586	31·3	30·3	1·0	..	..	..	..	WSW	WSW	..	¼	..	..	..	7	..
10	29·583	31·7	30·5	1·2	28·0	3·7	..	..	WSW	WSW	..	½	..	..	..	½	..
12	29·567	32·7	30·4	2·3	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
14	29·588	34·5	32·8	1·7	..	..	..	..	W by N	W	..	¼	..	..	..	10	..
16	29·606	33·8	31·8	2·0	30·0	3·8	..	..	W by N	W	..	¼	..	..	..	5	..
18	29·622	32·5	31·0	1·5	..	..	..	..	W	W	..	¼	..	..	..	3	..
20	29·634	30·0	28·4	1·6	..	..	..	..	WSW	WSW	..	¼	..	..	..	0	..
22	29·688	30·5	28·8	1·7	25·0	5·5	34·2 28·0	39·5 21·4	WSW	WNW	..	¼	18·34	0·00	32·750	2	..
Dec. 22. 0	29·698	33·7	31·0	2·7	..	..	..	..	WSW	WNW	..	¼	..	..	..	3	..
2	29·702	34·7	32·8	1·9	..	..	..	..	W	WNW	..	¼	..	..	..	8	..
4	29·721	34·5	32·8	1·7	31·0	3·5	..	..	W by S	W	..	¼–	..	..	..	7	..
6	29·733	33·5	32·5	1·0	..	..	..	..	W by S	W	..	¼–	..	..	..	10	..
8	29·751	33·4	32·6	0·8	..	..	..	..	W by S	W	..	¼	..	..	..	10	Transit
10	29·769	33·5	33·0	0·5	33·0	0·5	..	..	Calm	Calm	..	..	..	..	..	10	..

Dec. 19d. 22h. Examined the perpendicularity of the barometer.

Dec. 20d. 18h. Hourly meteorological observations were commenced. (See Section of Term-day Meteorological Observations.)

Dec. 20d. 20h. The reading of the Wet-bulb Thermometer is higher than the reading of the Dry-bulb Thermometer.

GENERAL REMARKS.	Observer.
Overcast.	G
Ditto.	
Ditto.	G
Ditto: a little snow has been falling for the last three hours.	D
Ditto snow falling slightly.	
Ditto.	
Ditto.	D
Light fleecy clouds and hazy sky.	J H
Ditto ditto.	
A few light clouds N. of the zenith: cumuli and haze in other directions, especially near the S. horizon.	J H
Light clouds and cumuli near the S. horizon; otherwise clear.	D
Vapour in S. and a small bank of cloud in N.W.	
Cirro-stratus and heavy vapour.	
Ditto ditto: overcast.	D
Ditto ditto ditto.	J H
Ditto ditto ditto: a heavy dark night.	
Ditto ditto: an extensively diffused steady light N. of the zenith, in all probability reflected light from London, though the colour is a bright yellow.	
Overcast: cirro-stratus.	
Ditto ditto and vapour: not the slightest change during the night.	J H
Ditto.	P
Cloudless, except in the horizon where the vapour is still dense: a thick fog envelopes the lower ground.	
Cloudless: hazy.	P
Light clouds moving from N.N.W.: hazy.	J H
Cirro-stratus and fleecy clouds: clouds move from N.N.W.	
Clear in, and East of, the zenith: fleecy clouds elsewhere: a beautiful corona and coloured halo round the Moon.	
A few light fleecy clouds.	J H
Overcast: cirro-stratus, and scud.	P
Ditto: a thin rain falling.	
About one half of the sky clear: scud coming from N.E.	
Clouds of a light appearance tolerably numerous in S. and S.E.: clear in other parts of the heavens.	
Cloudless: hazy.	P
Light clouds and hazy.	J H
Ditto ditto.	
Light clouds and vapour: hazy.	J H
Undefined clouds prevalent: in the zenith they have some resemblance to the cirro-cumulus: they move from N.N.W.: breaks in every part of the sky.	P
Overcast: cirro-stratus and scud: a faint halo round the Moon.	
Ditto ditto.	P
Overcast: dense cirro-stratus: sleet falling slightly.	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.						
Dec. 22. 12	29·783	34·0	33·7	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·766	36·0	35·8	0·2	..	..	..	..	SW	Calm	..	..	..	..	..	10	..
16	29·758	36·5	36·4	0·1	32·5	4·0	..	..	WSW	WSW	..	¼	..	..	..	10	..
18	29·747	36·6	36·5	0·1	..	..	..	..	WSW	Calm	..	..	..	..	..	10	..
20	29·748	37·2	36·9	0·3	..	..	..	..	SW	Calm	..	..	..	..	..	9½	..
22	29·752	37·6	37·6	0·0	37·0	0·6	38·1 30·2	42·8 22·0	SSW	Calm	..	..	18·34	0·00	32·750	7	..
Dec. 23. 0	29·741	41·5	40·9	0·6	..	..	..	..	SW	SW	..	¼–	..	..	..	10	..
2	29·699	42·7	42·5	0·2	..	..	..	..	SSW	W	..	½	..	..	..	10	..
4	29·662	44·0	43·8	0·2	43·0	1·0	..	..	SW	SSW	0 to 1	¼	..	..	..	10	..
6	29·642	45·1	44·2	0·9	..	..	..	..	SW	SW	1 to 2½	¾	..	..	..	10	..
8	29·638	43·6	43·0	0·6	..	..	..	..	WSW	SW	1½ to 4	½	..	..	..	4	Transit
10	29·688	42·5	41·5	1·0	39·2	3·3	..	..	WSW	WNW	1 to 2	1	..	..	..	0	..
12	29·776	38·6	37·1	1·5	..	..	..	..	WSW	WSW	0 to 1	¼	..	..	..	1	..
14	29·820	36·6	35·6	1·0	..	..	..	..	WSW	WSW	..	¼	..	..	..	8	..
16	29·853	35·6	34·8	0·8	34·5	1·1	..	..	SW	SW	..	¼	..	..	..	2	..
18	29·884	34·8	34·2	0·6	..	..	..	..	SSW	SW	..	¼	..	..	..	4	..
20	29·908	35·3	34·6	0·7	..	..	..	..	SSW	Calm	..	..	..	..	..	3	..
22	29·940	39·5	38·3	1·2	37·0	2·5	45·5 34·3	45·9 27·6	SSW	W	..	¼	18·39	0·07	32·831	10	..
Dec. 24. 0	29·924	43·8	42·1	1·7	..	..	..	..	SSW	W by S	..	¼	..	..	..	8½	..
2	29·897	45·8	44 8	1·0	..	..	..	..	SSW	SW by W	0 to 1	¾	..	..	..	10	..
4	29·870	47·9	47·2	0·7	48·0	—0·1	..	..	SW	SW	0 to 1	¼	..	..	..	10	..
6	29·845	48·5	47·0	1·5	..	..	..	..	SW	SW	1 to 3	¼	..	..	..	9	..
8	29·839	49·0	46·8	2·2	..	..	..	..	SW	SW	1 to 2	½	..	..	..	10	..
10	29·825	48·0	46·3	1·7	46·5	1·5	..	..	SSW	SW	1 to 1½	¾	..	..	..	10	Transit
12	29·792	48·3	47·0	1·3	..	..	..	..	SW	SW	1 to 3	1	..	..	..	8½	..
14	..	..	..	..	..	..	..	..	SW	...	1 to 1½	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SW	...	0 to 1	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
22	..	.	..	..	..	..	49·4 39·3	50·0 38·3	SSW	...	..	..	18·51	0·20	33·110	..	..
Dec. 25. 0	29·604	42·7	42·1	0·6	..	..	..	..	SSW	SW	..	¾	..	..	..	10	..
2	29·559	43·7	43·2	0·5	..	..	..	..	WSW	WSW	..	¼	..	..	..	..	..
4	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
10	29·539	33·7	33·3	0·4	..	..	..	..	WSW	WSW	..	¼	..	..	..	2	Transit
12	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	..	..	..	..	..	..	44·2 29·0	48·0 25·3	Calm	...	..	..	18·51	0·00	33·110	..	..
Dec. 26. 0	29·726	34·0	33·5	0·5	..	..	..	..	NNW	Calm	..	..	..	..	..	10	..
2	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..

GENERAL REMARKS.	Observer.
Overcast: an impervious cirro-stratus.	G
Ditto: cirro-stratus.	D
Ditto ditto and scud.	J H
Ditto ditto.	P
A break in the South.	M
Chiefly scud from the West: a bright streak of light in S. horizon and other directions.	G
Overcast: cirro-stratus: a thin rain falling.	P
Ditto ditto ditto.	J H
Ditto ditto: rain falling.	D
The rain ceased soon after the last observation: wind rising: quite overcast.	G
Loose scud in different parts of the sky predominating in the horizon, and leaving the zenith free.	P
Cloudless: gusts of wind.	J H
A few light clouds in W. and S. horizon; otherwise clear.	D
Fleecy clouds in every direction.	
Lines of cirro-stratus in N.W. horizon, and a few scattered clouds N.W. of the zenith: the rest of the sky clear.	
Cirro-stratus in N.W.: vapour and cirro-stratus South of the zenith.	
The horizon cloudy nearly all round: a few cirri here and there.	D
Cirro-stratus and scud.	J H
Ditto ditto.	
Ditto ditto: gusts of wind: clouds heavier than at the last observation.	J H
Overcast: cirro-stratus and scud.	D
Cirro-stratus and scud: breaks in the zenith: the Moon occasionally seen behind clouds.	
Ditto ditto.	
Overcast: cirro-stratus: the Moon's place just visible.	D
Scud passing over rapidly from W. S.W.: strong gusts of wind.	J H
Overcast: cirro-stratus and scud: light rain.	J H
	G
Fleecy clouds: a lunar halo was visible at $8^h.\ 10^m$.	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.						
Dec. 26. 8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
10	29·857	33·7	33·0	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
14	29·900	34·0	33·1	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·930	32·7	32·0	0·7	30·0	2·7	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·955	30·9	30·3	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	0	Greatest Declination N.
20	29·991	29·8	29·8	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·025	30·2	30·2	0·0	30·0	0·2	36.9 29·0	43·5 22·5	WSW	Calm	..	..	18·51	0·00	33·110	10	..
Dec. 27. 0	30·039	31·0	30·7	0·3	..	..	..	..	SW	Calm	..	..	..	..	..	10	..
2	30·042	32·0	31·3	0·7	..	..	..	..	W	Calm	..	..	..	..	..	10	..
4	30·023	33·0	32·5	0·5	30·0	3·0	..	..	WSW	WNW	..	¼	..	..	..	10	..
6	30·017	34·0	33·3	0·7	..	..	..	..	WSW	Calm	..	..	..	..	..	10	..
8	30·005	32·1	31·9	0·2	..	..	..	..	SSW	Calm	..	..	..	..	..	2	..
10	30·001	33·2	32·7	0·5	30·0	3·2	..	..	SSW	SSW	..	¼	..	..	..	3	..
12	30·001	33·8	33·4	0·4	..	..	..	..	SSW	SSW	..	¼	..	..	..	9½	Transit
14	29·992	35·8	35·6	0·2	..	..	..	..	SW	Calm	..	..	..	..	..	10	..
16	29·975	37·2	37·2	0·0	37·0	0·2	..	..	SW	Calm	..	..	..	..	..	10	..
18	29·970	37·3	37·3	0·0	..	..	..	..	SW	Calm	..	..	..	..	..	10	..
20	29·983	37·6	37·3	0·3	..	..	..	..	WSW	Calm	..	..	..	..	..	10	Full
22	29·991	36·4	36·0	0·4	33·5	2·9	37·5 30·0	37·9 25·6	SW	Calm	..	..	18·53	0·05	33·120	7	..
Dec. 28. 0	29·999	40·4	39·4	1·0	..	..	..	..	NW	NW	..	¼	..	..	..	0	..
2	29·977	41·5	39·2	2·3	..	..	..	..	NNW	NW	..	¼	..	..	..	0	..
4	29·984	41·8	39·7	2·1	40·0	1·8	..	..	NW	N by W	..	¼	..	..	..	10	..
6	29·988	41·7	39·8	1·9	..	..	..	..	WNW	Calm	..	..	..	..	..	10	..
8	29·992	41·0	39·6	1·4	..	..	..	..	NW	Calm	..	..	..	..	..	10	..
10	29·994	41·5	40·3	1·2	40·0	1·5	..	..	NW	Calm	..	..	..	..	..	10	..
12	30·007	41·5	40·2	1·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·994	41·3	40·2	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
16	30·002	40·2	39·6	0·6	39·5	0·7	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·986	40·0	39·6	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·993	39·6	39·5	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·001	40·0	39·7	0·3	37·0	3·0	42·0 36·4	44·4 32·1	Calm	Calm	..	..	18·55	0·04	33·140	10	..
Dec. 29. 0	29·988	41·1	41·0	0·1	..	..	..	..	Calm	SSW	..	¼	..	..	..	10	..
2	29·963	41·3	41·2	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
4	29·956	42·5	42·4	0·1	42·5	0·0	..	..	Calm	Calm	..	..	..	..	..	10	Perigee
6	29·940	42·3	42·3	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	29·963	40·7	40·7	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	29·957	40·0	39·7	0·3	39·5	0·5	..	..	Calm	Calm	..	..	..	..	..	10	..
12	29·967	38·7	38·6	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·953	38·1	38·0	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
16	29·971	37·6	37·5	0·1	36·0	1·6	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·967	37·1	37·0	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·990	35·4	35·0	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	6	..
22	30·019	36·5	36·4	0·1	36·0	0·5	42·7 34·7	43·0 30·5	Calm	Calm	..	..	18·58	0·05	33·184	6	..

Dec. 26d. 22h. Examined the perpendicularity of the barometer.

Dec. 29d, 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°·2, as deduced from the two-hourly observations.

GENERAL REMARKS.	Observer.
Fleecy clouds all over the sky.	D
Overcast: cirro-stratus and scud: the clouds move from N.N.W.	J H
Cloudless: a fine calm morning.	
Ditto.	
Overcast: a thick fog prevalent.	J H
Ditto ditto.	D
Ditto ditto.	
Ditto ditto.	D
Stratus: a damp fog.	J H
Ditto: the fog has nearly disappeared. The clouds became broken in the S.E. at $6^h.\ 10^m$.	
Light fleecy clouds moving from the North: a double and coloured halo, or rather corona and halo, visible: the diameter of the outer circle is about 8°: a fine silvery light occupies the space between the inner bow and the Moon.	
Light fleecy clouds moving from the N.N.W.: a corona round the Moon: much light vapour in N.E.: several halos, exhibiting the prismatic colours, have been visible since $8^h.\ 0^m$.	J H
The sky quite covered with a white cloud: the Moon visible, and the clouds passing slowly from N.	G
Overcast: since the last observation the Moon and many stars have been shining, but at present the Moon's place only is distinguishable.	
Ditto: rain falling.	
Ditto: the rain has ceased.	
Ditto.	G
The clouds lighter in zenith, with occasional breaks: a thin fog.	D
Cloudless: hazy.	
Ditto: hazy in western horizon.	D
The sky covered with a thin cirro-stratus.	G
Overcast: a fog in the valley and in the upper part of the Park.	
Ditto: the Moon's place just visible.	
Ditto ditto.	G
Ditto ditto.	D
Ditto: cirro-stratus.	
Ditto ditto.	
Ditto ditto.	
Ditto ditto: a little rain falling.	D
Ditto ditto: a thin misty rain falling.	J H
Ditto ditto ditto.	
Ditto ditto ditto: foggy.	J H
Ditto ditto: very gloomy.	D
Ditto ditto ditto: a misty rain falling.	
Ditto ditto ditto ditto.	
Ditto ditto: a misty rain falling.	
Ditto ditto: a damp fog prevalent.	D
Ditto ditto ditto: the Moon's place just visible.	J H
Ditto ditto: the Moon just visible through the cirro-stratus: a damp fog.	
Ditto ditto ditto.	
Scud and cirro-stratus: the clouds, East of the zenith, tinged with red.	J H
Generally clear S.E. of the zenith: cirro-stratus and scud mostly in the remaining part of the sky.	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.						
Dec. 30. 0	30·025	39·2	38·4	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	4	..
2	30·020	41·0	40·2	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
4	30·048	40·5	39·0	1·5	35·5	5·0	..	..	Calm	Calm	..	..	..	..	..	9½	..
6	30·051	38·7	37·5	1·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	30·082	36·1	35·0	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
10	30·098	36·2	34·9	1·3	34·0	2·2	..	..	Calm	Calm	..	..	..	..	..	9½	..
12	30·104	35·5	34·5	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·124	35·5	34·4	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·117	34·7	33·5	1·2	33·0	1·7	..	..	Calm	S	..	¼	..	..	..	10	Transit
18	30·119	33·8	32·7	1·1	..	..	..	..	Calm	S	..	¼	..	..	..	9½	..
20	30·124	31·8	31·0	0·8	..	..	..	..	Calm	S	..	¼	..	..	..	7	..
22	30·145	32·6	31·5	1·1	30·0	2·6	41·4 31·3	49·6 25·7	Calm	Calm	..	..	18·58	0·00	33·184	3	..
Dec. 31. 0	30·144	38·5	36·2	2·3	..	..	..	..	SSE	Calm	..	..	..	..	..	3	..
2	30·121	39·0	36·3	2·7	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
4	30·121	37·5	35·5	2·0	33·0	4·5	..	..	Calm	Calm	..	..	..	..	..	7	..
6	30·124	35·3	33·6	1·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	30·130	35·5	33·7	1·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	30·131	34·3	33·0	1·3	32·0	2·3	..	..	Calm	Calm	..	..	..	..	..	10	..
12	30·106	35·0	33·5	1·5	..	..	..	..	Calm	Calm	..	..	18·58	0·00	33·184	10	..

Dec. 30d. 22h, This is the highest reading of the barometer during the month.

Dec. 31d, civil reckoning. The mean height of the barometer was greater on this day than on any other day during the month, being 30in·125, as deduced from the two-hourly observations.

Dec. 31d. 12h. The amount of rain collected during the month of December, in the rain-gauge No. 4, was 2in·40.

GENERAL REMARKS.	Observer.
Cirro-stratus lining the whole horizon, and cirro-cumulus in the zenith.	D
Cirro-stratus and fleecy clouds.	D
Mottled cirro-stratus, extending in long bars from S.S.E. to N.N.W.	J H
Overcast: cirro-stratus.	
Cirro-stratus and heavy vapour.	
Ditto ditto.	
Ditto ditto.	J H
Overcast: the Moon's place just visible: an upper current from the East.	G
Ditto: the Moon a little more distinct: the upper current now moving slowly from N.E.	
Ditto ditto ditto.	
Shortly after the last observation the clouds broke and the Moon shone brightly, the northern part of the sky remaining clear about half an hour: at present the clouds have again collected, and the Moon is imbedded in them.	G
Cirro-stratus N.W. of zenith; the rest of the sky mostly clear.	D
Light clouds scattered over the sky.	
Breaks in the horizon, every other part of the sky being overcast.	D
Quite cloudy about the whole horizon; the clouds broken about the zenith; and linear, woolly, undefined clouds, of a yellowish tinge, south of the zenith: vapour prevailing.	G
Overcast: the sky was covered at about $4^h.\ 40^m$.	
Ditto: no change has taken place during the last two hours.	
Ditto: since the last observation a few stars have been visible.	G
Ditto: the Moon occasionally seen through the clouds.	D

ROYAL OBSERVATORY, GREENWICH.

TERM-DAY

METEOROLOGICAL OBSERVATIONS.

1840 and 1841.

Day and Hour, Greenwich 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. 27. 10	30·319	32·0	..	..	..	..	...	Calm	..	..	10
11	30·329	30·5	..	..	..	..	...	Calm	..	..	5
12	30·332	30·1	..	..	..	..	...	Calm	..	..	5
13	30·328	29·7	..	..	..	..	...	Calm	..	..	10
14	30·325	29·8	..	..	..	..	...	Calm	..	..	10
15	30·317	27·6	..	..	..	..	...	Calm	..	..	5
16	30·313	25·4	..	..	..	..	...	Calm	..	..	0
17	30·307	25·9	..	..	..	..	...	Calm	..	..	7
18	30·290	25·6	..	..	..	..	...	Calm	..	..	0
19	30·312	26·1	..	..	..	..	...	Calm	..	..	10
20	30·300	26·2	..	..	..	..	...	Calm	..	..	10
21	30·297	26·1	..	..	..	..	...	Calm	..	..	10
22	30·294	26·2	..	..	..	..	...	Calm	..	..	3
23	30·307	27·1	..	..	..	..	...	Calm	..	..	0
Nov. 28. 0	30·302	29·9	..	..	..	..	...	Calm	..	..	0
1	30·288	32·3	..	..	..	..	...	Calm	..	..	0
2	30·278	33·2	..	..	..	..	...	Calm	..	..	0
3	30·278	33·4	..	..	..	..	...	Calm	..	..	0
4	30·272	33·5	..	..	..	..	...	Calm	..	..	0
5	30·271	35·1	..	..	..	..	...	E by S	..	¼	0
6	30·279	34·0	..	..	..	..	...	S	..	¼	0
7	30·267	35·2	..	..	..	..	...	Calm	..	..	0
8	30·263	35·6	..	..	..	..	...	Calm	..	..	0
9	30·261	34·0	..	..	..	..	...	Calm	..	..	0
10	30·265	30·5	..	..	..	..	...	Calm	..	..	0
11	30·253	31·6	..	..	..	..	...	Calm	..	..	2
Göttingen Astronomical Reckoning.											
Dec. 20. 18	30·118	32·9	..	..	..	..	...	E N E	..	1½	10
19	30·134	33·2	..	..	..	..	...	E N E	..	1½	10
20	30·145	33·4	..	..	..	..	...	E N E	..	2	10
21	30·161	33·9	..	..	..	..	...	E by N	..	1	10
22	30·167	33·8	..	..	..	..	...	N E by E	..	½	10
23	30·177	34·3	..	..	..	..	...	N E	..	¼	10
Dec. 21. 0	30·179	34·6	..	..	..	..	...	N E	..	½	10
1	30·188	35·3	..	..	..	..	...	N E	..	½	9
2	30·185	35.3	..	..	..	..	...	N E	..	¼	8
3	30·178	34·8	..	..	..	..	...	N E by E	..	1	6
4	30·194	33·2	..	..	..	..	...	N by E	..	½	3
5	30·187	31·3	..	..	..	..	...	N by E	..	½	4
6	30·203	29·5	..	..	..	..	...	N by E	..	½	2
7	30·206	29·8	..	..	..	..	...	N by E	..	½	10
8	30·211	33·2	..	..	..	..	...	N N E	..	1½	10
9	30·227	33·2	..	..	..	..	...	N N E	..	1½	10
10	30·228	33·0	..	..	..	..	...	N N E	..	1½	10
11	30·224	31·7	..	..	..	..	...	E by N	..	2+	3
12	30·233	29·8	..	..	..	..	...	E by N	..	2½	4

GENERAL REMARKS.	Observer.
At about $8^h.\ 40^m$ a dense fog appeared, when objects at the distance of a few yards were scarcely visible: at present a few stars are glimmering in the zenith.	G
Foggy, with hard frost.	J H
Ditto ditto: a few stars are visible.	J H
Ditto: hoar frost forming rapidly.	G
Ditto ditto.	D
The fog clearing away: stars visible in the zenith and in the S.	D
Cloudless: the fog has nearly disappeared.	J H
Foggy again: stars visible near the zenith.	
Cloudless: the fog has cleared off.	J H
Foggy and cloudy.	W R
Very foggy and gloomy.	R
Ditto ditto.	R
Ditto ditto.	E
Cloudless.	D
Ditto.	J H
Ditto.	D
Ditto.	D
Ditto.	J H
Ditto: fog in the town. Greenwich Hospital has not been visible from the Observatory the whole day.	G
Ditto ditto.	
Ditto: at about $5^h.\ 20^m$ the wind veered round to the S.	G
Ditto: fog in the town.	D
Ditto ditto.	
Ditto ditto.	D
Ditto ditto.	J H
Cirro-strati in the N. and N.E.: a light fog: the valley obscured by a dense fog.	J H
The sky quite overcast: very dark.	G
Overcast.	
Ditto: the wind roars and surges in the trees.	G
Ditto: since the last observation the wind has somewhat abated.	D
The sky covered with cirro-stratus: scud passing underneath.	
Overcast: cirro-stratus and scud.	
Ditto ditto.	
A clear break in the N.: cumulo-stratus: clouds near the horizon W. of N.	
Fleecy clouds in the zenith: cirro-stratus elsewhere, with the exception of a break near the horizon in the S.	D
A break to windward: the western part of the sky covered with cirro-stratus: fleecy clouds E. of zenith.	J H
The Sun setting in a bank of clouds, the edges of which, and all clouds near, are deeply tinged with orange: the break mentioned in the last observation continued increasing until the sky was nearly clear, there being only a few fleecy clouds visible.	G
Dark cumulo-strati in the S. and W.: the remainder of the sky clear.	
A few clouds near the S. and W.; otherwise clear.	G
Overcast: lighter to the eastward: the clouds began to collect at $6^h.\ 45^m$.	J H
Ditto: the wind has risen consideraby since the last observation, and is now blowing in strong gusts.	J H
Ditto: the wind surging, and blowing in gusts.	G
Ditto ditto.	
The greater part of the sky clear: stars shining: the wind piercingly cold: gusts to 3.	G
Sky overcast in S.: very clear in the zenith: the wind still blowing strong: gusts to 3+.	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.		
Dec. 21. 13	30·239	31·6	..	..	..	..	...	E N E	..	3	10
14	30·225	32·2	..	..	..	..	...	E N E	..	3	10
15	30·237	32·0	..	..	..	..	...	E by N	..	2½	10
16	30·239	31·6	..	..	..	..	...	E by N	..	2½	10
17	30·234	31·2	..	..	..	..	...	E by N	..	2½	10
18	30·230	31·4	..	..	..	..	...	E by N	..	3	10
19	30·229	30·8	..	..	..	..	...	E	..	2	10
20	30·238	30·5	..	..	..	..	...	E	..	1½	10
21	30·249	30·4	..	..	..	..	...	E N E	..	1½	10
22	30·248	30·0	..	..	..	..	...	E	..	1	7
23	30·254	31·6	..	..	..	..	...	E by S	..	1	2
Dec. 22. 0	30·235	30·6	..	..	..	..	...	E	..	1	2
1	30·219	31·0	..	..	..	..	...	E	..	1	1
2	30·208	30·7	..	..	..	..	...	E	..	½	½
3	30·209	29·7	..	..	..	..	...	E	..	½	0
4	30·197	28·6	..	..	..	..	...	E	..	½	0
5	30·192	27·2	..	..	..	..	...	E	..	¼	0
6	30·188	26·0	..	..	..	..	...	E	..	¼	0
7	30·181	26·2	..	..	..	..	...	E	..	¼	0
8	30·176	26·6	..	..	..	..	...	E	..	¼	0
Jan. 20. 10	30·076	30·5	..	..	..	..	...	N	..	½	10
11	30·128	31·9	..	..	..	..	...	N	..	½	10
12	30·143	31·3	..	..	..	..	...	N by W	..	½	9½
13	30·171	31·1	..	..	..	..	...	N	..	1	9
14	30·202	29·2	..	..	..	..	...	N by W	..	¼	0
15	30·212	28·3	..	..	..	..	...	N	..	½	0
16	30·233	27·2	..	..	24·5	2·7	...	N	..	¼	0
17	30·243	26·5	..	..	..	..	...	N	..	¼	2
18	30·251	26·0	..	..	..	..	...	N	¼	..	0
19	30·288	25·0	..	..	..	..	...	N	¼	..	0
20	30·293	23·3	..	..	..	..	...	N	¼	..	0
21	30·311	26·5	..	..	..	..	...	Calm	..	..	5
22	30·327	28·5	..	..	17·0	11·5	...	W N W	..	½	7
23	30·312	30·2	..	..	..	..	...	W by N	..	¼	5
Jan. 21. 0	30·316	33·0	..	..	..	..	...	W N W	..	½	10
1	30·300	35·5	..	..	..	..	...	W	..	½	7
2	30·291	36·6	..	..	..	..	...	W	..	½	7
3	30·289	37·3	..	..	..	..	...	W N W	..	¼	9½
4	30·294	38·2	..	..	33·5	4·7	...	W N W	..	¾	7
5	30·295	36·5	..	..	..	..	...	N E	..	½	4
6	30·306	37·2	..	..	..	..	...	N E	..	1	9
7	30·306	36·5	..	..	..	..	...	N E	..	¾	5
8	30·307	33·6	..	..	..	..	...	N E	..	½	6
9	30·325	31·8	..	..	..	..	...	N E	..	½	0
10	30·323	31·5	..	..	..	..	...	N W	..	½	0
11	30·324	32·2	..	..	..	..	...	W N W	..	½	0
12	30·327	30·8	..	..	..	..	...	W N W	..	¼	0
13	30·330	31·0	..	..	..	..	...	W N W	..	¼	0
14	30·325	30·8	..	..	..	..	...	Calm	..	..	0
15	30·324	30·8	..	..	..	..	...	Calm	..	..	0

GENERAL REMARKS.	Observer.
Quite cloudy: the wind is blowing a gale, and seems to be gradually on the increase.	D
Ditto ditto.	
The sky completely covered with cirro-stratus: light scud flying rapidly before the wind.	
Ditto ditto. [with occasional gusts to 3.	
Ditto: the wind still blows strong; its strength has been nearly constant for some time, the pressure being about $2\frac{1}{2}$,	
The wind blows in gusts to 3+: the sky quite overcast.	
Overcast: the wind gradually abating.	
Ditto ditto.	D
Ditto: cirro-strati, with large masses of scud: the wind blowing in strong gusts: a slight break in the S.	J H
Large masses of scud floating over rapidly: the appearance of the sky changed shortly after the last observation; the cirro-strati disappearing in N.W., and cumuli rising to windward.	
Large fleecy cumuli passing off rapidly to the N.; otherwise clear.	
A few cumuli in the N.; otherwise clear.	
The same as at the last observation.	
Clear, with the exception of a few small cumuli in the N. horizon.	
Cloudless.	J H
Ditto: the air very sharp and cold.	D
Ditto ditto.	
Ditto: sharp frost.	
Very clear: the stars shining brilliantly.	
Ditto ditto.	D
Quite overcast.	G
Ditto.	
Clouds broken in the zenith, every other part of the sky cloudy.	
A few stars are visible N. of the zenith; the sky otherwise overcast.	G
Cloudless.	D
Ditto.	D
Ditto.	R
A few clouds towards the N.; otherwise clear.	R
Cloudless.	W R
Ditto: the North horizon hazy.	W R
Ditto.	M
Clouds have come up of a reddish colour tinged by the Sun.	M
Light fleecy clouds cover a great part of the sky: hard frost.	J H
Cirro-stratus in the N.W.: broken clouds of no definite modification to the S.	G
The sky covered with a thin scud.	D
Vapour and fleecy clouds.	J H
Ditto ditto.	J H
A few fleecy clouds in the zenith; the rest of the sky is covered with cirro-stratus.	D
Fleecy clouds all over the sky.	D
Fleecy clouds in the S. near the horizon; the zenith clear: misty in the N. and N. E.	G
The sky covered with large masses of cirro-stratus.	
The zenith and 45° around it clear: the whole horizon misty and cloudy.	G
Vapour and thin cirro-stratus: the sky occasionally almost clear.	J H
Cloudless.	
Ditto.	
Ditto. Light vapour in the horizon to windward and in the N. E.	J H
Ditto.	D
Ditto.	
Ditto.	
Ditto.	

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. 16	30·312	30·5	..	..	..	..	...	Calm	..	..	0
17	30·313	29·8	..	..	..	..	...	Calm	..	..	0
18	30·294	30·3	..	..	..	..	...	Calm	..	..	0
19	30·297	30·5	..	..	..	..	...	Calm	..	..	0
20	30·295	30·8	..	..	..	..	...	Calm	..	..	0
Feb. 21. 18	30·230	38·0	..	..	..	..	Calm	Calm	..	..	10
19	30·228	38·1	..	..	..	..	Calm	Calm	..	..	10
20	30·246	38·3	..	..	..	..	Calm	Calm	..	..	10
21	30·268	38·8	..	..	..	..	Calm	E	..	$\frac{1}{4}$	10
22	30·268	38·8	..	..	38·5	0·3	Calm	Calm	..	..	10
23	30·266	39·3	..	..	..	..	Calm	Calm	..	..	10
Feb. 22. 0	30·259	39·9	..	..	..	..	Calm	Calm	..	..	10
1	30·254	41·3	..	..	..	..	Calm	Calm	..	..	10
2	30·251	41·0	..	..	..	..	Calm	Calm	..	..	10
3	30·241	41·1	..	..	..	..	Calm	Calm	..	..	10
4	30·241	40·9	..	..	37·8	3·1	Calm	Calm	..	..	10
5	30·239	40·1	..	..	..	..	Calm	Calm	..	..	10
6	30·240	40·0	..	..	..	..	Calm	Calm	..	..	10
7	30·243	39·9	..	..	..	..	Calm	Calm	..	..	10
8	30·245	40·6	..	..	..	..	Calm	Calm	..	..	10
9	30·246	40·6	..	..	..	..	Calm	Calm	..	..	10
10	30·250	40·8	..	..	39·0	1·8	Calm	Calm	..	..	10
11	20·246	39·9	..	..	..	..	Calm	Calm	..	..	10
12	30·247	40·6	..	..	..	..	Calm	Calm	..	..	10
13	30·244	40·3	..	..	..	..	Calm	Calm	..	..	10
14	30·242	40·2	..	..	..	..	Calm	Calm	..	..	10
15	30·240	39·5	..	..	..	..	Calm	Calm	..	..	10
16	30·238	38·0	..	..	35·5	2·5	Calm	Calm	..	..	10
17	30·234	37·6	..	..	..	..	Calm	Calm	..	..	10
18	30·228	37·4	..	..	..	..	Calm	Calm	..	..	10
Feb. 26. 10	29·489	40·0	..	..	36·0	4·0	N W	N W	2 to 5	2	10
11	29·488	39·6	..	..	..	..	N W	N W	4 to 7	2+	10
12	29·484	37·0	..	..	..	..	N W	N W	$2\frac{1}{2}$ to 8	2+	10
13	29·496	37·5	..	..	..	..	N N W	N W	4 to 5	$2\frac{1}{2}$	10
14	29·499	38·3	..	..	..	..	N N W	N N W	$2\frac{1}{2}$ to 4	2+	9
15	29·496	36·0	..	..	..	..	N N W	N N W	2 to 4	2	0
16	29·508	36·8	..	..	29·5	7·3	N N W	N W	$1\frac{1}{2}$ to 4	2	10
17	29·523	35·6	..	..	..	..	N N W	N by W	2 to 4	2	10
18	29·561	35·5	..	..	..	..	N N W	N	$2\frac{1}{2}$ to 5	$1\frac{1}{2}$	10
19	29·600	34·8	..	..	..	..	N	N	1 to 2	2	9
20	29·615	34·3	..	..	..	..	N by W	N	..	1	10
21	29·631	35·3	..	..	..	..	N by W	N	..	$\frac{1}{2}$	10
22	29·647	38·2	..	..	33·0	5·2	N by W	N	2 to 3	$\frac{1}{2}$	10
23	29·647	38·5	..	..	..	..	N by W	N by W	2 to $2\frac{1}{2}$	$\frac{3}{4}$	10
Feb. 27. 0	29·674	37·8	..	..	..	..	N by W	N N W	..	$\frac{1}{4}$	6
1	29·687	38·8	..	..	..	..	N by W	N	0 to $1\frac{1}{2}$	$\frac{1}{4}$	7
2	29·692	42·0	..	..	..	..	N by W	N N W	$\frac{1}{2}$ to 1	$\frac{1}{2}$	7
3	29·692	42·4	..	..	..	..	N by W	N N W	..	$\frac{1}{4}$	8
4	29·707	41·6	..	..	39·0	2·5	N by W	N N W	0 to 2	$\frac{1}{4}$	9
5	29·730	37·7	..	..	..	..	N by W	N	..	$\frac{1}{4}$	$9\frac{3}{4}$

GENERAL REMARKS.	Observer.
Cloudless.	D
Ditto.	
Ditto.	
Ditto.	
Ditto: hoar frost.	D
Overcast: a fog which has prevailed since 12^h is now gradually disappearing.	J H
Ditto: cirro-stratus.	
Ditto ditto: misty.	
Ditto: misty: a drizzling rain falling.	J H
Ditto: a damp fog.	D
Ditto ditto.	
Ditto ditto.	
Ditto ditto.	
Ditto ditto.	
Ditto ditto.	D
Ditto ditto.	J H
Ditto ditto.	
Ditto: the fog increasing.	
Ditto a damp fog.	
Ditto: not so foggy as at the last observation.	
Ditto ditto.	
Ditto: cirro-stratus.	
Ditto ditto.	J H
Ditto ditto.	D
Ditto ditto.	
Ditto ditto.	
Ditto ditto.	
Ditto ditto.	
Ditto ditto.	
Ditto ditto.	D
Overcast: a light rain.	G
Ditto: a tempestuous night: gusts of wind frequently to 3.	G
Ditto: rain and wind.	W R
Ditto: sprinklings of rain.	W R
A few stars shining in N.N.W.; otherwise overcast.	J H
Cleared off at $14^h.\ 30^m$: at present cloudless.	J H
Overcast: a misty rain.	P
Ditto: a thick misty rain falling: lulls in the wind.	P
The wind in gusts: rain falling heavily.	M
Breaks in the N. and also in the zenith; otherwise cloudy.	M
Overcast: a misty rain: flakes of snow falling.	D
Ditto ditto.	D
Ditto: the wind is inclined to rise again.	G
Ditto: cirro-stratus and scud.	J H
Scud: a fine azure sky appearing above.	P
Cumuli S. of the zenith: cirro-stratus elsewhere. A shower of hail has fallen since the last observation.	D
Large cumuli and cumulo-strati in various parts of the sky.	J H
Large and numerous cumuli, and scud, with cirro-stratus.	P
Cirro-stratus and scud: a break in W. horizon, adorned with magnificent cumuli.	P
A break near the horizon in E.: loose scud passing everywhere from N.	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.		
Feb. 27. 6	29·746	38·1	..	..	..	..	N by W	N by W	..	½	9½
7	29·777	35·4	..	..	..	..	N by W	N by W	..	¼	9½
8	29·774	35·4	..	..	..	..	N	N N W	..	½	9¾
9	29·771	35·4	..	..	..	..	N by W	N N W	..	¼	8
10	29·768	34·7	..	..	32·0	2·7	N by W	N N W	..	¼	5
Mar. 21. 18	29·247	49·7	48·7	1·0	..	..	S by W	S S W	3 to 7	2½	10
19	29·242	49·7	49·2	0·5	..	..	S by W	S W by S	4 to 5	2+	10
20	29·243	50·0	49·7	0·3	..	..	S by W	S W by W	3 to 5	2+	10
21	29·243	50·4	50·1	0·3	..	..	S by W	S W by S	4 steadily	2½	10
22	29·262	51·5	51·0	0·5	51·0	0·5	S S W	S S W	3 to 4	2	10
23	29·271	52·0	51·5	0·5	..	..	S S W	S S W	2 to 3	1½	10
Mar. 22. 0	29·284	52·6	51·6	1·0	..	..	S S W	S S W	1½ to 4	1½	10
1	29·288	55·0	52·8	2·2	..	..	S W	S S W	3 to 5	1½	9½
2	29·292	55·2	51·0	4·2	..	..	S W	S W	4 to 7	2+	4
3	29·317	55·0	50·4	4·6	..	..	S W	S W by W	4 to 7	2+	4
4	29·344	53·3	49·0	4·3	41·0	12·3	W S W	S W by W	3 to 7	2+	2
5	29·367	51·7	47·9	3·8	..	..	...	S W by W	3½ steady	2	4
6	29·405	50·0	47·0	3·0	..	..	...	S W by S	1 to 1½	2	4
7	29·427	47·5	44·8	2·7	..	..	...	S W	0 to ½	1	6
8	29·474	44·0	42·5	1·5	..	..	...	W S W	1 to 1½	½	2
9	29·490	42·9	41·5	1·4	..	..	...	W S W	..	½	1
10	29·516	40·8	40·4	0·4	39·0	1·8	...	W S W	..	½	0
11	29·526	41·8	41·5	0·3	..	..	...	S W	..	½	1
12	29·537	42·3	41·7	0·6	..	..	...	W S W	..	½	8
13	29·557	42·4	41·5	0·9	..	..	...	S W	..	½	5
14	29·573	42·7	41·6	1·1	..	..	...	S W	0 to ½	½	1
15	29·582	41·2	40·1	1·1	..	..	...	S W	..	½	0
16	29·594	41·4	40·0	1·4	40·0	1·4	...	S W	..	¾	6
17	29·616	41·5	40·4	1·1	..	..	...	S W	..	½	9
18	29·651	40·5	39·4	1·1	..	..	...	S W	½ to 1½	½	6
Mar. 24. 10	30·124	42·7	41·7	1·0	41·5	1·2	...	S W	..	½	0
11	30·116	40·8	40·4	0·4	..	..	...	S W	..	¼—	0
12	30·104	39·4	39·0	0·4	..	..	...	S W	..	¼	0
13	30·093	39·6	39·3	0·3	..	..	...	S W	..	¼	0
14	30·083	41·4	40·5	0·9	..	..	...	S W	..	¼	0
15	30·061	41·3	40·5	0·8	..	..	...	S W	..	¼	0
16	30·034	41·0	40·3	0·7	38·0	3·0	...	S W	..	¼	0
17	30·032	40·7	40·0	0·7	..	..	...	S W	..	¼	0
18	30·026	40·8	40·2	0·6	..	..	...	S W by S	..	¼	2
19	30·037	39·2	39·3	—0·1	..	..	...	S	..	¼	4
20	30·027	44·8	43·5	1·3	..	..	...	Calm	..	..	2
21	30·027	50·2	47·7	2·5	..	..	...	Calm	..	..	2
22	30·026	51·8	49·4	2·4	46·5	5·3	...	S W	..	¼	2
23	30·005	54·8	51·6	3·2	..	..	...	S W	..	¼	7
Mar. 25. 0	29·995	55·9	52·3	3·6	..	..	...	W by S	..	¼	6
1	29·977	57·3	53·2	4·1	..	..	S by W	W S W	..	¼	3
2	29·943	58·3	54·3	4·0	..	..	S S W	S S W	0 to ½	¼	4
3	29·913	59·5	53·6	5·9	..	..	S S W	W S W	0 to ½	¼	2
4	29·906	58·2	52·7	5·5	51·0	7·2	S W	W S W	½ to 1	¼	2

March 22d. 4h+. The Anemometer registered the direction of the wind erroneously. (See note to March 22, in Section of Ordinary Meteorological Observations.)

March 22d. 16h. 30m. The wind blew with a constant pressure of 1lb. on the square foot.

March 24d. The Anemometer had been partly taken to pieces. (See note to Ordinary Meteorological Observations.)

GENERAL REMARKS.	Observer.
A little blue sky near the zenith, the remainder of the sky overcast.	G
Very cloudy: scud.	J H
Ditto: cirro-stratus and scud.	J H
Fleecy clouds in every direction.	D
Cirro-cumulus in the zenith: cirro-stratus in S.E.	D
Overcast: scud flying rapidly over from S. S.W.: a very stormy looking sky.	J H
Ditto ditto.	
Ditto: cirro-stratus and scud: a strong gale of wind.	
Ditto ditto ditto.	J H
Ditto: scud passing rapidly over, at a low elevation: heavy gusts of wind.	D
Ditto: cirro-stratus and scud.	
Ditto ditto: gusts of wind to 2: thick rain has fallen since the last observation.	
Clear breaks N. of the zenith: large masses of scud: gusts of wind.	
Cumulo-strati in large masses passing over from S.W.: heavy gusts of wind.	
The same as at the last observation.	D
Large white cumuli, and fragments of scud: heavy gusts of wind.	J H
Cumulo-strati in N.W.: heavy gusts of wind at intervals.	
Large cumulo-strati in N.W. At $6^h.\ 5^m$ a squall of hail.	
Scud and cumulo-strati in W. of a deep purple tint: hazy in the horizon: heavy showers of rain at $6^h.\ 10^m$.	
Scud W. of the zenith.	
Cirro-stratus in W. horizon: several brilliant meteors in S. since 8^h.	
Cloudless. At $9^h.\ 10^m$ an aurora appeared exhibiting brilliant streamers, which shot upwards from behind a mass of dark cloud N. by E.: at $9^h.\ 23^m$ the streamers were no longer visible, and a faintly diffused light was over the northern part of the sky.	
Scud in W. horizon; otherwise clear.	J H
The sky nearly covered with a thin scud: stars faintly visible through it: a flash of lightning in N.W. at $11^h.\ 45^m$.	D
Scud S. and S.E. of the zenith: the rest of the sky clear.	
A little cirro-stratus in N., near the horizon; otherwise cloudless.	
Cloudless: another flash of lightning was visible in N.W., about 5^m after the observation, the sky at the time cloudless.	
The sky clouded over soon after the last observation: at present N. of the zenith quite cloudy: clear in S.	
The sky nearly covered with cirro-stratus.	
The sky N. of the zenith covered with a thin cirro-stratus; clear elsewhere.	D
Cloudless.	G
Ditto: nearly calm.	G
Ditto.	D
Ditto.	D
Ditto.	J H
Ditto: light vapour at intervals in the zenith.	
Ditto: hazy.	
Ditto.	J H
Clouds rising and settling in the zenith.	P
Scud in various directions.	P
Hazy: clouds in all directions: most clouds near the S. horizon.	M
Ditto.	M
Ditto.	D
Cumuli and vapour: horizon hazy in E.	J H
Cirro-stratus and scud.	P
Cumuli scattered about: hazy.	D
Cumuli and cirri in various parts of the sky.	J H
Linear-cirri N. of the zenith: small cumuli in N.W.	D
Cirri and cumuli in different parts of the sky.	D

March $24^d.\ 19^h$. The reading of the Wet-bulb Thermometer is higher than the reading of the Dry-bulb 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.		
Mar. 25. 5	29·890	56·2	51·4	4·8	..	..	S W	S W	½ to 2	1	1
6	29·880	52·4	49·8	2·6	..	..	S W	S W	½ to 1½	½	0
7	29·865	50·0	47·6	2·2	..	..	S W	S W	..	¼	0
8	29·859	47·6	46·0	1·6	..	..	S W	S W	..	¼	1
9	29·856	46·0	45·3	0·7	..	..	S S W	S W by S	..	¼	0
10	29·857	46·5	45·1	1·4	42·5	4·0	S S W	S W by S	..	¼	0
Apr. 20. 18	29·647	39·1	38·9	0·2	..	..	Calm	E N E	..	¼	9½
19	29·665	40·7	40·4	0·3	..	..	E N E	E N E	..	¼	9
20	29·693	42·2	41·2	1·0	..	..	E N E	E N E	½ to 1	¼	8
21	29·698	43·7	42·1	1·6	..	..	E N E	E N E	1½ to 2	¾	7
22	29·714	45·8	42·5	3·3	41·0	4·8	E N E	N E	1½ to 2	1	8
23	29·718	47·3	43·2	4·1	..	..	E N E	N E	2 steadily	1	9
Apr. 21. 0	29·715	49·6	44·4	5·2	..	..	N E	N E	1½ to 2	1	8
1	29·716	49·6	44·4	5·2	..	..	N E	N E	2 steadily	½	8
2	29·726	49·4	43·5	5·9	..	..	N E	N E	2 steadily	¾	9
3	29·726	49·8	44·3	5·5	..	..	N E	N E	1 to 2	¾	8
4	29·725	50·4	44·3	6·1	37·0	13·4	E N E	N E	1½ to 2	1½	9
5	29·733	49·2	43·7	5·5	..	..	E N E	N E	2 to 2½	1½	8
6	29·741	47·9	42·8	5·1	..	..	E N E	N E	1½ to 2	1	7
7	29·752	46·0	42·2	3·8	..	..	N E	N E	1½ to 2	1	4
8	29·775	43·2	40·0	3·2	..	..	N E	N E	¼ to ½	¾	6
9	29·782	42·6	40·0	2·6	..	..	N E	N E	0 to ½	½	6
10	29·787	41·5	39·0	2·5	37·0	4·5	N N E	N by E	½ to 1	1½	6
11	29·790	41·2	39·4	1·8	..	..	N N E	N by E	½ to 1	2	9
12	29·786	40·5	38·6	1·9	..	..	N E	E N E	½ to 1	2	8
13	29·788	40·0	38·2	1·8	..	..	N N E	N E	1 to 1½	2	10
14	29·778	39·6	38·0	1·6	..	..	N E	N E	1 to 1½	1	9
15	29·775	39·7	38·6	1·1	..	..	N E	N E	1½ steadily	1	10
16	29·762	40·4	38·9	1·5	38·0	2·4	N E	N E	1 to 1½	2	8
17	29·746	40·5	38·8	1·7	..	..	N E	N E	1½ steadily	1½	10
18	29·756	40·6	38·9	1·7	..	..	N E	N E	½ to 1	1½	9
19	29·750	40·6	38·9	1·7	..	..	N E	N E	½ to 1	1	8
20	29·747	43·0	39·7	3·3	..	..	N E	N E	2 to 3	2	9
21	29·748	43·8	40·5	3·3	..	..	N E	N E	1 to 1½	1½	8
22	29·752	45·1	41·5	3·6	38·2	6·9	N E	N E	2 to 3	2	10
23	29·740	45·8	41·8	4·0	..	..	N E	N E	1 to 1½	1	10
Apr. 22. 0	29·725	45·7	42·0	3·7	..	..	E N E	E N E	1 to 1½	¾	9
1	29·717	47·6	43·3	4·3	..	..	E N E	E N E	1½ steadily	1	10
2	29·702	48·3	44·3	4·0	..	..	N E	E N E	1 to 2	½	9½
3	29·678	49·0	44·8	4·2	..	..	N E	E N E	2 to 2½	½	9
4	29·671	46·5	43·1	3·4	39·0	7·5	E by N	E N E	1½ to 2	¾	9
5	29·654	46·9	43·2	3·7	..	..	E N E	N E	2 to 2½	1	9½
6	29·666	45·0	42·3	2·7	..	..	E by N	E N E	½ to 2	¾	10
7	29·652	43·7	41·5	2·2	..	..	E N E	E N E	1½ to 2	¾	10
8	29·645	42·5	41·0	1·5	..	..	E N E	E N E	1 to 2	¾	9¾
9	29·638	42·5	41·0	1·5	..	..	N E	N E	0 to 1	1	10
10	29·626	42·5	41·0	1·5	38·8	3·7	N E	N E	½ to 1	1½	10
May 20. 18	29·543	44·2	44·0	0·2	..	..	Calm	S	..	¼	1
19	29·545	50·5	49·0	1·5	..	..	Calm	S	..	¼	4
20	29·541	55·8	52·1	3·7	..	..	Calm	Calm	..	..	½

GENERAL REMARKS.	Observer.
Cirri S. of the zenith: wind rising: very fine.	G
Nearly cloudless: a few light cirri only S. of the zenith.	G
Cloudless.	P
Light scud in S. and S.W.; otherwise clear.	P
Cloudless.	J H
Ditto.	J H
Cirro-stratus and scud.	J H
Ditto.	
Scud floating over from N.E.: vapour and cirro-stratus E. and S. of zenith.	
Cumulo-stratus in the N. horizon: linear cirri and vapour in the zenith, and a thin cirro-stratus near the Sun.	J H
Ditto and N.W.: cirro-stratus in S., and dark scud flying from E.N.E.	P
Ditto ditto.	
[breaks in the zenith.	
Cumulo-strati in the N.N.W. and S.: scud impelled by two currents, the upper from E. and the lower from N.E.: a few slight	
Cumulo-stratus in the horizon, and scud floating from E.: a few breaks in the zenith, and N. horizon.	
Ditto: upper current from E.: lower from N.E.	
Ditto: scud: breaks in N. and N.E.	P
Ditto in N.W.: scud in various parts of the sky.	J H
Ditto and scud: wind in gusts to $1\frac{1}{2}+$.	
Ditto ditto ditto.	
Ditto in N.: fleecy clouds in, and S. of, the zenith.	
Cirro-stratus and scud: upper current easterly.	
Fleecy clouds, extending from the zenith for 40° round, except in N.	J H
Clear N. of the zenith, the rest of the sky cloudy.	G
The horizon in N. clear, every other part of the sky overcast: Venus shining brightly through a break in the N.W.	
A clear break near the horizon in N., a few stars are dimly seen in the zenith; otherwise overcast.	
Overcast.	G
Thin cirro-stratus: stars faintly visible N. of the zenith.	D
Quite overcast.	
Fleecy clouds in the zenith, the rest of the sky is covered with cirro-stratus.	D
Overcast: cirro-stratus and scud.	P
Cirro-stratus and scud: upper current from N.N.E., under from E. by N.	
Cumulo-stratus in N. and N.W.: stratus in N. horizon; in the remaining part of the sky cirro-stratus prevailing.	P
A break in the N.: cold and stormy.	M
The same as at the last observation.	M
Overcast: wind blowing in gusts.	J H
Cirro-stratus and scud.	P
Cumulo-stratus in N. horizon, cirro-stratus and scud elsewhere: a few breaks in N.	P
Overcast: cirro-stratus and scud.	D
Low scud: a few breaks N. of the zenith.	J H
Nearly overcast: a few breaks are visible in N.E.	P
Cirro-stratus and scud: partial breaks in N. and N.W.	P
A break in N., every other part of the sky cloudy.	D
Overcast.	D
Ditto: cirro-stratus and scud: a squall of rain at $7^h.\ 15^m$.	J H
Cirro-stratus and scud: a break near the horizon in N.: rain at intervals since the last observation.	J H
Overcast.	G
Ditto: not a break.	G
Clear: linear-cirri in N., near the horizon.	D
Cirri and vapour in the zenith, and 30° around: clear in the whole horizon.	
A few cirri S.E. of zenith; otherwise 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.		
May 20. 21	29·543	60·3	54·5	5·8	..	..	S S E	S S E	..	$\frac{1}{4}$	2
22	29·539	58·3	54·5	3·8	44·0	14·3	S S E	E S E	..	$\frac{1}{2}$	3
23	29·527	62·5	55·4	7·1	..	..	S E	S S E	..	$\frac{1}{2}$	9
May 21. 0	29·521	65·4	56·6	8·9	..	..	S S E	S S E	..	$\frac{1}{2}$	7
1	29·487	66·6	57·7	8·9	..	..	E N E	S by E	0 to $\frac{1}{2}$	$\frac{1}{2}$	8
2	29·479	66·3	57·5	8·8	..	..	E N E	E N E	0 to 1	$\frac{1}{2}$	8
3	29·468	63·1	55·5	7·6	..	..	E N E	E N E	1 steady	1	9$\frac{1}{2}$
4	29·470	59·0	53·0	6·0	50·0	9·0	E by N	E	0 to 1	$\frac{1}{2}$	10
5	29·439	58·3	53·6	4·7	..	..	E N E	E N E	0 to 1	$\frac{1}{2}$	10
6	29·425	56·2	53·5	2·7	..	..	E by N	N E	$\frac{1}{2}$ to 1	$\frac{1}{2}$	10
7	29·413	56·0	54·3	1·7	..	..	E N E	N E	0 to $\frac{1}{2}$	$\frac{1}{4}$	10
8	29·427	56·3	54·8	1·5	..	..	E by N	E by N	..	$\frac{1}{2}$	10
9	29·416	55·7	54·7	1·0	..	..	E by N	E N E	..	$\frac{1}{4}$	10
10	29·407	55·2	54·8	0·4	55·0	0·2	E	E N E	..	$\frac{1}{4}$	10
11	29·413	55·2	54·7	0·5	..	..	E	E	..	$\frac{1}{4}$	5
12	29·417	55·2	54·8	0·4	..	..	E	E by N	..	$\frac{1}{2}$	9
13	29·413	55·3	54·9	0·4	..	..	E	E	..	$\frac{1}{2}$	9
14	29·414	55·2	54·9	0·3	..	..	E	E	..	$\frac{1}{2}$	10
15	29·415	55·2	55·0	0·2	..	..	E by S	E	..	$\frac{1}{2}$	10
16	29·419	55·7	54·5	1·2	54·0	1·7	E S E	E by S	..	$\frac{1}{4}$	10
17	29·443	55·7	55·6	0·1	..	..	Calm	S	..	$\frac{1}{2}$	7
18	29·457	56·3	56·2	0·1	..	..	Calm	S	..	$\frac{1}{2}$	10
May 28. 10	29·914	60·0	56·7	3·3	54·0	6·0	W S W	W	..	$\frac{1}{4}$	$\frac{1}{2}$
11	29·928	58·5	56·0	2·5	..	..	W by S	W	..	$\frac{1}{4}$	$\frac{1}{4}$
12	29·937	56·2	54·8	1·4	..	..	Calm	Calm	..	..	0
13	29·931	55·7	54·5	1·2	..	..	Calm	Calm	..	..	0
14	29·946	53·3	52·9	0·4	..	..	Calm	Calm	..	..	0
15	29·952	53·3	52·8	0·5	..	..	Calm	Calm	..	..	1
16	29·957	52·6	52·3	0·3	50·5	2·1	Calm	Calm	..	..	3
17	29·956	52·0	51·6	0·4	..	..	W S W	W S W	..	$\frac{1}{4}$	2
18	29·956	52·5	51·8	0·7	..	..	W S W	W S W	..	$\frac{1}{4}$	0
19	29·961	57·2	54·2	3·0	..	..	W by S	W S W	..	$\frac{1}{4}$	$\frac{1}{2}$
20	29·980	60·2	54·8	5·4	..	..	Calm	Calm	..	..	1
21	29·980	63·0	55·0	8·0	..	..	Calm	Calm	..	..	0
22	29·986	64·4	56·5	7·9	48·5	15·9	N N W	Calm	..	..	6
23	29·985	67·0	58·7	8·3	..	..	N	N	..	$\frac{1}{4}$	10
May 29. 0	29·982	67·5	58·5	9·0	..	..	N by W	N	..	$\frac{1}{4}$	7
1	29·977	68·2	59·3	8·9	..	..	N by W	N	..	$\frac{1}{4}$	10
2	29·966	69·0	60·8	8·2	..	..	N by W	N	..	$\frac{1}{4}$	8
3	29·966	68·0	59·8	8·2	..	..	N W	N N W	..	$\frac{1}{4}$	9
4	29·964	66·8	58·2	8·6	51·5	15·3	N W	N W	..	$\frac{1}{4}$	10
5	29·961	66·3	58·0	8·3	..	..	N by W	N	..	$\frac{1}{4}$	10
6	29·962	65·3	57·7	7·6	..	..	N N W	N	..	$\frac{1}{4}$	10
7	29·945	63·2	57·2	6·0	..	..	N by W	N	..	$\frac{1}{4}$	10
8	29·941	61·2	57·4	3·8	..	..	N by W	N	..	$\frac{1}{4}$	10
9	29·950	60·6	57·3	3·3	..	..	N by W	N	..	$\frac{1}{4}$	10
10	29·945	59·4	56·6	2·8	55·0	4·4	Calm	Calm	..	..	10
June 20. 18	29·618	55·4	54·0	1·4	..	..	...	S W	..	1$\frac{1}{2}$	2
19	29·627	57·5	55·2	2·3	..	..	S W	S W	2 to 5	1$\frac{1}{2}$	2
20	29·645	61·5	58·0	3·5	..	..	S W	S W	3 to 5	1$\frac{1}{2}$	7

June 20d. 18h. The Anemometer out of order. (See Section of Ordinary Meteorological Observations.)

GENERAL REMARKS.	Observer.
Large white cumuli in the horizon, more particularly in N. and N.W.; the zenith, and every part of the sky within 50° of it, quite [clear.	D
White cumuli in various directions: linear-cirri N.W. of the zenith.	J H
Thin cirro-stratus: small dark cumuli floating beneath.	
Cirro-stratus, and dark cumuli in the W.: breaks and light fleecy clouds E. of the zenith.	
Thin cirro-stratus and small cumuli scattered about the sky.	
Fleecy clouds and cumuli: small cirro-strati low in N. horizon: upper current S.W.	
The sky nearly covered with a thin cirro-stratus.	J H
Cirro-stratus and low scud all over the sky: slightly raining.	D
Overcast: a very heavy-looking sky.	
Ditto ditto.	D
Ditto ditto.	P
Ditto: cirro-stratus and scud: rain falling: clouds move from the S.	J H
Ditto ditto: several showers of rain have fallen between this and the preceding observation.	P
Vivid flashes of lightning in the S.E., accompanied with distant thunder and heavy rain.	D
Cirro-stratus N. of the zenith: light vapour in the S.	D
Dark vapour, frequently quite obscuring the sky.	J H
Ditto ditto.	
Overcast: cirro-stratus and scud.	
Ditto ditto.	
Ditto ditto.	
Cirro-stratus and scud: the wind veered to the S. at $16^h.\ 15^m$, when breaks immediately appeared.	
Overcast: cirro-stratus and scud.	J H
A few cirri here and there.	G
A small fibrous cloud a little above the Moon; otherwise clear.	
Cloudless.	
Ditto.	G
Ditto.	D
A few streaks of cirro-stratus N.W. of the zenith; the rest of the sky clear.	
Cirro-stratus in N.W.: a few fleecy clouds in the S.	D
Ditto N. and N.E. near the horizon; otherwise clear.	J H
Cloudless.	
Light vapour S. of the zenith; otherwise clear.	J H
Hazy.	M
Ditto.	M
Ditto.	P
The whole sky covered with haze.	P
Hazy: the Sun casts no shadow.	G
Overcast: thin cirro-stratus: hazy.	J H
Clear S.E. of the zenith: the rest of the sky overcast.	D
A thin cirro-stratus covers the greater portion of the sky.	J H
Overcast: cirro-stratus.	J H
Ditto ditto.	G
Ditto ditto.	G
Ditto ditto: a break or two in the N. and N.W. shortly after the observation.	P
Ditto ditto: a thin rain falling.	P
Ditto ditto ditto.	D
Ditto ditto ditto.	
Cirro-stratus in the horizon; otherwise clear.	D
Light undefined clouds passing over rapidly: wind in gusts.	
Scud and undefined clouds, moving with great velocity from the S.W.: wind in gusts to 2.	

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 20. 21	29·664	63·1	58·9	4·2	..	..	S W	S W	2 to 5	1½	5
22	29·681	63·8	58·8	5·0	59·0	4·8	S W	S W	3 to 5	1½	10
23	29·706	67·2	60·0	7·2	..	..	S W	S W	4 to 5	2	3
June 21. 0	29·712	69·5	60·9	8·6	..	..	S W	S W	4 to 5	2	3
1	29·727	72·5	62·0	10·5	..	..	S W	S W	3 to 4½	2	3
2	29·747	70·2	61·3	8·9	..	..	S W	S W	3 to 4½	2	6
3	29·772	67·5	61·0	6·5	..	..	S S W	S W	4½ to 5½	1½	5
4	29·802	59·8	58·0	1·8	57·0	2·8	W S W	S W	1 to 5	2	9
5	29·812	63·7	60·1	3·6	..	..	S S W	S W	0 to 2	1	8
6	29·832	58·8	56·5	2·3	..	..	W S W	S W	0 to 1	¾	9
7	29·834	63·4	58·5	4·9	..	..	W S W	W S W	0 to 1	½	5
8	29·856	60·0	56·5	3·5	..	..	S W	S W	..	½	3
9	29·878	58·5	55·8	2·7	..	..	S W	S S W	..	½	3
10	29·897	55·3	53·8	1·5	54·0	1·3	S S W	S W	..	½	2
11	29·910	53·6	52·8	0·8	..	..	S S W	S W	..	½	2
12	29·911	52·0	51·7	0·3	..	..	S S W	S W	..	½	1
13	29·911	50·7	50·7	0·0	..	..	S S W	S W	..	½	4
14	29·917	51·0	50·8	0·2	..	..	S W	S W	..	½	8
15	29·922	50·6	50·5	0·1	..	..	S W	S W	..	½	7
16	29·928	49·2	49·2	0·0	49·0	0·2	Calm	S W	..	½	2
17	29·937	49·0	49·0	0·0	..	..	S S W	S W	..	½	1
18	29·952	52·8	52·1	0·7	..	..	Calm	S W	..	½	8
June 23. 10	29·718	54·3	52·3	2·0	52 0	2·3	Calm	Calm	..	..	2
11	29·707	51·6	50·6	1·0	..	..	Calm	Calm	..	..	2
12	29·713	50·5	49·5	1·0	..	..	Calm	Calm	..	..	1
13	29·704	51·0	49·8	1·2	..	..	Calm	Calm	..	..	7
14	29·682	48·5	48·0	0·5	..	..	Calm	Calm	..	..	1
15	29·661	46·8	46·6	0·2	..	..	Calm	Calm	..	..	1
16	29·661	47·3	46·6	0·7	45·0	2·3	Calm	Calm	..	..	1
17	29·664	45·5	45·4	0·1	..	..	Calm	W S W	..	½	3
18	29·654	48·8	48·4	0·4	..	..	Calm	W S W	..	½	4
19	29·642	53·5	52·5	1·0	..	..	Calm	W S W	..	¼	2
20	29·638	59·7	56·2	3·5	..	..	Calm	Calm	..	..	1
21	29·631	64·7	60·3	4·4	..	..	Calm	Calm	..	..	7
22	29·627	67·0	59·5	7·5	..	..	Calm	Calm	..	..	7
23	29·618	61·8	58·5	3·3	..	..	Calm	W S W	..	¼	10
June 24. 0	29·627	55·5	54·5	1·0	..	..	Calm	E N E	..	¼	10
1	29·605	63·2	60·6	2·6	..	..	Calm.	E N E	..	½	8
2	29·589	59·8	58·0	1·8	..	..	Calm.	E by S	..	¼	10
3	29·587	64·4	59·5	4·9	..	..	S	S	..	¼	8
4	29·571	64·7	58·1	6·6	55·0	9·7	S by W.	S W	..	¼	5
5	29·558	66·5	59·0	7·5	..	..	S S E	S S E	..	¼	6
6	29·548	65·7	57·0	8·7	..	..	S S E	S	..	¼	7
7	29·543	63·8	56·3	7·5	..	..	S S E	S	..	¼	9½
8	29·546	60·4	55·2	5·2	..	..	Calm	S	..	¼	7
9	29·548	58·5	54·3	4·2	..	..	S E	S	..	¼	10
10	29·549	57·3	54·2	3·1	53·5	3·8	Calm	S S E	..	very light.	10
July 20. 18	29·358	57·2	55·8	1·4	..	..	S S W	S W	..	½	10

June 21d. 3h and 4h. Between these times the atmosphere underwent a considerable hygrometrical change, becoming relatively much more charged with moisture.

GENERAL REMARKS.	Observer.
Cirro-stratus in the S.: small fragments of scud in different parts of the sky.	D
The sky covered with a dark loose scud.	J H
Large white cumuli and cumulo-strati: the sky cleared at $22^h.\ 20^m$.	
Large white cumuli: very strong gusts of wind.	
Ditto ditto.	
Scud and large cumuli.	J H
Small cumuli in all parts: scud: wind in gusts to 2.	D
The sky nearly covered with cirro-stratus and scud: a heavy shower of rain fell at $3^h.\ 40^m$.	
Cirro-stratus and scud, with occasional clear breaks: showery.	
A clear break in the S.; cirro-stratus and scud elsewhere: the sky very unsettled.	
A heavy cumulo-stratus in the N.: the sky S. of the zenith clear: detached pieces of scud in the E. and W.	
Scattered cirri in the zenith: a large bank of cirro-stratus in the N.: small cumuli in the S.	
Cirro-stratus N.W. of the zenith, and in N. near the horizon; every other part of the sky clear.	
Ditto in N. horizon: cirri in the zenith.	D
Ditto N. of the zenith.	J H
Ditto near N. horizon: hazy: light vapour in and near the zenith.	
Heavy vapour in the zenith, and 30° around.	
Dark scud S. of the zenith: extensive breaks in the northern part of the sky.	
Loose scud: wind in gusts.	
Cumulo-stratus in N. horizon: small cirro-strati near the zenith, and light scud in the S.	
Cirri N. of the zenith: scud in the S. horizon, and also near the Sun.	
A thin cirro-stratus covers the whole of the S. portion of the sky, and is rapidly extending N. of the zenith: cirri to the N.	J H
Clouds near the horizon in N. and N.W.; otherwise clear.	G
Ditto ditto.	
Clear, except a few strati near N. horizon.	
Clouds generally distributed all over the sky; the stars shining between them.	G
Cirro-stratus in N. horizon; otherwise cloudless.	D
Ditto ditto.	
Ditto ditto.	D
Cirro-stratus and undefined clouds N. and N.W. of the zenith.	J H
Fleecy clouds and scud W. of the zenith: cirri near the horizon in the S.E.	
Light fleecy clouds and scud in various directions: hazy.	J H
Nearly clear: calm and pleasant.	M
Cloud and vapour in the S. and W.	M
Cumuli scattered over every part of the sky: vapour prevalent.	P
Overcast: rain falling.	P
Continued heavy rain with hail at times since the last observation: loud claps of thunder were heard during the time: at present the clouds appear lighter: the quantity of rain during the shower, as registered by Crosley's guage, was $0^{in}.70$.	D
Cumulo-stratus and scud: a very unsettled sky.	J H
Overcast: rain again falling.	P
Fleecy clouds in the zenith, the remainder of the sky overcast.	D
Cirro-stratus in the N.: large cumuli and cumulo-strati in the S.	D
Massive cumuli near the S. horizon: N. of the zenith the sky is generally covered with cumuli and cumulo-strati: clear in the zenith: scud passing from the S.W.	G
Electrical clouds in S.E.: large dark cumulo-strati in N.: nimbi in N.W.: the Sun shines but casts no shadow.	G
Nearly overcast.	P
Undefined clouds scattered in all parts of the sky.	P
Overcast: cirro-stratus and scud: the air excessively close.	J H
Cirro-stratus and scud: the air extremely close.	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.	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. 19	29·362	57·6	56·0	1·6	..	..	S S W	S W	..	1/4	10
20	29·371	59·5	57·0	2·5	..	..	S S W	S W	0 to 1/2	1/4	10
21	29·370	60·2	57·8	2·4	..	..	S S W	S W	0 to 1/2	1/2	10
22	29·362	60·2	58·2	2·0	57·0	3·2	S S W	S W	0 to 1	1/4	10
23	29·364	61·3	58·6	2·7	..	..	S S W	S W	0 to 1	1/2	10
July 21. 0	29·359	62·5	60·0	2·5	..	..	S S W	S W	..	1/4	10
1	29·359	60·3	59·0	1·3	..	..	S S W	S W	..	1/4	10
2	29·356	59·7	59·0	0·7	..	..	S W	S W	..	1/4	10
3	29·364	65·3	62·7	2·6	..	..	W S W	S W	0 to 1	1/4	8
4	29·381	58·4	57·3	1·1	57·0	1·4	W S W	W S W	1/2 to 2	3/4	8
5	29·403	57·5	55·4	2·1	..	..	W S W	W	0 to 4 1/2	1	10
6	29·427	56·5	54·4	2·1	..	..	W S W	W S W	4 to 5 1/2	1 1/2	10
7	29·453	54·3	54·1	0·2	..	..	W S W	W S W	1 to 3 1/2	1 1/2	10
8	29·472	54·6	54·6	0·0	..	..	W S W	W S W	1 to 2	1 1/2	10
9	29·501	55·8	55·4	0·4	..	..	W S W	W S W	1 to 2 1/2	1	10
10	29·525	55·5	54·5	1·0	53·8	1·7	W S W	W	1/2 to 1	1 1/2	9 3/4
11	29·549	55·0	53·3	1·7	...	..	W S W	W	1/2 to 1	1+	7
12	29·559	53·5	52·5	1·0	..	..	W S W	W	1/2 to 1	1	6
13	29·573	54·5	53·0	1·5	..	..	W S W	W	1/2 to 1	1	8
14	29·572	54·2	52·6	1·6	..	..	W S W	W	1/2 to 1	1/2	10
15	29·573	54·0	52·5	1·5	..	..	W S W	W	0 to 1/2	1/2	9 3/4
16	29·573	53·7	52·2	1·5	50·0	3·7	S W	W S W	0 to 1/2	1/2	9
17	29·576	53·5	52·0	1·5	..	..	S W	W by S	..	1/4	10
18	29·582	53·7	52·0	1·7	..	..	S W	W S W	..	1/4	8
19	29·591	55·0	53·2	1·8	..	..	S W	W S W	0 to 1	1/4	8
20	29·603	56·3	53·7	2·6	..	..	S W	W S W	..	1/4	9
21	29·619	58·0	54·7	3·3	..	..	W S W	W S W	1 to 2	1/4	9
22	29·615	59·7	55·1	4·6	51·0	8·7	W S W	W	1 to 2	1	4
23	29·628	57·8	53·0	4·8	..	..	W S W	W	..	1/4+	10
July 22. 0	29·621	62·8	56·0	6·8	..	..	W S W	W S W	0 to 1 1/2	3/4	8
1	29·621	60·6	53·2	7·4	..	..	W	W N W	0 to 1/2	1/4	9
2	29·626	61·2	55·2	6·0	..	..	W S W	W by S	..	1/4	8
3	29·637	55·0	53·0	2·0	..	..	W S W	W S W	0 to 4	1/2	9 1/2
4	29·639	58·8	55·5	3·3	54·0	4·8	W S W	W N W	..	1/2	9 3/4
5	29·638	62·6	58·0	4·6	..	..	W S W	W	..	1/4	4
6	29·649	57·6	56·0	1·6	..	..	W S W	W by N	..	1/4	9 3/4
7	29·678	59·4	54·5	4·9	..	..	N W	N W	0 to 1 1/2	3/4	8
8	29·690	57·4	52·7	4·7	..	..	N W	W N W	..	1/2	4
9	29·707	55·7	52·0	3·7	..	..	W N W	W N W	..	1/4	6
10	29·726	55·0	51·2	3·8	50·0	5·0	N W	W N W	..	1/2	2
Aug. 20. 18	29·499	61·5	59·2	2·3	..	..	Calm	S S E	..	1/4	7
19	29·495	63·1	60·8	2·3	..	..	S S E	S S E	..	1/4	8
20	29·508	64·0	61·8	2·2	..	..	S W	S W	0 to 1/2	1/2	10
21	29·516	64·4	61·5	2·9	..	..	S W	S W	0 to 1	1/2	10
22	29·522	68·3	64·0	4·3	63·5	4·8	S W	S W	0 to 1/2	1/2	8
23	29·529	70·6	64·2	6·4	..	..	S W	S W	0 to 1/2	1/2	9
Aug. 21. 0	29·531	69·4	62·5	6·9	..	..	W S W	S W	0 to 1/2	1/4+	9
1	29·548	69·9	62·3	7·6	..	..	W S W	W	1/2 to 1 1/2	1/4	7
2	29·563	69·4	60·1	9·3	..	..	W by S	W S W	1/2 to 2 1/2	1/2	6
3	29·577	71·4	60·3	11·1	..	..	W by S	W S W	1 to 2	1/4	4

July 21d, civil reckoning. The mean height of the barometer was less on this day, and the relative moisture in the atmosphere greater, than on any other day during the month. (See the Section of Ordinary Observations.)

July 22d. 3h. See the note in the Ordinary Observations, on a sudden squall of wind.

GENERAL REMARKS.	Observer.
Overcast.	D
Ditto.	
Ditto: cirro-stratus and scud.	D
Ditto ditto: a thin misty rain falling.	P
Ditto ditto: very unsettled sky.	J H
Ditto ditto: a gloomy looking sky.	P
Ditto ditto.	
Ditto: a fine steady rain falling.	P
Breaks in, and W. of, the zenith: loose scud in every other direction.	J H
Clear breaks in the N.W.; the rest of the sky is covered principally with a low scud: a slight rain falling.	D
Overcast: a misty rain: wind in gusts to $1\frac{1}{2}$.	
Ditto ditto.	
Ditto: steady rain falling: strong gusts of wind.	
Ditto: rain without intermission since the last observation.	
Ditto: cirro-stratus and scud: the rain ceased falling at $8^h.\ 10^m$.	D
Clear near the horizon in the N.W., elsewhere overcast.	G
Clouds broken about the zenith: several stars visible.	
Clear in and near the zenith, the remainder of the sky is quite obscured.	
The sky nearly covered with cloud.	G
Overcast: cirro-stratus: wind in gusts to 1.	J H
Scud and cirro-stratus, with occasional breaks.	
Loose scud: partial breaks in various directions.	J H
Overcast: a wild looking sky.	P
Small breaks in every part of the sky: the sky of a lowering character.	
Clouds of a lighter character covering most of the sky: the Sun shining.	P
Fleecy clouds about the zenith; the rest of the sky overcast.	D
Occasional clear breaks; otherwise overcast.	D
Scud and loose cumuli; a whitish-blue sky between the clouds.	G
Overcast: a thin rain falling: the Sun shining at intervals.	P
Large white cumuli and cumulo-strati: gusts of wind.	J H
Large cumulo-strati in the S. horizon: cirro-stratus and scud N. of the zenith.	D
Large electrical clouds in the N., and near the horizon in the W.	D
Heavy squalls of rain: cumulo-strati and scud.	J H
Scud and cumulo-stratus: occasional showers.	J H
Light clouds in, and S. of, the zenith: cirro-stratus in the N.	P
A dense nimbus in the zenith, with an extensive break N. of it: a heavy shower of rain a few minutes before the observation.	P
Clear about the place of the Sun: fleecy clouds in N. and N.E.: dark clouds much broken in S.	G
A kind of loose cirro-cumulus in the N.	G
A large bank of cirro-stratus in the N., and in detached pieces in other parts.	D
Light fleecy clouds about the zenith; small portions of cirro-stratus in the S.E.	D
Fleecy clouds in all parts of the sky.	D
The sky chiefly covered with cirro-stratus: clear in the neighbourhood of the Sun.	
Overcast: cirro-stratus and scud.	
Ditto ditto.	D
Cirro-stratus everywhere but in the zenith, which is occupied by scud: a lower current impelling the scud from the W.	P
Cirro-stratus as before, the only break being E. of the meridian: cumulo-stratus also in that direction.	
Cirro-stratus and scud: a rather extensive break in the horizon to windward.	
Extensive breaks in every part of the sky: extremely fine cumulo-stratus in W. and N.: wind in gusts.	
Scud in large masses scattered over different parts of the sky, with cumuli: cumulo-strati in N. and W.	
Cumuli floating in every direction, with much scud: cumulo-strati still in N. and W.	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.		
Aug. 21. 4	29·592	68·6	57·4	11·2	54·0	14·6	W S W	S W	1 to 2½	½	3
5	29·610	67·2	56·9	10·3	..	..	W S W	W S W	1 to 2	¾	3
6	29·626	65·1	55·5	9·6	..	..	W by S	W S W	0 to 1½	1	1
7	29·655	61·2	54·4	6·8	..	..	W by S	W	0 to 1	½	½
8	29·685	57·6	52·4	5·2	..	..	W by S	W S W	..	¼	0
9	29·707	54·6	51·0	3·6	..	..	W S W	W S W	..	¼	0
10	29·721	52·6	49·6	3·0	48·5	4·1	Calm	W S W	..	¼	0
11	29·733	50·9	47·8	3·1	..	..	Calm	W S W	..	¼	5
12	29·739	51·5	48·3	3·2	..	..	Calm	W S W	..	¼	2
13	29·739	49·1	48·2	0·9	..	..	Calm	S S W	..	¼	0
14	29·749	48·6	48·0	0·6	..	..	Calm	S S W	..	¼	0
15	29·753	49·5	48·8	0·7	..	..	Calm	S	..	¼	1
16	29·757	50·7	49·7	1·0	49·8	0·9	Calm	S	..	¼	9
17	29·768	51·0	50·2	0·8	..	..	Calm	S	..	¼	9
18	29·777	52·0	51·0	1·0	..	..	Calm	S S W	..	¼	4
Aug. 27. 10	30·091	64·8	64·3	0·5	64·0	0·8	Calm	S	..	¼	2
11	30·088	63·7	63·2	0·5	..	..	Calm	S W	..	¼	4
12	30·094	62·5	62·0	0·5	..	..	S W	S W	..	¼	2
13	30·083	62·0	61·0	1·0	..	..	W S W	S W	..	¼	8
14	30·075	60·0	58·8	1·2	..	..	S W	S W	..	¼	2
15	30·066	58·3	57·5	0·8	..	..	W S W	S W	..	¼	2
16	30·065	56·1	55·1	1·0	56·3	−0·2	Calm	S W	..	¼	½
17	30·054	54·2	53·5	0·7	..	..	S W	S W	..	¼	1
18	30·060	54·0	53·3	0·7	..	..	Calm	Calm	..	..	3
19	30·068	54·5	54·0	0·5	..	..	W by S	W S W	..	¼	2
20	30·077	59·2	57·5	1·7	..	..	Calm	W S W	..	¼	2
21	30·088	61·0	58·4	2·6	..	..	W by S	W S W	..	¼	5
22	30·090	61·0	58·8	2·2	58·5	2·5	W S W	W S W	..	¼	2
23	30·091	62·6	59·4	3·2	..	..	W by S	W by S	..	¼	7
Aug. 28. 0	30·093	66·5	61·8	4·7	..	..	W	W	..	¼	10
1	30·091	67·5	62·5	5·0	..	..	S W	W S W	..	¼	3
2	30·075	70·5	63·2	7·3	..	..	W S W	W S W	..	¼	1
3	30·062	71·5	64·0	7·5	..	..	S W	W by S	..	¼	0
4	30·053	72·3	64·8	7·5	66·0	6·3	W S W	W	..	¼	0
5	30·050	70·5	62·2	8·3	..	..	S W	W	..	¼	0
6	30·052	69·8	61·5	8·3	..	..	W	W	..	¼	0
7	30·054	66·5	61·7	4·8	..	..	Calm	W S W	..	¼	0
8	30·055	64·0	60·3	3·7	..	..	Calm	W S W	..	¼	1
9	30·061	61·1	59·1	2·0	..	..	Calm	Calm	..	..	0
10	30·068	60·7	58·5	2·2	58·8	1·9	Calm	Calm	..	..	0
Sep. 20. 18	29·889	58·7	58·0	0·7	..	..	N E	E N E	..	¼	10
19	29·881	59·0	58·2	0·8	..	..	N E	E N E	..	½	10
20	29·865	58·8	58·0	0·8	..	..	N E	E N E	..	½	10
21	29·863	59·1	58·3	0·8	..	..	E N E	E N E	..	½	10
22	29·843	60·3	59·5	0·8	58·3	2·0	E N E	E N E	0 to ½	¼	10
23	29·831	63·3	61·0	2·3	..	..	E N E	E N E	..	¼	10
Sep. 21. 0	29·818	64·0	61·0	3·0	..	..	E N E	E N E	0 to ½	½	9½
1	29·805	65·2	61·5	3·7	..	..	E by N	E N E	0 to ½	¼	9
2	29·782	65·6	61·4	4·2	..	..	E N E	E	0 to 1	¼	6

Aug. 27d, civil reckoning. This was the hottest day in the year; and the mean height of the barometer was greater on this day than on any other day during the month. (See the Section of Ordinary Observations.)

Aug. 27d. 16h. The temperature of the Dew Point is higher than the temperature of the air; but it seems almost certain that the reading of the Dew Point is erroneous.

GENERAL REMARKS.	Observer.
Massive cumuli in the N.: detached portions of scud in all parts of the sky: light cirri in the zenith.	D
No change since the last observation.	
A few small cumuli in the horizon, the sky otherwise quite clear.	
Nearly cloudless: small detached clouds in N.W.	
Cloudless.	
Ditto.	
Ditto.	
A bank of cirro-stratus coming up from the S.; a few streaks also N. of the zenith.	D
A considerable quantity of scud in N.W.; the rest of the sky clear.	P
Cloudless.	
Ditto.	
Clouds coming up from the W.; cloudless otherwise.	
The sky is nearly obscured with loose scud: the E. horizon clear.	
Overcast, except an extensive break in the E. horizon.	
Considerable portions of cloud in the zenith, and in other parts of the sky.	P
Light cirri scattered here and there: a fine, calm, clear night.	G
The northern hemisphere nearly covered with cirro-cumuli; small detached clouds in the S.	
At present a low dark stratus near the N. horizon: loose clouds S. of the zenith all stationary.	
About 30^m after the last observation, clouds formed in the S.W. near the Moon, and shortly afterwards extended in bars to the zenith; since then they have spread nearly over the sky; the large stars are, however, seen through them.	G
Heavy vapour, especially round the horizon.	J H
Vapour and thin cirro-stratus.	
Vapour in the N. horizon; otherwise clear: Venus shining brilliantly.	J H
A few cirri W. and N. of the zenith.	P
Cirri in various parts of the sky.	
Ditto.	P
Cirri in the zenith: hazy in the N.	D
Cirri and haze prevalent.	D
Calm and fine: a little haze over the sky.	G
Most of the sky is covered with a thin veil of cloud.	P
A thin cirro-stratus covers the whole sky, with haze.	P
Haze S. of the zenith; otherwise clear.	D
A few small cirri scattered about: hazy.	J H
Cloudless.	D
Ditto.	D
Ditto.	G
Ditto.	G
Very hazy near the Sun, and S. of the zenith.	J H
Small cirro-strati in the W. horizon: hazy.	J H
Cloudless: haze in the S. horizon.	P
Cloudless.	P
Overcast: cirro-stratus: scud moving rapidly from E.S.E.	J H
Ditto ditto ditto.	
Ditto ditto: wind in gusts.	
Ditto ditto: a few spots of rain.	J H
Ditto ditto ditto.	P
Ditto ditto.	
A few breaks in the E. horizon, and near the zenith; with this exception still overcast.	
Partial breaks in different parts of the sky; cirro-stratus otherwise prevailing.	
Breaks in every part of the sky: cumulo-stratus in the N. and W., with large masses of scud floating from the E.	

Sep. 20^d, civil reckoning. The mean height of the barometer was greater on this day than on any day during the month. (See the Section of Ordinary Observations.)

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	29·785	65·4	61·2	4·2	..	..	E N E	E N E	0 to 1	½	6
4	29·747	63·5	59·7	3·8	59·3	4·2	E N E	E by N	0 to ½	¾	6
5	29·737	60·7	57·8	2·9	..	..	E N E	E by N	0 to 1½	½	10
6	29·708	60·3	57·6	2·7	..	..	N E	E by N	..	¼	10
7	29·692	58·3	56·6	1·7	..	..	N N E	E by N	..	½	6
8	29·689	58·3	57 0	1·3	..	..	N N E	E by N	..	½	1
9	29·667	57·7	56·7	1·0	..	..	N E	E by N	..	½	2
10	29·644	57·2	56·5	0·7	55·3	1·9	Calm	E by N	..	¼	1
11	29·619	56·4	56·0	0·4	..	..	N E	E by N	..	¼	1
12	29·590	57·0	55·8	1·2	..	..	Calm	N E	..	1	3
13	29·586	57·0	56·0	1·0	..	..	N E	N E	..	1	7
14	29·556	56·8	55·7	1·1	..	..	Calm	N E	..	1	5
15	29·543	57·8	56·5	1·3	..	..	N E	N E	..	1	6
16	29·529	57·1	55·6	1·5	55·0	2·1	N E	N E	..	½	6
17	29·524	57·0	55·3	1·7	..	..	N E	N E	..	½	10
18	29·521	57·0	55·2	1·8	..	..	Calm	N E	..	½	10
19	29·517	56·2	55·2	1·0	..	..	E by N	E	..	½	10
20	29·515	56·8	56·4	0·4	..	..	Calm	E	..	¼	10
21	29·520	57·0	56·8	0·2	..	..	E S E	E	..	¼	10
22	29·520	62·8	60·5	2·3	60·0	2·8	S by E	S W	..	¼	2
23	29·545	63·0	59·4	3·6	..	..	S S E	S S W	..	¼	7
Sep. 22. 0	29·549	64·5	59·6	4·9	..	..	S S W	S S W	..	¼	7
1	29·543	64·7	60·0	4·7	..	..	S S W	S S W	..	¼	4
2	29·549	63·6	58·3	5·3	..	..	S S W	S S W	..	¼	4
4	29·534	65·0	58·7	6·3	57·5	7·5	S S W	S S W	..	¾	2
6	29·530	61·3	56·6	4·7	..	..	S	S S W	..	½	3
8	29·537	55·7	54·7	1·0	..	..	Calm	S S W	..	¼	6
10	29·534	56·4	55·1	1·3	56·0	0·4	Calm	S W	..	½	6
11	29·532	55·8	54·5	1·3	..	..	Calm	S W	..	¼	9
12	29·526	56·0	54·5	1·5	..	..	Calm	S W	..	¼	10
13	29·511	55·3	54·3	1·0	..	..	Calm	S S W	..	¼	3
14	29·509	55·0	54·1	0·9	..	..	Calm	S S W	..	¼	10
15	29·508	54·0	53·6	0·4	..	..	Calm	Calm	..	..	10
16	29·496	53·0	52·8	0·2	53·0	0·0	Calm	Calm	..	..	0
17	29·491	52·7	52·6	0·1	..	..	Calm	Calm	..	..	4
18	29·485	54·0	53·7	0·3	..	..	Calm	S	..	¼	10
19	29·500	54·0	53·3	0·7	..	..	S S W	S S W	..	¼	7
20	29·506	55·0	53·9	1·1	..	..	Calm	S W	..	1	8
21	29·520	56·5	55·6	0·9	..	..	S	S S W	..	½	9
22	29·527	58·5	56·4	2·1	54·0	4·5	Calm	W S W	..	¼	9
23	29·517	57·4	56·2	1·2	..	..	S S W	S W	..	¼	9½
Sep. 23. 0	29·514	55·2	54·2	1·0	..	..	Calm	S W	..	¼	10
1	29·520	58·0	56·5	1·5	..	..	Calm	S W	..	¼	10
2	29·511	58·8	57·8	1·0	..	..	Calm	S S W	..	½	9
3	29·487	59·3	58·0	1·3	..	..	Calm	S W	..	¼	6
4	29·489	60·6	58·4	2·2	57·3	3·3	Calm	S S W	..	¼	7
5	29·492	60·5	57·4	3·1	..	..	Calm	W S W	..	¼	6
6	29·494	58·4	56·2	2·2	..	..	Calm	S S W	..	¼	8
7	29·489	56·4	54·5	1·9	..	..	Calm	S	..	¼	5
8	29·493	54·6	53·3	1·3	..	..	Calm	S	..	¼	0

GENERAL REMARKS.	Observer.
Breaks in every part of the sky: cumuli and cumulo-strati in the N. and W., with large masses of scud floating from the E.	P
Scud in large masses.	J H
Cirro-stratus and scud: gusts of wind.	
Scud and undefined clouds.	
Clear in the zenith and around: cirro-stratus and scud elsewhere.	
Cirro-stratus in the N.W.; otherwise clear.	
Ditto: heavy vapour: the stars shine dimly.	
Heavy vapour: the stars seen dimly.	
Ditto ditto.	J H
Vapour near the horizon: stars shining brightly: the wind surges among the trees.	G
Only a few stars are visible, dark clouds covering the greater part of the sky.	
Clouds alternately collect and disperse: at present many stars are visible.	
Ditto ditto.	
Ditto ditto.	
The sky quite covered: scud collecting: dark nimbi all around.	
Ditto.	
Rain commenced falling about a half an hour since, which still continues.	
Rain without intermission since the last observation.	
Ditto.	G
Cumulo-stratus in the N., and in the whole horizon.	D
Cirro-stratus and cumulo-stratus in all parts of the sky.	
The same as at the last observation.	D
Cumulo-stratus lines the whole horizon: light scud also in different parts of the sky.	P
Large cumulo-strati in every direction, especially near the horizon.	D
White cumuli: wind in gusts.	J H
Small fragments of scud floating in every direction: cumulo-strati in the N.W.	J H
Clouds numerous, principally in the South.	P
Several linear clouds in the N. and N.W.: detached black clouds in every other part of the sky.	G
The sky continued the same as at the last observation until about ten minutes since, when it suddenly became overcast: at present a few stars are shining in the N.	
Overcast.	G
Stars shining brilliantly E. and S. of the zenith: a thin cirro-stratus prevails in other directions.	J H
Overcast: cirro-stratus and heavy vapour.	J H
Sky covered with heavy vapour.	D
Cloudless: light vapour in the horizon.	
Clouds collecting in various parts of the sky.	D
Overcast: cirro-stratus and scud.	P
Breaks in every part of the sky, though nimbi are still floating about: frequent showers of rain: a rainbow in the N.W.	P
Rain falling: clouds breaking in the S.: a little blue sky in the N.	M
Ditto: blue sky in the N.	M
The rain ceased about $21^h.30^m$: the clouds now broken: a bright streak in the horizon in the S. and S.E.: loud claps of thunder in the S.S.E.	G
Rain again commenced falling at $22^h.20^m$, which continues: a few breaks E. of the zenith; otherwise overcast.	P
Overcast: heavy rain falling.	P
Ditto: cirro-stratus and cumulo-stratus: slightly raining.	D
Cumulo-stratus and scud with occasional breaks: half an inch of rain has fallen since $21^h.40^m$.	J H
Fleecy clouds in the zenith: cumulo-stratus in the S. and S.E. horizon: large quantities of scud.	P
Cumulo-stratus lining the whole horizon: cumuli in every part of the sky: scud passing over from the S.W.	P
Cumuli near the horizon: scud passing from the S.W.: cirri in the upper regions of the atmosphere.	G
Thin clouds generally over the sky; the Sun shining through cirro-stratus.	G
Clear S.W. of the zenith: scud and cirro-stratus elsewhere.	J H
Cloudless.	J H

Day and Hour, Greenwich 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. 23. 9	29·493	53·3	52·8	0·5	..	..	Calm	Calm	..	..	0
10	29·492	53·1	52·6	0·5	53·0	0·1	Calm	Calm	..	..	6
Oct. 20. 10	29·522	46·2	45·6	0·6	43·5	2·7	S W	S W	3 to 7	2	0
11	29·505	46·5	46·2	0·3	..	..	S W	S W	2½ to 3	2	3
12	29·481	48·3	48·3	0·0	..	..	S W	S W	2 to 5½	3	10
13	29·504	44·0	44·0	0·0	..	..	W S W	S W	0 to 5	1	10
14	29·516	43·8	43·5	0·3	..	..	W S W	S W	0 to 1½	1½	10
15	29·522	42·5	39·6	2·9	..	..	W S W	S W	0 to 1½	¾	2
16	29·546	40·8	38·0	2·8	35·0	5·8	W S W	S W	½ to 2	¾	½
17	29·570	39·2	36·3	2·9	..	..	W S W	S W	0 to 1	¾	0
18	29·589	38·0	35·2	2·8	..	..	W S W	S W	0 to 1	½	0
19	29·614	38·7	35·4	3·3	..	..	W S W	S S W	..	½	8
20	29·667	38·8	36·1	2·7	..	..	W S W	W	0 to 2	1	1
21	29·722	40·5	37·6	2·9	..	..	W by S	W	0 to 3	2	4
22	29·765	42·0	38·5	3·5	37·0	5·0	W N W	N W	0 to 2	1	5
23	29·809	43·3	38·6	4·7	..	..	W N W	W N W	..	½	1
Oct. 21. 0	29·845	44·7	39·8	4·9	..	..	W N W	W S W	1 to 2	½	4
1	29·862	45·3	40·3	5·0	..	..	W by N	W S W	1 to 2	¼	4
2	29·896	46·8	41·2	5·6	..	..	W N W	W N W	1½ steady	½	3
3	29·914	46·0	40·9	5·1	..	..	W N W	W N W	1 to 2	½	7
4	29·934	44·3	39·5	4·8	35·5	8·8	W by N	W N W	..	¼	7
5	29·957	43·4	39·6	3·8	..		W	W	..	½	1
6	29·980	40·6	38·0	2·6	..	..	W by S	W	..	¼	1
7	30·000	39·0	36·8	2·2	..	..	W S W	W	..	¼	½
8	30·024	37·5	35·6	1·9	..	..	W S W	W	..	¼	3
9	30·043	36·0	34·6	1·4	..	..	W S W	W	..	½	0
10	30·047	35·9	34·3	1·6	32·5	3·4	W S W	W	..	½	¼
11	30·046	35·0	33·8	1·2	..	..	W S W	W	..	½	0
12	30·055	34·6	33·6	1·0	..	..	S W	S W	..	¼	0
13	30·058	34·0	36·0	−2·0	..	..	S W	S W	..	¼	0
14	30·060	33·6	32·5	1·1	..	..	S W	S W	..	¼	0
15	30·057	33·7	32·5	1·2	..	..	S W	S W	..	¼	0
16	30·058	33·3	32·0	1·3	29·8	3·5	Calm	S W	..	¼	6
17	30·058	33·8	32·6	1·2	..	..	Calm	S W	..	¼	10
18	30·051	33·8	32·5	1·3	..	..	Calm	S W	..	¼	10
19	30·054	35·4	34·0	1·4	..	..	Calm	W by S	..	¼	10
20	30·052	36·3	35·0	1·3	..	..	Calm	S W	..	¼	9¾
21	30·052	37·0	35·4	1·6	..	..	Calm	S W	..	¼	10
22	30·044	41·3	38·6	2·7	39·0	2·3	Calm	S W	..	¼	10
23	30·038	43·6	40·3	3·3	..	..	Calm	S by E	..	¼	10
Oct. 22. 0	30·003	46·1	42·2	3·9	..	..	S E	S S E	..	¼	10
1	29·983	47·1	43·4	3·7	..	..	S E	S by E	..	¼	10
2	29·963	48·9	45·3	3·6	..	..	S S E	S	..	¼	9½
3	29·943	48·7	45·7	3·0	..	..	S by E	S S E	..	¼	9
4	29·892	47·8	43·7	4·1	39·8	8·0	S by E	S	..	¼	9
5	29·867	46·0	42·0	4·0	..	..	S by E	S	..	¼	8
6	29·868	44·0	41·0	3·0	..	..	S by E	S	..	¼	5
7	29·848	43·2	40·4	2·8	..	..	S S E	S	..	¼	3
8	29·827	42·0	39·5	2·5	..	..	S E	S	..	¼	10
9	29·799	41·6	39·6	2·0	..	..	S E	S	..	¼	8

Oct. 21d. 13h. The reading of the Wet bulb Thermometer is evidently wrong; from the readings before and after, it would seem that an error of 3° has been made; most likely the reading should have been 33°·0.

Oct. 20d, 21d, and 22d. See the foot-notes to these days in the Section of Ordinary Observations.

GENERAL REMARKS.	Observer.
Cloudless.	D
Clouds collecting every where, more particularly to the South of the zenith: a short time previously to the observation it was cloudless.	D
Cloudless, but the stars appear small: the wind rising.	G
Dark clouds collecting low down in the N. and N.W., and also dark clouds of a looser texture near the horizon in the S.W.	
Overcast: a gale of wind.	G
Ditto: the wind subsiding.	D
Ditto.	D
Cirro-stratus and scud in the eastern horizon; otherwise clear.	J H
Loose scud and vapour.	
Cloudless: the stars dim.	J H
Ditto: the wind in gusts.	P
The greater part of the sky covered with loose scud: the wind in moderate gusts.	P
A bright, sunny morning: cold, with a fresh breeze.	M
The sky looking rather stormy.	M
Loose cirri South of the zenith, and clouds and mist in the whole horizon.	G
Small cumuli South of the zenith: hazy in the horizon.	D
Thick haze in the E., W., and N. horizon, with scud thinly scattered over the sky.	P
Ditto ditto.	P
Light cumuli scattered about the sky.	D
Cirro-stratus and scud, with numerous cumuli: the wind blowing in gusts.	P
Cumulo-stratus and scud: wind in gusts.	P
Pale, yellow cumuli to the North, and small detached cumuli about the Sun.	G
Nearly a cloudless sky, there being but a few dark strati near the horizon in the North.	G
A few dark clouds only low down in the western horizon.	D
Much cirri South of the zenith, every other part of the sky being clear.	D
Cloudless: hazy near every part of the horizon.	J H
Ditto: with the exception of a small cirro-stratus near the horizon in the N.N.W.	
Ditto.	J H
Ditto.	P
Ditto.	
Ditto.	
Ditto: the stars looking less bright than before.	
Dense cirro-stratus coming up apparently from the West, and totally obscuring that part of the sky, and also the zenith.	
Overcast: cirro-stratus.	
Ditto ditto.	
Ditto: ditto.	
A few small breaks in the zenith; otherwise overcast.	
Overcast.	P
Ditto: cirro-stratus.	D
Ditto ditto.	
Ditto ditto.	
Ditto ditto.	
Breaks S. of the zenith; the sky is elsewhere overcast.	D
Breaks in various directions: hazy.	J H
Extensive breaks near the horizon in the N. and E., the rest of the sky overcast.	P
Cirro-cumulus scattered over every part of the sky.	
Undefined clouds in various directions: a small lunar halo visible.	
Clouds near the Moon, and in the horizon in the W.: ditto.	
Overcast: the place of the Moon is however visible.	
Stars faintly seen in different parts of the sky.	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.		
Oct. 22. 10	29·767	42·7	40·3	2·4	38·5	4·2	S S E	S	..	¼	9
Nov. 21. 18	29·081	55·0	54·1	0·9	..	..	S by W	S W	1½ to 2	1½	10
19	29·072	54·7	54·2	0·5	..	..	S	S W	1½ to 2	1+	10
20	29·074	55·0	54·1	0·9	..	..	S by W	S W	1 to 2	1½	10
21	29·071	54·4	53·9	0·5	..	..	S	S W	0 to 1	1	10
22	29·075	55·2	54·2	1·0	53·0	2·2	S by W	S W	1 to 2½	1	10
23	29·088	55·4	54·5	0·9	..	..	S S W	S W	0 to 1	1	5
Nov. 22. 0	29·095	55·3	53·5	1·8	..	..	S W	S W	1 to 3	1½	8
1	29·093	56·0	54·5	1·5	..	..	S W	S W	½ to 2½	2	8
2	29·087	55·8	52·6	3·2	..	..	S W	S W	1 to 4	1½	7
3	29·075	55·2	52·3	2·9	..	..	S W	S W	2 to 4½	1½	7
4	29·070	53·9	51·5	2·4	50·0	3·9	S W	W S W	1 to 4	1	9
5	29·069	52·2	50·5	1·7	..	..	S W	W S W	1 to 2	1+	9½
6	29·081	51·0	48·7	2·3	..	..	S W	W S W	½ to 3	1½	9
7	29·135	48·7	47·8	0·9	..	..	W by S	W S W	1 to 3½	1+	10
8	29·202	47·3	45·0	2·3	..	..	W by S	W S W	1 to 3	1½	10
9	29·259	46·5	44·2	2·3	..	..	W	W S W	0 to 3½	1½	10
10	29·327	43·3	41·2	2·1	40·0	3·3	W S W	W S W	1 to 2	1	0
11	29·353	41·2	38·7	2·5	..	..	W S W	W S W	0 to 2	1	½
12	29·381	40·4	38·6	1·8	..	..	W S W	W S W	1 to 3	1½	0
13	29·428	39·4	37·7	1·7	..	..	W S W	W S W	1½ to 2½	1	0
14	29·460	39·4	37·6	1·8	..	..	W S W	W S W	1 to 3	1	1
15	29·489	38·4	37·1	1·3	..	..	W S W	W S W	0 to 1½	1	1
16	29·509	37·6	36·2	1·4	35·5	2·1	S W	W S W	½ to 1	1	0
17	29·513	37·4	35·8	1·6	..	..	S W	W S W	0 to ½	½	0
18	29·522	37·5	35·7	1·8	..	..	S W	W S W	0 to 1	¼	0
19	29·534	37·5	35·6	1·9	..	..	S S W	W S W	..	¼	0
20	29·542	37·0	35·5	1·5	..	..	S S W	W S W	..	¼	0
21	29·548	37·0	35·4	1·6	..	..	S	W S W	..	¼	1
22	29·573	40·5	38·3	2·2	34·0	6·5	Calm	W S W	..	¼	2
23	29·588	41·8	39·6	2·2	..	..	Calm	S S W	..	¼	7
Nov. 23. 0	29·583	44·0	41·6	2·4	..	..	Calm	S	..	¼	9
1	29·573	46·8	44·5	2·3	..	..	Calm	S	..	¼	7
2	29·563	46·6	44·2	2·4	..	..	Calm	S	..	¼	10
3	29·549	46·0	43·7	2·3	..	..	Calm	S by W	..	½	10
4	29·543	44·2	42·6	1·6	41·0	3·2	Calm	S S W	..	¼	10
5	29·552	42·7	41·5	1·2	..	..	Calm	Calm	..	..	10
6	29·558	41·8	40·7	1·1	..	..	Calm	Calm	..	..	10
7	29·569	41·0	40·0	1·0	..	..	Calm	E	..	¼	10
8	29·586	40·4	39·7	0·7	..	..	Calm	E	..	¼	10
9	29·609	40·5	39·5	1·0	..	..	Calm	Calm	..	..	10
10	29·619	40·2	39·5	0·7	39·0	1·2	Calm	Calm	..	..	10
Nov. 26. 10	29·718	39·6	38·3	1·3	37·0	2·6	S E	S E	..	¼	10
11	29·714	39·7	38·3	1·4	..	..	S E	Calm	..	..	10
12	29·707	39·8	38·3	1·5	..	..	S E	Calm	..	..	10
13	29·694	39·8	39·0	0·8	..	..	S E	Calm	..	..	10
14	29·682	40·2	39·2	1·0	..	..	Calm	Calm	..	..	10
15	29·663	40·6	39·7	0·9	..	..	Calm	Calm	..	..	10
16	29·645	40·6	40·0	0·6	39·8	0·8	Calm	Calm	..	..	10
17	29·639	40·5	40·2	0·3	..	..	Calm	Calm	..	..	10

Nov. 21d. 22h. 40m. A gust of wind recording a pressure of 6lbs. on the square foot.

Nov. 22d. 6h. 43m. A sudden increase in the pressure of the wind from 2lbs. to 8lbs., which gradually decreased to 3lbs. at 7h. 3m.

GENERAL REMARKS.	Observer.
Cirro-stratus and heavy vapour: the Moon's place is distinctly visible.	J H
Overcast: cirro-stratus: rain falling: strong gusts of wind.	J H
Ditto ditto: the rain has ceased.	
Ditto ditto: scud moving rapidly from W. by S.	
Ditto ditto: small rain falling slightly.	J H
Ditto ditto: thick rain has been falling almost incessantly since 21^h.	G
The rain ceased falling soon after the last observation: cirro-stratus and scud, in fragments, passing rapidly from the S.W.	D
Cirro-stratus and scud: gusts of wind.	
Ditto ditto.	
Cumulo-strati and heavy undefined clouds in all directions: gusts of wind to 2.	
No change since the last observation.	D
Nimbi N. of the zenith: cirro-stratus and scud generally prevalent elsewhere: squally.	J H
Scud and cirro-stratus: squally.	
Ditto ditto.	
Cirro-stratus: scud passing over with great rapidity: squalls of rain.	
Ditto ditto ditto.	
Cirro-stratus and scud, with a few drops of rain.	
The sky cleared at $9^h.\ 40^m$, and is now cloudless.	
A bank of light clouds low in the horizon to windward; otherwise clear.	J H
Cloudless: the Moon and stars are shining brilliantly.	G
Ditto ditto.	
A black bank of clouds rising at the place where the Moon is setting; otherwise very clear.	
Dark clouds in the N.W., everywhere else cloudless.	
Cloudless.	
Ditto.	
Ditto.	
Ditto.	
Ditto.	
A few light clouds in the N.W.	G
Light cirri scattered about, more particularly N. of the zenith.	D
Clouds approaching to cirro-stratus all over the sky.	
Cirro-stratus, with the exception of a few breaks in the S., covers the whole sky.	
Cirri S. of the zenith: cirro-stratus in the northern part of the sky.	
Overcast: cirro-stratus.	D
Ditto ditto.	J H
Ditto ditto.	G
Ditto ditto.	
Ditto ditto.	
Ditto ditto: the place of the Moon just visible: scud passing from the E.	
Ditto ditto ditto.	
Ditto ditto.	
Ditto ditto.	
Overcast: cirro-stratus and scud, the latter passing slowly from the S.E.: the Moon, when free of scud, is seen with a halo of [about $1\frac{1}{2}°$ in diameter.	G
The same as at the last observation.	
Overcast: cirro-stratus and scud: the Moon not visible: scud passes from the S.	
Ditto ditto.	
Ditto ditto.	G
Ditto ditto: a very thin misty rain falling.	D
Ditto ditto: small rain at times.	D
Ditto ditto: a few drops of rain falling.	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.		
Nov. 26. 18	29·625	40·6	40·3	0·3	..	..	Calm	Calm	..	..	10
19	29·609	41·1	41·0	0·1	..	..	Calm	Calm	..	..	10
20	29·608	41·5	41·4	0·1	..	..	Calm	Calm	..	..	10
21	29·591	43·3	43·3	0·0	..	..	Calm	S	..	¼	10
22	29·595	44·7	44·7	0·0	44·5	0·2	S S E	S S W	..	¼—	10
23	29·587	46·4	46·2	0·2	..	..	S S E	S S W	..	¼	10
Nov. 27. 0	29·562	48·5	48·1	0·4	..	..	S by W	S	..	¼	10
1	29·566	49·7	49·2	0·5	..	..	S S W	S	..	¼	10
2	29·548	50·5	50·0	0·5	..	..	S by W	S	..	¼	10
3	29·528	51·0	50·4	0·6	..	..	S S W	S	..	¼	10
4	29·523	51·0	50·6	0·4	50·5	0·5	S by W	Calm	..	..	10
5	29·530	50·0	49·4	0·6	..	..	S S W	Calm	..	..	10
6	29·534	49·6	49·0	0·6	..	..	S S W	Calm	..	..	10
7	29·478	49·0	48·8	0·2	..	..	S W	Calm	..	..	10
8	29·475	48·0	47·7	0·3	..	..	S S W	Calm	..	..	10
9	29·518	48·2	47·7	0·5	..	..	S S W	Calm	..	..	10
10	29·508	49·0	48·8	0·2	47·5	1·5	S by E	Calm	..	..	10
Dec. 20. 18	29·455	31·8	31·0	0·8	..	..	N	Calm	..	..	10
19	29·463	31·7	31·0	0·7	..	..	N	Calm	..	..	10
20	29·475	30·5	30·7	—0·2	..	..	N	Calm	..	..	10
21	29·495	28·5	29·0	—0·5	..	..	Calm	Calm	..	..	9
22	29·540	27·9	27·5	0·4	28·0	—0·1	Calm	Calm	..	..	10
23	29·546	28·5	28·8	—0·3	..	..	Calm	Calm	..	..	6
Dec. 21. 0	29·551	30·5	30·2	0·3	..	..	W S W	Calm	..	..	2
1	29·543	32·0	30·3	1·7	..	..	W S W	Calm	..	..	0
2	29·541	32·2	30·5	1·7	..	..	W S W	W S W	..	¼	0
3	29·555	32·0	30·4	1·6	..	..	W S W	W S W	..	¼	0
4	29·563	30·7	30·0	0·7	26·5	4·2	W S W	S W	..	¼	1
5	29·570	29·4	29·0	0·4	..	..	W S W	W S W	..	¼	1
6	29·583	29·4	28·4	1·0	..	..	W S W	W S W	..	¼	2
7	29·585	31·9	30·0	1·9	..	..	W S W	W S W	..	¼	10
8	29·586	31·3	30·3	1·0	..	..	W S W	W S W	..	¼	7
9	29·578	32·0	30·5	1·5	..	..	W S W	W S W	..	½	3
10	29·583	31·7	30·5	1·2	28·0	3·7	W S W	W S W	..	½	½
11	29·582	31·0	29·8	1·2	..	..	W S W	W S W	0 to 1	¾	0
12	29·567	32·7	30·4	2·3	..	..	W S W	W S W	..	¼	10
13	29·568	34·8	32·0	2·8	..	..	W S W	W	..	¼	10
14	29·588	34·5	32·8	1·7	..	..	W by N	W	..	¼	10
15	29·606	34·5	32·2	2·3	..	..	W by N	W	0 to 2½	½	10
16	29·606	33·8	31·8	2·0	30·0	3·8	W by N	W	..	¼	5
17	29·622	32·5	31·0	1·5	..	..	W	W	..	¼	2
18	29·622	32·5	31·0	1·5	..	..	W	W	..	¼	3
19	29·634	30·2	28·5	1·7	..	..	W S W	W	..	¼	0
20	29·634	30·0	28·4	1·6	..	..	W S W	W S W	..	¼	0
21	29·653	29·6	28·4	1·2	..	..	W S W	W	..	¼	3
22	29·689	30·5	28·8	1·7	25·0	5·5	W S W	W N W	..	¼	2
23	29·697	31·5	29·7	1·8	..	..	S W	W N W	..	¼	½
Dec. 22. 0	29·698	33·7	31·0	2·7	..	..	W S W	W N W	..	¼	3
1	29·697	34·1	31·9	2·2	..	..	W	W N W	..	¼	7
2	29·702	34·7	32·8	1·9	..	..	W	W N W	..	¼	8

Nov. 26^{d} and 27^{d}. See the foot-notes to those days in the Section of Ordinary Observations.

Dec. 20^{d}. 20^{h}, 21^{h}, and 23^{h}. The reading of the Wet-bulb Thermometer at these times was higher than that of the Dry-bulb Thermometer.

Dec. 20^{d}. 22^{h}. The reading of the Dew Point is greater than that of the Dry-bulb Thermometer.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and scud: small rain falling.	J H
Ditto ditto: rain falling.	P
Ditto ditto: thin rain.	P
Ditto ditto ditto: fog in the valleys.	G
Ditto ditto ditto.	G
Ditto ditto: Sun's place visible.	J H
Ditto ditto.	P
Ditto ditto.	D
Ditto ditto.	J H
Ditto ditto.	D
Ditto ditto.	D
Ditto ditto.	G
Ditto ditto: a thin rain falling.	G
Ditto ditto.	P
Ditto ditto: the clouds are somewhat thinner near the Moon.	P
Ditto ditto: the Moon's place invisible.	J H
Ditto ditto: rain falling.	
Overcast: cirro-stratus and heavy vapour.	J H
Ditto ditto: a very dark morning.	
Ditto ditto.	
Vapour and cirro-stratus partially disappearing: hazy and thick air.	J H
Overcast: cirro-stratus.	P
The zenith clear; the rest of the sky obscured by dense vapour: the fog somewhat thick.	
The vapour exists only in the horizon; clear elsewhere: the fog is still thick in the lower grounds.	
Cloudless: hazy in the horizon.	
Ditto ditto.	
Ditto ditto.	P
Light clouds: hazy: the clouds move from the N. N.W.	J H
A few small clouds in various directions: hazy.	
Cirro-stratus and light scud, principally N. of the zenith.	
Massive clouds of a fleecy kind.	
Clear in, and E. of, the zenith; fleecy clouds elsewhere: a fine corona and coloured halo around the Moon.	
Fleecy clouds generally scattered over the sky.	
A few light fleecy clouds: the wind in gusts.	
Cloudless: gusts of wind.	J H
Overcast: cirro-stratus and scud.	P
Ditto ditto: the scud apparently comes from the N.	
Ditto: a thin rain falling.	
Ditto: cirro-stratus and scud.	
About one-half of the sky is clear: the clouds pass over from the N. E.	
Light clouds in the S. and S. E.	
Clouds numerous in the S. and S. E.; elsewhere clear.	
Cloudless.	
Ditto: hazy.	
Clouds scattered about the sky.	P
Light clouds and hazy.	J H
Vapour: hazy.	
Light clouds and vapour.	
Ditto.	
Ditto.	

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. 3	29·712	34·5	32·7	1·8	..	..	W	W N W	..	$\frac{1}{4}$	4
4	29·721	34·5	32·8	1·7	31·0	3·5	W by S	W	..	$\frac{1}{4}$	7
5	29·724	33·7	32·4	1·3	..	..	W	W	..	$\frac{1}{4}$	10
6	29·734	33·5	32·5	1·0	..	..	W by S	W	..	$\frac{1}{4}$	10
7	29·738	33·5	32·6	0·9	..	..	W by S	W	..	$\frac{1}{4}$	10
8	29·752	33·4	32·6	0·8	..	..	W by S	W	..	$\frac{1}{4}$	10
9	29·760	33·6	33·0	0·6	..	..	W S W	W	..	$\frac{1}{4}$	10
10	29·770	33·5	33·0	0·5	33·0	0·5	Calm	Calm	..	..	10
11	29·778	33·6	33·3	0·3	..	..	Calm	Calm	..	..	10
12	29·783	34·0	33·7	0·3	..	..	Calm	Calm	..	..	10
13	29·774	34·8	34·7	0·1	..	..	S W	Calm	..	..	10
14	29·767	36·0	35·8	0·2	..	..	S W	Calm	..	..	10
15	29·773	36·5	36·5	0·0	..	..	W S W	Calm	..	..	10
16	29·758	36·5	36·4	0·1	32·5	4·0	W S W	W S W	..	$\frac{1}{4}$	10
17	29·761	36·6	36·6	0·0	..	..	W S W	W S W	..	$\frac{1}{4}$	10
18	29·747	36·6	36·5	0·1	..	..	W S W	Calm	..	..	10
19	29·742	36·6	36·5	0·1	..	..	S W	Calm	..	..	10
20	29·748	37·2	36·9	0·3	..	..	S W	Calm	..	..	$9\frac{1}{2}$
21	29·748	38·0	37·6	0·4	..	..	S W	Calm	..	..	10
22	29·752	37·6	37·6	0·0	37·0	0·6	S S W	Calm	..	..	7
23	29·759	39·7	39·1	0·6	..	..	S W	W S W	..	$\frac{1}{2}$	8
Dec. 23. 0	29·741	41·5	40·9	0·6	..	..	S W	S W	..	$\frac{1}{4}$	10
1	29·724	42·5	42·5	0·0	..	..	S W	S W	..	$\frac{1}{4}$	10
2	29·699	42·7	42·5	0·2	..	..	S S W	W	..	$\frac{1}{2}$	10
3	29·682	43·5	43·5	0·0	..	..	S S W	S S W	..	$\frac{1}{4}$	10
4	29·662	44·0	43·8	0·2	43·0	1·0	S W	S S W	0 to 1	$\frac{1}{4}$	10
5	29·656	44·1	43·7	0·4	..	..	S S W	S S W	..	$\frac{1}{4}$	10
6	29·642	45·1	44·2	0·9	..	..	S W	S W	1 to $2\frac{1}{2}$	$\frac{3}{4}$	10
7	29·623	44·8	44·0	0·8	..	..	W S W	S W	1 to 3	$\frac{1}{4}$	10
8	29·637	43·6	43·0	0·6	..	..	W S W	S W	$1\frac{1}{2}$ to 4	$\frac{1}{2}$	4
9	29·662	44·7	43·2	1·5	..	..	W S W	W N W	2 to 4	$1\frac{1}{2}$	8
10	29·688	42·5	41·5	1·0	39·2	3·3	W S W	W N W	1 to 2	1	0

GENERAL REMARKS.	Observer.
Light clouds and vapour.	J H
Undefined clouds moving slowly from the N. N.W.: breaks in various parts of the sky.	P
Overcast: cirro-stratus: Moon's place visible.	
Ditto ditto ditto: a faint lunar halo visible.	
Ditto ditto.	
Ditto ditto.	
Ditto ditto.	P
Ditto ditto: light sleet falling.	G
Ditto ditto: fine rain falling.	
Ditto: the rain ceased at $11^h.\ 20^m$.	
Ditto: temperature rising.	G
Ditto: cirro-stratus.	D
Ditto ditto.	D
Ditto ditto.	J H
Ditto ditto.	J H
Ditto ditto.	P
Ditto ditto.	P
A break in the S.; otherwise overcast.	M
Overcast.	M
Chiefly scud from the W.: a light streak of light in the S. horizon: various patches of light about.	G
Undefined clouds, with occasional breaks.	J H
Overcast: cirro-stratus: a thin rain falling.	P
Ditto ditto.	D
Ditto ditto: small rain at times.	J H
Ditto ditto.	D
Ditto ditto: rain falling.	D
Ditto ditto: rain has continued falling since last observation.	G
The rain ceased falling soon after the last observation: the wind rising and surging among the trees.	G
Overcast: cirro-stratus and scud: occasional large breaks occur near the Moon.	P
Loose scud in different parts of the sky.	P
Light fleecy clouds passing rapidly from the N.W. by W.: a few drops of rain falling.	J H
Cloudless: wind in gusts.	J H

ROYAL OBSERVATORY, GREENWICH.

EXTRAORDINARY METEOROLOGICAL OBSERVATIONS.

1840 and 1841.

Day and Hour, Greenwich 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.
1840. d h m	in.	°	°	°	°	°			from lbs. to lbs.		
Nov. 12. 23. 0	28·670	51·1	..	..	..	..	...	S	..	2	9½
23. 25	28·644	..	..	..	..	..	...	S by E	..	..	..
23. 27	28·636	..	..	..	..	..	...	...	..	..	..
23. 28½	28·642	..	..	..	..	..	...	...	..	..	..
23. 35	28·637	..	..	..	..	..	...	...	..	..	..
23. 50	28·612	..	..	..	..	..	...	...	..	..	..
23. 55	28·610	..	..	..	..	..	...	...	..	..	..
Nov. 13. 0. 0	28·609	53·0	..	..	..	..	...	S by E	..	2½	8½
0. 23	28·600	..	..	..	..	..	...	...	..	..	..
0. 40	28·583	..	..	..	..	..	...	...	..	..	..
1. 0	28·584	53·0	..	..	..	..	...	S by W	..	3½	6
1. 30	28·556	..	..	..	..	..	...	...	..	..	..
1. 40	28·549	..	..	..	..	..	...	...	..	..	..
1. 50	28·531	..	..	..	..	..	...	...	..	..	..
2. 0	28·527	..	..	..	..	..	...	...	..	..	..
2. 17	28·523	..	..	..	..	..	...	...	..	..	..
2. 24	28·509	..	..	..	..	..	...	...	..	..	..
2. 40	28·504	..	..	..	..	..	...	...	..	..	..
3. 0	28·495	51·6	..	..	..	..	...	S by W	..	4	9
3. 30	28·479	..	..	..	..	..	...	...	..	..	..
4. 0	28·477	..	..	..	..	..	...	...	..	..	..
4. 30	28·481	..	..	..	..	..	...	...	..	..	..
4. 45	28·481	..	..	..	..	..	...	...	..	..	..
5. 0	28·481	49·7	..	..	..	..	...	S W	..	4	10
5. 30	28·487	..	..	..	..	..	...	...	..	..	..
6. 0	28·487	..	..	..	..	..	...	...	..	..	..
6. 30	28·497	..	..	..	..	..	...	...	..	..	..
7. 0	28·501	48·9	..	..	..	..	...	Variable from S S E to S by W	..	4	10
7. 30	28·519	..	..	..	..	..	...	...	..	..	..
8. 0	28·533	..	..	..	..	..	...	...	..	..	..
8. 30	28·555	..	..	..	..	..	...	...	..	..	..
9. 0	28·587	49·7	..	..	..	..	...	Variable from S S E to S by W	..	4½	10
9. 30	28·622	..	..	..	..	..	...	...	..	..	..
11. 0	28·715	46·3	..	..	..	..	...	S W	..	4½	2
Göttingen Astronomical Reckoning.											
1841.											
Jan. 2. 6. 0	29·989	36·7	..	..	..	..	...	W N W	..	½	1
8. 0	29·968	37·0	..	..	..	..	...	N N W	..	½	10
10. 0	29·911	36·7	..	..	..	..	...	N N W	..	½	10
12. 0	29·804	36·8	..	..	..	..	...	N N W	..	1+	8
21. 0	29·188	32·5	..	..	..	..	...	W by S	..	¼	10
23. 40	29·133	..	..	..	..	..	...	N W	..	..	..
Jan. 3. 0. 40	29·088	..	..	..	..	..	...	N N W	..	..	..
4. 10	29·042	..	..	..	..	..	...	N N W	..	..	..
7. 40	29·020	..	..	..	..	..	...	N N W	..	..	..
14. 0	28·873	26·0	..	..	..	..	...	W by N	..	1	1
16. 0	28·846	25·2	..	..	..	..	...	W by N	..	½	1
16. 10	28·839	..	..	..	..	..	...	...	..	..	..
17. 20	28·823	..	..	..	..	..	...	...	..	..	..
17. 40	28·812	..	..	..	..	..	...	...	..	..	..
17. 50	28·809	..	..	..	..	..	...	...	..	..	..

Nov. 12d. 21h. A decided change took place in the weather. The wind, which had been blowing from the S. E., suddenly shifted to the S.W. The barometer, which had been falling, remained stationary for half an hour, and then began to fall again, and the sky became turbid, betokening storm: shortly afterwards the wind blew in frequent and heavy gusts from the S.W. By 23h. 0m, the wind veered to the South, and by 23h. 25m changed to S. by E.; the storm now became violent. After Nov. 13d. 1h the wind turned back to S., and shortly afterwards to S. by W. About Nov. 13d. 3h. 30m to 5h. 0m, the heaviest gusts occurred, and the minimum pressure as recorded by the barometer took place, the reading being the lowest during the year, and also lower than any reading in the year 1841. The length of time that the barometer remained at this low reading is remarkable.

GENERAL REMARKS.	Observer.
Rain in squalls from the S.: scud and cirro-stratus: the wind blowing in gusts to $2\frac{1}{2}$.	J H G
	G
Nimbi in N.W.: scud flying rapidly: the wind blowing in gusts to 3.	J H
Rain in squalls: a heavy gale of wind: a double rainbow at $1^h.\ 3^m$; the colours of the inner semi-circle remarkably distinct: lower current S. by W., upper S.S.W.: flying scud: the wind in frequent gusts to 4, and often to 5.	
Very stormy: lower current S. by W., upper S.W.; rain in squalls: gusts of wind to 5: scud flying very rapidly from the S.W.	J H D
[4+: rain in squalls. The sky completely covered with cirro-stratus, and scud flying rapidly from the S.W.: the wind still blowing a gale; gusts to Clear in the North: the constellation of Ursa Major very clear, and for 20° South of it. Quite cloudy again: weather very changeable. At $6^h.\ 15^m$ the sky N. of the zenith nearly clear again: meteors were carefully looked for. Scud and cirro-stratus cover the sky: a light rain falling.	
The sky is covered with cirro-stratus and scud: the wind is blowing quite a hurricane; gusts to 5; rain in frequent squalls.	D
The sky is generally clear: a few cumuli in N.W.: fleecy clouds flying rapidly past the Moon.	G
With the exception of a cirro-stratus in the N.W. it is cloudless: an upper current from the N.N.W.	J H
Very cloudy: the Moon quite obscured: the air extremely mild.	
Ditto: the Moon just visible.	J H
The Moon and a few of the principal stars just visible: the sky generally covered with curled cirro-strati; a stormy-looking sky: the wind rising in frequent gusts to 2, and surging very much among the trees; everything betokening a storm.	G
Quite cloudy: the sky looks of a lowering character.	
[ance of a fan. The sky nearly cloudless: in the North linear cirro-strati, diverging from a point in the magnetic meridian, and forming the appear- A few lines of cloud near the Moon; otherwise clear.	

Nov. $13^d.\ 11^h.\ 0^m$. The barometer being in a decidedly rising state, the Extra Observations were discontinued.

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.		
Jan. 3. 17. 55	28·806	..	..	..	..	..	...	...	..	..	..
18. 0	28·808	26·1	..	..	..	..	...	Calm	..	..	3
18. 13	28·816	..	..	..	..	..	...	...	..	..	..
18. 33	28·816	..	..	..	..	..	...	...	..	..	..
18. 53	28·816	..	..	..	..	..	...	...	..	..	..
19. 15	28·820	..	..	..	..	..	...	...	..	..	..
19. 35	28·835	..	..	..	..	..	...	...	..	..	..
19. 50	28·845	..	..	..	..	..	...	...	..	..	..
20. 0	28·853	25·9	..	..	..	..	...	W by S	..	$\frac{1}{4}$	3
20. 15	28·853	..	..	..	..	..	...	...	..	..	..
20. 40	28·863	..	..	..	..	..	...	...	..	..	..
22. 0	28·917	24·5	..	..	..	..	...	S by W	..	$\frac{1}{4}$	10
22. 15	28·922	..	..	..	..	..	...	...	..	..	..
22. 40	28·942	..	..	..	..	..	...	...	..	..	..
23. 0	28·949	..	..	..	..	..	...	...	..	..	..
23. 30	28·955	..	..	..	..	..	...	...	..	..	..
Jan. 4. 0. 0	28·952	30·8	..	..	..	..	...	S by W	..	$\frac{1}{4}$	10
0. 40	28·970	..	..	..	..	..	...	...	..	..	..
1. 10	28·966	..	..	..	..	..	...	...	..	..	..
1. 50	28·966	..	..	..	..	..	...	...	..	..	..
2. 0	28·959	30·8	..	..	..	..	...	N W	..	$\frac{1}{4}$	10
2. 35	28·959	..	..	..	..	..	...	...	..	..	..
4. 0	28·960	33·0	..	..	..	..	...	N by W	..	1	10
5. 10	28·948	..	..	..	..	..	...	...	..	..	..
6. 0	28·953	33·0	..	..	..	..	...	N E	..	$1\frac{1}{2}$	10
7. 25	28·957	..	..	..	..	..	...	...	..	..	..
8. 0	29·073	31·2	..	..	..	..	...	E by N	..	2	10
9. 40	29·119	..	..	..	..	..	...	...	..	..	..
10. 0	29·122	31·5	..	..	..	..	...	E	..	1	10
Mar. 5. 2. 0	29·612	46·1	43·1	3·0	..	..	S	S S W	$\frac{1}{2}$ to 3	$1\frac{1}{2}$	10
4. 0	29·471	43·5	42·0	1·5	39·0	4·5	S	S S W	$3\frac{1}{2}$ to 7	2	10
4. 20	29·443	..	..	..	..	..	S	...	3 to 5	..	..
4. 40	29·426	..	..	..	..	..	S	...	3 to 4	..	..
5. 10	29·391	..	..	..	..	..	S	...	4 to 5	..	..
5. 40	29·325	..	..	..	..	..	S by W	...	5 steadily	..	..
6. 0	29·295	43·5	43·0	0·5	..	..	S	S	5 to 9	3	10
6. 10	29·284	..	..	..	..	..	S by W	...	6 to 8	..	..
8. 0	29·198	46·0	45·3	0·7	..	..	...	S S W	2 to 6	3	10
8. 10	29·196	..	..	..	..	..	...	...	2 to 3	..	..
8. 40	29·187	..	..	..	..	..	...	...	3 steadily	..	..
9. 10	29·186	..	..	..	..	..	...	...	2 to 3	..	..
9. 40	29·193	..	..	..	..	..	...	...	1 to 2	..	..
10. 0	29·195	48·5	47·7	0·8	47·0	1·5	...	S W	1 to $2\frac{1}{2}$	$1\frac{1}{2}$	10
10. 10	29·197	..	..	..	..	..	...	...	1 to $1\frac{1}{2}$	..	..
12. 0	29·253	48·6	48·0	0·6	..	..	...	W by S	$\frac{1}{2}$ to 1	1	10
May 19. 2. 0	29·189	54·0	51·4	2·6	..	..	S	S by W	3 to 4	$2\frac{1}{2}$	10
2. 26	29·178	..	..	..	..	..	S by W	...	3 to 4	..	..
4. 0	29·144	53·2	51·1	2·1	49. 5	3·7	S S W	S W	4 to 5	2	10
4. 40	29·125	..	..	..	..	..	S by W	...	2 to $3\frac{1}{2}$	..	..
5. 0	29·121	..	..	..	..	..	S by W	...	2 to 3	..	..
5. 40	29·114	..	..	..	..	..	S by W	...	3 steadily	..	..
6. 0	29·111	51·6	49·9	1·7	..	..	S by W	S W	3 to 4	2	$9\frac{1}{2}$

Jan. 2^d, civil reckoning, was a mild, quiet day: at 2^d. 12^h, it was remarked that the clouds were curled up, but no electric cloud was noticed: about 16^h. 40^m a very faint flash of lightning was seen, this was succeeded by many others until 18^h. 40^m, but no thunder was heard: at 18^h. 40^m the flashes became more frequent and vivid. The wind, which had been very high and blowing in frequent and heavy gusts, lulled about the same time. From 19^h. 10^m to 19^h. 40^m, the flashes followed in quick succession. At 19^h. 40^m ± a minute, a storm of thunder and lightning commenced of uncommon magnitude. Between 19^h. 40^m and 19^h. 55^m, the roar of thunder was one continuous roll, and the lightning was incessant. The electrical discharges were nearly simultaneous with the lightning, there not being 1^s between them. At 20^h the thunder followed the lightning after an interval of 15^s, and a few minutes afterwards the storm passed altogether. During the storm a heavy shower of hail, rain, and snow fell. The electric fluid was pretty equally distributed all over the sky; between the heavy flashes of lightning smaller ones occurred at all points: the sky was covered with a low scud, no thunder cloud, or any cloud of an electric appearance being visible. Immediately after the storm the wind changed from N. N. W. to W. by S., with a sulky-looking sky. The barometer had fallen 0^{in}·6 between 12^h and 20^h: the thermometer at midnight was 36°; the highest reading previously was 42°·8: at 18^h. 40^m it had risen to 43°·8, and in the storm fell to 32°; the weather following was very unsettled. At 21^h. 40^m the clouds broke, showing a beautiful, deep-blue sky, with the Sun shining

GENERAL REMARKS.	Observer.
The Moon set behind a bank of clouds which still remains, extending to the westward a little E. of N.; otherwise quite clear.	G
A few dark fleecy clouds in the South: a bank of cumuli in the N.W.	
Overcast.	G D J H
Ditto: a fog.	
Ditto: sleet falling: about ten minutes after this observation snow began to fall.	J H D
Snow falling.	J H
Quite overcast, the wind shifted suddenly a few minutes since to N. E.: gusts to 2+.	G
The wind rising: scud flying rapidly from the East.	
Snow and sleet falling.	G
Overcast: cirro-stratus: strong gusts of wind: a rapidly-falling barometer. Ditto ditto: the wind blowing very strong: gusts to $2\frac{1}{2}$: rain falling.	J H D
A heavy gale of wind: gusts to 3+: continued heavy rain without intermission since 4^h.	
Ditto ditto ditto.	
Overcast: the rain ceased falling at $8^h.\,40^m$: the wind has considerably abated since $8^h.\,0^m$.	D
Ditto: scud passing from N. by W.: five minutes after this observation the wind veered to W. by N.	G
Overcast: cirro-stratus and scud: heavy gusts of wind: a stormy-looking sky, especially in the N.W.	J H
Ditto: occasional lulls in the wind: scud flying low and with great rapidity.	J H P
A narrow break in the horizon reaching from N. to S. by W.: a thin rain occasionally falls: heavy masses of wild-looking scud.	

brilliantly; this continned till $23^h.\,10^m$, when a snow-storm took place, followed by rain; wind at N.W. Jan. $3^d.\,0^h$ to 10^h was cold, wind N.N.W.: nothing further happened remarkable, except the continuously diminishing pressure, to obtain the minimum of which extra barometrical observations were taken.—G.

From accounts received from various places, it appears that this was a travelling storm, passing from North to South, at the rate of 60 ± miles per hour, and it was nearly 100 miles in breadth; its time of continuance at each place was nearly the same, and in every place it was preceded by a gale of wind, and accompanied with a heavy fall of rain, hail, and snow.

March 5^d. The observations were taken in consequence of the sudden fall in the barometer between 2^h and 4^h.

March $5^d.\,6^h$+. The Anemometer out of order. (See note to March 5, in the Ordinary Observations.)

March $5^d.\,9^h.\,10^m$. After this the barometer began to rise.

May 19^d. In consequence of the barometer being low and still falling, the observations were taken for the purpose of ascertaining its lowest reading, which took place at $15^h.\,0^m$, and it is the lowest 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.	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 h m	in.	°	°	°	°	°			from lbs. to lbs.		
May 19. 6. 30	29·091	..	..	..	..	..	S	...	1 to 3	..	..
7. 0	29·089	..	..	..	..	..	S	...	½ to 1	..	..
7. 40	29·087	..	..	..	..	..	S	...	½ to 1½	..	..
8. 0	29·088	50·4	48·7	1·7	..	..	S by W	S W	1 to 1½	¼	2
10. 0	29·063	50·0	48·2	1·8	48·0	2·0	S S W	S W	0 to ½	¼	8
12. 0	29·053	49·5	47·6	1·9	..	..	S S W	S W	1½ to 2	1 to 2	7
12. 57	29·046	..	..	..	..	..	S S W	...	½ to 2	..	0
13. 10	29·042	..	..	..	..	..	S S W	...	½ to 2	..	10
14. 0	29·042	48·5	47·2	1·3	..	..	S S W	S W	½ to 1½	1+	9
15. 0	29·040	..	..	..	..	..	S S W	...	1½ steadily	..	..
16. 0	29·041	49·0	47·5	1·5	46·0	3·0	S S W	W S W	½ to 2½	1+	10
16. 45	29·062	..	..	..	..	..	S S W	...	1½ steadily	..	..
17. 17	29·078	..	..	..	..	..	S S W	...	1½ to 2	..	..
18. 0	29·089	48·7	47·4	1·3	..	..	S S W	W S W	1 to 4	1	6
19. 0	29·112	..	..	..	..	..	S W	...	2½ to 4	..	..
20. 0	29·135	53·7	50·0	3·7	..	..	S W	W S W	2½ to 4	2	5
May 27. 8. 0	29·680	69·1	63·5	5·6	..	..	...	E by N	..	½	3
8. 50	..	..	..	..	..	..	...	...	..	..	..
8. 50 to 10. 0	29·714	64·5	61·1	3·4	..	..	...	S	..	¼	..
10. 8	..	..	..	..	..	..	...	...	..	..	..
10. 8 to 10. 23	..	..	..	..	..	..	...	...	..	..	..
10. 24	..	..	..	..	..	..	...	...	..	..	..
10. 25	..	..	..	..	..	..	...	S W	..	¼	..
10. 30 to 11. 40	..	..	..	..	..	..	...	...	..	..	..
11. 40 to 12. 0	29·718	..	..	..	..	..	...	...	..	..	..
12. 0	29·718	63·3	61·4	1·9	..	..	...	S	..	¼	10
12. 0 to 12. 25	..	..	..	..	..	..	...	...	..	..	..
12. 25	..	..	..	..	..	..	...	...	..	..	..
12. 30	..	..	..	..	..	..	...	...	..	..	..
12. 35	..	..	..	..	..	..	...	...	..	..	..
July 14. 23. 23⅓	..	..	..	..	..	..	...	W	..	..	..
23. 24	..	..	..	..	..	..	...	...	..	..	..
July 15. 0. 0	29·546	65·3	58·5	6·8	..	..	W S W	W S W	..	¼	7
0. 20	..	..	..	..	..	..	N W	...	..	..	..
0. 23	..	..	..	..	..	..	...	...	..	..	..
0. 24	..	..	..	..	..	..	...	...	..	..	..
0. 25	..	..	..	..	..	..	W	...	..	..	..
0. 26	..	..	..	..	..	..	...	...	..	..	..
0. 26½	..	..	..	..	..	..	...	...	..	..	..
0. 27	..	..	..	..	..	..	...	...	..	..	..
0. 27+	..	..	..	..	..	..	...	W by N	..	..	..
0. 30	..	..	..	..	..	..	W	...	..	..	..
0. 35	..	..	..	..	..	..	...	...	..	..	..
0. 36	..	..	..	..	..	..	...	...	..	..	..
0. 37	..	..	..	..	..	..	...	N	..	..	..
0. 40	..	..	..	..	..	..	...	...	..	..	..

May 19d. 19h. 40m. The wind in gusts with a pressure of 10lbs. on the square foot.

May 27d. The storm commenced in the S. S.W. and S. S. E., and passed round by the West to the N. and N.W., where it was at its termination. During the time of its continuance the barometer was remarkably steady.

May 27d. 10h. The observation at this time is omitted above: it will be found in the Section of Ordinary Observations.

July 14d. The observations were taken during a thunder storm.

GENERAL REMARKS.	Observer.
The cirro-stratus is now entirely broken up, and the sky is clear in the N.W., W., and S.: cumuli in the N.W.: a rainbow in the E.	P
Cumuli in the N. and N.W., with scud flying extremely low: a fine blue sky elsewhere.	
The sky is now nearly covered with dark scud.	P
The zenith, and 50° W. and N.W. of it, clear; the stars N. and N.E. of the zenith are also shining; the rest of the sky is covered	G
The sky is splendidly clear. [with a wild-looking scud.	
A mass of dark scud has suddenly formed and covers the sky.	
A few stars are seen near the zenith; otherwise a wild black-looking sky, with breaks here and there.	
The sky has been alternately clear and cloudy since 14^h, with slight showers of rain: at present cloudy: large masses of scud moving rapidly from the W.: no upper cloud.	
Generally clear since 16^h: at present the sky is more than half covered with a low scud, which passes quickly from the W.: upper cloud cirri: southern horizon thick and obscured: northern very clear.	
Large white cumuli near the whole horizon: low scud floating from the W.: some gusts of wind about a half an hour since to 3—: the wind has risen since the last observation.	G
See the remarks in the Section of Ordinary Observations.	
The first lightning seen.	J H
Lightning in the S.S.W. and S.S.E., behind a bank of cumulo-strati of a highly electrical appearance, which gradually ascended towards the zenith, the lightning increasing in brilliancy, and in the frequency of the flashes.	
Thunder very loud, and apparently from a cloud in the zenith: the sky is covered with cirro-strati and cumulo-strati.	
A few drops of rain falling: thunder frequent.	
Lightning proceeds from behind a cirro-stratus in two points, one exactly W. by S. and the other W.N.W.: the flashes extremely vivid, those from the W.N.W. point more so than from the other.	
Flashes of lightning nearly incessant, but much less vivid than before.	J H
The stars and Moon, which have been seen at intervals, became wholly obscured, the sky becoming covered with a dark and stormy mass of cloud: the lightning was now of a dazzling brightness; the intervals between the flashes were impenetrably dark: the thunder was in reverberating claps.	P
The rain now for a short time poured down in torrents: the lightning was very vivid, rendering distinctly visible every object around: the thunder was now louder than it had previously been.	
During this time the storm has been very violent; vivid lightning with loud thunder.	
The storm has suddenly ceased.	
The sky is nearly free of clouds, there being only a dark cloud in the N., and the stars are shining brilliantly.	
To this time lightning has been seen in the N.W.: no more was seen afterwards.	P
Low distant thunder heard in the West.	G
Ditto ditto.	G
The sky N. of the zenith covered with dark heavy clouds: small cumuli in the S.: low distant thunder in the West.	D
A very loud reverberating clap of thunder from the West.	G
Another very loud clap, continued 10^s, from the East.	
Another very long and rolling clap from the East.	
Ditto ditto.	
Ditto ditto.	
A very fine rolling clap, extending from the East to the N.N.E. [it was when last heard.	
A very fine long roll of thunder continued about 25^s; it was first heard a little S. of the East, then rolled slowly to the N.E., where	
Wind shifting to the N. of W.: very dark all round.	
Wind going more North.	
A long, low clap of thunder, apparently more distant from the N.E.: wind now nearly North: scud moving rapidly from the North.	
Another long, low clap from the N.N.E.: rain has just commenced falling.	
Wind rising, direction N.	
Two loud reports in quick succession: hail now falling.	

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 h m	in.	°	°	°	°	°			from lbs. to lbs.		
July 15. 0. 40 +			..	..	..	..	...	...	..	..	..
0. 42 —	..	..	..	..	..	..	...	...	..	..	..
0. 42 +	..	..	..	..	..	..	...	...	..	..	..
0. 43	..	..	..	..	..	..	...	...	..	..	..
0. 44	..	..	..	..	..	..	...	...	..	..	..
0. 44 to 0. 45	..	..	..	..	..	..	...	...	..	..	..
0. 46	..	..	..	..	..	..	...	...	..	..	..
0. 48	..	..	..	..	..	..	...	...	..	..	..
0. 48 to 0. 55	..	..	..	..	..	..	N W	...	..	..	..
0. 55	..	..	..	..	..	..	...	W	..	..	..
1. 10 to 1. 30	..	..	..	..	..	..	W S W	...	0 to $1\frac{1}{2}$	..	..
1. 32	..	..	..	..	..	..	S W	W by S	..	..	..
1. 40	..	..	..	..	..	..	...	...	..	..	..
2. 0	29·579	56·0	54·0	2·0	..	..	S S W	W S W	..	$\frac{1}{2}$	10
2. 30	..	..	..	..	..	..	S	S	..	..	..
3. 30	..	..	..	..	..	..	E S E	...	..	..	..
3. 32	..	..	..	..	..	..	E S E	...	..	..	..
3. 40	..	..	..	..	..	..	S E	...	..	..	..
3. 58	..	..	..	..	..	..	...	...	..	..	..
4. $0\frac{1}{2}$	29·592	55·9	54·2	1·7	53·0	2·9	Calm	S	..	$\frac{1}{4}$	10
4. 8	..	..	..	..	..	..	...	...	..	..	..
4. 10	..	..	..	..	..	..	E S E	...	..	..	..
4. 13	..	..	..	..	..	..	...	...	..	..	..
4. 51	..	..	..	..	..	..	E by S	...	..	..	..
6. 0	29·608	55·4	53·8	1·6	..	..	E by S	E	..	$\frac{1}{4}$	10
6. 27	..	..	..	..	..	..	...	...	..	..	..
6. 32	..	..	..	..	..	..	...	...	..	..	..
6. 40	..	..	..	..	..	..	S S E	...	..	..	..
6. 45	..	..	..	..	..	..	...	...	..	..	..
6. 46	..	..	..	..	..	..	E by S	...	..	..	..
6. 50	..	..	..	..	..	..	...	...	..	..	..
6. 54	..	..	..	..	..	..	N E	...	..	..	..
6. 57	..	..	..	..	..	..	...	...	..	..	..
6. 59	..	..	..	..	..	..	...	...	..	..	..
7. 0	..	..	..	..	..	..	N	...	..	..	..
7. 6	..	..	..	..	..	..	...	...	..	..	..
7. 10	..	..	..	..	..	..	...	...	..	..	..
7. 10 to 7. 30	..	..	..	..	..	..	E by N	...	..	..	..
7. 30 to 7. 45	..	..	..	..	..	..	E S E	...	..	..	..
8. 0	29·623	52·0	51·7	0·3	..	..	Calm	Calm	..	..	10
Aug. 9. 10. 2	..	..	..	..	..	..	...	...	..	..	..
10. $2\frac{1}{2}$	..	..	..	..	..	..	...	...	..	..	..
10. 46	..	..	..	..	..	..	...	...	..	..	..
11. 4	..	..	..	..	..	..	...	...	..	..	..
11. 6	..	..	..	..	..	..	...	...	..	..	..
11. 12	..	..	..	..	..	..	...	...	..	..	..
11. 15	..	..	..	..	..	..	...	...	..	..	..
11. $16\frac{1}{4}$	..	..	..	..	..	..	...	...	..	..	..
11. 19	..	..	..	..	..	..	...	...	..	..	..
11. 22	..	..	..	..	..	..	...	...	..	..	..

July 15^{d}. 7^{h}. 45^{m}. This was the last thunder heard; the storm had continued nearly nine hours, during which a nearly continued roll of thunder was heard, and $0^{in}\cdot8$ of rain fell,

Aug. 9^{d}. Observations of Meteors.

GENERAL REMARKS.	Observer.
Rain falling heavily, accompanied with hail: a clap of thunder every few seconds from the East.	G
A loud clap from the East.	
Another from the E. by S.	
Rain and hail falling heavily: thunder from the E. by S.	
Thunder from the S.E.	
Several light claps of thunder.	
A much louder clap from the E. or E. by N.: the rain becoming light.	
A clap, apparently more distant, from the East.	
Many claps heard from the East.	
The rain has ceased: the wind has backed to the West.	
A continuous, distant roll, commencing in the N.E. and ending in the S.E.; several rolls exactly similar to the one at $1^h.\ 10^m$.	
A very long clap; when first heard, from the West, then by S. to S.E., becoming louder, and several successive reports succeeding each other: the wind now W. by S.: a wild, black-looking sky.	
A bank of thunder-clouds is ranged near the West horizon, from which a continuous rumbling sound is heard.	G
The same.	D
Thunder has been heard every few minutes: the wind has now veered to the S.	G
A low distant peal of thunder in N.E.	P
A clap less loud than the preceding.	
A distant prolonged muttering: a few minutes since rain began to fall.	
Another peal of some duration from the N.E.	
A clap of thunder, succeeded by heavy rain, which had for a few minutes ceased.	
A louder clap.	
Thunder again; the weather brightening in the W. and N.; a dark cloud over the zenith, and the rest of the sky.	
The thunder seemingly nearer.	
Thunder in the southern horizon, which is lined with clouds of a yellowish appearance, or of a dirty white; shortly after this the thunder ceased, but the rain continued falling.	
Distant and low muttering of thunder.	
An extremely loud clap: the yellowish clouds above-mentioned rising above the horizon.	
Another loud clap in the same quarter: the clouds expanding. [extended.	
The rain, which had for a short time ceased, again commenced falling in a heavy shower: the yellowish clouds becoming more	
Two heavy reverberating peals: the yellow clouds extending themselves.	
Three claps in quick succession.	
A succession of loud peals, and a fine steady rain falling.	
Lightning first seen.	
A very vivid flash of lightning, followed by loud thunder.	
Very loud thunder.	
Vivid lightning followed by loud thunder; lightning nearly constant, and thunder succeeding it at very short intervals.	
A flash of lightning, followed at a short interval by a heavy clap of thunder that shook the Magnetic House.	P
Nearly constant thunder all the afternoon, principally from the N.E.	G
Frequent vivid lightning, followed by thunder; at intervals varying from 3^s to 10^s, principally from the S. and S.E.: very heavy rain.	
Thunder every few minutes, till $7^h.\ 45^m$.	G
Overcast: a very heavy rain falling.	P
A faint meteor through Andromeda, N. to S.	J H
Another, direction S. to N., passed β Pegasi.	
One passed diagonally through the square of Pegasus, from α Andromedæ to α Pegasi.	
A very faint meteor moved rapidly from E.N.E to W.S.W., first appearing below β Draconis.	
A meteor, from α Lyræ towards Corona Borealis, or direction E.S.E. to W.N.W.	
A fine one from N.N.E. to S.S.W., passing between α Lyræ and γ Draconis: this meteor left a train of yellowish light, visible about 2^s after the disappearance of the meteor.	
A meteor appeared in the lower part of Hercules, with a direction from N.N.E. to S.S.W.	
One from N.N.E. to S.S.W. between α and θ Aquilæ: a train of light visible 2^s.	
Ditto from S.W. to N.E. very faint, passing through Ursa Minor.	
A very small and faint meteor was seen a little N. of the zenith.	

Sep. 20^d, civil reckoning. The mean height of the barometer was greater on this day than on any day during the month. (See the Section of Ordinary Observations.)

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 s	in.	°	°	°	°	°			from lbs. to lbs.		
Aug. 9. 11. 25	..	..	..	..	..	..	...	...	..	..	..
11. 27	..	..	..	..	..	..	...	...	..	..	..
11. 30	..	..	..	..	..	..	...	...	..	..	..
11. 31	..	..	..	..	..	..	...	...	..	..	..
11. 34	..	..	..	..	..	..	...	...	..	..	..
11. 38	..	..	..	..	..	..	...	...	..	..	..
11. 39	..	..	..	..	..	..	...	...	..	..	..
11. 46	..	..	..	..	..	..	...	...	..	..	..
12. 7	..	..	..	..	..	..	...	...	..	..	..
12. 9	..	..	..	..	..	..	...	...	..	..	..
12. $9\frac{3}{4}\pm$	..	..	..	..	..	..	...	...	..	..	..
12. 10. 1	..	..	..	..	..	..	...	...	..	..	..
12. 10. 31	..	..	..	..	..	..	...	...	..	..	..
12. 12	..	..	..	..	..	..	...	...	..	..	..
12. 17	..	..	..	..	..	..	...	...	..	..	..
12. 21	..	..	..	..	..	..	...	...	..	..	..
12. 23	..	..	..	..	..	..	...	...	..	..	..
12. 24	..	..	..	..	..	..	...	...	..	..	..
12. 25	..	..	..	..	..	..	...	...	..	..	..
12. 26	..	..	..	..	..	..	...	...	..	..	..
12. 28	..	..	..	..	..	..	...	...	..	..	..
12. 28	..	..	..	..	..	..	...	...	..	..	..
12. 34	..	..	..	..	..	..	...	...	..	..	..
12. 35	..	..	..	..	..	..	...	...	..	..	..
12. 36	..	..	..	..	..	..	...	...	..	..	..
12. $37\frac{1}{2}$	..	..	..	..	..	..	...	...	..	..	..
12. 38	..	..	..	..	..	..	...	...	..	..	..
12. 39	..	..	..	..	..	..	...	...	..	..	..
12. 40	..	..	..	..	..	..	...	...	..	..	..
12. 42	..	..	..	..	..	..	...	...	..	..	..
12. 44	..	..	..	..	..	..	...	...	..	..	..
12. 57	..	..	..	..	..	..	...	...	..	..	..
13. 3	..	..	..	..	..	..	...	...	..	..	..
13. 7	..	..	..	..	..	..	...	...	..	..	..
13. 9	..	..	..	..	..	..	...	...	..	..	..
13. 11	..	..	..	..	..	..	...	...	..	..	..
13. 13	..	..	..	..	..	..	...	...	..	..	..
13. 24	..	..	..	..	..	..	...	...	..	..	..
13. 25	..	..	..	..	..	..	...	...	..	..	..
13. 29	..	..	..	..	..	..	...	...	..	..	..
13. 32	..	..	..	..	..	..	...	...	..	..	..
13. 33	..	..	..	..	..	..	...	...	..	..	..
13. 37	..	..	..	..	..	..	...	...	..	..	..
13. 39	..	..	..	..	..	..	...	...	..	..	..
13. 40	..	..	..	..	..	..	...	...	..	..	..
13. 50	..	..	..	..	..	..	...	...	..	..	..
14. 26	..	..	..	..	..	..	...	...	..	..	..
14. 30	..	..	..	..	..	..	...	...	..	..	..

Aug. 9d. From 11h. 46m to 12h. 5m, the observer was engaged in observing the positions of the magnets.

Aug. 9d. From 12h. 48m to 12h. 55m, no meteors were looked for.

Aug. 9d. From 13h. 50m to 14h. 15m, the observer was engaged with the magnets.

GENERAL REMARKS.	Observer.
A meteor, direction N.E. to S.W., from a little below θ Draconis.	J H
,, ,, S.S.W. to N.N.E., from Corona Borealis towards η Ursæ Majoris.	
,, ,, N.N.E. to S.S.W., through Corona Borealis.	
,, ,, N.E. to S.W., from ϵ Herculis towards α Herculis.	
,, ,, N.W. to S.E., between Aries and Pisces: equal in brightness to a star of the first magnitude: a luminous train.	
,, ,, N. to S. in the meridian, from about 5° South of β Delphini.	
,, ,, E.N.E to W.S.W., passing between δ and ζ Herculis.	
,, ,, S.E. to N.W., from Polaris towards α Ursæ Majoris.	
,, ,, N.E. to S.W., from a point a little South of the zenith.	
A meteor appeared in S.E.	
,, passed γ Arietis towards β Ceti.	
,, South of the zenith.	
A meteor, direction S.W. to N.E., through the square of Pegasus.	
,, ,, N.N.E. to S.S.W., passed between β and τ Pegasi.	
,, ,, S.S.E. to N.N.W., from 10° S.E. of the zenith.	
,, ,, N.E. to S.W., in a line parallel to that joining γ Delphini and α Lyræ, about 10° beneath it: this meteor was equal in brightness to a star of the first magnitude.	
,, ,, E. to W., very faint, 8° S.E. of β Delphini.	
,, ,, N.N.E. to S.S.W., near α Pegasi.	
,, ,, E. to W., from ν Andromedæ towards Lacerta.	
,, ,, N.E. to S.W., from the middle of the square of Pegasus towards α Aquarii; equal in brightness to a star of the first magnitude.	
,, ,, N.E. to S.W., through Cygnus, near α and δ.	
,, ,, N.N.E. to S.S.W. ditto ditto.	
,, ,, E. to W., a little N. of the zenith.	
,, ,, E. to W., ditto ditto.	
,, ,, N.E. to S.W., in Aquarius.	
,, ,, S. to N., from α Andromedæ to ν Andromedæ, very faint.	
,, ,, through Aquarius.	
,, ,, from α Pegasi to beyond θ Pegasi.	
,, ,, from Piscis Australis, towards δ Capricorni, leaving a train of yellowish light: this was a beautiful meteor, being equal in brilliancy to Jupiter; the path described was about 20° or more.	
,, ,, N.N.E. to S.S.W., appeared W. of α Aquilæ; equal in brightness to stars of the first magnitude.	
,, ,, N.E. to S.W., passed ϵ Herculis.	
,, ,, from γ Pegasi to β Ceti.	
,, ,, from α Cassiopeiæ towards β Pegasi, leaving a train of yellowish light, which continued visible about 1^s.	
,, ,, E. to W. from 3° S. of Polaris.	
,, ,, from γ Cassiopeiæ, to a point a little W. of δ Cassiopeiæ, leaving a train visible 4^s after the disappearance of the meteor.	
,, ,, passed α Cygni; equal in brightness to stars of the second magnitude.	
,, ,, from δ Cassiopeiæ towards ζ Cephei; very faint and small.	
,, ,, from the Pleiades towards α Ceti; very bright, but no train.	
,, ,, from o Ceti to δ Aquarii; equal in brightness to stars of the second magnitude.	
,, ,, from β Delphini beyond α Lyræ, ditto ditto.	
,, ,, E.S.E. to W.N.W., in Cepheus; very faint.	
,, ,, N.N.E. to S.S.W., in Aquarius; faint.	
,, ,, E.S.E. to W.N.W., from the zenith towards α Lyræ.	
,, ,, S.S.W. to N.N.E., passed ζ Cephei; very small and faint.	
,, ,, E.N.E. to W.S.W., from N. of the zenith towards δ Cygni.	
,, ,, N.E. to S.W., passed α Lyræ.	
,, ,, E. to W., below β Draconis.	
,, ,, N.E. to S.W., from ϵ Pegasi to α Capricorni: this meteor was as bright as Jupiter; it passed over about 30°, leaving a train 15° in length.	

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.		
Aug. 9. 14. 33	..	..	..	..	..	..	...	...	..	..	..
14. 36	..	..	..	..	..	..	...	...	..	..	..
14. 38	..	..	..	..	..	..	...	...	..	..	..
14. 47	..	..	..	..	..	..	...	...	..	..	..
14. 49	..	..	..	..	..	..	...	...	..	..	..
14. 50	..	..	..	..	..	..	...	...	..	..	..
14. 56	..	..	..	..	..	..	...	...	..	..	..
14. 58	..	..	..	..	..	..	...	...	..	..	..
15. 0	..	..	..	..	..	..	...	...	..	..	..
15. 3	..	..	..	..	..	..	...	...	..	..	..
15. 6	..	..	..	..	..	..	...	...	..	..	..
15. 9	..	..	..	..	..	..	...	...	..	..	..
15. 10	..	..	..	..	..	..	...	...	..	..	..
15. 12	..	..	..	..	..	..	...	...	..	..	..
Sep. 3. 6. 0	29·426	64·6	64·3	0·3	..	..	Calm	S E	..	$\frac{1}{4}$	10
6. 11	..	..	..	..	..	..	E	...	..	..	..
6. 41½	..	..	..	..	..	..	E N E	...	..	..	..
6. 45	..	..	..	..	..	..	E N E	...	..	..	..
6. 46	..	..	..	..	..	..	E N E	...	..	..	..
6. 48	..	..	..	..	..	..	E N E	...	..	..	..
6. 57	..	..	..	..	..	..	E N E	E	..	..	..
7. 5	..	..	..	..	..	..	S E	...	..	..	..
7. 5¼	..	..	..	..	..	..	S E	...	..	..	..
7. 8	..	..	..	..	..	..	S E	S S E	..	..	..
7. 13½	..	..	..	..	..	..	S S E	...	..	..	..
8. 0	29·365	62·5	61·8	0·7	..	..	E by N	Calm	..	..	9
Sep. 28. 8. 0	29·107	62·5	59·5	3·0	..	..	S	S W	½ to 2	½	10
10. 0	29·058	64·5	59·3	5·2	58·3	6·2	S by E	S W	2 to 4	¾	10
12. 0	28·983	65·5	59·7	5·8	..	..	S	S	4 to 7	3+	10
12. 20	28·981	..	..	..	..	..	S	...	5 to 6	..	..
12. 45	28·995	..	..	..	..	..	S by W	...	5 to 8	..	..
13. 10	28·995	..	..	..	..	..	S S W	...	5 to 12	..	..
13. 45	28·981	..	..	..	..	..	S S W	...	5 to 8	..	..
14. 0	28·985	64·2	59·7	4·5	..	..	S S W	S W	4 to 7	3	9
14. 40	28·989	..	..	..	..	..	S S W	...	5 to 7	..	..
16. 0	29·000	59·2	55·5	3·7	54·0	5·2	S W	S W	5 to 6	3	0
17. 0	29·004	..	..	..	..	..	S S W	...	2 steady	..	..
18. 0	29·008	56·2	55·5	0·7	..	..	S S W	S W	1 to 5	3	10
20. 0	29·055	56·5	53·6	2·9	..	..	S S W	S W	3½ to 5	2½	5
Oct. 5. 8. 0	28·856	49·5	48·8	0·7	..	..	S S E	S	..	¼	7
10. 0	28·812	49·6	49·0	0·6	48·0	1·6	Calm	S	..	½	10
10. 7	28·808	..	..	..	..	..	S by E	...	..	..	..
12. 0	28·769	48·6	48·4	0·2	..	..	Calm	Calm	..	..	10
12. 5	28·768	..	..	..	..	..	Calm	...	..	..	..
12. 30	28·754	..	..	..	..	..	Calm	...	..	..	..
13. 25	28·738	..	..	..	..	..	Calm	...	..	..	..
14. 0	28·731	48·5	48·5	0·0	..	..	Calm	Calm	..	..	10
15. 30	28·725	..	..	..	..	..	Calm	...	..	..	..

Aug. 9d. 15h. 15m. After this time no more meteors were looked for, the Moon shining brightly.

Sep. 3d. 6h. The observations were taken during a thunder-storm.

Sep. 3d. 7h. 13½m. This was the last lightning seen; low murmurings of thunder were heard till 8h: the rain continued falling until after 8h.

GENERAL REMARKS.	Observer.
A meteor, direction N. to S., between Pegasus and Cygnus.	J H
,, ,, E.N.E. to W.S.W., near α Aquilæ.	
,, ,, from ϵ Pegasi towards α Capricorni.	
,, ,, from near β Ceti towards a point N. of Fomalhaut; very bright.	
,, ,, through Aquarius towards α Capricorni.	
,, ,, from ι Draconis to a point a little West of ϵ Herculis.	
,, ,, from a point N. of δ Cassiopeiæ towards Polaris; bright, with a short train.	
,, ,, from δ Cassiopeiæ towards Delphinus; bright.	
,, ,, from α Pegasi to α Aquarii.	
,, ,, N.E to S.W., from a point near α Lyræ; its path a short curve.	
,, ,, from β Delphini to θ Aquilæ, very brilliant; a train of light was visible several seconds.	
,, ,, from ϵ Pegasi towards α Capricorni.	
,, ,, N.E. to S.W., from S.W. of the zenith.	
,, ,, from α Aquarii towards ι Aquarii.	
Overcast: cirrostratus and scud: rain falling heavily.	J H
A low murmuring of thunder heard: at intervals low murmurings were heard till $6^h.\ 40^m$.	
A faint flash of lightning followed by thunder, in S.W.	
Thunder in S.W.; no lightning seen: the sky covered South of the zenith with heavy cirro-strati and electrical clouds.	
Rain commenced falling.	
Thunder in S.W., louder than before.	
Vivid flash of lightning with thunder, after an interval of 7^s or 8^s, from a cloud about the zenith: clouds are coming up rapidly from the South: the lower current is East.	
Heavy rain falling; wind veering to the S.E.	
Lightning: thunder East of the zenith, and rolling over to the N.N.W.	
Wind S.S.E.	
A very vivid flash of lightning of a pure white; after an interval of 4^s, loud thunder from near the zenith.	
Cirro-stratus and scud: rain falling: heavy electrical clouds about.	J H
Overcast, though the clouds occasionally break, and reveal a few of the brighter stars: a slight lunar halo was visible at $7^h.\ 50^m$.	P
Quite overcast: the place of the Moon is not visible.	P
A gale of wind; gusts to 4: clouds collect in knots and diverge from a center: several dark nimbi in S., mixed with cirro-stratus and scud.	G
Very heavy gusts of wind.	
Wind in heavy gusts.	
Still blowing very hard: frequent gusts: scud flying rapidly: the clouds are broken about the Moon: a wild night.	
A few light drops of rain falling.	
The gale continues: large masses of cloud have passed over since 14^h: within the last quarter of an hour the clouds have all passed away, and the sky is quite free of clouds: the Moon and stars are shining brilliantly.	
Overcast: the sky remained clear but a very short time: the gale still continues: a heavy shower 10^m since.	
Still blowing hard: clear and cloudy alternately: a perfect rainbow at present: scud passing quickly from the S.W.	G
Stars visible in the zenith; elsewhere overcast.	D
Overcast: cirro-stratus: rain commenced falling at $9^h.\ 10^m$, and continues: the sky lighter in the S. horizon: scud E. of zenith: the barometer is rapidly falling, and the external temperature rising.	J H
Rain without intermission since 10^h: very dark.	G
Steady rain without the slightest intermission.	

Sep. 28^d. In consequence of a low and still falling barometer, the observations were taken to obtain the lowest reading, which took place at $12^h.\ 20^m$, and it was the lowest reading of the barometer during the month.

Sep. $28^d.\ 11^h$. A pressure of 8lbs. on the square foot at the Anemometer.

Sep. $28^d.\ 13^h.\ 5^m$. The wind in gusts, recording a pressure of 12lbs. on the square foot at the Anemometer.

Oct. 5^d. The barometer being low and still falling, extra observations were taken for the purpose of ascertaining its lowest reading.

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 s	in.	°	°	°	°	°			from lbs. to lbs.		
Oct. 5. 16. 0	28·720	48·5	48·5	0·0	48·5	0·0	Calm	Calm	..	..	10
17. 0	28·709	..	..	..	..	..	S W	...	..	..	..
18. 0	28·704	46·7	46·6	0·1	..	..	W S W	Calm	..	..	8
18. 30	28·715	..	..	..	..	..	S W	...	..	..	..
19. 10	28·723	..	..	..	..	..	S W	...	..	..	..
19. 25	28·714	..	..	..	..	..	S by W	...	..	..	..
20. 0	28·712	44·5	44·3	0·2	..	..	S by W	Calm	..	..	2
22. 0	28·711	51·6	49·6	2·0	49·5	2·1	S by W	S W	0 to $\frac{1}{2}$	$\frac{3}{4}$	7
22. 10	28·707	..	..	..	..	..	S by W	...	0 to $\frac{1}{2}$	..	..
22. 30	28·703	..	..	..	..	..	S by W	...	0 to 1	..	..
22. 57	28·697	..	..	..	..	..	S S W	...	0 to 1	..	..
23. 25	28·697	..	..	..	..	..	S S W	...	0 to 1	..	..
23. 40	28·699	..	..	..	..	..	S W	...	0 to 1	..	..
Oct. 6. 0. 0	28·706	58·8	54·3	4·5	..	..	W S W	S W	0 to $\frac{1}{2}$	$\frac{1}{2}$	8
0. 39	28·704	..	..	..	..	..	W S W	...	0 to 1	..	..
1. 38	28·715	..	..	..	..	..	W S W	...	0 to 2	..	..
2. 0	28·717	56·2	52·6	3·6	..	..	W S W	W by N	0 to 1	1	8
3. 40	28·730	..	..	..	..	..	W S W	...	0 to 1	..	..
4. 0	28·728	56·7	52·7	4·0	51·5	5·2	S W	W by S	..	1	8
5. 25	28·759	..	..	..	..	..	S W	...	..	..	..
6. 0	28·762	52·2	50·7	1·5	..	..	S W	S W	..	1	10
7. 25	28·772	..	..	..	..	..	S W	...	..	..	..
8. 0	28·782	50·7	48·9	1·8	..	..	S W	S W	..	$1\frac{1}{2}$	8
8. 40	28·790	..	..	..	..	..	S S W	...	..	..	..
9. 10	28·799	..	..	..	..	..	S S W	...	..	..	..
10. 0	28·805	47·7	47·2	0·5	47·0	0·7	S S W	S W	..	1	0
12. 0	28·814	46·4	45·7	0·7	..	..	S S W	S W	..	$\frac{3}{4}$	$\frac{1}{4}$
Nov. 12. 11. 18. 31	..	..	..	..	..	..	...	...	..	..	..
11. 21. 31	..	..	..	..	..	..	...	...	..	..	..
11. 30. 39	..	..	..	..	..	..	...	...	..	..	..
12. 27. 0	..	..	..	..	..	..	...	...	..	..	..
12. 42. 57	..	..	..	..	..	..	...	...	..	..	..
12. 45. 7	..	..	..	..	..	..	...	...	..	..	..
13. 1. 34	..	..	..	..	..	..	...	...	..	..	..
13. 2. 54	..	..	..	..	..	..	...	...	..	..	..
13. 22. 29	..	..	..	..	..	..	...	...	..	..	..
14. 2. 54	..	..	..	..	..	..	...	...	..	..	..
14. 42. 52	..	..	..	..	..	..	...	...	..	..	..
14. 53. 35	..	..	..	..	..	..	...	...	..	..	..
14. 55. 15	..	..	..	..	..	..	...	...	..	..	..
14. 58. 5	..	..	..	..	..	..	...	...	..	..	..
15. 15. 27	..	..	..	..	..	..	...	...	..	..	..
15. 15. 52	..	..	..	..	..	..	...	...	..	..	..
15. 22. 41	..	..	..	..	..	..	...	...	..	..	..
15. 26. 15	..	..	..	..	..	..	...	...	..	..	..
15. 45. 28	..	..	..	..	..	..	...	...	..	..	..
15. 50. 17	..	..	..	..	..	..	...	...	..	..	..
15. 53. 26	..	..	..	..	..	..	...	...	..	..	..

Oct. 5^d. 22^h. 57^m. This reading of the barometer is the lowest in the storm, and it remained without change until 23^h. 25^m. This reading is also less than any other reading during the year.

Nov. 12^d. The night throughout was unusually clear; the stars near the horizon shone with great brilliancy, not having been intercepted by the least haze, vapour, or cloud; a more favourable night for the observations of meteors could not have been. An observer was on an elevated part of the Observatory from 7^h; and from this time to 11^h. 18^m not one meteor was seen. The observer on duty after 11^h. 30^m kept a rigorous look out, he being only in the Magnetic House at about 14^h and 16^h to take the observations of the magnets; he considers that his watch was so rigorous that but few meteors could have escaped him: twenty-eight meteors only were seen.

GENERAL REMARKS.	Observer.
Rain still falling, but not quite so heavily.	G
The rain ceased falling at about 17^h: the Moon and a few stars are faintly shining. The clouds have nearly all dispersed.	
A few light cirri moving from the S.W. Clear generally S. of the zenith: cumulo-stratus and scud elsewhere.	G J H
Cumulo-stratus and scud.	
Cumulo-stratus and scud: gusts of wind.	J H
Heavy cumuli in the whole horizon: cumulo-strati and scud in every other part, the scud passing from the W.	G
A faint parhelion at 4^h. 15^m West of the Sun: the clouds below are of a deep orange tint: cirro-stratus and scud everywhere: a shower of rain at 4^h. 40^m.	
Since 6^h the sky has been tolerably clear, till about a half an hour since, when the entire sky, S. of the zenith, was covered with clouds: at present a few stars are visible in the N.: about five minutes after the observation the sky was cloudless.	
Cloudless. Small cirri; otherwise clear. At 11^h. 20^m, a vivid flash of lightning in the S.	G J H
A small meteor appeared about 10° from the zenith, on the North, and was extinguished at ζ Ursæ Majoris. A brighter meteor a little West of Polaris passed to α Cassiopeiæ. A splendid meteor first appeared a little above β Ursæ Minoris, and disappeared at 11^h. 30^m. 44^s between α and δ Cygni, leaving a beautiful luminous track, tapering to a point. A small meteor appeared a little to the West of β Cephei, and disappeared near α Cygni. Another small meteor appeared in the zenith, and passed quickly to Polaris; duration 1^s. [about 3^s. A meteor as bright as a star of the first magnitude appeared at β Ursæ Majoris, and moved slowly to δ Ursæ Minoris; duration A fine meteor about the size of Sirius appeared a little N. of Capella, and disappeared at β Ursæ Majoris; it left no train. A very small meteor passed rapidly over Polaris. Another small one passed from α Cassiopeiæ to Polaris. [duration 2^s. A meteor about as bright as stars of the second magnitude appeared at Capella, and disappeared a little South of Aldebaran: A small meteor appeared at Pollux, and disappeared near the zenith. A meteor appeared near δ Ursæ Minoris, and passed in about 1^s to α Cephei. A large copper-coloured meteor, from β Ursæ Minoris to ϵ Ursæ Majoris: duration 2^s. Another large meteor, as bright as a star of the first magnitude, from Regulus to Pollux. A small meteor passed rapidly from near ψ Ursæ Majoris to δ Ursæ Majoris. A similar one from Castor to γ Leonis. A very faint meteor appeared E. of Polaris. A splendid meteor appeared at δ Leonis, and passed in a northern direction: it left a train 10° in length: its duration was 4^s. A meteor about the brightness of a star of the second magnitude appeared just S. of the Pleiades, and passed to a little E. of Rigel. A small meteor passed from α Ursæ Majoris to ζ Ursæ Majoris. A fine meteor, with a fine train of sparks, appeared at γ Ursæ Majoris, and after passing between κ and λ Draconis, disappeared at Polaris: duration about 3^s.	G G D

Nov. 12^d. For meteorological observations at the even hours, see the Section of Ordinary Observations.

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 s	n.	°	°	°	°	°			from lbs. to lbs.		
Nov. 12. 16. 11. 33	..	..	..	..	..	..	...	...	..	..	..
16. 23. 21	..	..	..	..	..	..	...	...	..	..	..
16. 42. 33	..	..	..	..	..	..	...	...	..	..	..
16. 54. 36	..	..	..	..	..	..	...	...	..	..	..
17. 5. 14	..	..	..	..	..	..	...	...	..	..	..
17. 12. 13	..	..	..	..	..	..	...	...	..	..	..
17. 46. 53	..	..	..	..	..	..	...	...	..	..	..
Dec. 2. 20. 0	28·869	49·8	48·8	1·0	..	..	S S E	S S E	0 to $\frac{1}{2}$	1	10
21. 40	28·838	..	..	..	..	..	S S E	...	$\frac{1}{2}$ to 2	..	..
22. 0	28·837	51·7	49·8	1·9	51·0	0·7	S S E	S S E	1 to 3	$\frac{3}{4}$	10
23. 10	28·827	..	..	..	..	..	S S E	...	4 to 6	..	..
Dec. 3. 0. 0	28·846	52·5	51·4	1·1	..	..	S by W	S	2 to 3	1	8
2. 0	28·878	51·1	49·0	2·1	..	..	S S W	S S W	1 to 6	1+	8
3. 0	28·919	..	..	..	..	..	S W	...	5 to 6	..	..
4. 0	28·952	50·2	47·0	3·2	45·0	5·2	S W	S W	1 to 3	$\frac{3}{4}$	8
6. 0	29·003	47·3	45·1	2·2	..	..	S W	S W	2 to 3	$\frac{3}{4}$	4

Dec. 2^{d}. 20^{h}. The observations were taken to obtain the lowest reading of the barometer.

Dec. 2^{d}. 23^{h}. 10^{m}. This is the lowest reading of the barometer during the month.

GENERAL REMARKS.	Observer.
A small meteor from ι Ursæ Majoris to γ Leonis.	D
A very small meteor passed southward from ψ Ursæ Majoris.	
A meteor as bright as a star of the first magnitude appeared E. of Polaris, and disappeared at β Cephei.	
A similar one passed rapidly from β Leonis to ψ Ursæ Majoris : duration 1^s.	
A small one appeared W. of Capella, and was lost near Aldebaran.	
A very small one in Leo ; motion very rapid.	
A very small one passed from the zenith to γ Cassiopeiæ : duration 1^s.	D
Scud passing rapidly over from S. S. E. : gusts of wind.	J H
	G
Overcast : cirro-stratus and scud.	D
Heavy rain since 22^h : at present cirro-stratus and scud, with breaks in different parts of the sky.	
Cirro-stratus and scud : clear breaks in different parts.	D
	G
Scud and cumulo-stratus.	J H
Scud in various directions : auroral light in the N.	J H

ROYAL OBSERVATORY, GREENWICH.

ABSTRACTS

OF THE

RESULTS

OF THE

MAGNETICAL OBSERVATIONS.

1840 and 1841.

TABLE I.—Mean Theodolite Reading for the Mean Position of the Declination Magnet, as deduced from the 12 Observations taken on every civil day (except Sundays and Christmas Day of 1841), at the even hours of Göttingen Mean Solar Time.

Day of the Month.	1840.		1841.											
	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.
	246°	246°	246°	246°	246°	246°	246°	246°	246°	246°	246°	246°	246°	246°
1	′ ″	′ ″ 30. 15	′ ″ 34. 35	′ ″ 30. 54	′ ″ 28. 56	′ ″ 43. 28	′ ″ 37. 26	′ ″ 40. 3	′ ″ 36. 10	′ ″ S	′ ″ 22. 22	′ ″ 27. 52	′ ″ 41. 2	′ ″ 36. 2
2		31. 14	43. 27	29. 10	31. 30	44. 34	S	40. 2	37. 32	39. 59	22. 15	29. 24	33. 37	34. 51
3		30. 6	S	30. 23	32. 9	43. 36	36. 51	39. 45	35. 58	40. 51	21. 34	S	33. 16	36. 55
4		31. 30	48. 48	29. 57	33. 2	S	36. 21	39. 54	S	40. 16	22. 4	31. 18	33. 7	35. 22
5		31. 5	49. 5	30. 39	32. 40	46. 2	37. 53	38. 41	37. 23	40. 53	S	31. 59	32. 51	S
6		S	49. 5	31. 7	32. 43	47. 32	36. 33	S	35. 28	38. 6	22. 16	35. 6	32. 30	41. 36
7		30. 26	48. 11	S	S	49. 33	37. 2	32. 12	37. 24	38. 42	22. 8	32. 48	S	44. 5
8	S	31. 13	47. 42	34. 1	28. 3	48. 3	37. 54	27. 10	41. 34	S	22. 32	34. 9	32. 59	45. 48
9	27. 48	30. 40	44. 48	35. 56	23. 43	48. 12	S	26. 33	42. 59	39. 23	22. 56	32. 52	32. 29	43. 56
10	29. 14	30. 13	S	37. 37	24. 36	40. 12	39. 37	26. 51	42 ·49	40. 36	22. 48	S	32. 42	44. 46
11	28. 51	35. 5	41. 47	38. 32	24. 57	S	40. 22	25. 53	S	39. 49	23. 3	31. 24	34. 15	44. 59
12	29. 2	35. 36	42. 11	38. 5	25. 36	35. 35	41. 15	27. 14	37. 14	37. 32	S	37. 2	33. 58	S
13	29. 8	S	39. 17	38. 35	24. 41	33. 49	39. 3	S	32. 16	35. 56	29. 8	40. 36	33. 42	47. 32
14	27. 13	38. 4	40. 37	S	S	33. 38	40. 55	36. 37	32. 4	35. 29	35. 12	40. 6	S	49. 58
15	S	45. 56	43. 51	37. 17	30. 7	34. 22	41. 52	44. 7	31. 31	S	37. 18	38. 41	34. 32	48. 6
16	25. 31	51. 15	39. 7	40. 29	33. 27	35. 42	S	45. 4	32. 2	25. 48	37. 21	39. 15	36. 21	50. 3
17	28. 23	51. 40	S	39. 49	34. 44	36. 50	33. 44	44. 42	31. 3	23. 50	37. 19	S	35. 56	51. 35
18	26. 41	51. 14	39. 0	42. 0	33. 59	S	27. 26	44. 40	S	25. 34	38. 16	38. 53	35. 31	49. 10
19	27. 40	41. 33	38. 45	40. 58	32. 31	38. 21	26. 46	41. 1	31. 22	26. 31	S	42. 4	37. 55	S
20	26. 31	S	39. 9	41. 24	32. 55	40. 51	25. 35	S	32. 44	27. 42	33. 35	45. 7	32. 51	40. 28
21	28. 21	15. 9	38. 17	S	S	40. 33	26. 53	36. 11	36. 15	27. 27	26. 47	47. 37	S	34. 35
22	S	10. 17	39. 8	38. 24	32. 10	41. 59	28. 18	37. 46	37. 44	S	27. 42	45. 4	34. 36	34. 47
23	28. 49	7. 6	39. 31	31. 55	35. 27	40. 56	S	35. 36	38. 22	28. 57	27. 5	46. 32	34. 39	34. 59
24	28. 34	10. 10	S	32. 40	39. 52	41. 6	29. 35	34. 59	35. 9	28. 15	28. 11	S	34. 23	34. 35
25	28. 12	10. 10	35. 50	29. 17	39. 41	S	28. 11	35. 39	S	31. 56	27. 6	46. 10	37. 25	...
26	28. 29	23. 19	36. 0	28. 7	40. 12	39. 19	29. 37	36. 30	40. 21	33. 55	S	46. 13	36. 28	S
27	27. 57	S	34. 47	29. 24	38. 40	37. 34	27. 56	S	39. 0	29. 8	26. 54	47. 29	34. 52	34. 35
28	27. 58	32. 10	34. 41	S	S	38. 15	33. 1	35. 39	40. 59	30. 1	25. 30	45. 22	S	35. 52
29	S	30. 52	34. 48	...	41. 19	38. 16	40. 8	33. 39	41. 7	S	25. 22	48. 45	35. 12	35. 23
30	29. 29	32. 59	35. 3	...	44. 29	38. 16	S	36. 6	42. 28	25. 22	26. 35	47. 56	35. 33	37. 22
31	...	34. 42	S	...	43. 52	...	39. 16	...	40. 52	20. 14	...	S	...	34. 14

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 greater or the Westerly Declination less on the Second Day.

1840.		1841.											
December.		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.	Between what Days.	Difference.
	′ ″		′ ″		′ ″		′ ″		′ ″		′ ″		′ ″
10 & 11	+ 4. 52	1 & 2	+ 8. 52	15 & 16	+ 3. 12	8 & 9	— 4. 20	9 & 10	— 8. 0	17 & 18	— 6. 18	7 & 8	— 5. 2
14 & 15	+ 7. 52	14 & 15	+ 3. 14	22 & 23	— 6. 29	15 & 16	+ 3. 20			27 & 28	+ 5. 5	14 & 15	+ 7. 30
15 & 16	+ 5. 19	15 & 16	— 4. 44	24 & 25	— 3. 23	22 & 23	+ 3. 17			28 & 29	+ 7. 7		
18 & 19	— 9. 41					23 & 24	+ 4. 25						
21 & 22	— 4. 52					29 & 30	+ 3. 10						
22 & 23	— 3. 11												
23 & 24	+ 3. 4												
25 & 26	+13. 9												

TABLE II.—*continued.*

1841.

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.
	′ ″		′ ″		′ ″		′ ″		′ ″		′ ″
7 & 8	+ 4.10	24 & 25	+ 3.41	13 & 14	+ 6. 4	5 & 6	+ 3. 7	1 & 2	− 7.25	20 & 21	− 5.53
12 & 13	− 4.58	26 & 27	− 4.47	20 & 21	− 6.48	11 & 12	+ 5.38	19 & 20	− 5. 4		
20 & 21	+ 3.31	30 & 31	− 5. 8			12 & 13	+ 3.34	24 & 25	+ 3. 2		
23 & 24	− 3.13					18 & 19	+ 3.11				
						19 & 20	+ 3. 3				
						28 & 29	+ 3.23				

As far as these results shew, every part of the year appears equally liable to great changes. In the above tables there are 17 instances in which the mean position of the magnet for the day has changed more than 3′ and less than 4′,
8 instances of a change of more than 4′ and less than 5′,
7 instances of a change of more than 5′ and less than 6′,
4 instances of a change of more than 6′ and less than 7′,
4 instances of a change of more than 7′ and less than 8′,
2 instances of a change of more than 8′ and less than 9′,
1 instance of a change of more than 9′ and less than 10′,
1 instance of a change of more than 13′,

between two consecutive days.

TABLE III.—Mean of all the Two-hourly Readings of the Theodolite for those Days in each Month, on which (as shown by the Mean of Two-hourly Readings) the marked end was most drawn towards the East, or was most drawn towards the West.

Month.	Mean Reading of the Theodolite 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 Position of the Magnet, between any Two Days in the Month.	Day when the marked end was most drawn towards the	
	East.	West.		East.	West.
1840.	° ′ ″	° ′ ″	′ ″	d	d
November	246. 29. 29	246. 25. 31	3. 58	30	16
December	51. 40	7. 6	44. 34	17	23
1841.					
January	49. 5	34. 35	14. 30	5	1
February	42. 0	28. 7	13. 53	18	26
March	44. 29	23. 43	20. 46	30	9
April	49. 33	33. 38	15. 55	7	14
May	41. 52	25. 35	16. 17	15	20
June	45. 4	25. 53	19. 11	16	11
July	42. 59	31. 3	11. 56	9	17
August	40. 53	20. 14	20. 39	5	31
September	38. 16	21. 34	16. 42	18	3
October	48. 45	27. 52	20. 53	29	1
November	41. 2	32. 29	8. 33	1	9
December	51. 35	34. 14	17. 21	17	31

These numbers indicate that, in November 1840, the mean position of the magnet was subject to less variation than in any other month. In December 1840, it was subject to the greatest change in its mean daily position, amounting to nearly three-quarters of a degree; and the two days in which the magnet was in these extreme positions were only separated by six days. In 1841, the monthly daily-range was about a quarter of a degree, except in November, when it was smaller than in any other month. The yearly daily-range was about 31′, being the difference between the mean reading on August 31, when the marked end of the magnet was in its most westerly position, and the mean reading on December 17, when the marked end of the magnet was in its most easterly position.

TABLE IV.—Greatest and Least Readings of the Theodolite, in Single Observations, when the Declination Magnet was in its Extreme Positions in Each Month.

Month.	Readings of the Theodolite 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	
	West.	East.		West.	East.
1840.	° ′ ″	° ′ ″	° ′ ″	d h m s	d h m s
November	246. 48. 55	246. 16. 11	0. 32. 44	23. 10. 0. 0	21. 0. 0. 0
December	247. 4. 12	245. 51. 18	1. 12. 54	17. 12. 0. 0	20. 16. 29. 13
1841.					
January	246. 55. 22	246. 26. 42	0. 28. 40	5. 8. 0. 0	12. 20. 0. 0
February	247. 0. 0	246. 7. 25	0. 52. 35	22. 14. 0. 0	23. 4. 0. 0
March	246. 56. 42	246. 16. 15	0. 40. 27	24. 13. 35. 0	10. 1. 50. 0
April	247. 1. 36	246. 24. 23	0. 37. 13	17. 12. 0. 0	13. 1. 50. 0
May	246. 59. 33	246. 16. 49	0. 42. 44	9. 14. 0. 0	19. 14. 0. 0
June	246. 53. 55	246. 13. 42	0. 40. 13	17. 10. 0. 0	9. 1. 50. 0
July	246. 49. 33	246. 21. 2	0. 28. 31	1. 14. 0. 0	15. 2. 10. 0
August	246. 53. 14	246. 12. 48	0. 40. 26	2. 14. 0. 0	31. 1. 50. 0
September	246. 53. 11	246. 3. 7	0. 45. 25	27. 4. 11. 0	25. 2. 0. 0
October	247. 22. 50	246. 22. 28	1. 0. 22	25. 8. 0. 0	0. 14. 0. 0
November	247. 27. 40	246. 15. 19	0. 51. 2	18. 15. 2. 0	19. 18. 14. 0
December	247. 9. 9	246. 23. 16	0. 36. 28	14. 10. 13. 45	3. 2. 10. 0

In 1840 the largest and the smallest readings are both in December, and it is probable that the extreme range of the magnet in the year was the same as its range in the month of December, viz., 1°. 12′. 54″. In 1841, on September 25th, in the great disturbances which took place on that day, the magnet was in positions requiring the theodolite to read 247°. 38′ +, and 245°. 22′ — : its range observed was, therefore, 2°. 16′; but it is believed by the observer, Mr. Glaisher, that the arc actually described was more than 3°. Were these numbers not used, the extreme yearly range would be deduced from the reading on February $23^{d}.4^{h}$, and that on November $18^{d}.15^{h}.2^{m}$, and its value for 1841 would have been 1°. 20′. 15″.

TABLE V.—Determination of the Absolute Western Declination from the Means of the Two-hourly Observations.

Month.	Mean Theodolite Reading for the Position of the Declination Magnet.	Mean Theodolite Reading for Astronomical Meridian.	Absolute Westerly Declination of Magnet.	Month.	Mean Theodolite Reading for the Position of the Declination Magnet.	Mean Theodolite Reading for Astronomical Meridian.	Absolute Westerly Declination of Magnet.
1840.	° ′ ″	° ′ ″	° ′ ″	1841.	° ′ ″	° ′ ″	° ′ ″
November	246. 28. 6	269. 51. 42	23. 23. 36	June	269. 36. 13	269. 52. 24	23. 16. 11
December	30. 51	52. 2	21. 11	July	37. 2	52. 36	15. 34
1841.							
January	40. 44	52. 30	11. 46	August	32. 47	51. 48	19. 1
February	34. 52	52. 27	17. 35	September	27. 26	51. 45	24. 19
March	33. 11	52. 25	19. 14	October	39. 37	51. 55	12. 18
April	40. 38	52. 24	11. 46	November	34. 44	51. 55	17. 11
May	34. 36	52. 14	17. 38	December	40. 50	51. 55	11. 5

The mean of the monthly results for 1841 is 23°. 16′. 8″.

TABLE VI.—Mean Westerly Declination of Magnet at every Even Hour of Göttingen Mean Time, deduced from all the Observations taken at that Hour in each Month.

Göttingen Time of Observation. (Astronomical Reckoning).	1840.		1841.											
	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Septem.	October.	Novem.	December.
	23°	23°	23°	23°	23°	23°	23°	23°	23°	23°	23°	23°	23°	23°
h	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″
14	22. 20	19. 46	10. 26	13. 12	18. 3	8. 37	16. 30	12. 57	11. 58	15. 30	21. 58	11. 47	14. 40	10. 23
16	23. 5	20. 15	10. 42	16. 8	16. 56	9. 39	16. 16	13. 53	12. 43	17. 14	22. 15	11. 36	14. 47	11. 0
18	23. 35	20. 39	10. 41	16. 11	17. 32	9. 58	15. 17	12. 33	13. 13	16. 7	24. 8	12. 10	17. 35	10. 45
20	24. 4	20. 59	11. 28	16. 34	17. 57	7. 51	13. 4	10. 54	12. 21	16. 20	23. 21	12. 51	17. 31	11. 39
22	24. 16	21. 41	11. 32	17. 1	20. 44	9. 38	15. 47	14. 20	14. 53	18. 14	26. 38	12. 43	17. 36	11. 25
0	27. 48	23. 45	14. 19	21. 26	23. 16	15. 43	21. 23	21. 0	19. 45	23. 29	28. 41	16. 35	20. 36	13. 29
2	28. 29	25. 7	16. 36	24. 1	25. 22	20. 7	24. 10	23. 11	21. 39	26. 37	30. 49	17. 35	21. 55	14. 29
4	25. 38	24. 41	15. 2	22. 53	23. 2	17. 8	21. 37	21. 17	20. 6	23. 54	27. 2	15. 4	19. 22	12. 44
6	23. 19	21. 55	12. 33	19. 19	19. 19	12. 38	19. 1	17. 48	17. 12	20. 19	25. 16	11. 25	17. 11	11. 6
8	21. 37	20. 50	10. 36	15. 48	18. 6	11. 21	16. 56	16. 23	15. 8	18. 37	21. 26	7. 41	14. 28	9. 45
10	17. 57	17. 10	8. 37	15. 5	14. 47	10. 13	15. 56	15. 17	14. 12	16. 33	19. 59	8. 48	15. 15	7. 47
12	20. 47	17. 16	8. 34	13. 25	15. 43	8. 16	15. 43	14. 37	13. 33	15. 28	20. 14	9. 24	15. 11	8. 28

The westerly declination is, without exception, greater at 2^h than at any other hour. The time when the declination is least is more variable. In some months the magnet at once passes, uninterruptedly, from the one extreme position to the other; in others it does not. To ascertain the month in which either circumstance takes place, and also the interval of time between the extreme positions of the magnet, the following table is formed from that above, considering that at 2^h the first extreme west position takes place. The first change in the contrary direction after this, is considered as the first eastern extreme; the next change, the second western extreme; and the following change, the second eastern extreme.

TABLE VII.—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.

Month.	Times at which the marked end of 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 Western Declination when the Magnet was in its First extreme Positions.		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 Western Declination when the Magnet was in its Second extreme Positions.		Difference between the Second Extremes.	Difference between the Greatest and Least Readings or Mean Daily Range.
	West.	East.		West. 23°	East. 23°		West.	East.		West. 23°	East. 23°		
1840.	h m	h m	h m	′ ″	′ ″	′ ″	h m	h m	h m	′ ″	′ ″	′ ″	′ ″
November	2. 0	10. 0	8. 0	28. 29	17. 57	10. 32							10. 32
December	2. 0	10. 0	8. 0	25. 7	17. 10	7. 57							7. 57
1841.													
January	2. 0	12. 0	10. 0	16. 36	8. 34	8. 2							8. 2
February	2. 0	14. 0	12. 0	24. 1	13. 12	10. 49							10. 49
March	2. 0	10. 0	8. 0	25. 22	14. 47	10. 35	14. 0	16. 0	2. 0	18. 3	16. 56	1. 7	10. 35
April	2. 0	12. 0	10. 0	20. 7	8. 16	11. 51	18. 0	20. 0	2. 0	9. 58	7. 51	2. 7	12. 16
May	2. 0	12. 0	10. 0	24. 10	15. 43	8. 27	14. 0	20. 0	6. 0	16. 30	13. 4	3. 26	11. 6
June	2. 0	14. 0	12. 0	23. 11	12. 57	10. 14	16. 0	20. 0	4. 0	13. 53	10. 54	2. 59	12. 17
July	2. 0	14. 0	12. 0	21. 39	11. 58	9. 41	18. 0	20. 0	2. 0	13. 13	12. 21	0. 52	9. 41
August	2. 0	12. 0	10. 0	26. 37	15. 28	11. 9	16. 0	18. 0	2. 0	17. 14	16. 7	1. 7	11. 9
September	2. 0	10. 0	8. 0	30. 49	19. 59	10. 50	18. 0	20. 0	2. 0	24. 8	23. 21	0. 47	10. 50
October	2. 0	8. 0	6. 0	17. 35	7. 41	9. 54	14. 0	16. 0	2. 0	11. 47	11. 36	0. 11	9. 54
November	2. 0	8. 0	6. 0	21. 55	14. 28	7. 27	10. 0	14. 0	4. 0	15. 15	14. 40	0. 35	7. 27
December	2. 0	10. 0	8. 0	14. 29	7. 47	6. 42	16. 0	18. 0	2. 0	11. 0	10. 45	0. 15	6. 42

It appears from this Table that the magnet reaches its extreme westerly position at the same hour in all months of the year. It reaches its extreme easterly position, however, at different hours, in different seasons: in the winter months, in the evening, about 6^h or 8^h; in the summer months, about 10^h or 12^h. Two exceptions appear to the general run of the interval of time, those of February and March, the former appearing two hours too late, the latter two hours too soon: but when we consider that the numbers in the above table are taken from the two-hourly observations, and, consequently, that the smallest difference must be two hours; and when we also consider the strong disturbing forces in action between 10^h and 12^h on February 15^d, 16^d, and 22^d; and between 8^h and 10^h on March 16^d, 22^d, and 23^d, we may easily account for the irregularity. The times at which the second extreme positions happen are all in the morning, but variable; the interval of time in which the motion is from second extreme West position to second extreme East position is nearly constant, about two hours: in the months of May, June, and November, it is indeed more than two hours; but it is likely, that had the observations been taken at an interval less than two hours, these two months would have shewn an interval much less than they do, and the other months might have indicated one greater than two hours.

The table also shews that the first extreme West position is always more westerly than the second extreme, and that the first extreme East position is also more easterly than the second extreme, except in the months of April, May, and June, when the second outstrips the first, and in those months the magnet moves through a greater arc between its second West and East positions than in any others. Indeed this arc, in the winter months, is very insignificant. In the first four months of the above table it did not exist at all, the magnet at once passing from one extreme position to the other extreme position without interruption. The last column of the table shows that the daily change in the positions of the magnet is less in the winter than in the summer.

The following table is formed by taking the means of the numbers in Table VI., corresponding to the same hour, for several months in 1841. January, February, March, October, November, December, are grouped together for winter; the remaining months from April to September are grouped together for summer.

TABLE VIII.—Mean Westerly Declination at every Even Hour of Göttingen Mean Solar Time, in the Summer, in the Winter, and for the Year.

Hour of Observation.	Mean Westerly Variation.		Mean.
	Summer.	Winter.	
h	° ′ ″	° ′ ″	° ′ ″
14	23. 14. 35	23. 13. 5	23. 13. 50
16	15. 20	13. 31	14. 26
18	15. 13	14. 9	14. 41
20	13. 59	14. 40	14. 20
22	16. 35	15. 10	15. 53
0	21. 43	18. 17	20. 0
2	24. 26	19. 59	22. 13
4	21. 51	18. 1	19. 56
6	18. 42	15. 9	16. 56
8	16. 39	12. 44	14. 42
10	15. 18	11. 43	13. 31
12	14. 39	11. 44	13. 12

It appears, that in the summer there are two extreme West positions, the one at 2^h, the other at 16^h; and two extreme East positions, the first at 14^h, and the second at 20^h. In winter there is only one extreme West position, namely at 2^h, and only one extreme East position, which takes place at 10^h, the latter being as much before midnight as in summer it happens after midnight.

For the mean of the year there are two maxima and two minima.

Comparing the numbers of the last column with the mean westerly declination for the year, or $23^\circ. 16'. 8''$, the following results are obtained:—

	h			′ ″
The mean position at	14	is more westerly than	the mean position of the year by	2. 18
,,	16	,,	,,	1. 42
,,	18	,,	,,	1. 27
,,	20	,,	,,	1. 48
,,	22	,,	,,	0. 15
The mean position at	0	is more easterly than	the mean position of the year by	3. 52
,,	2	,,	,,	6. 5
,,	4	,,	,,	3. 48
,,	6	,,	,,	0. 48
The mean position at	8	is more westerly than	the mean position of the year by	1. 26
,,	10	,,	,,	2. 37
,,	12	,,	,,	2. 56

TABLE IX.—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).

Göttingen Time of Observation.	1840.		1841.										
	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Septem.	October.	Novem.	December.
h	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″
14	−1. 16	−1. 25	−1. 20	−4. 23	−1. 11	−3. 9	−1. 8	−3. 14	−3. 36	−3. 31	−2. 21	−0. 31	−2. 31	−0. 42
16	−0. 31	−0. 56	−1. 4	−1. 27	−2. 18	−2. 7	−1. 22	−2. 18	−2. 51	−1. 47	−2. 4	−0. 42	−2. 24	−0. 5
18	−0. 1	−0. 32	−1. 5	−1. 24	−1. 42	−1. 48	−2. 21	−3. 38	−2. 21	−2. 54	−0. 11	−0. 8	+0. 24	−0. 20
20	+0. 28	−0. 12	−0. 18	−1. 1	−1. 17	−3. 55	−4. 34	−5. 17	−3. 13	−2. 41	−0. 58	+0. 33	+0. 20	+0. 34
22	+0. 40	+0. 30	−0. 14	−0. 34	+1. 30	−2. 8	−1. 51	−1. 51	−0. 41	−0. 47	+2. 19	+0. 25	+0. 25	+0. 20
0	+4. 12	+2. 34	+2. 33	+3. 51	+4. 2	+3. 57	+3. 45	+4. 49	+4. 11	+4. 28	+4. 22	+4. 17	+3. 25	+2. 24
2	+4. 53	+3. 56	+4. 50	+6. 26	+6. 8	+8. 21	+6. 32	+7. 0	+6. 5	+7. 36	+6. 30	+5. 17	+4. 44	+3. 24
4	+2. 2	+3. 30	+3. 16	+5. 18	+3. 48	+5. 22	+3. 59	+5. 6	+4. 32	+4. 53	+2. 43	+2. 46	+2. 11	+1. 39
6	−0. 17	+0. 44	+0. 47	+1. 44	+0. 5	+0. 52	+1. 23	+1. 37	+1. 38	+1. 18	+0. 57	−0. 53	0. 0	+0. 1
8	−1. 59	−0. 21	−1. 10	−1. 47	−1. 8	−0. 25	−0. 42	+0. 12	−0. 26	−0. 24	−2. 53	−4. 37	−2. 43	−1. 20
10	−5. 39	−4. 1	−3. 9	−2. 30	−4. 27	−1. 33	−1. 42	−0. 54	−1. 22	−2. 28	−4. 20	−3. 30	−1. 56	−3. 18
12	−2. 49	−3. 55	−3. 12	−4. 10	−3. 31	−3. 30	−1. 55	−1. 34	−2. 1	−3. 33	−4. 5	−2. 54	−2. 0	−2. 37

TABLE X.—Number of Hours each Day, deduced from the Monthly Means, during which the Declination Magnet was on each side of the Mean Position of 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 Magnetic Meridian.
1840.	h h	h h	h	h
November	Before 6 to after 18	Before 20 to after 4	12 +	8 +
December	Before 8 to after 20	Before 22 to after 6	12 +	8 +
1841.				
January	Before 8 to after 22	Before 0 to after 6	14 +	6 +
February	Before 8 to after 22	Before 0 to after 6	14 +	6 +
March	Before 8 to after 20	Before 22 to after 6	12 +	8 +
April	Before 8 to after 22	Before 0 to after 6	14 +	6 +
May	Before 8 to after 22	Before 0 to after 6	14 +	6 +
June	Before 10 to after 22	Before 0 to after 8	12 +	8 +
July	Before 8 to after 22	Before 0 to after 6	14 +	6 +
August	Before 8 to after 22	Before 0 to after 6	14 +	6 +
September	Before 8 to after 20	Before 22 to after 6	12 +	8 +
October	Before 6 to after 18	Before 20 to after 4	12 +	8 +
November	Before 8 to after 16	Before 18 to after 6	8 +	12 +
December	Before 8 to after 18	Before 20 to after 6	10 +	10 +

This table shews that the magnet is in the magnetic meridian twice every day. In the winter months, about 6^h, and 16^h to 20^h; in the summer months, about 8^h, and after 22^h. The table also shows that the marked end of the magnet is much longer to the East of the meridian than it is to the West. In winter this time appears more variable than in summer; indeed, in the last two months of the year 1841, the contrary is indicated; but in January, February, and March of 1841, and also November and December 1840, the greater length of time in which the marked end was to the East is very decided. In the summer it appears to be full 6 hours longer in this position than in the other.

TABLE XI.—Mean Westerly Declination of Magnet at each Even Hour during each Month, (obtained by taking the Mean of all the Declinations at the same Hour during each Month; see Table VI.), diminished by the Mean Declination for the Month (Table V.), and by the Mean Diurnal Change at each Hour (obtained by taking the Mean of Diurnal Changes for the same Hour throughout the Year; see Table VIII. and the Numbers following it).

Time of Observation.	1841.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″
14	+0.58	−2. 5	+1. 7	−0.51	+1.10	−0.56	−1.18	−1.13	−0. 3	+1.47	−0.13	+1.36
16	+0.38	+0.15	−0.36	−0.25	+0.20	−0.36	−1. 9	−0. 5	−0.22	+1. 0	−0.42	+1.37
18	+0.22	+0. 3	−0.15	−0.21	−0.54	−2.11	−0.54	−1.27	+1.16	+1.19	+1.51	+1. 7
20	+1.30	+0.48	+0.32	−2. 6	−2.45	−3.28	−1.24	−0.52	+0.51	+2.22	+2. 9	+2.23
22	+0. 2	−0.18	+1.46	−1.52	−1.35	−1.35	−0.25	−0.31	+2.35	+0.41	+0.41	+0.36
0	−1.17	+0. 1	+0.12	+0. 7	−0. 5	+0.59	+0.19	+0.38	+0.32	+0.27	−0.25	−1.26
2	−1.14	+0.22	+0. 4	+2.17	+0.28	+0.56	+0. 1	+1.32	+0.26	−0.47	−1.20	−2.40
4	−0.32	+1.30	0. 0	+1.34	+0.11	+1.18	+0.44	+1. 5	−1. 5	−1. 2	−1.37	−2. 9
6	0. 0	+0.57	−0.42	+0. 5	+0.36	+0.50	+0.51	+0.31	+0.10	−1.40	−0.47	−0.46
8	+0.17	−0.20	+0.19	+1. 2	+0.45	+1.38	+1. 1	+1. 3	−1.26	−3.10	−1.16	+0. 7
10	−0.33	+0. 6	−1.51	+1. 3	+0.54	+1.42	+1.14	+0. 8	−1.44	−0.54	+0.40	−0.42
12	−0.17	−1.15	−0.36	−0.35	+1. 0	+1.21	+0.54	−0.38	−1.10	+0. 1	+0.55	+0.18

The order of the signs in this table is different in different months, and, consequently, the daily change in the declination magnet is different at different times of the year. In the months of October, December, and January, and in some degree in November, the + signs prevail in the hours immediately following midnight, and the — signs in the hours immediately preceding midnight. In the months of April, May, June, July, and August, the signs occur nearly in the opposite order. In February, March, and September, the + signs prevail in the early hours of the afternoon.

By taking the sums for each hour, without regard to sign, the smallest number will indicate the hour subject to the least irregularity, and the largest the hour subject to the greatest irregularity; and thus is formed

TABLE XII.—Hourly Sums of the Changes of Diurnal Inequality for different Months.

Hour.	Sum of the Differences.	Hour.	Sum of the Differences.
h	′ ″	h	′ ″
14	13. 17	2	12. 7
16	7. 45	4	12. 47
18	12. 0	6	7. 55
20	21. 10	8	12. 24
22	12. 37	10	11. 31
0	6. 28	12	9. 0

Thus 16^h, 0^h, 6^h, and 12^h, appear the most uniform, and 20^h appears subject to the greatest irregularity. But the differences between the greatest and the least numbers in the table are not large, and therefore the hours indicated may be accidental.

On considering the numbers in the table month by month, there is no great difference between them. The numbers in October are the largest, shewing that it differed more than any other month from the mean of the year. The sums of all the numbers in each month are taken, without regard to their signs, and inserted in the following table:—

TABLE XIII.—Monthly Sums of the Changes of Diurnal Inequality for different Months.

Month, 1841.	Sum of the Differences.	Month, 1841.	Sum of the Differences.
	′ ″		′ ″
January	7. 40	July	10. 14
February	8. 0	August	9. 43
March	8. 0	September	11. 40
April	12. 18	October	15. 10
May	10. 43	November	12. 36
June	17. 30	December	15. 27

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 the first three months, and departs the most from the mean in the months of June, October, and December.

TABLE XIV.—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.	$1^h.50^m$.	$2^h.0^m$.	$2^h.10^m$.
1840.	° ′ ″	° ′ ″	° ′ ″	1841.	° ′ ″	° ′ ″	° ′ ″
December	23. 25. 37	23. 25. 7	23. 24. 58	June	23. 23. 6	23. 23. 11	23. 23. 10
1841.				July	21. 41	21. 39	21. 43
January	16. 38	16. 36	16. 43	August	26. 33	26. 37	26. 39
February	23. 38	24. 1	24. 3	September	30. 28	30. 49	30. 41
March	26. 1	25. 22	25. 10	October	17. 46	17. 35	17. 13
April	16. 13	20. 7	20. 4	November	21. 47	21. 55	21. 47
May	24. 10	24. 10	24. 6	December	14. 29	14. 29	14. 31

The mean of all for the year 1841 at $^h_1 \, ^m_{50}$ is $^\circ_{23} \, ′_{21} \, ″_{52}$

The mean of all for the year 1841 at 2. 0 is 23. 22. 13

The mean of all for the year 1841 at 2. 10 is 23. 22. 9

TABLE XV.—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 and Christmas Day of 1841), at the even Hours of Göttingen Mean Solar Time.

Day of the Month.	1840.	1841.											
	Dec.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.
1		0·036378	0·037077	0·034989	0·038874	0·034025	0·031838	0·031031	*S*	0·030250	0·030887	0·031636	0·033063
2		0·038065	0·036977	0·037283	0·038795	*S*	0·031465	0·031281	0·031429	0·030317	0·030224	0·031369	0·032514
3		*S*	0·037462	0·038429	0·038078	0·034563	0·030950	0·031576	0·031313	0·030517	*S*	0·031529	0·031247
4		0·038262	0·037345	0·038401	*S*	0·034423	0·030988	*S*	0·031194	0·031088	0·030724	0·031175	0·030786
5		0·038046	0·036573	0·038537	0·037524	0·033896	0·031306	0·030990	0·031399	*S*	0·030865	0·030034	*S*
6		0·038876	0·037554	0·038751	0·038014	0·032919	*S*	0·031058	0·030590	0·030990	0·030813	0·030094	0·031130
7		0·038185	*S*	*S*	0·037544	0·033380	0·031591	0·030445	0·029857	0·031085	0·029786	*S*	0·631553
8	0·026830	0·037821	0·033975	0·041374	0·036826	0·033682	0·031634	0·030591	*S*	0·031227	0·028399	0·031050	0·030092
9	0·028751	0·036623	0·034666	0·043660	0·036296	*S*	0·031982	0·030785	0·031695	0·031267	0·028346	0·031278	0·030783
10	0·030871	*S*	0·035553	0·043582	0·036821	0·032531	0·031932	0·031221	0·630892	0·031677	*S*	0·031282	0·030813
11	0·036109	0·035768	0·035125	0·043402	*S*	0·035008	0·031224	*S*	0·031298	0·031287	0·029984	0·031591	0·031007
12	0·038640	0·037068	0·035119	0·043114	0·036601	0·035647	0·030351	0·030596	0·030932	*S*	0·030584	0·031288	*S*
13	*S*	0·036074	0·035726	0·043175	0·036894	0·034013	*S*	0·030763	0·031257	0·030509	0·030852	0·031487	0·031754
14	0·038924	0·035360	*S*	*S*	0·036733	0·029640	0·030618	0·031574	0·032164	0·029503	0·031435	*S*	0·031645
15	0·040049	0·035192	0·034549	0·038922	0·036462	0·032693	0·030580	0·031941	*S*	0·029974	0·030830	0·031063	0·030612
16	0·040475	0·034293	0·033429	0·040063	0·036508	*S*	0·030082	0·032169	0·030797	0·030257	0. 030694	0·031150	0·030792
17	0·047149	*S*	0·036099	0·040564	0·036544	0·032421	0·030559	0·030998	0·030333	0·030456	*S*	0·031184	0·031001
18	0·047927	0·031561	0·036114	0·040484	*S*	0·032960	0·029814	*S*	0·031056	0·030631	0·030714	0·030896	0·031106
19	0·048178	0·032127	0·035902	0·040303	0·035281	0·032964	0·030184	0·031882	0·030915	*S*	0·030722	0·029047	*S*
20	*S*	0·031403	0·035232	0·040202	0·034606	0·033359	*S*	0·030114	0·030604	0·029101	0·030598	0·029583	0·030446
21	0·053222	0·030918	*S*	*S*	0·034773	0·033773	0·030992	0·030405	0·030745	0·029979	0·029192	*S*	0·031398
22	0·057171	0·031917	0·035300	0·040166	0·034568	0·033812	0·031276	0·030128	*S*	0·029974	0·030180	0·031188	0·031762
23	0·059480	0·031783	0·035017	0·038020	0·034895	*S*	0·031665	0·030391	0·030343	0·030418	0·030230	0·031266	0·031135
24	0·058854	*S*	0·033016	0·039478	0·034995	0·032271	0·031192	0·029301	0·029586	0·030261	*S*	0·031498	0·031625
25	0·058836	0·031964	0·033554	0·039399	*S*	0·032559	0·031479	*S*	0·031022	0·027758	0·029912	0·031886	*Ch. Day.*
26	0·057983	0·031105	0·034316	0·039556	0·035129	0·032097	0·031191	0·030845	0·030433	*S*	0·028407	0·032213	*S*
27	*S*	0·031207	0·034030	0·040012	0·034452	0·031428	*S*	0·031610	0·029892	0·027604	0·030122	0·032130	0·031747
28	0·056635	0·031536	*S*	*S*	0·034665	0·031321	0·031428	0·031555	0·030219	0·028634	0·030661	*S*	0·031706
29	0·055558	0·031260	...	0·039805	0·034751	0·031325	0·031279	0·030799	*S*	0·030405	0·030736	0·032477	0·032057
30	0·055779	0·031936	...	0·039228	0·034374	*S*	0·030530	0·030833	0·029426	0·031224	0·031080	0·032783	0·031364
31	0·056456	*S*	...	0·039626	...	0·030666	...	0·031122	0·030404	...	*S*	...	0·030981

The letter *S* denotes that the day was Sunday.

TABLE XVI.—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	
	North.	South.		North.	South.
1840. December	0·059480	0·026830	0·032650	23	8
1841. January	0·038876	0·030918	0·007958	6	21
February	0·037554	0·033016	0·004538	6	24
March	0·043660	0·034989	0·008671	9	1
April	0·038874	0·034374	0·004500	1	30
May	0·035647	0·029640	0·006007	12	14

TABLE XVI.—*continued.*

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.
1841.					
June	0·031982	0·029814	0·002168	9	18
July	0·032169	0·029301	0·002868	16	24
August	0·032164	0·029426	0·002738	14	30
September	0·031677	0·027604	0·004073	10	27
October	0·031435	0·028346	0·003089	14	9
November	0·032783	0·029047	0·003736	30	19
December	0·033063	0·030092	0·002971	1	8

The largest number contained in the table in the year 1841, is in March on the 9th day, shewing that the mean of the horizontal forces in action was greater on this day than on any other day in the year. The smallest number is in September on the 27th day. The difference between these two numbers is 0·016056, and it represents the yearly range of the mean daily values of the horizontal forces on the Magnet in 1841.

TABLE XVII.—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, in each Month.

Month.	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.
				d h m s	d h m s
1840.					
December	0·061419	0·024975	0·036444	22. 20. 0. 0	8. 22. 0. 0
1841.					
January	0·040262	0·028678	0·011584	6. 20. 0. 0	27. 0. 0. 0
February	0·038921	0·029364	0·009557	3. 20. 0. 0	22. 14. 0. 0
March	0·046267	0·034374	0·011893	8. 12. 0. 0	1. 12. 0. 0
April	0·039828	0·031653	0·008175	0. 18. 0. 0	30. 1. 50. 0
May	0·038869	0·023621	0·015248	10. 6. 0. 0	9. 22. 0. 0
June	0·034622	0·026407	0·008215	23. 6. 0. 0	17. 22. 0. 0
July	0·034932	0·024284	0·010648	6. 12. 0. 0	24. 0. 0. 0
August	0·034592	0·026343	0·008249	5. 6. 0. 0	23. 20. 0. 0
September	0·072872	0·019002	0·053870	25. 3. 40. 0	25. 12. 54. 15
October	0·035321	0·024544	0·010777	13. 10. 12. 30	25. 8. 47 30
November	0·034145	0·023826	0·010319	3. 20. 0. 0	18. 13. 9. 0
December	0·034270	0·026125	0·008145	29. 20. 0. 0	8. 6. 9. 45

The largest and smallest numbers contained in this table are both in September, and, consequently, the extreme yearly range is the same as the extreme range in that month; but these numbers were obtained in the Extraordinary Disturbances of September 25. Were these numbers omitted, the extreme yearly range would be deduced from the large number in March and the small number in May, and its amount would be 0·022646 for 1841. It is remarkable, that the small number in May is only separated from the large number in May by an interval of 8^h, although the large number in May is larger than the largest in six other months. The range, therefore, in the month of May is very great, and was described in a very short time.

TABLE XVIII.—Mean Readings of the Horizontal Force Magnet, corrected for Temperature, expressed in parts of the whole Horizontal Force, in each Month, from the Mean of all the Two-hourly Observations in each Month.

Month.	Mean for each Month.	Month.	Mean for each Month.
1840.		1841.	
December	0·047206	June	0·031066
1841.		July	·030985
January	·034382	August	·030733
February	·035324	September	·030283
March	·040371	October	·030266
April	·036190	November	·031241
May	·033006	December	·031308

TABLE XIX.—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 that Hour in each Month.

Hour, Göttin. Mean Time.	1840.	1841.											
	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h													
14	0·046914	0·035008	0·035079	0·040539	0·036806	0·033536	0·031631	0·031524	0·031229	0·030804	0·030748	0·031396	0·031181
16	0·046739	0·034898	0·035509	0·040512	0·036538	0·033381	0·031424	0·031185	0·030886	0·030561	0·030871	0·031552	0·031411
18	0·047420	0·035502	0·036014	0·040903	0·036790	0·033107	0·031125	0·031100	0·030663	0·030755	0·030958	0·031651	0·031863
20	0·047312	0·035451	0·036120	0·040404	0·036423	0·032184	0·029975	0·030032	0·030099	0·030065	0·030323	0·031867	0·031792
22	0·046881	0·034612	0·035075	0·039203	0·034492	0·031257	0·029216	0·029084	0·029098	0·028667	0·029302	0·030934	0·031551
0	0·046107	0·033441	0·034685	0·039181	0·034261	0·031718	0·029377	0·029312	0·029188	0·028514	0·029102	0·030404	0·031224
2	0·046548	0·033448	0·034928	0·040033	0·035304	0·032716	0·030714	0·030342	0·030313	0·029950	0·029673	0·030958	0·031007
4	0·047673	0·034219	0·035361	0·040587	0·036302	0·033299	0·031161	0·031369	0·031393	0·030953	0·030237	0·030906	0·031243
6	0·047804	0·033692	0·035371	0·040811	0·036819	0·033698	0·032100	0·031786	0·031612	0·031001	0·030227	0·031244	0·030805
8	0·047626	0·033809	0·035287	0·040874	0·037117	0·033887	0·032347	0·032260	0·031681	0·030874	0·030439	0·031454	0·031027
10	0·046531	0·034362	0·035133	0·040704	0·036792	0·033666	0·032022	0·031948	0·031425	0·030802	0·030621	0·031150	0·031085
12	0·047914	0·034139	0·035276	0·040703	0·036639	0·033626	0·031905	0·031874	0·031206	0·030448	0·030691	0·031371	0·031505

To ascertain the times and the amounts of the changes contained in this table, the following 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 XX.—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 Amounts of the Changes; the Correction for Temperature being applied.

Month.	Times of 1st extreme Positions.		Interval in Time of 1st extremes.	Readings for 1st extremes.		Difference between the 1st extremes	Times for 2nd extremes.		Interval of 2nd extremes.	Readings for 2nd extremes.		Difference for 2nd extremes.	Times for 3rd extremes.		Interval of 3rd extremes.	Readings for 3rd extremes.		Difference for 3rd extremes.	Times for 4th extremes.		Interval 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.		
1840.	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
Dec.	0	6	6	46107	47804	01697	10	12	2	46531	47914	01383	16	18	2	46739	47420	00681							01807
1841.																									
Jan.	0	4	4	33441	34219	00778	6	10	4	33692	34362	00670	12	14	2	34139	35008	00869	16	18	2	34898	35502	00604	01567
Feb.	0	6	6	34685	35371	00686	10	12	2	35133	35276	00143	14	20	6	35079	36120	01041							01435
March	0	8	8	39181	40874	01693	16	18	2	40512	40903	00391													01722
April	0	8	8	34261	37117	02856	12	14	2	36639	36806	00167	16	18	2	36538	36790	00252							02856
May	22	8	8	31257	33887	02630																			02630
June	22	8	8	29216	32347	03131																			03131
July	22	8	8	29084	32260	03176																			03176
August	0	8	8	29188	31681	02493	12	14	2	31206	31229	00023													02493
Sept.	0	6	6	28514	31001	02487	12	14	2	30448	30804	00356	16	18	2	30561	30755	00194							02487
Oct.	0	4	4	29102	30237	01135	6	18	12	30227	30958	00731													01856
Nov.	0	2	2	30404	30958	00554	4	8	4	30906	31454	00548	10	20	10	31150	31867	00717							01050
Dec.	2	4	2	31007	31243	00236	6	12	6	30805	31505	00700	14	18	4	31181	31863	00682							00700

This table shews, that in the months of 1840, December, 1841, February, April, September, November, and December, three maxima and three minima took place; that in the month of January four maxima and four minima happened; that in the months of March, August, and October, there were two maxima and two minima; and only one maximum and one minimum in the months of May, June, and July. Examining the numbers in Table XIX., about 10^h and 12^h for the last mentioned three months, it is evident that the magnet did not pass uninterruptedly from one extreme position to the other. In each of the three months, at the time when the second minimum generally happens, there was but little change of force between 10^h and 12^h, and it is probable that a minimum occurred between those hours, and that it was of short duration. Inspecting the daily observations, there are 16 instances in May, 14 instances in June, and 17 instances in July, of double maxima and minima having taken place; therefore it may be considered that it is only from accidental circumstances that those months do not shew such in their means.

Inspecting the above table with respect to the force in action at each change, it appears that the force in action about 0^h, generally, or about 22^h in May, June, and July, is less than at any other part of the day; for the first minimum is numerically less than any other minimum, except in December 1841, where the second minimum is numerically less than the first. The force in action at that maximum which follows noon is generally less than at the next maximum. Thus the marked end of the magnet is most drawn towards the North at 18^h or 20^h; it 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 three checks, the one about 6^h, the next about 12^h, and the third about 16^h, arrives with its marked end at its extreme Northern position at 18^h. The last column of the table shews that the daily changes are 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 contained in the table for the year 1841 are taken in two groups: those of January, February, March, October, November, and December, form one group called Winter, the other six months form the group called Summer; and thus is formed the following table:—

TABLE XXI.—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 Position of Magnet.		Mean.
	Summer.	Winter.	
h			
14	0·032588	0·033992	0·033290
16	0·032329	0·034126	0·033227
18	0·032257	0·034482	0·033369
20	0·031463	0·034326	0·032894
22	0·030302	0·033446	0·031874
0	0·030395	0·033006	0·031701
2	0·031556	0·033341	0·032448
4	0·032413	0·033792	0·033102
6	0·032836	0·033692	0·033264
8	0·033028	0·033815	0·033421
10	0·032776	0·033842	0·033309
12	0·032616	0·033947	0·033281

The maximum force in summer is indicated at 8^h, and in winter at 18^h. The minimum force is indicated in summer at 22^h, and in winter at 0^h. In summer there is but one maximum and but one minimum; in winter there is a double maximum and minimum. The times are:—

In Summer.	In Winter.
The maximum at 8^h	The maximum at 18^h
The minimum at 22	The minimum at 0
	A maximum at 4
	A minimum at 6

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
The maximum at 8
A minimum at 12
A maximum at 14
A minimum at 16
A maximum at 18

The amount of the daily changes in summer is 0·002726
The amount of the daily changes in winter is 0·001476

So that the changes in winter are about the half of those in the summer.

The mean for the summer period is 0·032047 parts of the whole force
The mean for the winter period is 0·033817 ,,
And the mean for the year is 0·032932 ,,

TABLE XXII.—Excess of the Mean Reading of the Horizontal Force Magnet, expressed in parts of the whole Horizontal Force, and 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).

Hour, Göttingen Mean Time.	1840.	1841.											
	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h													
14	−0·000292	+0·000626	−0·000245	+0·000168	+0·000616	+0·000530	+0·000565	+0·000539	+0·000496	+0·000521	+0·000482	+0·000155	−0·000127
16	−0·000467	+0·000516	+0·000185	+0·000141	+0·000348	+0·000375	+0·000358	+0·000200	+0·000153	+0·000278	+0·000605	+0·000311	+0·000103
18	+0·000214	+0·001120	+0·000690	+0·000532	+0·000600	+0·000101	+0·000059	+0·000115	−0·000070	+0·000472	+0·000692	+0·000410	+0·000555
20	+0·000106	+0·001069	+0·000796	+0·000033	+0·000233	−0·000822	−0·001091	−0·000953	−0·000634	−0·000218	+0·000057	+0·000626	+0·000484
22	−0·000325	+0·000230	−0·000249	−0·001168	−0·001698	−0·001749	−0·001850	−0·001901	−0·001635	−0·001616	−0·000964	−0·000307	+0·000243
0	−0·001099	−0·000941	−0·000639	−0·001190	−0·001929	−0·001288	−0·001689	−0·001673	−0·001545	−0·001769	−0·001164	−0·000837	−0·000084
2	−0·000658	−0·000934	−0·000396	−0·000338	−0·000886	−0·000290	−0·000352	−0·000643	−0·000420	−0·000333	−0·000593	−0·000283	−0·000301
4	+0·000467	−0·000163	+0·000037	+0·000216	+0·000112	+0·000293	+0·000095	+0·000384	+0·000660	+0·000670	−0·000029	−0·000335	−0·000065
6	+0·000598	−0·000690	+0·000047	+0·000440	+0·000629	+0·000692	+0·001034	+0·000801	+0·000879	+0·000718	−0·000039	+0·000003	−0·000503
8	+0·000420	−0·000573	−0·000037	+0·000503	+0·000927	+0·000881	+0·001281	+0·001275	+0·000948	+0·000591	+0·000173	+0·000213	−0·000281
10	−0·000675	−0·000020	−0·000191	+0·000333	+0·000602	+0·000660	+0·000956	+0·000963	+0·000692	+0·000519	+0·000355	−0·000091	−0·000223
12	+0·000708	−0·000243	−0·000048	+0·000332	+0·000449	+0·000620	+0·000839	+0·000889	+0·000473	+0·000165	+0·000425	+0·000130	+0·000197

Inspecting the table hour by hour, the quantities at 20^h and 22^h deserve particular attention. In the cases where there is a large quantity at 20^h with a + sign, the quantity is small at 22^h with either a + or 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. Thus it appears that between these two hours the magnet was usually in its mean position; and (as the difference 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.

By taking the means of the quantities at each hour, taking into account their signs, the difference between the mean position for the year and the mean position for the year at that hour is shewn; and thus it appears that the mean position of the marked end of the Magnet—

At	^{h} 14	is 0·000361	parts of the whole force more North,	than the mean position for the year.
,,	16 ..	0·000298	,, ,,	,,
,,	18 ..	0·000440	,, ,,	,,
At	20	is 0·000035	parts of the whole force more South,	than the mean position for the year.
,,	22 ..	0·001055	,, ,,	,,
,,	0 ..	0·001229	,, ,,	,,
,,	2 ..	0·000481	,, ,,	,,
At	4	is 0·000156	parts of the whole force more North,	than its mean position for the year.
,,	6 ..	0·000334	,, ,,	,,
,,	8 ..	0·000492	,, ,,	,,
,,	10 ..	0·000380	,, ,,	,,
,,	12 ..	0·000353	,, ,,	,,

At 20^h the mean position of the magnet differs from the mean position for the year by an inconsiderable quantity; therefore, if this element was to be determined from an isolated observation daily, 20^h is the hour that is indicated as the best.

TABLE XXIII.—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 XIX.), diminished by the Mean Reading for the Month (Table XVIII.), and by the Mean Diurnal Change in each Hour (in the remarks following Table XXII.).

Hour Gött. Mean Time.	1841.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	+ ·000265	− ·000606	− ·000193	+ ·000255	+ ·000169	+ ·000204	+ ·000178	+ ·000135	+ ·000160	+ ·000121	− ·000206	− ·000488
16	+ ·000218	− ·000133	− ·000157	+ ·000050	+ ·000077	+ ·000060	− ·000098	− ·000145	− ·000020	+ ·000307	+ ·000013	− ·000195
18	+ ·000680	+ ·000250	+ ·000092	+ ·000160	− ·000339	− ·000381	− ·000325	− ·000510	+ ·000032	+ ·000252	− ·000030	+ ·000115
20	+ ·001104	+ ·000831	+ ·000068	+ ·000268	− ·000787	− ·001056	− ·000918	− ·000599	− ·000183	+ ·000092	+ ·000661	+ ·000519
22	+ ·001280	+ ·000806	− ·000113	− ·000643	− ·000694	− ·000795	− ·000846	− ·000580	− ·000561	+ ·000091	+ ·000748	+ ·001298
0	+ ·000288	+ ·000590	+ ·000039	− ·000700	− ·000059	− ·000460	− ·000444	− ·000316	− ·000540	+ ·000065	+ ·000392	+ ·001145
2	− ·000453	+ ·000085	+ ·000143	− ·000405	+ ·000191	+ ·000129	− ·000162	+ ·000061	+ ·000148	− ·000112	+ ·000198	+ ·000180
4	− ·000319	− ·000119	+ ·000060	− ·000044	+ ·000137	− ·000061	+ ·000228	+ ·000504	+ ·000514	− ·000185	− ·000491	− ·000221
6	− ·001020	− ·000287	+ ·000106	+ ·000295	+ ·000358	+ ·000700	+ ·000467	+ ·000545	+ ·000384	− ·000373	− ·000331	− ·000837
8	− ·001065	− ·000529	+ ·000011	+ ·000425	+ ·000389	+ ·000789	+ ·000783	+ ·000456	+ ·000099	− ·000319	− ·000279	− ·000773
10	− ·000400	− ·000571	− ·000047	+ ·000222	+ ·000280	+ ·000576	+ ·000583	+ ·000312	+ ·000139	− ·000025	− ·000471	− ·000603
12	− ·000596	− ·000401	− ·000021	+ ·000096	+ ·000267	+ ·000486	+ ·000536	+ ·000120	− ·000188	+ ·000072	− ·000223	− ·000156

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. It appears, however, difficult to express them by any simple law. Inspecting the table hour by hour, the quantities do not differ very much. Those at 16^h and at 2^h are 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 XXIV.—Sums of the Differences of Diurnal Inequality at Each Hour.

Hour Göttingen Mean Time.	Sums of Differences.	Hour Göttingen Mean Time.	Sums of Differences.
h		h	
14	0·002980	2	0·002267
16	0·001453	4	0·002883
18	0·003166	6	0·005703
20	0·007086	8	0·005917
22	0·008455	10	0·004229
0	0·005038	12	0·003162

We may consider that the smallest number indicates the hour subject to the least irregularity: thus 16^h has the smallest number, and therefore appears the most uniform; the next in order is 2^h. At 20^h and 22^h are the largest numbers, and these hours would therefore appear subject to the greatest irregularity.

Examining the preceding table month by month, the quantities in January are large; those of March and October are small, and the other months are much alike, being neither large nor small. The following table contains the sums of all the quantities in each month, without regard to their signs.

TABLE XXV.—Monthly Sums of the Differences.

Month.	Sums of the Differences.	Month.	Sums of the Differences.
1841.		1841.	
January	0·007688	July	0·005568
February	0·005208	August	0·004283
March	0·001050	September	0·002968
April	0·003563	October	0·002014
May	0·003747	November	0·004043
June	0·005697	December	0·006530

Thus, the motion in January departs the most from the mean annual motion, and that in March agrees most nearly with it.

TABLE XXVI.—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.	Mean Reading at		
	$1^h.52^m.30^s.$	$2^h.2^m.30^s.$	$2^h.12^m.30^s.$
1840.			
December	0·046334	0·046548	0·046504
1841.			
January	0·033518	0·033448	0·033513
February	0·035083	0·034928	0·034972
March	0·038651	0·040033	0·039179
April	0·035131	0·035304	0·035399
May	0·032784	0·032716	0·032793
June	0·030457	0·030714	0·030728
July	0·030258	0·030342	0·030501
August	0·030146	0·030313	0·030478
September	0·029900	0·029950	0·030060
October	0·029539	0·029673	0·029695
November	0·031049	0·030958	0·030814
December	0·031122	0·031007	0·031112

The mean of all the observations in the year 1841, taken at $^h\ ^m\ ^s$ 1. 52. 30, is 0·032303
,, ,, ,, 2. 2. 30, is 0·032449
,, ,, ,, 2. 12. 30, is 0·032437

Throughout the whole of this discussion, with the exception of the above table, the even hour of Göttingen Mean Time has been used; the true time is in every case $2^m.30^s$ after the hour.

TABLE XXVII.—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 last Seven Months of the Year 1841 (except Sundays and Christmas Day), at the even Hours of Göttingen Mean Solar Time.

Day of the Month.	1841.						
	June.	July.	August.	September.	October.	November.	December.
1	0·033700	0·031059	*S*	0·028479	0·027751	0·025964	0·021398
2	0·033760	0·030899	0·029428	0·028372	0·027791	0·025696	0·021473
3	0·033245	0·030900	0·029051	0·028151	*S*	0·025612	0·021753
4	0·033737	*S*	0·029064	0·028414	0·027851	0·025742	0·021806
5	0·033408	0·030673	0·029118	*S*	0·027531	0·025767	*S*
6	*S*	0·030451	0·028990	0·029194	0·027550	0·025899	0·021640
7	0·033731	0·030464	0·028839	0·028920	0·027672	*S*	0·021632
8	0·033471	0·030676	*S*	0·028329	0·028051	0·025925	0·021555
9	0·033549	0·030980	0·029924	0·028149	0·027713	0·026293	0·021730
10	0·033135	0·030482	0·029315	0·027551	*S*	0·025681	0·021643
11	0·032545	*S*	0·029087	0·027174	0·027579	0·025397	0·021655
12	0·033245	0·029813	0·028856	*S*	0·027575	0·025383	*S*
13	*S*	0·029894	0·029333	0·026479	0·027413	0·025869	0·021321
14	0·032474	0·029984	0·029196	0·026546	0·027018	*S*	0·021751
15	0·032022	0·029797	*S*	0·026527	0·026957	0·024458	0·022115
16	0·031936	0·029982	0·028942	0·026904	0·027218	0·024028	0·021773
17	0·031871	0·029667	0·028500	0·027256	*S*	0·022841	0·022203
18	0·031441	*S*	0·028519	0·027508	0·027222	0·023570	0·022366
19	0·031019	0·029771	0·028412	*S*	0·027595	0·022857	*S*
20	*S*	0·029544	0·028208	0·026902	0·027881	0·022986	0·021162
21	0·031274	0·029919	0·028038	0·026696	0·027654	*S*	0·020970
22	0·031314	0·029898	*S*	0·026664	0·027259	0·022082	0·021015
23	0·031510	0·029934	0·029243	0·026997	0·026214	0·022504	0·020263
24	0·031654	0·030185	0·029556	0·027317	*S*	0·022642	0·019911
25	0·031091	*S*	0·029669	0·028592	0·026515	0·022779	*Ch. Day.*
26	0·031151	0·029650	0·029108	*S*	0·026244	0·023085	*S*
27	*S*	0·029446	0·028086	0·028219	0·026208	0·022124	0·020644
28	0·031345	0·029413	0·028052	0·027962	0·025845	*S*	0·019936
29	0·031165	0·029519	*S*	0·027485	0·026018	0·021518	0·019738
30	0·031181	0·029522	0·028145	0·027503	0·026319	0·021153	0·020061
31	...	0·029583	0·027809	...	*S*	...	0·020098

The letter *S* denotes that the day was Sunday.

TABLE XXVIII.—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.	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 of the Month on which the marked end of the Magnet was most drawn towards the	
	Nadir.	Zenith.		Nadir.	Zenith.
1841.					
June	0·033760	0·031019	0·002741	2	19
July	0·031059	0·029413	0·001646	1	28
August	0·029924	0·028038	0·001886	9	21
September	0·029194	0·026479	0·002715	6	13
October	0·028051	0·025845	0·002206	8	28
November	0·026293	0·021153	0·005140	9	30
December	0·022366	0·019738	0·002628	18	29

It appears that the force in action throughout the whole day was greater on the 2nd of June, and less on the 29th of December, than on any other days during the period of observation. The difference of the two numbers is 0·014022, which is the range of the magnet for the period, in its mean daily position.

TABLE XXIX.—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, in each Month.

Month.	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.
1841.				d h m s	d h m s
June	0·035030	0·030686	0·004344	2. 4. 0. 0	24. 14. 0. 0
July	0·031313	0·026812	0·004501	2. 4. 0. 0	19. 16. 0. 0
August	0·031461	0·025039	0·006422	8. 14. 0. 0	6. 14. 0. 0
September	0·062526+	0·023138	0·039388	25. 3. 40. 0	25. 12. 58. 25
October	0·029961	0·024298	0·005663	25. 2. 32. 22	25. 13. 34. 30
November	0·027131	0·020146	0·006985	4. 4. 0. 0	18. 18. 0. 0
December	0·022607	0·019083	0·003524	d h d h 17. 22 & 18. 0	24. 12. 0. 0

The largest number contained in this table is in September; it occurred in the great disturbance on the 25th. The magnet, after this reading was taken, rested on the frame of the instrument, dipping as far as it could dip, so that what its greatest reading would have been is not known. The smallest number was in December; and the difference between the numbers is 0·043443+ for the yearly range of the magnet during the period.

TABLE XXX.—Mean Reading of the Vertical Force Magnet, corrected for Temperature, expressed in parts of the whole Vertical Force, in each Month, for the Mean of all the Two-hourly Observations in each Month.

Month.	Mean for each Month.
1841.	
June	0·032305
July	·030074
August	·028865
September	·027630
October	·027165
November	·024182
December	·021216

TABLE XXXI.—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 Astronomical Time; deduced from all the Observations taken at that Hour in each Month.

Hour Göttin. Time.	1841.						
	June.	July.	August.	September.	October.	November.	December.
h							
14	0·031876	0·029781	0·028462	0·027003	0·026882	0·024094	0·020948
16	0·032085	0·029782	0·028626	0·027163	0·026951	0·023990	0·021035
18	0·032331	0·029872	0·028832	0·027383	0·027009	0·023980	0·021118
20	0·032627	0·030055	0·028936	0·027585	0·027143	0·024070	0·021152
22	0·032679	0·030196	0·029025	0·027772	0·027205	0·024170	0·021153
0	0·032390	0·030124	0·029039	0·027824	0·027380	0·024318	0·021306
2	0·032449	0·030247	0·029137	0·028080	0·027574	0·024557	0·021359
4	0·032494	0·030395	0·029223	0·028305	0·027450	0·024506	0·021480
6	0·032505	0·030404	0·029207	0·028172	0·027329	0·024271	0·021433
8	0·032359	0·030293	0·028928	0·027667	0·027221	0·024085	0·021417
10	0·032083	0·029938	0·028606	0·027441	0·026976	0·024149	0·021239
12	0·031783	0·029795	0·028364	0·027166	0·026858	0·023998	0·020950

The numbers contained in this table are small at 12^h and at 14^h, and they are large about 2^h to 6^h, indicating that the marked end of the magnet dips least at the former times and most at the latter times. To exhibit this more clearly, and also to ascertain the amount of the daily changes, the next table is formed, by considering that number which is the smallest about 12^h as the first minimum; then, the last of the following increasing numbers, as the first maximum; then, the next smallest number as the second minimum, and so on successively.

TABLE XXXII.—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 Amounts of the Changes; the Correction for Temperature being applied.

Month.	Times of 1st extreme position towards		Interval in Time of 1st extremes.	Readings for 1st extreme towards		Difference between the 1st extremes.	Times of 2nd extreme position towards		Interval in Time of 2nd extremes.	Readings for 2nd extreme towards		Difference between the 2nd extremes.	Times of 3rd extreme position towards		Interval in Time of 3rd extremes.	Readings for 3rd extreme towards		Difference between the 3rd extremes.	Difference between the greatest and least extremes or Mean Daily Range.
	Zen.	Nadir.		Zenith.	Nadir.		Zen.	Nad.		Zenith.	Nadir.		Zen.	Nad.		Zenith.	Nadir.		
1841.	h	h	h	0·0	0·0	0·0	h	h	h	0·0	0·0	0·0	h	h	h				0·0
June	12	22	10	31783	32679	00896	0	6	6	32390	32505	00115							00896
July	14	22	8	29781	30196	00415	0	6	6	30124	30404	00280							00623
August	12	4	16	28364	29223	00859													00859
Septemb.	14	4	14	27003	28305	01302													01302
October	12	2	14	26882	27574	00716													00716
Novemb.	12	14	2	23998	24094	00096	18	2	8	23980	24557	00577	8	10	2	0·0 24085	0·0 24149	0·0 00064	00577
Decemb.	12 & 14	4	14	20949	21480	00532													00532

This table shews, that in the months of June and July, a double maximum and a double minimum took place; that in the month of November, a triple maximum and a triple minimum took place, and only a single maximum and a single minimum in the other three months. In the month of August, checked motion is evident between 22^h and 0^h, and also in December between 18^h and 22^h, so that the magnet did not move from one extreme position to the other without interruption in these two months. In the months of August and September there is no indication of checked motion at any intermediate time. The numbers in the last column shew that the daily changes in the summer and autumn are greater than those in the winter.

If we take the means of the numbers in Table XXXI. for the same hour in different months, we form the following:

TABLE XXXIII.—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 Solar Time, for the last Seven Months of the Year 1841.

Hour, Göttingen Time.	Mean Reading.	Hour, Göttingen Time.	Mean Reading.
h		h	
14	0·027006	2	0·027629
16	0·027090	4	0·027693
18	0·027218	6	0·027617
20	0·027369	8	0·027419
22	0·027457	10	0·027205
0	0·027483	12	0·026973

This Table exhibits only one maximum at 4^h and one minimum at 12^h. The mean reading for the whole period, found by taking the mean of all the numbers in this table, is 0·027347.

TABLE XXXIV.—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).

Hour, Göttin. Time.	1841.						
	June.	July.	August.	September.	October.	November.	December.
h							
14	−0·000429	−0·000293	−0·000403	−0·000627	−0·000283	−0·000088	−0·000268
16	−0·000220	−0·000292	−0·000239	−0·000467	−0·000214	−0·000192	−0·000181
18	+0·000026	−0·000202	−0·000033	−0·000247	−0·000156	−0·000202	−0·000098
20	+0·000322	−0·000019	+0·000071	−0·000045	−0·000022	−0·000112	−0·000064
22	+0·000374	+0·000122	+0·000160	+0·000142	+0·000040	−0·000012	−0·000063
0	+0·000085	+0·000050	+0·000174	+0·000194	+0·000215	+0·000136	+0·000090
2	+0·000144	+0·000173	+0·000272	+0·000450	+0·000409	+0·000375	+0·000143
4	+0·000189	+0·000321	+0·000358	+0·000675	+0·000285	+0·000324	+0·000264
6	+0·000200	+0·000330	+0·000342	+0·000542	+0·000164	+0·000089	+0·000217
8	+0·000054	+0·000219	+0·000063	+0·000037	+0·000056	−0·000097	+0·000201
10	−0·000222	−0·000136	−0·000259	−0·000189	−0·000189	−0·000033	+0·000023
12	−0·000522	−0·000279	−0·000501	−0·000464	−0·000307	−0·000184	−0·000266

In the month of June there are eight + signs, and four − signs, and in August there are seven + signs and five − signs, shewing in those months that the marked end of the magnet was longer below its mean position than it was above it. In the months of July, September, October, and December, there are the same number of + and − signs, and, therefore, the magnet was as long above, as it was below its mean position; and in the month of November there are eight − signs, and four + signs, and, therefore, the magnet in this month was much longer above its mean position than it was below it. By taking the means of the quantities at each hour, taking into account their signs, the difference between the mean position for the whole period and the mean position for the whole period at that hour is shewn; and thus it appears that the mean position of the marked end of the magnet—

At $^h14$ is 0·000342 less drawn downwards than the mean position for the whole period.
,, 16 .. 0·000258 ,, ,, ,,
,, 18 .. 0·000130 ,, ,, ,,

At 20^h .. 0·000019 more drawn downwards than the mean position.
,, 22 .. 0·000109 ,, ,,
,, 0 .. 0·000135 ,, ,,
,, 2 .. 0·000281 ,, ,,
,, 4 .. 0·000345 ,, ,,
,, 6 .. 0·000269 ,, ,,
,, 8 .. 0·000076 ,, ,,
At 10 .. 0·000144 less drawn downwards than the mean position.
,, 12 .. 0·000360 ,, ,,

TABLE XXXV.—Mean Reading of the Vertical Force Magnet, corrected for Temperature, expressed in parts of the whole Vertical Force, as deduced from all the Triple Observations taken near 2^h Göttingen Mean Time on every Day, in each Month.

Month.	Mean Reading at		
	$1^h.47^m.30^s$.	$1^h.57^m.30^s$.	$2^h.7^m.30^s$.
1841.			
June	0·032491	0·032449	0·032385
July	0·030275	0·030246	0·030231
August	0·029175	0·029137	0·029149
September	0·028130	0·028080	0·028071
October	0·027601	0·027575	0·027571
November	0·024607	0·024558	0·024516
December	0·021477	0·021359	0·021346

The mean of all at $1^h.47^m.30^s$ is 0·027679
,, $1.57.30$ is 0·027629
,, $2.7.30$ is 0·027610

Throughout the whole of this discussion, with the exception of the above table, the even hour of Göttingen Mean Time has been used; the true time is in every case $2^m.30^s$ before the hour.

ROYAL OBSERVATORY, GREENWICH.

ABSTRACTS

OF THE

RESULTS

OF THE

METEOROLOGICAL OBSERVATIONS.

1840 and 1841.

TABLE I.—Mean Height of the Barometer, as deduced from the Twelve Observations taken on every Civil Day (except Sundays, and Christmas Day of 1841), at the Even Hours of Göttingen Mean Time.

Day of the Month.	1840.		1841.											
	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Septem.	October.	Novem.	December.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1	...	29·875	29·832	30·214	29·528	29·489	29·816	30·011	29·960	*S*	29·860	29·375	29·846	29·248
2	...	30·110	29·921	29·936	29·470	29·530	*S*	30·060	29·997	29·771	29·705	29·639	30·080	29·284
3	...	30·403	*S*	29·899	29·317	29·565	29·627	30·070	29·976	29·495	29·503	*S*	30·231	28·953
4	...	30·348	28·940	29·655	29·744	*S*	29·464	30·200	*S*	29·438	29·490	29·461	30·271	29·272
5	...	30·231	29·244	29·602	29·540	29·314	29·369	30·018	29·909	29·581	*S*	28·955	30·269	*S*
6	...	*S*	29·457	29·551	29·680	29·577	29·500	*S*	29·625	29·628	29·617	28·741	30·266	29·667
7	...	29·611	29·623	*S*	*S*	29·667	29·542	29·807	29·672	29·756	29·574	28·907	*S*	29·743
8	...	29·200	29·784	29·315	30·259	29·656	29·444	29·838	29·669	*S*	29·698	29·154	30·224	29·379
9	29·060	29·668	29·549	29·636	30·297	29·775	*S*	29·816	29·822	29·520	29·900	29·558	30·156	29·681
10	29·029	29·847	*S*	29·902	30·331	29·923	30·029	29·647	29·679	29·667	29·888	*S*	30·003	29·338
11	29·168	29·838	28·843	29·699	30·341	*S*	29·935	29·593	*S*	29·438	29·918	29·436	29·879	29·774
12	29·376	30·048	29·318	29·607	30·247	29·819	30·042	29·743	29·460	29·784	*S*	29·251	29·472	*S*
13	28·713	*S*	29·352	29·463	30·255	29·975	30·206	*S*	29·543	29·738	29·738	29·772	29·258	29·227
14	28·990	30·140	29·189	*S*	*S*	29·931	30·208	29·892	29·546	29·551	29·712	29·683	*S*	29·548
15	*S*	30·141	29·463	29·085	29·921	29·728	30·022	29·849	29·564	*S*	29·764	29·501	29·304	29·687
16	29·072	29·938	29·442	28·980	29·746	29·627	*S*	30·060	29·792	29·771	29·744	29·413	29·377	29·245
17	29·297	29·674	*S*	29·255	29·509	29·781	29·478	29·913	29·847	29·878	29·834	*S*	29·513	29·397
18	29·587	29·505	29·630	29·458	29 419	*S*	29·432	29·623	*S*	30·037	29·801	29·585	29·328	29·419
19	29·726	29·500	29·738	29·559	29·542	29·772	29·209	29·511	29·701	30·061	*S*	29·634	29·329	*S*
20	29·959	*S*	29·976	29·751	29·534	29·635	29·243	*S*	29·515	29·774	29·984	29·710	29·191	29·179
21	29·392	30·167	30·289	*S*	*S*	29·713	29·483	29·734	29·406	29·590	29·784	29·822	*S*	29·517
22	*S*	30·210	30·200	30·242	29·348	29·700	29·557	29·919	29·636	*S*	29·533	29·940	29·142	29·691
23	29·948	30·025	29·963	30·223	29·817	29·415	*S*	29·795	29·833	29·752	29·498	29·244	29·560	29·718
24	30·063	30·034	*S*	30·213	30·113	29·516	30·041	29·601	29·993	29·971	29·423	*S*	29·772	29·866
25	30·308	30·245	30·161	30·138	29·955	*S*	30·024	29·420	*S*	29·990	29·349	29·004	29·726	*Ch. Day*
26	30·336	30·476	29·921	29·677	29·561	29·913	29·932	29·553	29·946	30·102	*S*	29·246	29·760	*S*
27	30·316	*S*	30·002	29·663	29·651	29·980	29·747	*S*	29·864	30·121	29·400	29·324	29·567	29·994
28	30·291	30·294	30·171	*S*	*S*	30·004	29·819	29·819	29·711	30·069	29·188	29·549	*S*	29·988
29	*S*	30·180	30·102	...	29·751	29·994	29·960	29·659	29·622	*S*	29·140	29·709	29·029	29·976
30	29·974	30·221	30·146	...	29·748	30·023	*S*	29·888	29·558	29·817	29·169	29·633	28·896	30·027
31	...	29·840	*S*	...	29·475	...	29·890	...	29·480	29·678	...	*S*	...	30·125

The letter *S* denotes that the day was Sunday.

TABLE II.—Table exhibiting the Times at which the greatest Difference took place, between the Mean Heights of the Barometer on two consecutive Days, with the amount of the Difference.

1840.				1841.							
November.		December.		January.		February.		March.		April.	
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.
12 & 13	−0·663	7 & 8	−0·411	4 & 5	+0·304	1 & 2	+0·278	3 & 4	+0·427	5 & 6	+0·263
13 & 14	+0·277	8 & 9	+0·468	11 & 12	+0·475	8 & 9	+0·321	22 & 23	+0·469	22 & 23	−0·285
17 & 18	+0·290	16 & 17	−0·264	14 & 15	+0·274	9 & 10	+0·266	25 & 26	−0·394		
20 & 21	−0·567	30 & 31	−0·381	20 & 21	+0·313	16 & 17	+0·275	30 & 31	−0·274		
						26 & 27	−0·461				

TABLE II.—*continued.*

1841.													
June.		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.	Between what Days.	Difference.
	in.		in.		in.		in.		in.		in.		in.
17 & 18	− 0·290	5 & 6	− 0·284	2 & 3	− 0·276	21 & 22	− 0·251	1 & 2	+ 0·264	11 & 12	− 0·407	2 & 3	− 0·331
				11 & 12	+ 0·346			4 & 5	− 0·506	22 & 23	+ 0·418	3 & 4	+ 0·319
				19 & 20	− 0·287			8 & 9	+ 0·404	30 & 31	+ 0·352	7 & 8	− 0·364
								12 & 13	+ 0·521			8 & 9	+ 0·302
								22 & 23	− 0·696			9 & 10	− 0·343
												10 & 11	+ 0·436
												13 & 14	+ 0·321
												15 & 16	− 0·442
												20 & 21	+ 0·338

This table shews, that in the first three months and also in the last three months the difference in the mean height of the barometer between any two days is frequently more than $0^{in}\cdot3$, often above $0^{in}\cdot4$, and in the above table there are five instances of more than $0^{in}\cdot5$, two of them being very nearly $0^{in}\cdot7$. In the six middle months of the year there are only eight cases in which the difference amounts to $0^{in}\cdot25$, only one of these being more than $0^{in}\cdot3$. From these numbers the winter months shew much greater and more sudden changes than the other parts of the year.

TABLE III.—Mean of all the Two-hourly Readings of the Barometer for these Days in each Month, in which (as deduced from the Mean of the Two-hourly Observations) the Barometer was Highest or Lowest.

Month.	Mean Daily Height of the Barometer in the Month.		Difference.	Day of the Month in which the Mean Height of Barometer was	
	Highest.	Lowest.		Highest.	Lowest.
	in.	in.	in.		
1840.					
November	30·336	28·713	1·623	26	13
December	30·476	29·200	1·276	26	8
1841.					
January	30·289	28·843	1·446	21	11
February	30·242	28·980	1·352	22	16
March	30·341	29·317	1·024	11	3
April	30·023	29·314	0·709	30	5
May	30·208	29·209	0·999	14	19
June	30·200	29·420	0·780	4	25
July	29·997	29·406	0·591	2	21
August	30·121	29·438	0·683	27	4 and 11
September	29·984	29·149	0·835	20	29
October	29·940	28·741	1·199	22	6
November	30·271	28·896	1·375	4	30
December	30·125	28·953	1·172	31	3

The highest daily mean contained in this table in 1840 is December, and it was the highest in the year. The lowest daily mean in 1840 was in November; and therefore the difference of those two numbers gives the yearly range of the mean daily height of the barometer for 1840 = $1^{in}\cdot763$. In the same way, taking the difference between the highest daily mean for March 1841 and the lowest daily mean for October 1841, the yearly range of the mean daily height of the barometer was $1^{in}\cdot600$ for the year 1841.

TABLE IV.—The Highest and the Lowest Reading of the Barometer in the simple Two-hourly Observations in each Month.

Month.	Reading in the Month.		Range.	The Day and Hour in each Month when the Reading of the Barometer was	
	Highest.	Lowest.		Highest.	Lowest.
1840.	in.	in.	in.	d h	d h m
November	30·355	28·477	1·878	26. 0	13. 4. 40
December	30·558	29·132	1·426	26. 10	7. 20. 0
1841.					
January	30·327	28·707	1·620	21. 0	10. 18. 0
February	30·268	28·931	1·337	21. 22	15. 18. 0
March	30·388	29·161	1·227	10. 22	2. 18. 0
April	30·058	29·250	0·808	29. 20	4. 16. 0
May	30·257	29·041	1·216	13. 20	19. 16. 0
June	30·242	29·386	0·856	3. 22	24. 22. 0
July	30·050	29·000	1·050	24. 10	10. 16. 0
August	30·170	29·156	1·014	26. 10	3. 16. 0
September	30·015	28·983	1·032	19. 22	28. 12. 0
October	30·060	28·697	1·363	21. 14	5. 22. 57+
November	30·302	28·759	1·543	5. 22	29. 16. 0
December	30·145	28·827	1·318	30. 22	2. 23. 10

These numbers shew that in every month the barometer rose above 30 inches; once in 1840, December, it attained the great elevation of $30^{in.}·558$. In 1841, January, February, March, May, and November, it rose above $30\frac{1}{4}^{in.}$, in the other months it was below $30\frac{1}{4}^{in.}$, and thus the highest readings occur in the winter. From 1840, March to August, both inclusive, the reading was never below 29 inches; in the two preceding and four following months it was below 29 inches in each month; and thus it appears that in the winter the barometer rises higher and sinks lower than in the summer. The highest reading in the year 1841 was in March, $30^{in.}·388$, the lowest reading was in October, $28^{in.}·697$; and consequently the range in the year was $1^{in.}·691$. In the preceding year the lowest reading was, in November, $28^{in.}·477$; and this reading was lower than any other readings in the years 1840 and 1841. The highest reading in the year was $30^{in.}·558$, and thus the yearly range of the barometer in 1840 was $2^{in.}·081$ +. The range in the month of November 1840 was greater than the range in the whole of the year 1841. In the winter months the range of the barometer appears to be about $1\frac{1}{2}$ inch, and in the summer months about 1 inch.

TABLE V.—The Mean Height of the Barometer, at every Even Hour of Göttingen Mean Astronomical Time, deduced from all the Observations taken at that Hour in each Month.

Hour of Gottingen Time, Astronomical Reckoning.	1840.		1841.										
	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Septem.	October.	Novem.	December.
h	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
14	29·630	29·998	29·671	29·703	29·786	29.721	29·738	29·815	29·720	29·757	29·620	29·415	29·693	29·557
16	29·626	29·990	29·674	29·693	29·774	29.713	29·726	29·804	29·715	29·745	29·608	29·399	29·683	29·560
18	29·612	29·980	29·677	29·694	29·774	29.718	29·728	29·811	29·717	29·746	29.609	29·397	29·670	29·562
20	29·615	29·984	29·694	29·703	29·786	29.731	29·737	29·816	29·726	29·759	29·619	29·412	29·673	29·570
22	29·618	30·000	29·722	29·712	29·800	29.739	29·739	29·813	29·725	29·773	29·633	29·430	29·687	29·582
0	29·614	30·000	29·728	29·714	29·798	29.736	29·737	29·814	29·722	29·777	29·635	29·443	29·678	29·578
2	29·598	29·987	29·712	29·697	29·786	29.733	29·729	29·808	29·717	29·773	29·628	29·440	29·659	29·560
4	29·587	29·982	29·708	29·689	29·774	29.723	29·723	29·802	29·712	29·771	29·621	29·445	29·648	29·569
6	29·588	29·985	29·709	29·690	29·771	29.725	29·717	29·797	29·702	29·771	29·626	29·460	29·654	29·578
8	29·598	29·990	29·713	29·692	29·781	29.739	29·724	29·803	29·706	29·779	29·633	29·468	29·665	29·586
10	29·612	29·999	29·714	29·688	29·784	29.748	29·739	29·816	29·716	29·784	29·633	29·467	29·678	29·595
12	29·634	30·003	29·711	29·682	29·785	29.749	29·741	29·813	29·711	29·783	29·623	29·460	29·682	29·599

Taking the means of the numbers in each column of this table, the following is formed :—

TABLE VI.—Mean Height of the Barometer in each Month, deduced from the Mean of all the Two-hourly Observations in each Month.

		in.			in.
1840.	November	29·611	1841.	June	29·809
	December	29·992		July	29·716
1841.	January	29·702		August	29·768
	February	29·697		September	29·624
	March	29·784		October	29·436
	April	29·731		November	29·672
	May	29·731		December	29·574

Taking from Table V. that mean height in each month, which is the highest about 0^h, and calling it the first maximum; then, that mean height succeeding 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 following table is formed:—

TABLE VII.—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 Amount of the Changes.

Month.	Hour of the		Difference.	Height of the Barometer.		Difference.	Hour of the		Difference.	Height of the Barometer.		Difference.	Hour of the		Difference.	Height of the Barometer.		Difference.	Greatest Maximum—the Smallest Minimum
	1st Max.	1st Min.		1st Max.	1st Min.		2nd Max.	2nd Min.		2nd Max.	2nd Min.		3rd Max.	3rd Min.		3rd Max.	3rd Min.		
1840.	h	h		in.	in.	in.	h	h		in.	in.	in.	h	h		in.	in.	in.	in.
Novemb.	22	4	6	29·618	29·587	0·031	12	18	6	29·634	29·612	0·022							0·047
Decemb.	22 & 0	4	5	30·000	29·982	·018	12	18	6	30·003	29·980	·023							·023
1841.																			
January	0	4	4	29·728	29·704	·024	10	14	4	29·714	29·671	·043							·057
February	0	4	4	29·714	29·689	·025	8	12	4	29·692	29·682	·010	14	16	2	29·703	29·693	0·010	·028
March	22	6	8	29·800	29·771	·029	12	16 & 18	5	29·793	29·774	·019							·029
April	22	4	6	29·739	29·723	·016	12	16	4	29·749	29·713	·036							·036
May	22	6	8	29·739	29·717	·022	12	16	4	29·741	29·726	·015							·024
June	0	6	6	29·814	29·797	·017	10	16	6	29·816	29·804	·012	20	22	2	29·816	29·813	·003	·019
July	20	6	10	29·726	29·702	·024	10	12	2	29·716	29·711	·005	14	16	2	29·720	29·715	·005	·024
August	0	4 & 6	5	29·777	29·771	·006	10	16	6	29·784	29·745	·039							·039
Septemb.	0	4	4	29·635	29·621	·014	8 & 10	16	7	29·633	29·608	·025							·027
October	0	2	2	29·443	29·440	·003	8	18	10	29·468	29·397	·071							·071
Novemb.	22	4	6	29·687	29·648	·039	14	18	4	29·693	29·670	·023							·045
Decemb.	22	2	4	29·582	29·560	·022	12	14	2	29·599	29·546	·053							·053

This table shews that in every month a double maximum pressure takes place, and also a double minimum. In three months, viz., February, June, and July, a third maximum and a third minimum appear, but their difference is very small. No order appears in the successive maxima or minima; sometimes the first is greater than the second, and sometimes it is less. In some months the second maximum is greater than the first, and the second minimum less than the first; so that the whole daily range is contained between them, as in 1840, December 1, 1841, April, August, October, and December; in the other months the daily range is obtained by taking the difference of the first maximum and the second minimum, or the second maximum and the first minimum.

To ascertain the times more accurately in the different periods of the year,

The means of the numbers in Table V. are taken for March, April, and May, and called Spring;
The means ,, ,, for June, July, and August, are called Summer;
The means ,, ,, for September, October, and November, are called Autumn;
The means ,, ,, for December, January, and February, are called Winter;

and thus the following table is formed:—

TABLE VIII.—Mean Height of the Barometer at every Hour of Göttingen Mean Astronomical Time, in Quarterly Periods.

Hour of Observation, 1841.	Mean Height of the Barometer.				Mean.
	Spring.	Summer.	Autumn.	Winter.	
h	in.	in.	in.	in.	in.
14	29·748	29·764	29·576	29·644	29·683
16	·738	·755	·563	·642	·675
18	·740	·758	·559	·644	·675
20	·751	·767	·568	·656	·686
22	·759	·770	·583	·672	·696
0	·757	·771	·585	·673	·697
2	·749	·766	·576	·656	·687
4	·740	·762	·571	·655	·682
6	·738	·756	·580	·659	·683
8	·748	·763	·589	·664	·691
10	·757	·772	·593	·666	·697
12	·758	·769	·588	·664	·695

Thus it appears that a double maximum and a double minimum take place in each period of the year.

In spring the minima happen at 16^h and at 6^h, and their height is the same.
the maxima happen at 22^h and at 12^h, the former being $0^{in}{\cdot}001$ higher than the latter.

In summer the minima happen at 16^h and at 6^h, the former being $0^{in}{\cdot}001$ lower than the latter.
the maxima happen at 0^h and at 10^h, the former being $0^{in}{\cdot}001$ lower than the latter.

In autumn the minima happen at 18^h and at 4^h, the former being $0^{in}{\cdot}012$ lower than the latter.
the maxima happen at 0^h and at 10^h, the former being $0^{in}{\cdot}008$ lower than the latter.

In winter the minima happen at 16^h and at 4^h, the former being $0^{in}{\cdot}017$ lower than the latter.
the maxima happen at 0^h and at 10^h, the former being $0^{in}{\cdot}007$ higher than the latter.

The range of the height is different in the different periods.

In spring it is $0^{in}{\cdot}021$.
In summer it is $0^{in}{\cdot}017$.
In autumn it is $0^{in}{\cdot}034$.
In winter it is $0^{in}{\cdot}031$.

The daily motion differs at the different periods of the year.

Between $^h14$ and $^h16$ a large fall in the spring, summer, and autumn, a small one in winter.
16 and 18 a small fall in autumn, a rise at the other periods.
18 and 20 a large increase of pressure throughout the year.
20 and 22 a rise throughout, small in summer, large in spring, and very large in the autumn, and also very large in the winter.
22 and 0 nearly stationary.
0 and 2 a fall at all periods; very large in the winter.
2 and 4 the fall continues in spring, summer, and autumn, but in winter the barometer is nearly stationary; and it would seem that the whole change from 0^h to 4^h takes place at once in winter, while in the other periods it is spread over all the time.
4 and 6 a fall in the spring and summer, a rise in the autumn and winter.
6 and 8 a rise, but larger in the spring and the autumn than in the summer and winter periods.
8 and 10 a rise at all periods, but small in winter.
10 and 12 nearly stationary.
12 and 14 a large fall in the spring, a small one in the summer, a large one in the autumn, and a very large one in the winter.

From these it appears that the increases and the decreases of the pressure of the atmosphere in the spring, summer, and autumn, are nearly alike, but those of the winter period are materially different. Scarcely any change takes place in the winter between 2^h and 12^h, particularly in the latter six hours, then the greatest variation of any in the year takes place before 14^h. The pressure then becomes nearly stationary again until after 18^h; then its readings increase until 22^h, as in the other periods of the year, and, as in the other parts, it is nearly stationary for the next 2^h; and again, all at once, a large fall takes place, between 12^h and 2^h, and, as mentioned before, it becomes stationary for many hours. It is remarkable, that the two very great changes in the winter season are separated by just 12 hours, the one occurring between 0^h and 2^h, the other between 12^h and 14^h.

The mean height of the barometer from all the observations is $29^{in}\cdot687$; and thus we find that,

At 14^h	the mean height of the barometer is	lower than the mean of the year by	0·004 in.
At 16	,,	lower ,,	0·012
At 18	,,	lower ,,	0·012
At 20	,,	lower ,,	0·001
At 22	,,	higher ,,	0·009
At 0	,,	higher ,,	0·010
At 2	the mean height of the barometer is the same as the mean of the year.		
At 4	the mean height of the barometer is	lower than the mean of the year by	0·005
At 6	,,	lower ,,	0·004
At 8	,,	higher ,,	0·004
At 10	,,	higher ,,	0·010
At 12	,,	higher ,,	0·008

And thus it appears, that the mean height deduced from all the observations taken at 20^h requires only $0^{in}\cdot001$ to be added to reduce it to the mean of all the observations in the year, and at 2^h the mean is the same as the mean of the year. If, therefore, this element was to be determined by an isolated observation each day, the hour indicated by this table as most proper is either 8 in the morning or 2 in the afternoon. The hours which depart the most from the mean are 10^h, 16^h, and 18^h.

TABLE IX.—Excess of the 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.)

Hour of Göttingen Time.	1840.		1841.										
	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Septem.	October.	Novem.	December.
h	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
14	+0·019	+0·006	−0·031	+0·006	+0·002	−0·010	+0·007	+0·006	+0·004	−0·011	−0·004	−0·021	+0·021	−0·028
16	+0·015	−0·002	−0·028	−0·004	−0·010	−0·018	−0·005	−0·005	−0·001	−0·023	−0·016	−0·037	+0·011	−0·014
18	+0·001	−0·012	−0·025	−0·003	−0·010	−0·013	−0·003	+0·002	+0·001	−0·022	−0·015	−0·039	−0·002	−0·012
20	+0·004	−0·008	−0·008	+0·006	+0·002	0·000	+0·006	+0·007	+0·010	−0·009	−0·005	−0·024	+0·001	−0·004
22	+0·007	+0·008	+0·020	+0·015	+0·016	+0·008	+0·008	+0·004	+0·009	+0·005	+0·009	−0·006	+0·015	+0·008
0	+0·003	+0·008	+0·026	+0·017	+0·014	+0·005	+0·006	+0·005	+0·006	+0·009	+0·011	+0·007	+0·006	+0·004
2	−0·013	−0·005	+0·010	0·000	+0·002	+0·002	−0·002	−0·001	+0·001	+0·005	+0·004	+0·004	−0·013	−0·014
4	−0·024	−0·010	+0·006	−0·008	−0·010	−0·008	−0·008	−0·007	−0·004	+0·003	−0·003	+0·009	−0·024	−0·005
6	−0·023	−0·007	−0·002	−0·007	−0·013	−0·006	−0·014	−0·012	−0·014	+0·003	+0·002	+0·024	−0·018	+0·004
8	−0·013	−0·002	+0·011	−0·005	−0·003	+0·008	−0·007	−0·006	−0·010	+0·011	+0·009	+0·032	−0·007	+0·012
10	+0·001	+0·007	+0·012	−0·009	0·000	+0·017	+0·008	+0·007	0·000	+0·016	+0·009	+0·031	+0·006	+0·021
12	+0·023	+0·011	+0·009	−0·015	+0·001	+0·018	+0·010	+0·004	−0·005	+0·015	−0·001	+0·024	+0·010	+0·025

TABLE X.—Mean Height of the Barometer at each even Hour during each Month (Table V.), diminished by the Mean Height for the Month (Table VI.), and by the Mean Diurnal Change at each Hour (Table VIII. and following numbers).

Hour of Göttingen Time.	1841.											
	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	−0·027	+0·010	+0·008	−0·006	+0·013	+0·012	+0·010	−0·007	+0·002	−0·017	+0·027	−0·024
16	−0·016	+0·008	+0·002	−0·006	+0·007	+0·007	+0·011	−0·011	−0·004	−0·025	+0·023	−0·002
18	−0·013	+0·009	+0·002	−0·001	+0·009	+0·014	+0·013	−0·010	−0·003	−0·027	+0·010	0·000
20	−0·007	+0·007	+0·003	+0·001	+0·007	+0·008	+0·011	−0·008	−0·004	−0·023	+0·002	−0·003
22	+0·011	+0·006	+0·007	−0·001	−0·001	−0·005	0·000	−0·004	0·000	−0·015	+0·006	−0·001
0	+0·016	+0·007	+0·004	−0·005	−0·004	−0·005	−0·004	−0·001	+0·001	−0·003	−0·004	−0·006
2	+0·010	0·000	+0·002	+0·002	−0·002	−0·001	+0·001	+0·005	+0·004	+0·004	−0·013	−0·014
4	+0·011	−0·003	−0·005	−0·003	−0·003	−0·002	+0·001	+0·008	+0·002	+0·014	−0·019	0·000
6	+0·010	−0·003	−0·009	−0·002	−0·010	−0·008	−0·010	+0·007	+0·006	+0·028	−0·014	+0·008
8	+0·007	−0·009	−0·007	+0·004	−0·011	−0·010	−0·014	+0·007	+0·005	+0·028	−0·011	+0·008
10	+0·002	−0·019	−0·010	+0·007	−0·002	−0·003	−0·010	+0·006	−0·001	+0·021	−0·004	+0·011
12	+0·001	−0·023	−0·007	+0·010	+0·009	−0·004	−0·013	+0·007	−0·009	+0·016	+0·002	+0·017

These numbers prove that the daily change of the pressure of the atmosphere is different at different times of the year. It appears

difficult, however, to pronounce that any law exists among these inequalities, except that those for times which are six months apart have opposite signs; and even this rule is violated in the instances of May and November. Considering the above table hour by hour, some hours have much larger numbers than others. To ascertain which hours depart the most and the least from their means, the sums of all the numbers belonging to each hourly observation were taken, without reference to their signs; and thus we obtain the following table:—

TABLE XI.—Hourly Sums of the Changes of Diurnal Inequality for different Months.

Hour, Göttingen Time.	Sum of the Differences.	Hour, Göttingen Time.	Sum of the Differences.
h	in.	h	in.
14	0·163	2	0·058
16	0·122	4	0·071
18	0·111	6	0·115
20	0·084	8	0·121
22	0·057	10	0·096
0	0·060	12	0·118

These numbers indicate that at noon, 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 about 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 about noon, and is subject to the greatest irregularity about midnight.

Considering the numbers in Table X., month by month, they differ very much; the winter months having much larger numbers than the summer months. By taking the sums of all the numbers belonging to each month, without regard to their signs, the following table is formed:—

TABLE XII.—Monthly Sums of the Changes of Diurnal Inequality for Different Hours.

1841.	Mean Difference.	Sum of the Differences.	1841.	Mean Difference.	Sum of the Differences.
		in.			in.
January	0·011	0·131	July	0·008	0·098
February	0·009	0·102	August	0·007	0·081
March	0·005	0·066	September	0·003	0·041
April	0·004	0·048	October	0·018	0·221
May	0·006	0·078	November	0·011	0·135
June	0·007	0·079	December	0·008	0·094

The smallest numbers indicate the months which were subject to the least irregularity; thus, in September the daily motion of the barometer agreed very nearly with its mean motion, and also in March and April. The diurnal motion in the month of October 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, 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 XIII.—Monthly Means of the Corrected Barometer-readings, arranged by Hour-angles of the Moon.

Month.	Mean Monthly Corrected Barometer at the 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.
	Before the nearest to the passage of the Moon.						After the nearest to the passage of the Moon.					
1840.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
November	29·629	29·655	29·682	29·663	29·666	29·657	29·644	29·637	29·632	29·627	29·582	29·576
December	29·987	29·992	29·993	30·003	29·998	29·997	30·003	30·038	29·996	29·993	29·988	29·981
1841.												
January	29·710	29·715	29·728	29·746	29·725	29·733	29·731	29·730	29·710	29·710	29·708	29·694
February	29·735	29·729	29·707	29·718	29·706	29·690	29·686	29·685	29·678	29·672	29·671	29·668
March	29·778	29·771	29·761	29·766	29·759	29·774	29·771	29·778	29·780	29·790	29·798	29·805
April	29·732	29·729	29·726	29.731	29·739	29·745	29·747	29·754	29·750	29·752	29·771	29·765
May	29·743	29·738	29·738	29·735	29·745	29·742	29·735	29·732	29·717	29·722	29·713	29·722
June	29·805	29·803	29·808	29·807	29·806	29·804	29·803	29·804	29·808	29·810	29·808	29·808
July	29·703	29·700	29·695	29·699	29·699	29·710	29·719	29·718	29·720	29·708	29·706	29·699
August	29·780	29·776	29·769	29·755	29·756	29·754	29·768	29·756	29·760	29·769	29·779	29·786
September	29·615	29·619	29·628	29·630	29·629	29·623	29·616	29·613	29·601	29·598	29·583	29·586
October	29·413	29·415	29·418	29·422	29·440	29.445	29·438	29·442	29·471	29·475	29·473	29·465
November	29·678	29·665	29·676	29·672	29·674	29·686	29·700	29·704	29·707	29·729	29·718	29·721
December	29·534	29·539	29·565	29·567	29·563	29·558	29·554	29·542	29·549	29·558	29·576	29·583

The next table is formed from the preceding by taking the mean of each of the vertical columns.

TABLE XIV.—The Mean Height of the Barometer at every Two Hours of the Moon's Hour-angle, as deduced from 14 Lunations in 1840 and 1841.

Hour-angle of the Moon.		Mean Height of the Barometer.	Mean of Heights corresponding to Hour-angles: 10h to 2h East. / 2h to 10h West.	Mean of Heights corresponding to Hour-angles: 8h West to 8h East. / 4h East to 4h West.
	h	in.	in.	in.
	12	29·7042		29·7048
	10	29·7030		
	8	29·7033		
East	6	29·7067	29·7057	
	4	29·7081		
	2	29·7075		
	0	29·7084		29·7083
	2	29·7082		
	4	29·7095		
West	6	29·7056	29·7073	
	8	29·7081		
	10	29·7053		

These numbers indicate that the mean height of the barometer is greatest when the Moon has passed the meridian about two hours.

The next table is formed from the numbers in 1841 only, by dividing them into two groups, thus: the months from April to September, both inclusive, for the summer period, and the remaining six months for the winter period.

TABLE XV.—The Mean Height of the Barometer at every Two Hours of the Moon's Hour-angle in the year 1841, for Summer, for Winter, and for the Year.

Hour-angle of the Moon.		Mean Height of the Barometer in Summer.	Mean of Heights corresponding to the Hour-angles		Mean Height of the Barometer in Winter.	Mean of Heights corresponding to the Hour-angles		Mean Height of the Barometer for the Year.	Mean of Heights corresponding to the Hour-angles	
			10h to 2h East. / 2h to 10h West.	8h West to 8h East. / 4h East to 4h West.		10h to 2h East. / 2h to 10h West.	8h West to 8h East. / 4h East to 4h West.		10h to 2h East. / 2h to 10h West.	8h West to 8h East. / 4h East to 4h West.
	h	in.	in.	in.	in.	in.	in.	in.	in.	in.
	12	29·7277		29·7276	29·6560		29·6499	29·6918		29·6887
	10	29·7297			29·6413			29·6855		
	8	29·7275			29·6390			29·6833		
East	6	29·7273	29·7279		29·6425	29·6432		29·6849	29·6856	
	4	29·7262			29·6485			29·6874		
	2	29·7290			29·6445			29·6868		
	0	29·7297		29·7291	29·6477		29·6468	29·6887		29·6880
	2	29·7313			29·6467			29·6890		
	4	29·7295			29·6468			29·6882		
West	6	29·7260	29·7280		29·6492	29·6511		29·6876	29·6896	
	8	29·7265			29·6557			29·6911		
	10	29·7267			29·6573			29·6920		

The general fact of a diurnal lunar tide in the atmospheric pressure appears to be certain, though its maximum seems to occur at a greater number of hours after the Moon's transit in winter than in 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 maximum have been collected, and their mean taken; then the mean heights on all the days next following them, and so on.

TABLE XVI.—Mean Daily Heights of the Barometer, arranged with Reference to the Moon's Declination, 1840 and 1841.

Days after the Moon's greatest North Declination.	Mean Height of the Barometer.	Days after the Moon was in the Equator, the Moon going South.	Mean Height of the Barometer.	Days after the Moon's greatest South Declination.	Mean Height of the Barometer.	Days after the Moon was in the Equator, the Moon going North.	Mean Height of the Barometer.
d	in.	d	in.	d	in.	d	in.
0	29·587	0	29·732	0	29·716	0	29·723
1	29·647	1	29·792	1	29·837	1	29·735
2	29·683	2	29·763	2	29·820	2	29·791
3	29·759	3	29·692	3	29·811	3	29·745
4	29·697	4	29·638	4	29·640	4	29·669
5	29·608	5	29·793	5	29·707	5	29·461
		6	29·855	6	29·712	6	29·510

The means of each of the columns respectively give the mean height of the barometer when the

	in.
Moon's declination was North, and going South,	29·6635
Moon's declination was South, and going South,	29·7521
Moon's declination was South, and going North,	29·7590
Moon's declination was North, and going North,	29·6623

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,

	in.
The mean height of the barometer when the Moon was at or near her greatest North declination,	29·6166
in or near the equator, and moving southward,	29·7204
at or near her greatest South declination,	29·7814
in or near the equator, and moving northward,	29·7214

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 XVII.—Mean Daily Heights of the Barometer arranged with reference to the Moon's Parallax, 1840 and 1841.

Days after Perigee.	Mean Height of Barometer.	Days after Apogee.	Mean Height of Barometer.
	in.		in.
0	29·667	0	29·770
1	·727	1	·744
2	·669	2	·832
3	·690	3	·526
4	·719	4	·690
5	·707	5	·721
6	·776	6	·748
7	·742	7	·798
8	·743	8	·809
9	·677	9	·803
10	·721	10	·583
11	·678	11	·540
12	·757	12	·644
13	·782	13	·609

The number of observations combined for the last number of each column is much smaller than for the others.

So far as one year's observation will shew, the variation of the distance of the Moon has 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,	29·7079
$10\frac{1}{2}$ days after the Moon was in Perigee,	29·7286
$3\frac{1}{2}$ days after the Moon was in Apogee,	29·7187
$10\frac{1}{2}$ days after the Moon was in Apogee,	29·6837

And the mean of all between Perigee and Apogee is 29·7183

,, Apogee and Perigee is 29·7012

By combining the mean heights for the day of Perigee, the three days preceding, and the three days following, for one group, and the same for another group for Apogee, the results are:—

	in.
When the Moon is at or near Perigee, the mean height of the barometer is	29·6494
,, Apogee, ,,	29·7270

These numbers seem to indicate that when the Moon is nearest to the earth, the mean height of the barometer is less than when she is at her greatest distance. It must, however, be remarked, that for a single year it is nearly impossible to separate the variations depending on change of parallax from those depending on change of declination.

The following table is formed in the same manner as the last two:—

TABLE XVIII.—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.	Days after the Moon enters First Quarter.	Mean Height of the Barometer.	Days after Full Moon.	Mean Height of the Barometer.	Days after the Moon enters Third Quarter.	Mean Height of the Barometer.
	in.		in.		in.		in.
0	29·753	0	29·796	0	29·699	0	29·754
1	·831	1	·700	1	·696	1	·715
2	·797	2	·830	2	·650	2	·729
3	·887	3	·704	3	·766	3	·680
4	·779	4	·641	4	·721	4	·672
5	·765	5	·641	5	·757	5	·643
6	·814	6	·587	6	·662	6	·717
7	·842	7	·748	7	·709		

The number of observations combined for the last number in each column is much smaller than for the others.

The mean of each column gives the mean height of the barometer—

	in.
When the Moon was between new and first quarter,	29·8085
first quarter and full,	29·7059
full and third quarter,	29·7075
third quarter and new,	29·7014

By taking the means of the mean heights on the day of each change, and on the three days preceding and following—

The mean height of the barometer at or near new Moon, is 29·7571 in.
at or near first quarter, 29·7697
at or near full Moon, 29·6673
at or near third quarter, 29·7169

It would seem, therefore, that the barometer is highest a little time before the Moon enters the first quarter.

TABLE XIX.—Mean Daily Temperature, as deduced from the Mean of the Twelve Observations with the Dry Thermometer which have been taken every Civil Day (except Sundays and Christmas Day), at the even Hours of Göttingen Mean Time.

Day of the Month.	1840.		1841.											
	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Septem.	October.	Novem.	December.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°
1	...	50·9	40·5	27·2	38·6	45·4	56·4	59·7	58·2	*S*	55·1	54·6	46·0	47·0
2	...	42·2	39·1	23·9	39·2	45·7	*S*	60·8	62·1	58·5	55·8	52·1	46·2	47·7
3	...	33·1	*S*	19·2	42·5	42·5	46·7	61·4	65·9	62·0	61·9	*S*	47·4	49·1
4	...	34·6	29·1	24·4	38·2	*S*	55·3	56·7	*S*	61·0	50·0	54·0	45·0	45·9
5	...	38·9	29·8	24·8	43·0	45·5	55·3	56·4	62·2	60·3	*S*	52·3	45·8	*S*
6	...	*S*	26·1	25·5	44·8	43·5	54·4	*S*	61·5	59·8	47·9	50·7	46·6	46·1
7	...	35·0	17·4	*S*	*S*	43·8	54·3	48·7	58·8	61·5	52·0	50·9	*S*	44·3
8	...	38·9	12·8	26·1	51·2	43·7	52·0	50·8	56·9	*S*	58·1	50·1	43·7	48·4
9	46·5	35·3	20·9	27·7	45·8	44·3	*S*	50·4	56·3	57·3	60·0	48·7	44·1	41·7
10	44·9	37·2	*S*	27·7	47·5	42·1	55·7	55·7	56·2	57·8	63·2	*S*	49·7	47·6
11	43·4	34·8	34·3	36·3	45·8	*S*	58·7	50·0	*S*	58·3	63·0	53·7	47·1	40·1
12	42·9	35·5	34·1	43·3	48·7	39·3	54·4	48·6	54·7	54·4	*S*	49·2	45 4	*S*
13	48·3	*S*	33·0	43·8	43·9	42·7	52·8	*S*	54·8	56·0	66·1	48·9	40·9	47·2
14	44·8	26·9	33·0	*S*	*S*	48·4	51·9	56·8	54·5	59·6	66·4	57·3	*S*	39·3
15	*S*	24·9	33·3	44·5	47·5	44·5	55·9	56·0	54·2	*S*	63·2	53·2	32·6	42·7
16	53·5	26·7	41·7	45·1	49·6	42·7	*S*	56·0	56·7	61·3	58·7	50·8	30·5	40·5
17	49·3	25·9	*S*	40·6	48·7	45·7	54·4	58·6	59·4	63·2	53·5	*S*	31·0	32·9
18	40·3	27·0	43·9	45·1	47·7	*S*	53·9	62·4	*S*	61·3	55·0	49·2	33·8	29·3
19	39·8	31·0	34·0	44·8	45·8	47·3	50·8	58·5	60·2	61·5	*S*	45·3	41·7	*S*
20	37·3	*S*	31·3	45·0	44·4	44·2	53·1	*S*	57·5	65·4	61·8	46·4	41·4	30·8
21	41·8	33·0	31·3	*S*	*S*	44·2	55·0	59·8	57·5	62·6	60·1	40·7	*S*	30·9
22	*S*	27·1	36·4	39·2	48·9	43·5	57·9	57. 2	56·9	*S*	59·4	40·9	51·8	33·2
23	40·4	23·9	38·6	37·8	47·6	42·7	*S*	55·8	55·1	58·1	55·9	49·9	40·8	40·2
24	47·7	28·4	*S*	36·2	47·7	47·2	60·1	57·6	55·3	53·6	54·8	*S*	37·5	42·8
25	38·8	22·8	32·1	38·9	48·7	*S*	61·4	59·4	*S*	56·7	56·2	43·8	35·7	*Ch. Day*
26	33·5	25·7	43·7	41·6	52·1	57·7	66·2	60·4	60·0	65·2	*S*	42·0	34·6	*S*
27	32·3	*S*	44·5	37·3	46·5	63·5	68·6	*S*	61·3	68·9	56·1	46·6	46·5	32·2
28	30·3	27·8	37·9	*S*	*S*	60·3	66·9	56·5	59·8	62·6	60·5	46·3	*S*	39·5
29	*S*	26·2	37·3	...	49·0	56·7	60·9	55·8	55·0	*S*	58·9	46·5	52·9	40·6
30	47·9	29·2	37·3	...	46·9	54·1	*S*	56·5	53·2	64·1	57·3	46·0	51·2	37·7
31	...	38·4	*S*	...	46·1	...	63·2	...	53·6	61·9	...	*S*	...	35·3

The letter *S* denotes that the day was Sunday.

TABLE XX.—Table exhibiting the Times at which the greatest Differences took place between the Mean Temperatures on two consecutive Days, with the amount of the Differences.

1840.				1841.									
November.		December.		January.		February.		March.		April.		May.	
Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.
	°		°		°		°		°		°		°
12 & 13	+ 5·4	1 & 2	— 8·7	6 & 7	— 8·7	3 & 4	+ 5·2	8 & 9	— 5·4	13 & 14	+ 5·7	3 & 4	+ 8·6
17 & 18	— 9·0	2 & 3	— 9·1	8 & 9	+ 8·1	10 & 11	+ 8·6	26 & 27	— 5·6	26 & 27	+ 5·8	28 & 29	— 6·0
23 & 24	+ 7·3	21 & 22	— 5·9	15 & 16	+ 8·4	11 & 12	+ 7·0						
24 & 25	— 8·9	24 & 25	— 5·6	18 & 19	— 9·9								
25 & 26	— 5·3	30 & 31	+ 9·2	21 & 22	+ 5·1								
				25 & 26	+11·6								
				27 & 28	— 6·6								

TABLE XX.—*continued.*

1841.											
June.		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.
	°		°		°		°		°		°
9 & 10	+ 5·3	25 & 26	+ 8·5	2 & 3	+ 6·1	13 & 14	+ 8·4	9 & 10	+ 5·6	8 & 9	− 6·7
10 & 11	− 5·7	27 & 28	− 6·3	3 & 4	−11·9	20 & 21	− 5·7	18 & 19	+ 7·9	9 & 10	+ 5·9
		31 & 32	− 6·8	7 & 8	+ 6·1	22 & 23	+ 9·0	22 & 23	−11·0	10 & 11	− 7·5
				16 & 17	− 5·2			26 & 27	+11·9	13 & 14	− 7·9
										16 & 17	− 7·6
										22 & 23	+ 7·0
										27 & 28	+ 7·3

The table contains 49 instances 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—

16 instances	in which the change is	greater than	° 5	and less than	° 6
7 instances	,,	greater than	6	and less than	7
8 instances	,,	greater than	7	and less than	8
9 instances	,,	greater than	8	and less than	9
5 instances	,,	greater than	9	and less than	10
4 instances	,,	greater than	11	and less than	12

TABLE XXI.—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.	Mean Daily Temperature in the Month.		Greatest Difference between the Highest and the Lowest Mean Daily Temperature in the Month.	Day in the Month on which the Mean Temperature for the Day was	
	Highest.	Lowest.		Highest.	Lowest.
1840.	°	°	°	d	d
November	53·5	30·3	23·2	16	28
December	50·9	22·8	28·1	1	25
1841.					
January	44·5	12·8	31·7	27	8
February	45·1	19·2	25·9	16	3
March	52·1	38·2	13·9	26	4
April	63·5	39·3	24·2	27	12
May	68·6	46·7	21·9	27	3
June	62·4	48·6	13·8	18	12
July	65·9	53·2	12·7	3	30
August	68·9	53·6	15·3	27	24
September	66·4	47·9	18·5	14	6
October	57·3	40·7	16·6	14	21
November	52·9	30·5	22·4	29	16
December	49·1	29·3	19·8	3	18

The month in which the mean temperature of one day differed most from the mean temperature of another day, was January; and the month subject to the least variation, in this respect, was July. The yearly mean daily range was 56°·1, obtained by taking the difference between the lowest daily mean in January and the highest daily mean in August.

TABLE XXII.—The Highest and Lowest Readings shewn by the Maximum and Minimum Thermometer.

Month.	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.
1840.	°	°	°	d	d
November	61·2	23·8	37·4	16	29
December	55·2	16·4	38·8	2	18
1841.					
January	53·0	4·0	49·0	27	9
February	54·6	12·4	42·2	20	3
March	66·9	29·5	37·4	26	1
April	76·5	31·8	44·7	28	11
May	82·8	41·2	41·6	27	13
June	78·5	40·3	38·2	18	15
July	76·0	44·3	31·7	3	12
August	79·6	45·5	34·1	27	12
September	79·6	36·6	43·0	12	5
October	64·6	32·2	32·4	1	21
November	58·3	22·6	35·7	29	16
December	53·9	24·3	29·6	10	18

These numbers shew, that in January the range of the thermometer amounted to 49°, which is the widest range in any month. The yearly range was 78°·8, being the difference between the minimum reading in January and the maximum reading in May.

TABLE XXIII.—The Mean Temperature at every even Hour of Göttingen Mean Astronomical Time, deduced from all the Observations taken at that Hour in each Month.

Hour of Göttingen Time, Astronomical Reckoning.	1840.		1841.											
	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Septem.	October.	Novem.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°	°	°
14	40·9	30·8	31·9	33·4	42·4	42·3	50·0	50·1	52·7	55·7	54·5	46·4	41·0	40·0
16	39·6	30·6	31·7	33·3	41·8	41·7	49·2	48·8	52·0	55·0	53·4	46·2	41·0	39·4
18	39·8	30·6	31·5	33·3	40·8	41·2	49·9	49·6	52·5	54·8	52·9	46·3	40·6	39·3
20	39·8	30·3	31·4	33·2	41·4	44·7	55·2	54·8	56·4	58·2	55·2	46·7	40·8	39·1
22	41·5	31·8	32·8	35·2	46·5	49·1	60·3	59·8	59·9	62·6	59·5	49·8	42·4	40·1
0	44·5	34·0	35·7	37·4	52·4	52·0	62·9	61·4	63·4	65·7	63·1	53·0	44·8	42·5
2	46·4	35·0	37·0	39·1	53·4	53·3	65·5	63·5	63·8	68·2	64·7	53·7	46·6	42·9
4	45·5	34·2	36·5	37·9	53·2	53·0	63·9	63·5	62·6	67·2	64·1	52·6	46·0	42·1
6	43·8	32·2	34·4	36·6	49·6	51·1	61·7	62·3	62·1	64·6	61·5	49·7	43·6	40·9
8	42·5	31·4	33·8	34·8	45·4	47·1	57·1	58·5	58·9	60·2	57·6	47·9	42·3	40·3
10	42·1	31·3	33·4	34·7	44·1	44·9	53·7	54·3	55·5	57·6	55·9	47·4	41·6	40·0
12	41·6	31·3	33·0	34·2	42·8	43·3	51·7	51·4	53·6	56·3	54·9	46·8	41·3	39·6

Taking the means of the numbers in each column of this table, we have the following:—

TABLE XXIV.—Mean Height of the Thermometer in each Month, deduced from the Mean of all the Two-hourly Observations in each Month.

		°			°
1840.	November	42·3	1841.	June	56·4
	December	32·0		July	57·8
1841.	January	33·6		August	60·5
	February	35·3		September	58·1
	March	46·2		October	48·8
	April	47·0		November	42·7
	May	56·8		December	40·5

In Table XXIII. the numbers opposite to 2^h are the highest in every month. The times to which the lowest numbers correspond are variable. To ascertain the general time of the minimum, the interval of time between it and the maximum, and the greatest difference between the mean temperature of any one even hour from the mean temperature of any other even hour in the month, the next table was formed.

TABLE XXV.—Hours of Göttingen Mean Solar 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 amount of the Changes.

Month.	Even Hour at which the Mean Temperature was		Interval of Time between the Highest and Lowest.	Mean Temperature.		Difference.
	Highest.	Lowest.		Highest.	Lowest.	
1840.	h	h	h	°	°	°
November	2	16	14	46·4	39·6	6·8
December	2	20	18	35·0	30·3	4·7
1841.						
January	2	20	18	37·0	31·4	5·6
February	2	20	18	39·1	33·2	5·9
March	2	18	16	53·4	40·8	12·6
April	2	18	16	53·3	41·2	12·1
May	2	16	14	65·5	49·2	16·3
June	2 and 4	16	13	63·5	48·8	14·7
July	2	16	14	63·8	52·0	11·8
August	2	18	16	68·2	54·8	13·4
September	2	18	16	64·7	52·9	11·8
October	2	16	14	53·7	46·2	7·5
November	2	18	16	46·6	40·6	6·0
December	2	20	18	42·9	39·1	3·8

From this table it appears that the maximum temperature in every month happens nearer to the observation at 2^h than to any other. The minimum temperature from 1840, December, to 1841, September, is at that hour of observation which happens the nearest to the time of the rising of the Sun. In 1840, November, the time of the minimum temperature took place at 16^h, but by reference to the preceding table it is seen that there was only a difference of 0°·2 between the results at 16^h, 18^h, and 20^h. In 1841, October, the time of the minimum is at 16^h, but the temperature at 18^h is only 0°·1 higher. In 1841, November, the time of the

minimum is at 18^h; but the temperature at 20^h is only $0^\circ \cdot 2$ higher. Therefore, in these three cases, the minimum temperatures may be considered to have continued for two hours at least, and this would bring them to the time of the Sun's rising; and then throughout the year the minimum temperature would have occurred at, or near the time of, the rising of the Sun.

The numbers in the last column shew the greatest difference between the mean temperatures at any two even hours in the month. This difference appears largest in May and smallest in December. The differences from March to September are twice as great as they are in the two preceding and the two following months, and full three times as great as the difference for December.

In the following table, Spring means the months of March, April, and May; Summer those of June, July, and August; Autumn those of September, October, and November; Winter those of December, January, and February.

TABLE XXVI.—Mean Temperature at every even Hour, Göttingen Mean Time, in Quarterly Periods.

Hour of Observation.	1841.				Mean.
	Spring.	Summer.	Autumn.	Winter.	
h	°	°	°	°	°
14	44·9	52·8	47·3	35·1	45·0
16	44·2	52·0	46·9	34·8	44·5
18	44·0	52·3	46·6	34·7	44·4
20	47·1	56·5	47·6	34·6	46·5
22	52·0	60·8	50·6	36·0	49·9
0	55·8	63·5	53·6	38·5	52·9
2	57·4	65·2	55·0	39·7	54·4
4	56·7	64·4	54·2	38·8	53·5
6	54·1	63·0	51·6	37·3	51·5
8	49·9	59·2	49·3	36·3	48·7
10	47·6	55·8	48·3	36·0	46·9
12	45·9	53·8	47·7	35·6	45·8

The mean temperature for Spring is $50^\circ \cdot 0$
for Summer is $58^\circ \cdot 5$
for Autumn is $49^\circ \cdot 9$
for Winter is $36^\circ \cdot 5$

And the mean temperature for the year is $48^\circ \cdot 7$, and this is the same as the mean temperature from all the observations at 8^h. If the mean of the mean temperatures at 22^h and 10^h be taken, that mean will be only $0^\circ \cdot 3$ below the mean of the year. And the means of the results at 16^h or 18^h, and 0^h, is the same as the mean of the year; so also with respect to 6^h and 12^h.

Comparing the numbers of the last column with the mean temperature for the year, $48^\circ \cdot 7$, we find that

The mean temperature at 14^h is below the mean temperature of the year by $3^\circ \cdot 7$
at 16 is below by $4^\circ \cdot 2$
at 18 is below by $4^\circ \cdot 3$
at 20 is below by $2^\circ \cdot 2$
The mean temperature at 22 is above the mean temperature of the year by $1^\circ \cdot 2$
at 0 is above by $4^\circ \cdot 2$
at 2 is above by $5^\circ \cdot 7$
at 4 is above by $4^\circ \cdot 8$
at 6 is above by $2^\circ \cdot 8$
The mean temperature at 8 is the same as the mean temperature of the year
The mean temperature at 10 is below the mean temperature of the year by $1^\circ \cdot 8$
at 12 is below by $2^\circ \cdot 9$

If the mean temperature is required from observations at a single hour, 8^h appears the best; if from two observations, they must be at 16^h and 0^h, or
at 18^h and 0^h, or
at 6^h and 12^h; and the same element as deduced from 22^h and 10^h, is only subject to the error of $\frac{-1^\circ \cdot 7 + 1^\circ \cdot 2}{2} = -0^\circ \cdot 3$.

In the following table, the mean temperature is deduced from the maximum and minimum readings by a simple arithmetical mean. The mean maximum and minimum readings are found from the daily maximum and minimum readings by taking the mean for each month; the correction $-0^\circ \cdot 2$ is then applied, to reduce these readings (which have been referred to the Greenwich standard) to readings by Simms' standard (supposed to be identical with the dry thermometer).

TABLE XXVII.—Mean Temperature of each Month, deduced from the Maximum and Minimum Thermometer.

Month.	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.	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.
1840.	°	°	°	1841.	°	°	°
November	46·7	35·7	41·2	June	67·0	48·2	57·6
December	36·1	27·1	31·6	July	67·1	51·5	59·3
1841.							
January	39·5	28·4	34·0	August	70·6	54·3	62·5
February	40·7	31·6	36·1	September	67·2	51·2	59·2
March	56·2	38·7	47·5	October	55·6	43·9	49·8
April	56·4	39·9	48·2	November	48·7	38·0	43·4
May	69·7	48·4	59·1	December	44·8	35·4	40·1

TABLE XXVIII.—Approximations to the Mean Temperature of each Month, deduced from various combinations.

Month.	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.
1841.	°	°	°	°	°	°	°	°	°	°	°	°	°
January	34·0	33·7	33·6	33·1	33·7	33·8	33·6	+ 0·4	+0·1	0·0	−0·5	+0·1	+0·2
February	36·1	35·4	35·4	35·0	35·4	34·8	35·3	+ 0·8	+0·1	+0·1	−0·3	+0·1	−0·5
March	47·5	47·1	46·6	45·3	46·2	45·4	46·2	+ 1·3	+0·9	+0·4	−0·7	0·0	−0·8
April	48·4	46·9	46·6	47·0	47·2	47·1	47·0	+ 1·4	−0·1	−0·4	0·0	+0·2	+0·1
May	59·1	56·1	56·4	57·0	56·7	57·1	56·8	+ 2·3	−0·7	−0·4	+0·2	−0·1	+0·3
June	57·6	55·1	55·5	57·1	57·4	58·5	56·4	+ 1·2	−1·3	−0·9	+0·7	+1·0	+2·1
July	59·3	57·7	58·5	57·7	57·8	58·9	57·8	+ 1·5	−0·1	+0·7	−0·1	0·0	+1·1
August	62·5	60·4	60·3	60·1	60·5	60·2	60·5	+ 2·0	−0·1	−0·2	−0·4	0·0	−0·3
September	59·2	58·3	58·0	57·7	58·2	57·6	58·1	+ 1·1	+0·2	−0·1	−0·4	+0·1	−0·5
October	49·8	49·6	49·7	48·6	48·7	47·9	48·8	+ 1·0	+0·8	+0·9	−0·2	−0·1	−0·9
November	43·4	42·9	42·7	42·0	42·5	42·3	42·7	+ 0·7	+0·2	0·0	−0·7	−0·2	−0·4
December	40·1	41·0	40·9	40·1	40·3	40·3	40·5	− 0·4	+0·5	+0·4	−0·4	−0·2	−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 1°·1.

That the mean temperature of the year, obtained from observations at 16h and 0h is the true mean.

,, ,, at 18h and 0h is the true mean.

,, ,, at 22h and 10h is too low by 0°·3.

,, ,, at 6h and 12h is the true mean.

,, ,, at 8h is the true mean.

And thus it would appear, that the results obtained from the maximum and minimum temperature depart in every instance more from the true mean than by any of the above combinations.

TABLE XXIX.—Excess of the Monthly Mean Temperature at each even Hour, above the Mean Temperature of the Month.

Hour of Göttingen Time.	1840.		1841.											
	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	Septem.	October.	Novem.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°	°	°
14	− 1·4	− 1·2	−1·7	−1·9	−3·8	−4·7	−6·8	−6·3	−5·1	−4·8	−3·6	−2·4	−1·7	− 0·5
16	− 2·7	− 1·4	−1·9	−2·0	−4·4	−5·3	−7·6	−7·6	−5·8	−5·5	−4·7	−2·6	−1·7	− 1·1
18	− 2·5	− 1·4	−2·1	−2·0	−5·4	−5·8	−6·9	−6·8	−5·3	−5·7	−5·2	−2·5	−2·1	− 1·2
20	− 2·5	− 1·7	−2·2	−2·1	−4·8	−2·3	−1·6	−1·6	−1·4	−2·3	−2·9	−2·1	−1·9	− 1·4
22	− 0·8	− 0·2	−0·8	−0·1	+0·3	+2·1	+3·5	+3·4	+2·1	+2·1	+1·4	+1·0	−0·3	− 0·4
0	+ 2·2	+ 2·0	+2·1	+2·1	+6·2	+5·0	+6·1	+5·0	+5·6	+5·2	+5·0	+4·2	+2·1	+ 2·0
2	+ 4·1	+ 3·0	+3·4	+3·8	+7·2	+6·3	+8·7	+7·1	+6·0	+7·7	+6·6	+4·9	+3·9	+ 2·4
4	+ 3·2	+ 2·2	+2·9	+2·6	+7·0	+6·0	+7·1	+7·1	+4·8	+6·7	+6·0	+3·8	+3·3	+ 1·6
6	+ 1·5	+ 0·2	+0·8	+1·3	+3·4	+4·1	+4·9	+5·9	+4·3	+4·1	+3·4	+0·9	+0·9	+ 0·4
8	+ 0·2	− 0·6	+0·2	−0·5	−0·8	+0·1	+0·3	+2·1	+1·1	−0·3	−0·5	−0·9	−0·4	− 0·2
10	− 0·2	− 0·7	−0·2	−0·6	−2·1	−2·1	−3·1	−2·1	−2·3	−2·9	−2·2	−1·4	−1·1	− 0·5
12	− 0·7	− 0·7	−0·6	−1·1	−3·4	−3·7	−5·1	−5·0	−4·2	−4·2	−3·2	−2·0	−1·4	− 0·9

TABLE XXX.—Mean Height of Thermometer at each even Hour during each Month (Table XXIII.), diminished by the Mean Height for the Month (Table XXIV.), and by the Mean Diurnal Change at each Hour (Table XXVI. and following numbers).

Hour of Göttingen Time.	1841.											
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	+ 2·0	+ 1·8	− 0·1	− 1·0	− 3·1	− 2·6	− 1·4	− 1·1	+ 0·1	+ 1·3	+ 2·0	+ 3·2
16	+ 2·3	+ 2·2	− 0·2	− 1·1	− 3·4	− 3·4	− 1·6	− 1·3	− 0·5	+ 1·6	+ 2·5	+ 3·1
18	+ 2·2	+ 2·3	− 1·1	− 1·5	− 2·6	− 2·5	− 1·0	− 1·4	− 0·9	+ 1·8	+ 2·2	+ 3·1
20	0·0	+ 0·1	− 2·6	− 0·1	+ 0·6	+ 0·6	+ 0·8	− 0·1	− 0·7	+ 0·1	+ 0·3	+ 0·8
22	− 2·0	− 1·3	− 0·9	+ 0·9	+ 2·3	+ 2·2	+ 0·9	+ 0·9	+ 0·2	− 0·2	− 1·5	− 1·6
0	− 2·1	− 2·1	+ 2·0	+ 0·8	+ 1·9	+ 0·8	+ 1·4	+ 1·0	+ 0·8	0·0	− 2·1	− 2·2
2	− 2·3	− 1·9	+ 1·5	+ 0·6	+ 3·0	+ 1·4	+ 0·3	+ 2·0	+ 0·9	− 0·8	− 1·8	− 3·3
4	− 1·9	− 2·2	+ 2·2	+ 1·2	+ 2·3	+ 2·3	0·0	+ 1·9	+ 1·2	− 1·0	− 1·5	− 3·2
6	− 2·0	− 1·5	+ 0·6	+ 1·3	+ 2·1	+ 3·1	+ 1·5	+ 1·3	+ 0·6	− 1·9	− 1·9	− 2·4
8	+ 0·2	− 0·5	− 0·8	+ 0·1	+ 0·3	+ 2·1	+ 1·1	− 0·3	− 0·5	− 0·9	− 0·4	− 0·2
10	+ 1·6	+ 1·2	− 0·3	− 0·3	− 1·3	− 0·3	− 0·5	− 1·1	− 0·4	+ 0·4	+ 0·7	+ 1·3
12	+ 2·3	+ 1·8	− 0·5	− 0·8	− 2·2	− 2·1	− 1·3	− 1·3	− 0·3	+ 0·9	+ 1·5	+ 2·0

By the order of the signs contained in this table being different at different periods 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 may 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 most irregularity.

TABLE XXXI.—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	19·7	2	19·8
16	23·2	4	20·9
18	22·6	6	20·2
20	6·8	8	7·4
22	14·9	10	9·4
0	17·2	12	17·0

These numbers shew that at 20^h and again 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 16^h, 18^h, and 4^h are the most irregular.

Considering the numbers contained in the table month by month, they differ much. To ascertain the months subject to the greatest and least irregularity, the sums of all the numbers in each month are taken, and form the following table:—

TABLE XXXII.—Monthly Sums of the Changes of Diurnal Inequality for different Hours.

1841.	Sums of the Differences.	1841.	Sums of the Differences.
	°		°
January	20·9	July	11·8
February	18·9	August	13·7
March	12·8	September	7·1
April	9·7	October	10·9
May	25·1	November	18·4
June	23·4	December	26·4

These numbers indicate that April and September are more uniform than any others, and that May, June, and December are subject to the greatest irregularity, and depart the most from the mean of the year.

TABLE XXXIII.—Abstract of the Results of the Observations of Radiation.

1841.	Monthly Mean of the		1841.	Monthly Mean of the	
	Observations of the Thermometer whose bulb is in the full rays of the Sun.	Observations of the Thermometer whose Bulb is in the focus of a Metallic Reflector exposed to the Sky		Observations of the Thermometer whose bulb is in the full rays of the Sun.	Observations of the Thermometer whose Bulb is in the focus of a Metallic Reflector exposed to the Sky
	°	°		°	°
February	46·7	30·9	August	89·6	51·4
March	72·2	33·4	September	85·8	47·0
April	76·5	34·9	October	66·7	40·3
May	93·7	44·6	November	56·3	33·0
June	87·4	43·7	December	56·2	29·8
July	84·1	48·0			

The mean of all the observations of the thermometer, whose bulb was in the full rays of the sun, is 74°·1, and the mean of all the observations by the other thermometer is 39°·7. The mean of all the observations for the same time of the maximum temperature is 58°·5, and that of the minimum temperature is 43°·7.

TABLE XXXIV.—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 and Christmas Day) at the even Hours of Göttingen Mean Time.

Day of the Month.	1841.									
	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	°	°	°	°	°	°	°	°	°	°
1	37·0	42·9	52·1	55·5	56·4	*S*	51·6	54·2	45·6	46·6
2	38·1	42·1	*S*	56·6	60·7	55·7	52·4	50·0	45·2	46·5
3	40·5	39·5	45·8	54·6	63·3	59·9	59·5	*S*	46·7	47·3
4	35·3	*S*	53·2	50·9	*S*	58·7	49·1	53·1	44·3	43·7

TABLE XXXIV.—*continued.*

Day of the Month.	1841.									
	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	°	°	°	°	°	°	°	°	°	°
5	41·9	43·5	53·2	51·6	59·4	57·8	*S*	50·5	44·5	*S*
6	41·2	42·2	51·1	*S*	57·2	56·3	46·3	49·1	45·3	45·3
7	*S*	41·6	51·9	45·8	55·7	58·3	50·8	49·0	*S*	43·2
8	49·8	41·7	50·1	47·9	53·0	*S*	54·8	48·9	43·3	47·0
9	44·3	40·9	*S*	47·4	51·7	53·9	58·4	46·9	42·4	39·5
10	44·8	40·1	53·2	51·0	51·5	54·1	61·0	*S*	47·2	45·7
11	43·5	*S*	54·9	47·1	*S*	56·4	61·4	51·4	45·5	38·1
12	46·3	37·7	51·9	46·8	50·7	49·6	*S*	48·1	44·0	*S*
13	43·0	40·0	48·2	*S*	50·8	53·0	62·4	45·9	38·5	46·1
14	*S*	47·2	48·1	51·3	52·3	56·9	63·7	54·9	*S*	37·2
15	45·0	41·8	51·6	51·4	52·6	*S*	58·9	49·9	31·7	41·4
16	45·1	39·8	*S*	50·8	54·2	57·8	55·9	48·9	29·3	38·8
17	47·2	42·4	51·7	54·1	55·9	60·3	50·3	*S*	30·2	31·7
18	46·9	*S*	50·5	56·6	*S*	58·9	52·1	45·0	33·1	28·4
19	43·4	43·4	49·2	55·4	56·7	57·8	*S*	43·2	40·9	*S*
20	43·0	41·6	49·0	*S*	56·1	60·6	60·1	44·3	40·6	29·8
21	*S*	41·2	51·9	56·7	56·2	57·4	58·4	37·8	*S*	30·0
22	47·6	41·0	56·1	54·1	53·5	*S*	56·7	38·5	50·1	31·8
23	44·7	42·4	*S*	53·6	51·1	54·7	54·7	45·3	39·2	39·7
24	45·7	44·7	56·0	54·2	52·9	49·9	53·4	*S*	36·3	41·6
25	46·5	*S*	58·1	56·7	*S*	55·6	53·9	42·8	34·7	*Ch. Day*
26	49·7	55·0	62·1	56·3	56·1	63·1	*S*	41·4	33·6	*S*
27	45·3	57·4	63·6	*S*	57·8	66·4	54·0	45·2	45·9	32·3
28	*S*	56·7	62·6	55·3	55·5	59·2	58·4	45·6	*S*	38·5
29	48·1	54·1	56·1	53·3	49·8	*S*	55·7	45·3	52·5	40·4
30	45·4	48·8	*S*	52·9	49·2	60·7	55·7	45·5	49·6	37·0
31	43·4	...	57·0	...	50·8	59·3	...	*S*	...	33·7

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 XIX, and subtracting from the differences 0°·2, the difference between the readings of the dry and wet thermometers, when under the same circumstances, the next table is formed.

TABLE XXXV.—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, the apparent Difference having been corrected by —0°·2.

Day of the Month.	1841.									
	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	°	°	°	°	°	°	°	°	°	°
1	1·4	2·3	2·1	4·0	1·6	*S*	3·3	0·2	0·2	0·2
2	0·9	3·4	*S*	4·0	1·2	2·6	3·2	1·9	0·8	1·0
3	1·8	2·8	0·7	6·6	2·4	1·9	2·2	*S*	0·5	1·6
4	2·7	*S*	1·9	5·6	*S*	2·1	0·7	0·7	0·5	2·0
5	0·9	1·8	1·9	2·6	2·6	2·3	*S*	1·6	1·1	*S*
6	3·4	1·1	3·1	*S*	4·1	3·6	1·4	1·4	1·1	0·6
7	*S*	1·1	2·2	2·7	2·9	3·0	1·0	1·7	*S*	0·9
8	1·2	1·8	1·7	2·7	3·7	*S*	3·1	1·0	0·2	1·2
9	1·3	3·2	*S*	2·8	4·4	3·2	1·4	1·6	1·5	2·0
10	2·5	1·8	2·3	4·5	4·5	3·5	2·0	*S*	2·3	1·7
11	2·1	*S*	3·6	2·7	*S*	1·7	1·4	2·1	1·4	1·8
12	1·2	1·4	2·3	1·6	2·8	4·6	*S*	0·9	1·2	*S*
13	0·7	2·5	4·4	*S*	3·8	2·8	3·5	2·8	2·2	0·9
14	*S*	1·0	3·6	5·3	2·0	2·5	2·5	2·2	*S*	1·9
15	2·3	2·5	4·1	4·4	1·4	*S*	4·1	3·1	0·7	1·1
16	4·3	2·7	*S*	5·0	2·3	3·3	2·6	1·7	1·0	1·5
17	1·3	3·2	2·5	4·3	3·3	2·7	3·0	*S*	0·6	1·0
18	0·6	*S*	3·2	5·6	*S*	2·2	2·7	4·0	0·5	0·7
19	2·2	3·7	1·4	2·9	3·3	3·5	*S*	1·9	0·6	*S*
20	1·2	2·4	3·9	*S*	1·2	4·6	1·6	1·9	0·6	0·8

TABLE XXXV.—*continued.*

Day of the Month.	1841.									
	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	°	°	°	°	°	°	°	°	°	°
21	*S*	2·8	2·9	2·9	1·1	5·0	1·5	2·7	*S*	0·7
22	1·1	2·3	1·6	2·9	3·2	*S*	2·5	2·2	1·5	1·2
23	2·7	0·1	*S*	2·0	3·8	3·2	1·0	4·4	1·4	0·3
24	1·8	2·3	3·9	3·2	2·2	3·5	1·2	*S*	1·0	1·0
25	2·0	*S*	3·1	2·5	*S*	0·9	1·1	0·8	0·8	*Ch. Day.*
26	2·2	2·5	3·9	3·9	3·7	1·9	*S*	0·4	0·8	*S*
27	1·0	5·9	4·8	*S*	4·3	2·3	1·9	1·2	0·4	—0·3
28	*S*	3·4	4·1	1·0	4·1	3·2	1·9	0·5	*S*	0·8
29	0·7	2·4	4·6	2·3	5·0	*S*	1·0	1·0	0·2	0·0
30	1·3	5·1	*S*	3·4	3·8	3·2	1·4	0·3	1·4	0·5
31	1·5	...	6·0	...	2·6	2·4	...	...	...	1·4

TABLE XXXVI.—Mean Temperature of Evaporation at every even Hour of Göttingen Mean Time in every Month.

Hour, Göttingen Mean Time.	1841.									
	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°
14	41·8	41·3	49·0	49·4	51·6	54·6	53·3	45·6	40·2	38·8
16	41·1	40·8	48·4	47·9	51·1	54·1	52·5	45·4	40·3	38·4
18	40·1	40·4	49·2	48·5	51·4	53·9	52·1	45·2	40·1	38·5
20	40·5	43·0	52·8	52·1	54·2	56·5	54·0	45·6	40·0	38·2
22	44·6	46·0	55·9	54·1	55·9	59·2	57·0	48·0	41·3	39·0
0	48·4	47·2	57·3	55·1	57·0	60·4	59·0	49·6	43·4	41·0
2	49·1	47·8	58·6	56·5	57·4	61·5	59·8	50·1	44·4	41·1
4	48·4	47·7	57·6	56·4	57·2	61·0	59·6	49·7	44·1	40·6
6	46·4	46·7	56·6	55·8	57·0	59·4	57·9	47·6	42·3	39·4
8	43·9	44·6	53·9	54·3	55·0	57·5	55·8	46·4	41·3	39·0
10	43·0	43·2	51·5	51·7	53·5	55·8	54·4	46·1	40·6	38·6
12	42·0	42·0	50·2	49·9	52·6	54·9	53·6	45·7	40·4	38·3

The difference between the numbers contained in this table and the numbers contained in Table XXIII being taken, and all being diminished by 0°·2, the next table is formed:—

TABLE XXXVII.—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 Wet-bulb Thermometer, at every even Hour of Göttingen Mean Time in each Month. (The difference between the readings of the dry and wet thermometer has been applied.)

Hour, Göttingen Mean Time.	1841.									
	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°
14	0·4	0·8	0·8	0·5	0·9	0·9	1·0	0·6	0·6	1·0
16	0·5	0·7	0·6	0·7	0·7	0·7	0·7	0·6	0·5	0·8
18	0·5	0·6	0·5	0·9	0·9	0·7	0·6	0·9	0·3	0·6
20	0·7	1·5	2·2	2·5	2·0	1·5	1·0	0·9	0·6	0·7
22	1·7	2·9	4·2	5·5	3·8	3·2	2·3	1·6	0·9	0·9
0	3·8	4·6	5·4	6·1	6·2	5·1	3·9	3·2	1·2	1·3
2	4·1	5·4	6·7	6·8	6·2	6·5	4·7	3·4	2·0	1·6
4	4·6	5·1	6·1	6·9	5·2	6·0	4·3	2·7	1·7	1·3
6	3·0	4·2	4·9	6·3	4·9	5·0	3·4	1·9	1·1	1·3
8	1·3	2·3	3·0	4·0	3·7	2·5	1·6	1·3	0·8	1·1
10	0·9	1·5	2·0	2·4	1·8	1·6	1·3	1·1	0·8	1·2
12	0·6	1·1	1·3	1·3	0·8	1·2	1·1	0·9	0·7	1·1

The numbers ranging with 2^h are the largest in every month, except in the month of July, when the number at 0^h is the same as that at 2^h. The smallest numbers range between 14^h and 18^h. By collecting the extremes in each month, from this table, with their corresponding times, the next table is formed:—

TABLE XXXVIII.—Hours of Göttingen Mean Time at which the greatest and least Differences existed between the Mean Temperature of the Air, and the Mean Temperature of Evaporation, with the Temperatures, the Intervals, and the Amount of the Differences.

Month.	Hour of the		Interval.	Difference between the Mean Temperature and the Mean Temperature of Evaporation.		Difference.	Hour of the		Interval.	Difference between the Mean Temperature and the Mean Temperature of Evaporation.		Difference.
	1st Max.	1st Min.		1st Max.	1st Min.		2nd Max.	2nd Min.		2nd Max.	2nd Min.	
	h	h	h	°	°	°	h	h	h	°	°	°
March	4	14	10	4·6	0·4	4·2						
April	2	18	16	5·4	0·6	4·8						
May	2	18	16	6·7	0·5	5·2						
June	4	14	10	6·9	0·5	5·4						
July	0 & 2	12	12	6·2	0·8	5·4	14	16	2	0·9	0·7	0·2
August	2	16 & 18	14	6·5	0·7	5·9						
September	2	18	16	4·7	0·6	4·1						
October	2	14 & 16	12	3·4	0·6	2·8						
November	2	18	16	2·0	0·3	1·7						
December	2	8	6	1·6	1·1	0·5	10	18	8	1·2	0·6	0·6

The greatest difference between the mean temperature of the air and the mean temperature of evaporation is generally about 2^h. The least difference happens generally about 16^h or 18^h, and during the whole time of observation this difference is nearly the same in amount. In summer the greatest differences are fully three times as large as the greatest differences are in winter.

The next table is formed from Table XXXVII., by taking the means of the numbers in

March, April, and May, called Spring. | September and October, called Autumn.
June, July, and August, called Summer. | November and December, called Winter.

TABLE XXXIX.—Mean Amount of the Difference between the Temperature of the Air and the Temperature of Evaporation, at every even Hour of Göttingen Mean Time, in four periods.

1841.	Spring.	Summer.	Autumn.	Winter.	Mean.
h	°	°	°	°	°
14	0·7	0·8	0·8	0·8	0·8
16	0·6	0·7	0·7	0·6	0·7
18	0·5	0·8	0·8	0·5	0·7
20	1·5	2·0	1·0	0·6	1·3
22	2·9	3·1	2·0	0·9	2·2
0	4·6	5·8	3·6	1·3	3·8
2	5·4	6·5	4·1	1·8	4·4
4	5·3	6·0	3·5	1·5	4·1
6	4·0	5·4	2·7	1·2	3·4
8	2·2	3·4	1·5	1·0	2·0
10	1·5	1·9	1·2	1·0	1·4
12	1·0	1·1	1·0	0·9	1·0

During the night hours, at all times, the difference is about, or a little less than, a degree. Considering each column separately, the greatest difference is, in

Spring, 10 times greater than the least. | Autumn, 6 times greater than the least.
Summer, 9 times greater than the least. | Winter, 3 times greater than the least.

The greatest differences appear in Summer, the next in order is Spring, then Autumn, and in Winter the differences are all small.

The mean difference during March, April, and May, is $2°·5$ | The mean difference during September and October is $1°·9$
June, July, and August, is $3°·1$ | November and December is $1°·0$

and the mean for the whole period is $2°·15$.

TABLE XL.—Comparison of the Mean Temperature of the Air with the Mean Temperatures of Evaporation and of the Dew-point.

1841.	16h.					22h.					4h.					10h.				
	Mean Temperature of			Temperature of the Air above Temperature of		Mean Temperature of			Temperature of the Air above Temperature of		Mean Temperature of			Temperature of the Air above Temperature of		Mean Temperature of			Temperature of the Air above Temperature of	
	Air.	Evapo-ration.	Dew Point.	Evapo-ration.	Dew Point.	Air.	Evapo-ration.	Dew Point.	Evapo-ration.	Dew Point.	Air.	Evapo-ration.	Dew Point.	Evapo-ration.	Dew Point.	Air.	Evapo-ration.	Dew Point.	Evapo-ration.	Dew Point.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
January	31·7		31·1		0·6	32·8		31·1		1·7	36·5		32·4		4·1	33·4		32·3		1·1
February	33·3		31·4		1·9	35·2		32·2		3·0	37·9		34·2		3·7	34·7		32·5		2·2
March	41·8	41·1	39·3	0·7	2·5	46·5	44·6	42·7	1·9	3·8	53·2	48·4	43·9	4·8	9·3	44·1	43·0	41·7	1·1	2·4
April	41·7	40·8	39·2	0·9	2·5	49·1	46·0	43·5	3·1	5·6	53·0	47·7	43·1	5·3	9·9	44·9	43·2	41·5	1·7	3·4
May	49·2	48·4	47·3	0·8	1·9	60·3	55·9	53·4	4·4	6·9	63·9	57·6	54·4	6·3	9·5	53·7	51·5	50·1	2·2	3·6
June	48·8	47·9	46·7	0·9	2·1	59·8	54·1	51·4	5·7	8·4	63·5	56·4	51·3	7·1	12·2	54·3	51·7	50·1	2·6	4·2
July	52·0	51·1	50·3	0·9	1·7	59·9	55·9	54·8	4·0	5·1	62·6	57·2	55·0	5·4	7·6	55·5	53·5	52·3	2·0	3·2
August	55·0	54·1	53·3	0·9	1·7	62·6	59·2	58·2	3·4	4·4	67·2	61·0	59·2	6·2	8·0	57·6	55·8	55·4	1·8	2·2
September	53·4	52·5	51·6	0·9	1·8	59·5	57·0	56·4	2·5	3·1	64·1	59·6	57·9	4·5	6·2	55·9	54·4	53·7	1·5	2·2
October	46·2	45·4	44·5	0.8	1·7	49·8	48·0	46·8	1·8	3·0	52·6	49·7	47·7	2·9	4·9	47·4	46·1	45·2	1·3	2·2
November	41·0	40·3	39·2	0·7	1·8	42·4	41·3	40·3	1·1	2·1	46·0	44·1	42·7	1·9	3·3	41·6	40·6	39·6	1·0	2·0
December	39·4	38·4	37·5	1·0	1·9	40·1	39·0	38·0	1·1	2·1	42·1	40·6	39·0	1·5	3·1	40·0	38·6	37·8	1·4	2·2

Arranging the results according to the temperature of the air, the following table is formed:—

TABLE XLI.—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 Air-temperature.

Temperature of the Air.															
32° to 40°.				40° to 50°.				50° to 60°.				60° to 70°.			
Below the Temperature of the Air, the Temperature of															
Evapo-ration is	Mean.	Dew Point is	Mean.	Evapo-ration is	Mean.	Dew Point is	Mean.	Evapo-ration is	Mean.	Dew Point is	Mean.	Evapo-ration is	Mean.	Dew Point is	Mean.
°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
1·0	1·2	1·9	2·1	0·7		2·5		0·9		1·7		4·4		6·9	
1·4		2·2		0·9		2·5		0·9		1·7		3·4		4·4	
				0·8		1·9		0·9		1·8		6·3		9·5	
				0·9		2·1		5·7		8·4		7·1	5·3	12·2	7·8
				0·8		1·7		4·0		5·1		5·4		7·6	
				0·7		1·8		2·5		3·1		6·2		8·0	
				1·9		3·8		4·8	2·7	9·3	4·4	4·5		6·2	
				3·1		5·6		5·3		9·9					
				1·8	1·3	3·0	2·7	2·9		4·9					
				1·1		2·1		2·2		3·6					
				1·1		2·1		2·6		4·2					
				1·9		3·3		2·0		3·2					
				1·5		3·1		1·8		2·2					
				1·1		2·4		1·5		2·2					
				1·7		3·4									
				1·3		2·2									
				1·0		2·0									

From these numbers it appears that the value of the fraction $\frac{\text{Difference between dew-point and air-temperature}}{\text{Difference between evaporation-temperature and air-temperature}}$ is nearly as follows:—

When the temperature of the air is between 32° and 50° the fraction = 2·0
between 50 and 60 ,, 1·6
between 60 and 70 ,, 1·5

Abstracts of Anemometer-Results.

In every month, the mean force of the wind and the direction of the wind (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 force at each time. 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 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 XLII.—Sums of the Pressures of the Winds for different Directions in every Month, without Distinction of Hours; and Number of Hours during which it blew in each direction, with a recorded Pressure greater than $\frac{1}{4}$lb. to the Square Foot; and general Range of Hours during which the Wind blew in each direction, the directions being referred to sixteen points of the Azimuthal Circle.

1841.	N.			N.N.E.			N.E.			E.N.E.			E.			E.S.E.		
	Sum of Forces.	No. of Hours.	General Range of Hours.	Sum of Forces.	No. of Hours.	General Range of Hours.	Sum of Forces.	No. of Hours.	General Range of Hours.	Sum of Forces.	No. of Hours.	General Range of Hours.	Sum of Forces.	No. of Hours.	General Range of Hours.	Sum of Forces.	No. of Hours.	General Range of Hours.
	lbs.		h h	lbs.		h h	lbs.		h h	lbs.		h h	lbs.		h h	lbs.		h h
February	43	21	7 to 1				8	6	23 to 5	382	80	0 to 24	35	14	22 to 15			
March	$1\frac{1}{2}$	1	at 9															
April	17	10	23 to 11	$15\frac{1}{2}$	13	10 to 0	24	18	19 to 13	$32\frac{3}{4}$	19	19 to 7	$2\frac{1}{2}$	1	at 3			
May	$8\frac{1}{2}$	9	19 to 2	3	2	21 & 22	$39\frac{1}{2}$	23	20 to 13	$11\frac{1}{2}$	13	23 to 7	$5\frac{1}{2}$	7	0 to 5	$2\frac{1}{2}$	3	13 to 15
June	128	75	0 to 24															
July							$\frac{1}{4}$	1	at 20									
August	20	8	20 to 3															
September							1	1	at 5	$4\frac{1}{2}$	6	22 to 5	$\frac{1}{4}$	1	at 0			
October	$161\frac{1}{2}$	65	0 to 24	63	25	0 to 16												
November	$23\frac{1}{4}$	3	1 to 3													1	1	at 16
December	$1\frac{1}{2}$	2	15 & 16															

1841.	S.E.			S.S.E.			S.			S.S.W.			S.W.		
	Sum of Forces.	No. of Hours.	General Range of Hours.	Sum of Forces.	No. of Hours.	General Range of Hours.	Sum of Forces.	No. of Hours.	General Range of Hours.	Sum of Forces.	No. of Hours.	General Range of Hours.	Sum of Forces.	No. of Hours.	General Range of Hours.
	lbs.		h h	lbs.		h h	lbs.		h h	lbs.		h h	lbs.		h h
February				$34\frac{1}{2}$	15	4 to 18	$41\frac{1}{2}$	19	19 to 8	$26\frac{1}{2}$	10	22 to 9	10	5	1 to 8
March				$30\frac{1}{2}$	12	15 to 0, and at 9, and 10	82	36	nearly at all hours.	$154\frac{1}{4}$	59	0 to 24	128	53	16 to 9
April				$6\frac{3}{4}$	7	11 to 17	$23\frac{1}{2}$	19	7 to 15	98	43	16 to 12	$26\frac{1}{2}$	15	13 to 16, and 23 to 9
May	$\frac{1}{4}$	1	at 22	$1\frac{3}{4}$	3	at 19, 20, & 3	$18\frac{1}{2}$	13	21 to 2, and 11 to 13	$101\frac{1}{2}$	60	0 to 24	$184\frac{1}{2}$	90	0 to 24
June				$7\frac{1}{2}$	3	5 to 7	$26\frac{1}{2}$	9	16 to 22	54	26	22 to 9	73	23	14 to 6
July				8	3	at 14, 20, & 21	$18\frac{1}{2}$	7	11 to 13, & at 15, 23, & 0	$19\frac{1}{2}$	17	15 to 11	$52\frac{3}{4}$	35	13 to 8
August				$5\frac{1}{2}$	4	9 to 12	32	16	6 to 23	$47\frac{1}{4}$	32	18 to 7	$108\frac{3}{4}$	62	0 to 24
September	$\frac{1}{2}$	1	at 0	2	4	at 2, 3, 14, and 15	$61\frac{1}{4}$	24	4 to 23	118	31	11 to 4	89	29	21 to 10, & at 13 and 14
October							$46\frac{1}{4}$	25	21 to 17	$54\frac{1}{2}$	30	13 to 10	177	58	0 to 24
November	$2\frac{1}{2}$	2	15 to 18	20	8	17 to 23	13	6	17 to 1, and at 8	$347\frac{1}{4}$	62	0 to 24	$188\frac{1}{2}$	57	7 to 5
December	$1\frac{1}{2}$	3	7 to 10	$20\frac{1}{2}$	12	6 to 22	$40\frac{3}{4}$	23	14 to 1	$83\frac{3}{4}$	47	7 to 3	$153\frac{3}{4}$	59	11 to 9

TABLE XLII.—*continued.*

1841.	W.S.W. Sum of Forces.	W.S.W. No. of Hours.	W.S.W. General Range of Hours.	W. Sum of Forces	W. No. of Hours.	W. General Range of Hours.	W.N.W. Sum of Forces.	W.N.W. No. of Hours.	W.N.W. General Range of Hours.	N.W. Sum of Forces.	N.W. No. of Hours.	N.W. General Range of Hours.	N.N.W. Sum of Forces.	N.N.W. No. of Hours.	N.N.W. General Range of Hours.
	lbs.		h h	lbs.		h h	lbs.		h h	lbs.		h h	lbs.		h h
February							$1\frac{1}{2}$	2	17 to 20	$45\frac{1}{2}$	14	17 to 1, & 5 to 11	35	9	14 to 23
March	89	36	At all hours, except 1, 13, 16, and 18	$26\frac{1}{2}$	15	18 to 2	9	6	22 to 4	$2\frac{1}{2}$	1	at 13	14	10	2 to 8, & at 13, 15, & 22
April	$25\frac{1}{4}$	23	11 to 5	$14\frac{1}{4}$	12	16 to 4	15	12	21 to 5	23	15	17 to 6	27	18	18 to 6
May	48	33	18 to 13	$6\frac{1}{4}$	2	at 3 and 9							$\frac{1}{2}$	1	at 19
June	$5\frac{1}{2}$	5	22 to 6	$33\frac{1}{2}$	21	20 to 8	$4\frac{1}{2}$	3	at 2, 5, and 14	$3\frac{1}{2}$	3	at 3 and 8	32	21	18 to 9
July	$97\frac{1}{4}$	53	17 to 13	$26\frac{1}{4}$	16	21 to 4, and 10 to 16	$26\frac{3}{4}$	14	20 to 9	27	12	1 to 7, and at 22	9	4	at 0, 5, 6, and 21
August	$40\frac{1}{4}$	30	7 to 4	$52\frac{3}{4}$	29	19 to 14	15	7	1 to 9						
September	$47\frac{1}{2}$	25	18 to 5												
October	296	70	11 to 7	$57\frac{1}{2}$	22	19 to 9	$40\frac{1}{2}$	17	20 to 3, and at 6 and 11	$26\frac{3}{4}$	7	21 to 1			
November	$128\frac{3}{4}$	54	0 to 24	$9\frac{3}{4}$	5	0 to 8	$\frac{1}{2}$	1	at 3	2	1	at 21	$50\frac{1}{4}$	9	22 to 0 & 4 to 9
December	112	50	22 to 17	$94\frac{3}{4}$	38	23 to 19	6	3	at 4, 18, and 19	6	2	at 20 and 2	30	10	21 to 5 & at 14

From this it appears that there was in February 38 times as much pressure from the E. N. E. as from the S.W. The greater part of this pressure was recorded in the gale beginning Feb. $4^d.\ 21^h.\ 30^m$, and ending Feb. $7^d.\ 17^h$, during which time there was a constant pressure of 3lbs. to 5lbs., and occasionally a pressure of 10lbs., and once a pressure of 14lbs.; the mean pressure for the whole time being about 5lbs. In November is another large number, where it appears that the pressure from the S. S. W. was 35 times as great as it was from the W., or 27 times as great as from the S. This great pressure was recorded in the gale beginning Nov. $28^d.\ 9^h.\ 25^m$, and ending November $30^d.\ 6^h$. In this gale is recorded a pressure of 24lbs. on the square foot, being the greatest recorded pressure in the period of observation. The columns under the head of E. S. E. and S. E. being nearly blank, it appears that those winds throughout the whole period were insignificant in amount.

By adding together all the quantities for each wind, we find that from February to December the

N.	wind blew	194	hours, recording a pressure of	$404\frac{1}{2}$ lbs.
N.N.E.	,,	40	,, ,,	$81\frac{1}{2}$ lbs.
N.E.	,,	49	,, ,,	$72\frac{3}{4}$ lbs.
E.N.E.	,,	118	,, ,,	$430\frac{3}{4}$ lbs.
E.	,,	23	,, ,,	$43\frac{1}{4}$ lbs.
E.S.E.	,,	4	,, ,,	$3\frac{1}{2}$ lbs.
S.E.	,,	7	,, ,,	$4\frac{3}{4}$ lbs.
S.S.E.	,,	71	,, ,,	137 lbs.
S.	,,	187	,, ,,	$403\frac{3}{4}$ lbs.
S.S.W.	,,	417	,, ,,	1104 lbs.
S.W.	,,	486	,, ,,	$1191\frac{3}{4}$ lbs.
W.S.W.	,,	379	,, ,,	$889\frac{1}{2}$ lbs.
W.	,,	160	,, ,,	$321\frac{1}{2}$ lbs.
W.N.W.	,,	63	,, ,,	$118\frac{3}{4}$ lbs.
N.W.	,,	55	,, ,,	$136\frac{1}{4}$ lbs.
N.N.W.	,,	82	,, ,,	$197\frac{3}{4}$ lbs.

The sum of all the forces is $5541\frac{1}{2}$; the number of the hours 2337. The sums of forces for the N. and S. winds are almost exactly equal; that for the W. wind is 8 times as great as that for the E. wind. The S. W. wind has the greatest sum of all; the next in order of magnitude are the S. S. W. and W. S. 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:—

Direction of Wind.	Whole recorded Pressure.	Resolved parts in the direction of N.	E.	S.	W.
	lbs.	lbs.	lbs.	lbs.	lbs.
N.	404	404			
N. N. E.	81	75	31		
N. E.	73	52	52		
E. N. E.	430	164	396		
E.	43		43		
E. S. E.	3		3	1	
S. E.	4		3	3	
S. S. E.	137		52	126	
S.	403			403	
S. S. W.	1104			1020	423
S. W.	1191			842	842
W. S. W.	889			340	820
W.	321				321
W. N. W.	118	45			109
N. W.	136	96			96
N. N. W.	197	182			75
	Sums.	1018	580	2735	2686

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 XLIII.—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.

1841.	13h		14h		15h		16h		17h		18h		19h		20h		21h		22h		23h		0h		1h	
	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	Sum of Forces.	No. of Hours	Sum of Forces.	No. of Hours	Sum of Forces.	No. of Hours	Sum of Forces.	No. of Hours
	lbs.		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.	
February	$23\frac{1}{2}$	8	24	8	$23\frac{1}{2}$	7	$22\frac{1}{2}$	5	$26\frac{1}{2}$	7	19	6	24	5	21	6	25	6	30	9	$31\frac{1}{2}$	11	$31\frac{1}{2}$	11	33	12
March	$13\frac{1}{2}$	4	$11\frac{1}{2}$	5	14	7	10	4	15	6	9	5	14	8	$24\frac{1}{2}$	10	$25\frac{1}{4}$	12	$27\frac{1}{2}$	14	27	12	45	16	39	14
April	$13\frac{1}{4}$	8	$11\frac{1}{4}$	7	$10\frac{1}{4}$	7	$6\frac{1}{2}$	6	6	6	$4\frac{1}{2}$	6	$7\frac{1}{2}$	9	$16\frac{1}{2}$	9	17	11	19	12	$17\frac{1}{2}$	14	$25\frac{1}{4}$	16	$26\frac{1}{2}$	13
May	$5\frac{3}{4}$	7	5	6	5	5	4	5	4	6	$10\frac{1}{2}$	6	$13\frac{3}{4}$	10	17	12	25	14	$33\frac{1}{4}$	15	$29\frac{1}{2}$	17	40	18	39	18
June	$1\frac{1}{2}$	1	$8\frac{1}{2}$	4	$4\frac{1}{2}$	2	$6\frac{1}{2}$	4	$10\frac{1}{2}$	5	$10\frac{1}{2}$	6	19	9	$23\frac{3}{4}$	10	26	11	34	11	$31\frac{1}{2}$	11	23	13	$23\frac{3}{4}$	14
July	$5\frac{1}{2}$	3	$8\frac{1}{2}$	5	$6\frac{1}{4}$	4	$3\frac{3}{4}$	3	3	3	$7\frac{3}{4}$	4	10	6	$14\frac{1}{4}$	10	17	9	$11\frac{1}{2}$	9	$18\frac{3}{4}$	9	18	6	$18\frac{1}{4}$	11
August	$6\frac{1}{2}$	5	$4\frac{3}{4}$	4	$5\frac{1}{4}$	3	$6\frac{3}{4}$	3	$4\frac{3}{4}$	3	8	5	$10\frac{1}{2}$	7	$15\frac{1}{2}$	9	$20\frac{1}{4}$	11	$22\frac{1}{4}$	12	$20\frac{1}{4}$	10	$21\frac{1}{2}$	13	$22\frac{1}{4}$	13
September	$9\frac{1}{2}$	3	$10\frac{1}{4}$	4	$7\frac{3}{4}$	3	6	2	$9\frac{3}{4}$	3	$10\frac{1}{2}$	4	$18\frac{1}{2}$	5	21	7	21	7	22	7	$18\frac{1}{2}$	7	$21\frac{3}{4}$	9	$25\frac{1}{2}$	10
October	$34\frac{1}{2}$	10	$34\frac{1}{4}$	10	$38\frac{1}{2}$	11	$35\frac{1}{2}$	10	$39\frac{3}{4}$	12	$37\frac{3}{4}$	10	$31\frac{3}{4}$	9	$38\frac{1}{2}$	12	58	15	$51\frac{1}{2}$	17	$51\frac{1}{2}$	20	$61\frac{3}{4}$	22	$55\frac{1}{2}$	22
November	36	7	36	7	$27\frac{1}{2}$	9	$26\frac{1}{2}$	9	$27\frac{1}{2}$	7	32	8	$24\frac{1}{2}$	7	$21\frac{1}{2}$	8	$26\frac{3}{4}$	10	$37\frac{1}{2}$	10	30	10	$38\frac{3}{4}$	9	$34\frac{1}{4}$	11
December	$19\frac{1}{4}$	10	$19\frac{1}{4}$	11	13	9	11	8	$12\frac{3}{4}$	8	13	10	21	9	$19\frac{1}{2}$	9	20	10	27	11	33	12	$35\frac{1}{2}$	12	$34\frac{3}{4}$	13

1841.	2h		3h		4h		5h		6h		7h		8h		9h		10h		11h		12h		Whole Sum of Forces.	No. of Hours.
February	$30\frac{1}{2}$	9	29	8	$32\frac{1}{2}$	8	26	8	29	9	30	9	34	10	31	9	31	8	$30\frac{1}{2}$	8	$23\frac{1}{2}$	8	$661\frac{1}{2}$	195
March	38	15	$48\frac{1}{2}$	15	42	16	30	14	$25\frac{1}{2}$	10	17	10	14	7	$13\frac{1}{2}$	8	12	7	11	6	10	4	$536\frac{3}{4}$	229
April	$28\frac{1}{2}$	13	25	13	25	13	$17\frac{1}{2}$	11	$13\frac{1}{2}$	9	13	5	9	5	10	5	3	3	$10\frac{1}{4}$	7	$15\frac{1}{2}$	7	$351\frac{1}{4}$	215
May	$37\frac{1}{2}$	18	$42\frac{1}{2}$	18	$24\frac{1}{2}$	15	$25\frac{1}{2}$	16	$19\frac{1}{2}$	12	$12\frac{1}{2}$	10	$5\frac{3}{4}$	7	$7\frac{1}{4}$	7	$7\frac{3}{4}$	7	11	7	5	4	$430\frac{1}{2}$	260
June	$32\frac{3}{4}$	17	$20\frac{1}{2}$	13	21	9	$27\frac{1}{2}$	12	$14\frac{1}{4}$	12	$7\frac{1}{2}$	8	$7\frac{1}{2}$	5	$4\frac{1}{4}$	4	$3\frac{1}{2}$	3	$3\frac{3}{4}$	2	$2\frac{1}{2}$	3	367	189
July	17	9	$17\frac{1}{2}$	11	$20\frac{1}{4}$	11	25	10	$17\frac{1}{2}$	7	$11\frac{1}{2}$	6	10	6	$6\frac{1}{2}$	5	$5\frac{1}{4}$	5	$4\frac{3}{4}$	5	$7\frac{1}{4}$	5	285	162
August	$22\frac{1}{4}$	14	$26\frac{1}{2}$	16	$25\frac{1}{4}$	13	$21\frac{1}{2}$	11	14	7	$5\frac{1}{4}$	5	$5\frac{3}{4}$	4	8	5	8	5	$7\frac{1}{4}$	5	9	5	$321\frac{1}{4}$	188
September	20	9	$21\frac{1}{2}$	9	$15\frac{3}{4}$	8	$6\frac{1}{2}$	5	5	2	$6\frac{1}{2}$	3	$7\frac{1}{4}$	3	9	3	11	5	$11\frac{1}{2}$	2	8	2	324	122
October	$47\frac{1}{2}$	20	34	19	$31\frac{1}{2}$	16	22	8	$21\frac{3}{4}$	10	$24\frac{1}{2}$	10	$27\frac{1}{2}$	11	30	12	$34\frac{3}{4}$	11	$42\frac{1}{2}$	12	$38\frac{1}{2}$	10	$923\frac{1}{4}$	319
November	$36\frac{3}{4}$	11	39	12	32	8	$33\frac{1}{2}$	8	$42\frac{3}{4}$	8	$32\frac{1}{2}$	9	$29\frac{1}{2}$	9	26	8	$34\frac{1}{4}$	8	42	9	$40\frac{1}{2}$	7	$787\frac{1}{2}$	209
December	$34\frac{3}{4}$	11	24	12	$25\frac{1}{2}$	9	$22\frac{1}{4}$	11	$22\frac{1}{4}$	10	25	12	$22\frac{1}{4}$	11	$29\frac{1}{4}$	11	21	11	22	9	24	10	$551\frac{1}{4}$	249

Examining separately every month in this table, it appears that in every month the sums of all the pressures for each of the hours between 6^h and 18^h are nearly alike and less in amount than at any of the other hours. During the months of March, April, May, June, July, August, and September, the sum only once amounted to 15lbs., being at 17^h in March. During the night hours of June the sums are very small, and this therefore was the calmest period in the year. From March to September the sum is the least about the rising of the Sun, and its second minimum is about the time of the setting of the Sun. After 18^h in each of the months the pressures increase, and continue their increase, with slight exceptions, until 2^h or 3^h; in July the greatest sum is at 5^h. After these times the sum diminishes during six hours nearly.

In the month of February, in October, and in November, the sums of the pressures for each hour between 6^h and 18^h are nearly alike, but they range between 20lbs. and 40lbs.; those in October are the greatest in the year during the night. In each month a minimum sum was about the time of the rising of the Sun, the other minimum occurred about the setting of the Sun in February and October; in November it was fully 4^h after the Sun had set. After 17^h in the months of February and October, the forces decrease, in the former month to 18^h, in the latter to 19^h. In October, after 18^h, a decrease has taken place, to 20^h. After these times a very decided increase has taken place, particularly in October, until 0^h; after which the decrease of pressure is very great. In the months of February and November the pressure increased to 0^h, and continued nearly unaltered for two or three hours after noon, when the pressures declined as before.

The maximum pressure in every month was at 0^h, or between 0^h and 3^h, except in the month of July, when it took place at 5^h. The time of the minimum pressure is more variable.

The ratio of the maximum pressure to the minimum pressure was	in February		3 to 2
,,	,,	in March	5 to 1
,,	,,	in April	9 to 1
,,	,,	in May	10 to 1
,,	,,	in June	21 to 1
,,	,,	in July	8 to 1
,,	,,	in August	5 to 1
,,	,,	in September	4 to 1
,,	,,	in October	3 to 1
,,	,,	in November	3 to 2
,,	,,	in December	3 to 1

The ratios here which most nearly approach to an equality, are those of February and November, 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 July, and therefore the nights of these months are the calmest periods of the year.

By taking the sum of all the quantities at each hour, we obtain, that from February to December,

At	13^h	whole sum of pressure was	168¾ lbs.,	number of hours of wind	66,	mean strength 2·5 lbs.
	14	,,	173¼,	,,	71,	,, 2·5
	15	,,	155½,	,,	67,	,, 2·3
	16	,,	139,	,,	59,	,, 2·4
	17	,,	159½,	,,	66,	,, 2·4
	18	,	163,	,,	70,	,, 2·3
	19	,	194½,	,,	84,	,, 2·2
	20	,,	233,	,,	102,	,, 2·3
	21	,,	281¾,	,,	116,	,, 2·4
	22	,,	316,	,,	127,	,, 2·5
	23	,,	309½,	,,	133,	,, 2·3
	0	,,	361¾,	,,	145,	,, 2·5
	1	,,	351¾,	,,	151,	,, 2·3
	2	,,	345½,	,,	146,	,, 2·4
	3	,,	328,	,,	146,	,, 2·3
	4	,,	295¼,	,,	126,	,, 2·4
	5	,,	257¼,	,,	114,	,, 2·2
	6	,,	225,	,,	96,	,, 2·4
	7	,,	185¼,	,,	87,	,, 2·1
	8	,,	172¾,	,,	78,	,, 2·2
	9	,,	174¾,	,,	77,	,, 2·3
	10	,,	171½,	,,	73,	,, 2·3
	11	,,	196,	,,	72,	,, 2·7
H	12	,,	183¾,	,,	65,	,, 2·8

Therefore for the whole period there is a minimum sum at 16^h, a maximum sum at 0^h, a minimum from 8^h to 10^h, and a maximum from 11^h to 12^h.

The sum of all the pressures for the whole period is 5541½lbs. The number of hours is 2337. The number of hours the wind is blowing between 18^h and 6^h is about the double of the number of hours it is blowing between 6^h and 18^h; and this is the reason that the sum of pressures between 18^h and 6^h is about double the sum of the pressures in the other period of the day. The mean strength of the wind for the whole year would be nearly the same at all hours.

In this discussion the anemometer records are spread over a period of 8016 hours. The instrument has recorded a pressure at 2337 hours, and the difference between these numbers, had the instrument been perfect, would have represented the number of calm hours out of 8016, but this is not the case by any means. The instrument has failed to register all light winds, and in some cases, when a pretty good breeze has blown, no record has been made at the anemometer; therefore, all that the 5679 represents is, that no great pressure occurred at any of those hours. This instrument therefore entirely fails in indicating the number of calm hours. The proportion of calm hours to hours when the air has been in motion, will be deduced in the discussion of the observations of the strength of the wind by estimation.

From the numbers in Table XLIII., the following are immediately formed :—

TABLE XLIV.—Mean Pressure of the Wind in every Month, at each Hour, independent of Direction, when the Wind blew so as to record a Pressure of more than a Quarter of a Pound on the Square Foot.

1841.	13^h	14^h	15^h	16^h	17^h	18^h	19^h	20^h	21^h	22^h	23^h	0^h	1^h	2^h	3^h	4^h	5^h	6^h	7^h	8^h	9^h	10^h	11^h	12^h
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
February	2·9	3·0	3·3	4·4	3·7	3·2	4·8	3·5	4·2	3·3	2·8	2·8	2·8	3·3	3·8	4·0	3·3	3·2	3·3	3·4	3·4	3·9	3·8	2·9
March	3·3	2·3	2·0	2·5	2·5	1·8	1·8	2·5	2·1	1·9	2·3	2·8	2·8	2·5	3·2	2·6	2·1	2·5	1·7	2·0	1·6	1·7	1·8	2·5
April	1·6	1·6	1·4	1·0	1·0	0·7	0·8	1·8	1·5	1·6	1·3	1·6	2·0	2·2	1·9	1·9	1·6	1·7	2·6	1·8	2·0	1·0	1·4	2·1
May	0·9	0·8	1·0	0·8	0·7	1·7	1·3	1·4	1·7	2·2	1·7	2·2	2·2	2·1	2·3	1·6	1·6	1·6	1·2	0·8	1·0	1·1	1·6	1·3
June	1·5	2·1	2·2	1·6	2·1	1·7	2·1	2·4	2·4	3·1	2·9	1·8	1·7	1·5	1·6	3·3	2·3	1·2	0·9	1·5	1·0	1·1	1·8	0·8
July	1·8	1·7	1·5	1·2	1·0	1·9	1·7	1·4	1·9	1·3	2·1	3·0	1·7	1·9	1·6	1·8	2·5	2·5	1·9	1·7	1·3	1·0	0·9	1·4
August	1·5	1·2	1·7	3·2	1·6	1·6	1·4	1·7	1·8	1·8	2·0	1·7	1·7	1·6	1·6	1·9	1·9	2·0	1·0	1·4	1·6	1·6	1·4	1·8
September	3·2	2·5	2·5	3·0	3·2	2·6	3·7	3·0	3·0	3·2	2·6	2·4	2·6	2·2	2·4	2·0	1·3	2·5	3·2	2·4	3·0	2·2	5·8	4·0
October	3·5	3·4	3·5	3·6	3·3	3·8	3·5	3·2	3·9	3·0	2·6	2·8	2·5	2·4	1·8	2·0	2·7	2·2	2·5	2·5	2·5	3·2	3·5	3·8
November	5·2	5·2	3·1	2·9	3·9	4·0	3·5	2·7	2·7	3·8	3·0	4·3	3·4	3·3	3·3	4·0	4·2	5·4	3·6	3·3	3·3	4·3	4·7	5·7
December	1·9	1·7	1·3	1·4	1·6	1·3	2·3	2·1	2·0	2·4	2·8	2·9	2·7	3·2	2·0	2·8	2·0	2·2	2·1	2·0	2·6	1·9	2·4	2·4

The pressure of the wind appears from this table to be greater during the night than in the day in the months of September, October, and November. In every other month, the pressure appears greater in the day than it was at night, particularly in the summer months. The variations of pressure in each month are frequent: for instance, in February the great pressures are at 4^h, 10^h, 16^h, 19^h, and 21^h; the small pressures intermediate at 6^h, 12^h, and 14^h, 18^h, 20^h, and 0^h: in August and November there are the same number of changes; in the other months they are still more frequent.

From the numbers in Table XLII., the following is readily formed :—

TABLE XLV.—Mean Pressure of each Wind, estimated in Pounds on the Square Foot, in every Month.

1841.	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.
February	2·0		1·3	4·8	2·5			2·3	2·2	2·7	2·0			0·8	3·3	3·9
March	1·3							2·5	2·3	2·7	2·4	2·4	1·8	1·5	1·8	1·4
April	1·7	1·2	1·3	1·7	2·5			1·0	2·6	2·3	1·7	1·1	1·2	1·3	1·5	1·5
May	0·9	1·5	1·8	0·8	0·8	0.8	0·3	0·6	1·4	1·7	2·0	1·5	3·1			0·5
June	1·7							2·5	2·9	2·1	3·1	1·1	1·6	1·2	1·1	1·5
July			0·3					2·7	2·6	1·1	1·5	1·8	1·6	1·9	2·3	2·2
August	2·5							1·4	2·0	1·5	1·8	1·3	1·9	2·1		
September			1·0	0·7	0·3		0·5	0·5	2·5	3·8	3·1	1·9				
October	2·5	2·6							1·8	1·8	3·1	4·2	2·6	2·4	3·8	
November	7·8					1·0	1·2	2·5	2·2	5·8	3·3	2·4	2·0	0·5	2·0	5·6
December	0·8						0·5	1·7	1·8	1·8	2·6	2·2	2·5	2·0	3·0	3·0

Adding together the numbers in the second abstract for all months, the following table was formed:—

TABLE XLVI.—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, from the beginning of February to the end of December, 1841.

Direction of Wind.	13h		14h		15h		16h		17h		18h		19h		20h		21h		22h		23h		0h	
	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.	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.		lbs.		lbs.		lbs.		lbs.	
N.	13	5	9	6	8	5	13	6	15½	8	15½	8	15½	8	23¾	11	24½	9	23½	10	23¼	11	30½	15
N. N. E.	7	3	7	3	9	3	4	2	1	1	1½	2	½	1			1	1	4	2	½	1	2	2
N. E.	1	2											2	1	3¼	3	3½	3	3	3	3½	3	3	2
E. N. E.	13	4	15	5	13	3	12	2	16	3	11	2	18½	3	14½	3	16½	3	22	6	23	9	22¼	9
E.	2¼	2			1½	1													1	1	1	1	½	2
E. S. E.	1	1	1	1	½	1	1	1																
S. E.					½	1					2	1							¼	1			½	1
S. S. E.	5	3	12¼	5	6¼	5	7½	4	9	5	5½	3	5¾	3	8½	5	10	5	13	4	4	2	2	1
S.	18½	7	11	8	16¼	8	11	6	15	9	13½	7	23	10	26¾	11	30	13	24½	11	24½	11	11	5
S. S. W.	41	9	38	10	39½	13	32¼	14	42½	14	32½	12	41½	16	45	17	49	20	48¾	21	57¼	22	66½	26
S. W.	33½	14	38½	18	26¼	14	21	12	13¾	10	26½	15	38½	17	47	22	52	23	78¾	28	79¼	32	98½	28
W. S. W.	22¾	11	27½	9	27¼	10	25¾	7	34¾	10	44	12	20¼	11	32¼	15	36¼	16	42¼	17	39	19	67½	30
W.	4¾	3	4	3	3	1	6½	4	3½	2	4½	3	18½	8	16½	5	26½	8	8¼	5	15	8	19¼	11
W. N. W.			3	1							1½	2	4½	1	3½	3	7½	4	12¼	5	13¼	5	6½	3
N. W.	2½	1							4½	3			2	1	6½	2	10½	3	14	5	8½	3	11¼	5
N. N. W.	3	1	7	2	4½	2	5	1	4	1	4½	3	4	4	5½	5	14	8	20½	8	16	6	20	5

Direction of Wind.	1h		2h		3h		4h		5h		6h		7h		8h		9h		10h		11h		12h	
N.	35½	15	29	12	26¾	11	9	6	11½	5	8	5	14¼	6	13	6	12½	7	11¼	7	11¾	6	7	6
N. N. E.	2½	1	1½	1	3½	1	3½	1	3½	1	3	1	2	1	3	2	4½	2	5½	3	5	2	6½	3
N. E.	6½	3	9	4	4½	2	6	3	5	3	3	2	2½	2	4	3	5	3	3	2	4	3	1	2
E. N. E.	24	9	21	7	19	6	26	7	23	7	19½	5	20½	6	18	4	19	4	17½	4	15½	4	12	3
E.	1	1	5	2	8½	3	4	1	3½	2	3	1			3	1	2	1	2	1	3½	2	1½	1
E. S. E.																								
S. E.													½	1	½	1			½	1				
S. S. E.			½	1	1½	2	3	1	3½	1	6½	4	5	2	1½	1	6½	4	7½	3	5	3	7¼	4
S.	28	10	13½	6	11¾	4	10½	5	12½	6	14	6	12¼	9	15½	7	10¾	5	12¼	7	14½	9	24	9
S. S. W.	63¼	27	73¾	27	65½	28	50¼	20	47½	20	39½	19	45	15	30¼	13	27½	17	34½	14	49¼	13	44	10
S. W.	82½	32	73¾	29	82¾	34	75¼	35	69½	30	40½	17	23	14	31¼	14	52½	14	43	12	46½	12	27½	10
W. S. W.	63½	27	56½	24	49	22	52	20	42½	18	48	19	31¼	18	23½	13	17½	11	22	15	24½	14	38½	11
W.	21¾	11	36½	19	29¼	17	27¼	14	16¾	7	9¼	5	13½	6	10	5	5¾	4	5½	3	6½	3	8½	5
W. N. W.	8	7	10½	7	11	8	5½	4	9	5	9	3	3	1	4	3	5	2			1½	1		
N. W.	10	5	7½	3	6½	4	9	4	7	4	5½	4	3	2	8	3	4	1	7	1	9	1		
N. N. W.	5½	3	7½	4	8½	4	14	6	16	5	16¼	5	9¼	4	7	2	2¼	2					6	1

TABLE XLVII.—Mean Pressure of each Wind for every Hour of Greenwich Mean Time (Astronomical Reckoning), during the whole Period, from the beginning of February to the end of December, 1841.

Direction of Wind.	13h	14h	15h	16h	17h	18h	19h	20h	21h	22h	23h	0h	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	12h
	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	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.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
N.	2·6	1·5	1·6	2·2	1·9	1·9	1·9	2·1	2·7	2·3	2·1	2·0	2·3	2·3	2·4	1·5	2·2	1·6	2·3	2·2	1·7	1·6	1·9	1·2
N. N. E.	2·3	2·3	3·0	2·0	1·0	0·6	0·5		1·0	2·0	0·3	1·0	2·5	1·5	3·5	3·5	3·5	3·0	2·0	1·5	2·2	1·8	2·5	2·1
N. E.	0·5						2·0	1·0	1·1	1·0	1·2	1·5	2·2	2·3	2·2	2·0	1·7	1·5	1·2	1·3	1·7	1·5	1·3	0·5
E. N. E.	3·3	3·0	4·3	6·0	5·3	5·5	6·2	4·8	5·5	3·7	2·6	2·5	2·7	3·0	3·2	3·7	3·3	3·9	3·4	4·5	4·8	4·4	3·9	4·0
E.	1·0		1·0							1·0	1·0	0·5	1·0	2·5	2·8	4·0	1·8	3·0		3·0	2·0	2·0	1·6	1·5
E. S. E.	1·0	1·0	0·5	1·0																				
S. E.			0·5			2·0				0·3		0·5							0·5	0·5		0·5		
S. S. E.	1·7	2·4	1·2	1·9	1·8	1·8	1·9	1·7	2·0	3·4	2·0	2·0		0·5	0·8	3·0	3·5	1·6	2·5	1·5	1·6	2·5	1·7	1·9
S.	2·6	1·4	2·0	1·9	1·7	1·9	2·3	2·4	2·3	2·2	2·2	2·2	2·8	2·3	3·0	2·1	2·1	2·3	1·4	2·2	2·1	1·7	1·6	2·7
S. S. W.	4·6	3·8	3·0	2·3	3·0	2·7	2·6	2·7	2·5	2·3	2·6	2·5	2·3	2·7	2·3	2·5	2·4	2·1	3·0	2·3	1·6	2·5	3·8	4·4
S. W.	2·4	2·1	1·9	1·8	1·4	1·7	2·3	2·1	2·3	2·8	2·5	3·5	2·6	2·5	2·4	2·1	2·3	2·4	1·7	2·2	3·7	3·6	3·9	2·8
W. S. W.	2·0	3·0	2·7	3·7	3·5	3·7	1·8	2·1	2·3	2·5	2·1	2·3	2·3	2·3	2·2	2·6	2·3	2·6	1·7	1·8	1·6	1·5	1·8	3·5
W.	1·6	1·3	3·0	1·6	1·8	1·5	2·3	3·3	3·3	1·6	1·9	1·8	1·9	1·8	1·7	1·8	2·4	1·8	2·3	2·0	1·4	1·8	2·1	1·7
W. N. W.		3·0				0·6	4·1	1·1	1·9	2·4	2·6	2·1	1·1	1·5	1·4	1·4	1·8	3·0	3·0	1·3	2·5		1·5	
N. W.	2·0				1·5		2·0	3·1	3·5	2·8	2·8	2·2	2·0	2·5	1·6	2·2	1·8	1·4	1·5	2·7	4·0	7·0	9·0	
N. N. W.	3·0	3·5	2·1	5·0	4·0	1·5	1·0	1·3	1·8	2·6	2·7	4·0	1·8	1·9	2·1	2·3	3·2	3·2	2·3	3·5	1·1			6·0

The remarks applying to the formation of the abstracts of results deduced from the records of the self-registering anemometer (Introduction to Table XLII), apply in every respect to the formation of the abstracts of 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 in time with any of them. It will also be remarked, that the proportion of force by estimation to pressure as recorded by the anemometer, is not the same for great and for small pressures.

TABLE XLVIII.—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.

1841.	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	27	37	5½	11	10¼	12	3¾	11	7¾	14	3	8	3¼	8	2	7
February	10½	16	1½	5	25¼	38	55	38	11¼	26	1¼	3	2	8	4	14
March	3	5	½	1			½	1	3½	9	¾	3	2¼	2	3½	7
April	11¼	20	5	11	18¾	22	9¼	21	2¼	7	1¾	7	1½	4	¼	1
May	2¼	9	2	7	12¾	25	6	20	7½	20	1½	5			1¾	6
June	40¼	63	2½	5	2½	5	1¾	4	¾	3	¼	1	¼	1	½	2
July	3½	13	2½	5	½	2			¾	3						
August	2½	4			½	1							¼	1	3¼	8
September	½	2	¼	1	3¼	5	5½	19	4¾	16	¾	1	¾	3	2½	7
October	28¼	36	14	17	5¾	7	1	3	¾	2			¾	2	½	2
November	¾	3	1¼	5	½	2			½	2	3½	9	3½	6	1¾	6
December	¼	1			¼	1							3½	4	4	8

1841.	S.		S.S.W.		S.W.		W.S.W.		W.		W.N.W.		N.W.		N.N.W.	
January	13½	10	11¼	10	24¼	25	19½	30	21½	38	8	13	8	15	10¼	13
February	25¾	36	9½	24	4	11	¾	3	2¾	9	1¼	2	13¾	10	4¼	7
March	31¾	47	49¾	52	47	73	23¼	33	17¾	33	1½	4	6½	12	¾	2
April	9¼	23	6¾	9	18¼	40	13½	37	10½	31	5¾	13	7¼	10	6¾	13
May	13½	27	30¼	44	42¼	56	14¼	18	10¼	20	¼	1	½	2		
June	4	11	15½	20	33¾	58	17½	38	9	29	3½	10	6	15	8¼	14
July	2¾	7	6¾	16	16¼	30	21¾	48	32	87	12¼	24	5½	9	2¾	6
August	10¾	23	13¼	30	27½	71	23	64	12½	36	7½	13	¾	2	1½	6
September	16½	35	34	52	50	52	12¾	24	13	22	½	1			¼	1
October	3¼	11	18¾	28	43¾	73	35¼	32	27¾	40	5¾	9	5¾	7	2¼	3
November	5½	13	48¾	33	25¼	31	30½	50	13	22	6	9	1¼	3	2½	9
December	5	11	12¾	24	55¾	78	17½	27	11	32	6¼	11	9½	15	6½	8

By adding together the quantities for each wind, we obtain that during the year, excepting Sundays and Christmas Day, the

N.	wind blew during	209	two-hourly periods, the whole sum of	the estimated forces was	130
N. N. E.	,,	68	,,	,,	35
N. E.	,,	120	,,	,,	$80\frac{1}{4}$
E. N. E.	,,	117	,,	,,	$82\frac{3}{4}$
E.	,,	102	,,	,,	$39\frac{1}{2}$
E. S. E.	,,	37	,,	,,	$12\frac{3}{4}$
S. E.	,,	39	,,	,,	18
S. S. E.	,,	68	,,	,,	24
S.	,,	254	,,	,,	$141\frac{1}{2}$
S. S. W.	,,	342	,,	,,	$257\frac{1}{4}$
S. W.	,,	598	,,	,,	388
W. S. W.	,,	404	,,	,,	$229\frac{1}{2}$
W.	,,	399	,,	,,	181
W. N. W.	,,	110	,,	,,	$58\frac{1}{2}$
N. W.	,,	100	,,	,,	$64\frac{1}{2}$
N. N. W.	,,	82	,,	,,	46

The sum of all the estimated forces is $1788\frac{1}{4}$; the whole number of two-hourly periods 3049.

Resolving these expressions for estimated forces into the cardinal directions, as in pages 47 and 48, we have—

Direction of Wind.	Whole estimated Force.	Resolved parts in the direction of N.	E.	S.	W.
N.	130	130			
N. N. E.	35	32	13		
N. E.	80	57	57		
E. N. E.	83	32	77		
E.	39		39		
E. S. E.	13		12	5	
S. E.	18		13	13	
S. S. E.	24		9	22	
S.	141			141	
S. S. W.	257			237	98
S. W.	388			274	274
W. S. W.	229			88	212
W.	181				181
W. N. W.	58	22			53
N. W.	64	45			45
N. N. W.	46	42			18
	Sums.....	360	220	780	881

It is probable that these sums represent, with greater precision than those in page 48, the volumes of air which have passed in the different directions; not only because the observations embrace the whole year, but also because the scale of estimation is more closely related than that of pressure to that of velocity.

TABLE XLIX.—Sums of the Forces of the Wind at every even Hour of Göttingen Mean Time, independent of Direction; and Number of Hours of its Duration for each Month in the Year 1841.

1841.	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	$13\frac{3}{4}$	20	$13\frac{1}{4}$	19	11	18	$9\frac{3}{4}$	19	$12\frac{1}{4}$	23	$15\frac{1}{2}$	24	18	24	$15\frac{1}{2}$	24	$16\frac{1}{2}$	24	$16\frac{3}{4}$	24	$17\frac{3}{4}$	21	$18\frac{3}{4}$	22	$178\frac{3}{4}$	262
February	$12\frac{3}{4}$	20	$12\frac{1}{2}$	18	12	17	$11\frac{3}{4}$	20	$10\frac{1}{4}$	22	16	22	$16\frac{1}{4}$	23	$14\frac{1}{4}$	23	15	22	$19\frac{1}{3}$	18	$17\frac{1}{3}$	23	15	22	$172\frac{3}{4}$	250
March	14	21	16	20	$14\frac{3}{4}$	22	$11\frac{1}{4}$	21	15	24	18	25	$21\frac{3}{4}$	26	$21\frac{3}{4}$	26	$19\frac{1}{2}$	25	14	25	14	25	12	24	192	284
April	$11\frac{1}{4}$	21	$9\frac{1}{4}$	18	$8\frac{3}{4}$	21	$9\frac{3}{4}$	21	$10\frac{3}{4}$	25	$11\frac{1}{2}$	24	$11\frac{3}{4}$	23	$12\frac{3}{4}$	22	$11\frac{1}{2}$	23	$9\frac{1}{4}$	24	$11\frac{1}{4}$	25	$10\frac{1}{4}$	22	128	269

TABLE XLIX.—*continued.*

1841.	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	$7\frac{1}{2}$	16	$7\frac{1}{4}$	18	$6\frac{1}{2}$	19	$10\frac{1}{4}$	21	$12\frac{1}{2}$	22	$15\frac{3}{4}$	25	$19\frac{1}{2}$	25	19	25	17	25	11	24	$9\frac{3}{4}$	22	$8\frac{3}{4}$	18	$144\frac{3}{4}$	260
June	$13\frac{3}{4}$	19	$9\frac{1}{2}$	20	$11\frac{1}{4}$	23	$10\frac{3}{4}$	23	$13\frac{1}{4}$	24	$15\frac{1}{2}$	26	$16\frac{1}{2}$	26	15	26	13	25	$10\frac{1}{4}$	24	$9\frac{1}{4}$	20	$8\frac{1}{4}$	23	$146\frac{1}{4}$	279
July	7	18	6	18	$7\frac{3}{4}$	20	8	21	10	20	11	24	$10\frac{1}{2}$	24	$10\frac{3}{4}$	24	12	24	$9\frac{1}{4}$	21	$8\frac{1}{4}$	19	$6\frac{3}{4}$	17	$107\frac{1}{4}$	250
August	$7\frac{1}{2}$	21	$7\frac{3}{4}$	19	$7\frac{1}{4}$	19	$7\frac{1}{2}$	19	$9\frac{1}{4}$	22	$10\frac{3}{4}$	25	$10\frac{3}{4}$	25	$8\frac{3}{4}$	24	$10\frac{1}{2}$	23	$7\frac{3}{4}$	23	$7\frac{3}{4}$	21	$7\frac{3}{4}$	18	$103\frac{1}{4}$	259
September	$12\frac{1}{2}$	20	$11\frac{1}{2}$	18	13	19	$13\frac{3}{4}$	19	11	21	$13\frac{3}{4}$	23	$16\frac{1}{2}$	23	$15\frac{3}{4}$	22	12	22	$6\frac{3}{4}$	20	$7\frac{1}{4}$	19	$11\frac{1}{2}$	15	$145\frac{1}{4}$	241
October	$16\frac{3}{4}$	20	$16\frac{1}{4}$	19	$15\frac{3}{4}$	21	$14\frac{1}{4}$	23	$18\frac{1}{4}$	25	$18\frac{1}{2}$	25	$15\frac{1}{2}$	26	16	25	14	24	$14\frac{1}{2}$	23	$19\frac{3}{4}$	23	14	18	$193\frac{1}{2}$	272
November	12	13	$12\frac{1}{2}$	14	14	15	$11\frac{1}{2}$	15	$11\frac{1}{2}$	17	$13\frac{1}{2}$	22	$13\frac{1}{4}$	23	13	20	12	17	$11\frac{3}{4}$	17	$8\frac{3}{4}$	15	$10\frac{3}{4}$	15	$144\frac{1}{2}$	203
December	$11\frac{1}{4}$	16	$10\frac{1}{4}$	18	10	18	$10\frac{3}{4}$	19	$8\frac{3}{4}$	18	$11\frac{3}{4}$	20	$12\frac{1}{2}$	20	$9\frac{3}{4}$	20	$10\frac{3}{4}$	18	$10\frac{3}{4}$	18	14	18	$11\frac{3}{4}$	17	$132\frac{1}{4}$	220

By taking the sum of all the quantities at each hour, we obtain that

At 14^h	the whole sum	of the estimated forces	was 140,	the number of hours	225
16	,,	,,	132,	,,	219
18	,,	,,	132,	,,	232
20	,,	,,	$129\frac{1}{4}$,	,,	241
22	,,	,,	$142\frac{3}{4}$,	,,	263
0	,,	,,	$171\frac{1}{2}$,	,,	285
2	,,	,,	$182\frac{1}{2}$,	,,	288
4	,,	,,	$172\frac{1}{4}$,	,,	281
6	,,	,,	$163\frac{3}{4}$,	,,	272
8	,,	,,	$141\frac{1}{2}$,	,,	261
10	,,	,,	$145\frac{1}{4}$,	,,	251
12	,,	,,	$135\frac{1}{2}$,	,,	231

The whole number of two-hour intervals over which the observations are spread is 3744. As there are 3049 observations indicating that air was in motion at those times, there were 695 instances of calm, of which 135 occurred in spring, 160 in summer, 220 in autumn, and 180 in winter; and

87	instances occurred at	14^h,	of which	21	were in spring,	21	were in summer,	25	were in autumn,	and	20	were in winter.
93	,,	16,	,,	23	,,	22	,,	27	,,		21	,,
80	,,	18,	,,	17	,,	17	,,	23	,,		23	,,
71	,,	20,	,,	16	,,	16	,,	21	,,		18	,,
49	,,	22,	,,	8	,,	13	,,	15	,,		13	,,
27	,,	0,	,,	5	,,	4	,,	8	,,		10	,,
24	,,	2,	,,	5	,,	4	,,	6	,,		9	,,
31	,,	4,	,,	6	,,	5	,,	11	,,		9	,,
40	,,	6,	,,	6	,,	7	,,	15	,,		12	,,
51	,,	8,	,,	6	,,	11	,,	18	,,		16	,,
61	,,	10,	,,	7	,,	19	,,	21	,,		14	,,
81	,,	12,	,,	15	,,	21	,,	30	,,		15	,,

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 one, and called day, that between 6^h and 18^h, for the night period, we have that there were—

In spring 56 cases of calm during the day out of 474, and 89 cases during the night out of 474
In summer 49 cases of calm during the day out of 474, and 111 cases during the night out of 476
In autumn 76 cases of calm during the day out of 468, and 144 cases during the night out of 468
In winter 71 cases of calm during the day out of 456, and 109 cases during the night out of 456

Therefore in spring during the day one hour in 8ʰ. 28ᵐ was calm,
during the night one hour in 5. 20 was calm.
In summer during the day one hour in 9. 40 was calm,
during the night one hour in 4. 15 was calm.

In autumn during the day one hour in 6ʰ. 10ᵐ was calm,
during the night one hour in 3. 15 was calm.
In winter during the day one hour in 6. 25 was calm,
during the night one hour in 4. 11 was calm.

Or for the whole year, there were 242 cases of calm out of 1872 during the day period,
and 453 cases of calm out of 1872 during the night period.

Therefore, for the whole year, one hour out of 7ʰ. 40ᵐ was calm during the day,
and one hour out of 4. 10 was calm during the night.

TABLE L.—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 1841.

Direction of Wind.	14ʰ		16ʰ		18ʰ		20ʰ		22ʰ		0ʰ		2ʰ		4ʰ		6ʰ		8ʰ		10ʰ		12ʰ	
	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.	8½	11	10¾	14	12¼	18	9½	20	12¾	22	13½	20	10¼	16	12½	22	11¼	20	9¾	16	11½	17	7½	13
N. N. E.	2¾	4	3½	5	1¼	4	½	2	2¼	5	3¼	7	3¼	8	3	9	4¾	10	1½	4	6	4	3	6
N. E.	8	12	5	9	4	8	3¾	7	5½	11	3	7	3¾	7	6	10	14¼	17	10½	8	8½	11	7½	11
E. N. E.	4	5	4¼	5	6	7	7¼	11	5¾	12	5¼	14	9	16	8¼	9	6¾	11	9½	14	8½	10	8¾	5
E.	3½	8	2½	8	1	3	1	4	1½	6	5	7	3¾	11	5¾	15	2¾	9	5¾	12	3½	10	3½	9
E. S. E.	¾	1	1½	3	2¼	5	1¼	3	1¼	4	1	3			¾	3	¾	3	1	4	1¾	6	½	2
S. E.	3½	6	2½	6	3	4	¾	2	2¼	2	½	2	1¼	4	½	2	¾	3	¼	1			2¾	7
S. S. E.	2¼	6	3¼	8	2½	7	1¾	4	1½	4	4	7	½	2	¾	3	1¼	4	1¼	5	2¾	11	2¼	7
S.	11	24	9½	20	5¼	17	11¾	22	8½	16	19	27	20¼	28	7	16	12	20	11¼	23	11¼	23	13¾	18
S. S. W.	20	28	26¾	31	20¾	28	16¼	27	20¾	27	28¼	39	31¼	34	22½	28	19¼	25	18¼	24	17¼	28	16	23
S. W.	33	52	29½	48	35¼	52	33¾	50	24½	48	26¾	45	32	45	39¾	50	38¼	52	28½	54	35	48	31¾	54
W. S. W.	19	27	16	28	19¾	37	17½	37	19½	38	26¾	35	22	36	20¼	31	21¾	35	17½	34	15	32	14½	34
W.	11	21	6¼	16	11¾	29	15	34	21¾	41	13¾	34	16¾	35	27¼	51	17	40	14½	39	13¾	33	12¼	26
W. N. W.	3¼	6	3	4	1¼	2	4¼	8	3½	8	8½	15	11½	23	7¾	17	6¼	11	4½	8	3½	5	1¼	3
N. W.	4¼	7	4½	7	3½	7	2	4	8¾	14	9	15	9¾	15	4½	8	1¾	3	3½	6	4¾	5	8¼	9
N. N. W.	5¼	7	3¼	7	2¼	4	3	6	2¾	5	4	8	6½	8	5¾	7	5	9	4	9	2¼	8	2	4

TABLE LI.—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.

1841.	Estimated Force.															
	1		1½		2		2½		3		3½		4		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.
		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.
February	27	24	11	24	12	46	4	25	11	79	2	22				
March	27	23	21	58	18	78	5	27	3	18						
April	46	66	12	26	11	24										
May	41	57	12	27	13	42	4	17								
June	46	58	7	27	5	21										
July	22	27	17	46	1	4										
August	32	62	7	23	1	4										
September	34	22	5	19	9	35	5	28	6	28	1	10				
October	80	113	22	77	14	57	9	75	2	27						
November	34	50	18	50	12	49	13	92	4	44	2	20	2	22	2	41
December	58	75	24	82	7	31					1	13				
Sums.	447	577	156	459	103	391	40	264	26	196	6	65	2	22	2	41
Mean pressure in pounds for corresponding estimation.	lbs. 1·3		lbs. 2·9		lbs. 3·8		lbs. 6·6		lbs. 7·5		lbs. 10·8		lbs. 11·0		lbs. 20·5	

The connexion indicated here as existing between the estimated force and the pressure at the anemometer in lbs. on the square foot, is very nearly that the square of the estimated force represents the number of lbs. pressure on the square foot. The error on such an assumption is as follows:—

	lbs.		lbs
For estimated force 1,	0·3 in excess.	For estimated force 3,	1·5 in defect.
,, 1½,	0·6 in excess.	,, 3½,	1·4 in defect.
,, 2,	0·2 in defect.	,, 4,	5·0 in defect.
,, 2½,	0·3 in excess.	,, 5,	3·5 in defect.

With respect to 4 and 5, there are only two cases of each; with 5, one case has 24 lbs. and the other 17 lbs. recorded, both in the gale of November 28 and 29. These two cases of defect cannot be considered as of much weight; and when 4 or 5 is estimated, it is at all times exceedingly vague. Considering that such a rule would represent the strength of the wind by estimation, we should have that

¼	by estimation is	1 oz.	pressure on the square foot.	3	by estimation is	9 lbs.	pressure on the square foot.
½	,,	4 oz.	,,	3½	,,	12¼ lbs.	,,
¾	,,	9 oz.	,,	4	,,	16 lbs.	,,
1	,,	1 lb.	,,	4½	,,	20¼ lbs.	,,
1½	,,	2¼ lbs.	,,	5	,,	25 lbs.	,,
2	,,	4 lbs.	,,	6	,,	36 lbs.	,,
2½	,,	6¼ lbs.	,,				

On the Angle described by the Anemometer-vane between February and December 1841.

In the pursuit of this investigation the principal changes only are noticed. Thus on Feb. 1 the wind was N. E., and on the 13th was W. S. W.; the direction then permanently changed, and the angle between N. E. and about W. S. W. is inserted, although in the meantime the wind had on the 2nd and 3rd been E., and on the 4th N.; thus changes of less than 60° are not noticed. Again, on Feb. 18 the direction permanently changed, and the angle between the position of the vane on Feb. 13 and on Feb. 18 is inserted; and so on for all the rest. It sometimes happens, when the air is scarcely in motion, that at a sudden puff the anemometer vane will go quite round; those angles have not been noticed.

By *direct* motion, in the following statement, is meant in the order N., E., S., W., N.; by *retrograde*, is meant in the order N., W., S., E., N.

TABLE LII.—Principal Changes in the Direction of the Wind, 1841.

Periods of Change.	Nature and Extent of Change. Direct.	Retrograde.	Periods of Change.	Nature and Extent of Change. Direct.	Retrograde.
	°	°		°	°
Feb. 1 to Feb. 13	150		July 6 to July 19		941
Feb. 13 to Feb. 18		427	July 19 to July 25	230	
Feb. 18 to Mar. 11	292		July 25 to July 27		157
Mar. 11 to Mar. 15		292	July 27 to Aug. 6	448	
Mar. 15 to April 2	200		Aug. 6 to Aug. 10		112
April 2 to April 6		290	Aug. 10 to Aug. 11	134	
April 6 to April 14	651		Aug. 11 to Sep. 19		224
April 14 to April 27		415	Sep. 19 to Oct. 3	292	
April 27 to May 18	1165		Oct. 3 to Oct. 10		180
May 18 to May 24		250	Oct. 10 to Nov. 15	515	
May 24 to May 30	360		Nov. 15 to Nov. 18		336
May 30 to June 4		140	Nov. 18 to Nov. 19	246	
June 4 to June 13	170		Nov. 19 to Nov. 27		112
June 13 to June 14		157	Nov. 27 to Dec. 28	224	
June 14 to June 18	470		Dec. 28 to Dec. 29		134
June 18 to June 20		314	Dec. 29 to Dec. 31	67	
June 20 to July 6	841				
			Sum...	6455	4481

It appears, therefore, that the arc described by the vane in its *direct* motion exceeds that described in its *retrograde* motion by 1974°, or 5·4 revolutions. The number of days of direct motion was 250, and the number of days of retrograde motion was 84.

Abstracts of the Observations of the Amount of Clouds.

TABLE LIII.—Mean Amount of Cloud, as deduced from the Twelve Observations taken Daily, at the Even Hours of Göttingen Mean Time, for every Day (except Sundays and Christmas Day). The number 10 denotes that the sky was perfectly covered with clouds.

Day of the Month.	1840.		1841.										
	November	December.	January.	February.	March.	April.	May.	June.	July.	August.	September	October.	November	December.
1		9·2	8·3	8·3	9·2	9·7	0·0	4·6	9·5	*S*	6·1	9·3	9·9	8·3
2		5·3	5·0	9·3	8·2	5·1	*S*	4·8	10·0	9·0	2·9	4·3	9·1	7·7
3		1·3	*S*	6·6	7·1	4·7	10·0	3·3	7·9	9·5	7·1	*S*	8·8	7·8
4		4·8	7·3	9·9	5·3	*S*	9·0	3·5	*S*	9·0	9·3	9·2	7·4	7·4
5		10·0	8·6	6·3	9·1	8·6	6·8	8·1	6·2	8·0	*S*	6·5	8·4	*S*
6		*S*	8·4	10·0	3·9	7·2	4·7	*S*	6·3	9·0	4·7	6·7	3·8	8·2
7		9·1	2·7	*S*	*S*	9·3	6·9	7·8	7·9	7·5	6·6	3·3	*S*	7·6
8		9·3	6·7	10·0	5·9	8·3	8·2	10·0	6·8	*S*	4·6	8·3	7·9	8·3
9	6·5	0·4	3·6	9·9	1·5	5·0	*S*	9·0	4·7	6·1	6·9	8·5	9·9	5·8
10	6·3	8·0	*S*	9·9	5·3	9·7	9·5	5·3	5·5	5·5	3·6	*S*	9·7	8·1
11	6·3	10·0	8·7	9·6	0·0	*S*	7·1	8·4	*S*	9·7	5·2	5·3	6·9	2·3
12	5·8	9·7	5·3	8·4	0·0	8·5	6·3	8·5	7·4	4·2	*S*	7·7	5·4	*S*
13	8·4	*S*	6·7	9·3	2·5	8·4	1·3	*S*	4·9	7·8	0·6	7·6	4·8	6·2
14	2·7	6·1	10·0	*S*	*S*	9·9	0·4	2·8	6·8	7·6	4·7	8·7	*S*	6·8
15	*S*	5·3	7·2	10·0	1·7	4·1	2·3	8·5	7·1	*S*	4·8	6·4	6·9	8·5
16	7·0	9·6	10·0	8·3	0·1	4·3	*S*	2·9	7·3	6·1	3·9	7·4	4·5	2·8
17	6·6	8·8	*S*	8·6	6·1	4·3	7·5	4·9	2·8	9·2	0·7	*S*	3·8	1·4
18	9·6	9·8	10·0	3·6	6·0	*S*	4·3	6·0	*S*	6·2	1·6	4·9	8·1	0·0
19	7·3	10·0	8·9	8·0	2·9	6·5	8·4	7·8	6·5	0·7	*S*	5·2	8·2	*S*
20	2·8	*S*	5·9	5·7	5·3	7·8	5·0	*S*	9·7	0·8	8·8	1·4	6·1	7·3
21	6·8	8·1	3·8	*S*	*S*	7·8	5·6	5·3	9·4	4·3	7·2	2·9	*S*	6·0
22	*S*	4·1	5·3	10·0	6·8	9·3	8·0	5·5	7·6	*S*	5·9	7·3	7·8	6·5
23	8·8	1·0	5·8	9·6	5·8	8·7	*S*	6·2	9·7	8·0	7·3	8·3	6·0	7·6
24	5·5	3·7	*S*	10·0	6·0	6·0	6·1	6·1	9·3	4·3	8·6	*S*	3·0	7·8
25	4·8	2·0	2·8	8·8	1·6	*S*	6·9	6·9	*S*	9·3	5·8	5·5	7·2	*Ch. Day*
26	0·1	10·0	9·7	9·7	5·3	8·8	3·4	5·9	8·8	7·6	*S*	8·6	7·3	*S*
27	0·0	*S*	7·9	8·5	4·8	2·2	1·8	*S*	8·7	6·2	7·5	10·0	10·0	7·0
28	3·1	9·0	5·2	*S*	*S*	4·3	4·4	10·0	5·9	1·8	9·6	10·0	*S*	8·1
29	*S*	8·4	5·5	...	9·2	1·5	6·3	7·5	5·2	*S*	7·0	10·0	9·6	10·0
30	9·7	3·8	10·0	...	6·8	3·8	*S*	6·9	7·7	1·1	7·6	10·0	8·3	8·5
31	...	5·3	*S*	...	7·4	...	2·3	...	7·8	9·7	...	*S*	...	8·1

The spaces in which the letter *S* is inserted correspond to Sundays.

In this table there are seven days which may be considered cloudless; two in 1840, viz., Nov. 26 and 27; and five in 1841, viz., March 11, 12, and 16, May 1, and December 18. There are twenty-three days quite cloudy; of these there were in 1840, December, four instances; in 1841, January, four; in February, five; in May, one; in June, two; in July, one; in October, four; in November, one; and in December one. Besides these there are six days which may be considered cloudy, viz., 1841, Feb. 4, 9, and 10, April 14, Nov. 1 and 9.

The mean amount of cloud, from all the observations in 1841, is 6·7.

TABLE LIV.—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.	1840.		1841.											Mean of all the Months of 1841.
	November	December.	January.	February.	March.	April.	May.	June.	July.	August.	September	October.	November	December.	
h														
14	5·9	6·9	6·0	9·5+	4·3	6·3	3·6	6·0	6·7	6·2	4·5	6·6	7·2	7·2	6·2
16	5·0	7·0	6·5	9·0	5·0	6·3	5·1	6·2	7·4	6·9	4·3	7·6	7·7	6·3	6·5
18	6·0	7·5	6·5	9·0	4·8	6·5	5·8	6·0	6·4	7·1	7·0	7·4	6·9	6·2	6·6
20	6·8	7·3	6·5	9·0	4·0	6·5	6·2	6·0	6·5	7·1	7·0	7·0	7·0	6·8	6·6
22	5·9	7·0	7·0	9·0	5·0	7·3	6·0	7·8	8·0	7·1	7·1	7·0	8·1	7·0	7·2
0	6·0	6·2	6·5	8·3	5·7	6·7	6·3	7·5	8·4	7·7	6·6	7·3	7·1	6·5	7·1
2	6·3	5·4	6·5	8·0—	5·3	7·3	6·0	6·8	8·3	6·3	5·9	7·0	7·1	7·0	6·8
4	6·1	5·7	7·0	8·0	5·5	7·5	6·7	7·2	8·7	6·3	5·9	7·4	6·9	7·4	7·1
6	6·8	7·0	7·5	8·8	5·0	6·5	5·5	7·0	7·7	6·1	4·9	7·2	7·1	7·1	6·7
8	4·5	6·9	7·5	8·3	5·0	6·3	5·2	6·0	6·7	5·7	5·2	6·6	7·2	6·3	6·3
10	4·9	7·0	7·5	9·5	4·8	6·0	4·8	5·5	6·5	5·0	5·5	6·2	6·9	6·2	6·2
12	5·0	6·9	7·5	8·5	4·3	6·2	4·3	4·8	6·1	6·3	4·6	7·0	7·1	6·3	6·1
Mean of all the two-hourly results.....	5·7	6·7	7·0	8·7	5·0	6·7	5·8	6·5	7·3	6·5	5·7	7·0	7·2	6·7	6·6

Comparing one month with another, it appears that the greatest quantity of cloud is found in the months from October to February; and the least in the months from March to September, with the exception of July, which was more cloudy than any other month but February. The suddenness of the diminution in the clouds from February to March is remarkable.

Comparing one hour with another, it appears that, upon the means for the whole year, the greatest amount of cloud occurs near noon (before and after), and the smallest near midnight. But this does not hold during each individual month, as appears from the following table:—

TABLE LV.—Hours of the Day in different Months in which the greatest and least Amounts of Cloud prevailed; with the Amounts of Cloud at those Hours.

Month.	Hour at which prevailed the		Amount of Cloud 0—10.		Difference.
	Most Cloud.	Least Cloud.	Greatest.	Least.	
1840.	h h	h			
November	20 and 6	8	6·8	4·5	2·3
December	18	2	7·5	5·4	2·1
1841.					
January	6 and 12	14	7·5	6·0	1·5
February	14	2	9·5+	8·0—	1·5
March	0	20	5·7	4·0	1·7
April	4	10	7·5	6·0	1·5
May	4	14	6·7	3·6	3·1
June	22	12	7·8	4·8	3·0
July	4	12	8·7	6·1	2·6
August	0	10	7·7	5·0	2·7
September	22	16	7·1	4·3	2·8
October	16	10	7·6	6·2	1·4
November	22	18, 4, and 10	8·1	6·9	1·2
December	4	18 and 10	7·4	6·2	1·2

The times in the first column representing the hours when the greatest quantity of cloud prevailed are generally in the day, and the times in the next column representing the hours when the least quantity of cloud prevailed are generally in the night. The quantity of cloud which prevails during the day in the winter, is about the same as the quantity which prevails at the most cloudy times in summer. The difference between the greatest and least quantity of cloud in summer is twice as great as it is in winter.

Records of the Rain-gauges.

TABLE LVI.—Amount of Rain collected in each Month in the several Gauges.

Month, 1841.	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.
	in.	in.	in.	in.
January	0·99	2·01	2·112	(2·11)
February	0·49	0·75	1·049	1·32
March	0·69	0·85	1·302	1·35
April	0·96	1·64	2·052	1·92
May	1·15	1·50	2·028	2·06
June	1·80	2·28	2·827	2·70
July	2·51	3·50	3·891	3·60
August	1·46	1·89	2·255	2·20
September	2·49	3·32	3·740	3·95
October	3·23	5·63	(5·95)	5·95
November	1·67	3·01	3·563	3·70
December	1·14	1·81	2·331	2·40

The simple cylinder-gauge was first used on February 1; the quantity inserted for January, under the head of Cylinder gauge, in brackets, is that collected in Crosley's gauge, as in every following month the results, by the two gauges, are nearly alike. For the same reason the quantity in brackets in the month of October, under the head of Crosley's gauge, has been inserted from the cylinder-gauge, Crosley's gauge being out of order in that month.

Taking the sums of the quantities for December, January, and February, for Winter; those for March, April, and May, for Spring; those for June, July, and August, for Summer; and those for September, October, and November, for Autumn; the following table is formed:

TABLE LVII.—Quarterly Amount of Rain.

1841.	At the Anemometer.	On the top of the Library.	Crosley's.	Cylinder, partly sunk in the Ground.
	in.	in.	in.	in.
Spring	2·80	3·99	5·382	5·33
Summer	5·77	7·67	8·973	8·50
Autumn	7·39	11·96	13·253	13·60
Winter	2·62	4·57	5·492	5·83

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 $1^{ft}\cdot11^{in}\cdot$ above the ground; and that of the cylindrical gauge $5\frac{1}{2}$ inches above the ground; and the proportions of the sums collected are:

	Anemometer.	Top of Library.	Crosley's.	Cylindrical.
In Spring	52	75	101	100
In Summer	68	90	106	100
In Autumn	61	88	98	100
In Winter	45	78	97	100

Between the two lowest gauges there is, sensibly, a ratio of equality. The numbers at the upper stations differ most from those at the lower station in winter and in spring, less in autumn, and least of all in summer.

By taking the sums of the quarterly amounts, we have the whole amount fallen at each gauge during the whole year. They are as follows:

		ft.		in.
At the Anemometer-gauge, whose receiving surface is		205·6	above the mean level of the sea,	18·58
At the gauge above the Library,	,,	177·2	,,	28·19
At Crosley's gauge,	,,	156·6	,,	33·10
At the Cylindrical gauge,	,,	155·3	,,	33·26

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 85 : 100, and for a point 50 feet above the ground, the ratio is 56 : 100.

In October the very large quantity of $5^{in}\cdot95$ of rain fell, a very unusual quantity at this place in autumn. The whole quantity of rain fallen in the year is perhaps 8 inches above the average quantity.

Curves exhibiting the principal Meteorological Phenomena in the last two Months of the Year 1840, and in the Year 1844, as observed at the Royal Observatory, Greenwich. (A dotted line denotes that no observations were made on the day whose place is at the centre of that dotted line)

1840. 1844.

November. December. January. February. March. April. May. June. July. August. September. October. November. December.

Mean height of the Barometer on each civil day.

Mean readings of the Dry-bulb and Wet-bulb Thermometers on each civil day.

Dry-bulb Thermometer

Wet-bulb Thermometer

No register of the wet-bulb Thermometer to the 1st March, 1844.

Mean Direction of the Wind for each period of eight hours: (The small crosses denote that the air was sensibly calm.)

Greatest pressure of the Wind on each civil day, in pounds per square foot.

No register of the pressure of the Wind to 1st February, 1844.

Smallest pressure of the Wind on each civil day, in pounds per square foot.

Mean amount of Clouds on each civil day, in tenth parts of the whole sky.

Depth of Rain which fell on the ground in each civil day.

No register of rain in 1840.

November. December. January. February. March. April. May. June. July. August. September. October. November. December.

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