MAGNETICAL AND METEOROLOGICAL

OBSERVATIONS

MADE AT

THE ROYAL OBSERVATORY, GREENWICH,

IN THE YEAR

1847:

UNDER THE DIRECTION OF

GEORGE BIDDELL AIRY, ESQ. M.A.

ASTRONOMER ROYAL.

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ERRATA.

GREENWICH MAGNETICAL AND METEOROLOGICAL OBSERVATIONS FOR 1845.

PAGE

39 Last word in last line, *for* March, *read* December.

GREENWICH MAGNETICAL AND METEOROLOGICAL OBSERVATIONS FOR 1846.

xvi Line 9 from bottom, *for* bisects the cross of the micrometer-wire, *read* bisects the magnet-cross by the micrometer-wire.

xx First line, *for* The mean angle of the value of Torsion, *read* The mean value of the angle of Torsion.

xliii Last line, 8th column of Table, *for* 0·00088, *read* 0·00288.

xliv Line 6 from top in 7th column of upper Table, *for* 19·6, *read* 16·6.

xliv Line 18 from top in 8th column of upper Table, *for* 0·00574, *read* 0·00674.

xliv Line 10 from bottom in 8th column of lower Table, *for* 0·00341, *read* 0·00241.

xlviii Line 5 from top in 2nd column of Table, *for* 1.0.24, *read* 1·0024.

(118) Aug. 1. Reading of No. 2 Rain Gauge, *for* 0·03, *read* 0·95.

99 In the line preceding Table XI., *for* 0·000948, *read* 0·009948.

135 First line, Heading to Table XXIX., *for* Mean Reading, *read* Mean Monthly Reading.

136 Heading to Table XXXII., *for* Mean Reading, *read* Mean Monthly Reading.

172 Table XC. In the 4th column ranging with April, *for* 3·200, *read* 3·100.

PAGE

172 Table XC. In the 4th column ranging with June, *for* 0·670, *read* 0·660.

172 Table XC. In the 3rd column ranging with August, *for* 3·17, *read* 4·09.

172 Table XCI. In the 4th column, ranging with Spring, *for* 6·015, *read* 5·915.

172 Table XCI. In the 3rd column, ranging with Summer, *for* 5·01, *read* 5·93.

172 Table XCI. In the 4th column, ranging with Summer, *for* 6·615, *read* 6·605.

173 Line 4 from top, in Heading of 3rd column of Table, *for* Gauges, *read* Gauge.

173 Line 6 from top, ranging with In Spring, *for* 111, *read* 109.

173 Line 7 from top, in 3rd column of Table, *for* 84, *read* 98.

173 Line 12 from top, *for* 22·63, *read* 23·55.

173 Line 13 from top, *for* 25·86, *read* 25·75.

174 June 4^{d}. 2^{h}. 14^{m}, last column, *for* The, *read* The.

Index, page 2, last word, line 13 from top, *for* Pane, *read* Plane.

GREENWICH MAGNETICAL AND METEOROLOGICAL OBSERVATIONS FOR 1847.

(280) First line, heading of Table, *for* Table LII. continued, *read* Table XLIX. continued.

GREENWICH MAGNETICAL AND METEOROLOGICAL OBSERVATIONS,

1847.

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 out-house. It is built of wood: iron is carefully excluded. Its form is that of a cross with four equal arms, nearly in the direction of the cardinal magnetic points: the length within the walls, from the extremity of one arm of the cross to the extremity of the opposite arm, is forty feet: the breadth of each arm is twelve feet. The height of the walls inside is ten feet, and the ceiling of the room is about two feet higher. The northern arm of the cross is separated from the central square by a partition, so as to form an ante-room. The meridional magnet (placed in its position in 1838) is mounted in the southern arm; the bifilar-magnet, for variations of horizontal force (erected at the end of 1840), is mounted in the eastern arm; and the balance-magnetometer, for variations of vertical force (erected in 1841), in the western arm. The mean-time clock is in the southern arm, near its union with the western arm; the standard barometer is near it, in the western arm; the sidereal-time clock is fixed to the wall which divides the central square from the ante-room, and is nearer to the balance-magnetometer than to the bifilar; the "check-clock," or "watch-man'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 near 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 occa-

sional repose at night, it is impossible to avoid introducing into it iron in small quantities. On the outside near the north-east corner of the ante-room, a pole 79 feet in height is fixed, for the support of the conducting wires to the electrometers; the electrometers, &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, the stand for carrying the thermometers was fixed till 1846, July 20. On July 22 the stand was removed to a position situated 23 feet south of the south-west angle of the south arm of the Magnetic Observatory.

The Magnetic Observatory remained in this state to the middle of 1847. On 1847, June 2, the self-registering apparatus for recording the movements of the magnets by a photographic trace was first brought into action for the declination-magnet; and on August 22 a similar apparatus was made available for the horizontal-force-magnet. For this purpose, camphine lamps (as will be hereafter described) were supported by projections from the stands of the two instruments, and the light which they cast upon concave mirrors carried by the suspension-pieces of the magnets was reflected to a revolving barrel turned by a watch movement mounted at the internal projection of the south-eastern re-entering angle of the building. The path of the light from each instrument to the barrel is through large rectangular tubes of zinc, supported on tressels.

I shall now proceed to describe the instruments, their adjustments and constants of calculation, and the modes of using them, so far as relates to observations with the eye and telescope. Of all that relates to the photographic record, a more detailed account will be given at the end of this Introduction.

§ 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 into 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 passing through the pier, through which circumpolar stars can be observed as high as δ Ursæ Minoris above the pole, and as low as β Cephei below the pole.

For supporting the magnet, a braced wooden tripod-stand is provided, resting on the ground and unconnected with the floor. Upon the cross-bars of the stand rests a double rectangular box (one box completely inclosed within another), both boxes being covered with gilt paper, on their exterior and interior sides. On the southern side of the principal upright piece of the stand is a moveable upright bar, turning in the vertical E. and W. plane, upon a pin in its center, which is fixed in the principal upright, and which carries at its top the pulleys for suspension of the magnet; 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 carried over it and over the south pulley, and is then attached to a leathern strap, which passes downwards to a small windlass, 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 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 object-glass of the collimator in front of the object-glass of the theodolite, 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.

On mounting the photographic apparatus in June, 1847, the old torsion-circle and suspension-stirrup were removed, and a new suspension-stirrup was mounted, firmly united with an upright rod, 7·9 inches in length, the top of which is connected by an adjustible circular horizontal movement (firmly clamped while in use) to an upright frame $5\frac{1}{2}$ inches high, to which are attached the necessary clips for carrying a concave mirror, 5 inches in diameter, with its face vertical, and its lower edge 4 inches above the exterior wooden box. At the top of this frame is a torsion-circle with a hook, which is simply hooked into the end of the silk skein. The skein is necessarily shortened several inches, and the weight of the suspending apparatus is considerably increased. The support of the magnet by this new apparatus does not in any degree interfere with the facilities of observing with the telescope in the ancient method.

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

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

1846, December 22. Observer, Mr. Glaisher. 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 placed to the East: the level was applied, and its scale was read; the level was then reversed, and its scale was again read; it was then 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 four times, and the following are the results. The West end of the axis in the successive observations was apparently the highest by the following quantities:—

		div.
With illuminated end of axis	East, —	20·4
,, ,,	West, —	15·9
,, ,,	East, —	21·5
,, ,,	West, —	16·7
,, ,,	East, —	21·4
,, ,,	West, —	17·2
,, ,,	East, —	22·9
,, ,,	West, —	15·8

Hence that end of the level which is placed on the illuminated end is too high—

	div.
By 1st and 2nd Sets	2·25
By 3rd and 4th Sets	2·40
By 5th and 6th Sets	2·10
By 7th and 8th Sets	3·55

The mean of these numbers is 2·58 div. In the volumes for 1843, 1844, and 1845, are the details of the observations by which this inequality had been previously determined, from which it appeared that the end of the level which was placed on the illuminated end was too high by 2·85 div. 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 too low by the half of these numbers. The value which has been taken into account in the reduction of all the observations with the theodolite, for the determination of the theodolite-reading for the astronomical meridian, is 1·43 div., being the same value as that used in the preceding years. One division of the level-scale was found by Mr. Simms to be equal to 1″·0526.

2. Value of one revolution of the micrometer-screw of the theodolite-telescope.

1846, December 23. The magnet was made to rest on blocks of wood, and the collimator was used as a fixed mark at an infinite distance. The micrometer was placed in different positions, and the telescope of the theodolite was then turned till the micrometer-wire bisected the cross. Observer, Mr. Glaisher.

	div.		°	′	″		′	″		′	″
Micrometer set at	92.	Reading of Theodolite	247.	6.	20·0	Difference for 23 rev.	36.	12·3	Corresponding value for 1 rev.	1.	34·4
,,	115.	Reading of Theodolite	246.	30.	7·7						
Micrometer set at	92.	Reading of Theodolite	247.	6.	18·3	Difference for 23 rev.	36.	6·6	Corresponding value for 1 rev.	1.	34·2
,,	115.	Reading of Theodolite	246.	30.	11·7						
Micrometer set at	92.	Reading of Theodolite	247.	6.	10·7	Difference for 23 rev.	36.	2·4	Corresponding value for 1 rev.	1.	34·0
,,	115.	Reading of Theodolite	246.	30.	8·3						
Micrometer set at	92.	Reading of Theodolite	247.	6.	15·0	Difference for 23 rev.	36.	5·0	Corresponding value for 1 rev.	1.	34·1
,,	115.	Reading of Theodolite	246.	30.	10·0						

Micrometer set at 92.	Reading of Theodolite 247. 6. 20·7	Difference for 23 rev.	36. 5·7	Corresponding value for 1 rev.	1. 34·2
,, 115.	Reading of Theodolite 246. 30. 15·0				
Micrometer set at 92.	Reading of Theodolite 247. 6. 15·7	Difference for 23 rev.	35. 53·6	Corresponding value for 1 rev.	1. 33·6
,, 115.	Reading of Theodolite 246. 30. 22·7				
Micrometer set at 92.	Reading of Theodolite 247. 6. 18·3	Difference for 23 rev.	35. 53·3	Corresponding value for 1 rev.	1. 33·6
,, 115.	Reading of Theodolite 246. 30. 25·0				
Micrometer set at 92.	Reading of Theodolite 247. 6. 21·7	Difference for 23 rev.	36. 1·7	Corresponding value for 1 rev.	1. 34·0
,, 115.	Reading of Theodolite 246. 30. 20·0				
Micrometer set at 92.	Reading of Theodolite 247. 6. 19·0	Difference for 23 rev.	35. 55·7	Corresponding value for 1 rev.	1. 33·7
,, 115.	Reading of Theodolite 246. 30. 23·3				
Micrometer set at 92.	Reading of Theodolite 247. 6. 20·0	Difference for 23 rev.	36. 1·7	Corresponding value for 1 rev.	1. 34·0
,, 115.	Reading of Theodolite 246. 30. 18·3				

Therefore, the mean value of one revolution was $1'.33''\cdot98$. In the volume for 1842, from the mean of seven results of observations made on January 1 of the year 1842, between $92^{rev.}$ and $115^{rev.}$, and of six results obtained on January 3 of the same year, it appeared that the value of one revolution was $1'.34''\cdot271$. The value used in the year 1841 was $1'.34''\cdot07$. These several determinations being so nearly of the same value, it did not seem necessary to construct new tables, and the value $1'.34''\cdot07$ has been used during the year 1847.

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

1846, December 23. The vertical axis of the theodolite had been adjusted to verticality, and the transit axis was made horizontal. The declination magnet was made to rest on blocks, and the cross-wires carried by it were used as a collimator for determining the line of collimation of the telescope of the theodolite. The telescope was reversed after each observation. Observer, Mr. Glaisher.

Position of Micrometer Head.	Micrometer Reading.	Position of Micrometer Head.	Micrometer Reading.
	r		r
E	100·711	E	100·850
W	100·345	W	100·220
E	100·775	E	100·830
W	100·275	W	100·220
E	100·765	E	100·820
W	100·225	W	100·275
E	100·817	E	100·820
W	100·218	W	100·230
E	100·900	E	100·890
W	100·225	W	100·192

Position of Micrometer Head.	Micrometer Reading.	Position of Micrometer Head.	Micrometer Reading.
E	100·880	W	100·222
W	100·250	E	100·880
E	100·880	W	100·215
W	100·192	E	100·842
E	100·875	W	100·241
W	100·252	E	100·852
E	100·830	W	100·215
W	100·295	E	100·885
E	100·838	W	100·200

The mean of these readings is $100^{r}\cdot538$, and this value has been used as the reading for the line of collimation for the year 1847.

4. Determination of the effect of the mean-time clock on the declination magnet.

The observations by which this has been determined are detailed in the volumes for 1840, 1841, 1844, and 1845. It appears that it is necessary to add $9''\cdot41$ to every reading of the theodolite.

5. Determination of the compound effects of the vertical force magnet and the horizontal force magnet on the declination magnet.

The details will be found in the volumes for 1840, 1841, 1844, and 1845. It appears that it is necessary to subtract $55''\cdot22$ from all readings of the theodolite.

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

1846, December 23. 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 is always kept upwards. The cross-wire carried by the collimator of the magnet was observed with the marked side of the glass alternately inside and outside the box. Observer, Mr. Glaisher.

Marked Side of the Glass.	Micrometer Reading.	Marked Side of the Glass.	Micrometer Reading.
Out of the box	100·850	Out of the box	100·864
In the box	100·624	In the box	100·625
Out of the box	100·852	Out of the box	100·850
In the box	100·624	In the box	100·620

Marked Side of the Glass.	Micrometer Reading.	Marked Side of the Glass.	Micrometer Reading.
Out of the box	100r·844	Out of the box	100r·848
In the box	100 ·612	In the box	100 ·612
Out of the box	100 ·850	Out of the box	100 ·840
In the box	100 ·615	In the box	100 ·610
Out of the box	100 ·830	Out of the box	100 ·846
In the box	100 ·602	In the box	100 ·592
Out of the box	100 ·837	Out of the box	100 ·832
In the box	100 ·595	In the box	100 ·604
Out of the box	100 ·850	Out of the box	100 ·825
In the box	100 ·600	In the box	100 ·610
Out of the box	100 ·870	Out of the box	100 ·832
In the box	100 ·595	In the box	100 ·592
Out of the box	100 ·864	Out of the box	100 ·850
In the box	100 ·610	In the box	100 ·610
Out of the box	100 ·850	Out of the box	100 ·865
In the box	100 ·620	In the box	100 ·595

The mean of all the numbers when the marked side of the glass was outside of the box is $100^{r}\cdot846$, and the mean of all the readings when the marked side was inside of the box is $100^{r}\cdot608$. Half of the difference of these numbers is $0^{r}\cdot119$, which when converted into arc is $11''\cdot2$; this value combined with all the previous results found in preceding years, according to the number of experiments upon which each result depended, gives $10''\cdot2$; and this value has been used as the error caused by the plane glass throughout the year 1847. As the micrometer-head of the telescope is always kept East, and the glass is always kept with its marked side outwards, the correction of the error is subtractive; and $10''\cdot2$ has consequently been subtracted from all readings for the bisections of the magnet cross during the year 1847.

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

1846, December 26. A small magnet, whose time of vibration is 5 seconds, was suspended in the shed erected for Deflexion Experiments: a reflector was attached to its center, and a telescope with a wire in its focus was directed to the reflector. A scale of numbers was fixed just above the object-glass of the telescope. The distance of the scale from the reflector was 4 feet 7 inches: one foot of the scale corresponded to $30^{div}\cdot9$ exactly; and, consequently, the value of one division of the scale was $12'.8''\cdot21$. One observer, Mr. Lovelace, observed this magnet at intervals of 5'; while another, Mr. Glaisher, observed

the declination-magnet at such pre-arranged times that the mean of the times for both sets of observations was the same, then reversed it in its stirrup, and again observed it, and so on. The illuminated end of the axis of the theodolite-telescope was, as usual, East.

The results are contained in the following table:—

Day, 1847.	Position of Cross of Collimator.	Mean Micrometer Reading for Declination Magnet.	Mean Reading of Scale for Temporary Magnet.	Micrometer Reading for Declination Magnet reduced to Arc.	Scale Reading for Temporary Magnet reduced to Arc.	Excess of Micrometer Reading reduced to Arc, increased by 5°, over Scale Reading reduced to Arc.	Excess with Collimator East diminished by Excess with Collimator West.	Half Difference, or Error of Collimation.
		r	div.	° ′ ″	° ′ ″	′ ″	′ ″	′ ″
Dec. 26.	W	100·270	33·017	2. 37. 12·4	6. 40. 43	56. 29·4	9. 47·4	4. 53·7
	E	106·854	33·066	2. 47. 31·8	6. 41. 15	66. 16·8		
	W	98·762	32·976	2. 34. 50·6	6. 40. 13	54. 37·6	8. 32·5	4. 16·3
	E	103·168	32·841	2. 41. 45·1	6. 38. 31	63. 10·1		
	W	98·974	32·772	2. 35. 10·5	6. 37. 45	57. 25·5	6. 35·4	3. 17·7
	E	103·379	32·799	2. 42. 4·9	6. 38. 4	64. 0·9		
	W	97·791	32·803	2. 33. 19·2	6. 38. 7	55. 12·2	8. 28·2	4. 14·1
	E	103·895	32·893	2. 42. 53·4	6. 39. 13	63. 40·4		
	W	99·070	32·880	2. 35. 19·5	6. 39. 3	56. 15·5	8. 25·9	4. 13·0
	E	103·469	32·755	2. 42. 13·4	6. 37. 32	64. 41·4		
	W	98·134	32·793	2. 33. 51·5	6. 38. 0	55. 51·5	7. 27·0	3. 43·5
	E	102·896	32·794	2. 41. 19·5	6. 38. 1	63. 18·5		

The mean of the values in the last column is $4'.6''.4$, which, combined with all the previous results, gives $3'.52''.5$: and when the collimator is West of the magnet, as it was during the year 1847, the readings are too small by this amount; therefore $3'.53''$ has been added to all observations during the year 1847.

In the volume for 1841, observations are exhibited shewing that the oval copper bar, or damper, had but little or no effect: the same bar has encircled the magnet throughout the year 1847.

In the volume for 1841, observations are exhibited shewing that the effect of the grate in the ante-room is insensible.

In the volume for 1842, observations are exhibited shewing that the iron attached to the electrometer pole has little or no effect on the magnet.

8. Calculation of the constant used in the reduction of the observations of the declination-magnet, the micrometer-head of the theodolite-telescope being East.

		o ′ ″
Micrometer equivalent for reading for line of collimation, 100·538	—	2. 37. 37·7
Correction for the plane glass in front of the box, in its usual position	—	10·2
Correction due to the compound effect of the horizontal force magnet and the vertical force magnet	—	55·2
	—	2. 38. 43·1
Correction for the effect of the mean time clock	+	9·4
	—	2. 38. 33·7
The collimator West of the magnet. Correction for Error of collimation.	+	3. 53·0
	—	2. 34. 40·7

The value used in the reduction of the observations for the year 1846 was $-2°.34'.45''.5$, and this constant has been used throughout the year 1847.

9. Fraction expressing the proportion of the torsion force to the earth's magnetic force.

In the previous volumes the results of experiments to determine the value of $\frac{\text{torsion force}}{\text{earth's magnetic force}}$ are exhibited; and in the volume for 1845 the mean of 55 results obtained between 1840, August, and 1847, June, was found to be, that the torsion force = $\frac{1}{187}$ of the earth's magnetic force. The accordance of the results shewed that there was no sensible change in the value of the torsion force of the suspension skein between these times.

1847, June 1. The suspension thread was shortened for the purpose of carrying, in addition to the magnet and its apparatus as before, a mirror which is used for the self-registration of the changes of the position of the magnet by the photographic process; and the following experiments were made to determine the proportion of the torsion force to the earth's magnetic force.

1847, June 3. The suspension skein was without torsion, when the torsion circle read 17°. The torsion circle was then turned through different angles on either side of this reading, and the theodolite was read for the position of the magnetic cross in each position of the torsion circle. Observer, Mr. Glaisher.

	o		o ′ ″
With torsion-circle reading	17,	the theodolite-reading was	249. 30. 52·8
,,	107	,,	248. 39. 47·0
,,	17	,,	249. 32. 23·6
,,	317	,,	250. 6. 42·6

		°		° ′ ″	
With torsion-circle reading	17,	the theodolite-reading was		249. 30. 58	·4
,,	107	,,		248. 37. 30	·8
,,	17	,,		249. 30. 7	·1
,,	317	,,		250. 3. 36	·0
,,	17	,,		249. 29. 22	·7

			°		′ ″	
Therefore, from the	1st pair	the difference for	90	of torsion was	51. 5	·8
,,	2nd pair	,,	90	,,	52. 36	·6
,,	3rd pair	,,	60	,,	34. 19	·0
,,	4th pair	,,	60	,,	35. 44	·2
,,	5th pair	,,	90	,,	53. 27	·6
,,	6th pair	,,	90	,,	52. 36	·3
,,	7th pair	,,	60	,,	33. 28	·9
,,	8th pair	,,	60	,,	34. 13	·3

And the torsion force from the	1st pair is $\frac{1}{105}$	of the earth's magnetic force	
,,	2nd pair is $\frac{1}{104}$	,,	
,,	3rd pair is $\frac{1}{106}$	,,	
,,	4th pair is $\frac{1}{102}$	,,	
,,	5th pair is $\frac{1}{100}$	,,	
,,	6th pair is $\frac{1}{103}$	,,	
,,	7th pair is $\frac{1}{108}$	,,	
,,	8th pair is $\frac{1}{106}$	,,	

1848, January 6. The suspension skein was without torsion, when the torsion circle read 33°. 20′, and the following experiments were made in the usual way. Observer, Mr. Glaisher.

		° ′		° ′ ″	
With torsion-circle reading	33. 20,	the theodolite-reading was		249. 46. 37	
,,	0. 0	,,		250. 5. 57	
,,	100. 0	,,		249. 4. 44	
,,	120. 0	,,		248. 52. 28	
,,	140. 0	,,		248. 39. 14	
,,	10. 0	,,		249. 59. 48	
,,	150. 0	,,		248. 31. 19	
,,	160. 0	,,		248. 26. 19	
,,	180. 0	,,		248. 17. 14	
,,	200. 0	,,		248. 7. 15	
,,	110. 0	,,		249. 5. 31	

			° ′	′ ″
Therefore, from the 1st pair the difference for			33. 20	was 19. 20
,,	2nd pair	,,	100. 0	was 61. 13
,,	3rd pair	,,	20. 0	was 12. 16
,,	4th pair	,,	20. 0	was 13. 14
,,	5th pair	,,	130. 0	was 80. 34
,,	6th pair	,,	140. 0	was 88. 29
,,	7th pair	,,	10. 0	was 5. 0
,,	8th pair	,,	20. 0	was 9. 5
,,	9th pair	,,	20. 0	was 9. 59
,,	10th pair	,,	90. 0	was 58. 16

And the torsion force from the 1st pair is $\frac{1}{103}$ of the earth's magnetic force

,,	2nd pair is $\frac{1}{98}$	,,
,,	3rd pair is $\frac{1}{98}$	,,
,,	4th pair is $\frac{1}{90}$	,,
,,	5th pair is $\frac{1}{98}$	,,
,,	6th pair is $\frac{1}{98}$	,,
,,	7th pair is $\frac{1}{120}$	,,
,,	8th pair is $\frac{1}{131}$	,,
,,	9th pair is $\frac{1}{100}$	,,
,,	10th pair is $\frac{1}{93}$	,,

1848, January 27. The following experiments were made for the determination of the torsion force of the suspension skein. Observer, Mr. Glaisher.

	°		° ′ ″
With torsion-circle reading	200,	the theodolite-reading was	248. 7. 6·1
,,	20	,,	250. 1. 8·8
,,	200	,,	248. 6. 39·2
,,	20	,,	249. 59. 16·1
,,	200	,,	248. 5. 46·0
,,	20	,,	249. 58. 30·5
,,	200	,,	248. 5. 25·1
,,	20	,,	249. 57. 32·3

			° ° ′ ″
Therefore, from the 1st pair the difference for			180 was 1. 54. 3
,,	2nd pair	,,	180 was 1. 54. 30
,,	3rd pair	,,	180 was 1. 52. 37
,,	4th pair	,,	180 was 1. 53. 30
,,	5th pair	,,	180 was 1. 52. 45
,,	6th pair	,,	180 was 1. 53. 5
,,	7th pair	,,	180 was 1. 52. 7

And the torsion force from the 1st pair is	$\frac{1}{95}$	of the earth's magnetic force
,, 2nd pair is	$\frac{1}{94}$	,,
,, 3rd pair is	$\frac{1}{96}$	,,
,, 4th pair is	$\frac{1}{95}$	,,
,, 5th pair is	$\frac{1}{96}$	,,
,, 6th pair is	$\frac{1}{96}$	,,
,, 7th pair is	$\frac{1}{96}$	,,

There was therefore evidently no change in the value of the torsion force between 1847, June 2, and 1848, January 27. On March 5, 1848, this skein broke. The mean of the 25 results gives the torsion force $\frac{1}{100}$ of the earth's magnetic force, and this value applies from 1847, June 2, to 1848, March 5.

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

The error of the 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. One division of the level is considered = $1''{\cdot}0526$. The azimuth-reading is then corrected by this quantity;

$$\text{Correction} = \text{Elevation of W. end of axis} \times \tan \text{star's altitude.}$$

The readings of the azimuth circle increase as the instrument is turned from N. to E., S., and W.; from which it follows that the correction must have the same sign as the elevation of the W. end.

The correction for the azimuth of the star observed has been computed independently in every observation, by a peculiar method, of which the principle is fully explained in the volumes for 1840, 1841, 1843, 1844, 1845. The formula and table used are the following.

Let $A_{''}$ = seconds of arc in star's azimuth,
C_s = seconds in time of star's hour-angle,
$a_{''}$ = seconds of star's N.P.D. for the day of observation,
Then $\log. A_{''} = \log C_s + \log. E + \log. (a_{''} + F) + \log. \cos \phi.$

The values of $\log. E$, F, and $\log. \cos \phi$, are given in the following table:—

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	912
29	871	853	894	906
30	9·99862	9·99843	9·99887	9·99900
Log. E	6·09721	6·13638	−6·03899	−6·00717
F	−186″·79	−944″·71	+181″·57	+886″·86

The following table contains the whole of the operations for determining the readings for the astronomical meridian in 1847:—

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

Day, 1847.	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	° ′ ″	′ ″	° ′ ″	° ′ ″	div.	″	° ′ ″	
Feb. 1	Polaris S.P....	100·538	89.32.95	50	60	89.33. 8·3	12.36.44	12.37.40	1. 4.14	1.30. 3	+16.11·9	89.49.20·2					
			89.37.40	0	10	89.37.16·7	12.43.29	12.44.25			+12. 5·6	89.49.22·2					
			89.47.60	15	25	89.47.43·3	13. 0.30	13. 1.26			+ 1.42·6	89.49.26·0					
			89.50.25	0	10	89.50.11·7	13. 4.22	13. 5.18			− 0.39·1	89.49.32·6	89.49.23·4	+0·2	+ 0·2	89.49.23·5	G H
			89.58.40	0	5	89.58.15·0	13.17.27	13.18.23			− 8.38·4	89.49.36·7					
			89.59.70	35	50	89.59.51·7	13.20.37	13.21.33			−10.34·2	89.49.17·5					
			90. 1.40	0	10	90. 1.16·7	13.22.53	13.23.49			−11.57·0	89.49.19·6					
			90. 2.60	20	30	90. 2.36·7	13.25.17	13.26.13			−13.24·6	89.49.12·0					
Feb. 11	Polaris S.P...	100·538	89.52.75	40	45	89.52.53·3	13. 9.11	13.10.20	1. 4. 7	1.30. 4	− 3.47·9	89.49. 5·4					
			89.54.70	40	45	89.54.51·7	13.12.40	13.13.49			− 5.55·5	89.48.56·1					
			89.56.50	20	25	89.56.31·7	13.15.51	13.17. 0			− 7.21·6	89.49.10·1					
			89.57.65	30	35	89.57.43·3	13.18.21	13.19.30			− 9.23·6	89.48.19·7	89.48.49·9	−3·4	− 4·3	89.48.45·6	L D
			89.59.70	40	45	89.59.51·7	13.21.27	13.22.36			−10.40·4	89.49.11·3					
			90. 1.40	0	5	90. 1.15·0	13.23.41	13.24.50			−12.38·6	89.48.36·4					
			90. 3.45	15	20	90. 3.26·7	13.27.28	13.28.37			−14.56·7	89.48.30·0					
Feb. 15	δ Ursæ Min. S.P.	100·538	89.36.40	9	3	89.36.17·3	6.10.36	6.11.46	18.21.23	3.24.21	+12.49·3	89.49. 6·7					
			89.40.98	55	68	89.41.13·7	6.14.12	6.15.22			+ 8. 1·4	89.49.15·1					
			89.44.38	0	10	89.44.16·0	6.16.25	6.17.35			+ 5. 4·0	89.49.20·0					
			89.46.60	23	30	89.46.37·7	6.18.22	6.19.32			+ 2.28·0	89.49. 5·7	89.49.14·2	−3·1	− 3·6	89.49. 5·6	H B
			89.50.80	40	50	89.50.56·7	6.21.25	6.22.35			− 1.36·0	89.49.20·7					
			89.54.53	10	23	89.54.28·7	6.24. 9	6.25.19			− 5.14·7	89.49.14·0					
			89.59.53	15	28	89.59.32·0	6.27.51	6.29. 1			−10.10·7	89.49.21·3					
			90. 3.43	0	15	90. 3.19·3	6.30.50	6.32. 0			−14. 9·3	89.49.10·1					
Feb. 16	Polaris S.P...	100·538	89.34.90	55	70	89.35.11·7	12.41.41	12.42.56	1. 4. 4	1.30. 5	+12.53·9	89.48. 5·6					
			89.38.40	10	10	89.38.20·0	12.44.32	12.45.47			+11. 9·8	89.49.29·8					
			89.39.60	25	30	89.39.38·3	12.46.50	12.48. 5			+ 9.45.7	89.49.24·0					
			89.40.72	35	40	89.40.49·0	12.48.48	12.50. 3			+ 8.33·7	89.49.22·7	89.49.13·3	+1·4	+ 1·8	89.49.15·1	L
			89.42.60	25	25	89.42.36·7	12.51.43	12.52.58			+ 6.46·9	89.49.23·5					
			89.43.85	50	55	89.44. 3·3	12.53.47	12.55. 2			+ 5.31·2	89.49.34·5					
Mar. 3	δ Ursæ Min. S.P.	100·538	89.53.40	0	5	89.53.15·0	6.22.54	6.24.21	18.21.28	3.24.24	− 3.50·8	89.49.24·2					
			89.57.85	45	55	89.58. 1·7	6.26. 4	6.27.31			− 8. 4·2	89.49.57·5					
			90. 4.90	55	75	90. 5.13·3	6.32. 0	6.33.27			−15.58·7	89.49.14·6					
			90.10.65	15	20	90.10.33·3	6.35.28	6.36.55			−20.35·8	89.49.57·5	89.49.30·6	+0·7	+ 0·8	89.49.31·4	G H
			90.14.75	40	50	90.14.55·0	6.39. 5	6.40.32			−25.24·6	89.49.30·4					
			90.17.75	30	40	90.17.48·3	6.41.56	6.43.23			−29.11·9	89.48.36·4					

February 11. The star was very tremulous and it was frequently obscured by haze: the observations on this day have not been used in deducing the adopted reading for the astronomical meridian.

February 15. The correction to Mr. Breen's vernier-readings before these observations was 3″·3 additive, and it was 13″·4 subtractive afterwards: a correction of 5″·00 subtractive has been applied to the above observations.

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, 1847.	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	° ′ ″	′ ″	° ′ ″	° ′ ″	div.	″	° ′ ″	
Mar. 3	δ Ursæ Min. S.P.	100·538	90. 21. 90	50	60	90. 22. 6·7	6. 44. 30	6. 45. 57	18. 21. 28	3. 24. 24	−32. 36·5	89. 49. 30·2					
			90. 24. 80	40	50	90. 24. 56·7	6. 47. 20	6. 48. 47			−35. 2·5	89. 49. 54·2					
Mar. 10	Polaris S. P...	100·538	89. 41. 40	0	10	89. 41. 16·7	12. 49. 27	12. 50. 51	1. 3. 53	1. 30. 11	+ 7. 58·2	89. 49. 14·9					
			89. 43. 60	15	25	89. 43. 33·3	12. 52. 56	12. 54. 20			+ 5. 50·5	89. 49. 23·8					
			89. 44. 70	30	40	89. 44. 46·7	12. 55. 9	12. 56. 33			+ 4. 29·1	89. 49. 15·8					
			89. 47. 60	20	30	89. 47. 36. 7	12. 59. 15	13. 0. 39			+ 1. 58·7	89. 49. 35·4	89. 49. 18·0	+5·8	+ 7·3	84. 49. 25·2	G H
			89. 49. 90	50	70	89. 50. 10·0	13. 3. 22	13. 4. 46			− 0. 32·4	89. 49. 37·6					
			89. 51. 85	45	55	89. 52. 1·7	13. 7. 33	13. 8. 57			− 3. 6·0	89. 48. 55·7					
			89. 53. 85	45	55	89. 54. 1·7	13. 10. 12	13. 11. 36			− 4. 43·2	89. 49. 18·5					
			89. 55. 55	15	25	89. 55. 31. 7	13. 13. 6	13. 14. 30			− 6. 29·6	89. 49. 2·1					
Mar. 14	Polaris S. P...	100·538	89. 48. 55	15	25	89. 48. 31·7	13. 0. 47	13. 2. 5	1. 3. 51	1. 30. 12	+ 1. 4·9	89. 49. 36·5					
			89. 50. 75	35	45	89. 50. 51. 7	13. 4. 37	13. 5. 55			− 1. 15·9	89. 49. 35·8					
			89. 51. 80	40	50	89. 51. 56·7	13. 7. 37	13. 8. 55			− 3. 6·0	89. 48. 50·7					
			89. 53. 70	30	35	89. 53. 45·0	13. 9. 37	13. 10. 55			− 4. 19·4	89. 49. 25·6					
			89. 56. 65	25	35	89. 56. 41·7	13. 14. 33	13. 15. 51			− 7. 20·4	89. 49. 21·3	89. 49. 20·2	−0·8	− 1·0	89. 49. 19·2	G H
			89. 58. 50	10	15	89. 58. 25·0	13. 17. 30	13. 18. 48			− 9. 8·5	89. 49. 16·5					
			89. 59. 65	40	50	89. 59. 51·7	13. 19. 40	13. 20. 58			−10. 7·9	89. 49. 43·8					
			90. 1. 65	25	30	90. 1. 40·0	13. 23. 30	13. 24. 48			−12. 48·2	89. 48. 51·8					
Mar. 29	Polaris S. P...	100·538	89. 43. 45	10	20	89. 43. 25·0	12. 53. 39	12. 54. 11	1. 3. 48	1. 30. 16	+ 5. 53·2	89. 49. 18·2					
			89. 47. 50	15	25	89. 47. 30·0	13. 0. 42	13. 1. 14			+ 1. 34·3	89. 49. 4·3					
			89. 50. 85	50	60	89. 51. 5·0	13. 6. 51	13. 7. 23			− 2. 11·7	89. 48. 53·3					
			89. 53. 40	5	15	89. 53. 20·0	13. 10. 40	13. 11. 12			− 4. 31·8	89. 48. 48·2	89. 49. 0·0	+0·1	+ 0·1	89. 49. 0·1	T D
			89. 54. 80	45	55	89. 55. 0·0	13. 13. 55	13. 14. 27			− 6. 31·2	89. 48. 28·8					
			89. 57. 70	35	45	89. 57. 50·0	13. 17. 54	13. 18. 26			− 8. 57·3	89. 48. 52·7					
			90. 1. 80	40	45	90. 1. 35·0	13. 22. 54	13. 23. 26			−12. 0·5	89. 49. 34·5					
May 20	Polaris S. P...	100·538	89. 30. 70	30	35	89. 30. 45·0	12. 36. 23	12. 33. 34	1. 4. 4	1. 30. 31	+18. 40·5	89. 49. 25·5					
			89. 32. 70	30	40	89. 32. 46·7	12. 39. 47	12. 36. 58			+16. 36·2	89. 49. 22·9					
			89. 33. 90	50	45	89. 34. 1·7	12. 41. 41	12. 38. 52			+15. 26·6	89. 49. 28·3	89. 49. 25·9	−8·3	−10·4	89. 49. 15·6	G H
			89. 35. 40	0	10	89. 35. 16·7	12. 43. 40	12. 40. 51			+14. 13·9	89. 49. 30·6					
			89. 36. 50	10	20	89. 36. 26·7	12. 45. 48	12. 42. 59			+12. 55·7	89. 49. 22·4					
May 21	Polaris S. P. ..	100·538	89. 39. 65	35	40	89. 39. 46. 7	12. 51. 7	12. 48. 17	1. 4. 5	1. 30. 31	+ 9. 41. 7	89. 49. 28·3					
			89. 41. 40	0	5	89. 41. 15·0	12. 53. 24	12. 50. 34			+ 8. 17. 7	89. 49. 32·7					
			89. 42. 68	30	25	89. 42. 41. 0	12. 55. 50	12. 53. 0			+ 6. 48. 2	89. 49. 29·2	89. 49. 30·6	−3·4	− 4·2	89. 49. 26·4	G H
			89. 44. 75	42	50	89. 44. 55·7	12. 59. 22	12. 56. 32			+ 4. 38. 1	89. 49. 33·8					
			89. 46. 65	30	30	89. 46. 41·7	13. 2. 22	12. 59. 32			+ 2. 47. 6	89. 49. 29·3					
May 22	Polaris S. P...	100·538	89. 38. 60	15	20	89. 38. 31. 7	12. 49. 55	12. 47. 3	1. 4. 6	1. 30. 31	+10. 27. 6	89. 48. 59·3					
			89. 41. 65	35	30	89. 41. 43·3	12. 54. 31	12. 51. 39			+ 7. 38. 4	89. 49. 21·8	89. 49. 10·2	−3·9	− 4·9	89. 49. 5·2	T D
			89. 44. 65	25	20	89. 44. 36·7	12. 59. 31	12. 56. 39			+ 4. 34. 5	89. 49. 11·1					
			89. 47. 80	45	43	89. 47. 56·0	13. 5. 0	13. 2. 8			+ 1. 12. 5	89. 49. 8·5					

March 29. In deducing the adopted reading for the astronomical meridian, half weight only was given to the result from the observations on this day.

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, 1847.	Object.	Reading of Micrometer.	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	° ′ ″	′ ″	° ′ ″	° ′ ″	div.	″	° ′ ″	
June 15	δ Ursæ Minoris	100·538	89. 43. 80	45	55	89. 44. 3·3	18. 26. 28	18. 24. 31	18. 21. 54	3. 24. 9	+ 4. 3·0	89. 48. 6·3					
			89. 39. 80	40	50	89. 39. 56·7	18. 29. 19	18. 27. 22			+ 8. 27·5	89. 48. 24·2					
			89. 36. 55	15	20	89. 36. 30·0	18. 32. 6	18. 30. 9			+12. 45·8	89. 49. 15·8	89. 48. 39·8	+4·5	+ 6·7	89. 48. 46·5	G H
			89. 33. 85	40	50	89. 33. 58·3	18. 33. 22	18. 31. 25			+14. 43·3	89. 48. 41·6					
			89. 31. 55	20	25	89. 31. 33·3	18. 35. 2	18. 33· 5			+17. 17·8	89. 48. 51·1					
June 22	δ Ursæ Minoris	100·538	89. 37. 80	40	50	89. 37. 56·7	18. 30. 50	18. 28. 35	18. 21. 54	3. 24. 6	+10. 20·3	89. 48. 16·9					
			89. 34. 90	50	65	89. 35. 8·3	18. 32. 51	18. 30. 36			+13. 27·3	89. 48. 35·6					
			89. 31. 50	10	15	89. 31. 25·0	18. 35. 16	18. 33. 1			+17. 11·4	89. 48. 36·4	89. 48. 37·5	−7·1	−10·6	89. 48. 26·9	G H
			89. 28. 95	50	65	89. 29. 10·0	18. 36. 56	18. 34. 41			+19. 45·7	89. 48. 55·7					
			89. 25. 75	35	40	89. 25. 50·0	18. 38. 57	18. 36. 42			+22. 52·6	89. 48. 42·6					
July 31	δ Ursæ Minoris	100·538	90. 15. 70	30	40	90. 15. 46·7	18. 6. 24	18. 4. 12	18. 21. 48	3. 23. 54	−27. 10·1	89. 48. 36·6					
			90. 9. 95	55	65	90. 10. 11·7	18. 10. 5	18. 7. 53			−21. 29·5	89. 48. 42·2					
			90. 6. 70	30	40	90. 6. 46·7	18. 12. 18	18. 10. 6			−18. 4·4	89. 48. 42·3	89. 48. 46·9	−7·4	−11·0	89. 48. 35·9	G H
			90. 2. 65	25	30	90. 2. 40·0	18. 15. 3	18. 12. 51			−13. 49·7	89. 48. 50·3					
			90. 0. 40	0	10	90. 0. 16·7	18. 16. 44	18. 14. 32			−11. 13·7	89. 49. 3·0					
Aug. 3	δ Ursæ Minoris	100·538	89. 50. 90	50	55	89. 51. 5·0	18. 21. 42	18. 19. 13	18. 21. 47	3. 23. 54	− 3. 58·0	89. 47. 7·0					
			89. 47. 40	0	10	89. 47. 16·7	18. 25. 7	18. 22. 38			+ 1. 18·8	89. 48. 35·5					
			89. 42. 70	30	35	89. 42. 45·0	18. 28. 1	18. 25. 32			+ 5. 47·7	89. 48. 32·7	89. 48. 1·7	−6·9	− 9·4	89. 47. 52·3	T D
			89. 39. 50	10	15	89. 39. 25·0	18. 30. 9	18. 27. 40			+ 9. 5·5	89. 48. 30·5					
			89. 29. 65	25	35	89. 29·41·7	18. 35. 43	18. 33. 14			+17. 41·1	89. 47. 22·8					
Sept. 5	Polaris	100·538	89. 38. 70	30	35	89. 38. 45·0	1. 24. 18	1. 20. 37	1. 5. 23	1. 30. 21	+ 9. 58·0	89. 48. 43·0					
			89. 36. 95	55	60	89. 37. 10·0	1. 26. 30	1. 22. 49			+11. 24·2	89. 48. 34·2					
			89. 35. 70	30	35	89. 35. 45·0	1. 28. 23	1. 24. 42			+12. 37·9	89. 48. 22·9	89. 48. 33·6	+2·3	+ 3·2	89. 48. 36·8	G H
			89. 34. 75	35	45	89. 34. 51·7	1. 30. 15	1. 26. 34			+13. 50·9	89. 48. 42·6					
			89. 33. 40	10	5	89. 33. 18·3	1. 32. 12	1. 28. 31			+15. 7·1	89. 48. 25·4					
Oct. 5	Polaris	100·538	90. 7. 75	30	35	90. 7. 46·7	0. 41. 24	0. 36. 16	1. 5. 32	1. 30. 11	−19. 3·9	89. 48. 42·8					
			90. 4. 65	20	30	90. 4. 38·3	0. 46. 44	0. 41. 36			−15. 36. 4	89. 49. 1·9					
			90. 2. 65	20	30	90. 2. 38·3	0. 49. 14	0. 44. 6			−13. 58. 9	89. 48. 39·4	89. 48. 47·5	−1·5	− 2·1	89. 48. 45·4	G H
			90. 1. 40	10	5	90. 1. 18·3	0. 51. 50	0. 46. 42			−12. 17·4	89. 49. 0·9					
			89. 58. 60	20	25	89. 58. 35·0	0. 55. 17	0. 50. 9			−10. 2·6	89. 48. 32·4					
Oct. 7	Polaris	100·538	90. 4. 75	30	35	90. 4. 46·7	0. 46. 15	0. 41. 1	1. 5. 32	1. 30. 10	−15. 59·0	89. 48. 47·7					
			90. 2. 45	5	10	90. 2. 20·0	0. 49. 34	0. 44. 20			−13. 49·7	89. 48. 30·3					
			90. 0. 90	50	55	90. 1. 5·0	0. 51. 35	0. 46. 21			−12. 31·0	89. 48. 34·0					
			89. 59. 40	0	10	89. 59. 16·7	0. 54. 36	0. 49. 22			−10. 33·1	89. 48. 43·5					
			89. 57. 85	45	50	89. 58. 0·0	0. 56. 27	0. 51. 13			− 9. 20·8	89. 48. 39·2	89. 48. 44·8	−1·5	− 2·1	89. 48. 42·7	T D
			89. 55. 40	0	5	89. 55. 15·0	1. 0. 43	0. 55. 29			− 6. 33·8	89. 48. 41·2					
			89. 54. 35	0	10	89. 54. 15·0	1. 2. 51	0. 57. 37			− 5. 10·3	89. 49. 4·7					
			89. 52. 40	0	5	89. 52. 15·0	1. 5. 44	1. 0. 30			− 3. 17·3	89. 48. 57·7					

August 3. The results are discordant; no use has been made of them.

Oct. 7. The readings of the circle verniers were all two minutes less than those above: half weight has been given to the final result in the determination of the adopted reading.

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, 1847.	Object.	Reading of Micrometer.	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	° ′ ″	′ ″	° ′ ″	° ′ ″	div.	″	°	
Nov. 18	Polaris	100·538	90. 8.55	15	20	90. 8.30·0	0.32.52	0.35.35	1. 5.25	1.29.55	−19.22·3	89.49.27·7					
			90. 6.50	5	15	90. 6.23·3	0.35.55	0.38.38			−17.23·9	89.48.59·4					
			90. 4.80	40	50	90. 4.56·7	0.38.17	0.41 0			−15.52·3	89.49. 4·4	89.49. 5·3	+2·4	+ 3·4	89.49. 8·6	G H
			90. 3.65	30	30	90. 3.41·7	0.40.15	0.42.58			−14.35·9	89.49. 5·8					
			90. 1.90	60	50	90. 2. 6·7	0.42.16	0.44.59			−13.17·5	89.48.49·2					
Nov. 19	Polaris	100·538	89.38.80	40	45	89.38.55·0	1.18.33	1.21.19	1. 5.25	1.29.54	+10.20·9	89.49.15·9					
			89.36.85	40	45	89.36.56·7	1.21.32	1.24.18			+12.17·1	89.49.13·8					
			89.33.88	55	65	89.34. 9·3	1.24. 8	1.26.58			+14. 0·9	89.48.10·2					
			89.33.75	35	30	89.33.46·7	1.26. 0	1.28.46			+15.10·8	89.48.57·5	89.48.59·0	+9·9	+13·8	89.49.12·9	L
			89.32.70	30	30	89.32.43·3	1.27.49	1.30.35			+16.21·4	89.49. 5·7					
			89.31.65	20	25	89.31.36·7	1.29.42	1.32.28			+17.34·5	89.49.11·2					
Nov. 24	Polaris	100·538	90. 5.95	55	60	90. 6.10·0	0.35.17	0.37.52	1. 5.23	1.29.53	−17.52·3	89.48.17·7					
			90. 3.55	15	20	90. 3.30·0	0.39.43	0.42.18			−14.21·4	89.49. 8·6					
			90. 1.80	40	45	90. 1.55·0	0.42.31	0.45. 6			−13.11·4	89.48.43·6					
			89.59.50	5	10	89.59.21·7	0.46.31	0.49. 6			−10.35·6	89.48.46·0	89.48.31.7	+4·4	+ 6·1	89.48.37·8	T D
			89.57.55	10	15	89.57.26·7	0.48.59	0.51.34			− 8.59·5	89.48.27·2					
			89.54.90	50	55	89.55. 5·0	0.52.50	0.55.25			− 6.29·3	89.48.35·7					
			89.51.85	50	55	89.52. 3·3	0.56. 8	0.58.43			− 4.20·4	89.47.42·9					

Nov. 24. The results are discordant; they have not been used in subsequent calculations.

The following mean readings were obtained by combining all the results in each period according to the number of observations from which each was deduced. The first period extends from January to the end of May; the second period extends from June 1 to October 16; and the third from October 15 to the end of the year, during which intervals of time no certain difference existed in the readings.

Adopted Mean Readings for Astronomical South Meridian.

		° ′ ″
1847.	January to May	269. 49. 18
	June to October 14^{d}	269. 48. 39
	October 15^{d} to December 31^{d}	269. 49. 11

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

A fine horizontal wire is fixed in the field of view of the theodolite-telescope and another fine vertical wire is fixed to a wire-plate, moved right and left by a micrometer screw. On looking into the telescope the cross of the magnetometer is seen; and, during the vibration of the magnet, this cross is seen to pass alternately right and left. The observation is made by turning the micrometer till its wire bisects the image of the magnet-cross at the pre-arranged times, and reading the micrometer. The verniers of the horizontal circle are always read in the regular daily observations, and occasionally in the term observations, and in extra observations.

The mean-time clock is kept very nearly to Göttingen mean time (its error being ascertained each day), and the clock-time for each determination is arranged beforehand.

The first observation is made by the observer applying his eye to the telescope about one minute before the pre-arranged time, and, if the magnet is in a state of vibration, he bisects the magnet-cross by the micrometer-wire at 45^s, and again at 15^s before that time, also at 15^s and 45^s after that time. 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 mean of each pair of adjacent readings of the micrometer is taken (giving three means), and the mean of these three is adopted as the result. In practice, this is done by adding the first and fourth readings to the double of the second and third, and dividing the sum by six.

If the magnet be in a state of rest at the time of first looking through the telescope, then at 15^s before the time recorded in the printed tables of observation, the cross of the magnet is bisected by the micrometer-wire; and at 30^s afterwards the observer notes whether the cross continues bisected, and if it does, the corresponding reading is adopted as the result. The number of instances in which the magnet was observed in a state of vibration during the year 1847 is very small.

The adopted result is converted into arc, supposing $1^r = 1'.34''.07$ (see page vi), and the quantity thus deduced is added to the mean of the vernier-readings, from which is subtracted the constant given in article 8 of the permanent adjustments; the difference between this number and the adopted reading for the Astronomical South Meridian is taken; and thus is deduced the magnetic declination, which is printed in the tabular observations.

In reading the verniers of the theodolite, it was found that Mr. Breen differed from the other observers; this difference was generally in defect, but it was frequently found to be in excess; at times it amounted to $20''$ or $30''$; its general amount, however, was about $10''$. Corrections have been, therefore, deduced to apply to his observations; in the Daily Observations his reading of the verniers has been compared with that of any of the other observers, the telescope not having been moved; in reducing the Term Observa-

tions his reading has never been used; and in Extra Observations the correction has been that which, under the circumstances, and by consulting the comparisons made both before and after, appeared to be the best. In all cases, wherever Mr. Breen's readings have been used, a correction has been applied.

The Extraordinary Observations have consisted of pairs of readings of the micrometer, separated by the time of vibration of the magnet, at times when the magnet has been vibrating; and of single observations at all other times, the observer satisfying himself, by inspection, that the magnet was at rest.

This method of observation continued till December 17^{d}, after which time all the values in the section of Extraordinary Observations were deduced from the photographic self-registering apparatus.

§ 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 attached to it (those which are nearest together being highest), and the lower part of the silk skein is passed under the two pulleys of one pair; only the upper pair, however, has been used in 1847. The 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 rectangular box with double sides, covered with gilt paper similar to that used for the declination magnet, a small portion of one of whose sides is 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 $1^{in}\cdot48$; at the lower part, for the first pair of rollers, the distance between them is $0^{in}\cdot92$.

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°.

On August 21, the suspension for the photographic apparatus was mounted. The form of this suspension is so exactly similar to that for the declination magnet (the sole differences being that the mirror is 4 inches in diameter, and that the suspending skein passes under two pulleys, as above described), that it is unnecessary here to give any further description of it.

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

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

1846, December 28^{d}. Observer, Mr. Glaisher.

From the observations for the time of vibration of the magnet (recorded below).

	div.	° ′
With the marked end of the magnet to the West, and scale-reading 54·96, the torsion circle read		**317. 5**
With the marked end of the magnet to the East, and scale-reading 54·96, the torsion-circle read		**40. 5**

(This number is found by interpolation among those actually observed.)

The half difference is 41°. 30′ for the angle of torsion.

1846, December 29^{d}. Observer, Mr. Glaisher.

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

	div.		° ′
The division of the scale bisected by the vertical wire of the telescope was	51·1	Torsion-circle reading	317. 0

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

	div.		° ′
The division of the scale bisected by the vertical wire of the telescope was	51·1	Torsion-circle reading	39. 49

The brass bar was inserted.

	div.		° ′
The division bisected by the vertical wire of the telescope was.....	51·1	Torsion-circle reading	359. 31

And the angle of torsion from these experiments is 41°. 25′.

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

	div.		° ′
The division bisected by the vertical wire of the telescope was	52·5	Torsion-circle reading	317. 0

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

	div.		° ′
The division bisected by the vertical wire of the telescope was.....	52·5	Torsion-circle reading	39. 52

The half difference is 41°. 26′ for the angle of torsion.

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

	div.		° ′
The division bisected by the vertical wire of the telescope was.....	54·8	Torsion-circle reading	317. 0

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

	div.		° ′
The division bisected by the vertical wire of the telescope was	54·8	Torsion-circle reading	40. 6

The half difference is 41°. 33′.

			° ′
Therefore, from the	1st set	of experiments the value was	41. 30
,,	2nd set	,,	41. 25
,,	3rd set	,,	41. 26
,,	4th set	,,	41. 33

The mean value of the angle of torsion was, therefore, 41°. 28′.

The previous determinations of this element have been as follows:—

	° ′
In 1841, January	41. 3
1842, January	42. 0
1842, April	41. 43
1843, January	41. 29
1843, May	40. 51
1843, December	41. 35
1844, December	41. 29
1845, December	41. 25

So that no certain change has taken place in the value of the angle of torsion since the date of the first of these determinations.

1847, August 11^{d}. The suspension-skein was shortened, and after this time a new pair of pulleys was fixed at the top of the stand for the support of the upper end of the skein, and the lower end of the skein passed under the new pulleys connected with the photographic mirror and apparatus for self-registration.

Determination of the angle of torsion when the magnet was suspended from the new pulleys, &c.

1847, August 18^{d}. Observer, Mr. Glaisher.

From the observations for the time of vibration (recorded below).

	div.	° ′
With the marked end of the magnet to the West, and scale-reading 60, the torsion-circle read...		36. 26
With the marked end of the magnet to the East, and scale-reading 60, the torsion-circle read...		317. 16

(These numbers are found by interpolation among those actually observed.)

The half difference is 39°. 35′ for the angle of torsion.

1847, August 19^{d}. Observer, Mr. Glaisher.

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

	div.		° ′
The division of the scale bisected by the vertical wire of the telescope was	51·0	Torsion-circle reading	318. 0

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

	div.		° ′
The division of the scale bisected by the vertical wire of the telescope was	51·0	Torsion-circle reading	37. 6

And the angle of torsion from these experiments was 39°. 33′.

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

The division of the scale bisected by the vertical wire of the telescope was	div. 60	Torsion-circle reading	° ′ 316. 47

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

The division of the scale bisected by the vertical wire of the telescope was	div. 60	Torsion-circle reading	° ′ 36. 0

And the angle of torsion from these experiments was 39°. 38′.

The position of the mirror was altered, and the magnet was inserted, with its marked end to the West.

The division of the scale bisected by the vertical wire of the telescope was.....	div. 42·3	Torsion-circle reading	° ′ 36. 0

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

The division of the scale bisected by the vertical wire of the telescope was	div. 42·3	Torsion-circle reading	° ′ 316. 48

And the angle of torsion from these experiments was 39°. 36′.

The position of the mirror was again altered, and the magnet was inserted in the stirrup, with its marked end to the East.

The division of the scale bisected by the vertical wire of the telescope was	div. 50	Torsion-circle reading	° ′ 316. 40

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

The division of the scale bisected by the vertical wire of the telescope was	div. 50	Torsion-circle reading	° ′ 36. 5

And the angle of torsion from these experiments was 39°. 43′.

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

The division of the scale bisected by the vertical wire of the telescope was	div. 50	Torsion-circle reading	° ′ 36. 56

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

The division of the scale bisected by the vertical wire of the telescope was	div. 50	Torsion-circle reading	° ′ 317. 30

The brass bar was inserted.

	div.		° ′
The division bisected by the vertical wire of the telescope was.....	50	Torsion-circle reading	356. 30

And from these experiments the angle of torsion was 39°. 43′.

1847, August 21. Observer, Mr. Glaisher.

The brass bar was inserted.

	div.		°
The division of the scale bisected by the vertical wire of the telescope was	50 ·58	Torsion-circle reading	356. 48

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

	div.		° ′
The division of the scale bisected by the vertical wire of the telescope was	50 ·58	Torsion-circle reading	37. 0

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

	div.		° ′
The division of the scale bisected by the vertical wire of the telescope was.....	50 ·58	Torsion-circle reading	317. 30

And from these experiments the angle of torsion was 39°. 45′.

			° ′
Therefore, from the 1st set of experiments the value was			39. 35
,,	2nd set	,,	39. 33
,,	3rd set	,,	39. 38
,,	4th set	,,	39. 36
,,	5th set	,,	39. 43
,,	6th set	,,	39. 43
,,	7th set	,,	39. 45

The mean value of the angle of torsion was, therefore, considered to be 39°. 39′, and this value was used in the reduction of the observations after August 22.

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

Observer, Mr. Glaisher.

1846, Day.	Magnet suspended from First Pair of Rollers.							
	Its marked end West.				Its marked end East.			
	Torsion-circle Reading.	Scale Reading.	Difference of Scale Readings for 1° of Torsion.	Mean of the Times of Vibration.	Torsion-circle Reading.	Scale Reading.	Difference of Scale Readings for 1° of Torsion.	Mean of the Times of Vibration.
	°	div.	div.	s	°	div.	div.	s
Dec. 28	312	5·26	8·61	22·0	35	7·44	13·39	19·5
	313	13·87	9·65	22·6	36+	20·83	5·62	19·7
	314—	23·52	9·23	21·6	37	26·45	5·45	19·6
	315	32·75	12·08	21·6	38	31·90	12·85	19·7
	316	44·83	10·13	21·4	39	44·75	9·40	20·0
	317+	54·96	8·82	21·0	40	54·15	9·48	19·9
	318+	63·78	6·21	21·0	41	63·63	9·77	20·1
	319—	69·99	8·67	21·0	42+	73·40	10·07	19·9
	320+	78·66	6·10	21·2	43	83·47	8·88	19·9
	321	84·76		20·3	44	92·35		19·8

From this set of experiments it appears that, with a reading of 317° of the torsion-circle when the marked end was West, the scale-reading was $54^{div.}\cdot 96$; and that when the marked end was East, with a torsion-circle reading of 40°, the scale reading was $54^{div.}\cdot 15$; so that, with the respective readings of 317° of torsion-circle in one position of the magnet and of 40° in the other, the scale-readings were nearly identical. The time of one vibration at 40° was $1^{s}\cdot 1$ less than at 317°. Throughout the year 1847 the marked end of the magnet was towards the West, and till August 11 the torsion-circle reading was 317°, and the time of vibration was considered to be $20^{s}\cdot 8$.

The mean difference of the scale-readings for a difference of 1° in the readings of the torsion-circle, from these experiments, was, with the marked end West, $8^{div.}\cdot 83$; and with the marked end East, it was $9^{div.}\cdot 43$.

All the determinations of these elements, from the first suspension of this magnet in 1841 to the time of the alterations for the adaptation of photography in 1847, August 11, are as follows:—

With the marked end of the magnet West, and the torsion-circle reading 317°:

			div.	s
1841, March	14.	The scale-reading was	91·78;	the time of vibration was 20·8
1842, January	2.	The scale-reading was	61·36;	the time of vibration was 20·7
1843, January	2.	The scale-reading was	60·42;	the time of vibration was 20·8
1843, May	1.	The scale-reading was	50·85;	the time of vibration was 20·3
1843, December	26.	The scale-reading was	54·95;	the time of vibration was 21·1
1844, December	27.	The scale-reading was	54·90;	the time of vibration was 20·9
1845, December	27.	The scale-reading was	49·43;	the time of vibration was 21·0
1846, December	29.	The scale-reading was	54·96;	the time of vibration was 21·0

With the marked end of the magnet East on the same days respectively :

	°		div.		s
The torsion-circle reading was	40;	the scale-reading was	91·12;	the time of vibration was	20·2
,,	41;	,,	61·28;	,,	20·4
,,	40;	,,	59·65;	,,	20·5
,,	38½;	,,	50·51;	,,	20·2
,,	40;	,,	52·20;	,,	20·3
,,	40;	,,	53·51;	,,	20·4
,,	40;	,,	53·92;	,,	19·7
,,	40;	,,	54·15;	,,	19·9

The mean differences of the scale-readings for differences of 1° in the readings of the torsion-circle have been found to be as follows :—

			div.
1841, March	14, with the marked end of the magnet	West it was	9·18
1841, March	24, ,,	,,	9·67
1842, January	2, ,,	,,	9·24
1843, January	2, ,,	,,	9·27
1843, May	1, ,,	,,	9·19
1843, December	26, ,,	,,	9·32
1844, December	27, ,,	,,	8·89
1845, December	27, ,,	,,	9·28
1846, December	29, ,,	,,	8·83
			div.
1841, March	14, with the marked end of the magnet	East it was	8·74
1841, March	24, ,,	,,	8·71
1842, January	2, ,,	,,	9·21
1843, January	2, ,,	,,	9·31
1843, May	1, ,,	,,	9·32
1843, December	26, ,,	,,	8·93
1844, December	27, ,,	,,	8·81
1845, December	27, ,,	,,	9·28
1846, December	29, ,,	,,	9·43

The mean of all the values, with the marked end of the magnet West, is $9^{div.}\cdot21$; and with the marked end East, it is $9^{div.}\cdot08$.

1847, August 11. The new suspension-piece for this magnet, which is prepared to carry a large mirror, &c., was ready for use. To its torsion-circle one pair of pulleys only is attached, whose distance is such that the threads which pass beneath them are at a distance of 0·75 inch.

With this arrangement at the lower part of the suspension-skein, the upper part remaining as before, it was found that the angle of torsion was about $31\frac{1}{2}°$ only; therefore,

it was determined to place the upper pulleys nearer together, so as to increase the angle of torsion.

On removing the brass frame from the top of the upright plank, it was found that the two front brass pulleys were loose, and it seemed probable that in experiments upon the value of the angle of torsion they may at times have been more or less twisted, and may have caused the small differences exhibited above between the results of experiments at different times.

1847, August 16. A new brass carrying-piece was made, one of the pulleys of which was fixed, and the other was moveable by an adjusting screw. The distance between the upper portions of the half skeins of silk, as resting in the grooves of these pulleys, was 1·1 inches. The following experiments were then made; the magnet having attached to it all the apparatus which is used in the photographic registration.

Determination of the times of vibration and of the different readings of the scale for different readings of the torsion-circle, the distance between the upper pulleys being 1·1 inches, and the magnet being loaded with the photographic mirror and apparatus.

1847, Day.	The marked end of the Magnet							
	West.				East.			
	Torsion circle Reading.	Scale Reading.	Difference of Scale Readings for 1° of Torsion.	Mean of the Times of Vibration.	Torsion-circle Reading.	Scale Reading.	Difference of Scale Readings for 1° of Torsion.	Mean of the Times of Vibration.
	°	div.	div.	s	°	div.	div.	s
Aug. 17	42	7·69	9·42	21·3	314	98·37	9·40	20·25
	41	17·11	10·86	21·2	315	88·97	10·86	20·00
	40	27·97	9·02	20·7	316	78·11	9·38	19·96
	39	36·99	9·81	20·5	317	68·73	8·95	19·80
	38	46·80	9·60	20·1	318	59·78	9·36	19·80
	37	56·40	7·45	20·4	319	50·42	10·18	19·56
	36+	63·85	7·39	20·0	320	40·24	9·21	19·60
	35	71·24	9·26	19·9	321	31·03	8·01	19·15
	34	80·50	10·60	19·8	322	23·02	8·96	19·40
	33	91·10		19·6	323	14·06	8·87	19·00
					324	5·19		18·95

From this set of experiments it appears that the angle of torsion would be about 39°.18′.

1847, August 18. The distance between the centers of the grooves of the pulleys was reduced to 1·07 inch very nearly, being the smallest the adjustment allows. All was left tight.

1847, Day.	The marked end of the Magnet							
	West.				East.			
	Torsion-circle Reading.	Scale Reading.	Difference of Scale Readings for 1° of Torsion.	Mean of the Times of Vibration.	Torsion-circle Reading.	Scale Reading.	Difference of Scale Readings for 1° of Torsion.	Mean of the Times of Vibration.
	°	div.	div.	s	°	div.	div.	s
Aug. 18	42	6·00	12·34	21·4	314	90·28	10·24	20·2
	41	18·34	7·57	21·2	315	80·04	10·96	20·3
	40	25·91	11·77	21·3	316+	69·08	6·71	19·9
	39	37·68	6·66	21·0	317	62·37	9·11	19·9
	38+	44·34	10·39	21·0	318+	53·26	9·81	20·0
	37	54·73	10·17	20·5	319	43·45	8·28	19·6
	36	64·90	6·96	20·3	320	35·17	9·63	19·8
	35	71·86	8·89	20·2	321	25·54	9·29	19·7
	34	80·75	9·14	20·2	322	16·25	7·42	19·2
	33	89·89	8·71	20·0	323	8·83		19·2
	32	98·60		20·0				

From this set of experiments it appears that, with a reading of 37° of the torsion-circle, when the marked end was West, the scale-reading was $54^{div.}73$; and that when the marked end was East, with a torsion-circle reading of 318°, the scale-reading was $53^{div.}26$: and thus, with the respective reading of 37° in one position of the magnet, and of 318° in the other, the scale-readings were nearly identical. The time of vibration, at 318°, was about half a second less than at 37°.

From August 18 to August 21 other experiments were made. From the latter day to the end of the year the marked end of the magnet was towards the West, and the torsion-circle reading was 37°.45′. The time of vibration was considered to be $20^{s}.35$.

The mean difference of the scale-readings for a difference of 1° in the readings of the torsion-circle, from these experiments, was, with the marked end West, $9^{div.}36$; and with the marked end East, $9^{div.}05$.

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

The details of the experiments will be found in the volumes for 1841, 1842, 1843, 1844, 1845. The effect was to increase the readings by $0^{div.}487$. The correction necessary for this disturbance has been taken into account by shifting the scale by the above amount.

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

It was found by accurate measurements at the end of the year 1840, that the distance from $40^{div.}$ on the scale to the center of the face of the mirror is $8^{ft}.5^{in}.1$, and that the length of $30^{div.}.9$ of the scale is exactly 12 inches; consequently, the angle at the mirror subtended by one division of the scale is $13'.12''.32$, or, for one division of the scale, the magnet is turned through an arc of $6'.36''.16$.

With the first pair of rollers, which was used till August 11, 1847, the adopted angle of torsion was $41°.2'.50''$, being the same as that in the previous years, the experiments with the same rollers exhibited in Article 1 of this section, shewing that no change was necessary; consequently, the variation of horizontal force for a disturbance through one division of the scale, computed by the formula, "Cotan. angle of torsion × value of one division in terms of radius," is 0·002206. The number actually used till August 11 was 0·002214.

1847, August 20. Mr. Glaisher very carefully measured the distance between the division 40 on the scale and the center of the mirror as follows :—

A rod of wood was supported so that its square end was at division 40 on the scale, and its other end was within 0·1 inch of the plate glass in front of the box, and opposite to the center of the mirror; by means of this rod the distance from the glass to the scale was then measured by a tested rule, and found to be 8 feet exactly: the thickness of the glass is 0·14 inch, and the distance from the inner surface of the glass to the face of the mirror was found to be 4·95. Therefore the whole distance is $8^{ft}.5^{in}.09$. This distance was again measured, and it is believed to be within 0·01 inch of the truth.

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

The adopted angle of torsion was $39°.39'$; 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 0·0023175. This number was used from August 22 to the end of the year in the reduction of the Observations.

5. 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 horizontal; 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 reflexion 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 declination were obtained from simultaneous observations of the declination magnet. The adopted reading for no deflecting force was found by taking the mean of all the circle readings when the deflecting magnet was away in these, and in other experiments which were made at about the same time.

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

1846, Day.	Position of marked End of Horizontal Force Magnet.	Distance of Centers of Magnets.	Temperature of Horizontal Force Magnet.	Circle Reading Corrected for Changes of Declination.	Adopted Reading for no Deflecting Force.	Deflexion.	Its Natural Sine.	Its Natural Sine Corrected.
		ft. in.	°	° ′ ″	° ′ ″	° ′ ″		
Dec. 30	Away	...	....	24. 3. 1·35	24. 2. 20			
	W	4. 0	99·5	51. 57. 51·00		27. 55. 31	0·46832	0·46403
	W	4. 0	75·0	52. 5. 33·49		28. 3. 13	0·47030	0·46601
	W	4. 0	60·0	52. 8. 25·92		28. 6. 6	0·47104	0·46675
	W	4. 0	46·0	52. 10. 11·19		28. 7. 51	0·47149	0·46720
	Away			24. 1. 15·14				
	W	4. 0	110·0	51. 53. 16·25		27. 50. 56	0·46714	0·46346
	W	4. 0	108·0	51. 55. 5·09		27. 52. 45	0·46761	0·46393
	W	4. 0	76·0	52. 3. 18·07		28. 0. 58	0·46972	0·46604
	Away			24. 3. 11·90				
	W	4. 0	33·0	52. 10. 28·74		28. 8. 9	0·47156	9·46788

1847, Day.	Position of Marked End of Horizontal Force Magnet.	Distance of Centers of Magnets.	Temperature of Vertical Force Magnet.	Circle Reading Corrected for Changes of Declination.	Adopted Reading for no Deflecting Force.	Deflexion.	Its Natural Sine.	Its Natural Sine Corrected.
		ft. in.	°	° ′ ″	° ′ ″	° ′ ″		
Jan. 1	Away			24. 6. 2·72	24. 2. 20			
	E	4. 0	33·0	357. 30. 59·41		26. 31. 21	0·44655	0·44661
	W	4. 0	32·5	52. 3. 35·93		28. 1. 16	0·46980	0·46807
	Away			24. 3. 54·09				
	W	4. 0	78·0	51. 57. 9·24		27. 54. 49	0·46814	0·46641
	E	4. 0	75·0	357. 36. 38·44		26. 25. 42	0·44508	0·44514
	Away			24. 1. 55·05				
	E	4. 0	106·0	357. 53. 33·75		26. 8. 46	0·44066	0·44072
	W	4. 0	98·0	51. 45. 58·61		27. 43. 39	0·46527	0·46354
	Away			24. 2. 10·73				
	W	4. 0	107·0	51. 45. 33·06		27. 43. 13	0·46516	0·46323
	E	4. 0	103·0	357. 48. 39·11		26. 13. 41	0·44195	0·44116
	Away			24. 1. 0·42				
	E	4. 0	79·0	357. 38. 37·83		26. 23. 42	0·44456	0·44377
	W	4. 0	77·0	51. 55. 16·88		27. 52. 57	0·46766	0·46573
	Away			24. 2. 36·88				
	W	4. 0	32·0	52. 6. 5·61		28. 3. 46	0·47044	0·46851
	E	4. 0	32·0	357. 25. 52·83		26. 36. 27	0·44788	0·44709
	E	4. 0	82·0	357. 38. 59·28		26. 23. 21	0·44447	0·44368
	W	4. 0	78·0	51. 54. 8·04		27. 51. 48	0·46736	0·46543
	Away			24. 2. 16·22				
Jan. 11	Away			24. 1. 54·86	24. 1. 40			
	E	4. 0	30·0	357. 34. 8·71		26. 27. 31	0·44555	0·44555
	W	4. 0	30·0	51. 57. 20·17		27. 55. 40	0·46836	0·46836
	Away			24. 3. 50·00				
	W	4. 0	43·0	51. 56. 36·52		27. 54. 57	0·46817	0·46817
	E	4. 0	42·0	357. 34. 46·73		26. 26. 53	0·44539	0·44539
	E	4. 0	52·0	357. 30. 6·59		26. 25. 33	0·44504	0·44504
	W	4. 0	51·5	51. 54. 24·37		27. 52. 44	0·46760	0·46760
	W	4. 0	62·0	51. 51. 57·32		27. 50. 17	0·46697	0·46697
	W	4. 0	62·0	51. 51. 27·64		27. 49. 48	0·46685	0·46685
	E	4. 0	61·0	357. 36. 5·87		26. 25. 34	0·44504	0·44504
	E	4. 0	66·0	357. 35. 49·19		26. 25. 51	0·44512	0·44512
	W	4. 0	63·5	51. 49. 50·21		27. 48. 10	0·46643	0·46643
	W	4. 0	84·0	51. 44. 6·35		27. 42. 26	0·46495	0·46495
	E	4. 0	84·0	357. 40. 39·80		26. 21. 0	0·44385	0·44385
	E	4. 0	93·0	357. 41. 24·74		26. 20. 15	0·44366	0·44366
	W	4. 0	90·0	51. 41. 39·29		27. 39. 59	0·46432	0·46432
	W	4. 0	111·0	51. 35. 39·10		27. 33. 59	0·46278	0·46278
	E	4. 0	108·0	357. 46. 5·18		26. 15. 35	0·44244	0·44244
	E	4. 0	97·0	357. 42. 22·78		26. 19. 17	0·44341	0·44321
	W	4. 0	93·0	51. 42. 20·89		27. 40. 41	0·46450	0·46457
	Away			23. 59. 39·09				
	W	4. 0	78·0	51. 45. 16·26		27. 43. 36	0·46525	0·46532
	E	4. 0	74·5	357. 40. 26·97		26. 21. 13	0·44391	0·44371
	E	4. 0	61·0	357. 36. 3·70		26. 25. 36	0·44505	0·44485
	W	4. 0	61·0	51. 50. 28·83		27. 48. 49	0·46660	0·46666
	W	4. 0	44·5	51. 54. 10·90		27. 52. 31	0·46755	0·46761
	E	4. 0	44·0	357. 32. 54·66		26. 28. 45	0·44587	0·44567
	W	4. 0	30·8	51. 57. 41·66		27. 56. 2	0·46845	0·46852
	E	4. 0	30·5	357. 28. 47·20		26. 32. 53	0·44695	9·44675

1847, Day.	Position of Marked End of Horizontal Force Magnet.	Distance of Centers of Magnets.	Temperature of Horizontal Force Magnet.	Circle Reading Corrected for Changes of Declination.	Adopted Reading for no Deflecting Force.	Deflexion.	Its Natural Sine.	Its Natural Sine Corrected.
		ft. in.	°	° ′ ″	° ′ ″	° ′ ″		
Jan. 11	E	4. 0	30·5	357. 28. 47·20	24. 1. 40	26. 32. 53	0·44695	0·44675
	E	4. 0	30·5	357. 30. 38·48		26. 31. 2	0·44647	0·44627
	E	4. 0	67·5	357. 33. 9·86		26. 28. 30	0·44581	0·44543
	W	4. 0	64·0	51. 47. 24·98		27. 45. 45	0·46581	0·46569
	W	4. 0	78·0	51. 46. 53·48		27. 45. 13	0·46567	0·46556
	E	4. 0	76·0	357. 40. 0·59		26. 21. 39	0·44402	0·44364
	E	4. 0	63·0	357. 37. 48·26		26. 23. 52	0·44460	0·44422
	W	4. 0	61·0	51. 52. 55·17		27. 51. 15	0·46722	0·46711
	Away			24. 1. 14·53				
Jan. 12	Away			24. 2. 57·59	24. 2. 6			
	W	4. 0	27·0	52. 1. 23·76		27. 59. 18	0. 46929	0·46812
	E	4. 0	27·0	357. 27. 48·55		26. 34. 17	0·44731	0·44641
	E	4. 0	51·5	357. 30. 28·94		26. 31. 37	0·44662	0·44571
	W	4. 0	50·0	51. 59. 54·02		27. 57. 48	0·46891	0·46774
	W	4. 0	78·0	51. 53. 28·25		27. 51. 22	0·46725	0·46609
	E	4. 0	77·0	357. 36. 21·58		26. 25. 44	0·44509	0·44418
	E	4. 0	90·0	357. 39. 52·64		26. 22. 13	0·44417	0·44327
	W	4. 0	87·0	51. 50. 20·74		27. 48. 15	0·46645	0·46528
	W	4. 0	112·0	51. 39. 11·21		27. 37. 5	0·46358	0·46241
	E	4. 0	107·0	357. 44. 36·36		26. 17. 30	0·44294	0·44204
	E	4. 0	93·0	357. 40. 3·52		26. 22. 2	0·44412	0·44351
	W	4. 0	84·0	51. 48. 40·89		27. 46. 35	0·46602	0·46540
	W	4. 0	72·0	51. 50. 59·92		27. 48. 54	0·46662	0·46599
	E	4. 0	69·0	357. 35. 30·37		26. 26. 36	0·44531	0·44470
	E	4. 0	58·0	357. 33. 14·70		26. 28. 51	0·44590	0·44528
	W	4. 0	56·0	51. 54. 57·58		27. 52. 52	0·46764	0·46701
	W	4. 0	45·0	51. 57. 23·83		27. 55. 18	0·46826	0·46764
	E	4. 0	44·0	357. 31. 14·01		26. 30. 52	0·44642	0·44581
	Away			24. 1. 18·46				
	E	4. 0	30·0	357. 27. 39·70		26. 34. 26	0·44735	0·44674
	W	4. 0	30·0	51. 58. 27·90		27. 56. 22	0·46854	0·46791
	Away			24. 2. 0·88				

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 the expression for the temperature correction was found as follows:—

First. The observations for each end of the magnet were divided into groups, extending either from low temperatures to high temperatures, or from high temperatures to low temperatures, and it was assumed that all the observations in each of these groups were

made under the same general circumstances (except only in the change of temperature), but possibly under different circumstances from those of other groups.

Secondly. The mean of the natural sines and the mean of corresponding temperatures in each group were taken, and one of these groups (the first of January 11) was adopted as a standard. Corrections (founded on an approximate determination of the thermometrical correction) were then applied to the mean of natural sines of each group for the difference between its mean temperature and the mean temperature of the standard group. In this way was obtained for every group, a corrected mean of natural sines corresponding to the mean temperature of the standard group.

Thirdly. The difference between this corrected mean of natural sines in each group and the corresponding mean of natural sines in the standard group, was considered as a correction applicable to every individual natural sine in that group. By the application of this correction the corrected numbers in the last column of the preceding table were formed; and these were then considered as a series of natural sines admitting of being reduced as one general group, deduced from observations made under the same circumstances throughout (except only in the change of temperature).

Fourthly. The means of these corrected natural sines, corresponding to neighbouring temperatures, for both positions of the magnet, were taken in groups, and four equations were formed of the following form.

$$w \times \text{nat. sine} = w\,x + w\,t\,y + w\,t^2 z$$

where t represents (thermometer reading $- 32°$),

and these, when treated by the method of minimum squares, gave from the observations, when the marked end of the magnet was West,

$$\begin{aligned} x &= 0{\cdot}468114 \\ y &= -0{\cdot}00003334 \\ z &= -0{\cdot}0000004195\,; \end{aligned}$$

from which the correction for temperature, in terms of the whole horizontal force at the temperature of 32°, is

$$0{\cdot}00007137\,(t - 32°) + 0{\cdot}000000898\,(t - 32)^2.$$

And from the observation when the marked end of the magnet was East

$$\begin{aligned} x &= 0{\cdot}446378 \\ y &= -0{\cdot}0000403 \\ z &= -0{\cdot}0000002787\,; \end{aligned}$$

from which the correction for temperature, in terms of the whole horizontal force at the temperature of 32°, is

$$0{\cdot}00009050\,(t - 32°) + 0{\cdot}000000626\,(t - 32°)^2.$$

Tables were formed from both these expressions, and the mean of the results was adopted for the reduction of the observations to the temperature of 32°, and used from the beginning of the year 1847.

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

A fine vertical wire is fixed in the field of view of the telescope, which is directed to the mirror carried by the magnet. On looking into the telescope, the graduations of the fixed scale are seen; and, during the oscillations of the magnet, the divisions of the scale are seen to pass alternately right and left across the wire. The clock-time, for which the position of the magnet is to be determined (usually $2^m.30^s$ after the time for the determination with the declination magnet), having been calculated, the first observation is made by the observer applying his eye to the telescope 40^s before that time, and, if the magnet is in a state of vibration, he observes the next four extreme points of vibration of the scale, and the mean of these is adopted in the same manner as for the declination-observations; but if it is at rest, then at $2^m.20^s$ after the time recorded in the printed tables of observation, he notes the division of the scale bisected by the wire; and 20^s afterwards he notes whether the same division continues bisected, and if it does, that reading is adopted as the result.

The number of instances when the magnet was observed in a state of vibration during the year 1847, is very small.

From the adopted scale-reading $49^{div}.20$ was subtracted till August 21. From August 21 the scale-reading was used without alteration.

Within the double box is suspended a thermometer, which is read at every hour of observation. In Article 5 the formula is given which exhibits the difference between the energy of the magnet at any temperature of observation and at the temperature of 32°. The corresponding correction has been applied, according to the reading of the inclosed thermometer, to every observation, so that the observations are all reduced to what they would have been if made at the temperature of 32° Fahrenheit.

§ 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 gravity and the inclination of the magnet in its position of rest can be altered. The whole is inclosed in a double rectangular box covered with gilt paper, similar to those used for the declination magnet and the horizontal force magnet. This box is based upon the block of wood above mentioned, and in it the magnet can vibrate freely in the vertical plane. A small portion of one of the sides of the box is of glass.

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

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

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

1. Determination of the compound effect of the declination magnet, the horizontal force magnet, and the iron affixed to the electrometer pole, on the vertical force magnet.

The experiments applying to the magnets are given in the volumes for 1840—1841 to 1845: and those applying to the electrometer pole in the volume for 1842. It appears that no sensible disturbance is produced.

2. Determination of the time of vibration of the vertical force magnet in the vertical plane.

During the year the magnet was in all positions for scale-readings between $46^{div.}$ and $67^{div.}$, and the following times of vibration, which were observed every day, had been taken at nearly every division between these, and found to be accordant at the same scale-readings during the period; each mean result is the mean of about ten vibrations.

Division of Scale.	Mean of Times of Vibration in Mean Solar Time.	Number of Mean Results.	Division of Scale.	Mean of Times of Vibration in Mean Solar Time.	Number of Mean Results.
div.	s		div.	s	
46	22·6	5	57	23·9	9
47	22·9	6	58	24·3	5
48	22·8	13	59	24·2	4
49	22·8	19	60	24·4	7
50	23·1	20	61	24·6	11
51	23·0	14	62	25·2	11
52	23·2	11	63	25·1	7
53	23·1	9	64	25·3	1
54	23·5	6	65	24·5	1
55	23·3	7	66	25·5	3
56	23·7	9	67	25·6	1

The number adopted as the mean time of vibration was $23^s{\cdot}1$, and this value was used throughout the year 1847.

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

1847, January 18. Observer, Mr. Glaisher.

The magnet was suspended from a tripod in the Library, its broad side being in a plane parallel to the horizon; therefore, its moment of inertia was the same as when it is in observation. A telescope, with a wire in its focus, was directed to the reflector carried by the magnet. A scale of numbers was placed on the floor of the Library, at right angles to the long axis of the magnet, or parallel to the mirror. The magnet was observed only at times when it was swinging through a small arc.

From 74 vibrations the mean time of one vibration was $24^s{\cdot}92$
and
From 62 vibrations the mean time of one vibration was $24^s{\cdot}79$.

1847, June 19. Observer, Mr. Glaisher. Observations were taken in a similar manner. From 109 vibrations the mean time of one vibration was found to be $24^s{\cdot}94$.

The magnet was in the hands of Mr. Barrow between January 22^d and January 28^d; on its return to the Observatory it was again suspended in the usual way, and Mr. Glaisher found from 500 vibrations that the mean time of one vibration was $24^s{\cdot}9658$.

The value $24^s{\cdot}97$ was used as the mean value of one vibration throughout the year 1847.

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

The distance from the scale to the mirror is 151·2 inches, and each division of the scale $= \frac{12}{30{\cdot}9}$ 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 in terms of radius × cotan. dip × $\frac{T'^2}{T^2}$," where T′ is the time of vibration in the horizontal plane, and T time of vibration in the vertical plane.

The dip has been assumed to be 69°.0′ throughout the year.

Throughout the year 1847 T′ was assumed = 24ˢ·97, T = 23ˢ·1; consequently, the change of vertical force (in terms of the whole vertical force) corresponding to a change of one division of the scale, was 0·000712, and this number has been used in the reduction of the observations.

5. 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 xxxi.

1847, Day.	Position of Marked End of Vertical Force Magnet.	Distance of Centers of Magnets.	Temperature of Vertical Force Magnet.	Circle Reading Corrected for Changes of Declination.	Adopted Reading for no Deflecting Force.	Deflexion.	Its Natural Sine.	Its Natural Sine Corrected.
		ft. in.	°	° ′ ″	° ′ ″	° ′ ″		
Jan. 2	Away			24. 3. 39·21	24. 3. 2			
	E	4. 0	33·8	6. 4. 20·36		17. 58. 42	0·30866	0·30613
	W	4. 0	33·0	42. 16. 9·67		18. 13. 8	0·31265	0·31049
	Away			24. 2. 33·80				
	W	4. 0	90·5	42. 1. 26·95		17. 58. 25	0·30858	0·30642
	E	4. 0	89·0	6. 18. 33·42		17. 44. 29	0·30472	0·30219
	Away			24. 4. 19·12				
	E	4. 0	110·0	6. 27. 0·64		17. 36. 1	0·30237	0·29984
	W	4. 0	100·0	41. 56. 45·97		17. 53. 44	0·30728	0·30512
	Away			24. 2. 32·11				
	W	4. 0	32·0	42. 16. 47·55		18. 13. 46	0·31282	0·31041

1847, Day.	Position of Marked End of Vertical Force Magnet.	Distance of Centers of Magnets.	Temperature of Vertical Force Magnet.	Circle Reading Corrected for Changes of Declination.	Adopted Reading for no Deflecting Force.	Deflexion.	Its Natural Sine.	Its Natural Sine Corrected.
		ft. in.	°	° ′ ″	° ′ ″	° ′ ″		
Jan. 2	E	4. 0	32 ·0	6. 7. 36 ·94	24. 3. 2	17. 55. 35	0 ·30779	0 ·30526
	Away			24. 2. 33 ·66				
	W	4. 0	70 ·0	42. 8. 47 ·57		18. 5. 46	0 ·31061	0 ·30820
	E	4. 0	66 ·0	6. 12. 44 ·67		17. 50. 17	0 ·30633	0 ·30380
	E	4. 0	58 ·0	6. 7. 18 ·49		17. 55. 44	0 ·30784	0 ·30531
	W	4. 0	58 ·0	42. 12. 20 ·17		18. 9. 18	0 ·31159	0 ·30918
	Away			24. 2. 30 ·87				
	W	4. 0	96 ·0	41. 57. 16 ·77		17. 54. 15	0 ·30743	0 ·30501
	E	4. 0	90 ·0	6. 21. 37 ·66		17. 41. 24	0 ·30387	0 ·30134
	Away			24. 3. 2 ·59				
Jan. 4	Away			24. 7. 8 ·72	24. 7. 30			
	E	4. 0	33 ·0	6. 8. 34 ·77		17. 58. 55	0 ·30872	0 ·30569
	W	4. 0	34 ·0	42. 16. 59 ·56		18. 9. 30	0 ·31164	0 ·31001
	Away			24. 3. 20 ·26				
	W	4. 0	77 ·5	42. 8. 15 ·22		18. 0. 45	0 ·30922	0 ·30759
	E	4. 0	77 ·0	6. 18. 6 ·58		17. 49. 23	0 ·30608	0 ·30305
	Away			24. 6. 19 ·04				
	E	4. 0	91 ·0	6. 19. 45 ·91		17. 47. 44	0 ·30562	0 ·30259
	W	4. 0	87 ·5	42. 5. 56 ·26		17. 58. 26	0 ·30858	0 ·30695
	Away			24. 7. 10 ·95				
	W	4. 0	108 ·0	41. 55. 33 ·08		17. 48. 3	0 ·30571	0 ·30408
	E	4. 0	105 ·0	6. 29. 0 ·35		17. 38. 30	0 ·30306	0 ·30003
	Away			24. 7. 51 ·28				
	E	4. 0	79 ·0	6. 22. 21 ·83		17. 45. 8	0 ·30490	0 ·30279
	W	4. 0	76 ·0	42. 8. 33 ·33		18. 1. 3	0 ·30931	0 ·30739
	Away			24. 7. 12 ·31				
	W	4. 0	55 ·0	42. 12. 43 ·69		18. 5. 14	0 ·31046	0 ·30854
	E	4. 0	55 ·0	6. 16. 24 ·01		17. 51. 6	0 ·30655	0 ·30444
	Away			24. 6. 55. 66				
	E	4. 0	32 ·0	6. 15. 21 ·63		17. 52. 8	0 ·30684	0 ·30473
	W	4. 0	32 ·0	42. 15. 38 ·76		18. 8. 8	0 ·31127	0 ·30935
	Away			24. 7. 45 ·46				
	E	4. 0	68 ·0	6. 21. 4 ·26		17. 46. 26	0 ·30526	0 ·30384
	W	4. 0	67 ·0	42. 10. 15 ·35		18. 2. 45	0 ·30978	0 ·30878
	Away			24. 6. 48 ·26				
	W	4. 0	105 ·0	41. 56. 15 ·48		17. 48. 45	0 ·30590	0 ·30490
	E	4. 0	101 ·0	6. 31. 51 ·38		17. 35. 39	0 ·30227	0 ·30085
	E	4. 0	75 ·0	6. 24. 6 ·10		17. 43. 24	0 ·30442	0 ·30300
	W	4. 0	72 ·0	42. 4. 29 ·57		17. 57. 0	0 ·30819	0 ·30719
	Away			24. 7. 8 ·22				
	W	4. 0	32 ·0	42. 15. 33 ·76		18. 8. 4	0 ·31125	0 ·31025
	E	4. 0	32 ·0	6. 33. 15 ·47		17. 54. 15	0 ·30743	0 ·30601
	Away			24. 7. 22 ·29				
Jan. 5	Away			24. 2. 43 ·73	24. 3. 21			
	E	4. 0	32 ·0	6. 4. 39 ·21		17. 58. 42	0 ·30866	0 ·30658
	W	4. 0	32 ·0	42. 9. 48 ·73		18. 6. 28	0 ·31081	0 ·31035
	W	4. 0	112 ·0	41. 49. 47 ·38		17. 46. 26	0 ·30526	0 ·30480
	E	4. 0	110 ·0	6. 28. 38 ·79		17. 34. 42	0 ·30201	0 ·29993
	Away			24. 4. 56 ·58				

1847, Day.	Position of Marked End of Vertical Force Magnet.	Distance of Centers of Magnets.	Temperature of Vertical Force Magnet.	Circle Reading Corrected for Changes of Declination.	Adopted Reading for no Deflecting Force.	Deflexion.	Its Natural Sine.	Its Natural Sine Corrected.
		ft. in.	°	° ′ ″	° ′ ″	° ′ ″		
Jan. 5	E	4. 0	32·0	6. 5. 27·11	24. 3. 21	17. 57. 54	0·30844	0·30798
	W	4. 0	32·0	42. 14. 55·24		18. 11. 34	0·31222	0·31205
	Away			24. 3. 29·15				
	E	4. 0	115·0	6. 42. 17·77		17. 21. 3	0·29822	0·29776
	W	4. 0	112·0	41. 41. 34·95		17. 38. 14	0·30299	0·30282
	Away			24. 3. 41·41				
	E	4. 0	32·0	6. 13. 18·92		17. 50. 2	0·30626	0·30567
	W	4. 0	32·0	42. 9. 13·85		18. 5. 53	0·31064	0·30989
	Away			24. 3. 35·75				
	E	4. 0	121·0	6. 33. 7·44		17. 30. 14	0·30077	0·30018
	W	4. 0	115·0	41. 51. 51·30		17. 48. 30	0·30583	0·30508
	Away			24. 3. 18·06				
	W	4. 0	32·0	42. 9. 33·92		18. 6. 13	0·31074	0·30999
	E	4. 0	32·0	6. 12. 52·74		17. 50. 28	0·30638	0·30579
	Away			24. 1. 40·92				
Jan. 13	Away			24. 4. 55·30	24. 3. 0			
	W	4. 0	31·0	42. 6. 33·35		18. 3. 33	0·31000	0·31000
	E	4. 0	31·0	6. 13. 35·05		17. 49. 25	0·30609	0·30609
	E	4. 0	45·0	6. 17. 13·42		17. 45. 47	0·30508	0·30508
	W	4. 0	45·0	42. 3. 37·90		18. 0. 38	0·30919	0·30919
	W	4. 0	63·0	42. 3. 6·01		18. 0. 6	0·30904	0·30904
	E	4. 0	63·0	6. 21. 12·49		17. 41. 48	0·30398	0·30398
	E	4. 0	77·0	6. 25. 19·14		17. 37. 41	0·30284	0·30284
	W	4. 0	75·0	41. 59. 44·87		17. 56. 45	0·30812	0·30812
	W	4. 0	92·0	41. 53. 44·27		17. 50. 44	0·30645	0·30645
	E	4. 0	89·0	6. 27. 52·66		17. 35. 8	0·30213	0·30213
	E	4. 0	109·0	6. 33. 58·95		17. 29. 1	0·30043	0·30043
	W	4. 0	108·5	41. 44. 16·91		17. 41. 17	0·30383	0·30383
	W	4. 0	90·0	41. 53. 58·46		17. 50. 58	0·30652	0·30628
	E	4. 0	88·0	6. 26. 27·59		17. 36. 32	0·30252	0·30226
	E	4. 0	62·0	6. 20. 33·05		17. 42. 27	0·30416	0·30390
	W	4. 0	61·0	42. 2. 9·12		17. 59. 9	0·30878	0·30855
	W	4. 0	49·0	42. 4. 26·55		18. 1. 27	0·30942	0·30918
	E	4. 0	48·5	6. 18. 10·09		17. 44. 50	0·30482	0·30456
	E	4. 0	31·0	6. 12. 45·23		17. 50. 15	0·30632	0·30606
	W	4. 0	31·0	42. 6. 17·01		18. 3. 17	0·30993	0·30969
	Away			24. 3. 13·91				
	W	4. 0	45·0	42. 4. 40·02		18. 1. 40	0·30948	0·30940
	E	4. 0	45·0	6. 16. 58·03		17. 46. 2	0 30515	0·30496
	E	4. 0	63·5	6. 21. 35·39		17. 41. 25	0·30387	0·30368
	W	4. 0	62·5	42. 2. 28·34		17. 59. 28	0·30887	0·30879
	W	4. 0	94·0	41. 53. 11·04		17. 50. 11	0·30630	0·30622
	E	4. 0	93·0	6. 27. 21·46		17. 35. 39	0·30227	0·30208
	E	4. 0	107·0	6. 31. 34·84		17. 31. 25	0·30110	0·30090
	W	4. 0	106·0	41. 44. 28·95		17. 41. 29	0·30389	0·30381
	Away			24. 4. 51·26				
Jan. 14	Away			24. 5. 13·63	24. 3. 0			
	W	4. 0	29·0	42. 6. 51·37		18. 3. 51	0·31008	0·31059
	E	4. 0	29·0	6. 12. 22·93		17. 50. 37	0·30642	0·30580

1847, Day.	Position of marked End of Vertical Force Magnet.	Distance of Centers of Magnets.	Temperature of Vertical Force Magnet.	Circle Reading Corrected for Changes of Declination.	Adopted Reading for on Deflecting Force.	Deflexion.	Its Natural Sine.	Its Natural Sine Corrected.
		ft. in.	°	° ′ ″	° ′ ″	° ′ ″		
Jan. 14	E	4. 0	53·0	6. 17. 5·01	24. 3. 0	17. 45. 55	0·30512	0·30450
	W	4. 0	52·0	42. 2. 2·99		17. 59. 3	0·30875	0·30926
	W	4. 0	67·5	41. 59. 28·33		17. 56. 28	0·30804	0·30854
	E	4. 0	66·0	6. 20. 58·16		17. 42. 2	0·30404	0·30343
	E	4. 0	79·0	6. 21. 41·97		17. 41. 18	0·30384	0·30322
	W	4. 0	76·0	41. 56. 12·57		17. 53. 13	0·30714	0·30764
	W	4. 0	90·0	41. 51. 33·87		17. 48. 34	0·30585	0·30636
	E	4. 0	88·0	6. 24. 50·21		17. 38. 10	0·30297	0·30236
	E	4. 0	112·0	6. 31. 57·71		17. 31. 2	0·30099	0·30038
	W	4. 0	109·0	41. 41. 0·90		17. 38. 1	0·30293	0·30343
	W	4. 0	90·0	41. 48. 38·49		17. 45. 38	0·30504	0·30622
	E	4. 0	88·0	6. 25. 26·83		17. 37. 33	0·30280	0·30189
	W	4. 0	87·0	41. 48. 53·65		17. 45. 54	0·30511	0·30629
	W	4. 0	77·0	41. 54. 10·26		17. 51. 10	0·30657	0·30775
	E	4. 0	76·5	6. 20. 55·97		17. 42. 4	0·30405	0·30314
	E	4. 0	66·0	6. 18. 59·20		17. 44. 1	0·30459	0·30368
	W	4. 0	65·0	41. 55. 27·34		17. 52. 27	0·30693	0·30811
	W	4. 0	55·0	41. 57. 41·40		17. 54. 41	0·30754	0·30872
	E	4. 0	55·0	6. 16. 24·44		17. 46. 36	0·30531	0·30440
	E	4. 0	32·0	6. 10. 11·34		17. 52. 49	0·30703	0·30612
	W	4. 0	32·0	42. 1. 29·39		17. 58. 29	0·30860	0·30977
	Away			23. 59. 1·14				
	W	4. 0	56·0	41. 55. 9·12		17. 52. 9	0·30685	0·30849
	E	4. 0	54·0	6. 18. 21·79		17. 44. 38	0·30476	0·30449
	E	4. 0	66·5	6. 20. 56·90		17. 42. 3	0·30405	0·30377
	W	4. 0	65·5	41. 53. 30·49		17. 50. 30	0·30639	0·30803
	W	4. 0	75·0	41. 51. 57·38		17. 48. 57	0·30596	0·30760
	E	4. 0	73·0	6. 23. 21·19		17. 39. 39	0·30338	0·30311
	E	4. 0	91·0	6. 28. 14·40		17. 34. 46	0·30203	0·30175
	W	4. 0	89·0	41. 48. 9·02		17. 45. 9	0·30491	0·30655
	W	4. 0	111·0	41. 40. 29·86		17. 37. 30	0·30279	0·30443
	E	4. 0	111·0	6. 33. 33·35		17. 29. 27	0·30055	0·30028
	Away			24. 0. 37·25				

The method of reduction of these observations is precisely similar to that described for the horizontal force magnet, page xxxiii; the standard group being the first portion of the observations on January 13, ending with that observation made at the temperature 108°·5.

The results are, from the observations when the marked end of the Magnet was West,

$$x = + 0{\cdot}310219$$
$$y = - 0{\cdot}00003911$$
$$z = - 0{\cdot}0000005004;$$

from which the correction for temperature, in terms of the whole vertical force, was found to be

$$0{\cdot}00012652 \times (t - 32^\circ) + 0{\cdot}000001619 \times (t - 32^\circ)^2.$$

And, from the observations when the marked end of the magnet was East,

$$x = + 0{\cdot}305994$$
$$y = - 0{\cdot}0000578$$
$$z = - 0{\cdot}000000221;$$

from which the correction for temperature, in terms of the whole vertical force, was found to be

$$0{\cdot}00018979 \times (t - 32^\circ) + 0{\cdot}0000007257\ (t - 32^\circ)^2.$$

Tables were formed from both these extremes, and the means of the results at the same temperatures were adopted for the reduction of the observations to the temperature of 32° of Fahrenheit, and used from the beginning of the year 1847. Every observation, therefore, expressed in terms of the whole vertical force, has been reduced to what it would have been if made at the temperature of 32° Fahrenheit, by applying the correction, according to the reading of the thermometer enclosed within the double box.

Adjustments of the Vertical Force Magnet.

The scale has not been moved since it was first put up in the year 1840.

The adopted scale-readings are converted into the number required to express the proportion of the variable force to the mean vertical force, by means of tables containing the multiples of the value of one division of the scale.

1847, January 19^d to 21^d, Mr. Glaisher was engaged in endeavouring to adjust the magnet, but he found that it was impracticable, the results for different positions of the adjusting screws being inconsistent with each other. On January 22 it was sent to Mr. Barrow, who reground the knife edges, and it was received from him on January 28. On January 29 and 30, Mr. Glaisher performed all the necessary adjustments; and the magnet after this time was untouched to the end of the year.

The method of observation with the vertical force magnet is precisely similar to that described for the horizontal force magnet, except that the adopted clock-time is 2^m.30^s before that for the declination magnet, and that the eye is directed to the telescope at an interval of time, equal to twice the adopted time of one vibration, before that time. If the magnet is in a state of rest, the eye is again directed to the telescope at an interval, equal to half the time of one vibration, before the pre-arranged time, and the division bisected is noted: and at the time of one vibration afterwards the observer notes whether the same division is bisected as before, and, if it is still bisected, the corresponding reading is adopted as the result, and it is converted into a number expressing the proportion of the variable force to the mean vertical force, by the numbers obtained from the formulæ in Article 4 of this section. The numbers in the printed columns are those numbers reduced to the uniform temperature of 32° of Fahrenheit as above mentioned.

§ 4. *Dipping Needle and Method of observing the Magnetic Dip.*

The instrument with which all the observations of the Dip have been made was constructed by Robinson, and it is one of the last instruments completed by that artist before his death.

The inner diameter of the vertical circle is 9·59 inches, and the circle is divided to ten minutes; so that every two divisions are $0^{in.}014$ apart at their inner extremities. The divisions appear to be sensibly perfect.

The diameter of the horizontal circle, measured between the points where the extremity of the index meets the graduations, is 5·43 inches. The graduation is to half degrees, and the vernier subdivides to single minutes. There is only one reading.

The vertical circle is graduated upwards and downwards to 90° from the two extremities of the horizontal diameter. The horizontal circle is graduated from 0° to 180°, and then from 0° to 180° again in the same direction; so that had the circle been divided from 0° to 360° (a more natural and convenient method), the readings 180° to 360° would have occupied the part of the circle now occupied by the second set of divisions.

The instrument has two needles marked at one end A 1 and A 2 respectively.

The length of A 1 is 9·56 inches.
The length of A 2 is 9·55 inches.

The lengths of the needles, therefore, are respectively only $0^{in.}03$ and $0^{in.}04$ less than the inner diameter of the circle.

The needles usually swing quite round the circle without touching, proving that the circle is nearly perfect, and that the upper surfaces of the agate planes on which the cylindrical terminations of the axle rest, are so placed as to be below the center of the vertical circle by a distance equal to half the thickness of the axle at its bearing points.

The surfaces of the agate planes are $1^{in.}09$ apart; the whole length of each of the axles of the needles is $1^{in.}20$, of which a length $0^{in.}88$ is nearly $0^{in.}1$ in diameter; a portion, $0^{in.}02$ in length on each side, is of less thickness, and this part of each rests in the Y's when the needle is raised from the agate planes; the remainder $0^{in.}14$ on each side is the cylindrical termination of the axles, and its diameter is about $0^{in.}02$: both needles are of the same dimensions in these respects, and no certain difference exists in the diameters of their axles.

The coincidence of planes of the two agates, and the general accuracy of their surfaces, have been occasionally examined by placing on them, sometimes the plane glass of an artificial horizon, and sometimes a small level in different positions; and no reason has been found for doubting the perfect accuracy of the workmanship.

The observations were made in a house built for the purpose entirely of wood, with

copper and brass fastenings, at a distance of 64 feet S.S.E. from the nearest part of the Magnetic Observatory.

The observations of the Dip have been made as follows: —

The horizontal circle is levelled, so that the bubble keeps the same position in all positions of the vertical circle. For ascertaining the reading of the horizontal circle when the vertical circle is nearly in the plane of the magnetic meridian, an instrument is occasionally inserted, consisting of a small steel point above, a brass steadying weight below, and two brass arms by means of which this instrument rests upon the Y's; upon the steel point a free horizontal magnet is mounted with an inverted agate cup in the usual manner; and the whole apparatus is turned till the plane of the vertical circle passes through the free needle. This method has several times been combined with that of corresponding inclinations in two positions of the vertical circle nearly perpendicular to the Magnetic Meridian: and also with that of turning the instrument on its axis until the dipping needle has assumed a vertical position, and inferring the reading for meridional position of the vertical circle by applying 90° to the reading corresponding to this position: the differences have been always found of small amount.

The needle is then placed on the Y supports, and lowered gradually on to the agate planes, with its marked side on the same side with the divided circle, both being towards the East, and the divisions of the vertical circle at the two ends of the needle are read. The instrument is then turned 180° in azimuth, and the observation is repeated, the marked side of the needle and the graduated face of the instrument being towards the West. The needle is then reversed on its axle so that its face is to the East, the face of the instrument being still towards the West, and similar observations are made. The instrument is then turned 180° in azimuth, so that its graduated face is towards the East, and the marked side of the needle towards the West, and the observations are repeated. To eliminate the effect of the want of coincidence of the center of gravity of the needle with the axis of rotation, the poles of the needle are then reversed by means of about twenty double strokes of two 9-inch bar magnets on each side of the center of the needle; it is assumed that it is completely saturated by this means, and then step by step the observation is made as before.

In each position of the needle the axle is raised off the agate planes, lowered, and the readings taken again; and this is repeated two, three, or four times, according to the degree of uncertainty, and the mean of all that is adopted.

The resulting dip is that corresponding to the mean of the eight observed results.

With the view of ascertaining whether partial results obtained on one day could be combined with other partial results obtained on other days, and also whether a needle left at rest would shew the diurnal changes, the needle A 1 was left for some time in 1843 on the agate planes, and observations were made at short intervals, which appear in the volume for 1843. From those observations it appeared that partial observations on one

day cannot be safely combined with other partial observations taken on another day, nor can the diurnal change be shewn by reading the needle repeatedly on the same day without touching it.

§ 5. *Observations for the Absolute Measure of the Horizontal Force of Terrestrial Magnetism.*

The apparatus with which these observations are made is the same which has been used in the investigation of corrections for temperature. A wooden frame, with four horizontal arms which travel with an azimuthal revolution by rollers upon a wooden framed ring, carries at its center an erection to which the magnet (the subject of deflexion) is suspended by a few fibres of silk; and carries, at the extremity of one of the horizontal arms, a telescope, and also a graduated scale which is viewed with the telescope by reflection in a small mirror attached to the frame which clasps the suspended magnet. The deflecting magnet is placed sometimes upon one arm, sometimes upon another: but upon whichever it is placed, it, as well as the telescope and graduated scale, are turned round by the observer in observation so far that, upon looking into the telescope, the same division of the scale is seen in the center of the field as when the deflecting magnet is removed and the wooden frame is in its ordinary position. When this condition is obtained, the relative positions of the deflected magnet and the wooden frame are the same as before, and the deflecting magnet, if placed at first in a direction accurately transverse to the magnetic meridian, is now in a direction accurately transverse to that of the deflected magnet. The measure of the magnetic effort to deflect the magnet is the sine of the angle through which the frame has been turned.

For the measure of this angle, a graduated circle is attached to the fixed pedestal, and its divisions are viewed by two micrometer-microscopes connected with the revolving frame.

In the exhibition of the results, the details of micrometer-readings, values of runs, &c., are omitted.

The deflections have in all cases been observed with the magnet placed successively on opposite arms of the wooden frame. The intention of this arrangement was, to eliminate all errors arising from a possibly erroneous position of the point of suspension. The whole distance from the place of the center of the deflecting magnet in one position to the center of the same magnet when placed in the opposite position, has been measured with great care. The two distances between the centers of the magnets used in all these observations are 1 foot and 1 foot 6 inches.

It is unnecessary here to enter upon the theoretical considerations which shew that, when the measure of the deflecting effort is expressed by a series

$$\frac{a}{(\text{distance})^3} + \frac{b}{(\text{distance})^5} + \&c.$$

in descending powers of the distance between the centers of the magnets, the coefficient a is that upon which the measure of terrestrial magnetism will depend. It is proper, however, to mention that, in practice, there is always some uncertainty in the determination of b, and therefore I have thought it best to determine b separately from every series, to adopt the mean of all these values of b as one value applicable in every case, and then, substituting this as a known value in the two equations given by each pair of deflections, to add together the two equations, and thus to form one advantageous equation for determining the value of a.

The observations made with the deflecting magnet North or South of the deflected magnet, are intended only as a check on the others. If the law of attractive and repulsive magnetic forces inversely as the square of the distance be correct, and if the observations be accurate, then the value obtained for a' (which corresponds to a as deduced from the other measures) ought to be exactly one-half of that obtained for a. The near agreement of the numbers with this proportion shews that the observations are entirely trustworthy.

The next point is to ascertain the time of vibration of the deflecting magnet when itself subjected to the action of terrestrial magnetism. For this purpose, the deflecting magnet is mounted in the same carrying-piece, and its vibrations are observed by means of the telescope and scale, the times being noted by a solar chronometer whose rate is small. The arc of vibration never exceeds $0°.30'$, so that no correction is necessary for the extent of arc.

Experiments made in 1848, January 10, for the purpose of determining the proportion of the torsion-force of the thread to the terrestrial directive-force, gave the following values:

$$\frac{1}{3157}, \frac{1}{2093}, \text{ and } \frac{1}{2903},$$

and the results previously obtained from unrecorded observations were less than the preceding. On account of the smallness and the discordance of these values, no correction for torsion is applied.

It is important either that the temperature be the same in the observations or that the corrections for temperature be accurately known. Investigations of the correction for 1° of Fahrenheit made at different times from 32° to 99° gave the following results:—

At	32°	the natural sine of deflexion was	0·13452
	50	,, ,,	0·13437
	79	,, ,,	0·13420
	99	,, ,,	0·13403

It is evident that the temperature-correction for this magnet is very small, and its magnitude is so uncertain, that I have judged it best to omit it both in these deflexion-

observations, and in the vibration-observations unaccompanied with deflexions which follow them.

The next step is, to ascertain the moment of inertia of the magnet and frame as suspended during the observation of vibrations. The weight of the magnet was ascertained by Mr. Barrow to be 507·302 grains: its length, by observations made by Mr. Glaisher, with scales furnished by Mr. Simms, was 3·630 inches, or, 0·3025 foot: its diameter 0·300 inch, or 0·025 foot: its moment of inertia therefore (adopting the grain and the foot as the units of weight and linear measure) is 3·88826. The weight of the embracing-frame and mirror was 108·242 grains: and, on examining the distribution of this weight, I thought it probable that its moment of inertia would be nearly the same as if it were uniformly distributed over the mirror, whose horizontal length is 0·79 inch = 0·0658 foot: its moment of inertia is therefore 0·03905. The weight of the suspending-stalk with a pulley was 39·377 grains: I estimated its moment as probably the same as if it had been condensed in the pulley whose diameter = 0·28 inch = 0·0233 foot: this gives for moment of inertia 0·00135. The total moment of inertia is 3·92866. The two smaller terms of this are liable to some uncertainty.

Adopting now the notation in the Report of the Committee of the Royal Society, namely,

m ..... The magnetic moment of the deflecting magnet,
X ..... The absolute measure of horizontal force,
K ..... The moment of inertia of the suspended magnet, stirrup, and pulley,
π ..... The circumference of circle to diameter 1,
T ..... The time of vibration,

the result for the terrestrial horizontal force has been found by the formulæ,

$$\frac{m}{X} = \frac{1}{2}a; \text{ and } mX = \frac{\pi^2 K}{T^2}$$

and the separate results are given in the Abstracts.

For the purpose of obtaining a series of absolute measures at intermediate times, without the trouble of making complete deflexion-observations, the vibrations of the same magnet have been observed at intermediate times. These vibrations (no correction for temperature being applied, for the reason mentioned above,) will give an absolute measure of horizontal force, provided we know the magnetic moment of the magnet. Now the deflexion-observations give us a series of determinations of the magnetic moment whose value, it appears, diminishes slowly. Between these, magnetic moments are interpolated for the times of vibration-observations, and then the absolute measure of horizontal force is immediately obtained, subject to uncertainty of only insignificant amount.

§ 6. *Meteorological Instruments.*

BAROMETER.

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

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

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

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

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

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

The height of the cistern above the mean level of the sea is 159 feet. This element is founded upon the determination of Mr. Lloyd, in the Phil. Trans., 1831; the elevation of the cistern above the brass piece inserted in a stone in the transit room (to which Mr. Lloyd refers) being $5^{ft}.2^{in}$.

DRY THERMOMETERS.

The following is a comparison of the Royal Observatory standard thermometer with a standard thermometer by Ronchetti, made with great care, and in the possession of Mr. Bennett.

Between April and July, 1847, the Royal Observatory standard was found to read :—

From 22 comparisons between 30° and 40°, the same as Mr. Ronchetti's standard
From 55 comparisons between 40 and 50, higher than Mr. Ronchetti's standard by 0·2
From 85 comparisons between 50 and 60, higher than Mr. Ronchetti's standard by 0·2
From 59 comparisons between 60 and 70, higher than Mr. Ronchetti's standard by 0·3
From 7 comparisons between 70 and 80, higher than Mr. Ronchetti's standard by 0·2

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

DRY-BULB THERMOMETER.

The dry-bulb thermometer, used in conjunction with the wet-bulb thermometer, is mercurial; its scale is divided to 0°·5.

The following are comparisons of the dry-bulb thermometer with the Royal Observatory's standard thermometer.

Day, 1847.	The Dry Thermometer reads more than the Greenwich Standard.	Range of Temperature.	Number of Comparisons.	Mean Temperature.	Day, 1847.	The Dry Thermometer reads more than the Greenwich Standard.	Range of Temperature.	Number of Comparisons.	Mean Temperature.
	°	° to °		°		°	° to °		
Jan. 11	−0·5	28·0 to 35·0	3	30·3	June 7	−0·2	44·0 to 63·4	12	55·8
25	−0·1	40·7 to 45·5	12	42·6	28	−0·3	57·8 to 75·0	4	64·6
Feb. 1	−0·2	29·0 to 36·2	11	31·7	July 5	0·0	51·8 to 82·2	12	65·8
8	−0·9	19·7 to 29·5	5	24·6	12	+0·1	61·7 to 84·6	9	73·3
15	−0·2	42·0 to 52·3	10	46·0	19	+0·3	50·5 to 65·6	8	60·4
22	+0·2	44·0 to 46·1	12	45·2	26	−0·1	50·0 to 74·1	11	61·7
Mar. 1	+0·2	32·2 to 38·6	7	36·2	Aug. 2	−0·5	58·6 to 83·3	3	68·5
8	+0·1	35·0 to 47·6	12	41·6	9	−0·1	56·6 to 66·7	6	57·2
15	+0·2	33·0 to 55·5	12	44·5	16	0·0	61·0 to 69·7	5	62·5
22	−0·3	32·7 to 59·2	8	45·4	23	−0·1	51·8 to 61·0	3	54·8
29	0·0	32·8 to 44·9	12	37·6	Sep. 6	+0·1	41·8 to 59·1	9	51·3
April 5	0·0	41·5 to 53·0	7	47·2	20	−0·3	50·5 to 59·8	7	55·0
12	+0·1	52·0 to 60·6	8	53·9	27	−1·4	39·6 to 61·0	3	46·8
19	0·0	40·7 to 52·0	7	44·5	Oct. 11	−0·3	57·2 to 63·5	3	57·9
26	+0·1	39·6 to 55·2	7	48·4	Nov. 1	+0·1	51·7 to 62·0	7	56·0
May 3	−0·1	41·2 to 48·3	3	43·7	15	+0·3	51·1 to 57·5	9	54·3
10	−0·1	53·7 to 68·5	9	57·9	22	+0·2	41·0 to 48·6	10	44·7
17	+0·3	52·0 to 64·8	12	57·5	Dec. 13	+0·3	43·2 to 45·0	3	44·0
31	0·0	49·0 to 79·2	12	63·9	20	+0·1	32·2 to 41·2	12	38·1

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

Excesses of the Readings of the Dry Thermometer above those of the Observatory Standard Thermometer.

Temp. below 32°.			Temp. between 32° & 60°.			Temp. between 50° & 60°.			Temp. above 60°.		
Day, 1847.	Excess.	Mean.	Day, 1847.	Excess.	Mean.	Day, 1847.	Excess.	Mean.	Day, 1847.	Excess.	Mean.
	°	°		°	°		°	°		°	°
Jan. 11	−0·5		Jan. 25	−0·1		April 12	+0·1		May 31	0·0	
Feb. 1	−0·2	0·5	Feb. 15	−0·2		May 10	−0·1		June 28	−0·3	
8	−0·9		22	+0·2		17	+0·3				
									July 5	0·0	
			Mar. 1	+0·2		June 7	−0·2		12	+0·1	−0·1
			8	+0·1					19	+0·3	
			15	+0·2		Aug. 9	−0·1		26	−0·1	
			22	−0·3		23	−0·1	0·0			
			29	0·0					Aug. 2	−0·5	
						Sep. 6	+0·1		16	0·0	
			April 5	0·0	0·0	20	−0·3				
			19	0·0							
			26	+0·1		Oct. 11	−0·3				
			May 3	−0·1		Nov. 1	+0·1				
						15	+0·3				
			Sep. 27	−1·4							
			Nov. 22	+0·2							
			Dec. 13	+0·3							
			20	+0·1							

Therefore

Below	32°	the dry-bulb thermometer reads 0·5 less than the standard.
Between	32 and 60	the readings are the same.
Above	60°	the dry-bulb thermometer reads 0·1 less than the standard.

No corrections have been applied to the readings of the dry-bulb thermometer throughout the year.

WET-BULB THERMOMETER.

The wet-bulb thermometer is mercurial; its scale is divided to 0°·5. The following results of comparison of the readings of the dry-bulb thermometer with the wet-bulb thermometer, when both thermometers were under the same circumstances, were found by Mr. Glaisher.

When the reading of the wet thermometer was	between	13°	and	35°,	its readings were lower than those of the dry-bulb thermometer by	0·1
,,	between	35	and	40	,,	0·2
,,	between	40	and	45	,,	0·3
,,	between	45	and	55	,,	0·4
,,	between	55	and	65	,,	0·5
,,	between	65	and	75	,,	0·6
,,	between	75	and	80	,,	0·7
,,	between	80	and	85	,,	0·8
,,	between	85	and	90	,,	0·9
,,	between	90	and	95	,,	0·0
,,	between	95	and	100	,,	1·1
,,	between	100	and	116	,,	1·2

The numbers in the printed columns from February $18^{d}.2^{h}$ are the readings from the scale increased by these numbers.

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

In frosty weather the muslin is moistened for a sufficient length of time before each observation, to allow the water to have become frozen, and the evaporation from the surface of the ice to have commenced, at the time of making the observation.

DEW-POINT APPARATUS.

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

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

	d					°	°				°
On Jan.	11,	from	3	comparisons	made	between	27·0	and	35·0	{the dew-point thermometer reads} lower	by 0·1
,,	25,	,,	12	,,	,,		40·7	,,	46·2	,, higher	by 0·1
Feb.	1,	,,	11	,,	,,		28·5	,,	36·2	,, lower	by 0·4
,,	8,	,,	5	,,	,,		19·5	,,	28·8	,, ,,	0·5
,,	15,	,,	10	,,	,,		42·0	,,	52·7	,, higher	by 0·1
,,	22,	,,	12	,,	,,		44·0	,,	46·5	,, ,,	0·2
Mar.	1,	,,	7	,,	,,		31·8	,,	38·8	,, ,,	0·0
,,	8,	,,	12	,,	,,		34·8	,,	48·5	,, ,,	0·3
,,	15,	,,	12	,,	,,		33·7	,,	55·0	,, ,,	0·3
,,	22,	,,	8	,,	,,		32·0	,,	60·0	,, ,,	0·2
,,	29,	,,	12	,,	,,		32·2	,,	45·2	,, ,,	0·0
April	5,	,,	7	,,	,,		41·7	,,	54·0	,, ,,	0·5
,,	12,	,,	8	,,	,,		52·5	,,	61·9	,, ,,	0·8
,,	19,	,,	7	,,	,,		41·2	,,	52·0	,, ,,	0·5
,,	26,	,,	12	,,	,,		39·5	,,	58·0	,, ,,	0·6
May	3,	,,	3	,,	,,		42·0	,,	49·0	,, ,,	0·7
,,	10,	,,	8	,,	,,		55·0	,,	69·8	,, ,,	1·2
,,	17,	,,	10	,,	,,		51·5	,,	67·0	,, ,,	1·1
,,	24,	,,	5	,,	,,		49·0	,,	65·7	,, ,,	1·2
,,	31,	,,	11	,,	,,		49·0	.,	81·9	,, ,,	1·0
June	7,	,,	8	,,	,,		44·0	,,	54·0	,, ,,	0·7
,,	28,	,,	5	,,	,,		58·2	,,	76·5	,, ,,	0·5
July	5,	,,	11	,,	,,		49·1	,,	83·0	,, ,,	0·5
,,	12,	,,	5	,,	,,		62·8	,,	86·0	,, ,,	0·4
,,	19,	,,	2	,,	,,		62·8	,,	66·5	,, ,,	0·4
,,	26,	,,	4	,,	,,		51·0	,,	59·8	,, ,,	1·0
Aug.	9,	,,	6	,,	,,		56·8	,,	68·0	,, ,,	1·1
,,	23,	,,	3	,,	,,		51·8	,,	63·0	,, ,,	0·7
Sep.	6,	,,	8	,,	,,		41·8	,,	60·8	,, ,,	0·5
Nov.	1,	,,	7	,,	,,		52·0	,,	63·8	,, ,,	1·2
,,	15,	,,	7	,,	,,		50·8	,,	57·0	,, ,,	0·3
,,	22,	,,	9	,,	,,		40·8	,,	49·4	,, ,,	0·2
Dec.	13,	,,	3	,,	,,		44·0	,,	45·0	,, ,,	0·4
,,	20,	,,	12	,,	,,		34·0	,,	41·0	,, ,,	0·0

No correction has been applied on account of these differences.

A determination of the temperature of the dew-point is considered to be doubtful to a quarter of a degree.

The dew-point observation has been made at 4^h, 10^h, 16^h, and 22^h, Göttingen mean time, every day except Sundays, Good Friday, Christmas Day, and March 24.

The relation existing between the temperatures of the air, of evaporation, and of the dew-point, has been investigated, as explained in the Abstracts of former years; and the

following are the tables, &c., which have been used in the formation of the tables in the Abstracts in this volume.

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

Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.
°	in.	°	in.	°	in.	°	in.	°	in.	°	in.	°	in.
0·0	0·061	4·2	0·072	8·4	0·084	12·6	0·098	16·8	0·115	21·0	0·134	25·2	0·156
·1	·061	·3	·072	·5	·084	·7	·099	16·9	·115	·1	·135	·3	·157
·2	·062	·4	·072	·6	·085	·8	·099	17·0	·116	·2	·135	·4	·157
·3	·062	·5	·073	·7	·085	12·9	·099	·1	·116	·3	·136	·5	·158
·4	·062	·6	·073	·8	·085	13·0	·100	·2	·117	·4	·136	·6	·158
·5	·062	·7	·073	8·9	·086	·1	·100	·3	·117	·5	·137	·7	·159
·6	·063	·8	·073	9·0	·086	·2	·101	·4	·118	·6	·137	·8	·160
·7	·063	4·9	·074	·1	·086	·3	·101	·5	·118	·7	·138	25·9	·160
·8	·063	5·0	·074	·2	·087	·4	·101	·6	·118	·8	·138	26·0	·161
0·9	·063	·1	·074	·3	·087	·5	·102	·7	·119	21·9	·139	·1	·161
1·0	·064	·2	·075	·4	·087	·6	·102	·8	·119	22·0	·139	·2	·162
·1	·064	·3	·075	·5	·088	·7	·102	17·9	·120	·1	·140	·3	·163
·2	·064	·4	·075	·6	·088	·8	·103	18·0	·120	·2	·140	·4	·163
·3	·064	·5	·075	·7	·088	13·9	·103	·1	·121	·3	·141	·5	·164
·4	·065	·6	·076	·8	·089	14·0	·104	·2	·121	·4	·141	·6	·164
·5	·065	·7	·076	9·9	·089	·1	·104	·3	·121	·5	·142	·7	·165
·6	·065	·8	·076	10·0	·089	·2	·104	·4	·122	·6	·142	·8	·165
·7	·065	5·9	·077	·1	·090	·3	·105	·5	·122	·7	·143	26·9	·166
·8	·066	6·0	·077	·2	·090	·4	·105	·6	·123	·8	·143	27·0	·167
1·9	·066	·1	·077	·3	·090	·5	·106	·7	·123	22·9	·144	·1	·167
2·0	·066	·2	·077	·4	·091	·6	·106	·8	·124	23·0	·144	·2	·168
·1	·066	·3	·078	·5	·091	·7	·106	18·9	·124	·1	·145	·3	·168
·2	·067	·4	·078	·6	·091	·8	·107	19·0	·125	·2	·145	·4	·169
·3	·067	·5	·078	·7	·092	14·9	·107	·1	·125	·3	·146	·5	·170
·4	·067	·6	·079	·8	·092	15·0	·108	·2	·126	·4	·146	·6	·170
·5	·067	·7	·079	10·9	·092	·1	·108	·3	·126	·5	·147	·7	·171
·6	·068	·8	·079	11·0	·093	·2	·108	·4	·126	·6	·147	·8	·172
·7	·068	6·9	·080	·1	·093	·3	·109	·5	·127	·7	·148	27·9	·172
·8	·068	7·0	·080	·2	·093	·4	·109	·6	·127	·8	·148	28·0	·173
2·9	·068	·1	·080	·3	·094	·5	·110	·7	·128	23·9	·149	·1	·173
3·0	·069	·2	·080	·4	·094	·6	·110	·8	·128	24·0	·150	·2	·174
·1	·069	·3	·081	·5	·094	·7	·110	19·9	·129	·1	·150	·3	·175
·2	·069	·4	·081	·6	·095	·8	·111	20·0	·129	·2	·151	·4	·175
·3	·069	·5	·081	·7	·095	15·9	·111	·1	·130	·3	·152	·5	·176
·4	·070	·6	·082	·8	·096	16·0	·112	·2	·130	·4	·152	·6	·177
.5	·070	·7	·082	11·9	·096	·1	·112	·3	·131	·5	·152	·7	·177
·6	·070	·8	·082	12·0	·096	·2	·112	·4	·131	·6	·153	·8	·178
·7	·071	7·9	·083	·1	·097	·3	·113	·5	·132	·7	·153	28·9	·178
·8	·071	8·0	·083	·2	·097	·4	·113	·6	·132	·8	·154	29·0	·179
3·9	·071	·1	·083	·3	·097	·5	·114	·7	·133	24·9	·155	·1	·180
4·0	·071	·2	·083	·4	·098	·6	·114	·8	·133	25·0	·155	·2	·180
·1	·072	·3	·084	·5	·098	·7	·115	20·9	·134	·1	·156	·3	·181

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

Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.
°	in.	°	in.	°	in.	°	in.	°	in.	°	in.	°	in.
29·4	0·182	34·4	0·217	39·4	0·259	44·4	0·308	49·4	0·366	54·4	0·434	59·4	0·513
·5	·182	·5	·218	·5	·260	·5	·309	·5	·367	·5	·435	·5	·515
·6	·183	·5	·219	·6	·261	·6	·310	·6	·368	·6	·437	·6	·516
·7	·184	·7	·219	·7	·262	·7	·311	·7	·370	·7	·438	·7	·518
·8	·184	·8	·220	·8	·263	·8	·312	·8	·371	·8	·440	·8	·520
29·9	·185	34·9	·221	39·9	·263	44·9	·313	49·9	·372	54·9	·441	59·9	·521
30·0	·186	35·0	·222	40·0	·264	45·0	·315	50·0	·373	55·0	·442	60·0	·523
·1	·186	·1	·223	·1	·265	·1	·316	·1	·375	·1	·444	·1	·525
·2	·187	·2	·223	·2	·266	·2	·317	·2	·376	·2	·445	·2	·527
·3	·188	·3	·224	·3	·267	·3	·318	·3	·377	·3	·447	·3	·528
·4	·188	·4	·225	·4	·268	·4	·319	·4	·379	·4	·449	·4	·530
·5	·189	·5	·226	·5	·269	·5	·320	·5	·380	·5	·450	·5	·532
·6	·190	·6	·227	·6	·270	·6	·321	·6	·381	·6	·452	·6	·534
·7	·190	·7	·227	·7	·271	·7	·322	·7	·382	·7	·453	·7	·536
·8	·191	·8	·228	·8	·272	·8	·323	·8	·383	·8	·455	·8	·537
30·9	·192	35·9	·229	40·9	·273	45·9	·324	50·9	·385	55·9	·456	60·9	·539
31·0	·192	36·0	·230	41·0	·274	46·0	·326	51·0	·386	56·0	·458	61·0	·541
·1	·193	·1	·231	·1	·275	·1	·327	·1	·388	·1	·459	·1	·543
·2	·194	·2	·231	·2	·276	·2	·328	·2	·389	·2	·461	·2	·544
·3	·194	·3	·232	·3	·277	·3	·329	·3	·390	·3	·462	·3	·546
·4	·195	·4	·233	·4	·278	·4	·330	·4	·392	·4	·464	·4	·548
·5	·196	·5	·234	·5	·279	·5	·331	·5	·393	·5	·465	·5	·550
·6	·197	·6	·235	·6	·280	·6	·332	·6	·394	·6	·467	·6	·552
·7	·197	·7	·235	·7	·281	·7	·333	·7	·396	·7	·469	·7	·554
·8	·198	·8	·236	·8	·282	·8	·335	·8	·397	·8	·470	·8	·555
31·9	·198	36·9	·237	41·9	·282	46·9	·336	51·9	·398	56·9	·472	61·9	·557
32·0	·199	37·0	·238	42·0	·283	47·0	·337	52·0	·400	57·0	·473	62·0	·559
·1	·200	·1	·239	·1	·284	·1	·338	·1	·401	·1	·475	·1	·561
·2	·201	·2	·240	·2	·285	·2	·339	·2	·402	·2	·476	·2	·563
·3	·201	·3	·240	·3	·286	·3	·340	·3	·404	3	·478	·3	·565
·4	·202	·4	·241	·4	·287	·4	·342	·4	·405	·4	·480	·4	·567
·5	·203	·5	·242	·5	·288	·5	·343	·5	·407	·5	·481	·5	·568
·6	·204	·6	·243	·6	·289	·6	·344	·6	·408	·6	·483	·6	·570
·7	·204	·7	·244	·7	·290	·7	·345	·7	·409	·7	·485	·7	·572
·8	·205	·8	·245	·8	·291	·8	·346	·8	·411	·8	·486	·8	·574
32·9	·206	37·9	·246	42·9	·292	47·9	·348	52·9	·412	57·9	·488	62·9	·576
33·0	·207	38·0	·246	43·0	·293	48·0	·349	53·0	·414	58·0	·489	63·0	·578
·1	·207	·1	·247	·1	·295	·1	·350	·1	·415	·1	·491	·1	·580
·2	·208	·2	·248	·2	·296	·2	·351	·2	·416	·2	·493	·2	·582
·3	·209	·3	·249	·3	·297	·3	·352	·3	·418	·3	·494	·3	·584
·4	·210	·4	·250	·4	·298	·4	·354	·4	·419	·4	·496	·4	·586
·5	·210	·5	·251	·5	·299	·5	·355	·5	·421	·5	·498	·5	·588
·6	·211	·6	·252	·6	·300	·6	·356	·6	·422	·6	·499	·6	·590
·7	·212	·7	·253	·7	·301	·7	·357	·7	·423	·7	·501	·7	·591
·8	·213	·8	·253	·8	·302	·8	·358	·8	·425	·8	·503	·8	·593
33·9	·213	38·9	·254	43·9	·303	48·9	·360	53·9	·426	58·9	·504	63·9	·595
34·0	·214	39·0	·255	44·0	·304	49·0	·361	54·0	·428	59·0	·506	64·0	·597
·1	·215	·1	·256	·1	·305	·1	·362	·1	·429	·1	·508	·1	·599
·2	·216	·2	·257	·2	·306	·2	·363	·2	·431	·2	·509	·2	·601
·3	0·216	·3	0·258	·3	0·307	·3	0·365	·3	0·432	·3	0·511	·3	0·603

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

Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.	Temp. Fahr.	Force of Vapour.
°	in.	°	in.	°	in.	°	in.	°	in.	°	in.	°	in.
64·4	0·605	68·1	0·684	71·8	0·771	75·5	0·868	79·2	0·976	82·9	1·097	86·6	1·232
·5	·607	·2	·686	71·9	·773	·6	·871	·3	·979	83·0	·101	·7	·235
·6	·609	·3	·688	72·0	·776	·7	·873	·4	·983	·1	·104	·8	·239
·7	·611	·4	·690	·1	·778	·8	·876	·5	·986	·2	·108	86·9	·243
·8	·613	·5	·692	·2	·781	75·9	·879	·6	·989	·3	·111	87·0	·247
64·9	·615	·6	·695	·8	·783	76·0	·882	·7	·992	·4	·114	·1	·251
65·0	·617	·7	·697	·4	·785	·1	·885	·8	·995	·5	·118	·2	·255
·1	·619	·8	·699	·5	·787	·2	·887	79·9	0·998	·6	·121	·3	·258
·2	·621	68·9	·701	·6	·790	·3	·890	80·0	1·001	·7	·125	·4	·262
·3	·623	69·0	·704	·7	·792	·4	·893	·1	·005	·8	·129	·5	·266
·4	·626	·1	·706	·8	·795	·5	·896	·2	·008	83·9	·132	·6	·270
·5	·628	·2	·708	72·9	·797	·6	·899	·3	·011	84·0	·136	·7	·274
·6	·630	·3	·711	73·0	·801	·7	·902	·4	·014	·1	·139	·8	·278
·7	·632	·4	·713	·1	·803	·8	·905	·5	·017	·2	·143	87·9	·282
·8	·634	·5	·715	·2	·806	76·9	·908	·6	·021	·3	·146	88·0	·286
65·9	·636	·6	·717	·3	·809	77·0	·910	·7	·024	·4	·150	·1	·290
66·0	·638	·7	·720	·4	·811	·1	·913	·8	·027	·5	·153	·2	·294
·1	·640	·8	·722	·5	·814	·2	·916	80·9	·030	·6	·157	·3	·298
·2	·642	69·9	·725	·6	·817	·3	·919	81·0	·034	·7	·160	·4	·302
·3	·644	70·0	·727	·7	·819	·4	·922	·1	·037	·8	·164	·5	·306
·4	·646	·1	·729	·8	·822	·5	·925	·2	·040	84·9	·167	·6	·310
·5	·648	·2	·732	73·9	·824	·6	·928	·3	·043	85·0	·171	·7	·314
·6	·651	·3	·734	74·0	·827	·7	·931	·4	·047	·1	·175	·8	·318
·7	·653	·4	·736	·1	·830	·8	·934	·5	·050	·2	·178	88·9	·322
·8	·655	·5	·739	·2	·832	77·9	·937	·6	·053	·3	·182	89·0	·326
66·9	·657	·6	·741	·3	·835	78·0	·940	·7	·057	·4	·186	·1	·330
67·0	·659	·7	·744	·4	·838	·1	·943	·8	·060	·5	·190	·2	·335
·1	·661	·8	·746	·5	·840	·2	·946	81·9	·063	·6	·193	·3	·339
·2	·664	70·9	·748	·6	·843	·3	·949	82·0	·067	·7	·197	·4	·343
·3	·666	71·0	·751	·7	·846	·4	·952	·1	·069	·8	·201	·5	·347
·4	·668	·1	·753	·8	·849	·5	·955	·2	·073	85·9	·205	·6	·351
·5	·670	·2	·756	74·9	·851	·6	·958	·3	·077	86·0	·209	·7	·355
·6	·672	·3	·758	75·0	·854	·7	·961	·4	·080	·1	·212	·8	·359
·7	·674	·4	·761	·1	·857	·8	·964	·5	·083	·2	·216	89·9	·364
·8	·677	·5	·763	·2	·860	78·9	·967	·6	·087	·3	·220	90·0	1·368
67·9	·679	·6	·766	·3	·862	79·0	·970	·7	·090	·4	·224		
68·0	0·681	·7	0·768	·4	0·865	·1	0·973	·8	1·094	·5	1·228		

Before deciding upon the use of the above table, many comparisons were made between the observed dew-point, and that deduced from the observed temperature of evaporation by means of the formulæ of Dr. Apjohn, using the values of the elastic force of vapour as given in the Report of the Committee of Physics and Meteorology of the Royal Society; and also between it and that deduced from the values of the elastic force of vapour and the formulæ given by Professor Kämtz, in his work on Meteorology: the errors of the inferred dew-points were considerable with both sets of tables. Similar comparisons were made, using the above table, and the errors were found to be nearly

always small; and, in consequence, the above table has been adopted for constant use. In the Abstracts contained in previous volumes, it will be seen that Dr. Apjohn's formulæ, combined with this table, give results in close accordance with direct observations of the dew-point; we may, therefore, infer that the above table represents, with considerable accuracy, the relation between the tension and the temperature of steam; and it has been always used in this volume where such values have been required.

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

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

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

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

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

h the height of the barometer.

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

Values of d.	$\frac{d}{88} \times \frac{1}{30}$	Values of d.	$\frac{d}{88} \times \frac{1}{30}$	Values of d.	$\frac{d}{88} \times \frac{1}{30}$	Values of d.	$\frac{d}{88} \times \frac{1}{30}$	Values of d.	$\frac{d}{88} \times \frac{1}{30}$
°		°		°		°		°	
0·1	0·00004	2·4	0·00091	4·7	0·00178	7·0	0·00265	9·3	0·00352
0·2	·00008	2·5	·00095	4·8	·00182	7·1	·00269	9·4	·00356
0·3	·00011	2·6	·00098	4·9	·00186	7·2	·00273	9·5	·00360
0·4	·00015	2·7	·00102	5·0	·00189	7·3	·00277	9·6	·00364
0·5	·00019	2·8	·00106	5·1	·00193	7·4	·00280	9·7	·00368
0·6	·00023	3·9	·00110	5·2	·00197	7·5	·00284	9·8	·00371
0·7	·00027	3·0	·00114	5·3	·00201	7·6	·00288	9·9	·00375
0·8	·00030	3·1	·00118	5·4	·00205	7·7	·00292	10·0	·00379
0·9	·00034	3·2	·00121	5·5	·00209	7·8	·00295	10·1	·00383
1·0	·00038	3·3	·00125	5·6	·00212	7·9	·00299	10·2	·00386
1·1	·00042	3·4	·00129	5·7	·00216	8·0	·00303	10·3	·00390
1·2	·00046	3·5	·00132	5·8	·00220	8·1	·00307	10·4	·00394
1·3	·00049	3·6	·00137	5·9	·00224	8·2	·00311	10·5	·00398
1·4	·00053	3·7	·00140	6·0	·00228	8·3	·00315	10·6	·00401
1·5	·00057	3·8	·00144	6·1	·00231	8·4	·00318	10·7	·00405
1·6	·00061	3·9	·00148	6·2	·00235	8·5	·00322	10·8	·00409
1·7	·00064	4·0	·00151	6·3	·00239	8·6	·00326	10·9	·00412
1·8	·00068	4·1	·00155	6·4	·00242	8·7	·00330	11·0	·00416
1·9	·00072	4·2	·00159	6·5	·00246	8·8	·00333	11·1	·00420
2·0	·00076	4·3	·00163	6·6	·00250	8·9	·00337	11·2	·00424
2·1	·00080	4·4	·00167	6·7	·00254	9·0	·00341	11·3	·00428
2·2	·00083	4·5	·00171	6·8	·00258	9·1	·00345	11·4	·00432
2·3	·00087	4·6	·00174	6·9	·00261	9·2	·00349	11·5	·00436

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

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

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

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

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

Using this table or that preceding, accordingly as the reading of the wet thermometer is lower or higher than 32°, the inferred dew-points may be found as follows. The number in the tables, on page lvii, ranging with the difference of the readings of the dry and wet thermometers, being multiplied into the reading of the barometer at the time of the observation, the difference between this product and the elastic force of vapour at the temperature of evaporation will be the elastic force of vapour at the temperature of the dew-point, and then from the table in pages liii to lv the dew-point may be found.

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

A Table shewing the volume of a Mass of Dry Air after Expansion by Heat, under the Pressure of 30 Inches of Mercury, for every Degree of Temperature from 0° to 90°.

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

Sir George Shuckburgh determined that a bulk of 1000 cubic inches of dry air under the pressure of 30 inches of mercury and at the temperature of 60°, weighs 305 grains. Biot

and Thénard determined the weight of the same volume under the same circumstances to be 311 grains. (Penny Cyclopædia, article Air.) Using Shuckburgh's value we have,

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

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

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

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

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

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

A Table shewing the Weight in Grains of a Cubic Foot of Dry Air, under the Pressure of 30 Inches of Mercury, for every Degree of Temperature from 0° to 90°.

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

If a volume of dry air, of known elasticity, be mixed with an equal volume of vapour, also of known elasticity; and if the mixture be so compressed as to occupy a space only equal to one of these volumes; then (by Dalton's law) the elasticity of the mixture will be the sum of the two elasticities of the air and the vapour; or, if the mixture be allowed to expand till its elasticity is equal to that of the unmixed air, it will occupy a larger volume in the proportion of the sum of the two elasticities to the elasticity of the air alone. Now we know the elastic force of vapour for every degree of temperature (see table on page liii, and following pages),

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

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

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

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

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

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

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

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

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

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

A Table shewing the Enlargement which a Volume of Dry Air receives when saturated with Vapour under the Pressure of 30 Inches of Mercury, for every Degree of Temperature from 0° to 90°.

Temp. Fahr.	Increased Volume owing to the presence of Vapour, the original bulk being considered as unity.	Temp. Fahr.	Increased Volume owing to the presence of Vapour, the original bulk being considered as unity.	Temp. Fahr.	Increased Volume owing to the presence of Vapour, the original bulk being considered as unity.	Temp. Fahr.	Increased Volume owing to the presence of Vapour, the original bulk being considered as unity.	Temp. Fahr.	Increased Volume owing to the presence of Vapour, the original bulk being considered as unity.
°		°		°		°		°	
0	1·0021	19	1·0042	37	1·0080	55	1·0148	73	1·0268
1	1·0022	20	1·0043	38	1·0081	56	1·0154	74	1·0277
2	1·0022	21	1·0045	39	1·0086	57	1·0159	75	1·0286
3	1·0023	22	1·0046	40	1·0089	58	1·0164	76	1·0295
4	1·0024	23	1·0048	41	1·0092	59	1·0170	77	1·0304
5	1·0025	24	1·0050	42	1·0095	60	1·0175	78	1·0314
6	1·0026	25	1·0052	43	1·0099	61	1·0186	79	1·0324
7	1·0027	26	1·0054	44	1·0102	62	1·0187	80	1·0335
8	1·0028	27	1·0056	45	1·0106	63	1·0194	81	1·0346
9	1·0029	28	1·0058	46	1·0110	64	1·0200	82	1·0357
10	1·0030	29	1·0060	47	1·0113	65	1·0207	83	1·0368
11	1·0031	30	1·0062	48	1·0117	66	1·0214	84	1·0380
12	1·0032	31	1·0064	49	1·0121	67	1·0221	85	1·0392
13	1.0033	32	1·0066	50	1·0125	68	1·0228	86	1·0405
14	1·0035	33	1·0070	51	1·0130	69	1·0236	87	1·0418
15	1·0036	34	1·0072	52	1·0134	70	1·0243	88	1·0431
16	1·0037	35	1·0074	53	1·0139	71	1·0251	89	1·0444
17	1·0039	36	1·0078	54	1·0144	72	1·0260	90	1·0458
18	1·0040								

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

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

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

Now, Gay Lussac has also determined, that a cubic inch of vapour at 212° weighs

0·149176 grains under the pressure of 29·92196 inches of mercury (Edinburgh Encyclopædia, article Hygrometry); and, consequently, a cubic foot of vapour, under the same circumstances, weighs 0·149176 × 1728 = 257·776 grains; and under a pressure of 30 inches it weighs

$$\frac{30}{29\cdot92196} \times \overset{\text{gr.}}{257\cdot776} = \overset{\text{gr.}}{258\cdot448}$$

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

$$W' = \frac{1\cdot375 \times 258\cdot448 \times E_t}{30\,(1 + \cdot002083 \times \overline{t^\circ - 32^\circ})}$$

And from this formula the next table is formed, shewing

The Weight in Grains of a Cubic Foot of Vapour, under the Pressure of 30 Inches of Mercury, for every Degree of Temperature from 0° to 90°.

Temp. Fahr.	Weight in Grains of a Cubic Foot of Vapour.	Temp. Fahr.	Weight in Grains of a Cubic Foot of Vapour.	Temp. Fahr.	Weight in Grains of a Cubic Foot of Vapour.	Temp. Fahr.	Weight in Grains of a Cubic Foot of Vapour.	Temp. Fahr.	Weight in Grains of a Cubic Foot of Vapour.
°	gr.	°	gr.	°	gr.	°	gr.	°	gr.
0	0·78	19	1·52	37	2·80	55	5·02	73	8·76
1	0·81	20	1·58	38	2·89	56	5·18	74	9·04
2	0·84	21	1·63	39	2·99	57	5·34	75	9·31
3	0·87	22	1·69	40	3·09	58	5·51	76	9·60
4	0·90	23	1·75	41	3·19	59	5·69	77	9·89
5	0·93	24	1·81	42	3·30	60	5·87	78	10·19
6	0·97	25	1·87	43	3·41	61	6·06	79	10·50
7	1·00	26	1·93	44	3·52	62	6·25	80	10·81
8	1·04	27	2·00	45	3·64	63	6·45	81	11·14
9	1·07	28	2·07	46	3·76	64	6·65	82	11·47
10	1.11	29	2·14	47	3·88	65	6·87	83	11·82
11	1·15	30	2·21	48	4·01	66	7·08	84	12·17
12	1·19	31	2·29	49	4·14	67	7·30	85	12·53
13	1·24	32	2·37	50	4·28	68	7·53	86	12·91
14	1·28	33	2·45	51	4·42	69	7·76	87	13·29
15	1·32	34	2·53	52	4·56	70	8·00	88	13·68
16	1·37	35	2·62	53	4·71	71	8·25	89	14·08
17	1·41	36	2·71	54	4·86	72	8·50	90	14·50
18	1·47								

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

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

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

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

Then 1·079 : 1·037 : : 4·28 gr. : 4·12 gr. the weight of a cubic foot of vapour.

In any state of the atmosphere when the temperatures of the air and of the dew-point are different, no moisture can be precipitated. Before precipitation can take place, either the temperature of the air must fall below that of the dew-point; or the aqueous vapour must increase to a quantity greater than that which can be held in solution at the temperature of the air; or the temperature of the air must fall, and that of the dew-point must rise at the same time, till they are at the same temperature. In the assumed example, the temperature of the air must fall below 50°; or the quantity of aqueous vapour must increase to 8gr·00, that being the greatest quantity of moisture that can be held in solution at 70°; or the temperature of the dew-point must rise above 50°, whilst that of the air must fall below 70°, till they are at the same temperature, before any of the moisture in the air can fall.

The following is a table of factors to be multiplied into the weight of a cubic foot of vapour at the temperature of the dew-point, to deduce the weight of a cubic foot of vapour in the existing state of the atmosphere.

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

This table is to be used as follows: taking the same example as above, the difference between the temperatures of the air and of the dew-point is 20°; the factor ranging with 20° is 0·960, which multiplied into 4gr·28 gives 4·11 grains. In this way the tables in the Abstracts were formed, exhibiting the weight of a cubic foot of vapour for given values of the dry and dew-point thermometers. Also, as the weight of moisture in the assumed example is 4gr·11, and at 70° complete saturation takes place, when 8gr·00 of mois-

ture are held in solution, the difference between these numbers $3^{gr.}89$, represents the weight required for complete saturation; and in this way the tables in the Abstracts, representing the quantities required for complete saturation, were formed. The tables shewing the degree of humidity were formed by dividing the actual weight of a cubic foot of vapour at the time, by the greatest weight that could be held in solution at the temperature of the air, complete saturation being represented by unity.

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

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

A Table shewing the Weight of a Cubic Foot of Dry Air added to the Weight of a Cubic Foot of Vapour, under the Pressure of 30 Inches of Mercury, for every Degree of Temperature from 0° to 90°.

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

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

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

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

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

Then to find the weight of a cubic foot of air in its existing state, we must proceed as follows: if the temperatures of the air and of the dew-point be alike, the quantity ranging with the temperature will be the quantity required; but if the temperature of the air be the higher of the two, take out the excess of the weight of a cubic foot of dry

air above the weight of a cubic foot of air saturated with moisture from the above table, at the temperature of the air; the degree of humidity will have been previously determined, and this, multiplied into the difference of weights of a cubic foot of dry and a cubic foot of wet air, will give the part due to the moisture in the air; and this product, subtracted from the weight of a cubic foot of dry air, will give the weight of a cubic foot of air of the given temperature and humidity, under a pressure of 30 inches of mercury. The true weight of a cubic foot of air in its then existing state is found by multiplying the last found value by $\frac{\text{height of the barometer}}{30}$. In this way the tables in the Abstracts may be formed, shewing the weights of a cubic foot of air under different circumstances of temperature, humidity, and pressure.

All the hygrometrical Abstracts have actually been calculated by the use of general hygrometrical tables, prepared by Mr. Glaisher, and deduced from the preceding tables.

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

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

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

Table shewing the Weight of Vapour in a Cubic Foot of Space (upon the supposition of a Cubic Inch of Water producing 1625 Inches of Vapour), under the Pressure of 30 Inches of Mercury, for every Degree of Temperature from 0° to 90°.

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

MAXIMUM AND MINIMUM SELF-REGISTERING THERMOMETERS.

The self-registering thermometer for maximum temperature of the air is a mercurial thermometer, with a transparent bulb; its index is a piece of blue steel wire. The self-registering thermometer for minimum temperature of the air is of alcohol, with a transparent bulb: its index is glass, with a knob at each end. These instruments have been read at 22^h every day.

The following is an investigation of the index-errors of these thermometers.

They were usually compared twice on every day with the Royal Observatory standard thermometer: once at about the time of the maximum temperature, and once at about the time of the minimum temperature. At the end of each month the differences between the readings were taken, and divided into groups according to different temperatures, distinguished by the different amount of the error; the mean of each group was then taken; and in this way the following quantities have been obtained.

		°			°	°
January.	Add	0·7	to all maximum readings	below	30	
	,,	0·6	to all maximum readings	between	30	and 40
	,,	0·1	to all maximum readings	between	40	and 50
	,,	1·0	to all minimum readings	below	30	
	,,	0·8	to all minimum readings	between	30	and 40
	,,	0·4	to all minimum readings	between	40	and 50
February.	Add	0·4	to all maximum readings	below	30	
	,,	0·8	to all maximum readings	between	30	and 40
	,,	0·2	to all maximum readings	between	40	and 50
	,,	1·0	to all minimum readings	below	30	
	,,	0.9	to all minimum readings	between	30	and 40
	,,	0·6	to all minimum readings	between	40	and 50
	,,	0·3	to all minimum readings	above	50	
March.	Add	0·1	to all maximum readings	between	30	and 40
	,,	0·3	to all maximum readings	between	40	and 50
	,,	0·2	to all maximum readings	between	50	and 60
	,,	0·8	to all minimum readings	between	30	and 40
	,,	0·6	to all minimum readings	between	40	and 50
	,,	0·5	to all minimum readings	between	50	and 60
April.	Add	0·2	to all maximum readings	between	30	and 40
	,,	0·3	to all maximum readings	between	40	and 50
	,,	0·2	to all maximum readings	between	50	and 60
	,,	0·7	to all minimum readings	between	30	and 40
	,,	0·4	to all minimum readings	between	40	and 50
	,,	0·2	to all minimum readings	between	50	and 60

		°		° °
May.	Add	0·1	to all maximum readings below	50
	,,	0·2	to all maximum readings above	50
	,,	0·1	to all minimum readings between	30 and 40
	,,	0·7	to all minimum readings between	40 and 50
	,,	0·2	to all minimum readings above	50
June.	Add	0·5	to all maximum readings below	60
	,,	0·1	to all maximum readings above	60
	,,	0·4	to all minimum readings below	50
	,,	0·1	to all minimum readings above	50
July.	Add	0·4	to all maximum readings below	60
	,,	0·5	to all maximum readings between	60 and 70
	,,	0·3	to all maximum readings above	70
	,,	0·3	to all minimum readings above	70
August.	Add	0·8	to all maximum readings below	50
	,,	0·6	to all maximum readings between	50 and 60
	,,	0·4	to all maximum readings above	60
	,,	0·3	to all minimum readings.	
September.	Add	0·6	to all maximum readings below	50
	,,	0·9	to all maximum readings between	50 and 60
	,,	0·8	to all maximum readings above	60
	,,	1·1	to all minimum readings below	40
	,,	0·7	to all minimum readings between	40 and 50
	,,	0·3	to all minimum readings above	50
October.	Add	1·2	to all maximum readings.	
	,,	1·2	to all minimum readings.	
November.	Add	0·8	to all maximum readings below	50
	,,	0·7	to all maximum readings above	50
	,,	0·5	to all minimum readings below	50
	,,	0·3	to all minimum readings above	50
December.	Add	0·8	to all maximum readings below	40
	,,	0·5	to all maximum readings above	40
	,,	0·7	to all minimum readings below	40
	,,	0·3	to all minimum readings above	40

The readings of the thermometer as inserted in the Tabular Observations at 22^h on every day are the readings of the instruments increased by those numbers, and are such as would have been given by the Royal Observatory standard thermometer.

RADIATION THERMOMETERS.

The self-registering thermometer for solar radiation is a mercurial thermometer with a blackened bulb: its index is a piece of blue steel wire. It has been read every day at 22^h.

The self-registering thermometer for radiation to the sky is of alcohol, with a transparent bulb placed in the focus of a parabolic reflector: its index is glass, with a knob at each end. It is read every day at 22^h.

No correction has been found to be necessary to the readings of these two thermometers, and the numbers, as inserted in the Tabular Observations, are those as read from the instruments.

POSITION OF THE THERMOMETERS DURING THE YEAR 1847.

A post was planted in the year 1846 in a position 23 feet south of the south-east angle of the south arm of the Magnetic Observatory. A frame revolves on this post consisting of a horizontal board as base, of a vertical board projecting upwards from it connected with one edge of the horizontal board, and of two parallel inclined boards (separated about two inches) connected at the top with the vertical board, and at the bottom with the other edge of the horizontal board. The air passes freely between all these boards. The standard thermometer, the dry and wet-bulb thermometers, the dew-point instrument, and the maximum and minimum thermometers, are attached to the outside of the vertical board, with a small projecting roof above them; their bulbs are about four feet above the ground, and those of the three first project below the wood; and the frame is always turned with its inclined side towards the Sun. It is presumed that the thermometers are thus sufficiently protected.

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

THERMOMETERS SUNK BELOW THE SURFACE OF THE SOIL AT DIFFERENT DEPTHS.

These thermometers were made by Messrs. Adie of Edinburgh, under the immediate superintendance of Professor J. D. Forbes. The graduation was made by Professor Forbes himself.

The thermometers are four in number. They are all placed in one hole in the ground, the diameter of which in its upper half is 1 foot, and in its lower half about 6 inches.

Each thermometer is attached in its whole length to a slender piece of wood, which is planted in the hole with it. The place of the hole is 20 feet South of the extremity of the South arm of the Magnetic Observatory, and opposite the center of its South front.

The soil consisted of beds of sand; of flint-gravel with a large proportion of sand; and of flints with a small proportion of sand, cemented almost to the consistency of pudding-stone. Every part of the gravel and sand extracted from the hole was perfectly dry.

The bulbs of the thermometers are cylindrical, 10 or 12 inches long and 2 or 3 inches in diameter. The bore of the principal part of the tubes, from the bulb to the graduated scale, is very small. In that part to which the scale is attached the tube is larger.

The thermometer No. 1 was dropped into the hole to such a depth that the center of its bulb was 24 French feet (25·6 English feet) below the surface: then dry sand was poured in till the hole was filled to nearly half its height. Then No. 2 was dropped in till the center of its bulb was 12 French feet below the surface; No. 3 and No. 4 till the centers of their bulbs were respectively 6 and 3 French feet below the surface; and the hole was then completely filled with dry sand. The upper parts of the tubes, carrying the scales, were left projecting above the surface: No. 1 by 27·5 inches, No. 2 by 28·0 inches, No. 3 by 30·0 inches, and No. 4 by 32·0 inches. Of these lengths, the parts 8·5, 10·0, 11·0, and 14·5 inches, respectively are tube with narrow bore.

The projecting parts of the tubes are protected by a wooden case or box fixed to the ground; the sides of the box are perforated with numerous holes and it has a double roof. In the North face of this box is a large plate of glass through which the thermometers are read. Within the box are two smaller thermometers, one (No. 5) whose bulb is sunk one inch in the ground, and one (No. 6) whose bulb is in the free air nearly in the center of the box.

The fluid of the four long thermometers is alcohol tinged with a red colour.

The values of 1° on the scales of Nos. 1, 2, 3, and 4, are respectively $2^{in.}$, $1^{in.}1$, $0^{in.}9$, and $0^{in.}55$; and the ranges of the scales are, 43°·0 to 52°·7, 42°·0 to 56°·8, 39°·0 to 57°·5, and 34°·2 to 64°·5.

These ranges were found not to be sufficient in the year 1846, many readings having occurred in that year exceeding the higher of these limits, in Nos. 2, 3, and 4. In the year 1847 the readings of No. 3 only exceeded the graduation.

There is a small bulb left at the top of each thermometer (as is usual in alcoholic thermometers), and on the alcohol passing into this space in No. 3 the reading was taken by estimation. This process was used from July 21 to September 17, and the highest estimated reading within this interval of time was 59°·05.

The mounting of the long thermometers was completed in 1846, on March 25, but the observations were not commenced till April 10. They have since that time been taken at every even hour of Göttingen mean time, except on Sundays and Christmas Day.

The numbers as printed in the Abstracts are the arithmetical means of the simple uncorrected readings taken on every civil day, for the daily values, and the arithmetical means of the readings, also uncorrected, taken at the same hour throughout the month, for the hourly values. These numbers, therefore, require correction; 1st, for the variable temperature of the several strata through which the stem passes between the center of the bulb and the surface of the soil; and 2ndly, for the effect produced upon that portion of the stem which is above the ground by the temperature of the air within the case at the time of observation. These corrections will probably be insensible. In estimating, from the readings taken at the same hour through a month, the diurnal inequality of each thermometer, it will be necessary to apply a correction depending on the change from day to day, and this correction will be sensible.

THERMOMETERS SUNK IN THE WATER OF THE THAMES.

The self-registering thermometer for determining the ~~maximum~~ temperature of the water of the Thames is ~~a mercurial thermometer~~, having for its index a piece of steel wire. It is read every day at 22^h. The self-registering thermometer for determining the minimum temperature of the water of the Thames is of coloured alcohol: ~~its index is glass, with~~ a ~~knob at each end~~. It is read every day at 22^h.

A strong wooden trunk is firmly fixed to the side of the Dreadnought Hospital Ship, about five feet in length, and closed at the bottom; the bottom and the sides, to the height of three feet, are perforated with a great number of holes, so that the water can easily flow through. This trunk is fixed to the ship in such a manner that the perforated part of it is immersed in the water; and the thermometers are suspended within this trunk so as to be about two feet below the surface of the water, and one foot from the bottom of the trunk.

The regular observations ~~were~~ made ~~by Lieutenant Sanders, R.N.~~, superintendant of the ship, or in his absence by Mr. Cooper, one of the officers of the ship.

OSLER'S ANEMOMETER.

This anemometer is self-registering: it was made by Newman, but has received several changes since it was originally constructed. 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 a mark upon a paper affixed to a board which is moved uniformly in a direction transverse to the direction of the rack-motion. The movement of the board was formerly effected by means of a chain connected with the barrel of a clock: but the continual failures of this apparatus made it necessary to

resort to another construction, and the movement of the board, from the beginning of 1846, has been effected by a rackwork connected with the pinion of a clock. 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 necessarily act 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 in tension 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 1 lb., 2 lbs., &c., to move the pressure-plate in the same manner as if the wind pressed it.

A fresh sheet of paper has been applied to this instrument every day at 22^h mean solar time.

WHEWELL'S ANEMOMETER.

This anemometer is self-registering: it was made by Simms. A horizontal brass plate is connected with a vertical spindle, which passes down through the axis of a fixed vertical cylinder, and takes a vertical-bearing upon a horizontal plate at the bottom of the vertical cylinder, and a collar-bearing in a horizontal plate at the top of the cylinder. To one side of the brass plate is attached a vane, and by the action of the wind upon this vane the brass plate is turned. Upon the brass plate is mounted the frame, carrying the fly and the first and second toothed wheels: underneath that part of the brass plate which overpasses the top of the cylinder are attached the bars of a frame, that surrounds without touching the cylinder, and extends nearly as low as the bottom of the cylinder (where it is guided by small horizontal rollers, which it carries, and which run upon the surface of the cylinder): this frame is for the purpose of carrying the large vertical screw, fifteen inches in length. The fly has eight sails, resembling the sails of a windmill, but having

their surfaces plane, and inclined to the direction of the wind at an angle of 45°: its axis is horizontal. Upon the axis is an endless screw, which works in a vertical wheel of one hundred teeth, and upon the axis of this wheel is an endless screw, which works in a horizontal wheel of one hundred teeth; and this horizontal wheel is connected with the top of the great vertical screw. Ten thousand revolutions of the fly therefore produce one revolution of the vertical screw. A concave screw (which admits of being opened at pleasure, for detaching it from the vertical screw) is clamped, so as to embrace the vertical screw, and is carried downwards by its circular motion. To this concave screw is attached a pencil, which in its descent touches the fixed vertical cylinder. The surface of the cylinder is divided by vertical lines into sixteen equal parts, corresponding to the sixteen parts of the circle of azimuth; and the letters indicating the principal points of the compass are painted on it at these lines. Near to the vertical screw, and parallel to it, is fixed a rod, which is one of the bars of the frame before described: a scale upon this rod is divided to tenths of inches, and an index slides upon it. This index turns freely upon the scale, and has a projecting point, which can be brought into contact with that part of the cylinder on which the pencil marks are registered. Bringing this point successively into contact with the extreme upper and lower marks made each day, the difference of the scale-readings would give the descent of the pencil for the day; but the practice has generally been to apply a pair of compasses to the cylinder, and then to ascertain the descent by means of the vertical scale.

The instrument is read off every day at 22^h. The pencil in descending marks a broad path in consequence of the oscillations of the vane; the darkest part of this path is observed, and that direction is recorded to which this dark part is nearest. The descent in inches, corresponding to each direction of the wind, is taken by applying a pair of compasses to the cylinder, and then ascertaining the amount by means of the vertical scale; the sum of all the descents belonging to each successive change of the wind is checked each day by the total descent of the pencil, as shewn by the space between the position of the index as previously left, and its position at the time of reading. The individual amounts are inserted in the section of Ordinary Observations.

The instrument is fixed on a small wooden erection, of about ten feet in height, placed on the leads above the highest part of the Observatory, in which situation it is nearly free on all sides; an inconsiderable portion only being sheltered by the time ball, whose diameter is five feet, resting on the N.E. turret; the distance between the anemometer and the center of the ball is about twenty feet.

The zero of the instrument was determined by means of Osler's Anemometer. At the time a steady south wind was blowing; the instrument was set nearly in the right direction by hand; there was but little friction, and the pencil was on the line marked *S* on the cylinder: its zero was considered to be well determined.

The following are measures of the principal parts of the anemometer:—

The length of each sail from axis to end is	$2^{in.}30$
The length of the flat part of each sail is	$1^{in.}92$
The inclination of each sail to the wind is	45°
45 revolutions of the vertical screw correspond to ...	2 inches
The number of teeth in the vertical wheel is	100
The number of teeth in the horizontal wheel is also ..	100

Therefore, 10,000 revolutions of the fly cause the pencil to descend through the distance of one thread of the vertical screw, or through a space equal to $\frac{2}{45}$ inches = $0^{in.}044$.

	in.
Assuming that the effective radius of the sail is	1·7
Then the circumference described is $1^{in.}7 \times 2\pi =$	10·68
Therefore the motion of the wind in one revolution is	10·68
,, in 10,000 revolutions	106800 inches

corresponding to $0^{in.}044$ of the vertical screw, or to one revolution of the screw.

From this it follows, that the motion of the wind, corresponding to the descent of the pencil through one inch, is 200250 feet, or 37·9 miles.

RAIN GAUGES.

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

The collected water passes through a tube into a vessel suspended in a frame by spiral springs, which lengthen as the water increases, until 0·24 of an inch is collected in the receiver; it then discharges itself by means of the following modification of the syphon. A copper tube, open at both ends, is fixed in the receiver, in a vertical position, with its end projecting below the bottom. Over the top of this tube a larger tube, closed at the top, is placed loosely. The smaller tube thus forms the longer leg, and the larger tube the shorter leg of a syphon. The water, having risen to the top of the inner tube, gradually falls through into the uppermost portion of a tumbling bucket, fixed in a globe under the receiver. When full, the bucket falls over, throwing the water into the pipe at the lower part of the globe: this action causes an imperfect vacuum in the globe, sufficient to cause a draught in 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. The springs then shorten and raise the receiver. The ascent and descent of the water-vessel move a radius-bar which carries a pencil; and 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 itemptied itself, then weighing the water, and thus ascertaining its bulk, and dividing this bulk by the area of the surface of the rain receiver. The quantity of water registered by this gauge, between 22^h of one day and 22^h of the next, is added every day to the whole quantity previously registered from the beginning of the year, and the sum is inserted in the column whose heading is "Stand of Rain-gauge No. 1." The quantities in this column represent the amount of rain in inches collected from January 1.

The rain-gauge No. 2, on the top of the library, is a funnel, whose diameter is 6 inches; its exposed area consequently is 28·3 square inches. The water passes into a cylinder from which it is poured into a circular vessel, the diameter of which is 3·25 inches; and therefore 3·4 inches of this correspond to 1 inch of rain. This gauge is 177 feet 2 inches above the mean level of the sea. The quantity of water collected in this gauge is measured every day at 22^h, and the amount in inches is inserted in the column whose heading is "Reading of Rain-gauge No. 2."

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

The rain-gauge No. 4 is a simple cylinder-gauge, 8 inches in diameter, and therefore having an exposed area of 50·3 square inches. The height of the cylinder is $13\frac{1}{2}$ inches; at the depth of one inch from the top within the cylinder is fixed a funnel (an inverted cone), of 6 inches perpendicular height; with the point of this funnel is connected a tube, one-

fifth of an inch in diameter, and $1\frac{1}{4}$ inch in length; three quarters of an inch of this tube is straight, and the remaining half-inch is bent upwards, terminating in an aperture of one-eighth of an inch. By this arrangement, the last drop of water remains in the bent part of the tube, and is some hours evaporating; it is usually found that the dew at night fills it, and evening comes before it is again free from water. The upper part of the funnel, or base of the cone, is made to touch the internal part of the cylinder all round; and it is believed that evaporation is almost totally prevented. The cylinder is sunk 8 inches in the ground, leaving $5\frac{1}{2}$ inches above the ground. The height above the mean level of the sea is 155 feet 3 inches; the place of the gauge was 6 feet West of the gauge No. 3 until July 22^{d}, when it was placed 5 feet North 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.

The rain-gauge No. 5 is one of a similar construction to No. 4, and it is placed in the garden of the Reverend George Fisher, at the Greenwich Hospital Schools, with about two-thirds of its depth below the surface of the ground, and beyond the influence of buildings or trees. Its receiving surface is about 35 feet above the mean level of the sea. The quantity of water collected is read at the end of every month; its readings are inserted in the marginal notes to the Observations.

THE ACTINOMETER.

The actinometer consists of a hollow cylinder of glass, 7 inches in length, and 1·22 inch in diameter, fixed at one end to a tube similar to a thermometer tube, 7 inches in length, which is terminated at the upper end by a ball 1·1 inch in diameter, and at its upper part is drawn out to a fine tube which is stopped by wax: a scale divided into 100 equal parts is attached to the thermometer tube. The other end of the cylinder is closed by a silver plated cap, cemented on it, and furnished with a screw of silver with 23 threads to an inch, passing through a collar of waxed leather. The cylinder is filled with ammonio-sulphate of copper; it is enclosed in a chamber blackened on three sides, and on the fourth by a greenish plate glass, 0·1 inch in thickness, which is removeable at pleasure. The action of the screw is to increase or diminish the capacity of the cylinder, and thus draw back from, or drive into, the ball a portion of liquid; and by this means the cylinder may be just filled, leaving no bubble of air in it. For using the instrument a stand or table is prepared with a part moveable, on which the instrument is placed, and on which it can be very readily exposed perpendicularly to the direct rays of the Sun: a screen is also attached, which can in an instant be so placed as to cut off all the rays of the Sun from the chamber of the instrument; and can be as quickly withdrawn, so as fully to expose the chamber.

The method of observation is as follows: when the cylinder is just full, and no bubble of air is in it, the tube also being clear of all broken portions of liquid, the liquid is drawn down by the screw to the zero of the scale; the instrument is then exposed a few minutes to the Sun, and at the beginning of a minute, by the chronometer, the scale is read; and at the end of the minute it is read again: the screen is placed before the instrument at the following 30^{s} the scale is read for the first shade observation, and at one minute afterwards is again read for the second shade observation; the instrument is then again exposed to the Sun, and read as before, and so on successively.

In the volume for 1844, in the section of actinometer-observations, will be found some made for the purpose of ascertaining the effect of the glass forming the fourth side of the chamber, which effect was found to be that one-sixth nearly of the heating rays of the Sun were stopped. Therefore, one-sixth of the observed radiation ought to be added in order to obtain the true radiation. This correction has *not* been applied either in the section of observations or in the Abstracts.

In the volumes for 1844 and 1845 are given the details of experiments, from which it appears that the fluid is driven up the tube about 259$^{div.}$ by one turn of the screw.

The following measurements of the diameter of the screw, and of the height and depth of its thread, were made on April 18, 1844.

It was found that the height of 23 threads of the screw corresponded exactly to one inch: the distance, therefore, between two contiguous threads is 0$^{in.}$0435. This determination was by Mr. Glaisher. Again, a fine piece of silk was tied to the bottom of the screw, and carefully passed round the bottom of 34 threads: its length was found to be 50$^{in.}$4. Therefore, the circumference of the screw at the bottom of the thread was 1$^{in.}$5 nearly, or its diameter was 0$^{in.}$477. This determination was by Mr. Glaisher. A piece of very fine gold wire also was passed round eleven threads, and its length was found to be 16$^{in.}$4; from which the circumference of the bottom of the thread was 1$^{in.}$5 as before. This determination was by Mr. Main. The diameter of the screw at the outer edge of the threads was found to be 0$^{in.}$52. The depth of the thread by measurement was less than 0$^{in.}$05.

ELECTRICAL APPARATUS.

The electrical apparatus consists of two parts, namely, the Moveable Apparatus, which is connected with a pole nearly eighty feet high planted a few feet North of the Magnetic Observatory; and the Fixed Apparatus, which is mounted in a projecting window in the ante-room of the Magnetic Observatory.

On the top of the pole is fixed a projecting cap, to which are fastened the ends of two iron rods, which terminate in a pit sunk in the ground, and are kept in tension by attached

weights. These rods are to guide the moveable apparatus in its ascents and descents. Near the bottom of the pole is fixed a windlass; the rope upon which it acts passes over a pulley in the cap, and sustains the moveable apparatus.

The moveable apparatus consists of the following parts:—A plank in a nearly vertical position is attached to perforated iron bars which slide upon the iron rods. On the upper part of this plank is a cubical box with a very strong top; the top carries a stout cone of glass with its base downwards, having a conical hollow in its lower part; upon the upper or smaller end of the cone is fixed a copper tube five feet long, carrying at its lower extremity a small copper umbrella which protects the glass from rain, and supporting at its upper extremity a large lantern whose flame is very freely exposed to the air; by this flame the atmospheric electricity is collected. In the top of the box there is a large hole, through which a cone of copper passes into the conical hollow of the cone of glass; in the box a small lamp is placed, by the flame of which the copper cone and the lower part of the glass cone are kept in a state of warmth; and thus the copper tube and lantern are perfectly insulated. To the copper tube is attached a copper wire 0·1 inch in diameter, and about 73 feet long, at the end of which is a hook; a loaded brass lever connected with the fixed apparatus presses upon this hook, and thus keeps the wire in a state of tension, and at the same time establishes the electrical communication between the lantern and the fixed apparatus.

For the daily trimming of the lamps, the travelling apparatus is lowered and raised by means of the windlass: the wire is then coiled upon a self-acting reel which is urged by a weight.

The fixed apparatus consists of these parts:—A glass bar, nearly three feet long, and thickest at its middle, is supported in a horizontal position, its ends being fixed in the sides of the projecting window. Near to each end is placed a small lamp whose chimney encircles the glass, and whose heat keeps the glass in a state of warmth proper for insulation. A brass collar surrounds the center of the glass bar; it carries one brass rod projecting vertically upwards through a hole in the roof of the window-recess, to which rod are attached a small umbrella and the loaded lever above mentioned; and it carries another rod projecting vertically downwards, to which is attached a horizontal brass tube in an East and West direction. On the North and South sides of this tube there project four horizontal rods, through the ends of which there pass vertical rods which can be fixed by screws at any elevation; these are placed in connexion with the electrometers which rest on the window seat.

The electrometers during the year 1847 consisted of a Double Gold Leaf Electrometer of the ordinary construction; two Volta's Electrometers, denoted by Nos. 1 and 2; a Henley's Electrometer; a Ronalds' Spark Measurer; a Dry-pile Apparatus; and a Galvanometer.

Volta 1 and Volta 2 are of the same construction; each is furnished with a pair of straws two Paris inches in length; those of the latter being much heavier than those of the former: each instrument is furnished with a graduated ivory scale, whose radius is two Paris inches, and it is graduated into half Paris lines. In the original construction of these instruments it was intended that each division of No. 2 should correspond to five of No. 1: the actual relation between them has not yet been determined by observations at the Royal Observatory. The straws are suspended by hooks of fine copper wire to the suspension-piece, and they are at the distance of half a line from each other.

Henley's Electrometer is supported on the West end of the large horizontal tube by means of a vertical rod fixed in it. On each side of the upper part of this rod is affixed a semicircular plate of ivory, whose circumference is graduated; at the centers of these ivory plates two pieces of brass are fixed, which are drilled to receive fine steel pivots, carrying a brass axis, into which the index or pendulum is inserted; the pendulum terminates with a pith ball. The relation between the graduations of this instrument and those of the other electrometers has not been determined. This instrument has seldom been affected till Volta 2 has risen to above 100 divisions of its scale.

The spark-measurer is similar in its construction to that at the Observatory at Kew. It consists of a vertical sliding rod terminated by a brass ball, which ball can be brought into contact with one of the vertical rods before referred to, also terminating in a ball; and it can be moved from it or towards it by means of a lever, with a glass handle. During the operation of separating the balls, an index runs along a graduated scale, and exhibits the distance between the balls, and this distance measures the length of the spark.

The electrometers and the spark-measurer were originally constructed under the superintendance of Francis Ronalds, Esq., but have since received small alterations.

The dry-pile apparatus was made by Watkins and Hill; it is placed in connexion with the brass bar by a system of wires and brass rods. The indicator, which vibrates between the two poles, is a small piece of gold leaf. This instrument is very delicate, and it indicates at once the quality of the electricity. When the inclination of the gold leaf is such that it is directed towards the top of either pile, it remains there as long as the quantity of electricity continues the same or becomes greater: the position is sometimes expressed in the notes by the words "as far as possible." The angle which the gold leaf makes with the vertical at this time is about 40°.

The galvanometer was made by Gourjon of Paris, and consists of an astatic needle, composed of two large sewing needles, suspended by a split silk fibre, one of the needles of the pair vibrating within a ring formed by 2400 coils of fine copper wire. The connexions of the two portions of wire forming these 2400 coils are so arranged that it is possible to use a single system of 1200 coils of single wire, or a system of 1200 coils of double wire, or a system of 2400 coils of single wire: in practice the last has always been

used. A small ball communicating by a wire with one end of the coils is placed in contact at pleasure with the electric conductor, and a wire leading from the other end of the coil communicates with the earth. An adjustible circular card, graduated to degrees, is placed immediately below one of the needles; the numeration of its divisions proceeds in both directions from a zero. One of these directions is distinguished by the letter A, and the other by the letter B; and the nature of the indication represented by the deflexion of the needle towards A or towards B will be ascertained from the following experiment. A voltaic battery being formed by means of a silver coin and a copper coin, having a piece of blotting paper moistened with saliva between them: when the copper touches the small ball, and the wire which usually communicates with the earth is made to touch the silver, the needle turns towards A; when the silver touches the small ball, and the wire is made to touch the copper, the needle turns towards B.

PERSONAL ESTABLISHMENT.

Four persons were regularly employed in the Magnetical and Meteorological Observations during the year 1847. These persons were—

Mr. James Glaisher, Superintendant.
Mr. Charles Dilkes Lovelace.
Mr. Thomas Downs.
Mr. George Humphreys.

Mr. Hugh Breen, who in preceding years was attached to this department, was in February transferred to the Astronomical Department of the Observatory.

The order of observation is arranged every week, and usually proceeds on the principle of an equal division of observations among the three junior assistants; excepting that at times Mr. Glaisher has taken a complete day's observations. At all times, in cases of illness, or of absence of one person, the observations are equally divided between the three remaining assistants. Denoting the three assistants by A, B, C, the work of three complete days will be thus disposed—

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

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

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

ADDENDUM TO THE INTRODUCTION.

DESCRIPTION OF THE PHOTOGRAPHIC SELF-REGISTERING APPARATUS.

The system of self-registration of the principal Magnetical and Meteorological Instruments by photographic traces having been partially brought into operation in the year 1847, and being nearly perfected at the time of publishing the volume, the present opportunity appears an appropriate one for describing the photographic self-registering apparatus now in constant use at the Royal Observatory.

The general principle adopted for all the instruments is the same. The photographic paper is wrapped round a glass cylinder, and the axis of the cylinder is made parallel to the direction of the movement which is to be registered. The cylinder is turned by clockwork, with uniform velocity. The spot of light (for the magnets and barometer) or the boundary of the line of light (for the thermometers) moves, with the movements which are to be registered, backwards and forwards in the direction of the axis of the cylinder, while the cylinder itself is turned round. Consequently, when the paper is unwrapped from its cylindrical form, there is traced upon it a curve, of which the abscissa measured in the direction of a line surrounding the cylinder is proportional to the time, while the ordinate measured in the direction parallel to the axis of the cylinder is proportional to the movement which is the subject of measure.

In the instruments for registering the motions of the magnets and barometer, a line of abscissæ is actually traced on the paper, by a lamp giving a spot of light in an invariable position, under which the cylinder of paper is turned. For the thermometers this is not necessary, as the thermometer-scales are made to carry and to transfer to the photographic paper sufficient indications of the actual reading of the thermometers.

In all the instruments, the following method is used for attaching to the sheet of photographic paper indications of the time when certain parts of the photographic trace were actually made, and giving the means of laying down a time-scale applicable to every part of the trace. By means of a small moveable plate, arranged expressly for this purpose, the light which makes the trace can at any moment be completely cut off. An assistant, therefore, occasionally cuts off the light (registering in the proper book the clock-time of doing so), and after a few minutes withdraws the plate (again registering the time). The effect of

this is to make a visible interruption in the trace, corresponding to registered times. Sometimes after once cutting off the light, and allowing it again to fall on, the same operation is repeated, and the effect of this is to leave a small isolated spot in the photographic trace, with interruptions on both sides. In either case, by drawing lines from these points parallel to the axis of the cylinder, to meet the photographic line of abscissæ, or an adopted line of abscissæ parallel to it, points are defined upon the line of abscissæ corresponding to registered times. The whole length of the photographic sheet (except where one end, in the cylindrical arrangement, laps over the other) corresponds to the known time of revolution of the cylinder. A scale being prepared beforehand, whose value for the time of revolution corresponds to the circumference of the cylinder, and the scale-reading for the registered time of interruption of light being applied to the foot of the ordinate corresponding to that interruption, the divisions of hours and minutes may be transferred at once from the scale to the line of abscissæ. In practice it is found that the length of the paper is not always the same, and it is necessary, therefore, to use a scale (a separate one for each separate instrument) which will admit of small expansion and contraction, preserving the proportion of its different parts unaltered. A scale of vulcanized caoutchouc, mounted on a small frame in which one end of the scale is fixed while the other is drawn by a screw, is found to answer extremely well.

For the magnets and the barometer, the values of the registered movements in the direction of the ordinate are deduced from a geometrical calculation founded on the measures of different parts of the apparatus. In each case a zero of the movement-scale is found in the following manner. The time-scale having been laid down as is already described, and actual observations of the position of the magnet or barometer having been made with the eye and the telescope in the ancient manner at certain registered times, there is no difficulty in defining the points of the photographic trace which correspond to those observed positions. A small scale of pasteboard, on which the calculated values of registered movements are laid down, being applied as an ordinate to one of these points of the photographic trace, and being slid endways till the reading actually taken by the eye-observation, as written upon the scale, falls on that photographic point, the reading corresponding to the line of abscissæ is immediately found. The various readings given by different observations may be combined in any way, and thus an adopted reading for the line of abscissæ may be obtained. From this, with the assistance of the same pasteboard-scale, there will be laid down without difficulty a line representing some whole number of degrees, or other convenient quantity.

I now proceed with the details of the separate instruments.

The first instrument is used for the photographic record of the Declination Magnet and

the Horizontal Force Magnet. In the actual positions of these two magnets it was found that the line drawn from the suspending skein of the declination-magnet to the center of the two suspending lines of the bifilar or horizontal-force magnet passed through the internal projection of the south-eastern re-entering angle of the building, but by so small a quantity that I judged it best to plant the apparatus for registry of the two instruments close to that re-entering angle. The first thing to be described is the arrangement of glass cylinders. One glass cylinder with a hemispherical extremity (in all respects similar to those used as shades or protectors of small clocks, works of art, &c.), $11\frac{1}{2}$ inches long in its cylindrical part, and $14\frac{1}{2}$ in circumference, is covered internally with a black pigment, and is stopped at the open end by insertion in a metallic cap, in the center of which is a short spindle and winch-arm. Round this cylinder the photographic paper is wrapped, and the moistened size on the photographic paper agglutinates their overlapping ends with sufficient firmness. The cylinder and mounted paper are then covered by another glass cylinder with hemispherical end, whose open end is fixed, by friction, on the rim of the metallic cap to which the inner cylinder is attached, a collar of tape being inserted between. In this state the cylinders are placed in their working-mounting; the short spindle in the cap, and the large cylinder near its hemispherical end, rest upon friction-rollers, the axis of the cylinder being horizontal. The winch-arm is lodged in a fork at the end of the hour-hand of a timepiece, which is made for the purpose, not exceeding in size an ordinary box-chronometer, but with very strong wheels and powerful spring, and with duplex escapement. In order to avoid the ordinary shake of the hour hand of a clock, due to the play of the motion-wheels under the dial, the hour hand is placed upon the central axis, and the second wheel, which is usually placed in the center and carries the minute hand, is placed on one side. The cylinder is thus made to turn in twelve hours. Each of the magnets whose movements are registered by it therefore makes a trace which passes over the whole length of the paper round the cylinder in twelve hours; and when the movements of the magnet are much disturbed it is necessary to change the photographic sheet every twelve hours. In ordinary cases, however, no confusion or doubt is introduced by allowing two traces of each instrument to be made upon one sheet, and therefore in general the sheet is changed only once in twenty-four hours.

In the following remarks I shall (for convenience of language) speak only of the declination-magnet, although the same words will generally apply to the bifilar-magnet.

The light by which the trace is made originates in a camphine lamp, placed slightly out of the direction of a straight line drawn from the suspension skein of the magnet to the center of the photographic sheet. Before the flame of the lamp is placed a small aperture, about $0^{in}\cdot3$ high and $0^{in}\cdot01$ broad. This aperture is independent of the lamp, and therefore is not disturbed by the change of lamps. The light from the aperture falls upon a concave

mirror of speculum-metal, 5 inches in diameter, and about 26 inches from the aperture. This mirror is carried by a part of the suspension-apparatus of the magnet, which, although it has a small movement of adjustment relative to the magnet-carrier, is in practice very firmly clamped to it, so that the mirror receives all the angular movements of the magnet. By the concave mirror, the light diverging from the aperture is made to converge to a place nearly on the surface of the cylinder of photographic paper, whose distance from the mirror is about 11·8 feet. The form of the aperture, however, and the astigmatism caused by the inclined reflexion from the mirror, produce this effect, that the image is somewhat elongated in the vertical direction, and is at the same time slightly curved. To diminish the length there is placed near the cylinder a plano-convex cylindrical lens of glass, with its axis horizontal, and the image is thus reduced to a neat spot of light.

The arrangements for the horizontal-force-magnet are in every respect the same, except that the diameter of the mirror is 4 inches, its distance from its camphine lamp is about 22 inches, and its distance from the cylinder about 10·6 feet. The spot of light from the declination-magnet is received on the south side of the cylinder, and that from the horizontal-force-magnet on the north side, or nearly half a revolution from the other. Thus two independent time-scales are necessary, differing nearly six hours in their zeros. To prevent confusion from the intermixture of the traces of the two instruments the declination-spot is received on the cylinder near its west end, and the horizontal-force-spot near its east end.

Every part of the cylinder-apparatus except that on which the spot of light falls is covered with a double case of blackened zinc, having a slit on each side in the same horizontal plane as the axis of the cylinder; and every part of the path of the photographic light is protected by blackened zinc tubes from the admixture of extraneous light.

On the north side of the cylinder, and about 6 inches from it, is placed a third camphine lamp, shining through a small fixed aperture, from which the light falls upon a small cylindrical lens, by which a very delicate and well-defined photographic trace is marked upon the paper, in a fixed position. This is the photographic base-line, or line of abscissæ.

The second instrument is used for the photographic record of the movements of the Vertical Force Magnet and the Barometer. The arrangements of the vertical-force-magnet are the following. A single brass frame carries near its extremities the two steel knife edges which rest upon agate plates; and between them it has a rectangular hole through which the magnet passes, and has also the clips for carrying a concave mirror of speculum-metal, 4 inches in diameter, with its face at right angles to the length of the magnet. The space in which the magnet oscillates is separated by a thin partition from the space through

which the light passes, in order to protect the magnet from the effects of any possible currents of air. At the distance of about 22 inches from the mirror is the horizontal aperture, about $0^{in}\cdot3$ in length and $0^{in}\cdot01$ in breadth, carried by the same block which carries the agate plates. The camphine lamp which shines through this aperture was originally carried by the same block; but the numerous disturbances shewn in the photographic trace at the times of changing the lamp suggested the propriety of supporting it upon a different foundation; and since 1849, February, it has been carried by another wooden pier, at such a form as to admit of the lamp being placed very nearly in contact with the aperture-plate. The light reflected from the mirror passes through a cylindrical lens with its axis vertical, very near to the cylinder carrying the photographic paper, and finally forms a well-defined spot of light on the cylinder of paper, at the distance of 8·3 feet from the mirror. As the movements of the magnet are vertical, the axis of the cylinder is vertical. The cylinder is about $15\frac{1}{2}$ inches in circumference, or somewhat larger than that used for the declination and horizontal-force magnets. The forms of the exterior and interior cylinders, and the method of mounting the paper, are in all respects the same as for the declination and horizontal-force magnets; but the cylinder is supported by being merely planted upon a circular horizontal plate (its position being defined by fitting a central hole in the metallic cap of the cylinder upon a central pin in the plate), which is turned by watchwork once in twelve hours. The trace of the vertical-force-magnet is on the west side of the cylinder.

On the east side the cylinder receives the trace produced by the barometer. North of this point, at the distance of about 30 inches, is a large syphon barometer, the bore of the upper and lower extremities of its arms being about 1·1 inch. A glass float in the quicksilver of the lower extremity is partially supported by a counterpoise acting on a light lever (which turns on delicate pivots), so that the wire supporting the float is constantly stretched, leaving a definite part of the weight of the float to be supported by the quicksilver. This lever is lengthened to carry a vertical plate of opaque mica with a small aperture, whose distance from the fulcrum is eight times the distance of the point of attachment of the float-wire, and whose movement, therefore, is four times the movement of the column of a cistern barometer. Through this hole the light of a camphine lamp, collected by a cylindrical lens, shines upon the photographic paper.

Another pencil of light from the same lamp shines through a fixed aperture with a small cylindrical lens, for tracing a photographic base-line upon the cylinder of paper, similar to that for the cylinder of the declination and horizontal-force magnets.

The third instrument is for the register of the dry-bulb and wet-bulb thermometers. These thermometers are mounted under a shed 10 feet square, standing upon posts 9 feet high, about 40 feet South of the Magnetic Observatory, and the centers of the bulbs are 4

feet above the ground. The bulbs of the thermometers are very large, being cylinders about 8 inches long and $0^{in}\cdot4$ internal bore. The fluid is quicksilver. One of the thermometer bulbs is covered (in the usual way) with muslin, which is charged with water by capillary passage along lampwicks connected sometimes with one and sometimes with three cisterns of water. There is a coarse screw motion for raising or depressing the thermometer-frames, so that each can be placed in such a position with regard to the photographic paper that the temperature shewn by the thermometers may be recorded upon a convenient part of the paper. The thermometer-frames are covered by plates having longitudinal apertures, so narrow that any light which may pass through them is completely or almost completely intercepted by the broad flat column of quicksilver in the thermometer-stalk. Across these plates a fine wire is placed at every degree; and at the decades of the degrees, and also at 32°, 52°, and 72°, a coarser wire is placed. A camphine lamp is placed near to each thermometer, and its light, condensed by a cylindrical lens whose axis is vertical, shines through the thermometer-stalk above the surface of the quicksilver, and forms a well-defined line of light upon the cylinder of paper which is close to it, parallel to the axis of the cylinder. As the cylinder of paper revolves under this light, it leaves a broad sheet of photographic trace, whose breadth (in the direction of the axis) varies with the varying height of the quicksilver in the thermometer-tube. But the light is intercepted by the wires placed across the tube at every degree, and there are, therefore, left upon the paper corresponding lines in which there is no photogenic action.

As no interference could be permitted, either of the trace of one thermometer with that of the other, or of the traces of the same thermometer at different hours of the day, it is necessary that the cylinder revolve but once in forty-eight hours. No photographic base-line is required, as the degrees are recorded on the photographic sheet, by the shadows of the wires.

The length of this cylinder is nearly the same as that of the others, but its circumference is about 19 inches.

The preceding remarks will probably be sufficient to enable the reader to understand every part of the diagrams of Plates I., II., and III. These are careful copies of actual specimens, the only departure from exactness being that in Plates I. and II. the lithographer has separated the traces of the two instruments more widely than in the original (without altering their forms), so that the concluded reading of the photographic base-line is, for one instrument in each plate, not the same quantity as in the original sheet.

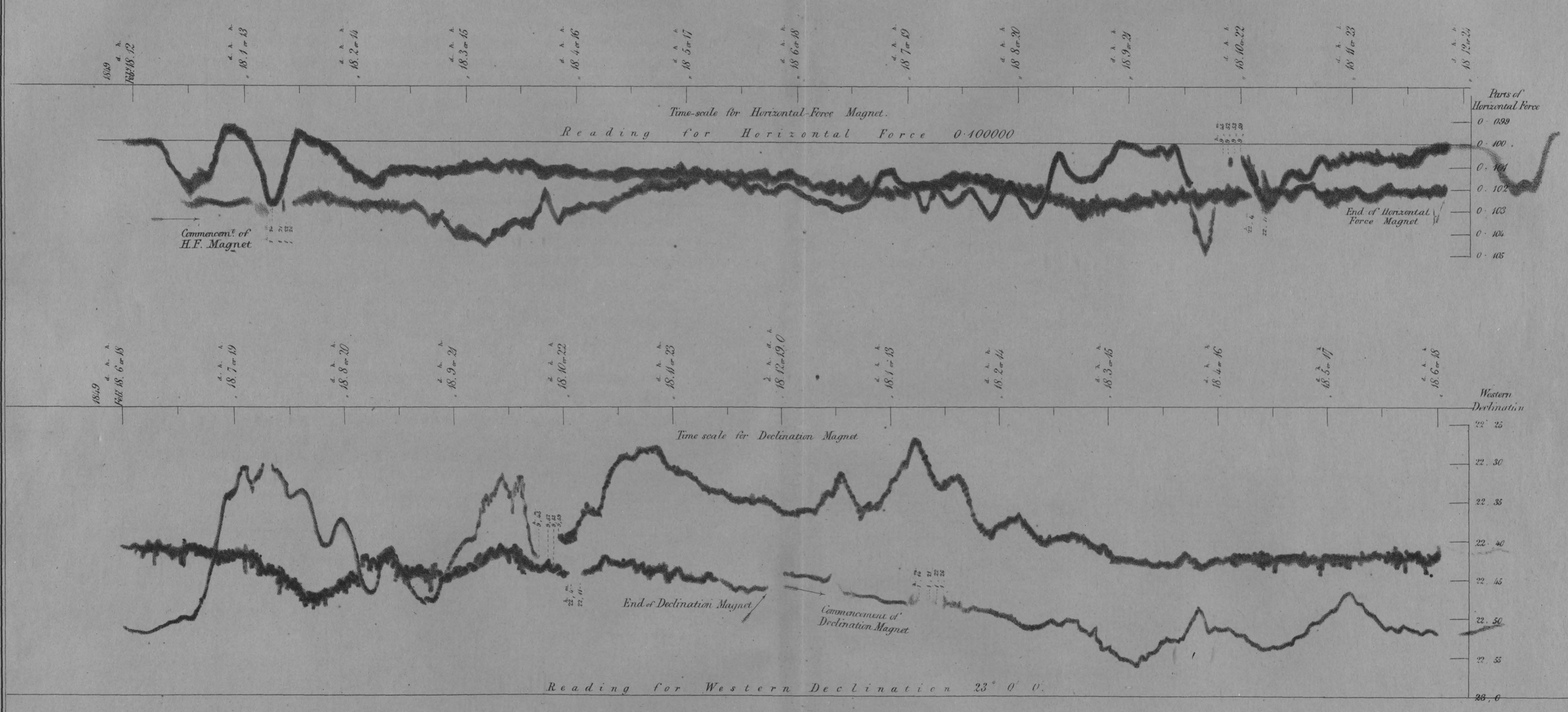
It now remains only to describe the chemical preparation and treatment of the Photographic Paper.

The paper used for this purpose is manufactured expressly by Messrs. Lepard Smith

Plate 1.

Photographic Record of the movements of the Declination Magnet and the Horizontal Force Magnet at the Royal Observatory, Greenwich. from 1849 Feb.y 18. 0.h to Feb.y 19. 0.h.

Göttingen Mean Solar Time.



Value of Base line Reading for Declination Magnet = 23° 18′ 50″

Value of Base line Reading for Horizontal Force Magnet = 0 · 127793 in the original

or = 0 13118 in the Lithograph (in which the indications of the two Instruments have been further separated)

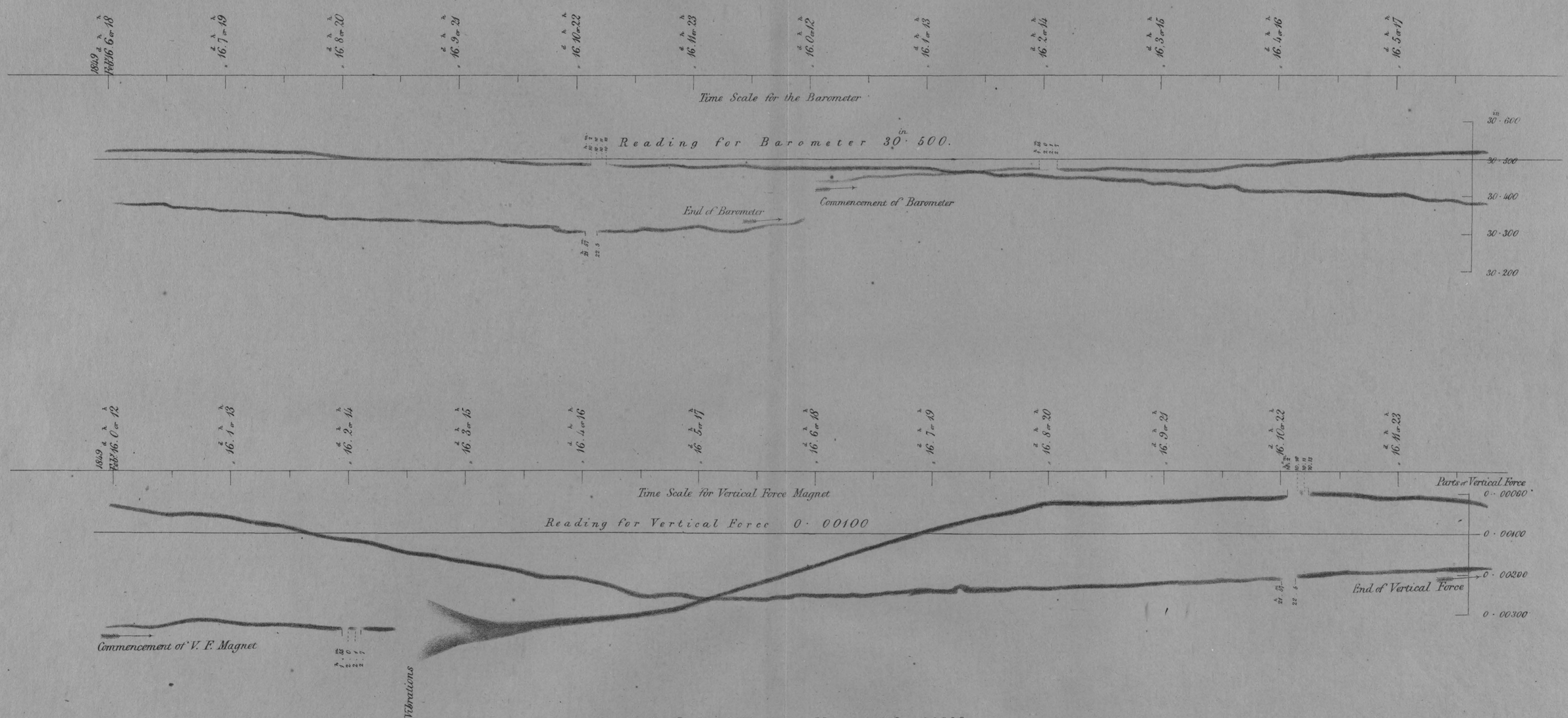
Photographic Base-line

Standidge & Co.e Lithe. 36, Old Jewry.

Plate 2.

Photographic Record of the movements of the Vertical Force Magnet and the Barometer at the Royal Observatory, Greenwich, from 1849 Feb.ʸ 16. 0ʰ to Feb.ʸ 17. 0ʰ.

Göttingen Mean Solar Time.



Value of Base-line Reading for Vertical Force Magnet = 0·00599.

Value of Base-line Reading for Barometer = 29·290 in. in the original

or = 28·875 in the Lithograph (in which the indications of the two Instruments have been further separated.)

Photographic Base-line.

Standidge & Cº Litho. 36, Old Jewry.

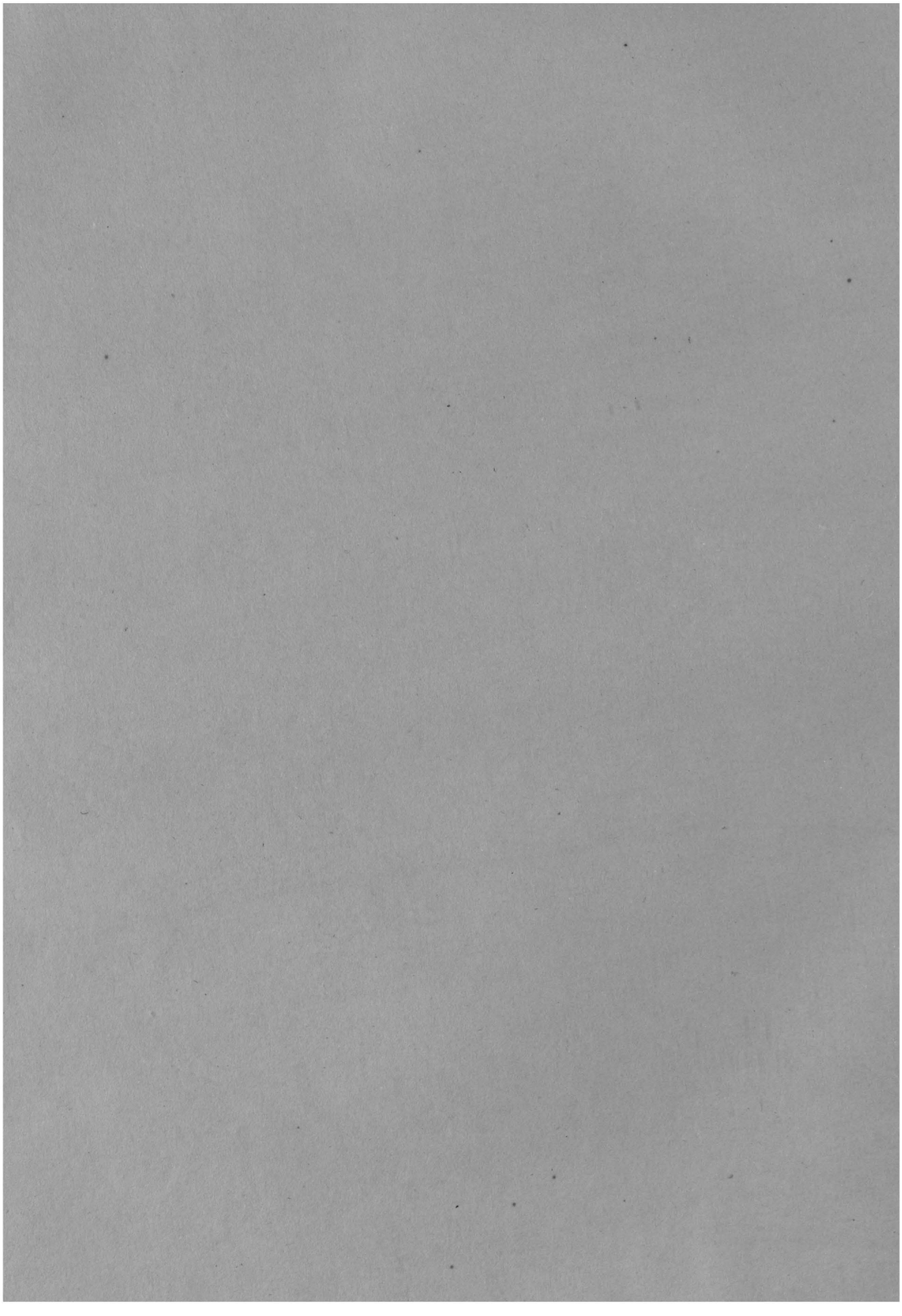
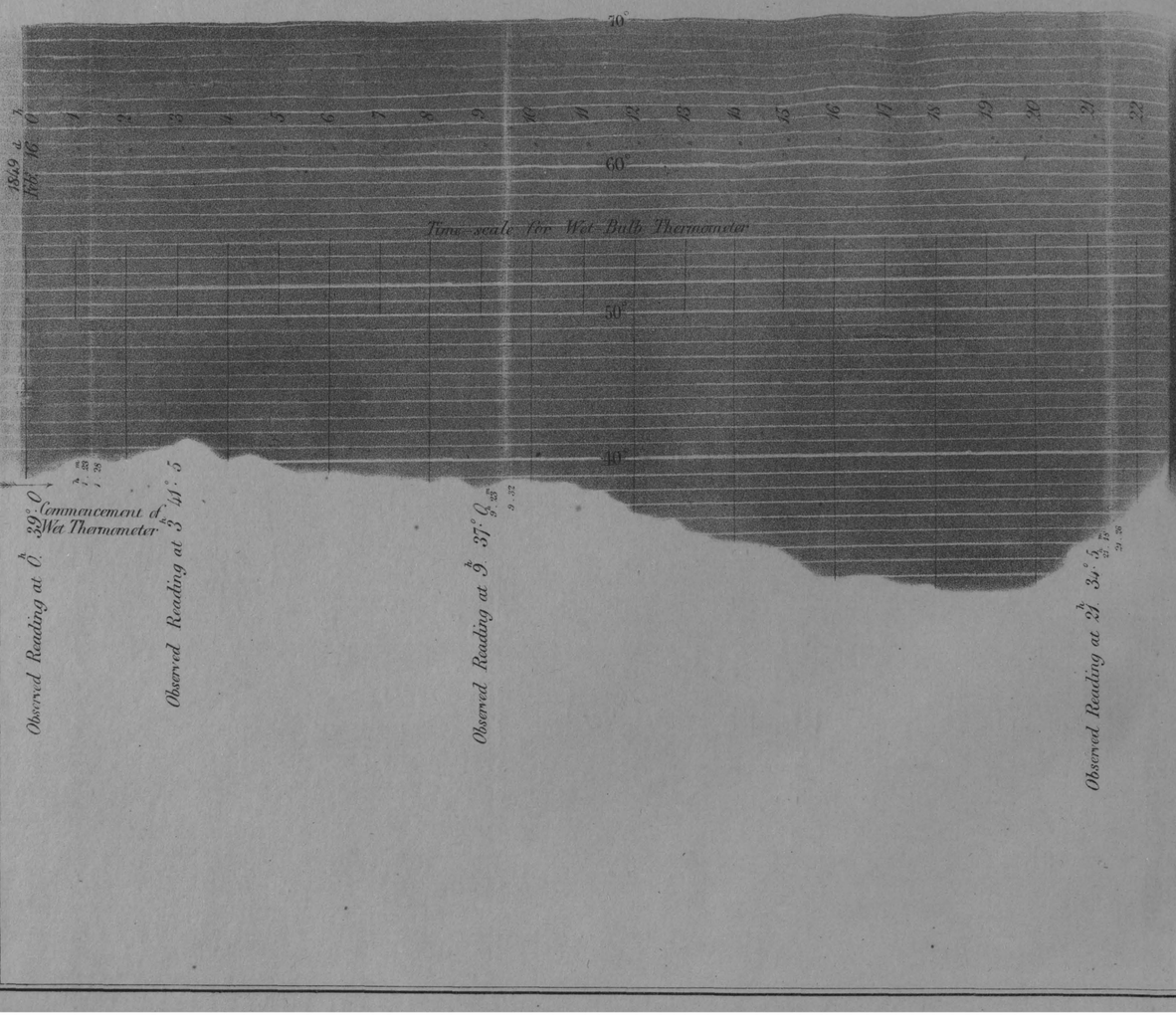
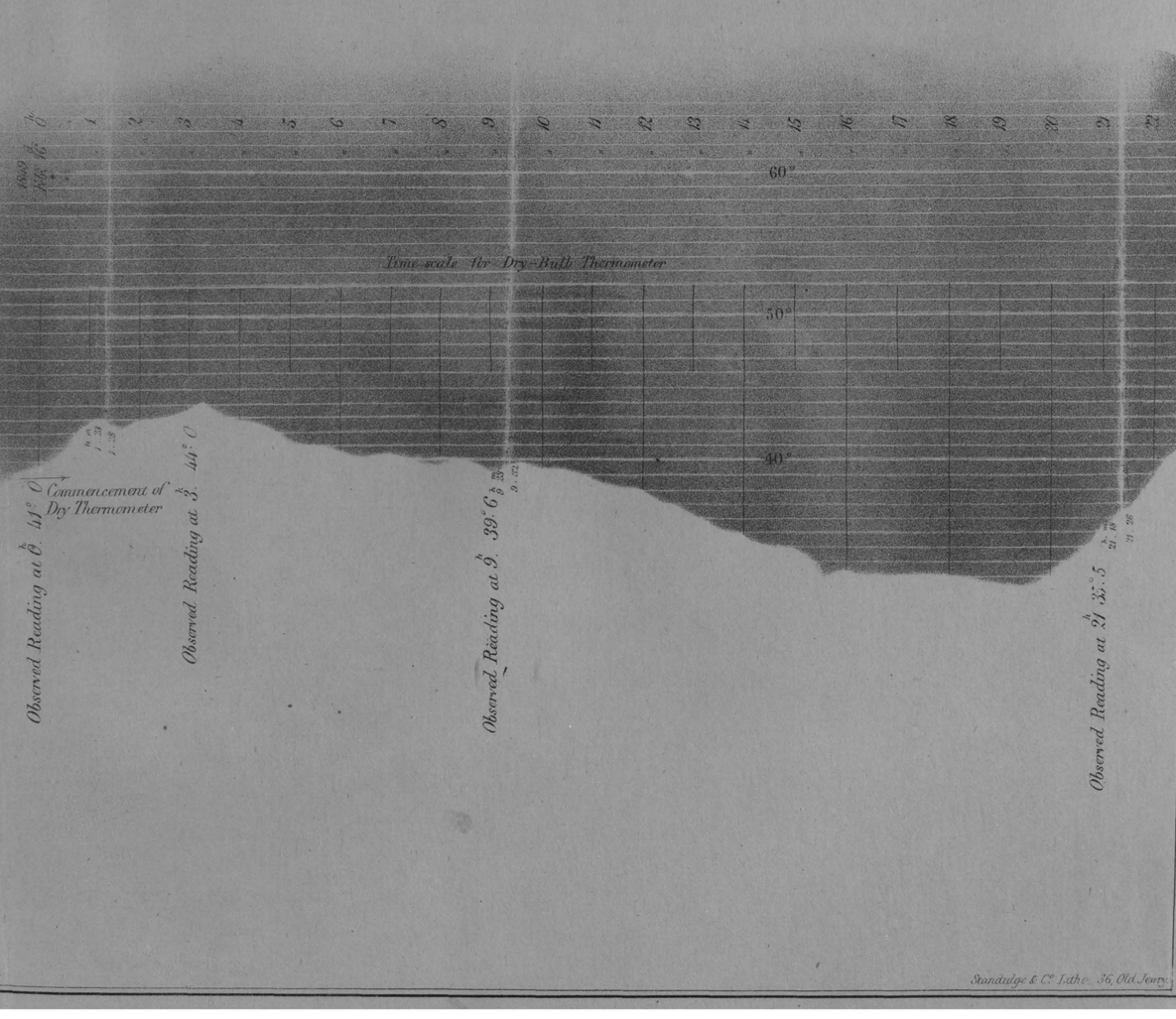


Plate 3.

Photographic Record of the changes of the Wet-Bulb Thermometer and Dry-Bulb Thermometer at the Royal Observatory, Greenwich, from 1849 Febr.y 15.23h to Febr.y 16.23h.

Greenwich Mean Solar Time.





Standidge & Co. Lithrs. 36, Old Jewry.

and Co., of James Street, Covent Garden. It is rather strong woven paper of even texture, and is prepared with great attention to the exclusion of all foreign substances which might combine injuriously with the chemical materials used in the subsequent treatment.

A sufficient quantity of paper for the consumption of three or four weeks is treated in the following manner.

To a filtered solution of 4 grains of isinglass in one fluid ounce of boiling distilled water are added 12 grains of bromide of potassium and 8 grains of iodide of potassium. The solution, either when hot or cold, is evenly laid upon the paper, with a camel's hair-brush, in such quantity as to thoroughly wet its surface, but not to run off; the paper is then dried quickly before the fire.

The paper thus treated is preserved by keeping it in a dry place, and in a drawer.

When a cylinder is to be charged with photographic paper, the room is darkened, and illuminated only by a candle whose flame is surrounded by a cylinder of yellow glass. The paper is laid flat in an earthenware dish, and is washed with an aqueous solution of nitrate of silver (made by dissolving 50 grains of crystallized nitrate of silver in one fluid ounce of distilled water), which is laid on in quantity not sufficient to run. The paper is then in a state fit to be placed upon the cylinder.

When the paper is to be taken off the cylinder, the room is illuminated in the same way, the cylinder is detached from its mounting, the external cylinder is drawn off, and the paper is unfolded and laid flat in a dish. In this state it exhibits no trace of the action of the light. It is then washed with a solution of gallic acid, to which a few drops of acetic acid are added, till it is moderately wet all over; the impression begins soon to appear, and in a few minutes acquires its full strength. The paper is then repeatedly washed with water till the water runs off quite clear. Solution of hyposulphite of soda (formed by dissolving one dram of the hyposulphite in five ounces of distilled water) is then poured upon it, and water is added in considerable quantity; after this has remained about five minutes, the paper is washed repeatedly with water. The trace is then securely fixed, and light may be admitted into the room. The sheets are then usually preserved for gradual drying within the folds of linen towels.

The whole of this process, mechanical and chemical, has been arranged by Charles Brooke, Esq.

The quantity of chemical substances applied in these preparations may be judged from the following statement.

Three sheets of photographic paper are employed every day, including in the whole about 440 square inches.

The amount of chemical substances consumed in three months is nearly as follows:

Crystallized Nitrate of Silver	8 ounces
Gallic Acid	3 ,,
Acetic Acid	2 ,,
Hyposulphite of Soda	16 ,,
Bromide of Potassium	2 ,,
Iodide of Potassium	1 ,,
Naphtha (used in the spirit-lamp employed for boiling the solutions)	½ pint
Distilled Water	4 gallons
Isinglass	a small quantity.

Two gallons of camphine are consumed every week in the lamps; and this is the principal part of the current expense of the apparatus.

Mr. Brooke has found that the light of ordinary coal-gas charged with the vapour of coal-naphtha produces as strong a photographic effect as the light of camphine; and preparations are now in progress for introducing gas to the Royal Observatory, to be employed in this manner.

[1849. August. The gas has been introduced, and, with the vapour of coal-naphtha, is now successfully used for the photographic operations.]

END OF THE INTRODUCTION.

The volume of Greenwich Magnetical and Meteorological Observations now published is the last which will appear in a separate form. In conformity with a Resolution of the Board of Visitors of the Royal Observatory, passed at the Visitation of the Observatory on 1849, June 2, the system of Photographic Self-registration will be maintained, and the Registers, with everything necessary for their numerical interpretation, will be carefully preserved; but only those results which may probably be compared with results obtained at other places, or those which for any other reason possess peculiar or immediate interest, will be published in an Appendix to the Volume of Astronomical Observations.

G. B. AIRY.

ROYAL OBSERVATORY, GREENWICH,
1849, *July* 26.

ROYAL OBSERVATORY, GREENWICH.

DAILY OBSERVATIONS

OF

MAGNETOMETERS.

1847.

Daily Observations from January 0 to 23.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Jan. 0. 14. 0	22. 46. 40	...	..	...	..	L	Jan. 13. 22. 0	22. 46. 15	...	..	...	..	G H
16. 0	46. 40	...	..	...	..								
18. 0	46. 7	...	..	...	..		Jan. 14. 0. 0	22. 52. 21	...	..	...	..	G H
20. 0	45. 40	...	..	...	..	L	2. 0	50. 13	...	..	...	..	G H
22. 0	46. 55	...	..	...	..	G H	8. 0	46. 48	...	..	...	..	H B
							22. 0	45. 52	...	..	...	..	G H
Jan. 2. 0. 0	22. 49. 39	...	..	...	..	G H							
2. 0	51. 21	...	..	...	..		Jan. 15. 0. 0	22. 50. 15	...	..	...	..	H B
							2. 0	50. 37	...	..	...	..	L
Jan. 3. 22. 0	22. 46. 39	...	..	...	..	G H	8. 0	46. 58	...	..	...	..	G H
							22. 0	45. 50	...	..	...	..	
Jan. 4. 0. 0	22. 49. 0	...	..	...	..	G H							
2. 0	49. 57	...	..	...	..		Jan. 16. 0. 0	22. 49. 44	0 ·025535	33 ·0	...	..	G H
22. 0	48. 1	...	..	...	..		2. 0	51. 39	027945	34 ·8	...	..	T D
							8. 0	50. 14	027616	38 ·6	...	..	T D
Jan. 5. 0. 0	22. 49. 11	...	..	...	..	G H							
2. 0	51. 41	...	..	...	..		Jan. 17. 22. 0	22. 46. 17	0 ·027741	35 ·0	...	..	G H
22. 0	46. 14	...	..	...	..								
							Jan. 18. 0. 0	22. 46. 27	0 ·026907	33 ·0	...	..	G H
Jan. 6. 0. 0	22. 48. 26	...	..	...	..	G H	2. 0	48. 52	027860	33 ·8	...	..	T D
22. 0	46. 40	...	..	...	..		22. 0	46. 19	025604	33 ·3	...	..	G H
Jan. 7. 0. 0	22. 48. 7	...	..	...	..	G H	Jan. 19. 0. 0	22. 48. 18	0 ·026148	34 ·5	...	..	G H
2. 0	49. 34	...	..	...	..	G H	2. 0	47. 53	027052	36 ·0	...	..	
22. 0	47. 51	...	..	...	..	H B	8. 0	46. 26	026583	38 ·2	...	..	
							22. 0	47. 10	026891	34 ·9	...	..	
Jan. 8. 0. 0	22. 48. 9	...	..	...	..	H B							
2. 0	49. 17	...	..	...	..	H B	Jan. 20. 0. 0	22. 51. 19	0 ·026744	35 ·0	...	..	G H
22. 0	46. 39	...	..	...	..	T D	2. 0	52. 54	027605	38 ·0	...	..	G H
							8. 0	46. 48	026149	39 ·5	...	..	H B
Jan. 9. 0. 0	22. 49. 3	...	..	...	..	T D	22. 0	47. 58	025963	35 ·7	...	..	
2. 0	48. 48	...	..	...	..	T D							
							Jan. 21. 0. 0	22. 51. 1	0 ·025565	38 ·2	...	..	H B
Jan. 11. 0. 0	22. 51. 9	...	..	...	..	G H	2. 0	48. 50	025625	41 ·0	...	..	T D
2. 0	50. 18	...	..	...	..		8. 0	44. 14	024528	42 ·5	...	..	H B
8. 0	47. 34	...	..	...	..	G H	22. 0	47. 39	025790	38 ·0	...	..	T D
22. 0	45. 38	...	..	...	..	H B							
							Jan. 22. 0. 0	22. 51. 44	0 ·025015	38 ·0	...	..	G H
Jan. 12. 0. 0	22. 51. 25	...	..	...	..	G H	2. 0	50. 14	026171	39 ·5	...	..	G H
2. 0	55. 29	...	..	...	..	H B	8. 0	48. 30	025403	41 ·0	...	..	T D
8. 0	49. 44	...	..	...	..	L	22. 0	48. 9	026519	37 ·0	...	..	G H
22. 0	49. 10	...	..	...	..	G H							
							Jan. 23. 0. 0	22. 50. 14	0 ·027428	37 ·0	...	..	G H
Jan. 13. 0. 0	22. 51. 0	...	..	...	..	G H	2. 0	47. 39	027605	36 ·0	...	..	
2. 0	51. 16	...	..	...	..	H B	8. 0	46. 15	026805	42 ·0	...	..	G H
8. 0	45. 51	...	..	...	..	T 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

The day referred to in the foot-notes is always to be understood as that of Civil Reckoning, unless the time of the observation be mentioned, and then it is referred to Astronomical Reckoning.

During part of the month of January experiments were made to determine the effect of Temperature on the Horizontal and Vertical Force Magnets, and during this time a few observations daily were taken of the position of the Declination Magnet only.

Daily Observations from January 24 to 30.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Jan. 24. 14. 0	22. 46. 44	0·026953	41·0	...	..	L	Jan. 27. 14. 0	22. 37. 54	0·023570	50·2	...	..	G H
16. 0	45. 39	026732	41·0	...	..		16. 0	37. 46	023525	50·4	...	..	
18. 0	46. 34	026554	41·0	...	..		18. 0	36. 57	023547	51·0	...	..	
20. 0	46. 34	026447	41·5	...	..	L	20. 0	36. 37	023193	51·0	...	..	G H
22. 0	48. 38	025310	42·8	...	..	H B	22. 0	37. 21	023924	51·0	...	..	T D
Jan. 25. 0. 0	22. 51. 7	0·024693	43·5	...	..	G H	Jan. 28. 0. 0	22. 35. 54	0·023150	50·0	...	..	T D
1. 50	48. 47	025920		...	..		1. 50	37. 9	022888		...	..	
2. 0	48. 20	025720	44·5	...	..		2. 0	37. 26	022888	49·5	...	..	
2. 10	48. 4	025322		...	..	G H	2. 10	37. 26	022888		...	..	T D
4. 0	47. 33	024453	46·4	...	..	L	4. 0	36. 52	022557	49·0	...	..	G H
6. 0	47. 9	024470	47·2	...	..		6. 0	34. 14	023020	49·2	...	..	
8. 0	46. 16	024554	48·0	...	..	L	8. 0	32. 32	023375	49·0	...	..	
10. 0	46. 3	024640	48·4	...	..	H B	10. 0	31. 19	023674	49·1	...	..	G H
12. 0	46. 36	023668	48·0	...	..	T D	12. 0	30. 36	023243	48·8	...	..	L
14. 0	46. 41	023868	47·8	...	..		14. 0	29. 2	023062	47·5	...	..	
16. 0	46. 37	024781	47·0	...	..		16. 0	27. 56	023219		...	..	
18. 0	46. 22	025960	46·2	...	..		18. 0	34. 10	023479	44·0	...	..	
20. 0	46. 39	025187	46·0	...	..	T D	20. 0	39. 9	024046	43·0	...	..	L
22. 0	47. 35	024873	46·4	...	..	H B	22. 0	41. 49	024586	44·0	...	..	T D
Jan. 26. 0. 0	22. 48. 44	0·024227	47·0	...	..	G H	Jan. 29. 0. 0	22. 44. 29	0·024267	44·8	...	..	T D
1. 50	45. 38	024230		...	..	H B	1. 50	45. 46	023491		...	..	
2. 0	45. 7	024275	48·3	...	..		2. 0	45. 6	023425	46·3	...	..	
2. 10	44. 48	024253		...	..	H B	2. 10	44. 22	023270		...	..	T D
4. 0	40. 2	023995	49·0	...	..	T D	4. 0	35. 46	022685	47·5	...	..	L
6. 0	39. 57	024390	49·8	...	..		6. 0	35. 45	022782	48·0	...	..	
8. 0	40. 20	024438	49·0	...	..		8. 0	40. 40	022451	48·0	...	..	L
10. 0	41. 49	024762	48·3	...	..	T D	10. 0	32. 46	022183	46·5	...	..	T D
12. 0	37. 46	023290	48·2	...	..	H B	12. 0	26. 21	021467	46·0	...	..	
14. 0	39. 44	022983	47·8	...	..		14. 0	30. 51	021838	45·3	...	..	
16. 0	43. 2	024523	47·5	...	..		16. 0	34. 49	022247	43·4	...	..	
18. 0	44. 27	024891	47·0	...	..		18. 0	40. 2	022525	41·0	...	..	
20. 0	44. 19	024292	47·2	...	..	H B	20. 0	42. 5	023446	39·0	...	..	T D
22. 0	41. 42	023784	47·0	...	..	G H	22. 0	42. 5	024553	39·0	...	..	H B
Jan. 27. 0. 0	22. 40. 45	0·023120	47·0	...	..	G H	Jan. 30. 0. 0	22. 42. 45	0·024577	39·5	...	..	H B
1. 50	41. 42	023364		...	..		1. 50	49. 38	025293		...	..	
2. 0	41. 58	023475	47·0	...	..		2. 0	49. 16	025182	41·6	...	..	
2. 10	42. 35	023563		...	..	G H	2. 10	49. 14	025116		...	..	H B
4. 0	42. 45	023159	48·0	...	..	H B	4. 0	50. 38	024834	42·0	...	..	T D
6. 0	41. 45	023554	48·6	...	..		6. 0	46. 5	024754	43·0	...	..	
8. 0	39. 18	023694	49·5	...	..		8. 0	46. 49	021807	45·0	...	..	T D
10. 0	36. 33	023859	50·0	...	..	H B	10. 0	39. 23	020234	46·5	...	..	L
12. 0	37. 58	023771	50·0	...	..	G H	12. 0	37. 36	020101	46·7	...	..	H B

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 97$; in Vertical Plane, $23^s 1$·.

DECLINATION MAGNET.
Jan. 28^d. Between 16^d and 18^h a considerable change occurred.
Jan. 29^d. Considerable changes occurred.
Jan. 30^d, between 0^h and $1^h.\ 50^m$, and between 8^h and 10^h, considerable changes occurred.

HORIZONTAL FORCE MAGNET.
Jan. 30^d. Between 6^h and 8^h a considerable change occurred.

Daily Observations from January 31 to February 6.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Jan. 31. 14. 0	22. 42. 54	0·021803	37·5	0·055949	39·0	H B	Feb. 3. 14. 0	22. 45. 36	0·026318	41·3	0·055777	43·0	T D
16. 0	38. 41	022804	36·8	055990	37·8		16. 0	44. 51	027551	41·0	055734	42·5	
18. 0	44. 53	024372	36·5	056501	37·5		18. 0	45. 26	027100	40·2	055984	42·0	
20. 0	47. 29	024146	36·2	056702	37·3	H B	20. 0	47. 4	027037	40·0	056176	42·0	T D
22. 0	49. 23	025834	36·0	057093	38·0	G H	22. 0	46. 40	026207	41·3	056223	42·8	H B
Feb. 1. 0. 0	22. 49. 18	0·025834	36·0	0·057089	39·0	G H	Feb. 4. 0. 0	22. 47. 50	0·025245	41·2	0·056197	42·5	H B
1. 50	49. 4	027029		057200			1. 50	49. 39	026270		056125		
2. 0	49. 6	026918	37·0	057158	40·0		2. 0	49. 28	026181	41·5	056097	43·0	
2. 10	48. 38	026808		057158		G H	2. 10	48. 43	026225		056097		H B
4. 0	42. 31	025447	41·0	057206	42·3	H B	4. 0	46. 16	026340	42·0	056141	43·7	T D
6. 0	46. 5	025827	41·5	056661	42·7		6. 0	46. 30	026461	42·8	056022	44·7	
8. 0	45. 9	025192	41·8	056125	43·0		8. 0	46. 19	026702	43·0	055899	45·0	
10. 0	45. 21	024952	41·6	056111	43·0	H B	10. 0	45. 50	026038	43·0	055771	45·0	T D
12. 0	44. 43	025066	40·0	055908	41·5	T D	12. 0	45. 38	025928	43·0	055670	44·5	H B
14. 0	44. 52	025199	40·0	056269	42·0	G H	14. 0	45. 54	025812	41·8	055621	43·2	
16. 0	44. 54	025309	40·0	056340	42·0		16. 0	45. 55	025685	40·7	055825	42·3	
18. 0	45. 31	025642	40·0	056340	42·0		18. 0	45. 29	026101	38·5	055994	40·7	
20. 0	44. 15	025660	39·0	056496	42·0	G H	20. 0	43. 44	026736	37·2	056099	39·0	H B
22. 0	45. 33	024406	39·8	056214	41·2	T D	22. 0	45. 28	026271	37·2	056411	41·0	G H
Feb. 2. 0. 0	22. 49. 7	0·024246	40·0	0·056246	40·8	T D	Feb. 5. 0. 0	22. 47. 10	0·026011	38·0	0·056724	41·0	G H
1. 50	48. 30	025974		056446			1. 50	47. 25	027339		056530		
2. 0	48. 30	026018	40·0	056446	41·0		2. 0	47. 33	027295	38·0	056459	40·2	
2. 10	47. 57	025974		056375		T D	2. 10	47. 21	027229		056445		G H
4. 0	46. 8	026068	41·0	056297	42·0	G H	4. 0	46. 11	029516	40·0	056625	42·0	H B
6. 0	44. 31	026004	41·5	056249	43·5	G H	6. 0	45. 27	028864	41·3	056312	43·2	
8. 0	43. 58	025296	42·2	055577	43·0	L	8. 0	44. 57	027207	42·5	055954	43·5	
10. 0	44. 34	025586	42·0	055748	43·0	T D	10. 0	44. 5	027253	43·2	055956	45·0	H B
12. 0	45. 1	025542	42·0	055925	43·8	L	12. 0	44. 42	026832	43·2	055614	45·0	G H
14. 0	45. 1	025220	41·4	055791	42·5		14. 0	44. 27	026800	44·0	055560	45·5	
16. 0	45. 1	025218	40·2	055805	41·0		16. 0	43. 30	026623	44·0	055448	46·0	
18. 0	46. 3	026269	39·6	056072	41·5		18. 0	45. 11	026658	44·8	055306	46·0	
20. 0	44. 20	027431	39·0	056196	41·2	L	20. 0	43. 38	026962	45·4	055188	46·5	G H
22. 0	44. 3	026814	40·0	056193	41·5	T D	22. 0	51. 1	024346	46·0	055133	47·5	L
Feb. 3. 0. 0	22. 47. 52	0·025088	40·0	0·056126	41·6	T D	Feb. 6. 0. 0	22. 53. 43	0·025474	46·2	0·055044	47·6	L
1. 50	49. 21	025828		056215			1. 50	56. 39	024787		055359		
2. 0	48. 54	026050	40·8	056215	41·7		2. 0	57. 27	025186	47·7	055359	49·2	
2. 10	48. 33	026050		056215		T D	2. 10	59. 10	025186		055431		L
4. 0	48. 10	027000	41·5	056740	43·4	L	4. 0	53. 12	023884	49·0	055485	50·5	G H
6. 0	46. 5	026784	42·7	056070	44·2		6. 0	48. 13	025133	49·3	055209	51·0	
8. 0	45. 27	026442	42·6	055912	44·0	L	8. 0	44. 54	024654	51·0	055212	52·0	
10. 0	41. 17	026071	42·2	055785	44·2	G H	10. 0	35. 50	022241	51·4	054176	52·5	
12. 0	45. 0	026273	42·0	055783	44·0	T D	12. 0	42. 45	023071	50·7	054165	51·4	G 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.
Jan. 31^d. Between 16^h and 18^h a large change took place for the time of the day.
Feb. 1^d, between $2^h.\ 10^m$ and 4^h; Feb. 5^d, between 20^h and 22^h; and Feb. 6^d, between $2^h.\ 10^m$ and 12^h, considerable changes took place.

HORIZONTAL FORCE MAGNET.
Feb. 5^d, between $2^h.\ 10^m$ and 4^h, and between 20^h and 22^h, considerable changes occurred.
Feb. 6^d. Between 8^h and 10^h a considerable change occurred.

VERTICAL FORCE MAGNET.
Feb. 6^d. Between 8^h and 10^h a considerable change occurred.

Daily Observations from February 7 to 13.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Feb. 7. 14. 0	22. 43. 36	0·025153	33·2	0·056387	34·0	L
16. 0	42. 50	025387	32·0	056531	33·0	
18. 0	44. 58	025817	31·0	056992	32·0	
20. 0	46. 15	026257	30·4	057348	32·0	L
22. 0	46. 15	027886	30·0	057775	32·0	T D
Feb. 8. 0. 0	22. 47. 35	0·026360	31·7	0·057991	33·0	T D
1. 50	51. 43	027443		057920		
2. 0	51. 26	027443	31·4	057849	33·8	
2. 10	52. 8	027221		057849		T D
4. 0	48. 13	028740	33·2	057816	35·5	L
6. 0	46. 22	027408	35·0	057527	37·0	
8. 0	45. 44	026116	36·2	057235	38·0	
10. 0	39. 44	026188	36·0	056727	38·0	L
12. 0	43. 18	027827	36·0	056701	38·0	T D
14. 0	49. 9	026703	35·8	056307	37·7	
16. 0	43. 10	026123	35·5	056421	37·7	
18. 0	41. 30	026523	35·0	056367	37·3	
20. 0	43. 54	027143	35·0	056622	37·0	T D
22. 0	45. 53	025620	34·8	057089	36·3	H B
Feb. 9. 0. 0	22. 48. 55	0·025393	34·2	0·057237	35·7	H B
1. 50	52. 18	026090		057362		
2. 0	51. 44	026135	34·6	057348	36·4	
2. 10	51. 29	026201		057348		H B
4. 0	49. 30	027519	35·0	057527	37·0	G H
6. 0	45. 51	026651	35·2	057257	38·0	G H
8. 0	42. 56	026304	35·8	057286	38·5	L
10. 0	43. 10	025365	35·7	057162	38·4	L
12. 0	44. 27	026274	35·2	056923	37·3	H B
14. 0	42. 28	025988	34·7	056622	37·0	
16. 0	43. 10	025847	33·3	056931	35·7	
18. 0	43. 39	026246	32·5	057184	34·3	
20. 0	44. 43	027070	32·0	057424	33·5	H B
22. 0	45. 57	027088	32·5	057564	33·8	T D
Feb. 10. 0. 0	22. 48. 36	0·026421	33·0	0·057455	34·0	T D
1. 50	49. 38	026838		057572		
2. 0	50. 27	026838	34·8	057572	36·0	
2. 10	50. 39	026904		057572		T D
4. 0	47. 48	027163	35·5	057385	37·3	H B
6. 0	46. 29	026941	36·0	056945	38·3	
8. 0	46. 43	026852	36·5	056745	38·5	
10. 0	44. 38	026590	37·8	056792	39·7	H B
12. 0	45. 19	026365	37·0	056624	40·0	G H

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Feb. 10. 14. 0	22. 44. 26	0·027029	37·0	0·056695	40·0	G H
16. 0	44. 42	027162	36·0	056721	39·5	
18. 0	43. 50	027052	36·0	056661	39·0	
20. 0	44. 16	027874	39·0	056590	39·0	G H
22. 0	44. 22	026559	40·8	056411	38·5	T D
Feb. 11. 0. 0	22. 49. 2	0·026315	40 0	0·056077	38·3	T D
1. 50	52. 13	026124		056517		
2. 0	52. 27	026124	39·7	056517	41·0	
2. 10	51. 32	025991		056517		T D
4. 0	49. 18	026510	41·0	056453	43·0	G H
6. 0	46. 43	026742	41·1	056068	44·0	
8. 0	45. 24	027064	41·0	055819	43·5	
10. 0	44. 37	026732	41·0	055762	43·5	G H
12. 0	40. 15	026398	39·8	055686	42·7	T D
14. 0	41. 59	026391	37·3	055748	40·0	
16. 0	44. 23	026609	36·0	056106	39·0	
18. 0	44. 34	026770	34·0	056460	36·5	
20. 0	48. 25	027491	32 0	056814	34·0	T D
22. 0	45. 5	027031	30·4	057360	33·5	L
Feb. 12. 0. 0	22. 50. 12	0·026447	30·0	0·057649	33·0	G H
1. 50	52. 28	026866		057833		L
2. 0	52. 19	026866	32·5	057761	35·0	
2. 10	52. 19	026756		057655		L
4. 0	50. 49	026634	35·0	057171	37·0	T D
6. 0	45. 3	027384	36·5	057028	37·0	
8. 0	46. 40	026431	36·5	056388	37·0	
10. 0	44. 28	025790	36·0	056295	37·0	T D
12. 0	44. 39	026077	37·5	056630	38·0	L
14. 0	43. 56	025811	37·0	056641	37·5	
16. 0	45. 10	026277	36·0	056638	36·8	
18. 0	45. 10	026191	35·0	056686	35·6	
20. 0	45. 10	026329	33·5	056705	34·2	L
22. 0	45. 19	026657	34·5	057230	35·7	H B
Feb. 13. 0. 0	22. 47. 34	0·026438	34·0	0·057332	35·2	
1. 50	48. 16	026455		057438		
2. 0	48. 10	026477	34·2	057439	35·2	
2. 10	48. 2	026544		057474		H B
4. 0	46. 55	027076	35·0	057387	36·0	L
6. 0	45. 56	026676	36·0	057059	37·6	
8. 0	45. 25	026847	36·2	056801	37·0	
10. 0	44. 33	026676	36·0	056795	36·8	L
12. 0	44. 30	027255	34·5	056934	35·8	H B

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.
Feb. 8d. Between 8h and 16h the changes were considerable.
Feb. 12d. Between 4h and 6h a considerable change took place for the time of the day.

Daily Observations from February 14 to 20.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Feb. 14. 14. 0	22. 42. 59	0·026518	42·7	0·055740	43·5	H B
16. 0	43. 55	028457	43·5	055599	44·5	
18. 0	43. 34	028045	44·5	055453	45·5	
20. 0	44. 11	028281	45·3	055178	46·0	H B
22. 0	44. 57	027991	47·0	054786	47·0	G H
Feb. 15. 0. 0	22. 48. 38	0·027525	47·0	0·054563	47·5	G H
1. 50	47. 22	027822		054732		
2. 0	46. 35	027822	47·5	054696	48·0	
2. 10	46. 57	028043		054696		G H
4. 0	46. 1	027639	48·5	054800	49·5	H B
6. 0	45. 19	028009	50·5	054586	51·3	
8. 0	45. 31	027189	51·7	054755	52·3	
10. 0	40. 34	025406	51·8	054608	52·3	H B
12. 0	44. 46	027090	51·0	054465	52·0	G H
14. 0	45. 23	026693	50·0	054283	51·0	
16. 0	42. 37	027759	49·0	054511	51·0	
18. 0	42. 45	026652	49·0	054511	51·0	
20. 0	45. 20	026989	48·0	054487	50·0	G H
22. 0	51. 25	023864	46·7	054563	47·5	L
Feb. 16. 0. 0	22. 51. 31	0·025851	46·0	0·054962	46·8	L
1. 50	50. 7	027268		055282		
2. 0	50. 24	027999	46·0	055318	46·8	
2. 10	50. 24	027445		055339		L
4. 0	46. 58	026707	47·0	055577	48·5	G H
6. 0	42. 49	026936	46·0	055337	48·0	
8. 0	44. 20	026768	48·0	055008	48·5	
10. 0	42. 58	026874	49·0	054893	50·0	G H
12. 0	41. 51	026342	49·0	054365	49·5	L
14. 0	43. 41	025502	48·6	054423	49·5	
16. 0	44. 9	025545	49·0	054611	49·8	
18. 0	43. 18	026050	47·5	054710	48·0	
20. 0	43. 30	026567	46·5	054715	47·0	L
22. 0	45. 13	025548	48·4	055427	50·0	T D
Feb. 17. 0. 0	22. 48. 25	0·024682	48·8	0·055235	50·0	T D
1. 50	48. 14	025864		055106		
2. 0	48. 35	025931	49·5	055106	52·0	
2. 10	49. 6	026041		055070		T D
4. 0	45. 28	026072	52·2	054688	53·8	L
6. 0	42. 44	024990	54·0	054379	55·0	
8. 0	40. 47	025281	54·6	053959	55·2	
10. 0	43. 3	025491	54·5	053831	55·0	
12. 0	41. 33	026385	54·0	053780	55·7	L

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Feb. 17. 14. 0	22. 42. 56	0·025608	53·6	0·053916	55·5	T D
16. 0	42. 32	025806	53·0	053973	55·0	
18. 0	44. 1	025762	53·0	054130	55·0	
20. 0	44. 19	025595	52·5	054004	54·0	T D
22. 0	45. 6	025044	53·5	054026	54·0	H B
Feb. 18. 0. 0	22. 49. 17	0·025381	54·5	0·054010	54·6	H B
1. 50	49. 41	025649		054051		
2. 0	49. 26	025782	55·3	054058	55·0	
2. 10	50. 18	026291		054023		H B
4. 0	49. 1	026590	55·0	054264	56·3	T D
6. 0	49. 50	025549	55·0	054015	55·7	
8. 0	44. 27	026078	54·8	053838	55·3	
10. 0	43. 25	025256	54·0	053808	55·5	T D
12. 0	43. 37	025314	54·5	054023	55·2	H B
14. 0	43. 34	025442	53·5	054027	53·5	
16. 0	43. 46	025252	52·6	054071	53·2	
18. 0	44. 25	025506	52·5	054176	52·5	
20. 0	44. 42	025816	51·5	054252	52·0	H B
22. 0	45. 37	025441	50·5	054155	51·0	T D
Feb. 19. 0. 0	22. 50. 54	0·024544	50·8	0·054369	51·0	G H
1. 50	48. 54	025207		054572		
2. 0	48. 39	025251	52·0	054536	52·0	
2. 10	48. 36	025428		054543		G H
4. 0	46. 59	025551	52·7	054404	53·7	H B
6. 0	46. 29	025917	53·0	054134	53·5	
8. 0	44. 49	026083	52·7	054049	53·3	
10. 0	44. 7	025994	51·7	054022	52·2	H B
12. 0	43. 18	025452	50·2	054084	52·0	L
14. 0	43. 18	025492	48·5	054220	49·2	
16. 0	43. 18	025790	46·7	054417	47·3	
18. 0	42. 50	025833	45·4	054665	46·0	
20. 0	44. 9	025752	44·6	054834	45·2	L
22. 0	47. 53	026014	45·0	055235	46·0	G H
Feb. 20. 0. 0	22. 52. 16	0·025994	44·8	0·055219	46·4	T D
1. 50	50. 22	026050		055343		G H
2. 0	49. 56	026050	47·5	055336	48·5	
2. 10	49. 32	026161		055307		G H
4. 0	46. 31	026409	48·8	055077	51·3	T D
6. 0	45. 56	026315	51·0	054629	52·0	G H
8. 0	42. 58	026248	51·0	054429	52·0	
10. 0	43. 57	025985	50·0	054500	52·0	G H
12. 0	41. 11	027020	48·3	054416	50·7	T 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 97$; in Vertical Plane, $23^s \cdot 1$.

DECLINATION MAGNET.
Feb. 15d, between 20h and 22h, and Feb. 18d, between 22h and 24h, the changes were considerable.

HORIZONTAL FORCE MAGNET.
Feb. 15d. Between 20h and 22h a considerable change occurred.

VERTICAL FORCE MAGNET.
Feb. 16d. Between 20h and 22h a considerable change took place.

Daily Observations from February 21 to 27.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Feb. 21. 14. 0	22. 47. 8	0·026853	46·7	0·054825	48·0	G H
16. 0	44. 49	027265	46·4	054812	47·5	
18. 0	43. 40	027991	47·0	054870	47·8	
20. 0	43. 53	027764	48·0	054794	48·5	G H
22. 0	46. 48	026206	50·0	054409	49·0	T D
Feb. 22. 0. 0	22. 53. 37	0·025652	50·0	0·054138	49·0	T D
1. 50	56. 2	024106		054582		
2. 0	55. 39	024151	49·0	054582	51·0	
2. 10	55. 55	024438		054725		T D
4. 0	52. 25	024189	51·2	055516	52·3	G H
6. 0	45. 53	024898	51·2	055084	52·0	
8. 0	44. 4	025098	53·0	054956	53·0	
10. 0	44. 16	024655	53·0	054526	53·5	G H
12. 0	35. 38	023773	54·0	054486	55·0	T D
14. 0	29. 56	022776	54·0	053169	55·0	
16. 0	33. 54	021506	54·5	051601	55·5	
18. 0	42. 30	021814	54·3	053025	55·5	
20. 0	44. 42	023105	53·0	053916	55·0	T D
22. 0	46. 41	023394	53·6	054061	54·1	H B
Feb. 23. 0. 0	22. 50. 11	0·024013	52·8	0·054021	53·2	H B
1. 50	49. 35	024654		054273		
2. 0	49. 16	024322	51·0	054280	52·0	
2. 10	49. 10	024832		054308		H B
4. 0	47. 29	024632	50·8	054693	52·0	T D
6. 0	47. 22	024660	49·0	054582	51·0	T D
8. 0	46. 6	024955	49·7	054782	51·0	G H
10. 0	45. 4	025249	48·3	054655	50·3	T D
12. 0	44. 27	024915	48·7	054688	49·3	H B
14. 0	39. 46	024935	47·0	054666	47·3	
16. 0	42. 56	024449	45·5	054858	46·0	
18. 0	43. 6	024975	43·0	055064	44·0	
20. 0	43. 54	026634	42·3	055491	43·5	H B
22. 0	45. 59	025720	42·0	055812	43·0	G H
Feb. 24. 0. 0	22. 54. 37	0·021832	43·0	0·055709	43·6	G H
1. 50	56. 24	025733		056114		
2. 0	57. 17	025777	45·5	056079	46·5	
2. 10	56. 30	024515		055900		G H
4. 0	53. 5	024730	48·2	055673	50·3	H B
6. 0	46. 58	025181	48·7	055319	50·2	
8. 0	25. 17	024385	48·5	055063	49·5	
10. 0	39. 12	024043	48·2	055028	49·5	H B
12. 0	43. 20	025497	46·0	054680	49·0	G H

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Feb. 24. 14. 0	22. 43. 17	0·023570	46·0	0·054385	47·5	G H
16. 0	48. 39	025491	44·2	053939	46·0	
18. 0	41. 11	024931	43·0	054440	45·0	
20. 0	44. 49	024710	43·0	054929	44·0	G H
22. 0	49. 36	023583	42·8	055499	44·0	T D
Feb. 25. 0. 0	22. 53. 2	0·023892	43·7	0·056042	45·0	T D
1. 50	53. 1	025571		056030		
2. 0	52. 33	025571	45·0	056008	46·8	
2. 10	53. 7	025748		055958		T D
4. 0	44. 30	024217	49·0	055607	51·0	G H
6. 0	47. 35	024545	50·0	055106	52·0	
8. 0	41. 57	024123	50·2	054714	52·0	
10. 0	47. 33	024512	49·7	054608	52·0	G H
12. 0	46. 11	025913	48·3	054196	50·5	T D
14. 0	46. 11	024124	46·0	053954	48·5	
16. 0	45. 51	023368	44·0	053978	46·2	
18. 0	42. 44	024993	42·5	054146	44·0	
20. 0	47. 30	024882	42·5	054787	44·0	T D
22. 0	48. 37	023043	42·7	055491	43·5	H B
Feb. 26. 0. 0	22. 55. 22	0·023488	42·5	0·055833	43·5	H B
1. 50	52. 39	025644		055929		
2. 0	53. 48	025710	43·5	055929	43·9	
2. 10	52. 53	025644		055894		H B
4. 0	47. 22	024808	44·0	055686	45·0	T D
6. 0	45. 34	025571	45·0	055394	45·0	G
8. 0	37. 13	025970	45·0	055088	45·0	G
10. 0	47. 23	025677	42·7	055071	44·0	T D
12. 0	47. 1	025954	43·5	055000	44·0	T D
14. 0	44. 22	024842	43·0	055221	44·0	G H
16. 0	48. 23	024975	43·0	055356	44·0	G H
18. 0	46. 2	025064	43·0	055406	43·5	H B
20. 0	46. 37	024648	43·5	055499	44·0	G
22. 0	48. 20	024655	44·7	055485	44·0	T D
Feb. 27. 0. 0	22. 52. 46	0·024918	44·0	0·055406	44·0	T D
1. 50	53. 46	025671		055556		H B
2. 0	53. 39	025649	45·0	055520	44·5	H B
2. 10	53. 35	025615		055556		G
4. 0	50. 29	026014	45·0	055686	45·0	T D
6. 0	47. 8	024464	45·0	055448	46·0	G H
8. 0	47. 58	025455	44·5	055496	45·5	H B
10. 0	47. 31	026030	44·5	055391	45·7	
12. 0	47. 37	025929	43·7	055281	44·7	H B

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.
Feb. 21^d. 22^h to 24^h; Feb. 22^d, between 4^h and 18^h; Feb. 23^d, between 22^h and 24^h; and between Feb. 24^d, 4^h and 26^d. 10^h, the changes were large and frequent.

HORIZONTAL FORCE MAGNET.
Feb 23^d, between 22^h and 24^h, and Feb. 24^d and 26^d, between 0^h and 1^h. 50^m, considerable changes occurred.

VERTICAL FORCE MAGNET.
Feb. 22^d, between 2^h. 10^m and 4^h, and from 12^h to 20^h; Feb. 25^d, between 20^h and 22^h; and on Feb. 27^d, between 4^h and 8^h, considerable changes occurred.

Daily Observations from February 28 to March 6.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Feb. 28. 14. 0	22. 45. 32	0·026005	37·2	0·056236	37·7	H B	Mar. 3. 14. 0	22. 46. 27	0·025970	45·0	0·054808	46·0	T D
16. 0	46. 36	026210	37·0	056357	37·7		16. 0	46. 30	026402	44·0	054989	44·7	
18. 0	45. 53	026382	37·2	056375	37·6		18. 0	45. 40	027236	42·8	055499	44·0	
20. 0	46. 16	026409	37·5	056468	38·3	H B	20. 0	45. 35	026682	42·8	055690	43·5	T D
22. 0	44. 52	026759	37·7	056340	39·2	L	22. 0	45. 11	025235	42·7	055831	43·6	H B
Mar. 1. 0. 0	22. 51. 48	0·026588	38·5	0·056914	39·7	L	Mar. 4. 0. 0	22. 50. 25	0·024933	42·8	0·055888	43·1	H B
1. 50	57. 18	029192		056499			1. 50	52. 28	027137		055921		
2. 0	58. 2	028815	39·6	056393	40·5		2. 0	52. 12	027115	44·5	055935	45·6	
2. 10	22. 58. 2	029036		056393		L	2. 10	52. 3	027225		055921		H B
4. 0	23. 4. 35	027949	41·7	056938	42·0	H B	4. 0	51. 1	027866	47·5	055907	48·0	T D
6. 0	22. 58. 9	027683	43·3	057613	43·5		6. 0	48. 53	026189	48·4	056367	49·0	
8. 0	23. 7. 59	023991	44·7	058509	44·6		8. 0	47. 49	025703	48·4	055676	49·0	
10. 0	22. 42. 34	022467	45·6	057281	46·2	H B	10. 0	42. 6	024222	48·0	055392	49·0	T D
12. 0	39. 43	023491	46·3	056082	47·0	L	12. 0	31. 23	026060	47·8	055044	48·5	H B
14. 0	45. 42	023167	45·3	055698	46·0		14. 0	39. 51	024499	47·9	054968	48·3	
16. 0	42. 41	023435	44·0	055720	44·8		16. 0	39. 49	025178	47·2	054887	47·7	
18. 0	45. 22	024311	43·0	055514	43·7		18. 0	42. 47	025536	46·6	055115	47·3	
20. 0	47. 9	024613	42·0	055740	42·8	L	20. 0	46. 39	026545	46·5	055221	47·3	H B
22. 0	47. 8	023603	43·0	055263	43·5	G H	22. 0	46. 51	024788	46·0	055213	46·7	L
Mar. 2. 0. 0	22. 50. 24	0·024157	43·0	0·055926	44·0	G H	Mar.5 . 0. 0	22. 50. 23	0·024390	46·0	0·055232	46·8	L
1. 50	52. 44	025964		056326			1. 50	53. 2	025916		055427		
2. 0	52. 25	025853	44·5	056241	45·0		2. 0	53. 2	025916	46·2	055427	47·0	
2. 10	52. 31	026185		056220		G H	2. 10	53. 2	026226		055427		L
4. 0	49. 15	026717	45·8	055337	46·4	L	4. 0	51. 24	026792	47·6	055587	48·0	H B
6. 0	47. 21	026462	47·5	055587	48·0		6. 0	48. 16	026681	47·8	055314	47·7	
8. 0	47. 14	026325	48·0	055221	48·5		8. 0	39. 0	028016	48·3	055231	48·3	
10. 0	47. 30	025903	48·2	055118	48·7	L	10. 0	46. 1	025945	48·6	055107	49·0	H B
12. 0	47. 40	026124	48·2	055079	48·5	G H	12. 0	43. 22	025682	48·2	054991	48·8	L
14. 0	47. 15	025699	47·3	055052	48·0		14. 0	43. 43	026019	47·2	054540	48·0	
16. 0	47. 11	025777	47·0	055181	48·0		16. 0	46. 58	026097	45·8	054726	46·5	
18. 0	46. 56	025977	46·8	055107	47·0		18. 0	46. 58	026437	44·8	054978	45·4	
20. 0	45. 56	025806	46·2	055270	47·0	G H	20. 0	45. 46	026891	43·8	055164	44·5	L
22. 0	45. 22	025010	46 0	055284	47·0	T D	22. 0	45. 43	025644	43·5	055414	44·5	G H
Mar. 3. 0. 0	22. 51. 9	0·024567	46·0	0·055182	47·0	T D	Mar. 6. 0. 0	22. 49. 52	0·026067	43·3	0·055414	44·5	G H
1. 50	53. 55	026560		055397			1. 50	52. 10	027022		055544		
2. 0	53. 13	026560	46·0	055427	47·0		2. 0	52. 40	027776	44·0	055558	44·7	
2. 10	52. 56	026560		055447		T D	2. 10	52. 5	027907		055594		
4. 0	49. 28	027126	47·2	055479	48·0	G H	4. 0	51. 22	027231	45·0	055472	45·0	G H
6. 0	47. 51	026224	48·1	055277	49·5		6. 0	48. 12	027725	44·4	055415	45·0	L
8. 0	46. 34	026346	48·2	055028	49·5		8. 0	47. 36	028148	44·2	055373	45·0	
10. 0	46. 20	025661	48·0	054893	49·0	G H	10. 0	47. 3	027619	44·0	055359	44·7	
12. 0	46. 16	025777	47·0	054746	48·0	T D	12. 0	44. 39	027367	43·0	055371	43·7	L

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.
Feb. 28^d. 22^h to March 1^d. 14^h. The changes were large and frequent.
March 4^d, between 8^h and 14^h, and on March 5^d, between 6^h and 10^h, considerable changes occurred.

HORIZONTAL FORCE MAGNET.
March 1^d, between 0^h and $1^h.50^m$, and between 6^h and 8^h; March 4^d, between 0^h and $1^h.50^m$; and March 5^d, between 8^h and 10^h, considerable changes took place.

VERTICAL FORCE MAGNET.
March 1^d, between 6^h and 12^h, and March 2^d, between $2^h.10^m$ and 4^h, a considerable change occurred.

Daily Observations from March 7 to 13.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Mar. 7. 14. 0	22. 45. 21	0·027173	39·8	0·056091	42·0	G H	Mar. 10. 14. 0	22. 43. 23	0·026147	39·0	0·056179	41·5	G H
16. 0	48. 42	027396	39·1	056037	41·9		16. 0	45. 16	026563	37·5	056269	39·4	
18. 0	47. 16	027321	39·0	056179	41·5		18. 0	45. 34	027162	36·0	056717	38·5	
20. 0	50. 2	026509	39·8	056125	40·8	G H	20. 0	46. 24	026634	35·0	056944	36·5	G H
22. 0	50. 42	025691	41·0	056198	42·0	T D	22. 0	47. 14	025814	35·0	057166	36·0	T D
Mar. 8. 0. 0	22. 51. 48	0·024723	42·0	0·056074	42·8	T D	Mar. 11. 0. 0	22. 52. 51	0·025774	35·3	0·057178	36·2	T D
1. 50	52. 37	027478		056099		L	1. 50	55 41	026554		057071		
2. 0	52. 12	027610	44·8	056027	45·3	T D	2. 0	55. 43	026621	37·4	057057	38·0	
2. 10	52. 29	027654		056027		T D	2. 10	55. 10	026777		057057		T D
4. 0	51. 50	028434	47·0	055867	47·8	G H	4. 0	52. 26	027081	40·0	056774	43·0	G H
6. 0	47. 35	029088	49·0	055807	49·3		6. 0	48. 41	027010	41·6	056247	44·0	
8. 0	46. 55	028971	51·0	055284	52·0		8. 0	46. 36	027506	41·7	056082	43·3	
10. 0	38. 52	026425	52·0	054635	53·0	G H	10. 0	47. 22	028282	41·0	056057	42·2	G H
12. 0	40. 31	028254	53·5	054474	54·0	T D	12. 0	48. 23	028062	41·5	056204	42·5	T D
14. 0	45. 12	026469	52·0	054003	52·8		14. 0	45. 9	026600	40·3	056132	41·7	
16. 0	42. 49	026315	51·0	053931	52·0		16. 0	45. 32	026416	40·0	056268	41·0	
18. 0	49. 29	025852	49·8	053755	50·5		18. 0	45. 1	026974	39·8	056407	40·7	
20. 0	44. 3	026364	49·0	054060	50·0	T D	20. 0	45. 31	027263	41·0	056518	42·0	T D
22. 0	48. 1	024088	48·2	054395	49·0	L	22. 0	44. 31	025884	41·4	056198	42·0	L
Mar. 9. 0. 0	22. 54. 7	0·024533	47·8	0·054635	48·8	L	Mar. 12. 0. 0	22. 50. 40	0·024892	42·6	0·056111	43·0	L
1. 50	22. 59. 38	025751		054956			1. 50	54. 13	025664		056018		G H
2. 0	23. 0. 18	025574	47·8	055013	48·6		2. 0	53. 57	025775	45·9	055947	46·0	
2. 10	23. 0. 48	025905		055027		L	2. 10	54. 35	026018		055876		G H
4. 0	22. 54. 43	027139	49·0	055612	50·0	T D	4. 0	51. 4	026567	48·2	055757	51·0	T D
6. 0	49. 7	026431	49·0	055491	49·5		6. 0	48. 19	027139	49·0	055385	51·8	
8. 0	47. 40	026272	47·5	055031	48·0		8. 0	47. 23	026582	50·0	054856	52·0	
10. 0	46. 39	026761	45·8	054964	47·0	T D	10. 0	45. 54	026296	49·2	054725	51·0	T D
12. 0	47. 15	026819	44·2	055022	44·8	L	12. 0	46. 7	025567	48·8	054672	49·5	L
14. 0	47. 15	026904	42·8	055142	43·5		14. 0	43. 35	026178	46·6	054488	47·3	
16. 0	46. 50	026355	41·7	055488	42·4		16. 0	41. 24	026014	45·0	054736	46·0	
18. 0	47. 6	026732	41·0	055716	41·7		18. 0	42. 52	025915	44·0	054901	44·8	
20. 0	46. 7	026416	40·0	055911	40·8	L	20. 0	43. 13	026673	42·7	055103	43·4	L
22. 0	46. 18	025642	40·0	056232	41·0	G H	22. 0	44. 18	026211	42·5	055548	43·5	G H
Mar. 10. 0. 0	22. 51. 12	0·024645	40·0	0·056286	41·5	G H	Mar. 13. 0. 0	22. 51. 37	0·025113	43·5	0·055570	44·0	G H
1. 50	55. 21	025890		056269			1. 50	55. 53	026117		055658		
2. 0	55. 9	026289	41·0	056269	42·0		2. 0	56. 12	025895	46·0	055701	46·2	
2. 10	55. 6	026400		056269		G H	2. 10	56. 26	025895		055559		G H
4. 0	51. 40	026649	42·0	056316	43·8	L	4. 0	53. 10	025600	47·0	055425	47·8	L
6. 0	45. 22	027347	42·8	056139	44·0		6. 0	48. 53	026302	48·2	055260	48·7	
8. 0	43. 12	025817	43·0	056083	43·7		8. 0	47. 4	026542	49·0	055097	49·6	
10. 0	43. 17	026163	42·0	055954	43·0	L	10. 0	45. 50	026230	49·2	054950	50·0	L
12. 0	41. 28	025957	41·0	055842	42·0	G H	12. 0	38. 6	025656	49·0	054451	50·0	G 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.
March 8^d, between 8^h and 10^h; and between March 8^d. 16^h and March 9^d, 0^h and 6^h; March 10^d, between 4^h and 6^h, and between 22^h and 24^h; March 12^d, between 22^h and 24^h; and March 13^d, between 10^h and 12^h, the changes were considerable.

HORIZONTAL FORCE MAGNET.
March 8^d, between 0^h and $1^h.50^m$, between 8^h and 10^h, and between 20^h and 22^h, considerable changes occurred.

VERTICAL FORCE MAGNET.
During this week the changes of position of this magnet were small.

Daily Observations from March 14 to March 20.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Mar. 14. 14. 0	22. 45. 2	0·026014	45·0	0·054797	46·5	G H
16. 0	43. 6	026756	44·0	054874	45·6	
18. 0	44. 24	026588	44·1	055140	45·2	
20. 0	45. 0	027101	44·8	055437	45·0	G H
22. 0	46. 33	025128	45·0	055662	46·0	T D
Mar. 15. 0. 0	22. 53. 24	0·025821	47·0	0·055373	48·0	T D
1. 50	56. 0	025928		055435		
2. 0	56. 9	026039	50·5	055385	51·8	
2. 10	55. 55	026304		055385		T D
4. 0	53. 43	026926	53·5	054919	58·0	G H
6. 0	47. 53	025719	56·0	054317	58·5	
8. 0	47. 14	025024	56·2	053884	57·5	
10. 0	47. 18	025222	56 0	053847	57·0	G H
12. 0	46. 59	025439	55·0	053881	56·5	T D
14. 0	47. 14	025576	53·7	053760	54·5	
16. 0	46. 33	025495	52·0	053923	53·0	
18. 0	45. 37	025628	51·0	054052	52·0	
20. 0	44. 42	025099	50·0	053657	51·0	T D
22. 0	44. 37	023138	50·3	054405	51·0	L
Mar. 16. 0. 0	22. 50. 36	0·023016	52·2	0·054216	52·0	L
1. 50	55. 18	024068		054301		
2. 0	55. 17	024068	55·6	054243	55·8	
2. 10	55. 3	023891		054158		L
4. 0	52. 55	024945	58·5	054021	61·0	T D
6. 0	47. 50	025041	60·0	053610	61·7	
8. 0	43. 22	024754	60·0	053423	61·5	
10. 0	40. 41	024808	59·0	053477	60·8	T D
12. 0	43. 13	024796	58·0	053497	59·3	L
14. 0	44. 47	025016	56·5	053391	57·2	
16. 0	45. 4	025369	54·4	053418	55·0	
18. 0	44. 11	026006	53·2	053676	54·2	
20. 0	44. 57	025738	51·8	053820	52·5	L
22. 0	43. 55	023813	52·6	054137	53·0	G H
Mar. 17. 0. 0	22. 51. 27	0·023277	54·5	0·053847	54·0	G H
1. 50	57. 18	024356		053961		
2. 0	57. 3	024135	57·1	053854	57·2	
2. 10	56. 52	024201		053783		G H
4. 0	54. 0	025434	59·6	054140	64·0	L
6. 0	48. 10	025810	61·2	052910	62·0	
8. 0	45. 22	026297	61·2	052896	62·0	L
10. 0	44. 31	026192	60·0	052656	60·0	G
12. 0	44. 27	026357	59·0	052832	58·9	G
Mar. 17. 14. 0	22. 44. 32	0·026378	56·7	0·052888	57·5	T D
16. 0	44. 37	026205	57·0	053244	57·5	G H
18. 0	44. 35	026388	56·5	053455	57·0	G H
20. 0	45. 31	026266	54·5	053432	55·0	L
22. 0	45. 57	024649	54·5	053702	55·0	G
Mar. 18. 0. 0	22. 53. 39	0·024323	55·5	0·053702	56·0	G
1. 50	57. 47	024365		054065		G
2. 0	57. 37	024365	58·1	053943	58·0	T D
2. 10	56. 19	024365		053851		
4. 0	52. 29	024820	60·0	053900	62·5	
6. 0	48. 4	024340	59·7	053565	61·5	
8. 0	45. 17	024093	59·5	053282	60·5	T D
10. 0	45. 31	024145	59·2	053102	59·0	G
12. 0	46. 20	024677	57·0	053281	58·0	G H
14. 0	44. 13	024279	55·5	053276	56·5	
16. 0	42. 39	024761	54·5	053126	55·8	
18. 0	45. 34	025762	53·0	053447	54·8	
20. 0	48. 34	024764	52·0	053529	53·5	G H
22. 0	47. 18	021732	52·2	053866	53·0	T D
Mar. 19. 0. 0	22. 55. 45	0·022267	54·0	0·054046	54·0	T D
1. 50	23. 5. 1	022975		054840		
2. 0	4. 30	023152	58·5	054854	59·0	
2. 10	23. 5. 13	023086		054854		T D
4. 0	22. 59. 47	028079	59·5	056917	64·0	G H
6. 0	53. 28	023713	60·0	055946	63·5	
8. 0	50. 59	018904	60·5	056171	62·0	
10. 0	43. 48	018509	60·0	052825	62·0	G H
12. 0	41. 54	019887	59·5	052953	61·0	T D
14. 0	36. 38	020191	58·0	052746	59·0	
16. 0	56. 4	019186	57·0	048155	58·0	
18. 0	45. 29	017473	56·0	051355	57·0	
20. 0	43. 25	019355	56·0	052045	57·0	T D
22. 0	46. 43	020371	55·8	054487	56·5	L
Mar. 20. 0. 0	22. 50. 51	0·020153	56·2	0·054630	57·0	L
1. 50	51. 54	022117		054530		
2. 0	52. 42	025371	56·8	054530	57·2	
2. 10	52. 31	023335		054445		L
4. 0	51. 30	024894	58·8	054472	60·0	T D
6. 0	49. 24	024955	59·3	054096	60·7	
8. 0	47. 48	025344	58·5	053881	60·0	
10. 0	45. 41	023791	57·0	053651	58·0	T D
12. 0	34. 50	026373	56·0	052593	56·8	L

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.
March 14^d, between 22^h and 24^h; March 15^d, between 4^h and 6^h, and between 22^h and 24^h; March 16^d, between 4^h and 6^h, and between 22^h and 24^h; and March 17^d, between 0^h and $1^h.50^m$, between 4^h and 6^h, and between 22^h and 24^h, the changes in the position of the magnet were considerable.
March $18^d.22^h$ to March $19^d.18^h$; and on March 20^d, between 10^h and 12^h, the changes were considerable.

HORIZONTAL FORCE MAGNET.
March 18^d, between 20^h and 22^h; March 19^h, between $2^h.10^m$ and 8^h; and March 20^d, between $1^h.50^m$ and $2^h.10^m$, and between 10^h and 12^h, considerable changes occurred.

VERTICAL FORCE MAGNET.
March $15^d.20^h$ to 22^h; March 17^d, between 4^h and 6^h; and on March 19^d and 20^d, considerable changes took place.

Daily Observations from March 21 to 27.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Mar. 21. 14. 0	22. 45. 43	0·023725	50·2	0·054084	51·0	L
16. 0	45. 19	023774	49·0	054249	49·7	
18. 0	45. 43	024491	47·4	054483	48·0	
20. 0	45. 17	024618	46·5	054825	47·2	L
22. 0	45. 15	023826	47·4	055204	47·5	G H
Mar. 22. 0. 0	22. 49. 58	0·022574	50·2	0·055051	50·5	G H
1. 50	53. 7	024105		054787		
2. 0	53. 18	024370	54·0	054702	54·0	
2. 10	53. 43	024658		054631		G H
4. 0	50. 58	024854	57·0	054495	57·2	L
6. 0	48. 34	025582	59·0	054111	59·5	
8. 0	47. 47	025071	60·0	053900	60·3	
10. 0	47. 13	024913	59·5	053796	60·0	L
12. 0	46. 38	024636	58·5	053760	59·2	G H
14. 0	46. 33	024515	57·5	053753	58·2	
16. 0	46. 16	024663	56·8	053827	57·5	
18. 0	45. 42	024735	56·0	053946	56·8	
20. 0	43. 41	024221	55·0	054072	56·0	G H
22. 0	47. 49	022804	55·2	054200	56·0	T D
Mar. 23. 0. 0	22. 53. 12	0·023089	56·6	0·054399	58·0	T D
1. 50	56. 22	023634		054504		
2. 0	55. 21	023590	59·0	054504	60·3	
2. 10	55. 7	023767		054504		T D
4. 0	52. 44	024438	59·6	054045	60·0	G H
6. 0	48. 29	025041	60·0	054080	60·0	
8. 0	48. 18	025339	59·0	053800	59·0	
10. 0	47. 20	025327	58·0	053935	58·8	G H
12. 0	41. 18	027436	56·0	053562	57·0	T D
14. 0	...	...	..	...	..	
16. 0	...	...	..	...	..	
18. 0	...	...	..	...	..	
20. 0	...	...	..	...	..	
22. 0	...	...	..	...	..	
Mar. 24. 0. 0	...	...	..	...	..	
1. 50	...	...	..	...	..	
2. 0	...	...	..	...	..	
2. 10	...	...	..	...	..	
4. 0	...	...	..	...	..	
6. 0	...	...	..	...	..	
8. 0	...	...	..	...	..	
10. 0	22. 42. 10	0·025133	49·5	0·054181	50·0	G
12. 0	44. 56	025124	49·0	053804	49·0	G
Mar. 24. 14. 0	22. 46. 14	0·024394	49·0	0·054903	51·0	G H
16. 0	46. 7	024545	50·0	054938	51·0	L
18. 0	47. 31	023438	50·0	054756	50·8	L
20. 0	47. 50	024102	50·0	054685	50·8	T D
22. 0	47. 16	022883	51·0	054933	51·5	G
Mar. 25. 0. 0	22. 50. 59	0·023348	53·0	0·054675	52·5	G
1. 50	53. 19	024293		054770		G H
2. 0	53. 26	024558	56·0	054656	56·0	
2. 10	53. 26	024558		054556		G H
4. 0	51. 44	025582	59·0	054407	60·5	L
6. 0	47. 15	024598	60·0	054092	61·0	T D
8. 0	43. 53	024327	59·6	054063	61·5	G H
10. 0	44. 44	023762	59·5	053751	59·8	G
12. 0	45. 38	023844	58·0	053644	59·0	T D
14. 0	44. 27	023739	56·0	053789	57·0	
16. 0	44. 11	023778	55·0	053915	56·0	
18. 0	42. 24	023813	53·0	053868	54·0	
20. 0	45. 24	023504	53·0	054275	54·0	T D
22. 0	46. 13	022640	52·8	054305	53·4	L
Mar. 26. 0. 0	22. 52. 6	0·023223	54·8	0·054444	54·8	L
1. 50	53. 55	023961		054475		
2. 0	54. 3	024116	57·5	054461	57·6	
2. 10	53. 29	024072		054404		L
4. 0	50. 51	024864	60·0	054697	61 0	T D
6. 0	47. 6	024772	61·4	054249	62·0	
8. 0	40. 55	024560	62·0	054158	63·0	
10. 0	44. 52	024121	61·5	053750	62·0	T D
12. 0	45. 37	023829	60·4	053651	61·0	L
14. 0	44 23	024119	58·8	053612	59·5	
16. 0	43. 50	024307	56·6	053605	57·2	
18. 0	42. 30	024244	55·2	053674	55·7	
20. 0	42. 12	024082	53·8	053931	54·4	L
22. 0	44. 52	022643	54·0	054237	54·5	G H
Mar. 27. 0. 0	22. 49. 23	0·022763	55·8	0·054108	55·9	G H
1. 50	52. 2	024249		054103		
2. 0	52. 5	024337	57·5	054032	58·5	
2. 10	52. 7	024515		053997		G H
4. 0	48. 52	025443	60·2	054377	61·0	L
6. 0	46. 41	024564	61·5	054177	62·0	
8. 0	45. 18	024854	61·7	053818	62·3	
10. 0	45. 46	024741	60·8	053626	61·3	L
12. 0	44. 59	025139	59·0	053582	60·0	G 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 97$; in Vertical Plane, $23^s \cdot 1$.

DECLINATION MAGNET.
During this week the motions of this magnet were unusually small.

HORIZONTAL FORCE MAGNET.
March 23^d. Between 10^h and 12^h a considerable change occurred.
March 24^d was devoted to a Fast, and the usual observations were not taken.

VERTICAL FORCE MAGNET.
March 24^d. 12^h to 14^h. The change was considerable.

Daily Observations from March 28 to April 3.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Mar. 28. 14. 0	22. 45. 44	0·025661	48·0	0·054850	49·5	G H	Mar. 31. 14. 0	22. 46. 22	0·026220	47·0	0·055109	48·0	T D
16. 0	45. 41	026331	47·0	055008	48·5		16. 0	46. 16	026228	46·0	055118	46·8	
18. 0	45. 55	026680	46·1	055154	47·5		18. 0	45. 21	026532	45·3	055459	46·5	
20. 0	44. 32	026073	46·0	055227	46·7	G H	20. 0	43. 20	026038	43·0	055427	44·0	T D
22. 0	44. 30	024390	46·0	055441	47·0	T D	22. 0	44. 9	025100	43·1	055712	44·0	G H
Mar. 29. 0. 0	22. 52. 19	0·025418	47·8	0·055337	48·0	T D	April 1. 0. 0	22. 51. 8	0·024630	44·0	0·055463	44·5	G H
1. 50	55. 16	026808		055495			1. 50	56. 39	025387		055448		
2. 0	54. 53	026874	49·0	055459	49·7		2. 0	56. 2	025253	46·0	055448	46·0	
2. 10	54. 34	026874		055459		T D	2. 10	56. 2	025342		055448		
4. 0	50. 14	026626	50·0	055163	50·0	G H	4. 0	50. 37	027453	48·2	055162	48·2	G H
6. 0	47. 29	025850	51·0	055009	51·0		6. 0	47. 34	027112	50·2	054964	50·0	G
8. 0	47. 2	026315	51·0	054897	51·5		8. 0	47. 53	026726	49·7	054793	49·5	
10. 0	47. 7	026469	51·2	054894	51·9	G H	10. 0	47. 28	026970	49·7			G
12. 0	47. 6	026138	51·0	054928	52·0	T D	12. 0	46. 31	026878	48·0	054680	49·0	G H
14. 0	45. 57	026030	49·4	054858	50·5		14. 0	...	...	..	...	..	
16. 0	44. 25	026546	48·0	054822	49·0		16. 0	...	...	..	...	..	
18. 0	44. 12	026338	46·0	054959	46·9		18. 0	...	...	..	...	..	
20. 0	43. 2	025931	45·5	055249	46·0	T D	20. 0	...	...	..	...	..	
22. 0	47. 12	023977	45·0	055268	45·8	L	22. 0	...	...	..	...	..	
Mar. 30. 0. 0	22. 52. 13	0·025171	46·5	0·055318	46·8	L	April 2. 0. 0	...	...	..	...	..	
1. 50	55. 2	026673		055479			1. 50	...	...	..	...	..	
2. 0	56. 2	026408	49·2	055408	49·8		2. 0	...	...	..	...	..	
2. 10	55. 30	026452		055408		L	2. 10	...	...	..	...	..	
4. 0	52. 39	025673	50·2	055273	51·0	T D	4. 0	...	...	..	...	..	
6. 0	48. 15	026359	51·0	055253	51·5		6. 0	...	...	..	...	..	
8. 0	46. 56	026139	50·0	055166	51·0		8. 0	...	...	..	...	..	
10. 0	47. 36	026118	49·4	055051	50·5	T D	10. 0	...	...	..	...	..	
12. 0	45. 44	026046	48·5	055003	49·2	L	12. 0	...	...	..	...	..	
14. 0	45. 44	025800	46·8	055025	47·5		14. 0	22. 46. 33	0·027226	42·0	0·055356	44·0	G H
16. 0	46. 38	026014	45·0	055192	45·4		16. 0	44. 44	027871	41·8	055654	43·3	
18. 0	45. 21	026216	43·0	055370	43·5		18. 0	44. 4	028997	42·0	055920	43·2	
20. 0	42. 49	026031	41·3	055645	41·7	L	20. 0	42. 15	027818	42·4	055883	43·0	G H
22. 0	45. 34	024850	41·0	055927	42·0	T D	22. 0	44. 59	025649	44·0	055664	44·2	L
Mar. 31. 0. 0	22. 52. 2	0·024537	43·5	0·056033	44·0	T D	April 3. 0. 0	22. 55. 43	0·023167	45·3	0·055244	45·3	L
1. 50	54. 18	026006		056068			1. 50	23. 1. 3	025916		055972		
2. 0	54. 16	025895	46·0	056046	47·0		2. 0	2. 19	026138	46·2	055829	46·5	
2. 10	53. 50	025895		055996		T D	2. 10	23. 2. 42	026138		055829		L
4. 0	50. 1	026599	48·5	055676	49·0	L	4. 0	22. 52. 42	028877	47·0	056139	47·0	G H
6. 0	47. 7	026494	50·0	055260	50·3		6. 0	44. 17	024996	48·0	056441	48·0	
8. 0	46. 1	026226	50·8	054979	51·2		8. 0	35. 37	024491	49·5	056238	49·0	
10. 0	46. 46	025963	49·8	054797	50·3	L	10. 0	32. 45	029525	51·0	055081	51·0	G H
12. 0	46. 18	026080	48·2	054858	49·0	T D	12. 0	39. 15	021117	49·0	053853	49·5	T 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 97$; in Vertical Plane, $23^s \cdot 1$.

DECLINATION MAGNET.
March 28^d, 29^d, 30^d, and 31^d. Betweeen 22^h and 24^h the changes were considerable.
April 1^d, between 0^h and 4^h; and from April 2^d. 22^h to April 3^d. 12^h, the changes were large.

HORIZONTAL FORCE MAGNET.
April 1^d, between 2^h. 10^m and 4^h; between 20^h and 24^h; and April 3^d, between 0^h and 10^h, considerable changes occurred.

VERTICAL FORCE MAGNET.
April 1^d. 10^h. The observation was omitted.
April 3^d. Between 0^h and 1^h. 50^m, and between 8^h and 12^h, considerable changes occurred.

April 2^d was Good Friday.

Daily Observations from April 4 to 10

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
April 4. 14. 0	22. 45. 23	0·024665	44·8	0·054727	45·2	L
16. 0	47. 33	024724	44·5	054902	45·0	
18. 0	51. 6	025280	44·3	055041	44·6	
20. 0	44. 7	026522	45·2	055510	45·5	L
22. 0	43. 6	024006	47·0	055577	47·7	T D
April 5. 0. 0	22. 49. 56	0·024859	48·8	0·055419	49·5	T D
1. 50	56. 34	026868		055426		
2. 0	56. 52	026868	51·0	055376	52·0	
2. 10	56. 11	026868		055355		T D
4. 0	49. 56	027359	53·8	055171	54·2	L
6. 0	46. 52	027493	54·2	054813	55·2	
8. 0	41. 26	027296	54·8	054600	55·2	L
10. 0	46. 3	027857	56·0	054442	56·0	G
12. 0	43. 28	026143	54·4	053810	54·5	T D
14. 0	46. 10	025385	53·0	053852	53·0	
16. 0	42. 59	025684	52·3	053941	52·5	
18. 0	46. 15	026093	51·6	054260	51·8	
20. 0	41. 9	024876	51·0	054714	52·0	T D
22. 0	43. 0	023304	51·0	054821	52·0	G H
April 6. 0. 0	22. 52. 32	0·023270	51·9	0·054643	52·0	G H
1. 50	56. 13	025762		054739		
2. 0	56. 20	025363	53·0	054739	53·5	
2. 10	55. 32	025120		054704		G H
4. 0	50. 55	026930	54·5	054842	55·0	T D
6. 0	46. 19	026714	55·5	054613	56·0	T D
8. 0	47. 4	026678	55·0	054157	55·5	G
10. 0	41. 2	027320	55·0	054058	55·5	G
12. 0	44. 33	025444	56·0	054018	56·2	G H
14. 0	50. 49	025770	55·0	054108	55·9	
16. 0	41. 48	025746	55·0	054016	55·8	
18. 0	43. 25	025668	54·5	054201	55·0	
20. 0	43. 13	024769	54·0	054286	55·0	G H
22. 0	45. 36	022857	54·7	054137	55·2	L
April 7. 0. 0	22. 53. 44	0·022281	54·5	0·053902	55·0	L
1. 50	56. 51	024221		053987		
2. 0	56. 28	024929	55·0	053965	55·5	
2. 10	57. 33	025439		053951		
4. 0	53. 45	027060	56·2	054117	56·6	L
6. 0	51. 30	027323	57·1	054074	56·8	G
8. 0	39. 30	028382	58·0	054655	58·9	G H
10. 0	39. 45	024747	58·5	054107	59·0	G H
12. 0	36. 14	023204	58·2	052693	58·5	L

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
April 7. 14. 0	22. 24. 29	0·020758	57·0	0·052430	57·3	L
16. 0	35. 8	017200	56·5	049646	57·0	
18. 0	58. 55	021434	55·8	051004	56·2	
20. 0	58. 35	017106	55·7	052491	56·0	L
22. 0	58. 57	020794	56·0	054066	56·7	T D
April 8. 0. 0	22. 58. 47	0·022432	57·3	0·054726	58·0	T D
1. 50	55. 58	022064		054650		
2. 0	55. 22	022352	59·2	054650	60·0	
2. 10	56. 26	022507		054650		
4. 0	52. 14	023204	60·0	054497	60·9	T D
6. 0	47. 29	024242	60·7	054149	61·0	L
8. 0	46. 23	025564	61·0	054148	61·4	
10. 0	46. 46	024241	59·8	053841	60·2	L
12. 0	43. 1	025743	58·5	053501	59·0	T D
14. 0	48. 34	024234	57·0	053493	57·5	
16. 0	37. 43	026690	55·3	053161	55·8	
18. 0	44. 10	025256	54·0	053491	54·0	
20. 0	43. 10	023105	53·0	053994	53·0	T D
22. 0	46. 4	021777	53·0	054404	52·5	G H
April 9. 0. 0	22. 53. 25	0·022441	53·0	0·054390	52·5	G H
1. 50	56. 5	023994		054541		
2. 0	55. 56	023795	54·0	054534	53·2	
2. 10	56. 2	024205		054570		
4. 0	52. 52	025770	55·0	054628	55·0	G H
6. 0	49. 20	025753	56·0	054620	56·3	T D
8. 0	43. 12	027436	56·0	054428	56·0	
10. 0	47. 56	025776	56·0	054271	56·0	
12. 0	48. 19	025992	55·0	054093	55·7	T D
14. 0	54. 29	025081	54·6	054144	55·2	G H
16. 0	54. 23	024681	54·2	054308	54·9	
18. 0	53. 4	025042	52·5	054085	52·4	
20. 0	52. 15	023879	52·0	054541	52·2	G H
22. 0	45. 59	022861	52·2	054746	52·5	L
April 10. 0. 0	22. 54. 20	0·022840	53·0	0·054569	53·3	L
1. 50	54. 35	024442		054805		
2. 0	54. 12	024442	55·0	054677	55·5	
2. 10	53. 54	024442		054663		L
4. 0	50. 14	025253	57·0	054468	57·4	G H
6. 0	46. 52	025300	58·5	054317	58·5	
8. 0	47. 42	025706	58·2	054103	58·5	
10. 0	47. 58	025208	57·0	053940	57·2	G H
12. 0	47. 58	025488	56·0	054009	56·5	L

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.
From April 4^d. 18^h to April 10^d. 0^h the position of the magnet was frequently changing, and occasionally the changes were great.

HORIZONTAL FORCE MAGNET.
April 4^d, between 20^h and 22^h; April 5^d and 6^d, between 0^h and $1^h.50^m$; April 7^d, between 14^h and 22^h; and April 8^d, between 14^h and 16^h, and between 18^h and 20^h, considerable changes occurred.

VERTICAL FORCE MAGNET.
April 7^d. 10^h to 8^d. 0^h. Considerable changes took place.

Daily Observations from April 11 to 17.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
April 11. 14. 0	22. 47. 11	0·026431	49·0	0·054683	49·2	L	April 14. 14. 0	22. 41. 10	0·025142	53·0	0·053941	53·7	L
16. 0	46. 27	026431	49·0	054751	49·0		16. 0	41. 10	024654	51·0	053971	51·8	
18. 0	45. 9	026085	49·5	054620	48·7		18. 0	41. 57	024491	49·5	054127	49·8	
20. 0	42. 42	025750	50·5	054914	50·7	L	20. 0	42. 22	024129	48·8	054576	49·2	L
22. 0	44. 40	025406	51·8	054817	52·5	T D	22. 0	45. 59	022597	49·8	054819	49·7	H B
April 12. 0. 0	22. 50. 25	0·025656	54·4	0·054322	55·0	T D	April 15. 0. 0	22. 54. 48	0·022938	51·7	0·054747	51·5	H B
1. 50	52. 39	026906		054481			1. 50	56. 18	025198		054754		
2. 0	52. 39	026729	57·5	054339	58·6		2. 0	56. 9	025331	53·3	054761	53·3	
2. 10	52. 39	026729		054304		T D	2. 10	55. 55	025508		054761		H B
4. 0	48. 40	026997	59·7	054052	60·0	L	4. 0	52. 46	026084	53·5	054568	53·7	L
6. 0	48. 51	028555	61·2	053779	61·5		6. 0	48. 38	026084	53·5	054517	53·8	
8. 0	47. 40	029205	61·8	053608	62·0		8. 0	45. 20	026005	52·8	054381	52·8	
10. 0	41. 49	027252	61·4	053351	61·5	L	10. 0	44. 57	025760	51·0	054196	51·2	L
12. 0	46. 32	026746	60·0	053422	60·3	T D	12. 0	43. 2	025102	49·0	054089	49·0	T D
14. 0	46. 32	027083	58·6	053308	58·8		14. 0	43. 20	025490	47·0	054216	47·0	
16. 0	44. 48	027497	58·0	053331	58·0		16. 0	42. 40	025742	45·8	054779	46·7	
18. 0	42. 17	027046	57·0	053348	57·0		18. 0	41. 18	025927	44·8	055121	46·0	
20. 0	41. 33	026094	57·0	053612	57·0	T D	20. 0	39. 30	024237	44·5	055343	44·5	T D
22. 0	44. 6	024279	55·5	053661	56·8	G H	22. 0	45. 48	022804	45·0	055294	45·0	G
April 13. 0. 0	22. 52. 44	0·024663	55·0	0·053404	54·8	G H	April 16. 0. 0	22. 52. 5	0·024067	48·0	0·055309	48·0	H B
1. 50	55. 10	026213		053830			1. 50	55. 7	024806		054964		
2. 0	54. 41	025992	55·0	053902	55·6		2. 0	54. 41	024629	48·5	054929	49·0	
2. 10	54. 19	026191		053902		G H	2. 10	54. 34	025071		054943		H B
4. 0	49. 26	028543	56·0	054310	57·0	T D	4. 0	50. 15	026072	52·8	054849	53·0	T D
6. 0	47. 29	029163	56·0	053989	57·0		6. 0	48. 51	027413	53·5	054484	53·3	
8. 0	46. 6	028988	56·4	053932	57·0		8. 0	45. 57	026189	54·8	054570	55·5	
10. 0	48. 35	028162	55·0	054037	56·0	T D	10. 0	45. 32	025863	53·5	054287	54·4	T D
12. 0	44. 57	026517	53·8	054017	54·6	G H	12. 0	45. 38	025573	51·9	054247	52·5	H B
14. 0	48. 7	026559	52·8	054147	53·8		14. 0	45. 44	025586	50·0	053989	50·7	
16. 0	40. 35	025395	51·7	054105	52·5		16. 0	37. 41	024376	48·0	053634	48·5	
18. 0	40. 19	025562	51·0	054465	52·0		18. 0	43. 44	025246	45·5	054403	46·3	
20. 0	42. 13	024654	51·0	054592	51·4	G H	20. 0	43. 7	024379	43·7	054975	44·7	H B
22. 0	46. 12	023768	52·6	054675	52·5	T D	22. 0	47. 15	022963	43·7	055262	43·8	L
April 14. 0. 0	22. 54. 23	0·024457	53·6	0·054445	54·0	T D	April 17. 0. 0	22. 59. 9	0·022595	46·2	0·055468	45·8	L
1. 50	56. 33	025314		054486			1. 50	57. 45	026337		055804		
2. 0	56. 10	025314	54·5	054536	55·0		2. 0	58. 38	026958	50·2	055769	50·0	
2. 10	55. 25	025712		054557			2. 10	59. 27	027046		055698		L
4. 0	52. 24	027224	55·7	054535	56·0	T D	4. 0	52. 44	026761	54·0	055255	54·8	H B
6. 0	49. 59	026758	55·5	054592	55·8	G	6. 0	48. 35	025694	55·3	054841	56·0	T D
8. 0	47. 30	025164	55·5	054585	55·8		8. 0	47. 15	024885	55·0	054343	56·0	
10. 0	42. 13	024500	55·5	054585	55·8	G	10. 0	47. 7	025319	53·0	054033	53·8	T D
12. 0	40. 39	025433	54·0	053860	54·4	L	12. 0	47. 4	025141	51·0	053941	51·0	L

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.
April 11^d, between 22^h and 24^h; April 12^d, between 8^h and 10^h, and between 22^h and 24^h; April 13^d, between 14^h and 16^h, and between 22^h and 24^h; April 14^d, between 8^h and 10^h, and between 22^h and 24^h; April 15^d, between 20^h and 24^h; April 16^d, between 14^h and 24^h; and April 17^d, between $2^h.10^m$ and 4^h, the changes were considerable.

HORIZONTAL FORCE MAGNET.
April 13^d, between $2^h.10^m$ and 4^h; and April 15^d and 17^d, between 0^h and $1^h.50^m$, considerable changes occurred.

VERTICAL FORCE MAGNET.
April 14^d. Between 10^h and 12^h a considerable change took place.

Daily Observations from April 18 to 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
April 18. 14. 0	22. 45. 15	0·025661	48·0	0·054749	48·2	L
16. 0	44. 25	025334	47·0	054786	47·0	
18. 0	43. 15	025654	45·8	054989	46·2	
20. 0	42. 11	024706	45·2	055173	45·3	L
22. 0	44. 55	023462	47·3	055551	48·0	T D
April 19. 0. 0	22. 52. 40	0·023438	50·0	0·055122	50·5	T D
1. 50	54. 2	025142		055095		
2. 0	54. 2	024876	53·0	055095	53·5	
2. 10	54. 2	024876		055095		T D
4. 0	49. 8	025793	55·2	055232	55·5	L
6. 0	47. 57	025945	56·5	054523	57·0	
8. 0	47. 31	026656	56·8	054131	57·0	
10. 0	46. 46	026152	56·0	053844	56·0	L
12. 0	46. 10	026213	55·0	053930	55·5	T D
14. 0	42. 39	026950	53·0	053781	53·0	
16. 0	40. 28	027090	51·0	053758	51·5	
18. 0	38. 21	027303	49·5	054165	50·0	
20. 0	50. 56	025661	48·0	054284	48·8	T D
22. 0	57. 13	019072	48·5	054395	49·0	G H
April 20. 0. 0	22. 57. 52	0·019319	51·2	0·054908	51·2	G H
1. 50	23. 0. 14	021502		056123		
2. 0	23. 0. 41	021573	56·0	055980	56·0	
2. 10	22. 59. 22	019111		055874		G H
4. 0	23. 1. 37	024414	58·5	056848	59·0	T D
6. 0	22. 55. 24	025885	59·3	056893	60·0	T D
8. 0	41. 45	022433	59·5	055977	60·2	G
10. 0	41. 30	023739	59·5	054909	60·2	G
12. 0	45. 28	023407	59·5	054400	59·9	G H
14. 0	45. 29	023652	58·6	054356	59·0	
16. 0	44. 12	023733	58·0	054250	58·0	
18. 0	44. 6	024234	57·0	054203	57·0	
20. 0	44. 26	023975	56·6	054237	56·5	G H
22. 0	46. 37	023355	56·6	054245	56·7	T D
April 21. 0. 0	22. 55. 52	0·021916	57·9	0·054180	58·2	L
1. 50	23. 6. 9	022298		055398		
2. 0	5. 15	021745	60·2	055398	59·2	
2. 10	6. 48	021745		055434		L
4. 0	23. 8. 2	025100	62·0	056171	62·0	T D
6. 0	22. 55. 26	023993	62·0	055758	62·0	T D
8. 0	46. 41	022530	61·7	054878	61·5	L
10. 0	45. 22	022203	60·5	054362	60·9	G
12. 0	45. 46	023553	60·5	052615	60·7	G

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
April 21. 14. 0	22. 48. 4	0·022329	59·2	0·053270	59·5	L
16. 0	44. 44	022638	59·0	053883	59·5	T D
18. 0	44. 55	022866	57·6	053936	58·0	T D
20. 0	45. 11	022684	57·0	054226	57·5	G H
22. 0	49. 57	022236	57·0	054310	57·0	G
April 22. 0. 0	22. 54. 38	0·022571	59·0	0·054427	59·0	T D
1. 50	56. 9	023715		054605		G H
2. 0	56. 15	023494	61·8	054569	62·0	
2. 10	55. 55	023051		054519		G H
4. 0	52. 42	024553	63·5	054521	63·8	L
6. 0	49. 50	026056	64·5	054624	65·0	G H
8. 0	45. 13	027121	63·5	054318	64·0	T D
10. 0	48. 14	024313	62·5	053766	63 0	G
12. 0	47. 51	023632	59·7	053582	60·0	L
14. 0	46. 19	024316	56·2	053568	56·7	
16. 0	44. 5	024035	53·0	053843	53·3	
18. 0	43. 40	024324	50·0	054146	50·6	
20. 0	44. 31	024660	49·0	054494	49·5	L
22. 0	46. 31	023736	50·7	055009	51·0	T D
April 23. 0. 0	22. 49. 31	0·023893	53·5	0·055058	54·0	T D
1. 50	51. 43	025819		055068		
2. 0	51. 59	025731	58·4	055068	59·0	
2. 10	52. 14	025731		054997		T D
4. 0	49. 7	025804	60·8	054356	62·0	L
6. 0	48. 23	025493	62·2	053993	63·0	
8. 0	46. 23	025291	62·0	053722	62·5	L
10. 0	49. 17	025165	61·0	053793	62·5	G H
12. 0	47. 13	024575	58·0	053260	58·0	T D
14. 0	45. 28	024558	56·0	053275	56·0	
16. 0	45. 24	024836	54·2	053582	54·7	
18. 0	45. 5	024997	51·7	053860	52·0	
20. 0	44. 23	024920	51·0	054333	51·0	T D
22. 0	46. 29	023879	52·0	054679	52·0	G H
April 24. 0. 0	22. 50. 27	0·023763	54·6	0·054589	53·8	G H
1. 50	53. 17	024110		054668		G
2. 0	53. 21	024243	58·0	054539	57·5	
2. 10	53. 21	024243		054397		G
4. 0	50. 58	025162	61·5	054106	62·0	T D
6. 0	50. 2	026082	63·0	053953	63·5	
8. 0	49. 35	025573	63·0	053517	63·0	T D
10. 0	48. 25	025228	61·5	053237	61·0	G
12. 0	45. 48	025095	59·0	053547	60·0	G 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 97$; in Vertical Plane, $23^s \cdot 1$.

DECLINATION MAGNET.
April 18^d, between 22^h and 24^h; April 19^d, between 18^h and 22^h; April 20^d, between 4^h and 8^h, and between 22^h and 24^h; and April 21^d, between 0^h and 1^h. 50^m, and between 4^h and 8^h, the changes in the position of the magnet were considerable.

HORIZONTAL FORCE MAGNET.
April 20^h, between 0^h and 8^h; April 21^d, between 2^h. 10^m and 4^h; and April 22^d, between 8^h and 10^h, considerable changes occurred.

VERTICAL FORCE MAGNET.
April 20^d and 21^d. Considerable changes occurred during both these days.

Daily Observations from April 25 to May 1.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
April 25. 14. 0	22. 46. 38	0·026036	55·0	0·053773	56·0	G H
16. 0	45. 23	027040	53·5	054052	54·8	
18. 0	43. 30	025939	53·0	054346	54·0	
20. 0	41. 57	025809	53·8	054346	54·0	G H
22. 0	44. 20	025145	53·8	054004	54·0	L
April 26. 0. 0	22. 50. 17	0·025189	53·8	0·054132	54·0	L
1. 50	52. 19	026521		054280		
2. 0	51. 44	026720	54·6	054280	54·7	
2. 10	52. 27	026499		054280		L
4. 0	49. 15	027267	57·0	054267	57·0	G H
6. 0	47. 9	027508	59·0	054142	59·0	
8. 0	46. 49	027355	59·2	054023	60·0	
10. 0	47. 38	027112	59·2	053826	59·5	G H
12. 0	47. 38	026830	58·7	053786	59·0	L
14. 0	43. 26	026594	57·3	053329	57·5	
16. 0	43. 48	026064	56·0	053573	56·0	
18. 0	44. 25	025602	54·5	053782	54·7	
20. 0	44. 25	025366	53·8	053990	54·0	L
22. 0	48. 42	024823	56·0	054129	56·0	T D
April 27. 0. 0	22. 52. 55	0·025410	59·4	0·055093	60·7	T D
1. 50	55. 59	026929		054321		
2. 0	55. 5	026730	62·0	054264	63·0	
2. 10	54. 59	026398		054264		T D
4. 0	52. 15	025887	63·2	053926	64·0	L
6. 0	49. 47	026407	63·8	054543	64·2	
8. 0	47. 59	026304	63·0	053694	63·0	
10. 0	46. 56	025804	61·5	053396	61·7	L
12. 0	46. 36	025705	60·0	053632	60·0	T D
14. 0	46. 19	025726	58·0	053561	58·3	
16. 0	46. 0	025665	56·0	053567	55·7	
18. 0	43. 45	025488	56·0	054265	55·8	
20. 0	42. 59	024481	54·0	054275	54·0	T D
22. 0	48. 34	024177	55·0	054332	54·0	G H
April 28. 0. 0	22. 53. 44	0·027149	56·2	0·054629	56·5	L
1. 50	52. 46	025558		054634		G H
2. 0	51. 35	025669	58·8	054634	58·0	
2. 10	51. 27	025337		054563		G H
4. 0	50. 16	026933	61·5	054763	61·7	T D
6. 0	49. 14	025449	61·5	053966	61·7	
8. 0	48. 15	026383	61·0	053864	61·0	
10. 0	46. 35	025883	60·0	053774	60·0	T D
12. 0	41. 34	026949	58·4	053671	58·8	G H
April 28. 14. 0	22. 44. 59	0·026052	57·4	0·053509	58·0	G H
16. 0	46. 46	025608	57·2	053813	57·5	
18. 0	40. 49	025903	58·0	053908	58·0	
20. 0	40. 33	024079	58·3	053707	57·5	G H
22. 0	48. 1	022748	59·0	053960	59·2	L
April 29. 0. 0	22. 50. 0	0·023763	60·4	0·053822	59·8	L
1. 50	52. 13	025272		053932		
2. 0	52. 29	025316	62·2	053989	61·8	
2. 10	51. 52	024984		053989		L
4. 0	50. 49	027233	63·0	053965	63·0	G H
6. 0	47. 26	025528	63·0	053851	63·0	
8. 0	44. 14	025746	62·1	053864	62·5	
10. 0	44. 32	027269	61·0	053477	61·8	G H
12. 0	34. 47	025415	59·8	053057	60·2	L
14. 0	37. 20	023232	57·8	052044	58·2	
16. 0	41. 42	024448	56·0	052114	56·3	
18. 0	41. 58	025013	54·2	053782	54·7	
20. 0	43. 13	022297	53·3	053992	53·5	L
22. 0	50. 20	022228	55·0	054201	55·0	T D
April 30. 0. 0	22. 54. 24	0·022821	57·7	0·054398	57·8	T D
1. 50	55. 20	024130		054860		
2. 0	55. 5	024950	59·8	054917	59·6	
2. 10	54. 50	025016		054917		T D
4. 0	52. 9	025460	60·7	054555	61·0	L
6. 0	47. 13	025465	60·2	054443	60·5	
8. 0	43. 52	026246	59·0	054285	59·0	
10. 0	43. 0	025850	57·0	053847	57·0	L
12. 0	39. 5	025342	55·5	053588	55·4	T D
14. 0	42. 55	025098	53·0	053471	52·6	
16. 0	47. 18	024920	51·0	053583	50·7	
18. 0	46. 27	023993	49·4	054167	50·0	
20. 0	42. 6	023870	49·7	054701	50·0	T D
22. 0	46. 18	023946	51·6	054686	50·0	G H
May 1. 0. 0	22. 52. 19	0·023603	52·5	0·054572	52·0	G H
1. 50	54. 33	026005		054556		
2. 0	54. 52	026670	57·0	054485	56·0	
2. 10	54. 45	026559		054528		G H
4. 0	52. 11	026955	59·0	054588	59·5	T D
6. 0	46. 41	026603	58·3	054488	58·5	
8. 0	46. 34	026507	57·5	054047	57·3	
10. 0	44. 8	026130	56·0	053844	56·0	T D
12. 0	44. 1	025666	54·3	053631	55·0	G 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.
April 25^d, between 22^h and 24^h; April 27^d, between 20^h and 24^h; April 28^d, between 10^h and 12^h, and between 20^h and 24^h; April 29^d, between 10^h and 12^h, and between 20^h and 22^h; April 30^d, between 22^h and 24^h; and May 1^d, between 4^h and 6^h, considerable changes occurred.

HORIZONTAL FORCE MAGNET.
April 27^d, between 22^h and 24^h; April 29^d, between 18^h and 20^h; and May 1^d, between 0^h and $1^h.50^m$, considerable changes occurred.

VERTICAL FORCE MAGNET.
April 26^d, between 22^h and 24^h; April 27^d, between 0^h and $1^h.50^m$, and between 6^h and 8^h; April 28^d, between 4^h and 6^h; and April 29^d, between 12^h and 18^h, considerable changes took place.

Daily Observations from May 2 to 8.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
May 2. 14. 0	22. 43. 14	0·026670	53·2	0·053826	54·0	G H	May 5. 14. 0	22. 44. 14	0·025959	59·9	0·053497	60·0	G H
16. 0	44. 44	026505	53·5	054346	54·0		16. 0	44. 18	025622	59·0	053598	59·5	
18. 0	44. 3	026300	54·8	054571	55·0		18. 0	41. 4	025804	59·0	053765	59·0	
20. 0	41. 42	025100	55·9	054529	55·0	G H	20. 0	38. 10	025435	58·7	053813	58·8	G H
22. 0	43. 10	023806	56·2	054350	55·7	L	22. 0	41. 23	023651	59·5	053874	59·3	T D
May 3. 0. 0	22. 53. 2	0·024150	56·3	0·054072	56·0	L	May 6. 0. 0	22. 49. 46	0·023912	61·6	0·053565	61·5	T D
1. 50	58. 8	026250		054373			1. 50	52. 43	023868		053609		G
2. 0	57. 50	026250	57·2	054373	56·8		2. 0	53. 14	024134	63·0	053623	63·0	T D
2. 10	57. 44	026360		054387		L	2. 10	53. 18	024201		053623		T D
4. 0	52. 52	027071	58·5	054278	58·0	G H	4. 0	51. 53	025523	65·0	053627	65·0	G H
6. 0	48. 5	027419	59·0	054278	58·0		6. 0	48. 57	027227	66·0	053671	66·0	G H
8. 0	45. 33	026562	58·5	054237	58·2		8. 0	46. 28	026984	66·5	053401	66·0	L
10. 0	42. 12	026840	57·5	054092	57·8	G H	10. 0	45. 41	026431	66·5	053294	66·0	
12. 0	43. 34	025593	56·8	053924	56·7	L	12. 0	45. 8	026211	64·0	053189	64·5	
14. 0	45. 55	026391	55·0	053631	55·0		14. 0	43. 50	025854	61·2	052810	61·0	
16. 0	45. 25	026229	53·6	053885	53·5		16. 0	44. 23	025915	59·0	053003	59·0	
18. 0	41. 51	025595	52·5	054212	52·5		18. 0	41. 17	026110	57·8	053265	57·6	
20. 0	40. 16	025008	51·8	054429	52·0	L	20. 0	40. 10	025674	57·0	053562	57·0	L
22. 0	43. 15	023670	52·7	054502	52·8	T D	22. 0	42. 46	024731	59·1	053780	58·0	G H
May 4. 0. 0	22. 52. 18	0·023886	54·6	0·054365	54·7	T D	May 7. 0. 0	22. 49. 9	0·023634	61·5	0·053762	60·8	G H
1. 50	55. 45	025364		054482			1. 50	52. 3	024656		053668		
2. 0	55. 48	025364	57·2	054454	57·5		2. 0	52. 25	024966	64·3	053597	63·5	
2. 10	55. 48	025364		054454		T D	2. 10	52. 45	025033		053519		G H
4. 0	52. 0	027064	58·8	054213	59·0	L	4. 0	51. 48	025523	65·5	053391	65·0	L
6. 0	46. 24	027230	59·8	054152	60·0		6. 0	48. 14	025925	65·2	053520	65·0	
8. 0	44. 22	026839	59·5	053956	59·6		8. 0	45. 23	025990	64·5	053404	64·2	
10. 0	44. 37	026320	58·7	053742	58·8	L	10. 0	45. 36	026477	64·0	053357	64·0	L
12. 0	46. 5	026825	57·0	053497	56·7	T D	12. 0	45. 20	026924	63·0	053106	62·7	T D
14. 0	44. 59	026196	56·0	053674	55·8		14. 0	38. 3	025581	62·2	052576	62·0	
16. 0	44. 59	026155	54·5	053853	54·8		16. 0	55. 54	025980	62·2	052753	62·0	
18. 0	42. 59	025983	53·0	053959	53·0		18. 0	22. 46. 16	026449	61·0	052454	61·0	
20. 0	41. 10	024666	52·7	054422	53·0	T D	20. 0	23. 3. 44	020699	59·8	051638	60·0	T D
22. 0	43. 27	023941	54·5	054383	53·5	G H	22. 0	23. 2. 12	017230	59·5	052514	60·0	G H
May 5. 0. 0	22. 50. 15	0·023171	57·0	0·054129	56·0	G H	May 8. 0. 0	22. 54. 21	0·018239	60·5	0·053736	61·0	G H
1. 50	54. 0	024510		054142			1. 50	53. 4	021749		055245		
2. 0	54. 0	024576	60·0	054107	59·0		2. 0	52. 26	022413	62·0	055281	62·0	
2. 10	54. 0	024598		054071		G H	2. 10	51. 21	022147		055245		G H
4. 0	51. 20	026221	62·0	054177	62·0	T D	4. 0	50. 28	022305	62·9	055012	63·0	T D
6. 0	46. 43	026569	63·0	054158	63·0		6. 0	45. 19	024064	62·8	054834	63·0	T D
8. 0	45. 6	026525	63·0	053851	63·0		8. 0	49. 29	023722	61·5	053928	61·5	G
10. 0	44. 11	025822	62·0	053468	61·7	T D	10. 0	47. 54	023750	60·3	053837	60·5	G
12. 0	45. 4	024823	60·2	053458	61·0	G H	12. 0	48. 3	024143	59·0	053641	58·5	G 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s{\cdot}8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s{\cdot}97$; in Vertical Plane, $23^s{\cdot}1$.

DECLINATION MAGNET.
May 2d, between 22h and 24h; May 3d, between 0h and 1h. 50m, and between 22h and 24h; May 4d, between 4h and 6h, and between 22h and 24h; and May 5d, between 22h and 24h, and between 7d. 12h and 24h, the changes were considerable.
May 8d. Between 4h and 6h the change was considerable for the time of the day.

HORIZONTAL FORCE MAGNET.
May 3d, between 0h and 1h. 50m, and between May 7d. 18h and May 8d. 1h. 50m, considerable changes occurred.

VERTICAL FORCE MAGNET.
May 7d, between 12h and 14h, and between 18h and 24h; May 8d, between 0h and 1h. 50m, and between 6h and 8h, considerable changes occurred.

Daily Observations from May 9 to 15.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
May 9. 14. 0	22. 45. 28	0·025140	60·8	0·053622	61·5	G H
16. 0	45. 12	025059	60·5	053701	61·0	
18. 0	44. 22	025767	60·5	053736	61·0	
20. 0	47. 34	023062	61·0	053539	60·5	G H
22. 0	49. 55	024541	62·2	053465	61·0	L
May 10. 0. 0	22. 51. 45	0·024748	65·0	0·053784	64·0	L
1. 50	53. 34	025085		054116		T D
2. 0	53. 26	025263	67·2	054116	67·5	
2. 10	53. 19	025085		054058		T D
4. 0	49. 50	025772	69·0	053626	69·0	G H
6. 0	45. 53	026111	70·8	053569	70·5	
8. 0	44. 3	026158	70·5	053551	71·0	
10. 0	44. 46	025423	70·0	053355	70·5	G H
12. 0	45. 12	025064	69·0	052997	68·7	L
14. 0	44. 6	024700	67·3	052855	67·0	
16. 0	43. 28	024996	65·2	052736	65·0	
18. 0	40. 45	024597	63·5	052781	63·2	
20. 0	40. 45	024455	62·4	052825	62·0	L
22. 0	44. 6	023428	62·5	052973	62·4	T D
May 11. 0. 0	22. 52. 17	0·023035	63·4	0·053240	63·8	T D
1. 50	52. 38	024175		053235		
2. 0	52. 38	024440	64·0	053214	64·0	
2. 10	52. 12	024440		053214		T D
4. 0	48. 1	025431	64·8	053602	65·5	L
6. 0	45. 14	026164	66·0	053591	66·5	
8. 0	45. 48	026364	66·5	053116	66·0	
10. 0	45. 58	025828	65·8	053116	66·0	L
12. 0	44. 54	025924	64·0	052844	64·0	T D
14. 0	44. 2	025309	61·8	052875	61·6	
16. 0	43. 20	025262	60·0	052927	60·0	
18. 0	39. 32	024101	57·0	052878	56·8	
20. 0	39. 59	023101	56·7	053597	56·6	T D
22. 0	45. 11	023468	58·0	053671	57·5	G H
May 12. 0. 0	22. 49. 55	0·024315	59·5	0·053605	58·5	G H
1. 50	50. 35	025077		053689		
2. 0	50. 21	024988	61·0	053667	60·0	
2. 10	50. 4	025187		053653		G H
4. 0	47. 16	025291	62·0	053850	62·0	T D
6. 0	45. 34	025927	63·0	053851	63·0	
8. 0	45. 59	025591	64·0	053692	64·0	
10. 0	45. 45	025392	62·8	053246	62·6	T D
12. 0	45. 2	025291	62·0	053446	63·0	G H
May 12. 14. 0	22. 46. 15	0·025617	60·0	0·053202	61·0	G H
16. 0	44. 48	025494	59·0	053582	60·0	
18. 0	42. 43	024896	59·0	053755	59·5	
20. 0	40. 15	023479	59·0	053670	58·7	G H
22. 0	45. 49	022815	59·0	053604	58·5	L
May 13. 0. 0	22. 54. 2	0·024180	60·2	0·054121	59·8	L
1. 50	56. 7	025642		053608		
2. 0	55. 36	025398	62·5	053608	62·0	
2. 10	55. 13	025310		053565		L
4. 0	49. 8	025984	64·8	053634	65·0	G H
6. 0	45. 0	025310	65·9	053496	66·4	
8. 0	45. 26	025341	65·8	053342	66·5	
10. 0	46. 3	025370	64·0	053164	65·0	G H
12. 0	46. 12	025332	62·5	053118	63·0	G
14. 0	46. 12	025103	60·5	053024	61·0	G
16. 0	44. 30	024673	58·8	053110	59·0	L
18. 0	41. 47	024456	57·0	053206	57·0	G
20. 0	40. 24	023570	57·0	053626	56·8	L
22. 0	44. 59	022969	59·0	053573	59·0	T D
May 14. 0. 0	22. 52. 52	0·023523	61·5	0·053847	61·8	T D
1. 50	54. 5	025062		053519		G
2. 0	53. 54	024885	63·5	053497	62·7	
2. 10	53. 34	024863		053419		G
4. 0	49. 56	025568	65·0	053331	64·5	L
6. 0	45. 37	026253	66·0	053543	66·0	
8. 0	45. 52	026780	66·3	053187	66·0	
10. 0	45. 39	026368	65·7	052926	65·5	L
12. 0	43. 19	025613	64·0	052762	63·8	T D
14. 0	44. 33	025955	62·0	052661	61·6	
16. 0	44. 13	025778	62·0	053046	61·6	
18. 0	40. 57	025074	60·8	053197	60·5	
20. 0	38. 53	024244	60·0	053276	60·0	T D
22. 0	43. 51	022480	61·3	053235	60·8	G H
May 15. 0. 0	22. 58. 25	0·023178	62·8	0·053038	62·0	L
1. 50	23. 1. 7	024372		053371		G H
2. 0	1. 32	024128	65·0	053449	64·0	
2. 10	23. 1. 9	024172		053393		G H
4. 0	22. 59. 0	025811	66·5	054112	66·6	T D
6. 0	52. 12	025541	67·3	054961	67·7	
8. 0	43. 33	026995	67·4	054350	67·5	
10. 0	45. 38	026568	66·7	053876	66·5	T D
12. 0	44. 18	026564	65·0	053081	66·0	G 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.
May 10^d, between 22^h and 24^h; May 11^d, between 20^h and 22^h; May 12^d, between 20^h and 24^h; May 13^d, between $2^h.10^m$ and 4^h, and between 22^h and 24^h; May 14^d, between 22^h and 24^h; and May 15^d, between 4^h and 8^h, the changes were considerable.

HORIZONTAL FORCE MAGNET.
May 9^d. Between 18^h and 20^h a considerable change occurred.

VERTICAL FORCE MAGNET.
May 11^d, between 18^h and 20^h; and May 15^d, between $2^h.10^m$ and 6^h, and between 10^h and 12^h, considerable changes took place.

Daily Observations from May 16 to 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
May 16. 14. 0	22. 45. 11	0·024279	61·0	0·053408	62·0	G H	May 19. 14. 0	22. 41. 39	0·023615	61·0	0·052376	62·0	G H
16. 0	45. 39	024093	59·5	053807	61·0		16. 0	42. 9	024957	59·5	052835	60·0	
18. 0	41. 35	023767	59·0	053755	59·5		18. 0	38. 14	024215	58·5	053074	59·0	
20. 0	41. 9	024602	58·4	053819	58·5	G H	20. 0	40. 7	024088	58·0	053526	58·4	G H
22. 0	42. 54	021707	59·0	053929	58·5	L	22. 0	44. 51	021356	59·2	053570	58·5	L
May 17. 0. 0	22. 47. 42	0·021835	59·5	0·053819	58·5	L	May 20. 0. 0	22. 52. 51	0·022532	60·3	0·053328	59·5	L
1. 50	52. 27	022970		054123		T D	1. 50	52. 4	023937		053707		
2. 0	53. 4	022793	61·5	053994	61·2	L	2. 0	52. 4	023937	61·8	053750	61·5	
2. 10	52. 46	022793		053994		L	2. 10	51. 23	024269		053750		L
4. 0	53. 47	024635	63·8	054161	64·0	G H	4. 0	47. 20	024444	63·0	053979	63·0	G H
6. 0	49. 35	025014	65·0	054525	65·7		6. 0	45. 32	026401	64·6	054066	64 9	
8. 0	46. 43	025040	65·2	054184	66·0		8. 0	44. 3	026232	65·0	053862	65·0	
10. 0	42. 34	023021	65·0	052733	65·3	G H	10. 0	44. 52	024962	64·6	053354	64·9	G H
12. 0	38. 57	023495	63·2	053075	63·0	L	12. 0	45. 29	023607	63·2	052805	63·0	L
14. 0	41. 22	023419	61·2	052552	60·8		14. 0	46. 14	023948	61·0	052810	61·0	
16. 0	42. 23	023560	60·2	052505	59·8		16. 0	43. 25	024155	60·0	052967	59·8	
18. 0	42. 6	023344	58·8	052124	58·4		18. 0	43. 25	023492	58·2	053153	58·0	
20. 0	44. 2	021524	58·4	052627	58·0	L	20. 0	41. 25	022852	58·4	053637	58·0	L
22. 0	46. 33	021154	59·0	053522	59·0	T D	22. 0	43. 54	021641	59·0	053791	58·7	T D
May 18. 0. 0	22. 52. 1	0·021929	60·8	0·053550	61·0	G H	May 21. 0. 0	22. 51. 6	0·022612	60·4	0·053555	59·5	T D
1. 50	56. 19	023492		053694			1. 50	52. 20	025209		054293		
2. 0	55. 23	024090	63·0	053659	63·0		2. 0	52. 15	024877	64·8	054257	64·5	
2. 10	56. 2	024532		053680		G H	2. 10	51. 44	024877		054257		T D
4. 0	52. 23	025104	64·0	053723	64·5	L	4. 0	47. 51	025770	65·7	053899	66·0	L
6. 0	45. 38	026316	64·8	053876	65·0		6. 0	44. 49	025388	67·8	053737	68·0	
8. 0	47. 10	025326	64·0	053404	64·2		8. 0	42. 9	025704	68·5	053168	68·0	
10. 0	46. 35	025374	63·0	053195	63·3	L	10. 0	44. 55	024751	68·0	052906	67·8	L
12. 0	46. 25	025225	62 0	053026	61·7	T D	12. 0	43. 57	024975	64·7	052249	64·5	T D
14. 0	46. 18	025032	61·0	052836	60·8		14. 0	43 1	024705	64·0	052317	63·6	
16. 0	45. 4	025122	60·3	052966	60·3		16. 0	40. 44	024468	62·5	052497	62·0	
18. 0	43. 45	025028	59·0	053008	58·7		18. 0	42. 58	024317	62·0	052853	61·5	
20. 0	42. 44	023844	58·0	053353	58·0	T D	20. 0	40. 15	024694	61·3	053074	61·0	T D
22. 0	47. 10	021822	57·2	053428	57·6	G H	22. 0	42. 51	021972	63·4	053396	61·7	L
May 19. 0. 0	22. 54. 3	0·022754	58·5	0·053112	58·2	G H	May 22. 0. 0	22. 50. 36	0·023751	65·5	0·053414	64·0	L
1. 50	54. 27	024722		053598			1. 50	53. 10	024795		053688		
2. 0	53. 50	024944	61·0	053598	60·7		2. 0	53. 10	025016	68·4	053688	67·2	
2. 10	53. 11	024744		053526		G H	2. 10	51. 3	025016		053616		L
4. 0	48. 40	024593	63·3	054250	63·8	G	4. 0	47. 12	025386	71·0	053907	71 0	T D
6. 0	45. 52	024962	64·6	053983	65·0	T D	6. 0	46. 28	024718	73·0	053542	73·0	
8. 0	46. 42	025014	65·0	053506	65·0		8. 0	46. 4	024563	73·0	053106	72·8	
10. 0	45. 43	024532	64·2	053237	64·4	T D	10. 0	45. 9	024505	72·6	053007	72·8	T D
12. 0	43. 42	024502	62·6	052911	63·0	G H	12. 0	44. 52	024456	71·0	052686	71·5	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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.
May 18^d, between 4^h and 6^h, and May 18^d, 19^d, 20^d, and 21^d, between 22^h and 24^h, the changes were considerable.

HORIZONTAL FORCE MAGNET.
May 16^d, between 20^h and 22^h; May 17^d, between 8^h and 10^h; May 18^d and 19^d, between 20^h and 22^h; and May 21^d, between 0^h and $1^h.50^m$, and between 20^h and 22^h, considerable changes occurred.

VERTICAL FORCE MAGNET.
May 17^d, between 20^h and 22^h; and May 19^d, between $2^h.10^m$ and 4^h, considerable changes took place.

Daily Observations from May 23 to 29.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		·°		°	
May 23. 14. 0	22. 44. 41	0·023715	74·8	0·051919	74·7	G
16. 0	43. 12	023958	74·8	052289	74·7	
18. 0	41. 3	023642	71·5	052214	72·0	
20. 0	40. 47	023102	70·5	052411	71·0	G
22. 0	43. 32	022438	70·5	052306	70·0	L
May 24. 0. 0	22. 48. 44	0·022673	70·6	0·052426	70·2	L
1. 50	48. 53	024086		052839		
2. 0	49. 1	024263	71·2	052839	71·0	
2. 10	49. 1	024794		052839		L
4. 0	48. 28	024620	72·0	052919	72·0	G
6. 0	46. 22	024465	72·0	052954	72·0	
8. 0	46. 41	024562	69·7	052462	70·0	
10. 0	45. 22	024597	68·5	052413	68·7	G
12. 0	45. 1	024810	66·8	052356	66·7	L
14. 0	43. 58	024420	65·2	052175	65·4	
16. 0	42. 57	024266	63·5	052458	63·5	
18. 0	39. 11	024096	61·3	052442	61·2	
20. 0	38. 40	023881	61·0	052730	60·8	L
22. 0	42. 31	023409	62·0	052898	61·7	T D
May 25. 0. 0	22. 48. 6	0·023263	63·8	0·053170	63·5	T D
1. 50	51. 11	024394		053653		
2. 0	51. 11	024616	67·0	053639	67·0	
2. 10	51. 13	024881		053596		T D
4. 0	48. 12	025112	67·4	053282	67·5	L
6. 0	46. 22	025440	69·0	053414	69·3	
8. 0	45. 15	025551	69·0	053035	69·0	
10. 0	45. 28	025016	68·0	052812	68·0	L
12. 0	42. 25	025168	66·0	052465	65·6	T D
14. 0	40. 18	024844	63·7	052315	63·5	
16. 0	40. 7	024074	61·3	052145	61·3	
18. 0	40. 7	024089	58·2	052505	59·0	
20. 0	40. 2	023811	59·0	052932	59·0	T D
22. 0	45. 46	023862	61·2	052946	59·0	L
May 26. 0. 0	22. 52. 48	0·023944	63·6	0·053181	62·0	L
1. 50	55. 15	025031		053413		
2. 0	55. 31	025119	66·3	053377	65·3	
2. 10	55. 31	024964		053377		L
4. 0	51. 45	025418	69·0	053809	69·4	T D
6. 0	48. 56	025523	70·4	053687	70·0	
8. 0	45. 53	025208	71·3	053761	71·5	
10. 0	46. 19	023824	69·0	052923	69·7	T D
12. 0	44. 30	024239	67·0	053072	69·3	G

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
May 26. 14. 0	22. 45. 57	0·023889	63·5	0·052291	63·7	G
16. 0	44. 48	024196	62·1	052332	61·4	
18. 0	41. 1	024193	58·5	052576	59·0	
20. 0	39. 37	023368	59·0	053143	58·5	G
22. 0	42. 18	023375	61·2	053377	59·4	L
May 27. 0. 0	22. 50. 8	0·023217	64·8	0·053410	63·0	L
1. 50	51. 58	024623		053715		
2. 0	52. 17	024734	69·5	053644	68·2	
2. 10	52. 3	024734		053573		L
4. 0	48. 45	024734	72·5	053524	72·0	G
6. 0	45. 47	024906	73·7	053184	72·0	
8. 0	46. 9	027015	74·5	053130	75·0	
10. 0	45. 26	026035	73·7	052615	74·0	G
12. 0	41. 27	023799	72·3	052164	72·0	L
14. 0	46. 7	025250	70·0	051972	69·8	
16. 0	41. 43	023976	68·0	052100	68·0	
18. 0	42. 13	024482	66·0	052024	66·2	
20. 0	38. 27	022817	66·8	052580	66·5	L
22. 0	44. 43	021079	69·0	053175	68·7	T D
May 28. 0. 0	22. 49. 59	0·021463	73·0	0·053613	73·0	T D
1. 50	53. 5	023555		053809		
2. 0	53. 5	023599	77·0	053809	77·0	
2. 10	53. 5	023821		053809		T D
4. 0	49. 7	024688	79·8	053483	79·2	L
6. 0	46. 47	025494	81·0	053334	80·8	
8. 0	45. 40	024718	81·0	052810	80·6	T D
10. 0	44. 53	024103	79·6	052357	79·8	G
12. 0	44. 48	023975	79·2	052333	79·5	G
14. 0	44. 32	024018	75·8	051652	76·0	L
16. 0	43. 33	023658	73·8	051470	73·7	T D
18. 0	35. 15	025308	71·7	051756	71·4	T D
20. 0	49. 14	020445	70·5	052292	72·0	G H
22. 0	46. 24	021278	69·0	052092	70·0	G
May 29. 0. 0	22. 52. 2	0·024209	70·5	0·052411	71·0	T D
1. 50	53. 22	024421		052805		G H
2. 0	53. 25	024864	72·0	052770	72·0	
2. 10	52. 48	024200		052734		G H
4. 0	50. 3	024668	72·5	053641	73·0	L
6. 0	47. 56	025753	72·5	053149	72·8	T D
8. 0	47. 21	025727	72·0	052844	73·0	G H
10. 0	46. 11	024335	68·2	051944	68·5	G
12. 0	44. 31	024801	66·4	052143	66·7	T 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.
May 23^d and 24^d, between 22^h and 24^h; May 25^d, between 20^h and 24^h; May 26^d, between 22^h and 24^h; May 27^d, between 20^h and 24^h; and May 28^d, between 16^h and 24^h, the changes were considerable.

HORIZONTAL FORCE MAGNET.
May 27^d, between 6^h and 8^h and between 10^h and 12^h; and May 28^d, between 0^h and $1^h.50^m$, and between 18^h and 20^h, considerable changes occurred.

VERTICAL FORCE MAGNET
May 26^d, between 12^h and 14^h; and May 29^d, between $2^h.10^m$ and 4^h, and between 8^h and 10^h, considerable changes took place.

Daily Observations from May 30 to June 5.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
May 30. 14. 0	22. 42. 52	0·023671	63·7	0·052249	63·0	T D	June 2. 14. 0	22. 41. 58	0·025130	64·2	0·051947	64·0	T D
16. 0	43. 10	024090	63·0	052115	61·7		16. 0	39. 8	024842	63·0	052299	63·0	
18. 0	39. 7	024567	61·0	052625	61·0		18. 0	40. 40	024722	61·0	052345	61·3	
20. 0	38. 23	023900	60·8	052855	60·5	T D	20. 0	38. 42	023704	61·0	052924	61·5	T D
22. 0	41. 23	023520	62·0	052967	61·0	G H	22. 0	42. 52	022279	62·7	052910	61·5	G H
May 31. 0. 0	22. 50. 34	0·023464	65·0	0·053179	64·0	G H	June 3. 0. 0	22. 45. 41	0·023091	65·2	0·052858	64·0	G H
1. 50	51. 58	024692		053336			1. 50	58. 16	023314		053221		
2. 0	51. 55	024870	69·2	053301	68·4		2. 0	58. 2	023403	69·8	053150	68·8	
2. 10	51. 59	025091		053179		G H	2. 10	57. 29	023624		053093		G H
4. 0	49. 2	025992	73·4	053805	73·7	T D	4. 0	56. 3	024045	72·0	053343	73·0	T D
6. 0	48. 38	025472	74·7	053469	74·8		6. 0	52. 9	024940	75·0	053437	75·8	
8. 0	47. 6	025251	75·0	052884	74·6		8. 0	52. 24	025029	75·0	052880	75·0	T D
10. 0	46. 25	025946	74·0	052704	74·4	T D	10. 0	51. 39	024541	73·0	052275	73·0	G
12. 0	44. 33	025149	71·2	052356	72·0	G H	12. 0	47. 7	024421	72·0	052306	72·0	G H
14. 0	43. 30	024518	69·7	052359	70·5		14. 0	50. 0	024610	68·6	052227	70·4	
16. 0	41. 58	024660	67·0	052433	68·2		16. 0	50 49	024660	67·0	052185	68·0	
18. 0	38. 23	023685	65·0	052523	66·5		18. 0	47. 8	024039	66·0	052678	67·0	
20. 0	39. 45	022375	64·8	052665	65·0	G H	20. 0	47. 30	023379	65·7	052855	66·4	G H
22. 0	41. 36	022746	66·6	052666	64·7	L	22. 0	49. 39	022322	66·4	052703	66·0	L
June 1. 0. 0	22. 52. 10	0·023136	68·5	0·052720	67·0	G	June 4. 0. 0	22. 52. 26	0·022632	68·7	0·052702	67·6	L
1. 50	52. 36	025252		052903		L	1. 50	55. 1	024393		052910		
2. 0	52. 47	025252	72·4	052903	70·4		2. 0	55. 1	024393	71·8	052875	71·0	
2. 10	52. 31	025584		052846		L	2. 10	55. 17	024393		052839		L
4. 0	50. 6	026402	75·0	053058	74·5	G H	4. 0	51. 36	024350	74·6	052959	73·9	G H
6. 0	44. 46	028691	77·0	053535	76·5		6. 0	49. 29	024601	76·3	053048	76·0	G H
8. 0	42. 39	024529	77·0	053125	77·0		8. 0	48. 13	025089	76·6	052634	76·0	L
10. 0	42. 37	024558	74·5	052432	75·0	G H	10. 0	48. 54	024690	76·0	052531	76·2	
12. 0	37. 6	023757	72·0	051726	72·0	L	12. 0	47. 50	024634	73·5	052100	73·6	
14. 0	38. 51	022786	69·5	051446	69·4		14. 0	46. 19	024611	71·0	051913	71·0	
16. 0	38. 59	023840	66·5	051526	66·5		16. 0	43. 51	024795	68·4	051864	68·5	
18. 0	37. 24	023425	64·7	052121	64·5		18. 0	42. 0	024553	66·2	052060	66·5	
20. 0	39. 10	021765	64·7	052644	64·3	L	20. 0	41. 1	024017	65·0	052522	65·6	L
22. 0	41. 41	022313	65·0	052950	65·0	T D	22. 0	47. 28	022951	64·8	052608	65·0	T D
June 2. 0. 0		0·021385	69·3	0·052703	66·9	G H	June 5. 0. 0	22. 50. 20	0·023579	66·2	0·052808	66·5	T D
1. 50	22. 49. 35	023914		053727		T D	1. 50	51. 48	024580		052950		
2. 0	49. 50	024091	72·8	053699	73·0		2. 0	51. 56	024580	68·7	052950	68·8	
2. 10	49. 50	024202		053699		T D	2. 10	51. 56	024624		052936		T D
4. 0	47. 18	024779	74·5	053014	74·0	L	4. 0	50. 50	025228	70·5	052822	69·0	L
6. 0	44. 21	025265	74·8	052994	74·7		6. 0	49. 44	024859	70·4	052934	69·8	
8. 0	42. 22	025477	73·2	052559	73·0		8. 0	48. 17	025744	69·6	052752	69·5	
10. 0	43. 11	025246	70·0	052021	70·0	L	10. 0	47. 35	025553	68·2	052527	68·0	L
12. 0	43. 7	024659	65·0	051337	64·8	T D	12. 0	44. 13	025368	67·0	052586	67·3	T 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°; from June $2^d.1^h.50^m$, 350°; from June $4^d.1^h.50^m$, 17°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.

June $2^d.0^h$. Before this observation, the torsion circle and suspension stirrup were removed, and a new suspension stirrup was put up, which is to carry the magnet, and also a concave mirror, to be used in the self-registration of the changes of the position of this magnet by Mr. Brooke's photographic process. The suspension thread was shortened, and a new value of the fraction expressing the proportion of the torsion force to the earth's magnetic force will be required.

June 3^d, after 0^h. The mirror was placed in its cell; the result at the next observation indicated that the magnet had moved contrary to its usual motion, and it was suspected that some torsion had been communicated to the suspension-skein. After the observation on June 3^d at 22^h, the reading of the torsion circle, when the brass bar rested in the magnetic meridian, was found to be 17°, being 27° different from the preceding reading; and all the readings between June $3^d.1^h.50^m$ and June $3^d.22^h$ have been increased by 15′.35″. The readings, however, between June $2^d.0^h$ and June $3^d.22^h$ are not trustworthy, and they have not been used in the Abstracts.

Daily Observations from June 6 to 12.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
June 6. 14. 0	22. 44. 37	0·025564	61·0	0·052333	61·0	T D	June 9. 14. 0	22. 44. 54	0·025955	62·0	0·053017	62·0	T D
16. 0	45. 53	025421	58·4	052263	58·0		16. 0	42. 43	025617	60·0	052799	60·0	
18. 0	39. 27	025967	56·6	052742	56·5		18. 0	41. 47	024894	58·8	052836	58·5	
20. 0	39. 13	025416	56·8	053049	56·6	T D	20. 0	40. 41	024481	58·5	053151	58·7	T D
22. 0	36. 17	024575	58·0	053098	56·5	G H	22. 0	44. 19	024353	58·0	053107	58·5	G H
June 7. 0. 0	22. 41. 56	0·024279	61·0	0·053298	58·4	G H	June 10. 0. 0	22. 53. 13	0·024414	58·5	0·052822	58·5	G H
1. 50	43. 22	024878		053508			1. 50	58. 26	023479		053003		
2. 0	43. 22	024944	64·3	053494	62·5		2. 0	56. 56	023368	59·0	053003	59·0	
2. 10	43. 34	025365		053437		G H	2. 10	56. 40	024143		053031		G H
4. 0	50. 45	025851	66·8	053638	66·7	T D	4. 0	54. 38	026911	60·8	053674	60·5	T D
6. 0	49. 51	025592	68·0	053466	68·0		6. 0	48. 10	026303	61·6	054220	61·5	
8. 0	48. 17	025858	68·0	053246	68·0		8. 0	49. 34	025867	61·3	053508	61·0	
10. 0	46. 4	026032	67·0	053024	67·4	T D	10. 0	46. 11	025165	61·0	053309	61·0	T D
12. 0	45. 9	025718	65·3	052831	66·0	G H	12. 0	37. 6	027778	61·0	053170	60·7	G H
14. 0	46. 23	025790	64·0	052788	64·7		14. 0	42. 31	024439	60·5	052989	61·0	
16. 0	40. 40	025418	63·0	052612	63·7		16. 0	47. 7	024501	61·0	053166	61·0	
18. 0	41. 5	026082	63·0	052662	63·0		18. 0	43. 58	024279	61·0	053166	61·0	
20. 0	45. 14	024909	63·0	052484	63·0	G H	20. 0	47. 34	021331	62·2	053024	61·0	G H
22. 0	46. 2	024405	62·0	052198	62·0	L	22. 0	45. 45	023138	64·2	053017	61·6	L
June 8. 0. 0	22. 50. 24	0·024146	61·7	0·052280	61·8	L	June 11. 0. 0	22. 50. 47	0·023047	65·2	0·053095	64·4	L
1. 50	54. 30	024146		052494			1. 50	53. 56	024163		053259		
2. 0	54. 7	024301	61·7	052494	61·8		2. 0	53. 36	024119	66·6	053245	65·4	
2. 10	54. 7	024234		052530		L	2. 10	53. 7	023787		053201		L
4. 0	52. 14	024339	61·7	052910	62·0	G H	4. 0	52. 48	024972	68·0	053249	66·5	G H
6. 0	49. 42	025354	62·5	053081	62·5		6. 0	47. 6	026302	68·5	053140	67·0	
8. 0	47. 32	025955	62·0	053209	62·5		8. 0	44. 57	025459	68·4	053253	68·0	
10. 0	46. 50	025807	61·0	052989	61·0	G H	10. 0	46. 14	024948	67·0	052770	67·0	G H
12. 0	44. 40	025317	59·0	052775	59·0	L	12. 0	44. 19	024704	65·0	052401	65·0	L
14. 0	44. 56	024898	57·0	052750	56·8		14. 0	42. 32	024532	63·0	052342	63·0	
16. 0	44. 8	025464	55·5	053025	55·5		16. 0	42. 12	024254	60·8	052227	61·0	
18. 0	41. 46	025013	54·2	053207	54·0		18. 0	41. 25	023922	59·0	052433	59·0	
20. 0	43. 17	024528	54·8	053667	55·0	L	20. 0	37. 2	022483	59·0	052874	58·8	L
22. 0	46. 23	023510	56·5	054074	56·8	T D	22. 0	43. 34	022856	62·0	052825	59·0	G H
June 9. 0. 0	22. 52. 3	0·024397	58·0	0·053851	58·0	T D	June 12. 0. 0	22. 50. 27	0·023886	64·0	0·053451	62·0	G H
1. 50	52. 46	024562		053881			1. 50	53. 41	024616		052997		
2. 0	53. 3	025484	60·0	053881	60·0		2. 0	53. 55	024948	67·0	052925	65·8	
2. 10	52. 54	025484		053867		T D	2. 10	53. 57	024970		052890		G H
4. 0	50. 18	025000	61·8	053603	61·2	L	4. 0	52. 51	024859	68·8	052791	68·5	L
6. 0	47. 43	026258	63·5	053668	63·5		6. 0	50. 9	025357	70·0	052804	70·0	
8. 0	47. 13	026720	64·5	053371	64·0		8. 0	47. 26	026658	70·6	052690	70·4	
10. 0	45. 15	026149	64·2	053214	64·0	L	10. 0	50. 9	024759	69·2	052060	69·0	
12. 0	46. 21	026082	63·0	052932	63·0	T D	12. 0	36. 28	025858	68·0	051537	68·0	L

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 17°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 97$; in Vertical Plane, $23^s \cdot 1$.

DECLINATION MAGNET.
June 6^d, between 16^h and 18^h; and June 7^d, between 2^h. 10^m and 4^h, and between 14^h and 16^h, considerable changes occurred.
June 10^d. Considerable changes occurred.
June 11^d, between 4^h and 6^h, and between 20^h and 24^h; and June 12^d, between 10^h and 12^h, considerable changes took place.

HORIZONTAL FORCE MAGNET.
June 10^d, between 2^h. 10^m and 4^h, between 10^h and 14^h, and between 18^h and 20^h, considerable changes occurred.

VERTICAL FORCE MAGNET.
June 10^d. Between 6^h and 8^h a considerable change occurred.

Daily Observations from June 13 to 19.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
June 13. 14. 0	22. 41. 46	0·023630	62·7	0·052070	62·5	G
16. 0	48. 36	024402	62·5	051545	62·2	
18. 0	48. 13	023741	62·0	051735	61·5	
20. 0	44. 40	022483	60·8	052490	61·0	G
22. 0	38. 15	021929	60·8	052597	61·0	L
June 14. 0. 0	22. 41. 52	0·022425	61·4	0·052642	61·2	L
1. 50	47. 45	025774		053038		
2. 0	49. 55	024379	61·8	053181	62·0	
2. 10	50. 22	024822		053181		L
4. 0	48. 43	028498	62·5	053573	62·0	G
6. 0	43. 50	030178	63·0	053922	63·0	
8. 0	40. 32	026831	64·0	053618	63·5	
10. 0	31. 12	025104	64·0	052930	64·0	G
12. 0	30. 53	024867	62·5	052557	62·7	L
14. 0	38. 5	024445	61·2	052326	61·0	
16. 0	36. 7	023934	60·0	052415	60·0	
18. 0	38. 16	023344	58·8	052723	58·7	
20. 0	36. 5	023429	59·5	053288	59·0	L
22. 0	36. 15	022413	62·0	053141	59·3	G H
June 15. 0. 0	22. 44. 4	0·023204	63·0	0·052791	60·6	G H
1. 50	45. 25	024971		052967		
2. 0	45. 36	025148	64·0	052967	62·0	
2. 10	45. 28	025547		052988		G H
4. 0	46. 33	026986	64·0	053357	64·0	L
6. 0	41. 48	026672	63·8	053286	64·0	
8. 0	39. 52	026646	63·6	053170	63·5	
10. 0	41. 16	026499	62·8	052982	63·0	L
12. 0	38. 11	025658	61·4	052896	62·0	G H
14. 0	35. 25	026148	60·0	052989	61·0	
16. 0	35. 51	025705	60·0	053026	60·0	
18. 0	31. 33	025860	60·0	053155	60·0	
20. 0	32. 19	024882	60·5	053084	60·0	G H
22. 0	34. 54	024121	61·5	053174	61·5	G
June 16. 0. 0	22. 40. 2	0·024206	62·0	0·053116	62·0	G
1. 50	44. 22	024845		052711		
2. 0	44. 22	024490	62·5	052711	61·5	
2. 10	44. 33	024269		052639		G
4. 0	46. 23	025809	62·6	052967	62·0	G H
6. 0	42. 36	026177	62·0	053252	62·0	
8. 0	39. 21	027948	62·0	053323	62·0	G H
10. 0	38. 33	027171	63·2	053210	63·0	L
12. 0	40. 31	025980	62·2	052760	62·0	G

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
June 16. 14. 0	22. 38. 23	0·025775	62·5	0·052953	62·5	G
16. 0	39. 43	025731	62·5	053088	62·5	
18. 0	35. 35	025952	62·5	053373	62·5	
20. 0	33. 54	024247	62·5	053223	62·5	G
22. 0	34. 58	023494	61·8	053124	61·5	L
June 17. 0. 0	22. 41. 5	0·024266	63·5	0·052932	63·0	L
1. 50	42. 24	025301		052950		
2. 0	43. 4	025523	65·5	052879	65·0	
2. 10	43. 4	025479		052879		L
4. 0	41. 35	027472	67·0	052893	66·5	G
6. 0	35. 50	028538	68·5	052956	67·8	
8. 0	36. 20	028761	69·0	052857	69·0	
10. 0	37. 34	027344	69·0	052636	69·0	G
12. 0	41. 12	026922	68·0	052384	68·0	L
14. 0	41. 12	026474	66·0	052275	66·0	
16. 0	38. 27	025879	64·0	052218	64·0	
18. 0	37. 21	026461	62·5	052061	62·4	
20. 0	35. 5	025633	61·2	052298	61·0	L
22. 0	38. 53	024919	60·8	052692	61·2	G H
June 18. 0. 0	22. 45. 28	0·023560	60·2	0·052633	61·0	G H
1. 50	48. 54	025349		052953		
2. 0	48. 25	025327	60·7	052953	61·0	
2. 10	48. 30	025349		052953		G H
4. 0	46. 50	026158	61·5	052668	61·0	L
6. 0	42. 46	027606	62·8	053117	62·5	
8. 0	41. 30	028140	63·5	053101	63·2	
10. 0	40. 23	027651	64·0	052844	64·0	L
12. 0	36. 41	026167	64·0	052702	64·0	G H
14. 0	36. 31	026150	63·7	052622	63·9	
16. 0	37. 25	025990	64·0	052585	63·8	
18. 0	32. 42	026189	64·0	052702	64·0	G H
20. 0	33. 32	024152	64·5	052848	64·2	L
22. 0	34. 21	023554	64·0	052716	64·0	
June 19. 0. 0	22. 42. 6	0·023633	64·6	0·052930	64·0	L
1. 50	42. 47	024606		052950		
2. 0	42. 54	024606	66·6	052950	65·6	
2. 10	43. 9	024783		052950		
4. 0	42. 18	025474	66·8	052701	66·5	L
6. 0	41. 52	026147	68·5	053096	68·0	G
8. 0	41. 0	026015	67·2	052587	66·5	G
10. 0	40. 27	025563	66·8	052578	67·0	G H
12. 0	40. 20	025392	64·5	052404	66·0	G 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 17°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.
June 13^d, between 14^h and 16^h, and between 20^h and 22^h; June 14^d, between 0^h and $1^h.50^m$, between 8^h and 10^h, between 12^h and 14^h, and between 22^h and 24^h; June 15^d and 16^d, between 22^h and 24^h; June 17^d, between 4^h and 6^h, and between 22^h and 24^h; and June 18^d, between 22^h and 24^h, considerable changes occurred.

HORIZONTAL FORCE MAGNET.
June 14^d, between 0^h and $1^h.50^m$; June 14^d, between $2^h.10^m$ and 4^h, and between 6^h and 8^h; and June 18^d, between 18^h and 20^h, considerable changes occurred.

VERTICAL FORCE MAGNET.
June 13^d. Between 18^h and 20^h a considerable change occurred.

Daily Observations from June 20 to 26.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
June 20. 14. 0	22. 42. 26	0·025387	63·1	0·052328	63·0	G
16. 0	40. 44	025032	63·1	052520	63·0	
18. 0	38. 33	025308	63·0	052947	63·0	
20. 0	35. 6	024911	62·5	052746	62·0	G
22. 0	40. 0	024133	61·6	052711	61·5	L
June 21. 0. 0	22. 47. 49	0·024456	62·4	0·052397	62·0	L
1. 50	51. 35	025034		052543		
2. 0	51. 35	025078	63·8	052529	63·5	
2. 10	50. 51	025078		052529		L
4. 0	48. 46	024909	63·0	052263	62·5	G
6. 0	46. 11	025904	63·5	052449	63·0	
8. 0	44. 37	027416	62·7	052191	62·5	G
10. 0	42. 14	027163	64·5	052630	65·0	G H
12. 0	37. 43	027143	63·5	052363	63·4	L
14. 0	39. 2	025759	62·2	052184	62·0	
16. 0	41. 19	025987	61·2	052326	61·0	
18. 0	38. 2	026198	60·4	052613	60·5	
20. 0	36. 19	026493	61·0	052836	60·8	L
22. 0	40. 29	024772	64·0	052796	62·5	G H
June 22. 0. 0	22. 46. 29	0·024328	65·0	0·052315	63·5	G H
1. 50	49. 59	026276		052783		
2. 0	50. 51	024948	67·0	052783	65·5	
2. 10	49. 30	024173		052726		G H
4. 0	50. 4	026096	67·8	052990	67·5	L
6. 0	44. 18	026549	68·2	052897	68·0	
8. 0	40. 40	026479	68·5	052761	68·2	
10. 0	39. 47	026081	67·2	052300	67·0	L
12. 0	39. 53	025744	65·5	052344	66·2	G H
14. 0	39. 25	025444	63·2	051898	64·0	
16. 0	38. 47	025165	61·0	052455	62·0	
18. 0	36. 33	025361	59·0	052585	60·0	
20. 0	34. 53	023986	58·8	052783	58·0	G H
22. 0	36. 8	023351	60·3	053354	60·0	L
June 23. 0. 0	22. 42. 56	0·023715	61·8	0·053209	61·5	L
1. 50	46. 20	024736		052753		
2. 0	46. 20	024824	63·2	052753	62·0	
2. 10	46. 20	024824		052753		L
4. 0	45. 39	025126	64·5	052885	63·5	G H
6. 0	42. 27	025634	65·5	052904	64·5	
8. 0	40. 8	026227	65·8	052808	65·0	G H
10. 0	40. 18	026029	64·8	052750	65·0	G
12. 0	38. 51	025848	64·1	052296	62·8	G

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″	-	°		°	
June 23. 14. 0	22. 39. 40	0·025521	63·8	0·052380	62·7	T D
16. 0	38. 47	025131	63·0	052555	62·6	T D
18. 0	37. 24	024822	61·8	052613	61·7	L
20. 0	37. 8	024184	62·0	052839	62·0	G H
22. 0	36. 52	024359	63·2	052633	62·5	G H
June 24. 0. 0	22. 42. 57	0·024396	64·0	0·052519	63·3	T D
1. 50	46. 1	025080		052760		G H
2. 0	45. 29	024991	66·5	052689	66·0	
2. 10	45. 34	025080		052617		G H
4. 0	40. 16	026743	68·0	052644	67·6	T D
6. 0	22. 40. 32	026948	69·5	052558	69·0	G H
8. 0	23. 8. 33	027126	69·5	052416	69·0	L
10. 0	22. 39. 14	026658	69·0	052249	68·7	L
12. 0	40. 17	026234	68·0	052171	68·0	T D
14. 0	39. 50	025965	66·0	052169	66·0	
16. 0	38. 54	025422	64·4	052057	64·5	
18. 0	36. 32	025418	63·0	052164	63·0	
20. 0	36. 26	025558	63·4	052213	63·0	T D
22. 0	38. 44	024558	63·2	052270	63·0	L
June 25. 0. 0	22. 46. 0	0·023750	63·8	0·052329	63·5	L
1. 50	44. 40	025346		052523		
2. 0	43. 33	025457	65·0	052502	65·0	
2. 10	43. 13	025568		052452		L
4. 0	41. 54	026414	67·2	052718	67·7	T D
6. 0	40. 39	027145	69·0	052701	69·0	
8. 0	41. 9	026441	70·0	052505	70·0	
10. 0	40. 9	026331	70·0	052306	70·0	T D
12. 0	39. 34	026171	69·0	052117	69·0	L
14. 0	39. 57	025750	67·2	051930	67·0	
16. 0	36. 46	025704	65·2	051811	65·0	
18. 0	35. 54	025547	64·0	051990	64·0	
20. 0	35. 5	025078	63·8	052079	63·4	L
22. 0	41. 9	023552	66·0	052146	64·0	G H
June 26. 0. 0	22. 46. 51	0·024173	67·0	0·052071	65·5	G H
1. 50	46. 40	025636		052193		
2. 0	46. 31	025858	68·0	052179	67·0	
2. 10	46. 17	026079		052143		G H
4. 0	43. 37	025953	68·7	052683	68·2	L
6. 0	44. 50	025772	69·0	052498	68·7	
8. 0	49. 45	026187	68·8	052150	68·5	
10. 0	53. 41	026522	68·0	052028	68·0	L
12. 0	40. 31	026564	67·0	052001	67·0	G 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 17°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s{\cdot}8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s{\cdot}97$; in Vertical Plane, $23^s{\cdot}1$.

DECLINATION MAGNET.

June 20^d and 21^d, between 22^h and 24^h; June 22^d, between 4^h and 6^h, and between 22^h and 24^h; June 23^d, between 22^h and 24^h, June 24^d, between $2^h.\ 10^m$ and 10^h, and between 22^h and 24^h; June 25^d, between 20^h and 24^h; and June 26^d, between 10^h and 12^h, considerable changes occurred.

Daily Observations from June 27 to July 3.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
June 27. 14. 0	22. 41. 46	0·025900	67·0	0·051957	68·0	G H
16. 0	39. 35	025314	65·6	051976	66·3	
18. 0	36. 32	025392	64·5	052096	65·0	
20. 0	37. 1	024857	63·8	052020	63·3	G H
22. 0	41. 15	024023	64·2	052309	65·0	T D
June 28. 0. 0	22. 46. 18	0·024083	66·0	0·052147	66·0	T D
1. 50	47. 10	024597		052488		
2. 0	47. 10	025151	68·5	052488	68·8	
2. 10	47. 29	025151		052438		T D
4. 0	46. 9	025905	70·9	052278	70·0	G H
6. 0	43. 46	026124	72·3	052364	72·0	
8. 0	41. 20	026449	73·5	052601	73·5	
10. 0	41. 59	025626	73·0	052004	73·0	G H
12. 0	41. 30	026521	71·2	051500	71·0	T D
14. 0	39. 51	025844	70·0	051479	70·2	
16. 0	38. 3	024931	69·0	051633	69·0	
18. 0	36. 53	024597	68·5	051781	68·3	
20. 0	34. 59	023912	67·2	051645	67·0	T D
22. 0	39. 31	024110	68·5	051874	67·8	L
June 29. 0. 0	22. 43. 30	0·024139	70·0	0·051969	69·5	L
1. 50	46. 6	025556		052363		
2. 0	46. 12	025512	72·2	052349	71·6	L
2. 10	46. 18	025556		052349		G H
4. 0	47. 28	025606	74·4	052446	74·7	T D
6. 0	22. 53. 25	025664	76·0	052336	76·0	
8. 0	23. 6. 7	025493	73·0	051491	73·0	
10. 0	23. 1. 32	025386	71·0	051293	71·0	
12. 0	22. 40. 15	025471	70·5	051380	70·0	T D
14. 0	37. 15	025329	69·0	051274	68·7	L
16. 0	37. 21	025166	67·8	051601	68·0	
18. 0	38. 26	024304	66·0	051535	66·0	
20. 0	34. 43	023659	64·8	051527	64·7	L
22. 0	42. 26	022866	65·0	051859	65·0	T D
June 30. 0. 0	22. 44. 50	0·024062	67·0	0·051763	66·0	G H
1. 50	46. 27	025731		052065		
2. 0	46. 8	026174	70·3	052044	68·5	
2. 10	22. 45. 59	026262		052008		G H
4. 0	(23. 16. 55)	026414	72·0	052306	72·0	L
6. 0	(20. 40)	025198	72·8	052148	72·5	L
8. 0	(21. 24)	026334	73·0	051990	73·0	T D
10. 0	(19. 58)	026078	71·2	051451	71·0	L
12. 0	(17. 47)	025108	69·0	051566	70·0	G H

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
June 30. 14. 0	(23. 12. 46)	0·024665	67·2	0·051581	68·5	G H
16. 0	(22. 33. 2)	025367	66·0	051431	67·0	
18. 0	(30. 46)	024350	65·0	051407	66·0	
20. 0	(28. 54)	023510	64·5	051811	65·0	G H
22 0	(31. 24)	023021	65·0	051939	65·0	T D
July 1. 0. 0	22. 51. 28	0·023066	67·0	0·052357	67·0	T D
1. 50	52. 59	025772		052586		
2. 0	52. 49	025839	69·0	052558	69·0	
2. 10	52. 49	025994		052537		T D
4. 0	51. 17	027157	71·0	052447	71·0	G H
6. 0	46. 27	026398	72·2	052490	72·5	
8. 0	44. 15	025670	73·0	052280	73·5	
10. 0	43. 5	025279	71·8	051788	72·2	G H
12. 0	42. 14	025025	70·0	051668	70·7	T D
14. 0	42. 1	025166	67·8	051557	67·7	
16. 0	41. 17	025355	66·4	051478	66·6	
18. 0	36. 49	024794	64·0	051422	64·4	
20. 0	36. 45	024173	63·3	051765	63·8	T D
22. 0	37. 46	023178	62·8	051464	62·5	L
July 2. 0. 0	22. 45. 26	0·023204	63·0	0·051558	63·0	G H
1. 50	50. 54	024249		051853		
2. 0	51. 9	024558	63·2	051888	63·5	
2. 10	51. 29	024780		051888		G H
4. 0	50. 33	025768	64·0	052146	64·0	T D
6. 0	46. 36	026342	65·0	052323	65·0	
8. 0	44. 56	026474	66·0	052404	66·0	
10. 0	43. 19	026169	65·7	052021	65·5	T D
12. 0	42. 0	025855	65·0	051854	65·0	L
14. 0	41. 30	025326	64·0	051862	64·0	
16. 0	40. 34	025197	63·0	051914	63·0	
18. 0	39. 53	024516	62·0	051920	62·0	
20. 0	39. 53	023684	61·2	052063	61·0	L
22. 0	44. 8	022989	62·0	052220	62·0	G H
July 3. 0. 0	22. 50. 53	0·023520	62·0	0·051970	62·0	G H
1. 50	50. 40	025326		052431		
2. 0	50. 58	025591	64·0	052431	64·0	
2. 10	50. 58	025657		052374		G H
4. 0	48. 36	024814	66·0	052368	66·3	L
6. 0	46. 10	026147	68·5	052443	68·3	
8. 0	44. 49	026672	70·7	052301	70·5	
10. 0	41. 5	025342	71·0	051949	71·0	L
12. 0	40. 56	024761	69·7	051679	70·0	G 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 17°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.

June 27^d, between 22^h and 24^h, and June 29^d, between 4^h and 22^h, the changes were considerable.

July 1^d. 0^h. Before this observation it was found that the mirror of the photographic apparatus was touching another part of the apparatus; the observation on June 30^d at 4^h indicated a magnetic disturbance, but this was not confirmed by the other instruments. There is no doubt that the results of the observations between June 30^d. 4^h and June 30^d. 22^h are erroneous, and they have not been used in subsequent calculations.

July 1^d, betweeen 22^h and 24^h; and July 2^d, between 0^h and $1^h.50^m$, and between 22^h and 24^h, the changes were considerable.

VERTICAL FORCE MAGNET.

June 29^d. Between 6^h and 8^h the change was considerable.

Daily Observations from July 4 to 10.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.		Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
	d h m	° ′ ″		°		°	
July	4. 14. 0	22. 42. 20	0·024388	71·3	0·051452	72·0	G H
	16. 0	39. 40	024491	69·5	051594	70·0	
	18. 0	36. 47	024898	66·3	051837	67·5	
	20. 0	38. 37	023022	67·0	051882	66·5	G H
	22. 0	42. 12	021603	66·0	051763	66·0	T D
July	5. 0. 0	22. 44. 40	0·024178	69·0	0·052287	69·0	T D
	1. 50	44. 36	025575		052747		
	2. 0	44. 36	025464	72·8	052747	72·7	
	2. 10	42. 51	025464		052640		T D
	4. 0	42. 40	025206	75·0	052017	74·0	G H
	6. 0	41. 46	024158	76·0	052350	77·0	
	8. 0	43. 8	024855	78·0	052019	77·5	
	10. 0	42. 36	024557	76·0	051719	76·5	G H
	12. 0	42. 22	024550	74·3	051428	74·7	T D
	14. 0	42. 1	024424	71·4	050964	71·7	
	16. 0	38. 31	024803	70·0	051074	70·0	
	18. 0	35. 48	024394	67·0	051147	67·0	
	20. 0	36. 6	023868	67·7	051460	67·5	T D
	22. 0	45. 26	022946	69·7	051766	67·5	L
July	6. 0. 0	22. 47. 48	0·022508	71·0	0·052092	70·0	L
	1. 50	46. 49	023774		052336		
	2. 0	46. 49	023774	75·2	052265	73·8	
	2. 10	46. 22	023951		052222		L
	4. 0	42. 27	025276	78·0	052508	78·0	T D
	6. 0	44. 10	026459	79·8	052646	80·0	
	8. 0	44. 41	026598	80·7	052889	81·0	
	10. 0	41. 27	026206	79·6	051749	79·5	T D
	12. 0	43. 21	025549	78·2	051368	78·0	L
	14. 0	41. 55	024970	75·8	051138	75·5	
	16. 0	37. 54	024524	73·5	050978	73·5	
	18. 0	35. 11	024920	72·4	051039	72·0	
	20. 0	35. 22	023879	71·3	051130	71·0	L
	22. 0	41. 9	023165	72·2	051244	71·0	G H
July	7. 0. 0	22. 52. 50	0·023212	73·3	0·051665	73·4	T D
	1. 50	48. 43	024765		051542		G H
	2. 0	49. 32	024677	73·8	051542	73·2	
	2. 10	49. 58	024898		051542		G H
	4. 0	50. 39	026545	73·7	051690	73·5	L
	6. 0	46. 20	025187	73·5	052026	73·0	
	8. 0	45. 4	026820	73·3	051882	72·8	L
	10. 0	42. 48	025598	72·5	051488	72·0	
	12. 0	41. 48	025386	71·0	051486	71·0	G H

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.		Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
	d h m	° ′ ″		°		°	
July	7. 14. 0	22. 39. 10	0·025219	69·0	0·051487	70·0	G H
	16. 0	41. 25	023995	67·0	051510	68·5	
	18. 0	37. 34	024708	65·2	051370	66·5	
	20. 0	39. 7	023204	64·7	051573	65·5	G H
	22. 0	41. 42	022596	64·8	051682	65·0	T D
July	8. 0. 0	22. 47. 48	0·022180	65·0	0·051597	65·0	T D
	1. 50	53. 21	023375		051967		
	2. 0	53. 28	023197	66·0	051953	65·6	
	2. 10	52. 42	023197		051953		T D
	4. 0	47. 32	024931	67·7	052312	67·7	G H
	6. 0	45. 44	025223	68·3	052488	69·7	
	8. 0	44. 5	025539	70·2	052270	70·2	
	10. 0	44. 48	025136	70·0	052003	70·5	G H
	12. 0	44. 15	024887	69·0	051504	69·0	T D
	14. 0	41. 26	024391	67·8	051601	68·0	
	16. 0	39. 45	024102	64·8	051470	64·7	
	18. 0	38. 22	023957	63·0	051416	63·0	
	20. 0	38. 26	023270	63·0	051715	63·0	T D
	22. 0	40. 18	023464	63·3	052022	63·0	L
July	9. 0. 0	22. 45. 41	0·023947	65·3	0·052167	65·0	L
	1. 50	47. 3	024294		052456		
	2. 0	46. 47	024160	68·3	052456	68·0	
	2. 10	46. 42	024781		052398		L
	4. 0	47. 3	026022	70·8	052625	71·0	T D
	6. 0	42. 39	025892	72·7	052665	72·8	
	8. 0	39. 52	026113	73·0	052716	73·0	
	10. 0	33. 48	025263	72·0	052022	72·0	T D
	12. 0	30. 14	022279	70·0	051109	70·0	L
	14. 0	32. 44	005516	68·2	045763	68·0	
	16. 0	38. 9	019161	67·6	049630	67·5	
	18. 0	34. 47	020161	66·8	050387	66·5	
	20. 0	40. 59	020470	66·3	050909	66·0	L
	22. 0	42. 16	019523	67·0	052015	67·0	G H
July	10. 0. 0	22. 48. 27	0·022341	69·0	0·052378	68·7	G H
	1. 50	53. 9	023867		052465		
	2. 0	53. 0	023757	72·0	052430	71·5	
	2. 10	52. 38	023535		052430		G H
	4. 0	54. 16	024181	74·2	052672	74·0	L
	6. 0	50. 39	025856	75·8	052607	75·4	
	8. 0	41. 36	026181	76·5	052421	76·0	
	10. 0	43. 42	024890	76·0	052051	76·0	L
	12. 0	41. 2	023855	75·0	051778	75·5	G 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 17°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.
July 5^d, between 20^h and 22^h; July 6^d, between 20^h and 24^h; July 7^d, between 22^h and 24^h; July 8^d, between 0^h and 4^h, and between 22^h and 24^h; July 9^d, between 8^h and 10^h, between 14^h and 16^h, and between 22^h and 24^h; and July 10^d, between 6^h and 8^h, considerable changes occurred.

HORIZONTAL FORCE MAGNET.
July 4^d, between 22^h and 24^h; and July 9^d, from 10^h to 16^h, and between 22^h and 24^h, the changes were great.

VERTICAL FORCE MAGNET.
July 6^d, between 8^h and 10^h, a considerable change took place; and July 9^d, from 10^h to 22^h, the changes were large and of frequent occurrence.

Daily Observations from July 11 to 17.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
July 11. 14. 0	22. 46. 54	0·025443	74·5	0·050723	75·0	G H
16. 0	37. 23	023456	73·0	051120	73·5	
18. 0	36. 47	022951	71·0	051326	71·5	
20. 0	41. 1	021512	71·0	051593	71·0	G H
22. 0	44. 24	020464	72·2	051771	71·0	L
July 12. 0. 0	22. 48. 59	0·022483	75·0	0·052036	73·6	L
1. 50	51. 49	023901		052775		T D
2. 0	52. 42	024123	79·0	052739	79·0	
2. 10	52. 48	024123		052739		
4. 0	48. 12	025660	81·3	052605	81·0	T D
6. 0	43. 20	026737	83·0	052309	82·0	G H
8. 0	43. 15	025409	83·0	052016	83·0	
10. 0	41. 21	025214	81·7	051739	82·0	G H
12. 0	39. 45	024787	79·0	050852	79·0	L
14. 0	45. 7	024027	77·2	050605	77·0	
16. 0	40. 15	024660	75·2	050723	75·0	
18. 0	38. 19	023306	73·5	050793	73·0	
20. 0	41. 20	022235	72·2	051096	72·0	L
22. 0	41. 38	020978	72·7	051167	72·0	G H
July 13. 0. 0	22. 47. 24	0·021259	74·2	0·051348	73·5	G H
1. 50	53. 21	024143		051786		
2. 0	52. 51	023922	76·2	051700	75·2	
2. 10	52. 24	023922		051700		G H
4. 0	51. 32	025948	78·2	052072	77·7	L
6. 0	47. 36	025560	80·0	052198	79·5	
8. 0	40. 35	025681	80·5	051963	80·0	
10. 0	40. 35	024435	79·6	051503	79·3	L
12. 0	40. 50	024191	78·0	051160	77·7	T D
14. 0	44. 21	023987	76·7	051159	76·4	
16. 0	39. 46	024217	74·6	050957	74·2	
18. 0	35. 41	023427	72·8	051080	72·5	
20. 0	36. 20	023080	71·6	051255	71·5	T D
22. 0	22. 38. 27	021321	72·0	051201	71·0	G H
July 14. 0. 0	...	0·021548	73·6	0·051538	72·9	G H
1. 50	23. 2. 40	023502		051992		G
2. 0	3. 3	023568	75·0	051964	75·8	
2. 10	3. 12	023546		051942		G
4. 0	23. 1. 24	025453	78·0	052445	78·7	T D
6. 0	22. 57. 58	026311	79·7	052333	80·0	
8. 0	57. 7	025602	80·7	052353	81·8	
10. 0	55. 15	024940	80·0	051761	80·2	T D
12. 0	54. 8	023901	79·0	051351	79·0	G H

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
July 14. 14. 0	22. 55. 18	0·023777	77·0	0·051440	78·0	G H
16. 0	55. 26	023745	75·0	051246	76·0	
18. 0	52. 48	023013	73·0	051319	74·0	
20. 0	51. 41	022318	72·0	051487	72·7	G H
22. 0	22. 56. 8	021540	71·2	051059	71·0	L
July 15. 0. 0	23. 4. 48	0·022222	73·2	0·051227	72·8	L
1. 50	9. 28	024173		052087		
2. 0	8. 54	023775	76·4	052051	76·0	
2. 10	9. 25	023952		052051		L
4. 0	23. 5. 29	024678	78·0	052201	78·8	G H
6. 0	22. 58. 23	025670	80·0	052282	80·0	G H
8. 0	58. 32	025385	79·0	051984	80·0	G
10. 0	58. 55	024898	77·1	051518	78·0	G
12. 0	58. 55	024601	74·8	050964	74·5	L
14. 0	57. 24	024120	73·0	050936	73·0	
16. 0	56. 21	024169	71·0	050987	71·0	
18. 0	53. 1	023789	69·8	051235	69·7	
20. 0	51. 3	022673	69·0	051419	69·0	L
22. 0	22. 55. 59	021955	71·0	051792	71·0	T D
July 16. 0. 0	23. 4. 58	0·021949	73·3	0·051854	73·0	T D
1. 50	8. 31	024352		052243		
2. 0	8. 53	024263	77·0	052243	77·0	
2. 10	23. 8. 53	024263		052200		T D
4. 0	22. 59. 27	025672	79·0	051853	78·0	L
6. 0	23. 1. 30	025900	80·2	051994	79·8	
8. 0	22. 59. 54	026398	79·4	051493	79·0	
10. 0	55. 12	027060	77·2	051175	77·0	L
12. 0	55. 41	024896	75·0	051008	75·0	T D
14. 0	55. 41	025499	73·2	050972	73·0	
16. 0	54. 51	025616	72·0	051075	72·0	
18. 0	52. 27	024803	70·0	051095	70·0	
20. 0	53. 21	024067	69·0	051405	69·0	T D
22. 0	22. 57. 19	023228	68·2	051384	69·0	G H
July 17. 0. 0	23. 3. 38	0·022826	68·5	0·050996	68·0	G H
1. 50	8. 39	022891		051231		
2. 0	7. 46	022802	68·0	051245	68·0	
2. 10	7. 43	023422		051259		G H
4. 0	3 31	024839	68·4	051722	68·0	T D
6. 0	23. 0. 49	024785	69·8	052040	69·5	
8. 0	22. 59. 59	025803	70·5	051952	70·5	
10. 0	54. 28	027337	70·7	051622	70·4	T D
12. 0	51. 40	024648	70·0	051540	70·5	G 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 17°; from July $14^d.1^h.50^m$, 93½°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.

July 11^d, between 14^h and 16^h; July 12^d, between 12^h and 14^h, and between 22^h and 24^h; and July 13^d, between 0^h and $1^h.50^m$, and between 6^h and 8^h, considerable changes occurred.

July $14^d.0^h$. Some alterations were made in the suspension-stirrup, after which the torsion-circle reading was 93½°, when the brass bar rested in the magnetic meridian.

July 14^d, between 22^h and 24^h; July 16^d, between $2^h.10^m$ and 4^h, and between 22^h and 24^h; and July 17^d, between 0^h and $1^h.50^m$, and between 8^h and 10^h, considerable changes took place.

HORIZONTAL FORCE MAGNET.

July 13^d, between 0^h and $1^h.50^m$, and between $2^h.10^m$ and 4^h; July 16^d, between 0^h and $1^h.50^m$, and between 10^h and 12^h; and July 17^d, between 10^h and 12^h, considerable changes occurred.

VERTICAL FORCE MAGNET.

July 12^d, between 0^h and $1^h.50^m$, and between 10^h and 12^h; and July 15^d, between 0^h and $1^h.50^m$, considerable changes occurred.

Daily Observations from July 18 to 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
July 18. 14. 0	22. 58. 3	0·025083	68·0	0·051348	69·0	G H
16. 0	59. 15	023861	66·0	051552	67·5	
18. 0	53. 44	024573	64·0	051776	65·0	
20. 0	51. 47	023140	62·5	052030	63·5	G H
22. 0	22. 57. 2	022634	62·0	051685	62 0	L
July 19. 0. 0	23. 4. 39	0·022761	63·0	0·051774	62·7	L
1. 50	7. 14	024748		052167		
2. 0	7. 14	024748	65·5	052146	65·0	
2. 10	7. 14	024969		052096		L
4. 0	3. 16	025371	68·0	052108	67·0	G H
6. 0	1. 55	025667	70·0	052361	69·5	
8. 0	0. 12	027017	70·0	052206	70·0	
10. 0	23. 0. 22	025274	70·2	051964	70·0	G H
12. 0	22. 59. 6	024975	69·0	051661	69·0	L
14. 0	58. 44	024281	67·8	051672	68·0	
16. 0	55. 6	024201	64·2	051021	64·0	
18. 0	54. 33	024597	65·2	051597	65·0	
20. 0	51. 50	023112	64·0	051648	64·0	L
22. 0	22. 55. 36	022134	63·8	051804	64·0	T D
July 20. 0. 0	23. 0. 53	0·022821	66·0	0·051977	66·0	T D
1. 50	6. 50	024843		052361		
2. 0	6. 35	024887	69·0	052361	69·5	
2. 10	6. 35	024665		052254		T D
4. 0	3. 8	024807	71·6	052088	71·5	L
6. 0	23. 0. 25	025120	73·8	052131	73·5	
8. 0	22. 58. 28	025295	75·0	051973	74·6	
10. 0	59. 8	025000	74·5	051618	74·0	L
12. 0	57. 37	024591	73·2	051448	73·0	T D
14. 0	57. 27	024563	73·0	051452	72·0	
16. 0	56. 59	024316	70·0	051351	70·4	
18. 0	55. 3	024222	69·0	051405	69·0	
20. 0	22. 55. 0	024059	67·8	051473	68·0	T D
22. 0	23. 0. 13	022955	67·0	051530	68·0	G H
July 21. 0. 0	23. 5. 18	0·023796	67·0	0·051458	67·7	G H
1. 50	6. 56	024887		051762		
2. 0	6. 51	024887	69·0	051797	68·8	
2. 10	6. 35	024998		051833		
4. 0	2. 54	025079	70·7	051931	70·5	
6. 0	0. 7	025752	72·8	052346	73·0	G H
8. 0	23. 0. 45	025385	73·8	051868	73·5	L
10. 0	22. 59. 43	025452	73·8	051618	73·5	G
12. 0	59. 27	025199	72·5	051484	73·0	G

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
July 21. 14. 0	22. 57. 31	0·025006	73·0	0·051741	73·0	G H
16. 0	56. 45	024847	70·0	051309	70·0	L
18. 0	59. 48	024526	68·8	051463	68·6	L
20. 0	58. 32	024130	68·4	051459	68·0	T D
22. 0	22. 59. 2	023600	68·0	051672	68·0	G
July 22. 0. 0	23. 3. 49	0·023047	68·5	0·052060	69·0	G H
1. 50	6. 41	025246		052380		T D
2. 0	6. 27	025025	70·0	052345	70·3	
2. 10	5. 59	024803		052287		T D
4. 0	4. 2	025095	70·5	052288	71·5	G H
6. 0	1. 38	026334	73·0	052472	73·3	T D
8. 0	0. 45	025819	72·5	052061	73·0	L
10. 0	23. 0. 21	025497	71·0	051486	71·0	L
12. 0	22. 58. 10	025938	70·2	051557	71·0	G H
14. 0	56. 50	025108	69·0	051277	69·0	
16. 0	58. 58	024106	66·5	051477	67·6	
18. 0	58. 10	024883	64·0	051146	65·5	
20. 0	54. 34	023647	63·0	051283	63·5	G H
22. 0	22. 58. 10	023117	63·7	051651	63·4	L
July 23. 0. 0	23. 4. 50	0·023088	65·0	0·051898	64·4	L
1. 50	6. 27	023513		052119		
2. 0	6. 13	023690	66·7	052119	66·0	
2. 10	6. 0	023801		052119		L
4. 0	4. 55	025507	69·0	052391	68·0	G H
6. 0	2. 0	025689	70·0	052356	70·0	
8. 0	23. 0. 54	025316	70·5	052103	70·7	
10. 0	22. 59. 28	025537	70·5	051931	70·5	G H
12. 0	58. 27	024887	69·0	051633	69·0	L
14. 0	58. 14	024394	67·0	051410	67·0	
16. 0	51. 35	024708	65·2	051241	65·0	
18. 0	49. 59	024005	63·2	051345	63·0	
20. 0	49. 33	023365	62·0	051653	61·8	L
22. 0	22. 58. 8	023138	63·0	051986	63·0	T D
July 24. 0. 0	23. 4. 40	0·023556	65·7	0·051825	65·0	T D
1. 50	4. 0	025355		052430		
2. 0	3. 54	025510	68·7	052430	69·0	
2. 10	4. 6	025510		052430		T D
4. 0	23. 2. 24	024943	71·0	052252	71·5	L
6. 0	22. 59. 31	024934	72·5	051915	72·0	
8. 0	58. 43	025198	72·8	051792	72·5	
10. 0	58. 1	024642	72·0	051630	72·0	L
12. 0	58. 11	025067	70·3	051260	69·8	T 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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 93½°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.
July 18^d, between 16^h and 24^h; July 19^d, between 22^h and 24^h; July 20^d, between 0^h and $1^h.50^m$, and between 20^h and 24^h; July 22^d, between 22^h and 24^h; and July 23^d, between 20^h and 24^h, considerable changes took place.

HORIZONTAL FORCE MAGNET.
July 20^d and 22^d. Between 0^h and $1^h.50^m$ the changes were considerable.

Daily Observations from July 25 to 31.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
July 25. 14. 0	22. 58. 4	0·023686	67·0	0·051412	66·8	T D
16. 0	56. 22	023686	63·3	051131	63·0	
18. 0	54. 35	023222	62·8	051515	62·5	
20. 0	56. 49	022856	62·0	051849	62·0	T D
22. 0	22. 59. 21	022013	63·2	051899	62·0	G H
July 26. 0. 0	23. 2. 15	0·021940	65·2	0·052040	64·0	G H
1. 50	...	022758		052478		
2. 0	...	022559	68·0	052535	67·5	
2. 10	...	022537		052549		G H
4. 0	22. 47. 28	024279	71·0	052590	71·0	T D
6. 0	43. 6	024908	72·0	052541	71·8	
8. 0	42. 36	025598	72·5	051964	72·0	
10. 0	40. 58	023978	72·0	051599	72·3	T D
12. 0	38. 40	023146	70·5	051415	71·0	G H
14. 0	44. 8	023780	69·0	051313	69·0	
16. 0	40. 54	023592	66·3	051267	67·2	
18. 0	40. 16	023729	65·0	051501	65·8	
20. 0	38. 35	022955	65·0	051609	65·5	G H
22. 0	44. 41	023199	65·0	051409	64·5	T D
July 27. 0. 0	22. 52. 51	0·023664	67·0	0·051595	67·0	T D
1. 50	52. 45	024465		052328		
2. 0	52. 52	024642	72·0	052328	71·8	
2. 10	52. 52	024642		052328		T D
4. 0	48. 21	025187	73·5	052004	73·0	G H
6. 0	45. 18	025472	75·0	051847	74·5	
8. 0	45. 18	025369	75·5	051594	75·2	
10. 0	43. 53	024896	75·0	051435	75·0	G H
12. 0	43. 9	024634	73·5	050993	73·0	L
14. 0	43. 27	024500	71·0	050916	71·0	
16. 0	44. 37	024001	69·0	050579	69·0	
18. 0	40. 31	024310	67·2	050591	67·0	
20. 0	45. 9	023791	65·8	050980	66·0	L
22. 0	41. 2	022162	65·7	051350	66·0	T D
July 28. 0. 0	22. 46. 30	0·022074	67·2	0·051503	67·0	T D
1. 50	50. 29	023032		052049		
2. 0	50. 29	023032	70·0	052049	70·0	
2. 10	50. 33	023253		052021		T D
4. 0	48. 42	024143	71·6	051903	71·3	L
6. 0	45. 50	024784	73·0	051868	72·8	
8. 0	44. 10	024164	73·0	051577	73·0	L
10. 0	44. 8	024387	72·7	051491	73·0	T D
12. 0	44. 29	024222	72·0	051374	72·0	G

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
July 28. 14. 0	22. 43. 28	0·023962	70·0	0·051131	70·0	G
16. 0	42. 10	024139	70·0	051430	70·0	
18. 0	40. 23	023933	68·5	051433	69·0	
20. 0	39. 38	023287	67·0	051148	67·3	G
22. 0	41. 10	022623	67·0	051147	67·0	T D
July 29. 0. 0	22. 50. 11	0·023492	69·0	0·051706	69·3	T D
1. 50	51. 59	024598		051979		
2. 0	51. 18	024642	72·0	051979	72·0	
2. 10	50. 58	024642		051950		T D
4. 0	49. 18	025178	74·2	051777	73·7	L
6. 0	46. 57	024750	77·0	051393	76·5	G
8. 0	45. 54	024817	77·0	051339	76·0	
10. 0	45. 24	025443	76·0	051851	76·0	G
12. 0	44. 21	024705	74·6	050964	74·5	T D
14. 0	44. 43	024453	73·0	050922	73·0	
16. 0	44. 20	024722	71·0	050788	71·0	
18. 0	42. 51	024139	70·0	050540	70·0	
20. 0	42. 17	023511	68·0	050676	68·0	T D
22. 0	47. 21	022894	69·0	051082	68·5	G H
July 30. 0. 0	22. 51. 2	0·023519	70·0	0·051093	69·7	G H
1. 50	51. 31	024311		051519		
2. 0	51. 50	024421	72·0	051519	71·7	
2. 10	52. 9	024532		051519		G H
4. 0	50. 33	024529	74·0	051533	74·0	T D
6. 0	46. 33	024203	75·4	051935	75·5	
8. 0	46. 29	025000	76·0	051731	76·0	
10. 0	42. 39	025029	75·0	051370	75·3	T D
12. 0	43. 42	025006	73 0	051177	74·0	G H
14. 0	43. 18	024378	71·7	050954	72·0	
16. 0	41. 49	024601	69·5	050742	70·5	
18. 0	41. 18	024311	67·7	050989	68·7	
20. 0	39. 30	023596	66·0	051218	67·0	G H
22. 0	42. 47	022489	66·0	051262	66·5	T D
July 31. 0. 0	22. 47. 55	0·022717	67·7	0·051588	67·5	T D
1. 50	52. 40	024455		051956		
2. 0	52. 28	024587	69·4	051956	70·6	
2. 10	52. 14	024587		051921		T D
4. 0	48. 51	025338	73·0	051919	73·0	G H
6. 0	46. 5	025691	75·8	051827	75·0	
8. 0	45. 40	024631	76·5	051730	77·0	
10. 0	44. 40	024306	75·8	051022	75·0	
12. 0	45. 45	024441	74·0	050949	74·0	G 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 93½° till July $26^d.\ 0^h$; from $1^h.\ 50^m$ there was no Torsion-Circle in use.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s{\cdot}8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s{\cdot}97$; in Vertical Plane, $23^s{\cdot}1$.

DECLINATION MAGNET.

July $26^d.\ 1^h.\ 50^m$. Before this time the suspension-stirrup, &c. was removed, for the purpose of making some alterations. A temporary stirrup and carrier were put up, but without a torsion-circle. The brass bar was first inserted, and then the magnet was inserted, when the position of the suspension skein was such that the bar rested in the magnetic meridian.

July 26^d, between 12^h and 14^h, and between 20^h and 24^h; July 27^d and 28^d, between 22^h and 24^h; July 29^d, between 20^h and 22^h; and July 30^d, between 22^h and 24^h, considerable changes occurred.

VERTICAL FORCE MAGNET.

July 27^d, between 0^h and $1^h.\ 50^m$; July 29^d, between 10^h and 12^h; and July 31^d, between 8^h and 10^h, considerable changes took place.

Daily Observations from August 1 to 7.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Aug. 1. 14. 0	22. 43. 47	0·023865	77·0	0·050534	77·0	L
16. 0	43. 15	023998	74·0	050322	74·0	
18. 0	41. 2	023766	70·5	050148	70·2	
20. 0	40. 18	023293	69·0	050707	69·0	L
22. 0	41. 22	022537	68·0	051063	69·0	G H
Aug. 2. 0. 0	22. 47. 48	0·022558	71·2	0·051362	70·5	G H
1. 50	51. 56	024122		051933		T D
2. 0	52. 23	023966	75·0	051933	75·0	
2. 10	52. 39	023966		051933		T D
4. 0	52. 7	024226	77·5	051581	77·3	L
6. 0	48. 1	024454	79·0	051493	79·0	
8. 0	45. 36	024344	79·0	051394	79·0	
10. 0	45. 8	024219	77·0	050947	77·0	L
12. 0	42. 24	024911	75·4	050851	75·3	T D
14. 0	43. 40	024868	72·5	050428	72·4	
16. 0	44. 55	024873	70·5	050312	70·0	
18. 0	40. 51	024221	68·5	050298	68·0	
20. 0	41. 0	024261	66·5	050766	66·6	T D
22. 0	44. 27	024062	66·5	051289	67·0	G H
Aug. 3. 0. 0	22. 52. 15	0·023732	68·0	0·051147	67·0	G H
1. 50	55. 29	023281		051277		
2. 0	55. 7	023459	70·2	051277	69·0	
2. 10	55. 44	023724		051277		G H
4. 0	52. 11	024917	73·0	051900	72·7	T D
6. 0	48. 31	025227	73·0	051776	73·0	
8. 0	47. 20	025227	73·0	051670	73·0	
10. 0	44. 41	024877	71·0	051130	71·0	T D
12. 0	42. 43	024001	69·0	051238	70·0	G H
14. 0	43. 19	024173	67·0	051046	68·0	
16. 0	41. 40	024461	65·0	051229	66·0	
18. 0	41. 11	024311	63·0	051328	64·0	
20. 0	43. 34	025086	63·0	051523	63·0	G H
22. 0	43. 34	023647	63·0	051715	63·0	L
Aug. 4. 0. 0	22. 48. 57	0·022533	65·5	0·051953	65·3	L
1. 50	54. 38	022895		051971		
2. 0	54. 52	023050	68·2	051922	68·0	
2. 10	55. 11	023405		051886		L
4. 0	51. 6	024502	70·7	051807	70·0	G H
6. 0	47. 56	024974	72·0	051789	71·5	
8. 0	46. 1	025882	72·0	051751	72·0	
10. 0	45. 23	025629	71·0	051343	71·0	G H
12. 0	44. 5	025177	69·5	051041	69·2	L

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Aug. 4. 14. 0	22. 41. 11	0·024529	68·0	0·050960	68·0	L
16. 0	40. 36	023884	66·5	050359	66·5	
18. 0	30. 31	016677	64·8	049082	64·6	
20. 0	40. 55	021230	64·0	050736	64·0	L
22. 0	44. 33	020078	64·5	051150	64·0	T D
Aug. 5. 0. 0	22. 52. 24	0·019344	66·0	0·051478	66·0	T D
1. 50	58. 36	020323		052028		
2. 0	57. 13	020323	68·0	051993	68·0	
2. 10	55. 48	019880		051957		T D
4. 0	52. 31	023381	69·0	052273	69·0	L
6. 0	46. 7	023197	69·6	052396	69·5	
8. 0	47. 58	024222	69·0	051917	69·0	
10. 0	41. 49	025665	68·2	051459	68·0	L
12. 0	41. 59	023041	67·8	051089	67·0	T D
14. 0	44. 9	023341	67·4	050990	67·0	
16. 0	45. 12	023553	67·0	050862	67·0	
18. 0	39. 27	022932	66·0	050909	66·0	
20. 0	39. 5	022286	65·8	051324	65·5	T D
22. 0	43. 59	021250	65·0	051526	65·0	G H
Aug. 6. 0. 0	22. 49. 3	0·021914	65·0	0·051526	65·0	G H
1. 50	52. 59	022596		051739		
2. 0	52. 46	023017	66·8	051739	66·2	
2. 10	54. 5	024102		051810		G H
4. 0	51. 10	024045	67·7	051766	67·5	T D
6. 0	45. 39	025124	68·8	052364	68·5	
8. 0	47. 23	024863	68·5	052189	68·6	
10. 0	44. 21	024308	68·0	051601	68·0	T D
12. 0	37. 54	024169	67·3	051268	67·5	G H
14. 0	40. 52	024438	66·0	051339	67·0	
16. 0	43. 54	023620	64·5	051359	65·5	
18. 0	43. 42	023204	63·0	051434	64·0	
20. 0	43. 11	023171	63·6	051744	63·8	G H
22. 0	44. 27	022530	64·3	051947	64·0	L
Aug. 7. 0. 0	22. 52. 11	0·022710	66·0	0·051763	66·0	T D
1. 50	55. 18	023530		051808		L
2. 0	56. 21	024150	68·8	051794	68·8	
2. 10	54. 27	023973		051866		L
4. 0	51. 11	024943	71·0	052124	70·7	G H
6. 0	46. 41	026484	72·5	052235	72·0	
8. 0	43. 25	026331	72·2	051873	72·2	
10. 0	43. 35	027478	71·7	051812	73·0	G H
12. 0	40. 45	026530	70·0	050833	69·8	L

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.

Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.
Aug. 1^d and 2^d, between 22^h and 24^h; Aug. 3^d, between 22^h and 24^h; Aug. 4^d, between 0^h and $1^h.50^m$, and between 22^h and 24^h; Aug. 5^d, between 0^h and $1^h.50^m$, between 4^h and 6^h, between 8^h and 10^h, between 16^h and 18^h, and between 22^h and 24^h; Aug. 6^d, between 4^h and 6^h, between 10^h and 12^h, and between 22^h and 24^h; and Aug. 7^d, betweeu 4^h and 6^h, considerable changes occurred.

HORIZONTAL FORCE MAGNET.
Aug. 4^d, between 16^h and 20^h; and Aug. 5^d, between $2^h.10^m$ and 4^h, and between 10^h and 12^h, considerable changes took place.

VERTICAL FORCE MAGNET.
Aug. 4^d, between 16^h and 20^h, and Aug. 7^d, between 10^h and 12^h, considerable changes occurred.

Daily Observations from August 8 to 14.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Aug. 8. 14. 0	22. 44. 33	0·024396	64·5	0·050698	64·2	L	Aug. 11. 14. 0	22. 58. 28	...	..	0·051415	72·7	L
16. 0	44. 16	024038	62·6	050831	62·5		16. 0	57. 15	...	..	051402	71·8	
18. 0	43. 30	024837	61·0	050888	61·0		18. 0	54. 49	...	..	051415	71·0	
20. 0	40. 56	023163	60·0	051232	60·0	L	20. 0	52. 42	...	..	050836	70·5	L
22. 0	45. 31	021543	60·0	051318	60·0	T D	22. 0	22. 58. 50	...	..	051415	71·0	T D
Aug. 9. 0. 0	22. 52. 26	0·022040	60·8	0·051559	60·5	G H	Aug. 12. 0. 0	23. 4. 40	...	..	0·051854	74·0	T D
1. 50	55. 42	024329		052213		T D	1. 50	7. 19	...	..	052022		
2. 0	56. 13	024329	62·8	052270	63·0		2. 0	7. 19	...	..	051994	76·6	
2. 10	56. 13	024329		052270		T D	2. 10	7. 40	...	..	051994		T D
4. 0	50. 21	024839	64·0	052172	63·8	L	4. 0	23. 4. 19	...	..	051690	77·6	L
6. 0	47. 15	025466	65·4	052110	65·0	L	6. 0	22. 59. 35	...	..	051510	78·8	
8. 0	45. 44	025367	66·0	051682	65·0	G	8. 0	59. 3	...	..	051360	79·3	
10. 0	44. 38	025726	65·2	051833	65·7	G H	10. 0	55. 30	...	..	051697	78·7	L
12. 0	42. 56	024661	64·0	051528	64·4	T D	12. 0	57. 45	...	..	050765	75·6	T D
14. 0	44. 24	024643	63·0	051572	63·0		14. 0	57. 45	...	..	050750	74·0	
16. 0	42. 44	024722	61·0	051970	61·0		16. 0	57. 13	...	..	050797	72·0	
18. 0	41. 45	023819	60·5	052103	60·8		18. 0	57. 47	...	..	050944	71·0	
20. 0	39. 39	023042	58·5	051793	59·0	T D	20. 0	55. 26	...	..	051095	70·0	T D
22. 0	44. 24	024243	58·0	051825	58·5	G H	22. 0	22. 58. 44	...	..	051034	69·2	G H
Aug. 10. 0. 0	22. 50. 33	0·022483	59·0	0·051584	58·7	G H	Aug. 13. 0. 0	23. 7. 13	...	..	0·051024	70·0	G H
1. 50	54. 44	023216		052031			1. 50	10. 3	...	..	051456		
2. 0	54. 44	023372	61·0	052031	60·7		2. 0	10. 14	...	..	051420	73·0	
2. 10	55. 1	023726		052031		G H	2. 10	10. 8	...	..	051420		G H
4. 0	49. 54	024090	63·0	052299	63·0	T D	4. 0	6. 41	...	..	051757	76·4	T D
6. 0	46. 48	024407	63·4	052386	63·5		6. 0	23. 0. 10	...	..	051591	77·5	
8. 0	43. 8	024710	63·0	052014	63·0		8. 0	22. 59. 17	...	..	051116	76·4	
10. 0	46. 16	024479	64·3	052004	64·0	T D	10. 0	58. 18	...	..	051054	76·0	T D
12. 0	45. 37	024727	64·5	052026	64·7	G H	12. 0	57. 27	...	..	050828	74·0	G H
14. 0	45. 5	025147	65·0	051882	65·0		14. 0	59. 2	...	..	050882	72·0	
16. 0	45. 45	025523	66·0	051905	66·0		16. 0	56. 11	...	..	050775	70·0	
18. 0	43. 48	025700	66·0	051905	66·0		18. 0	55. 21	...	..	051011	68·5	
20. 0	41. 47	024371	66·0	051799	66·0	G H	20. 0	52. 57	...	..	051375	67·5	G H
22. 0	44. 7	025102	67·0	051918	66·8	L	22. 0	22. 54. 30	...	..	051232	67·0	L
Aug. 11. 0. 0	22. 52. 19	0·024342	69·8	0·052075	69·7	L	Aug. 14. 0. 0	23. 6. 14	...	..	0·050960	68·0	L
1. 50	23. 4. 51	...	..	051879	72·0		1. 50	10. 58	...	..	051436		
2. 0	5. 26	...	..	051950	72·0		2. 0	11. 45	...	..	051436	70·8	
2. 10	5. 35	...	..	051893	72·0	L	2. 10	12. 19	...	..	051450		L
4. 0	23. 4. 28	...	..	051889	74·0	G H	4. 0	5. 49	...	..	052031	74·0	G H
6. 0	22. 59. 51	...	..	051862	75·0		6. 0	1. 11	...	..	052360	75·0	
8. 0	57. 49	...	..	051506	75·0		8. 0	23. 0. 53	...	..	051525	74·8	
10. 0	58. 6	...	..	051248	74·0	G H	10. 0	22. 58. 4	...	..	051191	73·5	G H
12. 0	57. 22	...	..	051370	73·5	L	12. 0	56. 19	...	..	050930	71·0	L

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, from Aug. $11^d.1^h.50^m$, 270°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.

Aug. 8^d, between 22^h and 24^h; Aug. 9^d, between $2^h.10^m$ and 4^h, and between 22^h and 24^h; Aug. 10^d, between $2^h.10^m$ and 4^h, and between 22^h and 24^h; Aug. 11^d, between 0^h and $1^h.50^m$, and between 22^h and 24^h; Aug. 12^d, between 22^h and 24^h; Aug. 13^d, between 4^h and 6^h, and between 22^h and 24^h; and Aug. 14^d, between $2^h.10^m$ and 4^h, considerable changes occurred.

Aug. $11^d.0^h$. After this observation the temporary suspension stirrup was taken away, and the permanent one was put up. The suspension-skein was clear of torsion with a reading of 270°.

HORIZONTAL FORCE MAGNET.

Aug. 9^d. Between 0^h and $1^h.50^m$ a considerable change occurred.

Aug. $11^d.0^h$. The suspension stirrup was removed during the preparation of a new stirrup and carrying piece for a concave mirror, to be used in the self-registration of the movements of this magnet.

VERTICAL FORCE MAGNET.

Aug. 12^d, between 10^h and 12^h; and Aug. 14^d, between 6^h and 8^h, considerable changes took place.

Daily Observations from August 15 to 21.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Aug. 15. 14. 0	22. 57. 45	...	..	0·051274	68·7	L	Aug. 18. 14. 0	22. 59. 16	...	..	0·050972	69·5	L
16. 0	57. 7	...	..	051079	66·3		16. 0	58. 4	...	..	051001	68·6	
18. 0	54. 43	...	..	051312	65·0		18. 0	55. 27	...	..	051032	68·0	
20. 0	52. 51	...	..	051551	64·5	L	20. 0	54. 55	...	..	051330	68·0	L
22. 0	22. 58. 28	...	..	051469	65·0	T D	22. 0	22. 58. 45	...	..	051388	68·0	T D
Aug. 16. 0. 0	23. 6. 56	...	..	0·051705	65·7	T D	Aug. 19. 0. 0	23. 8. 15	...	..	0·051277	69·0	T D
1. 50	10. 26	...	..	051455			1. 50	12. 15	...	..	051486		E H
2. 0	10. 26	...	..	051455	65·0		2. 0	12. 11	...	..	051429	71·0	
2. 10	10. 22	...	..	051455		T D	2. 10	12. 20	...	..	051429		E H
4. 0	7. 24	...	..	051810	66·2	L	4. 0	6. 59	...	..	051436	70·8	L
6. 0	2. 18	...	..	051973	67·0		6. 0	1. 38	...	..	051486	71·0	
8. 0	1. 56	...	..	051624	67·8		8. 0	23. 0. 21	...	..	051486	71·0	
10. 0	23. 0. 25	...	..	051672	68·0	L	10. 0	22. 59. 57	...	..	051238	70·0	L
12. 0	22. 54. 23	...	..	051473	68·0	T D	12. 0	58. 41	...	..	051139	69·6	T D
14. 0	57. 40	...	..	051431	67·5		14. 0	59. 3	...	..	051117	68·0	
16. 0	57. 52	...	..	051481	67·5		16. 0	58. 26	...	..	051125	67·0	
18. 0	58. 0	...	..	051481	67·5		18. 0	55. 43	...	..	051122	66·0	
20. 0	58. 3	...	..	051481	67·5	T D	20. 0	22. 56. 11	...	..	051056	65·0	T D
22. 0	22. 59. 52	...	..	051231	68·0	G H	22. 0	23. 1. 39	...	..	051123	65·1	E H
Aug. 17. 0. 0	23. 7. 40	...	..	0·050889	68·0	G H	Aug. 20. 0. 0	23. 8. 14	...	..	0·051014	65·0	L
1. 50	13. 20	...	..	051277			1. 50	12. 36	...	..	051217		
2. 0	12. 54	...	..	051277	69·0		2. 0	12. 36	...	..	051217	65·8	
2. 10	12. 44	...	..	051277		G H	2. 10	12. 36	...	..	051238		L
4. 0	9. 28	...	..	051699	71·0	T D	4. 0	7. 16	...	..	051553	67·0	
6. 0	3. 35	...	..	051737	72·0		6. 0	2. 24	...	..	051716	67·5	
8. 0	2. 57	...	..	051608	72·0		8. 0	0. 52	...	..	051958	68·5	
10. 0	23. 0. 17	...	..	051502	72·0	T D	10. 0	23. 0. 42	...	..	051060	68·7	L
12. 0	22. 59. 53	...	..	051251	71·2	G H	12. 0	22. 59. 42	...	..	051103	68·0	G H
14. 0	58. 12	...	..	051297	70·9		14. 0	58. 20	...	..	051006	67·3	
16. 0	58. 18	...	..	050747	68·0		16. 0	57. 24	...	..	051135	66·5	
18. 0	57. 7	...	..	051278	69·3		18. 0	55. 5	...	..	051182	65·5	
20. 0	55. 1	...	..	051421	69·3		20. 0	54. 13	...	..	051384	65·0	G H
22. 0	22. 56. 14	...	..	051183	69·2	G H	22. 0	22. 58. 9	...	..	051246	63·8	E H
Aug. 18. 0. 0	23. 3. 48	...	..	0·050872	68·8	L	Aug. 21. 0. 0	23. 6. 39	...	..	0·051502	65·2	L
1. 50	9. 35	...	..	050884			1. 50	10. 0	...	..	051775		
2. 0	9. 53	...	..	050898	69·2		2. 0	9. 46	...	..	051704	69·0	
2. 10	9. 53	...	..	050898		L	2. 10	9. 46	...	..	051704		
4. 0	7. 35	...	..	051252	70·2	G H	4. 0	6. 21	...	..	051808	72·0	L
6. 0	23. 1. 57	...	..	051486	71·0		6. 0	1. 43	...	..	051355	74·0	G H
8. 0	22. 59. 56	...	..	053515	71·0		8. 0	2. 12	...	..	051409	74·9	
10. 0	22. 55. 52	...	..	051557	71·0	G H	10. 0	23. 0. 38	...	..	051070	74·0	
12. 0	23. 1. 36	...	..	050910	70·2	L	12. 0	22. 59. 32	...	..	050503	71·0	G 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 270°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.
Aug. 15d, between 20h and 24h; Aug. 16d, between 4h and 6h, between 10h and 12h, and between 22h and 24h; Aug. 17d, between 0h and 1h. 50m, between 4h and 6h, and between 22h and 24h; Aug. 18d, between 0h and 1h. 50m, between 4h and 6h, between 10h and 12h, and between 22h and 24h; Aug. 19h, between 2h. 10m and 6h, and between 20h and 24h; and Aug. 20d, between 2h. 10m and 4h, and between 22h and 24h, considerable changes occurred.

HORIZONTAL FORCE MAGNET.
Aug. 21d. The new suspension stirrup was mounted.

VERTICAL FORCE MAGNET.
Aug. 18d, between 6h and 10h; and Aug. 20d, between 8h and 10h, considerable changes took place.

Daily Observations from August 22 to 28.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Aug. 22. 14. 0	23. 4. 35	0·137948	63·2	0·049757	63·0	G
16. 0	22. 58. 35	138050	62·0	050852	61·5	
18. 0	57. 5	137541	62·0	051351	61·5	
20. 0	22. 59. 11	137529	59·5	051389	60·0	G
22. 0	23. 0. 35	136843	59·0	051482	60·0	G H
Aug. 23. 0. 0	23. 7. 46	0·137901	61·0	0·051793	62·0	E H
1. 50	10. 7	136764		051772		G H
2. 0	9. 32	135837	63·0	051737	63·0	
2. 10	8. 25	135258		051687		G H
4. 0	5. 7	135142	63·0	051274	63·0	E H
6. 0	23. 0. 45	135611	65·0	051776	68·0	G
8. 0	22. 58. 59	138414	65·0	051682	65·0	
10. 0	59. 0	138283	64·0	051349	64·0	G
12. 0	58. 57	138090	64·3	051551	64·5	G H
14. 0	23. 0. 58	138451	63·5	051506	64·0	
16. 0	22. 54. 52	137390	63·0	051390	63·5	
18. 0	55. 45	137459	63·0	051630	63·0	
20. 0	22. 57. 44	135953	63·0	051772	63·0	G H
22. 0	23. 1. 17	135942	62·0	051401	62·0	T D
Aug. 24. 0. 0	23. 10. 31	0·136999	62·3	0·051137	62·5	T D
1. 50	9. 26	141196		051754		G
2. 0	9. 26	140964	65·0	051740	65·0	G
2. 10	9. 9	140732		051740		E H
4. 0	4. 52	140632	66·0	051894	65·5	G H
6. 0	23. 0. 21	140535	67·0	052037	67·0	
8. 0	22. 57. 47	141365	68·0	051886	68·0	
10. 0	58. 14	140949	67·5	051651	68·0	G H
12. 0	58. 4	140766	67·0	051431	67·0	T D
14. 0	59. 28	141230	67·0	051275	67·0	
16. 0	22. 57. 59	140957	66·0	051193	66·0	
18. 0	23. 3. 14	139871	65·5	051269	65·0	
20. 0	4. 37	137889	64·0	051172	64·4	T D
22. 0	9. 45	138283	64·0	051175	63·8	G
Aug. 25. 0. 0	23. 10. 56	0·139509	66·2	0·051787	67·0	G
1. 50	13. 8	140992		052115		
2. 0	13. 5	140807	68·5	052101	68·3	
2. 10	12. 6	141085		052087		G
4. 0	9. 39	140923	71·5	052662	72·0	T D
6. 0	1. 49	141201	71·5	052378	72·0	
8. 0	1. 57	139459	71·8	051997	73·0	
10. 0	23. 2. 12	139925	71·0	051411	71·5	T D
12. 0	22. 58. 43	140546	69·3	050672	69·0	L
Aug. 25. 14. 0	22. 57. 35	0·140282	68·3	0·050747	68·0	L
16. 0	22. 57. 49	140535	67·0	050648	67·0	
18. 0	23. 1. 17	141096	66·0	050610	66·0	
20. 0	0. 7	140464	65·6	050718	65·5	L
22. 0	5. 32	138314	66·0	050766	66·0	T D
Aug. 26. 0. 0	23. 12. 52	0·137985	67·0	0·051289	67·0	T D
1. 50	13. 37	138166		051902		
2. 0	13. 6	138444	68·0	051902	68·5	
2. 10	12. 25	138815		051937		T D
4. 0	7. 30	139994	69·0	051510	68·5	L
6. 0	2. 22	141014	70·5	051345	70·0	
8. 0	0. 27	141477	70·5	051073	70·2	
10. 0	0. 27	140656	69·6	050844	69·5	L
12. 0	0. 47	140947	68·0	050948	68·3	G
14. 0	0. 30	140215	66·0	050780	66·0	
16. 0	23. 0. 0	141363	64·5	049640	65·0	
18. 0	22. 57. 58	140704	63·0	051025	63·0	
20. 0	22. 57. 35	140763	62·0	051343	62·0	G
22. 0	23. 2. 30	140113	62·0	051329	62·0	E H
Aug. 27. 0. 0	23. 12. 52	0·140125	63·0	0·051133	62·7	L
1. 50	13. 20	141328		051609		T D
2. 0	13. 0	141328	66·0	051609	66·7	
2. 10	12. 58	141722		051609		T D
4. 0	10. 2	142620	67·0	050990	67·0	E H
6. 0	4. 25	141694	67·0	050506	67·0	
8. 0	4. 0	142639	68·0	050391	68·0	E H
10. 0	23. 0. 44	142274	72·2	051181	72·0	G
12. 0	22. 58. 2	142383	71·5	051156	71·7	G
14. 0	59. 31	141588	69·3	050898	69·2	L
16. 0	58. 25	141444	66·0	050339	66·0	T D
18. 0	55. 30	141560	66·0	050980	66·0	T D
20. 0	22. 53. 50	140833	64·0	050794	64·0	G
22. 0	23. 4. 28	139494	63·5	050856	63·5	L
Aug. 28. 0. 0	23. 15. 2	0·140439	64·0	0·051150	64·0	L
1. 50	15. 36	142891		052350		T D
2. 0	15. 7	142775	69·0	052286	69·4	
2. 10	15. 52	142822		052229		T D
4. 0	11. 2	143007	69·0	051775	69·0	E H
6. 0	4. 14	142385	72·0	052022	72·0	
8. 0	2. 51	142848	72·0	051519	71·7	E H
10. 0	23. 1. 21	142431	72·0	051188	71·8	T D
12. 0	22. 58. 13	142068	71·4			T 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 270°; from Aug. $25^d.2^h.10^m$, 269°.
Reading of Torsion-Circle for Horizontal Magnetometer, 37°. Reading for Brass Bar in the same position, 357°. 21′; and from Aug. $24^d.4^h$ these values were 37°. 45′ and 358°. 6′ respectively.
Time of Vibration of Horizontal Force Magnetometer, $20^s.5$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.
Aug. 22^d, between 14^h and 16^h, and between 22^h and 24^h; Aug. 23^d, between 14^h and 16^h, and 22^h and 24^h; Aug. 24^d, between 16^h and 18^h, and between 20^h and 22^h; Aug. 25^d, between 4^h and 6^h, and between 20^h and 24^h; Aug. 26^d, between 22^h and 24^h; Aug. 27^d, between 4^h and 6^h, and between 20^h and 24^h; and Aug. 28^d, between 4^h and 6^h, considerable changes occurred.

HORIZONTAL FORCE MAGNET.
Aug. 23^d, between 6^h and 8^h; Aug. 24^d, between 0^h and $1^h.50^m$; Aug. 25^d, between 20^h and 22^h; and Aug. 28^d, between 0^h and $1^h.50^m$, considerable changes occurred.

VERTICAL FORCE MAGNET.
Aug. 22^d, between 14^h and 16^h; Aug. 25^d, between 10^h and 12^h; Aug. 26^d, between 14^h and 18^h; Aug. 27^d, between 8^h and 10^h; and Aug. 28^d, between 0^h and $1^h.50^m$, considerable changes took place.
Aug. $28^d.12^h$. The observation was inadvertently omitted.

Daily Observations from August 29 to September 4.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Aug. 29. 14. 0	22. 57. 36	0·143533	64·8	0·051384	65·0	T D	Sep. 1. 14. 0	22. 58. 12	0·142073	65·5	0·051087	66·0	G H
16. 0	57. 32	143086	63·5	050989	63·0		16. 0	57. 51	141254	64·2	051241	65·0	
18. 0	56. 50	142582	61·0	050873	61·5		18. 0	56. 36	141850	63·8	051257	64·0	
20. 0	22. 56. 33	141748	59·5	050938	59·0	T D	20. 0	56. 20	140704	63·0	051416	63·0	G H
22. 0	23. 0. 31	139487	59·2	051031	59·8	L	22. 0	22. 58. 42	139524	61·0	050959	61·0	T D
Aug. 30. 0. 0	23. 8. 27	0·139616	59·5	0·051049	59·5	G	Sep. 2. 0. 0	23. 7. 24	0·140312	61·0	0·050902	61·0	T D
1. 50	12. 52	141041		051545		L	1. 50	11. 14	141487		051289		
2. 0	12. 22	140925	62·0	051545	61·7		2. 0	13. 33	141904	61·5	051289	61·7	
2. 10	12. 48	141041		051616		L	2. 10	14. 7	142321		051474		T D
4. 0	8. 30	140936	63·0	051579	63·0	T D	4. 0	8. 5	141798	62·5	051707	62·5	G H
6. 0	23. 2. 44	141030	65·5	052169	66·0	T D	6. 0	5. 5	143132	63·5	051487	63·0	
8. 0	22. 59. 38	141276	67·0	051740	66·5	L	8. 0	2. 13	142017	64·2	051434	64·0	
10. 0	59. 18	140998	67·0	051431	66·7	G	10. 0	23. 1. 11	142011	64·5	051469	65·0	G H
12. 0	22. 58. 41	141132	66·2	051193	66·0	L	12. 0	22. 59. 40	141631	63·0	050989	63·0	T D
14. 0	23. 0. 16	141312	65·0	051170	65·0		14. 0	57. 11	141245	63·6	051190	63·5	
16. 0	22. 59. 26	141323	64·2	051164	64·0		16. 0	56. 39	140855	62·0	051207	62·4	
18. 0	57. 55	141696	63·5	051272	63·3		18. 0	55. 15	140961	61·0	051329	61·0	
20. 0	55. 59	141066	62·2	051469	62·3	L	20. 0	54. 49	139940	59·3	051284	59·5	T D
22. 0	22. 58. 19	139650	62·0	051486	62·0	T D	22. 0	22. 57. 50	138185	58·6	051211	58·3	L
Aug. 31. 0. 0	23. 6. 18	0·139488	62·0	0·051358	62·0	T D	Sep. 3. 0. 0	23. 6. 48	0·140112	59·2	0·051365	59·0	L
1. 50	12. 42	140588		051558			1. 50	8. 55	141041		051571		G H
2. 0	12. 32	140588	63·0	051558	63·0		2. 0	9. 2	140809	62·0	051500	61·5	
2. 10	12. 8	140588		051558		T D	2. 10	9. 28	141272		051500		G H
4. 0	7. 39	141240	63·2	051630	63·0	L	4. 0	6. 5	141862	63·0	051900	63·0	T D
6. 0	2. 44	142159	63·5	051630	63·0		6. 0	2. 49	142395	63·0	051630	63·0	
8. 0	23. 0. 2	142391	63·5	051345	63·0		8. 0	2. 4	142429	63·8	051504	63·5	
10. 0	22. 58. 51	141862	63·0	051416	63·0	L	10. 0	1. 28	142808	63·5	051415	63·3	T D
12. 0	59. 10	142384	62·0	051329	62·0	G	12. 0	0. 0	142802	64·0	051104	63·8	L
14. 0	58. 25	142189	61·0	051310	61·2		14. 0	2. 39	141927	63·5	050749	63·5	
16. 0	59. 43	141594	59·0	051237	59·0		16. 0	57. 16	141772	62·2	050760	62·0	
18. 0	58. 10	141803	59·0	051536	59·0		18. 0	56. 45	140841	60·4	050850	60·2	
20. 0	55. 20	141177	59·0	051956	59·0	G	20. 0	56. 32	140440	59·6	051334	59·6	L
22. 0	22. 58. 59	139662	59·3	051686	59·0	G H	22. 0	0. 4	139338	59·5	051405	59·5	G H
Sep. 1. 0. 0	23. 9. 17	0·139612	61·7	0·051351	61·0	G H	Sep. 4. 0. 0	23. 10. 0	0·140219	61·0	0·051885	61·0	G H
1. 50	13. 16	141242		051526			1. 50	10. 56	142287		050660		T D
2. 0	12. 54	141312	65·0	051420	65·0		2. 0	11. 44	142472	62·7	050660	61·0	
2. 10	12. 52	141428		051420		G H	2. 10	12. 18	142588		050710		T D
4. 0	8. 37	141560	66·0	051492	66·0	E H	4. 0	5. 12	143176	64·2	051862	64·0	L
6. 0	23. 3. 30	142846	68·5	051601	68·0	G	6. 0	1. 27	142103	64·5	051577	64·0	
8. 0	22. 58. 45	142523	68·0	051544	68·0		8. 0	1. 45	142918	64·0	051460	63·8	
10. 0	23. 0. 43	142620	67·0	051075	67·0	G	10. 0	0. 56	143358	62·0	051102	62·0	L
12. 0	22. 59. 49	142157	67·0	051168	67·0	G H	12. 0	0. 2	142279	60·8	051169	61·3	G 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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 5$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 97$; in Vertical Plane, $23^s \cdot 1$.

DECLINATION MAGNET.
Aug. 29^d, between 22^h and 24^h; Aug. 30^d, between 4^h and 6^h, and between 22^h and 24^h; Aug. 31^d, between 0^h and $1^h. 50^m$, and between 22^h and 24^h; Sep. 1^d, between 22^h and 24^h; Sep. 2^d, between $2^h. 10^m$ and 4^h, and between 22^h and 24^h; Sep. 3^d, between 14^h and 16^h, and between 22^h and 24^h; and Sep, 4^d, between $2^h. 10^m$ and 4^h, considerable changes occurred.

HORIZONTAL FORCE MAGNET.
Aug. 29^d, between 20^h and 22^h; and Sep. 4^d, between 0^h and $1^h. 50^m$, considerable changes took place.

VERTICAL FORCE MAGNET.
Sep. 4^d. Between 0^h and 4^h considerable changes occurred.

Daily Observations from September 5 to 11.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Sep. 5. 14. 0	23. 0. 46	0·143088	56·0	0·051426	57·0	G H
16. 0	22. 55. 2	142509	55·0	051423	56·0	
18. 0	52. 14	142103	55·5	051715	55·7	
20. 0	51. 15	141002	56·0	052029	56·0	G H
22. 0	22. 54. 22	140122	56·0	051851	56·0	T D
Sep. 6. 0. 0	23. 2. 24	0·139963	57·0	0·051596	57·0	T D
1. 50	4. 44	141185		051923		
2. 0	5. 49	141485	60·0	051923	60·0	
2. 10	5. 8	141485		051923		T D
4. 0	23. 0. 51	141441	61·5	051714	61·5	E H
6. 0	22. 57. 12	141862	63·0	051817	63·5	G H
8. 0	55. 35	141991	64·0	051648	64·0	
10. 0	52. 59	142223	64·0	051470	64·0	G H
12. 0	55. 25	141528	64·0	051463	64·0	T D
14. 0	57. 25	142048	63·0	051202	63·0	
16. 0	55. 29	141825	60·5	050727	60·6	
18. 0	57. 18	141362	59·0	050810	59·0	
20. 0	22. 51. 33	140963	58·0	051217	58·0	T D
22. 0	23. 0. 4	138744	56·8	051403	56·4	L
Sep. 7. 0. 0	23. 10. 7	0·138581	59·0	0·051483	58·5	L
1. 50	14. 14	141978		051655		
2. 0	12. 57	141284	63·0	051584	62·8	
2. 10	11. 51	141168		051526		L
4. 0	5. 0	142501	64·0	051391	64·0	T D
6. 0	2. 18	141111	64·0	051007	64·0	
8. 0	23. 0. 19	141428	65·0	051241	65·0	
10. 0	22. 59. 19	141729	65·0	051326	65·0	T D
12. 0	59. 58	141482	64·0	051161	63·8	L
14. 0	59. 4	141492	63·0	051096	63·0	
16. 0	57. 56	141851	62·0	051187	62·0	
18. 0	58. 35	141388	62·0	051329	62·0	
20. 0	56. 41	141041	62·0	051415	62·0	L
22. 0	22. 59. 12	140009	63·0	051252	63·0	G H
Sep. 8. 0. 0	23. 6. 20	0·140537	63·5	0·050998	63·5	G H
1. 50	8. 38	141845		051312		
2. 0	8. 23	141891	65·0	051312	65·0	
2. 10	8. 37	141891		051312		G H
4. 0	5. 9	142206	66·5	051411	66·2	L
6. 0	2. 52	142647	67·2	051289	67·0	
8. 0	0. 59	142690	67·0	051147	67·0	
10. 0	1. 12	141925	67·0	051147	67·0	L
12. 0	0. 38	142157	67·0	051218	67·0	G H

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Sep. 8. 14. 0	22. 59. 44	0·142273	67·0	0·051289	67·0	G H
16. 0	58. 35	141841	65·5	051229	66·0	
18. 0	57. 49	141528	64·0	051242	64·7	
20. 0	56. 20	140704	63·0	051202	63·0	G H
22. 0	22. 59. 46	138944	61·0	051128	60·8	L
Sep. 9. 0. 0	23. 10. 51	0·141078	62·3	0·051166	62·0	L
1. 50	14. 30	141286		051741		
2. 0	14. 59	141471	64·8	051798	64·7	
2. 10	13. 9	141633		051812		L
4. 0	8. 45	140071	67·0	051851	68·0	G H
6. 0	23. 3. 50	141802	69·5	052021	70·0	
8. 0	22. 59. 38	140986	70·3	051754	70·5	
10. 0	54. 54	140132	70·0	051287	70·2	G H
12. 0	55. 15	139210	69·2	051271	69·5	T D
14. 0	52. 41	140620	69·0	051277	69·0	
16. 0	55. 36	139492	67·0	050890	67·0	
18. 0	56. 38	139805	65·0	050885	65·0	
20. 0	22. 57. 4	138961	63·5	051081	63·7	T D
22. 0	23. 1. 18	138412	63·2	050918	63·0	L
Sep. 10. 0. 0	23. 9. 29	0·139045	64·5	0·051042	64·3	L
1. 50	10. 34	140793		051431		
2. 0	10. 34	140933	67·2	051360	67·0	
2. 10	10. 34	141071		051360		L
4. 0	4. 52	141037	69·0	051343	69·3	T D
6. 0	2. 49	141343	70·7	051130	71·0	
8. 0	23. 1. 8	142159	70·4	050935	70·5	
10. 0	22. 59. 54	141524	69·5	050773	69·5	T D
12. 0	59. 25	142013	68·5	050725	68·2	L
14. 0	58. 20	142157	67·0	050719	67·0	
16. 0	59. 18	142053	65·0	050800	65·0	
18. 0	57. 39	142094	63·0	050918	63·0	
20. 0	22. 58. 13	140627	62·4	051090	62·2	L
22. 0	23. 5. 5	138219	63·5	051308	63·7	T D
Sep. 11. 0. 0	23. 11. 29	0·138944	65·5	0·051336	66·0	T D
1. 50	12. 52	140349		051481		
2. 0	12. 41	140349	67·0	051481	67·5	
2. 10	12. 48	140349		051410		T D
4. 0	7. 0	141214	68·6	051409	68·7	L
6. 0	2. 22	141853	69·8	051200	69·5	
8. 0	2. 22	141871	70·0	051095	70·0	
10. 0	0. 35	141965	69·0	050921	69·0	L
12. 0	0. 35	142338	68·0	050925	68·0	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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 5$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 97$; in Vertical Plane, $23^s \cdot 1$.

DECLINATION MAGNET.
Sep. 5^d, between 14^h and 16^h, and between 22^h and 24^h; Sep. 6^d, between 18^h and 24^h; Sep. 7^d, between 2^h. 10^m and 4^h, and between 22^h and 24^h; Sep. 8^d and 9^d, between 22^h and 24^h; Sep. 10^h, between 2^h. 10^m and 4^h, and between 20^h and 24^h; and Sep. 11^d, between 2^h. 10^m and 4^h, considerable changes occurred.

HORIZONTAL FORCE MAGNET.
Sep. 6^d, between 20^h and 22^h; Sep. 7^d, between 0^h and 1^h. 50^m; Sep. 8^d, between 22^h and 24^h; and Sep. 10^d, between 20^h and 22^h, considerable changes took place.

Daily Observations from September 12 to 18.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Sep. 12. 14. 0	23. 1. 48	0·143196	64·0	0·051178	64·0	G	Sep. 15. 14. 0	22. 59. 50	0·141631	63·0	0·050989	63·0	G
16. 0	22. 58. 7	143266	64·0	050950	64·0		16. 0	59. 25	142117	63·0	051074	63·0	
18. 0	22. 59. 38	145004	64·0	051021	64·0		18. 0	58. 16	141862	63·0	051216	63·0	
20. 0	23. 2. 31	144077	64·0	051150	64·0	G	20. 0	55. 34	141862	63·0	051167	63·0	G
22. 0	3. 49	139287	62·8	050989	63·0	L	22. 0	22. 58. 1	141228	64·0	050936	64·0	T D
Sep. 13. 0. 0	23. 13. 52	0·139339	63·2	0·050989	63·0	L	Sep. 16. 0. 0	23. 8. 11	0·140778	65·0	0·050906	65·0	T D
1. 50	19. 26	138863		051434			1. 50	13. 49	142014		051244		
2. 0	19. 34	138793	64·0	051434	64·0		2. 0	12. 57	142130	66·8	051244	67·4	
2. 10	18. 42	139605		051556		L	2. 10	13. 1	142361		051244		T D
4. 0	11. 25	140949	64·0	051506	64·0	E H	4. 0	7. 58	142620	67·0	051183	67·0	E H
6. 0	23. 4. 16	142173	64·5	052160	64·0	G	6. 0	3. 36	143181	66·0	050909	66·0	G
8. 0	22. 59. 25	142521	64·8	052289	64·0		8. 0	2. 24	143602	65·5	051017	65·5	
10. 0	23. 0. 26	142984	64·5	051363	64·0	G	10. 0	23. 0. 55	144320	65·5	051267	65·5	G
12. 0	22. 55. 2	142269	64·0	051221	64·0	L	12. 0	22. 55. 18	145444	62·0	050617	62·0	L
14. 0	23. 0. 37	142094	63·0	051202	63·0		14. 0	22. 56. 6	143877	60·6	050745	61·0	
16. 0	22. 55. 6	141851	62·0	051130	62·0		16. 0	23. 0. 46	143046	59·5	050907	59·5	
18. 0	59. 13	142420	61·0	051386	61·0		18. 0	22. 57. 51	142567	59·0	051152	59·0	
20. 0	22. 58. 2	142180	60·0	051560	60·0	L	20. 0	22. 56. 8	141504	57·8	051095	58·0	L
22. 0	23. 0. 25	140095	60·0	051517	60·0	T D	22. 0	23. 0. 28	138581	59·0	051508	59·0	T D
Sep. 14. 0. 0	23. 7. 27	0. 140159	62·0	0·051749	62·5	T D	Sep. 17. 0. 0	23. 6. 51	0·138222	60·4	0·051625	60·7	T D
1. 50	8. 5	141030		051977			1. 50	13. 16	140978		051828		G H
2. 0	7. 54	141030	65·5	051977	66·0		2. 0	11. 46	140514	61·5	051793	62·0	
2. 10	7. 54	141262		051905		T D	2. 10	11. 3	140862		051814		G H
4. 0	2. 56	141852	66·8	051539	67·0	L	4. 0	8. 55	142645	61·5	052006	62·0	L
6. 0	2. 56	143892	67·5	051338	67·2		6. 0	23. 3. 0	142430	62·0	052229	62·2	
8. 0	4. 19	143266	67·5	051291	67·3		8. 0	22. 59. 56	143176	62·4	051871	62·5	
10. 0	1. 24	142507	66·5	050980	66·0	L	10. 0	23. 1. 9	142982	62·7	051701	63·0	L
12. 0	23. 0. 34	142122	65·0	050992	65·0	T D	12. 0	0. 32	142894	62·0	051401	62·0	T D
14. 0	22. 58. 54	141927	63·5	051078	64·0		14. 0	0. 22	142662	62·0	051343	62·0	
16. 0	22. 58. 35	141304	60·4	050705	60·5		16. 0	23. 0. 11	142768	61·0	051244	61·0	
18. 0	59. 34	141223	59·0	051170	59·5		18. 0	22. 59. 8	142582	59·5	051403	60·0	
20. 0	22. 58. 40	140963	58·0	051371	58·7	T D	20. 0	58. 26	142150	59·0	051450	59·7	T D
22. 0	23. 1. 5	139758	58·2	051540	58·5	L	22. 0	22. 56. 58	139911	58·5	051258	57·8	G H
Sep. 15. 0. 0	23. 7. 42	0·138936	60·0	0·051472	59·8	L	Sep. 18. 0. 0	23. 5. 58	1·139052	60·0	0·051495	59·9	G H
1. 50	9. 12	140549		051940			1. 50	10. 8	140408		051543		
2. 0	9. 12	140874	63·6	051940	62·8		2. 0	9. 55	140408	62·5	051543	62·0	
2. 10	9. 12	141245		051897		L	2. 10	10. 8	140640		051564		G H
4. 0	5. 41	141729	65·0	051861	65·3	T D	4. 0	6. 49	141453	62·7	051715	63·0	T D
6. 0	2. 54	141560	66·0	051478	66·0		6. 0	2. 27	142199	62·0	051472	62·0	T D
8. 0	0. 31	141745	66·0	051491	66·5		8. 0	23. 0. 39	143182	60·6	051384	60·8	L
10. 0	23. 0. 40	141907	66·0	051336	66·0	T D	10. 0	22. 57. 52	142799	59·0	051339	59·2	L
12. 0	22. 59. 50	141528	64·0	051057	64·0	G	12. 0	56. 9	143393	57·0	051244	57·8	G H

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, 20s·5.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·97; in Vertical Plane, 23s·1.

DECLINATION MAGNET.
Sep. 12d, between 22h and 24h; Sep. 13d, between 0h and 1h. 50m, between 2h. 10m and 6h, between 10h and 16h, and between 22h and 24h; Sep. 14d and 15d, between 22h and 24h; Sep. 16d, between 0h and 1h. 50m, between 2h. 10m and 4h, between 10h and 12h, and between 22h and 24h; Sep. 17d, between 0h and 1h. 50m, between 4h and 6h, and between 22h and 24h, considerable changes occurred.

HORIZONTAL FORCE MAGNET.
Sep. 12d, between 20h and 22h; Sep. 13d, between 20h and 22h; Sep. 14d, between 4h and 6h; Sep. 16d, between 20h and 22h; and Sep. 17d, between 0h and 1h. 50m, and between 20h and 22h, considerable changes took place.

VERTICAL FORCE MAGNET.
Sep. 13d. Between 8h and 10h a considerable change took place.

Daily Observations from September 19 to 25.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Sep. 19. 14. 0	22. 59. 42	0·143645	56·7	0·051568	57·0	G H
16. 0	23. 0. 43	143645	56·7	051782	57·0	
18. 0	22. 55. 57	143448	59·0	051617	58·2	
20. 0	22. 56. 39	142292	60·9	051697	60·8	G H
22. 0	23. 0. 55	140312	61·0	051386	61·0	T D
Sep. 20. 0. 0	23. 4. 37	0·138876	63·2	0·051557	63·3	L
1. 50	8. 59	140031		051455		T D
2. 0	8. 43	140031	65·3	051455	65·3	T D
2. 10	8. 16	140077		051455		L
4. 0	5. 8	140566	65·5	051384	66·5	G H
6. 0	23. 0. 20	141627	66·5	051360	67·0	
8. 0	22. 59. 2	142536	65·5	051265	66·0	
10. 0	56. 24	141428	65·0	051288	65·5	G H
12. 0	52. 48	140899	64·5	050981	64·8	L
14. 0	55. 36	141258	62·8	050918	63·0	
16. 0	57. 31	142304	61·0	050790	61·2	
18. 0	58. 48	142173	59·0	050836	59·5	
20. 0	59. 27	142280	57·0	050999	57·2	L
22. 0	22. 58. 56	140933	56·0	051409	56·0	T D
Sep. 21. 0. 0	23. 4. 6	0·139844	56·0	0·051302	56·3	T D
1. 50	8. 9	142003		051435		
2. 0	8. 23	142165	57·6	051435	57·7	
2. 10	7. 51	142119		051435		T D
4. 0	3. 20	142197	59·2	051761	59·5	L
6. 0	1. 43	142279	60·8	051742	61·0	
8. 0	0. 35	142868	61·8	051685	62·0	L
10. 0	2. 4	143057	62·0	051486	62·0	G
12. 0	2. 25	143176	63·3	051461	63·5	T D
14. 0	1. 28	142686	64·0	051391	64·0	
16. 0	3. 1	142686	64·0	051235	64·0	
18. 0	1. 34	142386	64·0	051463	64·0	
20. 0	0. 6	142133	63·3	051318	63·5	T D
22. 0	0. 32	140472	63·0	051318	63·5	G H
Sep. 22. 0. 0	23. 7. 29	0·141039	64·5	0·051288	65·5	G H
1. 50	8. 48	141694		051147		
2. 0	8. 52	141694	67·0	051147	67·0	
2. 10	8. 36	142273		051183		G H
4. 0	23. 1. 18	142157	67·0	051147	67·0	E H
6. 0	22. 59. 15	142334	70·0	051345	70·0	G H
8. 0	59. 13	142918	69·2	051044	69·5	G H
10. 0	22. 59. 25	142361	68·0	050797	68·0	G
12. 0	23. 4. 29	142643	67·0	050733	67·0	G

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Sep. 22. 14. 0	22. 59. 46	0·143083	67·0	0·050862	67·0	G H
16. 0	23. 2. 38	142194	65·2	050861	65·5	G H
18. 0	4. 4	143377	65·2	050828	65·3	L
20. 0	23. 1. 47	142702	65·0	050956	65·0	T D
22. 0	22. 59. 55	141925	67·0	051374	67·0	G H
Sep. 23. 0. 0	23. 4. 57	0·141925	67·0	0·051147	67·0	G H
1. 50	6. 51	142496		051601		T D
2. 0	6. 2	142427	67·8	051601	68·0	
2. 10	6. 7	142265		051622		T D
4. 0	6. 49	141648	67·0	051574	67·0	E H
6. 0	2. 31	140833	67·5	051610	67·0	G
8. 0	0. 1	141508	67·0	051254	67·0	T D
10. 0	23. 0. 56	142050	66·2	050956	66·5	L
12. 0	22. 56. 19	142380	65·2	050837	66·0	G H
14. 0	57. 26	141528	64·0	050662	64·5	
16. 0	22. 59. 12	142455	64·0	050972	64·0	
18. 0	23. 1. 15	140833	64·0	050769	64·2	G H
20. 0	10. 35	143030	64·5	050270	64·5	G
22. 0	4. 29	140369	64·0	050616	64·0	L
Sep. 24. 0. 0	23. 7. 33	0·139906	64·0	0·050912	64·2	L
1. 50	22. 57. 12	149181		058123		
2. 0	48. 46	151869	65·1	056671	65·5	
2. 10	22. 44. 4	154650		056522		
4. 0	23. 6. 44	140196	66·2	054599	66·7	L
6. 0	23. 9. 12	171937	67·0	054016	67·0	G
8. 0	22. 58. 15	134741	67·0	054493	67·0	G H
10. 0	22. 57. 28	137619	66·0	049698	66·0	G
12. 0	23. 16. 5	132979	64·2	049415	64·5	L
14. 0	7. 14	135876	63·3	049325	63·5	
16. 0	23. 0. 40	136224	63·3	051660	63·5	
18. 0	22. 59. 53	136156	61·3	051856	61·5	
20. 0	57. 28	135221	59·0	051757	59·0	L
22. 0	22. 57. 56	135151	59·0	052220	59·0	T D
Sep. 25. 0. 0	23. 4. 13	0·135105	59·0	0·052291	59·0	T D
1. 50	6. 46	136211		052576		T D
2. 0	6. 53	136443	62·3	052505	62·0	G H
2. 10	6. 45	136211		052469		
4. 0	6. 28	137562	63·8	052458	63·5	G H
6. 0	3. 52	139352	64·2	052075	64·0	L
8. 0	1. 38	139740	64·5	051907	64·5	
10. 0	23. 0. 17	139674	64·0	051790	64·0	L
12. 0	22. 59. 49	139359	63·0	051558	63·0	T 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot5$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot97$; in Vertical Plane, $23^s\cdot1$.

DECLINATION MAGNET.
Sep. 19^d, between 20^h and 22^h; Sep. 20^d and 21^d, between 22^h and 24^h; Sep. 22^d, between $2^h.\ 10^m$ and 4^h, between 10^h and 12^h, and between 22^h and 24^h; Sep. 23^d, between 18^h and 22^h; and Sep. 24^d, from 0^h to 16^h, and between 22^h and 24^h, the changes were very considerable.

HORIZONTAL FORCE MAGNET.
Sep. 21^d, between 0^h and $1^h.\ 50^m$, a considerable change took place; Sep. 23^d, between 18^h and 22^h; and Sep. 24^d, the changes were very frequent and of large amount.

VERTICAL FORCE MAGNET.
Sep. 24^d, between 0^s and 10^h, and between 14^h and 16^h, considerable changes occurred.

Daily Observations from September 26 to October 2.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Sep. 26. 14. 0	22. 44. 26	0·140949	57·5	0·048972	57·5	T D
16. 0	59. 35	139671	56·5	049467	56·5	
18. 0	50. 18	138291	55·0	050641	55·0	
20. 0	57. 10	137989	54·0	051171	53·8	T D
22. 0	56. 39	139380	54·0	051854	54·0	G H
Sep. 27. 0. 0	22. 59. 52	0·128269	56·5	0·052634	56·0	G H
1. 50	23. 10. 22	141663		057118		
2. 0	8. 33	142474	60·5	056584	61·0	
2. 10	9. 35	142706		056299		G H
4. 0	7. 39	136174	62·0	053964	62·0	T D
6. 0	5. 56	135121	61·0	051956	61·0	
8. 0	0. 49	138618	63·0	052128	63·0	
10. 0	3. 15	139476	63·0	051914	63·0	T D
12. 0	1. 54	139302	62·0	052013	62·5	G H
14. 0	0. 33	138704	60·0	052106	61·5	
16. 0	0. 28	138813	59·0	052087	60·0	
18. 0	23. 2. 20	138459	58·0	052105	58·8	
20. 0	22. 58. 8	137588	57·5	051995	57·0	G H
22. 0	23. 0. 2	135522	56·6	052380	56·8	L
Sep. 28. 0. 0	23. 7. 34	0·135351	57·2	0·052460	57·5	L
1. 50	10. 28	136573		052585		
2. 0	9. 54	136619	60·0	052585	60·0	
2. 10	9. 19	137082		052514		L
4. 0	5. 20	138697	61·8	052583	62·5	G H
6. 0	3. 20	139650	62·0	052149	62·0	
8. 0	23. 0. 48	140345	62·0	052091	62·0	
10. 0	22. 42. 40	143589	62·0	052041	62·0	G H
12. 0	54. 30	139230	60·5	050892	60·7	L
14. 0	49. 7	137770	59·0	050440	59·0	
16. 0	22. 56. 20	139564	58·5	051069	58·3	
18. 0	23. 0. 0	140893	58·0	051715	58·0	
20. 0	22. 57. 14	139882	57·3	052033	57·5	L
22. 0	23. 0. 11	138674	59·0	052277	59·0	T D
Sep. 29. 0. 0	23. 3. 48	0·137406	60·0	0·052177	60·4	T D
1. 50	7. 52	136764		052376		
2. 0	7. 43	137112	63·0	052376	63·3	
2. 10	7. 43	137112		052198		
4. 0	23. 5. 6	138718	65·2	051839	65·0	
6. 0	22. 57. 54	137619	66·0	052689	66·0	T D
8. 0	54. 33	136667	65·8	052062	66·0	L
10. 0	22. 43. 45	134565	64·8	051455	65·0	L
12. 0	23. 0. 55	132579	64·5	049426	65·0	G
Sep. 29. 14. 0	22. 46. 7	0·137422	64·5	0·049532	65·0	G
16. 0	49. 36	138465	64·5	050757	65·0	
18. 0	56. 3	137376	64·5	051455	65·0	
20. 0	58. 12	136756	61·0	051251	61·0	G
22. 0	22. 59. 40	135970	60·0	051660	60·0	T D
Sep. 30. 0. 0	23. 5. 45	0·136194	61·8	0·052077	61·5	T D
1. 50	7. 27	138283		052289		
2. 0	6. 36	138237	64·0	052289	64·0	
2. 10	6. 36	138051		052289		T D
4. 0	5. 56	138567	63·5	051568	63·5	E H
6. 0	2. 5	138515	65·5	051384	65·0	G
8. 0	0. 4	138515	64·0	051150	64·0	
10. 0	23. 1. 33	138515	64·0	051150	64·0	G
12. 0	22. 59. 44	138515	64·0	051292	64·0	T D
14. 0	58. 30	138747	64·0	051448	64·0	
16. 0	58. 9	139406	63·0	051395	63·0	
18. 0	58. 12	139570	61·0	051315	61·0	
20. 0	58. 59	138828	61·0	051628	61·0	T D
22. 0	22. 57. 20	137669	61·0	051742	61·0	G H
Oct. 1. 0. 0	23. 2. 42	0·136999	61·2	0·051668	61·3	L
1. 50	6. 59	137575		051701		G H
2. 0	7. 13	137691	63·0	051666	63·0	
2. 10	8. 17	137691		051701		G H
4. 0	7. 38	139805	65·0	051740	65·0	T D
6. 0	5. 2	139851	65·0	051540	65·0	
8. 0	5. 25	140546	65·0	051384	65·0	
10. 0	23. 1. 59	140500	65·0	051312	65·0	T D
12. 0	22. 57. 25	139961	65·3	051264	65·7	G H
14. 0	23. 0. 28	139805	65·0	051502	65·5	
16. 0	22. 58. 19	139805	65·0	051431	65·2	
18. 0	22. 59. 18	139921	65·0	051530	65·5	
20. 0	23. 0. 0	139805	65·0	051502	65·2	G H
22. 0	22. 56. 51	138581	64·5	051352	64·5	L
Oct. 2. 0. 0	23. 2. 22	0·137498	64·2	0·051221	64·0	L
1. 50	7. 43	137422		051235		T D
2. 0	7. 51	137422	64·5	051235	64·0	
2. 10	8. 7	137886		051150		T D
4. 0	7. 11	138414	65·0	051740	65·0	G H
6. 0	3. 13	141065	64·0	051492	64·0	
8. 0	4. 3	140614	63·2	051603	63·5	
10. 0	2. 44	140588	63·0	051487	63·0	G H
12. 0	1. 22	140330	62·8	051558	63·0	L

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°.45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 5$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 97$; in Vertical Plane, $23^s \cdot 1$.

DECLINATION MAGNET.
Sep. 27^d to 30^d. The changes were large and frequent.
Between Oct. 1^d. 22^h and Oct. 2^d. 1^h. 50^m considerable changes occurred.

HORIZONTAL FORCE MAGNET.
Sep. 26^d, between 22^h and 24^h; Sep. 27^d, between 0^h and 1^h. 50^m, between 2^h. 10^m and 8^h, and between 20^h and 22^h; Sep. 28^d, between 8^h and 12^h; Sep. 29^d, between 8^h and 14^h; Sep. 30^d, between 0^h and 1^h. 50^m; Oct. 1^d, between 2^h. 10^m and 4^h; and Oct. 2^d, between 4^h and 6^h, considerable changes took place.

VERTICAL FORCE MAGNET.
Sep. 26^d, between 16^h and 24^h; Sep. 27^d, between 0^h and 6^h; Sep. 28^d, between 10^h and 12^h; Sep. 29^d, between 4^h and 16^h; and Sep. 30^d, between 2^h. 10^m and 4^h, considerable changes occurred.

Daily Observations from October 3 to 9.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Oct. 3. 14. 0	23. 2. 23	0·141378	60·0	0·051636	61·0	L
16. 0	22. 59. 51	141460	59·8	051660	60·0	
18. 0	59. 16	141052	59·3	051553	59·2	
20. 0	58. 1	141594	59·0	051473	59·0	L
22. 0	22. 56. 10	139979	60·0	051852	60·0	T D
Oct. 4. 0. 0	23. 3. 53	0·141077	61·0	0·051386	61·0	T D
1. 50	9. 18	142048		051715		
2. 0	8. 0	142048	63·0	051715	63·0	
2. 10	8. 17	141978		051715		T D
4. 0	4. 48	141862	63·0	051423	63·0	L
6. 0	2. 5	140988	62·5	051156	62·8	
8. 0	0. 24	141349	63·5	051224	63·4	
10. 0	23. 0. 24	141464	63·5	051105	63·5	L
12. 0	22. 59. 50	141627	63·5	051233	63·5	T D
14. 0	59. 4	141747	63·0	051202	63·0	
16. 0	58. 37	141957	61·0	051258	61·0	
18. 0	57. 55	141802	58·8	051152	59·0	
20. 0	56. 11	141631	57·0	050821	57·0	T D
22. 0	22. 55. 48	142303	57·2	051157	57·4	L
Oct. 5. 0. 0	23. 4. 13	0·142107	57·5	0·050930	57·5	G H
1. 50	7. 41	141262		051457		
2. 0	8. 8	141725	61·0	051457	61·0	
2. 10	8. 56	141841		051457		
4. 0	6. 44	140035	63·2	051558	63·0	G H
6. 0	2. 51	140964	65·0	051573	65·5	T D
8. 0	3. 7	140663	65·0	051338	65·5	
10. 0	23. 0. 23	140642	65·2	051170	65·0	T D
12. 0	22. 57. 28	140601	64·0	051078	64·0	G H
14. 0	22. 59. 51	140176	62·5	051167	63·0	
16. 0	23. 0. 5	140265	61·0	051002	61·5	
18. 0	22. 59. 20	140318	60·3	051151	60·9	
20. 0	56. 53	139679	58·5	051232	60·0	G H
22. 0	22. 57. 33	138581	59·0	051223	59·0	L
Oct. 6. 0. 0	23. 5. 54	0·139375	59·8	0·051033	60·0	L
1. 50	8. 34	139751		051131		
2. 0	7. 56	139519	62·8	051131	63·0	
2. 10	7. 56	139519		051131		L
4. 0	5. 0	140385	65·0	051241	65·0	G H
6. 0	1. 0	140748	66·0	051193	66·0	G H
8. 0	23. 0. 34	141047	66·5	051044	66·0	G
10. 0	22. 59. 53	141163	66·5	051030	66·0	G
12. 0	59. 40	141474	65·0	050885	65·0	L

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Oct. 6. 14. 0	22. 58. 30	0·141528	64·0	0·050794	64·0	L
16. 0	58. 30	141399	63·0	050775	63·0	
18. 0	57. 25	141504	62·0	050760	62·0	
20. 0	56. 20	141209	61·5	051002	61·5	L
22. 0	22. 56. 53	138850	63·0	051238	63·0	T D
Oct. 7. 0. 0	23. 5. 43	0·138646	65 0	0·050885	65·0	T D
1. 50	8. 59	139659		050816		
2. 0	8. 40	139705	66·0	050816	66·0	
2. 10	8. 40	139705		050766		T D
4. 0	4. 8	140931	66·5	050982	66·7	L
6. 0	0. 34	141328	66·0	050837	66·0	
8. 0	23. 0. 34	141955	64·6	050662	64·5	
10. 0	22. 59. 32	141888	63·2	050749	63·5	L
12. 0	56. 0	141504	62·0	050760	62·0	T D
14. 0	57. 22	141022	60·0	050713	60·0	
16. 0	58. 23	141362	59·0	050832	59·0	
18. 0	55. 59	141472	58·0	050775	58·0	
20. 0	52. 54	141585	57·0	050750	57·0	T D
22. 0	22. 57. 30	141131	59·0	051081	59·0	E H
Oct. 8. 0. 0	23. 9. 8	0·139095	57·5	0·050645	57·5	E H
1. 50	11. 4	140327		050663		
2. 0	11. 4	140675	60·0	050628	60·0	
2. 10	11. 33	140976		050628		E H
4. 0	7. 42	141428	65·0	051170	65·0	T D
6. 0	1. 57	142023	66·0	051229	66·0	
8. 0	23. 1. 38	142023	66·0	051322	66·0	
10. 0	22. 57. 26	140269	65·0	051277	65·0	T D
12. 0	54. 1	139777	63·0	050846	63·0	E H
14. 0	51. 1	140176	62·5	050518	62·5	
16. 0	55. 40	140862	61·5	050646	61·5	
18. 0	58. 55	140567	61·0	050546	61·0	
20. 0	55. 40	140683	61·0	050639	61·0	E H
22. 0	22. 56. 55	138954	62·0	050831	62·0	T D
Oct. 9. 0. 0	23. 2. 31	0·138322	62·5	0·050760	62·0	G H
1. 50	7. 44	140305		050962		L
2. 0	8. 18	140537	63·5	050962	63·5	
2. 10	10. 5	141005		050983		
4. 0	7. 46	141528	64·0	050722	64·0	L
6. 0	2. 44	141631	63·0	050598	63·0	E H
8. 0	1. 0	141862	63·0	050455	63·0	E H
10. 0	23. 0. 4	141891	65·0	050942	65·0	G H
12. 0	22. 57. 2	142238	65·0	051076	64·9	G 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37.45°. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.5$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.
Oct. 3d, between 22h and 24h; Oct. 4d, between 0h and 1h. 50m, and between 22h and 24h; Oct 5d, 6d, and 7d, between 22h and 24h; Oct. 8d, between 4h and 6h, and between 22h and 24h; and Oct. 9d, between 0h and 1h. 50m, and between 4h and 6h, considerable changes occurred.

HORIZONTAL FORCE MAGNET.
Oct. 6d, between 20h and 22h, and Oct. 7d, between 22h and 24h, considerable changes took place.

Daily Observations from October 10 to 16.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Oct. 10. 14. 0	22. 57. 30	0·142822	60·5	0·050677	60·4	L
16. 0	56. 16	141779	60·5	050669	60·5	
18. 0	58. 12	140853	60·5	051083	60·6	
20. 0	55. 54	142288	60·5	051132	60·5	L
22. 0	22. 54. 7	140257	61·3	051004	61·2	G H
Oct. 11. 0. 0	23. 3. 56	0·139545	63·0	0·051060	63·0	G H
1. 50	10. 58	141464		051032		
2. 0	10. 30	141233	63·5	051104	63·8	
2. 10	9. 38	141349		051032		G H
4. 0	4. 53	142289	64·5	051112	64·6	L
6. 0	23. 0. 42	141791	66·0	050968	65·8	
8. 0	22. 55. 59	141257	67·2	050847	66·7	
10. 0	59. 48	141529	67·5	050840	67·5	L
12. 0	59. 41	141925	67·0	050705	67·0	G H
14. 0	59. 22	141791	66·0	050553	66·0	
16. 0	55. 22	141096	66·0	050766	66·0	
18. 0	53. 52	141328	66·0	050837	66·0	
20. 0	51. 50	140632	66·0	050909	66·0	G H
22. 0	22. 52. 4	139303	64·0	050366	64·0	T D
Oct. 12. 0. 0	23. 1. 52	0·139527	65·0	0·050672	65·0	T D
1. 50	6. 12	140670		051103		
2. 0	6. 53	141365	68·0	051103	68·0	
2. 10	7. 9	141365		051032		T D
4. 0	23. 2. 3	141639	70·0	051272	71·0	G H
6. 0	22. 58. 21	141850	71·5	050954	72·0	T D
8. 0	50. 5	141921	72·0	050811	72·0	G H
10. 0	52. 21	140550	70·5	050365	70·5	G H
12. 0	56. 54	141338	69·5	050526	70·0	T D
14. 0	56. 54	141508	67·0	049794	67·0	
16. 0	56. 46	141560	66·0	049677	66·0	
18. 0	56. 45	141659	65·0	049532	65·0	
20. 0	53. 58	141343	64·0	049797	64·0	T D
22. 0	22. 53. 33	137835	65·0	050458	65·0	G H
Oct. 13. 0. 0	23. 3. 29	0·136542	64·5	0·050744	64·7	G H
1. 50	10. 16	136097		051122		
2. 0	9. 24	136561	65·0	051051	66·0	
2. 10	9. 46	136329		051122		G H
4. 0	6. 45	138815	68·0	052100	68·0	T D
6. 0	23. 3. 4	137750	68·0	051957	68·0	
8. 0	22. 57. 6	137753	67·0	051481	67·0	T D
10. 0	55. 41	139376	67·0	051431	67·0	G H
12. 0	55. 40	139010	66·0	051374	67·0	G

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Oct. 13. 14. 0	22. 55. 1	0·140169	66·0	0·051018	67·0	G
16. 0	55. 53	139573	65·0	051219	66·0	
18. 0	55. 3	139880	63·8	051220	64·3	
20. 0	53. 14	139591	63·0	051249	63·2	G
22. 0	53. 40	137691	63·0	051416	63·0	G H
Oct. 14. 0. 0	22. 57. 22	0·137194	60·9	0·050928	60·7	G H
1. 50	23. 4. 14	138407		051110		
2. 0	5. 2	138523	60·4	051181	60·0	
2. 10	6. 7	139218		051252		G H
4. 0	23. 1. 54	141230	61·3	051963	61·5	G
6. 0	22. 57. 42	141209	61·5	051465	61·5	
8. 0	56. 32	141504	62·0	051387	62·0	
10. 0	56. 4	141692	62·0	051343	62·0	G
12. 0	56. 11	141725	61·0	051151	60·9	G H
14. 0	53. 24	141725	61·0	050954	60·5	
16. 0	54. 52	141841	61·0	051061	60·5	
18. 0	55. 20	141957	61·0	051145	60·4	
20. 0	53. 38	141609	61·0	051244	61·0	G H
22. 0	22. 54. 34	138473	60·0	051090	60·0	T D
Oct. 15. 0. 0	23. 4. 25	0·139130	61·0	0·051244	61·0	T D
1. 50	4. 8	139186		051472		
2. 0	6. 11	139418	62·0	051472	62·0	
2. 10	6. 14	139418		051401		T D
4. 0	23. 1. 37	141041	62·0	051543	62·0	G H
6. 0	22. 54. 29	139998	62·0	051543	62·0	
8. 0	55. 28	139211	62·2	051436	62·5	
10. 0	22. 56. 42	139893	63·0	051202	63·0	G H
12. 0	23. 2. 35	140369	64·0	050730	64·0	T D
14. 0	22. 55. 13	140184	64·0	050936	64·0	
16. 0	55. 13	140833	64·0	051150	64·0	
18. 0	22. 55. 40	140972	62·0	050973	62·0	
20. 0	23. 0. 20	140605	60·0	050841	60·0	T D
22. 0	22. 55. 26	138113	59·9	051090	60·0	G H
Oct. 16. 0. 0	23. 3. 25	0·138704	60·0	0·051055	60·0	G H
1. 50	8. 20	138009		050912		E H
2. 0	9. 48	138473	60·0	050984	60·0	
2. 10	9. 44	138473		051019		E H
4. 0	23. 4. 16	139906	64·0	051542	64·0	T D
6. 0	22. 57. 13	140671	64·0	051363	64·0	
8. 0	52. 51	140833	64·0	051007	64·0	
10. 0	56. 5	141297	64·0	050751	64·0	T D
12. 0	55. 14	141504	62·0	050297	62·0	E 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, 20^s·5.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24^s·97; in Vertical Plane, 23^s·1.

DECLINATION MAGNET.
Oct. 10^d, between 22^h and 24^h; Oct. 11^d, between 0^h and 1^h. 50^m, between 6^h and 8^h, and between 22^h and 24^h; Oct. 12^d, between 2^h. 10^m and 4^h, between 6^h and 8^h, and between 22^h and 24^h; Oct. 13^d, between 0^h and 1^h. 50^m, and between 6^h and 8^h; Oct. 14^d, between 0^h and 1^h. 50^m, and between 22^h and 24^h; and Oct. 15^d, between 4^h and 6^h, between 10^h and 14^h, and between 22^h and 24^h; and Oct 16^d, between 4^h and 6^h, considerable changes occurred.

HORIZONTAL FORCE MAGNET.
Oct. 10^d and 12^d, between 20^h and 22^h; Oct. 13^d and 14^d, between 2^h. 10^m and 4^h; and Oct. 14^d and 15^d, between 20^h and 22^h, considerable changes took place.

VERTICAL FORCE MAGNET
Oct. 12^d, between 12^h and 14^h, and Oct. 13^d, between 2^h. 10^m and 4^h, considerable changes occurred.

Daily Observations from October 17 to 23.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Oct. 17. 14. 0	22. 52. 37	0·142393	56·0	0·050355	56·0	E H
16. 0	52. 14	142628	57·0	050750	57·0	
18. 0	51. 49	142744	57·0	050821	57·0	
20. 0	54. 25	142104	56·5	050748	56·5	E H
22. 0	22. 57. 27	139734	58·0	050897	58·0	G H
Oct. 18. 0. 0	23. 1. 23	0·140198	58·0	0·050861	58·0	G H
1. 50	2. 11	139516		051375		T D
2. 0	1. 33	139168	60·0	051375	60·0	
2. 10	23. 0. 16	139168		051375		
4. 0	22. 59. 9	140276	62·0	052027	62·5	T D
6. 0	55. 57	141438	63·3	051602	63·8	G H
8. 0	55. 56	140778	65·0	051267	64·5	G H
10. 0	53. 34	140375	65·8	050757	65·0	G
12. 0	52. 18	140748	66·0	050695	66·0	G H
14. 0	55. 18	140818	66·0	050861	65·8	
16. 0	55. 36	140566	65·5	050932	65·8	
18. 0	55. 7	140632	66·0	050909	66·0	
20. 0	54. 4	140517	66·0	050885	65·9	G H
22. 0	22. 53. 39	138979	64·0	050509	64·0	T D
Oct. 19. 0. 0	23. 1. 7	0·138524	65·3	0·050861	65·5	T D
1. 50	5. 50	139932		051460		
2. 0	6. 13	140071	67·0	051460	67·0	
2. 10	23. 5. 46	140071		051460		T D
4. 0	22. 59. 22	140766	67·0	051673	67·0	G H
6. 0	51. 6	140651	67·0	051154	67·0	
8. 0	56. 8	140784	66·2	050956	66·5	
10. 0	51. 37	140398	65·1	050979	65·7	G H
12. 0	50. 33	140333	63·0	050063	63·0	T D
14. 0	53. 15	141399	63·0	050718	63·0	
16. 0	56. 18	140577	62·0	050582	62·0	
18. 0	52. 53	140577	62·0	050831	62·0	
20. 0	51. 41	140729	61·0	051009	61·0	T D
22. 0	22. 51. 22	139168	60·0	050876	60·0	G H
Oct. 20. 0. 0	23. 1. 15	0·138444	60·7	0·050779	60·2	G H
1. 50	3. 33	139777		051167		
2. 0	4. 23	139893	63·0	051131	63·0	
2. 10	4. 13	139777		051117		G H
4. 0	2. 2	139805	65·0	051469	65·0	T D
6. 0	23. 0. 48	140732	65·0	051156	65·0	
8. 0	22. 57. 54	140833	64·0	050964	64·0	T D
10. 0	58. 30	141688	63·8	051136	64·0	G
12. 0	57. 45	141006	63·0	051202	63·0	G
Oct. 20. 14. 0	22. 59. 55	0·140602	62·2	0·051087	62·5	T D
16. 0	22. 58. 15	140856	62·5	050945	62·5	E H
18. 0	23. 2. 15	141485	60·0	050734	60·0	E H
20. 0	22. 56. 10	140531	62·0	051329	62·0	G H
22. 0	22. 52. 30	139223	61·0	051301	61·5	G
Oct. 21. 0. 0	23. 2. 2	0·138422	62·0	0·051116	62·0	T D
1. 50	5. 42	139674		051150		
2. 0	5. 42	139674	64·0	051078	64·0	
2. 10	5. 45	139674		051035		
4. 0	2. 9	139921	65·0	051170	65·0	
6. 0	1. 10	140269	65·0	051099	65·0	T D
8. 0	23. 0. 21	140936	63·0	050562	63·0	E H
10. 0	22. 58. 26	141145	63·0	050529	62·7	G
12. 0	57. 39	141272	62·0	050760	62·0	G H
14. 0	58. 10	141378	61·0	050888	61·0	
16. 0	57. 58	141370	60·0	051005	60·0	
18. 0	58. 54	141254	60·0	051055	60·0	
20. 0	57. 2	140791	60·0	051232	60·0	G H
22. 0	22. 56. 24	139564	58·5	051056	58·5	T D
Oct. 22. 0. 0	23. 5. 24	0·138365	61·0	0·051529	61·0	T D
1. 50	9. 59	139499		051515		
2. 0	10. 15	139591	63·0	051515	63·0	
2. 10	10. 47	139940		051487		T D
4. 0	23. 3. 20	140240	63·0	051096	63·0	G H
6. 0	22. 59. 28	141001	63·5	050995	63·3	
8. 0	57. 48	141104	62·5	050874	62·5	
10. 0	50. 1	140240	63·0	051345	63·0	G H
12. 0	55. 41	140577	62·0	050973	62·0	G
14. 0	51. 2	141272	62·0	050333	62·0	
16. 0	58. 57	141272	62·0	050923	62·0	
18. 0	54. 52	141967	62·0	050973	62·0	G
20. 0	22. 48. 7	138411	59·5	050658	59·5	E H
22. 0	23. 4. 32	128757	62·0	050689	62·0	G H
Oct. 23. 0. 0	23. 3. 37	0·138549	63·0	0·050247	62·5	G H
1. 50	23. 15. 45	135605		053544		
2. 0	22. 44. 45	125640	63·0	053971	62·5	
2. 10	22. 59. 0	132361		055288		G H
4. 0	23. 9. 20	142686	64·0	055720	64·0	G
6. 0	58. 21	145468	64·0	056027	64·0	G
8. 0	43. 11	137256	65·0	054039	65·0	T D
10. 0	23. 15. 41	135105	64·5	051532	63·5	G
12. 0	22. 50. 38	134783	62·0	048233	62·0	E H

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, 20s·5.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·97; in Vertical Plane, 23s·1.

DECLINATION MAGNET.
Oct. 18d, between 22h and 24h; Oct. 19d, between 2h and 8h, and between 22h and 24h; Oct. 20d, between 18h and 24h; and Oct. 22d, between 2h. 10m and 4h, considerable changes occurred.
Oct. 22d and 23d. The changes were frequent and of large amount.

HORIZONTAL FORCE MAGNET.
Oct. 17d, between 20h and 22h, and Oct. 23d, the changes were frequent and of large amount.

VERTICAL FORCE MAGNET.
Oct. 23d. Between 0h and 12h, the changes were frequent and of large amount.

Daily Observations from October 24 to 30.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Oct. 24. 14. 0	23. 5. 35	0·130980	54·5	0·050464	54·5	E H	Oct. 27. 14. 0	22. 57. 0	0·141121	60·8	0·051636	61·0	G
16. 0	23. 2. 35	136367	54·0	051035	54·0		16. 0	55. 43	141121	60·8	051671	61·0	
18. 0	22. 57. 31	137180	53·0	052286	53·0	E H	18. 0	54. 8	140777	58·0	051827	61·0	
20. 0	23. 31. 39	126011	53·0	050790	53·0	T D	20. 0	53. 20	140838	58·5	051430	58·0	G
22. 0	6. 13	126057	53·0	052143	53·0	G H	22. 0	22. 53. 13	138984	58·5	051430	58·0	T D
Oct. 25. 0. 0	23. 2. 5	0·138685	54·0	0·053135	54·0	G H	Oct. 28. 0. 0	23. 0. 1	0·138744	59·0	0·051522	59·0	T D
1. 50	9. 39	140655		054379		T D	1. 50	0. 48	140327		051660		
2. 0	5. 56	139844	56·0	054549	56·0		2. 0	0. 59	140559	60·0	051660	60·0	
2. 10	1. 20	138221		054648		T D	2. 10	23. 0. 59	140559		051660		T D
4. 0	23. 7. 52	143668	55·0	055198	55·0	E H	4. 0	22. 58. 27	141138	60·0	051446	60·0	E H
6. 0	22. 58. 45	137584	55·5	052883	55·5	E H	6. 0	56. 58	141763	60·0	051446	60·0	G
8. 0	49. 39	138109	57·0	051782	57·0	G H	8. 0	56. 58	141763	60·0	051382	60·0	
10. 0	53. 43	138209	57·0	052081	57·0	E H	10. 0	54. 42	141717	60·0	051517	60·0	G
12. 0	56. 11	138105	55·0	051801	55·5	T D	12. 0	53. 17	141347	58·5	051255	58·5	T D
14. 0	58. 59	138995	53·5	051393	53·5		14. 0	53. 19	141347	58·5	051347	58·5	
16. 0	56. 23	138922	52·0	051581	52·0		16. 0	54. 40	141254	60·0	051517	60·0	
18. 0	54. 40	139944	51·8	052268	52·5	T D	18. 0	53. 25	141254	60·0	051460	60·0	T D
20. 0	52. 32	138928	51·0	052792	52·0	G H	20. 0	50. 30	141949	60·0	051517	60·0	G H
22. 0	22. 56. 15	136958	51·0	053016	51·0		22. 0	51. 32	139872	61·0	051609	60·5	
Oct. 26. 0. 0	23. 2. 21	0·136429	52·5	0·052966	52·5		Oct. 29. 0. 0	22. 56. 18	0·140319	61·8	0·051218	61·2	G H
1. 50	3. 15	138337		052777			1. 50	23. 5. 46	144986		051439		
2. 0	3. 9	138801	55·0	052706	55·0		2. 0	6. 58	145404	63·5	051439	63·1	
2. 10	3. 9	138337		052670		G H	2. 10	5. 38	144245		051190		G H
4. 0	23. 0. 0	140082	58·0	052783	58·0	T D	4. 0	23. 5. 8	141760	64·0	051434	64·0	T D
6. 0	22. 59. 39	139972	59·0	052433	59·0		6. 0	22. 57. 15	141413	64·0	051969	64·0	
8. 0	58. 22	140580	59·8	052074	59·5		8. 0	56. 49	141991	64 0	051627	64 0	
10. 0	56. 52	140928	59·8	051904	59·5	T D	10. 0	54. 23	141399	63·0	051131	63·0	T D
12. 0	56. 43	140875	58·8	051469	58·5	G H	12. 0	50. 34	141747	63·0	051202	63·0	G H
14. 0	57. 24	140082	58·0	051688	58·2		14. 0	52. 58	141836	62·8	050817	62·5	
16. 0	57. 47	140662	58·0	051786	58·0		16. 0	55. 4	140125	63·0	051131	63·0	
18. 0	57. 16	140082	58·0	051822	58·0	G H	18. 0	54. 19	140472	63·0	051260	63·0	G H
20. 0	54. 42	139456	58·0	052071	58·0	T D	20. 0	53. 47	140577	62·0	051187	62·0	T D
22. 0	22. 55. 19	139370	59·0	052234	59·0		22. 0	52. 59	137886	59·0	050907	59·5	
Oct. 27. 0. 0	23. 2. 11	0·138520	58·5	0·051861	58·5		Oct. 30. 0. 0	22. 58. 2	0·139086	58·0	0·050861	58·0	T D
1. 50	3. 33	139801		051904			1. 50	59. 34	139443		050716		E H
2. 0	3. 7	139686	59·5	051904	59·5		2. 0	59. 20	139443	57·5	050766	57·5	
2. 10	3. 31	139686		051904		T D	2. 10	59. 28	140022		050788		E H
4. 0	23. 0. 54	140265	59·5	051619	59·5	G H	4. 0	57. 27	140791	60·0	051375	60·0	G H
6. 0	22. 57. 54	140951	59·8	051811	59·5		6. 0	56. 36	141460	59·8	051330	59·8	
8. 0	58. 31	141162	60·0	051802	60·0		8. 0	55. 14	141423	59·5	051298	59·4	
10. 0	57. 23	141082	60·3	051705	60·2	G H	10. 0	54. 25	141594	59·0	051280	59·0	G H
12. 0	57. 23	141192	61·0	051685	61·0	G	12. 0	53. 36	141525	56·5	050819	56·5	E H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, 20s·5.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·97; in Vertical Plane, 23s·1.

DECLINATION MAGNET.
Oct. 25d. The changes were frequent and of large amount.
Oct. 25d, 26d, and 27d, between 22h and 24h; and Oct. 29d, between 0h and 1h. 50m, and between 4h and 6h, considerable changes occurred.

HORIZONTAL FORCE MAGNET.
Oct. 25d. The changes were frequent and of large amount.
Oct. 28d, between 20h and 22h; and Oct. 29d, between 0h and 1h. 50m, between 2h. 10m and 4h, and between 20h and 22h, considerable changes took place.

VERTICAL FORCE MAGNET.
Oct. 25d. The changes were frequent and of large amount.

Daily Observations from October 31 to November 6.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Oct. 31. 14. 0	22. 50. 4	0·141641	56·5	0·050571	56·5	E H
16. 0	49. 19	141816	57·0	050870	57·0	
18. 0	48. 42	141829	57·5	050823	57·5	
20. 0	50. 53	141240	58·0	050875	58·0	E H
22. 0	22. 52. 44	140784	59 0	051049	59·5	T D
Nov. 1. 0. 0	23. 0. 31	0·141254	60·0	0·050948	60·0	T D
1. 50	7. 32	141851		051258		
2. 0	10. 45	142430	62·0	051258	62·0	
2. 10	9. 28	142430		051329		T D
4. 0	15. 39	140113	62·0	052077	62·0	E H
6. 0	23. 7. 3	140451	61·0	051030	61·0	
8. 0	22. 57. 1	140915	61·0	050853	61·0	
10. 0	53. 54	140791	60·0	050606	60·0	E H
12. 0	43. 49	140505	60·5	050161	60·3	T D
14. 0	34. 13	136550	60·0	049452	60·0	
16. 0	51. 15	138241	60·0	049310	60·0	
18. 0	49. 4	138589	60·0	049381	60·0	
20. 0	53. 29	139161	59·0	050775	59·0	T D
22. 0	52. 51	137947	59·5	051192	59·5	G H
Nov. 2. 0. 0	22. 59. 40	0·138473	60·0	0·051446	60·0	G H
1. 50	23. 1. 38	139650		051814		
2. 0	0. 22	139650	62·0	051757	62·0	
2. 10	23. 0. 29	139650		051685		G H
4. 0	22. 58. 8	140369	64·0	051634	64·0	T D
6. 0	57. 12	141111	64·0	051235	64·0	
8. 0	56. 51	141399	63·0	050918	63·0	
10. 0	54. 29	141146	61·0	050674	61·0	T D
12. 0	55. 9	141184	61·3	051016	61·5	G H
14. 0	55. 29	141584	60·8	051159	61·0	
16. 0	56. 10	141022	60·0	051104	60·0	
18. 0	56. 2	140915	61·0	051230	61·0	G H
20. 0	59. 14	140451	61·0	051173	61·0	G
22. 0	22. 58. 3	138642	59·5	050899	59·3	T D
Nov. 3. 0. 0	23. 1. 55	0·138457	59·5	0·051076	59·3	T D
1. 50	4. 20	138225		051304		
2. 0	3. 43	137947	59·5	051290	59·3	
2. 10	2. 21	138202		051290		T D
4. 0	23. 0. 7	140327	60·0	051588	60·0	G H
6. 0	22. 55. 13	140033	59·5	051735	59·7	
8. 0	57. 0	141131	59·0	051508	59·0	
10. 0	53. 40	140552	59·0	051636	59·0	G H
12. 0	55. 12	140436	59·0	051579	59·0	L
Nov 3. 14. 0	22. 54. 54	0·141102	58·2	0·051345	58·0	L
16. 0	56. 50	141400	57·4	051250	57·5	
18. 0	53. 55	140644	56·8	051426	57·0	
20. 0	54. 24	140539	56·0	051352	56·0	L
22. 0	22. 56. 3	138744	56·5	051717	56·7	T D
Nov. 4. 0. 0	23. 1. 4	0·139139	56·5	0·051411	56·7	T D
1. 50	1. 57	139339		051644		
2. 0	2. 10	139339	57·6	051644	58·0	
2. 10	23. 1. 47	139756		051644		T D
4. 0	22. 58. 38	140570	58·2	051786	58·0	L
6. 0	55. 16	141070	58·5	051589	58·4	
8. 0	51. 51	141264	58·2	051487	58·0	
10. 0	51. 51	141540	57·6	051464	57·5	L
12. 0	54. 41	141285	57·6	051464	57·5	T D
14. 0	54. 5	141061	56·5	051297	56·5	
16. 0	54. 24	141049	55·0	051139	55·0	
18. 0	57. 5	140516	55·0	051353	55·0	
20. 0	52. 48	140076	54·0	051498	54·0	T D
22. 0	51. 53	139728	55·0	051424	55·0	G H
Nov. 5. 0. 0	22. 59. 9	0·138685	56·0	0·051673	56·0	G H
1. 50	23. 2. 31	139036		051818		
2. 0	2. 15	139268	57·0	051782	57·0	
2. 10	1. 12	139268		051711		G H
4. 0	23. 0. 17	140546	58·0	051644	58·0	T D
6. 0	22. 56. 32	141333	58·0	051373	58·0	T D
8. 0	55. 40	141777	58·6	051321	58·8	G H
10. 0	55. 12	141826	59·0	051294	59·0	G
12. 0	54. 38	141362	59·0	051223	59·0	G H
14. 0	55. 38	141362	59·0	051223	59·0	
16. 0	55. 41	141192	59·5	051249	59·5	
18. 0	56. 28	142011	60·5	051192	60·2	
20. 0	54. 5	142304	61·0	051173	61·0	G H
22. 0	56. 1	139292	61·0	051173	61·0	L
Nov. 6. 0. 0	22. 59. 39	0·139060	61·0	0·051101	61·0	L
1. 50	23. 1. 18	139756		051173		
2. 0	1. 3	139756	61·0	051137	61·0	
2. 10	23. 1. 3	139918		051137		L
4. 0	22. 57. 26	140799	61·0	051315	61·0	G H
6. 0	56. 27	141309	61·0	051386	61·0	
8. 0	54. 37	142073	61·0	051280	61·0	
10. 0	49. 52	141378	61·0	051080	61·0	G H
12. 0	53. 22	141146	61·0	050888	61·0	L

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, 20s·5.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·97; in Vertical Plane, 23s·1.

DECLINATION MAGNET.
Nov. 1d and 2d. Considerable changes occurred.
Nov. 3d and 4d. Between 22h and 24h considerable changes took place.

HORIZONTAL FORCE MAGNET.
Nov. 1d. Between 2h. 10m and 4h, and between 12h and 14h; Nov. 3d, between 2h. 10m and 4h; and Nov. 5d, between 20h and 22h, considerable changes occurred.

VERTICAL FORCE MAGNET.
Nov. 1d, between 2h. 10m and 6h, between 12h and 14h, and between 18h and 20h, considerable changes took place.

Daily Observations from November 7 to 13.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Nov. 7. 14. 0	22. 45. 1	0·142628	57·0	0·051070	57·0	L
16. 0	42. 30	142280	57·0	050999	57·0	
18. 0	42. 30	142571	57·5	050999	57·0	
20. 0	41. 22	141472	58·0	051217	58·0	L
22. 0	59. 21	140899	59·0	051294	59·0	G H
Nov. 8. 0. 0	22. 56. 55	0·138820	60·0	0·051161	60·0	G H
1. 50	23. 1. 27	139856		051474		
2. 0	2. 13	139856	61·8	051439	61·7	
2. 10	23. 3. 8	139810		051417		G H
4. 0	22. 57. 12	140640	62·5	051549	62·4	L
6. 0	55. 13	141297	62·2	051258	62·0	
8. 0	49. 41	140345	62·0	051329	62·0	
10. 0	51. 21	141015	61·8	051309	61·6	L
12. 0	52. 31	141531	60·0	050805	60·0	T D
14. 0	51. 25	142280	59·3	050778	59·5	
16. 0	50. 35	141988	59·0	050725	59·0	
18. 0	50. 40	141747	57·0	050764	57·0	
20. 0	50. 50	141697	56·0	050725	56·0	T D
22. 0	22. 51. 13	139380	56·0	051067	56·0	G H
Nov. 9. 0. 0	23. 2. 8	0·139960	55·0	0·051210	55·0	G H
1. 50	6. 45	139499		051782		
2. 0	6. 57	139685	57·0	051796	57·0	
2. 10	7. 35	139384		051782		G H
4. 0	23. 2. 25	140082	58·0	051786	58·0	T D
6. 0	22. 58. 40	140960	59·5	051548	59·5	
8. 0	56. 29	141354	59·5	051355	59 5	
10. 0	48. 38	140954	58·5	051255	58·5	T D
12. 0	50. 48	140450	57·2	050999	57·0	G H
14. 0	47. 32	140678	56·2	050932	56·3	
16. 0	56. 29	141177	56·5	051104	56·5	
18. 0	57. 24	141121	57·0	051568	57·0	
20. 0	55. 33	141002	56·0	051431	55·7	G H
22. 0	22. 55. 36	139728	55·0	051638	55·0	T D
Nov. 10. 0. 0	23. 4. 28	0·138986	54·0	0·051463	54·0	T D
1. 50	5. 11	140135		051559		L
2. 0	7. 20	140367	56·5	051559	56·3	
2. 10	8. 14	140598		051630		L
4. 0	5. 1	140036	58·0	051896	58·5	G H
6. 0	23. 1. 12	139277	59·0	051888	59·2	
8. 0	22. 56. 44	139546	59·3	051681	59·2	G H
10. 0	49. 16	139021	58·8	051365	59·0	L
12. 0	55. 3	140314	58·0	051238	58·0	G

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Nov. 10. 14. 0	22. 58. 46	0·142220	56·5	0·050892	57·0	G
16. 0	53. 31	141582	56·0	050890	56·0	
18. 0	54. 40	140539	54·0	051035	54·0	
20. 0	52. 41	140770	54·0	051512	54·0	G
22. 0	22. 53. 10	138744	53·5	051393	53·5	L
Nov. 11. 0. 0	23. 0. 2	0·138371	54·3	0·051498	54·0	L
1. 50	1. 37	140018		051815		
2. 0	1. 18	140018	55·5	051815	55·5	
2. 10	23. 1. 18	140064		051815		L
4. 0	22. 58. 58	140308	56·0	051566	56·0	G
6. 0	56. 21	140937	57·4	051642	57·5	
8. 0	56. 14	141240	58·0	051359	58·0	
10. 0	50. 21	141070	58·5	051363	58·5	G
12. 0	50. 42	140561	58·5	051149	58·5	L
14. 0	51. 56	141533	58·5	050686	58·5	
16. 0	54. 28	141533	58·5	050757	58·5	
18. 0	53. 41	141704	58·0	050932	58·0	
20. 0	51. 6	141240	58·0	051217	58·0	L
22. 0	50. 5	139277	59·0	050725	59·0	T D
Nov. 12. 0. 0	22. 56. 18	0·137886	59·0	0·050511	59·0	T D
1. 50	23. 0. 46	139238		051304		
2. 0	22. 59. 53	139238	60·0	051304	60·0	
2. 10	59. 53	139238		051304		T D
4. 0	58. 45	140320	59·0	051152	59·0	L
6. 0	56. 56	140899	59·0	051294	59·0	
8. 0	56. 17	141921	57·8	051145	58·0	
10. 0	54. 18	141816	57·0	051127	57·0	L
12. 0	54. 8	141465	54·0	051142	54·0	T D
14. 0	53. 57	141465	54·0	051249	54·0	
16. 0	53. 53	141651	54·0	051249	54·0	
18. 0	55. 26	141583	53·0	051360	53·0	
20. 0	55. 6	141931	53·0	051574	53·0	T D
22. 0	50. 58	139828	51·8	051734	51·7	L
Nov. 13. 0. 0	22. 59. 23	0·138946	51·8	0·051734	51·7	L
1. 50	23. 4. 59	139728		051911		
2. 0	4. 59	140307	54·0	051890	54·0	
2. 10	23. 4. 35	140307		051868		L
4. 0	22. 59. 10	141002	56·0	051851	56·0	T D
6. 0	57. 35	140609	56·0	051851	56·0	
8. 0	56. 51	140936	57·0	051796	57·0	
10. 0	54. 15	142048	57·0	051355	57·0	T D
12. 0	47. 40	142083	57·3	051122	57·5	G H

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°.45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, 20s·5.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·97; in Vertical Plane, 23s·1.

DECLINATION MAGNET.
Nov. 8d, between 2h. 10m and 8h, and between 22h and 24h; Nov. 9d, between 2h. 10m and 4h, between 8h and 10h, between 14h and 16h, and between 22h and 24h; Nov. 10d, between 8h and 16h, and between 22h and 24h; Nov. 11d and 12d, between 22h and 24h; and Nov. 13d, between 0h and 4h, and between 10h and 12h, the changes were considerable.

HORIZONTAL FORCE MAGNET.
Nov. 7d, between 22h and 24h, and Nov. 8d, 10d, and 12d, between 20h and 22h, considerable changes took place.

VERTICAL FORCE MAGNET.
Nov. 12d. Between 0h and 1h. 50m a considerable change occurred.

Daily Observations from November 14 to 20.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Nov. 14. 14. 0	22. 52. 6	0·141697	54·0	0·051249	54·0	G H
16. 0	53. 17	142277	55·0	051638	55·0	
18. 0	53. 25	142393	56·0	051651	56·0	
20. 0	54. 2	142002	57·0	051476	57·0	G H
22. 0	55. 8	140607	58·5	051324	58·0	L
Nov. 15. 0. 0	22. 57. 16	0·139384	59·5	0·051441	59·5	L
1. 50	58. 35	140194		051457		
2. 0	58. 35	140426	60·8	051457	61·0	
2. 10	58. 27	140426		051400		L
4. 0	57. 2	141441	61·5	051465	61·5	G H
6. 0	54. 53	141954	61·9	051319	61·8	
8. 0	55. 48	142430	62·0	051116	62·0	
10. 0	55. 0	142616	62·0	051084	61·8	G H
12. 0	53. 22	142020	61·5	050859	61·5	L
14. 0	52. 12	141841	61·0	050959	61·0	
16. 0	50. 37	142802	59·4	050764	59·5	
18. 0	51. 52	142878	58·5	050842	58·5	
20. 0	53. 24	143046	57·6	050894	57·5	L
22. 0	22. 53. 55	142489	57·0	050913	57·0	T D
Nov. 16. 0. 0	23. 0. 8	0·140731	58·0	0·051145	58·0	T D
1. 50	1. 56	141408		051280		G H
2. 0	2. 49	141362	59·0	050582	59·0	G H
2. 10	23. 3. 12	141362		050582		T D
4. 0	22. 58. 58	142173	59 0	051971	59·0	L
6. 0	59. 28	142237	58·2	051501	58·2	
8. 0	58. 57	140681	57·2	051568	57·0	
10. 0	50. 18	140367	56·5	051531	56·5	L
12. 0	50. 22	141303	54·0	051263	54·0	T D
14. 0	52. 23	141188	54·0	051355	54·0	
16. 0	54. 34	141746	53·0	051659	53·0	
18. 0	53. 45	141703	52·0	051866	52·0	
20. 0	52. 56	141871	51·0	051904	50·5	T D
22. 0	53. 29	141361	51·0	052233	51·0	G H
Nov. 17. 0. 0	22. 59. 39	0·140673	50·0	0·052067	50·0	G H
1. 50	23. 2. 47	141239		052250		
2. 0	2. 12	141471	52·0	052222	52·0	
2. 10	23. 2. 28	141471		052165		G H
4. 0	22. 58. 33	141815	53·0	052001	53·0	T D
6. 0	58. 17	142398	52·0	051965	52·0	
8. 0	57. 12	142938	51·0	051663	51·0	
10. 0	55. 27	143100	51·0	051962	51·0	T D
12. 0	58. 2	143447	51·0	051877	51·0	G H

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Nov. 17. 14. 0	22. 50. 27	0·142520	51·0	0·051948	51·0	G H
16. 0	55. 21	142520	51·0	052161	51·0	
18. 0	56. 38	142295	50·0	052031	50·0	
20. 0	56. 50	142093	49·2	052098	49·8	G H
22. 0	55. 47	140692	48·0	052240	48·0	L
Nov. 18. 0. 0	22. 59. 27	0·141672	47·4	0·052249	47·5	L
1. 50	23. 4. 2	141655		052472		
2. 0	3. 42	141145	49·0	052544	49·0	
2. 10	3. 31	141145		052544		L
4. 0	2. 5	142057	51·0	052614	52·0	G H
6. 0	23. 1. 5	142918	52·5	052111	52·5	
8. 0	22. 59. 28	143082	52·3	051930	53·0	
10. 0	58. 35	143048	52·0	051866	52·0	G H
12. 0	56. 21	142868	51·0	051663	51·0	L
14. 0	55. 8	141841	49·0	051760	49·0	
16. 0	55. 45	140033	45·0	051556	65·0	
18. 0	55. 14	142447	44·8	051979	44·6	
20. 0	54. 27	142183	43·3	052181	43·0	L
22. 0	55. 56	140763	43·0	052679	43·0	T D
Nov. 19. 0. 0	22. 59. 29	0·141966	42·5	0·052908	42·5	T D
1. 50	59. 41	142113		053248		
2. 0	59. 55	142438	44·0	053248	44·0	
2. 10	59. 55	142252		053248		T D
4. 0	59. 55	142734	44·2	052921	44·0	L
6. 0	58. 2	142351	45·0	052555	45·0	
8. 0	22. 55. 44	142917	46·0	052579	46·0	
10. 0	23. 2. 40	144140	45·5	051827	45·3	L
12. 0	22. 49. 39	139285	44·0	052864	44·0	T D
14. 0	53. 19	140097	44·0	052843	44·0	
16. 0	50. 27	140117	43·5	052515	43·5	
18. 0	51. 56	141012	42·7	052587	42·5	
20. 0	54. 1	141854	42·3	052830	42·0	T D
22. 0	22. 55. 7	141808	42·3	053143	42·5	G H
Nov. 20. 0. 0	23. 1. 3	0·142289	42·0	0·053172	42·0	G H
1. 50	3. 3	140299		053676		
2. 0	0. 23	139604	43·0	053605	43·0	
2. 10	0. 38	140531		053534		G H
4. 0	23. 0. 40	141378	45·0	053635	45·0	T D
6. 0	22. 56. 14	140877	46·0	053291	46·0	
8. 0	54. 10	142047	47·0	053105	47·0	
10. 0	53. 54	140970	48·0	052916	48·0	T D
12. 0	51. 40	140650	48·7	052658	48·5	G 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.5$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.
Nov. 15^d and 16^d, between 22^h and 24^h; Nov. 17^d, between 12^h and 14^h; Nov. 19^d, between 8^h and 12^h, and between 22^h and 24^h, considerable changes occurred.

HORIZONTAL FORCE MAGNET.
Nov. 18^d, between 16^h and 18^h, and Nov. 19^d, between 10^h and 12^h, considerable changes occurred.

VERTICAL FORCE MAGNET.
Nov. 16^d, between $2^h.10^m$ and 4^h, and Nov. 19^d, between 8^h and 12^h, considerable changes occurred.

Daily Observations from November 21 to 27.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Nov. 21. 14. 0	22. 51. 31	0·142849	43·0	0·052864	44·0	G H	Nov. 24. 14. 0	22. 57. 14	0·140515	55·8	0·051644	55·7	G H
16. 0	49. 50	142849	43·0	052971	44·0		16. 0	23. 1. 19	138453	56·0	051139	56·0	
18. 0	45. 44	143776	43·0	052935	44·0		18. 0	22. 50. 28	137248	56·0	051210	56·0	
20. 0	48. 24	143626	45·0	052923	45·0	G H	20. 0	56. 14	140632	56·7	051567	56·5	G H
22. 0	49. 32	142963	46·0	052565	46·0	L	22. 0	56. 21	139671	56·5	051460	56·5	L
Nov. 22. 0. 0	22. 55. 46	0·142841	47·5	0·052423	47·3	L	Nov. 25. 0. 0	22. 58. 3	0·140181	56·5	0·051603	56·5	L
1. 50	58. 19	143134		052993		T D	1. 50	23. 2. 5	140122		051865		T D
2. 0	58. 44	142856	54·0	052993	54·0		2. 0	3. 14	140539	56·0	051851	56·0	T D
2. 10	59. 44	142856		052993		T D	2. 10	8. 36	141234		051851		L
4. 0	22. 56. 14	141998	54·6	052109	54·2	G H	4. 0	7. 28	141061	56·5	052172	56·5	G H
6. 0	23. 5. 38	146101	55·0	051780	55·0		6. 0	23. 1. 59	140598	56·5	052315	56·5	
8. 0	23. 1. 22	142161	56·0	053631	56·0		8. 0	22. 38. 26	139439	56·5	052528	56·5	
10. 0	22. 40. 23	137645	57·0	055413	57·0	G H	10. 0	47. 31	137518	57·8	052888	57·5	G H
12. 0	58. 29	137413	57·0	052921	57·0	L	12. 0	46. 46	134312	58·2	050291	58·0	L
14. 0	59. 11	138418	56·6	051780	55·5		14. 0	38. 3	137593	58·5	050406	58·2	
16. 0	51. 30	133309	56·0	047757	56·0		16. 0	41. 19	136136	56·0	050213	56·0	
18. 0	48. 28	136486	57·0	050827	56·7		18. 0	53. 46	140903	56·5	050499	56·5	
20. 0	54. 22	136486	57·0	051796	57·0	L	20. 0	58. 19	138244	56·2	050996	56·0	L
22. 0	57. 43	135725	58·0	052335	58·0	T D	22. 0	22. 56. 52	138500	56·4	051439	56·5	T D
Nov. 23. 0. 0	22. 58. 16	0·137422	59·0	0·052077	59·0	T D	Nov. 26. 0. 0	23. 2. 35	0·138280	56·5	0·051887	56·5	T D
1. 50	57. 36	138767		052077			1. 50	1. 46	138049		052400		
2. 0	58. 16	138767	59·0	052077	59·0		2. 0	23. 0. 46	138907	56·5	052457	56·5	
2. 10	58. 8	138767		052077		T D	2. 10	22. 59. 41	138976		052671		T D
4. 0	57. 45	138358	58·5	051932	58·5	L	4. 0	23. 0. 48	139208	56·5	052178	56·3	L
6. 0	59. 17	138572	57·0	051497	57·0		6. 0	22. 52. 13	140076	56·0	052221	56·0	
8. 0	56. 38	138744	56·5	051674	56·5		8. 0	56. 7	140182	55·4	051672	55·5	
10. 0	55. 56	138569	55·0	051709	55·0	L	10. 0	51. 13	139148	54·0	051647	54·2	
12. 0	56. 12	138639	54·0	051683	54·0	T D	12. 0	45. 40	137932	54·5	051326	54·2	L
14. 0	54. 47	138922	52·0	051581	52·0		14. 0	49. 4	138500	55·0	051452	55·0	T D
16. 0	55. 47	139399	50·0	051675	50·0		16. 0	56. 40	139496	55·0	051474	55·0	T D
18. 0	54. 24	139060	49·0	051825	49·4		18. 0	57. 6	140840	55·0	051531	55·0	G H
20. 0	53. 57	138782	49·0	052180	49·5	T D	20. 0	56. 59	139809	55·7	051787	55·7	G H
22. 0	22. 53. 37	140673	50·0	052529	50·0	G H	22. 0	22. 57. 13	138893	55·8	051459	55·5	L
Nov. 24. 0. 0	23. 1. 44	0·138124	50·0	0·052458	50·0	G H	Nov. 27. 0. 0	23. 0. 38	0·138804	57·0	0·051782	57·0	T D
1. 50	2. 21	138917		052708			1. 50	2. 48	139211		051820		G H
2. 0	1. 57	139148	54·0	052708	54·0		2. 0	2. 15	139327	57·5	051820	57·5	
2. 10	23. 1. 11	139033		052637		G H	2. 10	23. 1. 41	139327		051820		G H
4. 0	22. 58. 53	140030	56·0	052271	56·0	T D	4. 0	22. 52. 48	139248	58·0	052036	58·0	L
6. 0	57. 0	140308	56·0	051779	56·0		6. 0	58. 28	141082	58·6	051825	58·5	L
8. 0	56. 44	140844	57·0	051796	57·0		8. 0	56. 0	144022	58·0	051573	58·0	G H
10. 0	54. 25	140543	57·0	051832	57·0	T D	10. 0	47. 28	139972	59·0	051365	59·0	G H
12. 0	52. 54	140771	56·0	051281	56·0	G H	12. 0	49. 52	137764	58·0	051124	58·0	T D

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, 20s·5.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·97; in Vertical Plane, 23s·1.

DECLINATION MAGNET.
Nov. 22d to Nov. 27d. The changes in the position of the magnet were frequent and of large amount.

HORIZONTAL FORCE MAGNET.
Nov. 22d, between 4h and 10h, and between 14h and 18h; Nov. 23d, between 22h and 24h; Nov. 24d, between 14h and 20h; Nov. 25d, between 10h and 20h; and Nov. 27d, between 6h and 12h, considerable changes occurred.

VERTICAL FORCE MAGNET.
Nov. 22d, from 6h to 20h, and Nov. 25d, between 10h and 14h, considerable changes occurred.

Daily Observations from November 28 to Deeember 4.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Nov. 28. 14. 0	22. 50. 37	0·141861	47·0	0·051724	47·0	T D
16. 0	52. 5	142093	47·0	051917	47·0	
18. 0	51. 8	142371	47·1	052109	47·0	
20. 0	51. 12	142441	47·0	052152	47·0	T D
22. 0	51. 46	141218	47·5	052377	47·5	L
Nov. 29. 0. 0	22. 56. 47	0·140976	48·5	0·052347	48·0	B
1. 50	23. 0. 43	141593		052618		
2. 0	23. 0. 2	141593	51·0	052512	51·5	
2. 10	22. 59. 57	141593		052512		B
4. 0	58. 16	142279	53·0	052570	53·0	T D
6. 0	57. 12	142093	53·0	052051	53·0	
8. 0	55. 56	142663	52·7	052015	53·0	
10. 0	55. 32	142343	51·5	051994	52·0	T D
12. 0	54. 39	142288	51·0	051978	51·5	B
14. 0	55. 28	141996	51·5	052039	51·8	
16. 0	54. 7	142029	51·8	052003	51·8	
18. 0	54. 21	142107	52·5	051973	52·0	
20. 0	52. 17	142167	52·0	051902	52·0	B
22. 0	54. 19	142161	54·0	051783	54·0	L
Nov. 30. 0. 0	22. 56. 37	0·140862	54·8	0·051709	55·0	L
1. 50	56. 49	141644		051282		
2. 0	57. 2	141412	57·5	051282	57·5	
2. 10	58. 3	141644		051820		L
4. 0	53. 40	141644	57·5	052176	57·5	B
6. 0	53. 7	141881	58·5	052997	58·0	
8. 0	52. 59	141301	58·5	051751	58·0	
10. 0	52. 56	141833	60·0	051268	60·0	B
12. 0	53. 19	141725	61·0	051244	61·0	L
14. 0	55. 53	142304	61·0	051066	61·0	
16. 0	53. 21	142180	60·0	050948	60·0	
18. 0	52. 3	142582	59·5	050907	59·5	
20. 0	53. 30	142356	58·6	050899	58·5	L
22. 0	58. 13	139847	57·0	050821	57·0	G
Dec. 1. 0. 0	22. 59. 58	0·140022	57·5	0·050251	57·0	G
1. 50	58. 0	140777		051217		T D
2. 0	57. 59	141009	58·0	051217	58·0	
2. 10	59. 52	141009		051217		T D
4. 0	59. 13	141570	58·8	051120	58·5	L
6. 0	22. 57. 51	142057	59·0	051152	59·0	
8. 0	23. 0. 18	141690	57·8	051145	58·0	
10. 0	22. 57. 1	141121	57·0	051283	57·0	L
12. 0	55. 40	141002	56·0	051331	56·0	T D

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Dec. 1. 14. 0	22. 55. 21	0·140886	55·0	0·051246	55·0	T D
16. 0	54. 29	141048	54·0	050999	54·0	
18. 0	51. 50	141648	51·5	051048	52·0	
20. 0	53. 46	142411	50·0	051176	50·0	T D
22. 0	51. 32	142853	49·8	051675	50·0	L
Dec. 2. 0. 0	22. 54. 34	0·142411	50·0	0·051853	50·0	B
1. 50	55. 13	142173	51·0	051877	51·0	
2. 0	55. 2	142173	51·0	051877	51·0	
2. 10	56. 46	142288	51·0	051877	51·0	B
4. 0	57. 21	142810	54·0	051925	54·0	T D
6. 0	56. 46	142323	55·0	051638	55·0	
8. 0	55. 31	140018	55·5	051908	56·0	
10. 0	58. 53	142347	56·0	051758	56·0	T D
12. 0	54. 38	138284	57·5	051355	57·0	B
14. 0	46. 28	138344	58·0	051573	58·0	
16. 0	43. 22	139503	58·0	050612	58·0	
18. 0	48. 15	140027	58·5	050861	58·0	
20. 0	50. 35	139503	58·0	050789	58·0	B
22. 0	51. 28	140204	59·0	051223	59·0	L
Dec. 3. 0. 0	22. 56. 0	0·139161	59·0	0·051152	59·0	L
1. 50	58. 46	140621		051465		
2. 0	58. 32	140853	60·5	051394	60·4	
2. 10	58. 19	140621		051394		L
4. 0	55. 8	138071	60·5	051482	60·0	B
6. 0	55. 10	140567	61·0	051493	61·0	
8. 0	55. 59	140729	61·0	051315	61·0	
10. 0	53. 45	140577	62·0	051215	61·5	B
12. 0	49. 11	140940	61·2	050817	61·0	L
14. 0	50. 24	140290	59·7	050845	59·8	
16. 0	51. 29	139911	58·5	050757	58·5	
18. 0	51. 29	140427	57·0	050871	57·2	
20. 0	52. 26	141072	55·0	050926	55·0	L
22. 0	50. 55	140944	55·5	051389	55·0	B
Dec. 4. 0. 0	22. 58. 34	0·140770	54·0	0·051355	54·0	G H
1. 50	23. 0. 55	139646		051674		G
2. 0	0. 37	139646	54·3	051674	54·5	
2. 10	1. 36	139646		051710		G
4. 0	23. 0. 12	139380	54·0	051640	54·0	T D
6. 0	22. 56. 7	140366	55·5	051788	55·2	L
8. 0	54. 9	140609	55·0	051723	55·0	
10. 0	49. 24	141234	54·0	051498	54·0	L
12. 0	51. 28	140655	54·0	051676	54·0	G

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, 20s·5.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·97; in Vertical Plane, 23s·1.

DECLINATION MAGNET.
Dec. 2d, between 12h and 14h, and Dec. 3d, between 22h and 24h, considerable changes occurred.

HORIZONTAL FORCE MAGNET.
Nov. 30d, between 20h and 22h; Dec. 2d, between 6h and 12h; and Dec. 3d, between 2h. 10m and 6h, considerable changes took place.

VERTICAL FORCE MAGNET.
Nov. 30d, between 4h and 8h; Dec. 1d, between 0h and 1h. 50m; and Dec. 2d, between 14h and 16h, considerable changes occurred.

Daily Observations from December 5 to 11.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Dec. 5. 14. 0	22. 59. 40	0·143033	46·0	0·052237	46·0	G	Dec. 8. 14. 0	22. 47. 15	0·142119	45·0	0·051841	45·0	T D
16. 0	57. 11	143157	47·2	052581	46·9		16. 0	50. 16	141725	45·0	052126	45·0	
18. 0	52. 41	143411	47·0	052506	46·8		18. 0	22. 55. 15	141990	46·0	052316	46·0	
20. 0	52. 24	144053	48·0	052289	49·0	G	20. 0	23. 6. 15	142686	46·0	052401	46·0	T D
22. 0	52. 56	141926	49·8	051931	49·5	L	22. 0	2. 1	141966	48·0	052489	48·0	E H
Dec. 6. 0. 0	22. 52. 56	0·141350	55·0	0·052492	55·0	E H	Dec. 9. 0. 0	23. 2. 2	0·141214	52·8	0·052871	52·8	E H
1. 50	56. 30	141581		052065			1. 50	46. 9	141929		052317		
2. 0	56. 17	141697	55·0	052065	55·0		2. 0	40. 25	141465	54·0	052352	54·0	
2. 10	56. 38	141583		052030		E H	2. 10	8. 40	141581		052281		E H
4. 0	55. 47	142277	55·0	051638	55·0	G	4. 0	23. 0. 42	140771	56·0	052292	56·0	T D
6. 0	54. 4	142045	55·0	051638	55·0		6. 0	22. 56. 58	141571	56·5	052103	57·0	
8. 0	54. 55	142277	54·0	051640	54·0		8. 0	55. 42	142339	57·5	051729	58·0	T D
10. 0	54. 2	142336	53·5	051820	53·5	G	10. 0	52. 47	141644	57·5	051494	58·0	G
12. 0	54. 2	142064	50·0	051475	50·0	E H	12. 0	54. 58	141935	58·0	051181	58·0	E H
14. 0	53. 58	142367	48·5	051341	48·5		14. 0	54. 32	142107	57·5	051022	57·5	
16. 0	54. 21	141887	45·0	051000	45·0		16. 0	54. 23	141883	56·0	050676	56·0	
18. 0	54. 39	142073	45·0	050986	45·0		18. 0	55. 12	142045	55·0	050427	55·0	
20. 0	53. 14	142119	45·0	050809	45·0	E H	20. 0	55. 9	141929	56·0	050534	56·0	E H
22. 0	52. 2	141841	49·0	051512	49·0	L	22. 0	56. 15	141802	58·8	051113	58·5	L
Dec. 7. 0. 0	22. 53. 51	0. 141841	49·0	0·051547	49·0	L	Dec. 10. 0. 0	22. 57. 46	0·140668	59·0	0·051009	59·0	L
1. 50	57. 42	142536		051760			1. 50	23. 1. 6	141547		051132		
2. 0	57. 54	142397	49·0	051760	49·0		2. 0	0. 26	141547	60·5	051132	60·5	
2. 10	57. 54	142304		051760		L	2. 10	23. 0. 45	141316		051132		L
4. 0	57. 42	142546	48·0	051478	48·0	E H	4. 0	22. 53. 50	140095	60·0	050948	60·0	E H
6. 0	55. 48	142894	48·0	051421	48·0	E H	6. 0	23. 2. 47	140491	58·5	050651	58·5	
8. 0	55. 57	143338	50·0	051782	50·0	G H	8. 0	22. 54. 26	140314	58·0	050875	58·0	
10. 0	55. 45	143238	49·5	051888	50·0	G H	10. 0	54. 2	140893	58·0	050718	58·0	E H
12. 0	54. 55	142768	49·0	051760	49·0	L	12. 0	45. 26	140290	59·7	050764	59·5	L
14. 0	49. 26	142483	48·5	051804	48·5		14. 0	44. 23	140607	58·5	050543	58·5	
16. 0	52. 22	140473	47·0	051867	47·0		16. 0	47. 2	141353	57·0	050215	57·0	
18. 0	52. 22	143329	45·5	051884	45·6		18. 0	48. 27	142393	56·0	050711	56·0	
20. 0	53. 31	144106	44·0	051939	44·0	L	20. 0	45. 12	141929	56·0	050890	56·0	L
22. 0	57. 8	142066	44·0	052117	44·0	T D	22. 0	22. 57. 7	140423	55·0	050854	55·0	G
Dec. 8. 0. 0	22. 59. 49	0·141093	44·0	0·052402	44·0	E H	Dec. 11. 0. 0	23. 1. 29	0·140018	55·5	0·050783	55·5	E H
1. 50	58. 19	141921		053028		T D	1. 50	1. 58	139966		051288		
2. 0	58. 19	141990	46·0	053028	46·0		2. 0	2. 41	140082	58·0	051253	58·0	
2. 10	22. 58. 32	141990		053028		T D	2. 10	23. 2. 39	140082		051302		E H
4. 0	23. 0. 36	141039	48·0	053284	47·7	L	4. 0	22. 57. 5	141107	58·8	051650	59·0	L
6. 0	22. 56. 44	141957	49·0	052828	49·0		6. 0	53. 51	141996	58·5	051255	58·5	
8. 0	56. 13	142715	48·5	052353	48·4		8. 0	52. 12	142339	57·5	051036	57·5	L
10. 0	55. 23	142145	47·5	052210	47·3	L	10. 0	....	...		...		
12. 0	54. 55	142555	45·4	052078	45·8	T D	12. 0	51. 21	141465	54·0	050964	54·0	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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.5$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

DECLINATION MAGNET.

Dec. 7^d, between 12^h and 14^h; Dec. 8^d, between 12^h and 14^h; and between 18^h and 20^h; Dec. 9^d, between 0^h and 4^h; Dec. 10^d, between $2^d.10^m$ and 12^h, and between 20^h and 22^h; and Dec. 11^d, between $2^h.10^m$ and 4^h, considerable changes occurred.

Dec. $9^d.1^h.50^m$. This unusual reading is correct, as the magnet was examined at the time by Mr. Glaisher, and found to be perfectly free.

HORIZONTAL FORCE MAGNET.

Dec. 5^d, between 20^h and 22^h, and Dec. 7^d, between 14^h and 16^h, and between 16^h and 22^h, considerable changes took place.

Dec. $11^d.10^h$. The observations of the three magnets were inadvertently omitted.

Daily Observations from December 12 to 18.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. forTemp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. forTemp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Dec. 12. 14. 0	22. 58. 40	0·142511	47·0	0·051440	47·0	T D
16. 0	22. 59. 12	142191	47·5	051506	48·0	
18. 0	23. 5. 17	142609	47·5	051421	48·0	T D
20. 0	9. 10	142894	48·0	051435	48·0	E H
22. 0	23. 14. 0	141788	48·5	051413	48·5	
Dec. 13. 0. 0	22. 57. 44	0·141377	49·0	0·051134	49·0	E H
1. 50	23. 0. 49	142624		051819		
2. 0	22. 59. 35	142161	54·0	051725	54·0	
2. 10	58. 49	142277		051676		
4. 0	56. 41	141929	54·0	051071	54·0	E H
6. 0	55. 48	142567	55·5	051274	55·3	L
8. 0	53. 49	141697	56·0	051302	56·0	G
10. 0	53. 10	142440	55·0	051175	55·0	G
12. 0	51. 45	142451	54·5	051090	54·5	E H
14. 0	53. 23	142393	55·0	051246	55·0	
16. 0	53. 18	142624	54·0	050964	54·0	
18. 0	53. 30	143031	53·5	050894	53·5	
20. 0	54. 36	142510	53·0	050898	53·0	E H
22. 0	53. 22	142233	53·0	051075	53·0	G
Dec. 14. 0. 0	22. 58. 19	0·140888	53·0	0·051075	53·0	G
1. 50	23. 0. 21	142336		051322		
2. 0	0. 53	142336	53·5	051322	53·5	
2. 10	23. 1. 14	142336		051250		G
4. 0	22. 58. 45	142395	53·0	051218	53·0	E H
6. 0	55. 55	142858	53·0	051040	53·0	
8. 0	54. 36	141991	52·5	050901	52·5	
10. 0	53. 58	142858	53·0	051075	53·0	E H
12. 0	53. 19	143263	53·5	051215	53·5	L
14. 0	53. 19	143557	52·0	051083	52·0	
16. 0	52. 57	143679	51·0	051165	51·0	
18. 0	52. 9	143516	49·5	051219	49·5	
20. 0	57. 35	143463	49·0	051504	49·0	L
22. 0	51. 38	142420	49·0	051583	49·0	E H
Dec. 15. 0. 0	22. 57. 6	0·142072	49·0	0·051404	49·0	E H
1. 50	59. 22	142902		051854		G
2. 0	59. 19	142856	54·0	051783	54·0	
2. 10	59. 46	142856		051711		G
4. 0	56. 54	143088	54·0	051427	54·0	L
6. 0	54. 45	143088	54·0	051249	54·0	
8. 0	55. 14	143436	55·0	051389	55·0	L
10. 0	53. 52	143030	54·5	051212	54·5	E H
12. 0	53. 25	143320	54·0	050894	53·5	G

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. forTemp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. forTemp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Dec. 15. 14. 0	22. 53. 39	0·142740	54·0	0·050894	53·5	G
16. 0	53. 45	142856	54·0	050894	53·5	
18. 0	54. 17	143134	54·0	050894	53·5	
20. 0	54. 41	143088	54·0	050894	53·5	G
22. 0	53. 15	142047	53·0	050826	53·0	E H
Dec. 16. 0. 0	22. 56. 38	0·141697	54·0	0·050952	54·0	E H
1. 50	58. 51	142509		050962		
2. 0	58. 48	142161	55·0	050940	55·0	
2. 10	58. 55	142161		050926		E H
4. 0	57. 59	142856	56·0	050711	56·0	G
6. 0	57. 21	143034	57·5	050714	57·0	
8. 0	57. 44	143730	57·5	050585	57·0	
10. 0	57. 1	143382	57·5	050728	57·0	G
12. 0	56. 42	142741	56·0	050783	56·0	E H
14. 0	53. 36	142393	54·0	050373	54·0	
16. 0	52. 52	142045	55·0	050498	55·0	
18. 0	51. 47	142972	55·0	050356	55·0	
20. 0	54. 25	142625	55·0	050342	55·0	E H
22. 0	57. 35	143436	56·0	050725	56·0	G
Dec. 17. 0. 0	22. 55. 21	0·143668	55·0	0·050285	55·0	G
1. 50	22. 59. 32	143320		050761		
2. 0	23. 0. 43	143436	56·0	050747	55·5	
2. 10	3. 43	145406		050925		G
4. 0	23. 8. 7	144363	55·0	051353	55·0	E H
6. 0	22. 53. 57	144595	55·0	058259	55·0	
8. 0	22. 58. 25	141813	55·0	055824	55·0	
10. 0	23. 1. 27	135557	55·0	052136	55·0	E H
12. 0	22. 53. 40	136486	57·0	052849	56·5	B
14. 0	52. 13	135732	56·5	051495	56·0	
16. 0	53. 48	138744	56·5	051851	56·0	
18. 0	55. 12	139265	56·0	051210	55·5	
20. 0	55. 11	139844	56·0	051566	55·5	B
22. 0	56. 44	141871	55·5	051395	55·7	G H
Dec. 18. 0. 0	22. 56. 53	0·139345	55·7	0·051715	55·7	G H
1. 50	23. 5. 50	139496		051780		
2. 0	22. 59. 31	136946	55·0	051780	55·0	
2. 10	59. 31	136483		051851		
4. 0	52. 34	140192	55·0	052813	55·0	G H
6. 0	56. 31	139728	55·0	051922	55·0	L
8. 0	53. 31	140655	55·0	051851	55·0	G
10. 0	53. 36	139971	51·0	050773	51·0	E H
12. 0	54. 2	140325	50·0	050621	50·0	E H

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, 20s·5.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·97; in Vertical Plane, 23s·1.

DECLINATION MAGNET.
Dec. 12d, between 16h and 18h, and between 22h and 24h; Dec. 14d, between 18h and 24h; Dec. 17d, between 4h and 6h, and between 10h and 12h; and Dec. 18d, between 0h and 4h, considerable changes took place.

HORIZONTAL FORCE MAGNET.
Dec. 17d, between 6h and 10h, considerable changes occurred; and on Dec. 18d, the changes were considerable and of frequent occurrence.

VERTICAL FORCE MAGNET.
Dec. 17d, from 4h to 14h, and Dec. 18d, between 2h. 10m and 10h, considerable changes occurred.

Daily Observations from December 19 to 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Dec. 19. 14. 0	23. 0. 58	0·129012	46·0	0·044772	46·0	G H
16. 0	22. 58. 5	122796	46·4	044864	46·5	
18. 0	23. 8. 25	133624	48·0	049063	48·5	
20. 0	23. 7. 3	137522	49·8	051888	50·0	G H
22. 0	22. 41. 51	128213	49·0	053327	49·0	E H
Dec. 20. 0. 0	22. 26. 17	0·144020	49·0	0·057884	49·0	L
1. 50	22. 54. 16	142072		054238		E H
2. 0	23. 6. 8	143000	49·0	053861	49·0	
2. 10	4. 50	149488		055428		E H
4. 0	11. 0	151117	51·2	056107	51·5	G H
6. 0	23. 1. 42	138117	51·0	058000	51·0	
8. 0	22. 33. 58	140931	51·3	060450	51·5	
10. 0	52. 32	132875	51·8	052293	52·0	G H
12. 0	57. 6	131109	50·5	052096	50·5	E H
14. 0	44. 57	129790	49·0	052116	49·0	
16. 0	54. 33	133160	48·0	052703	48·0	
18. 0	57. 55	134446	47·0	052472	47·0	
20. 0	57. 37	135501	46·0	052209	46·0	E H
22. 0	58. 11	138259	48·0	052845	48·0	L
Dec. 21. 0. 0	22. 57. 35	0·137795	48·0	0·052875	47·5	G H
1. 50	59. 48	138102		053291		L
2. 0	22. 59. 48	138333	46·5	053148	47·0	
2. 10	23. 0. 23	138102		053291		L
4. 0	22. 59. 39	138514	46·0	053241	46·0	E H
6. 0	57. 51	139094	46·0	053206	46·0	
8. 0	57. 42	138926	45·5	052613	45·5	
10. 0	57. 34	138593	44·5	052281	44·5	E H
12. 0	56. 19	139418	48·0	052843	47·7	L
14. 0	55. 24	139261	46·5	052839	46·5	
16. 0	55. 7	139107	45·0	052838	45·0	
18. 0	53. 37	139702	44·0	052935	44·0	
20. 0	52. 33	140397	44·0	053078	44·0	L
22. 0	54. 39	139983	44·5	053114	44·5	E H
Dec. 22. 0. 0	22. 54. 8	0·139338	45·0	0·053194	45·0	G H
1. 50	22. 59. 10	140265		053265		
2. 0	23. 0. 4	140033	45·0	053336	45·0	
2. 10	23. 0. 11	140033		053478		G H
4. 0	22. 59. 16	139359	45·2	053265	45·0	L
6. 0	57. 9	140054	45·2	052909	45·0	
8. 0	55. 52	140368	46·0	052933	45·5	L
10. 0	22. 54. 9	140182	46·0	053004	45·5	G
12. 0	23. 2. 59	138051	46·0	052505	45·5	G

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Dec. 22. 14. 0	22. 53. 45	0·139961	47·0	0·053006	47·0	G H
16. 0	55. 35	140071	46·5	052590	46·5	E H
18. 0	59. 25	141630	47·0	052188	47·0	E H
20. 0	56. 56	141904	48·5	052502	48·5	L
22. 0	22. 57. 25	140860	48·5	052116	49·0	G
Dec. 23. 0. 0	23. 0. 56	0·139755	49·0	0·052366	49·0	G H
1. 50	22. 58. 26	140503		052358		E H
2. 0	23. 0. 15	140619	49·5	052536	49·5	
2. 10	23. 0. 17	141082		052394		E H
4. 0	22. 59. 2	139808	49·5	052405	49·2	G
6. 0	23. 0. 47	140374	50·5	052547	51·5	G H
8. 0	22. 57. 47	141245	51·0	052304	51·0	E H
10. 0	54. 17	140203	51·0	052304	51·0	L
12. 0	55. 34	140865	50·7	052304	51·0	G
14. 0	55. 20	140633	50·7	052304	51·0	
16. 0	56. 17	141175	51·0	052411	51·0	
18. 0	56. 38	140959	49·0	052273	49·0	
20. 0	56. 13	141145	49·0	052330	49·0	G
22. 0	53. 13	141377	49·0	052259	49·0	G H
Dec. 24. 0. 0	22. 57. 38	0·141145	49·0	0·052273	49·0	G H
1. 50	59. 6	141430		052443		
2. 0	58. 31	141012	49·5	052785	49·5	
2. 10	58. 31	141314		052358		
4. 0	58. 19	141230	49·8	052387	50·0	G H
6. 0	59. 28	141244	49·5	052251	49·5	G
8. 0	58. 19	141012	49·5	052251	49·5	
10. 0	58. 2	141198	49·5	052002	49·5	G
12. 0	55. 6	140756	49·7	052345	50·5	G H
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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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, $20^s{\cdot}5$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s{\cdot}97$; in Vertical Plane, $23^s{\cdot}1$.

DECLINATION MAGNET.
Dec. $19^d.\ 16^h$ to Dec. $20^d.\ 16^h$, the changes were frequent and of large amount; and Dec. 22^h, between 10^h and 14^h, the changes were considerable.

HORIZONTAL FORCE MAGNET.
Dec. 19^d, from 14^h to 24^h; Dec. 20^d, from 2^h to 10^h, between 14^h and 16^h, and between 20^h and 22^h; and Dec. 22^d, between 10^h and 12^h, the changes were very considerable.

VERTICAL FORCE MAGNET.
Dec. 20^d. The changes were frequent and of large amount.
After December 24^d, observations were discontinued to the end of the year.

ROYAL OBSERVATORY, GREENWICH.

TERM-DAY OBSERVATIONS

OF

MAGNETOMETERS.

1847.

Term-Day Observations of February 26.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Feb. 26. 10. 0	22. 47. 23	0·025677	42·7	0·055071	44·0	T D
5	47. 5	025788		055121		
10	46. 53	025943		055143		
15	46. 21	026009		055143		
20	46. 1	025876		055143		
25	45. 43	025876		055143		
30	45. 29	025788		055179		
35	45. 26	025788		055193		
40	45. 11	025788		055193		
45	46. 11	025788		055214		
50	46. 54	025788		055214		
55	47. 16	025456		055214		
Feb. 26. 11. 0	22. 47. 32	0·024902	42·7	0·055214	44·0	T D
5	47. 41	026009		055250		
10	46. 54	026009		055193		
15	45. 41	026265		055179		
20	44. 30	026442		055143		
25	45. 3	026663		055100		
30	45. 47	026774		055071		
35	46. 14	026553		055071		
40	46. 33	026432		055050		
45	46. 58	026432		055036		
50	47. 20	026255		055000		
55	47. 7	025989		055000		
Feb. 26. 12. 0	22. 47. 1	0·025954	43·5	0·055000	44·0	T D
5	46. 56	025701		055000		
10	46. 47	025546		055000		
15	46. 31	025436		055071		
20	45. 50	025281		055071		
25	45. 17	025215		055107		
30	44. 54	025104		055143		
35	44. 36	024882		055164		
40	44. 23	024882		055164		
45	44. 23	025215		055193		
50	43. 48	025325		055214		
55	43. 44	025325		055214		
Feb. 26. 13. 0	22. 43. 43	0·025480	42·5	0·055228	44·0	T D
5	44. 2	025546		055250		
10	44. 26	025778		055264		T D
15	45. 16	025778		055242		G H
20	45. 36	025721		055257		
25	45. 17	025744		055250		
30	45. 22	025575		055250		
35	44. 39	025354		055214		
40	44. 46	025244		055214		
45	45. 5	025143		055214		
50	44. 43	024921		055214		
55	44 40	024710		055214		
Feb. 26. 14. 0	22. 44. 22	0·024842	43·0	0·055221	44·0	G H
5	44. 17	024710		055250		
10	46. 1	024488		055214		
15	47. 17	024378		055356		
20	48. 12	024444		055285		
25	48. 44	024488		055392		
30	48. 44	024510		055356		
35	48. 25	024488		055356		
40	47. 68	024488		055356		
45	49. 29	024267		055356		
50	50. 0	024267		055356		
55	50. 16	024488		055413		
Feb. 26. 15. 0	22. 50. 30	0·024488	43·0	0·055427	44·0	G H
5	50. 57	024622		055392		
10	51. 27	024710		055377		
15	50. 56	024710		055413		
20	50. 56	024820		055413		
25	50. 16	024931		055356		
30	49. 32	025153		055392		
35	49. 20	025153		055392		
40	49. 14	025153		055356		
45	48. 47	025153		055356		
50	48. 47	025153		055356		
55	48. 52	025042		055356		
Feb. 26. 16. 0	22. 48. 23	0·024975	43·0	0·055356	44·0	G H
5	48. 8	025109		055342		
10	48. 13	024921		055356		
15	48. 28	024921		055392		
20	48. 23	024899		055338		
25	47. 56	024921		055409		G H
30	47. 52	024978		055390		H B
35	47. 46	025000		055397		
40	47. 23	025067		055371		
45	47. 23	025089		055371		
50	47. 2	024991		055353		
55	47. 20	024991		055353		
Feb. 26. 17. 0	22. 47. 11	0·024946	42·7	0·055355	43·5	H B
5	46. 56	025013		055355		
10	46. 43	025111		055363		
15	46. 30	025089		055392		
20	46. 28	025111		055399		
25	46. 25	025067		055399		
30	46. 27	025010		055399		
35	46. 27	025099		055399		
40	46. 10	025143		055399		
45	46. 20	025143		055406		
50	46. 14	025087		055406		
55	46. 18	025131		055406		

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 97$; in Vertical Plane, $23^s \cdot 1$.

Term-Day Observations of February 26 and 27.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Feb. 26. 18. 0	22. 46. 2	0·025064	43·0	0·055406	43·5	H B
5	46. 2	025153		055406		
10	46. 7	025131		055413		
15	46. 27	025119		055427		
20	46. 28	025097		055446		
25	46. 19	025097		055446		
30	46. 19	025163		055446		
35	47. 0	025052		055439		
40	46. 51	024906		055443		
45	46. 4	025083		055443		
50	46. 32	025172		055457		
55	46. 58	024906		055469		
Feb. 26. 19. 0	22. 46. 41	0·025106	43·2	0·055462	43·8	H B
5	46. 49	025194		055483		
10	46. 32	025204		055498		
15	46. 51	025182		055505		
20	46. 24	025071		055512		
25	46. 13	025027		055505		
30	46. 2	025103		055488		
35	46. 4	024904		055438		
40	46. 13	024881		055474		
45	47. 2	024749		055509		
50	46. 15	024693		055467		
55	46. 13	024581		055499		H B
Feb. 26. 20. 0	22. 46. 37	0·024648	43·5	0·055499	44·0	G
5	46. 31	024693		055499		
10	46. 40	024759		055535		
15	46. 18	024715		055535		
20	46. 3	024715		055527		
25	46. 4	024737		055527		
30	46. 34	024759		055535		
35	46. 34	024759		055535		
40	46. 34	024759		055520		
45	46. 35	024781		055527		
50	46. 35	024759		055527		
55	46. 55	024759		055527		
Feb. 26. 21. 0	22. 47. 1	0·024759	43·5	0·055527	44·0	G
5	46. 58	024746		055527		
10	46. 44	024623		055527		
15	46. 46	024500		055513		
20	46. 46	024554		055513		
25	46. 24	024586		055499		
30	46. 37	024595		055535		
35	41. 51	024649		055535		
40	47. 5	024637		055499		
45	47. 10	024426		055499		
50	47. 8	024857		055499		
55	47. 44	024756		055485		G

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Feb. 26. 22. 0	22. 48. 20	0·024655	44·7	0·055485	44·0	T D
5	48. 2	024911		055427		
10	48. 2	024857		055427		
15	48. 12	024781		055427		
20	48. 13	024771		055420		
25	48. 14	024827		055420		
30	48. 25	024817		055370		
35	48. 54	024830		055406		
40	49. 2	024776		055406		
45	49. 17	024766		055370		
50	49. 51	024822		055356		
55	49. 44	024768		055356		
Feb. 26. 23. 0	22. 49. 56	0·024914	43·5	0·055392	44·0	T D
5	50. 23	024759		055356		
10	51. 3	024638		055406		
15	50. 48	024749		055406		
20	50. 48	024739		055427		
25	50. 59	024739		055427		
30	51. 24	024618		055427		
35	51. 44	024729		055427		
40	51. 55	024441		055427		
45	52. 22	024498		055427		
50	52. 36	024498		055406		
55	52. 27	024599		055406		
Feb. 27. 0. 0	22. 52. 46	0·024918	44·0	0·055406	44·0	T D
5	53. 0	024931		055392		
10	53. 0	024941		055392		T D
15	53. 18	025074		055375		G H
20	53. 19	025128		055375		
25	53. 5	024950		055393		
30	53. 16	024960		055393		
35	53. 19	024916		055412		
40	53. 10	024960		055412		
45	53. 17	025192		055430		
50	53. 53	025148		055485		
55	53. 54	025534		055492		
Feb. 27. 1. 0	22. 54. 7	0·025644	43·5	0·055520	44·5	G H
5	54. 7	025423		055534		G H
10	54. 0	025875		055520		H B
15	54. 0	025764		055541		
20	54. 6	025685		055556		
25	54. 1	025663		055556		
30	53. 44	025784		055541		
35	53. 48	025784		055556		
40	53. 55	025761		055556		
45	53. 52	025661		055556		
50	53. 46	025671		055556		
55	53. 39	025671		055556		

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

Term-Day Observations of February 27.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Feb. 27. 2. 0	22. 53. 39	0·025649	45·0	0·055520	44·5	H B
5	53. 25	025073		055541		H B
10	53. 35	025615		055556		G
15	53. 32	025871		055556		
20	53. 23	025893		055520		
25	53. 11	025915		055520		
30	53. 17	025915		055556		
35	53. 26	025959		055592		
40	53. 20	025915		055606		
45	52. 55	025871		055592		
50	52. 55	025804		055592		
55	52. 19	025804		055592		
Feb. 27. 3. 0	22. 52. 25	0·025893	44·0	0·055592	44·5	G
5	52. 21	025857		055592		
10	52. 8	025867		055611		
15	51. 41	025612		055553		
20	51. 22	025722		055572		
25	51. 18	025732		055572		
30	51. 14	025742		055577		
35	50. 59	025752		055577		
40	51. 0	025752		055577		
45	50. 52	025762		055667		
50	50. 47	025883		055609		
55	50. 52	025826		055650		G
Feb. 27. 4. 0	22. 50. 29	0·026014	45·0	0·055686	45·0	T D
5	49. 2	025792		055757		
10	48. 9	025792		055776		
15	48. 1	025726		055790		
20	46. 56	025571		055809		
25	46. 28	025461		055809		
30	46. 19	025461		055828		
35	46. 16	025350		055828		
40	45. 53	025726		055828		
45	46. 33	025792		055869		
50	46. 54	025792		055869		
55	47. 21	025792		055923		
Feb. 27. 5. 0	22. 47. 38	0·025682	45·0	0·055923	45·5	T D
5	48. 22	025571		055866		
10	48. 32	025350		055871		
15	48. 48	025284		055800		
20	49. 10	025128		055747		
25	49. 1	025128		055747		
30	48. 46	025128		055745		
35	48. 29	024907		055731		
40	48. 4	024907		055731		
45	48. 16	024907		055750		
50	47. 53	024685		055785		
55	47. 18	025017		055783		T D
Feb. 27. 6. 0	22. 47. 8	0·024464	45·0	0·055448	46·0	G H
5	46. 56	024575		055719		
10	46. 56	024454		055785		
15	45. 52	024675		055750		
20	45. 34	024675		055714		
25	45. 44	024675		055700		
30	45. 10	024887		055624		
35	45. 46	024887		055624		
40	46. 29	024953		055624		
45	46. 39	024887		055641		
50	46. 48	024877		055605		
55	47. 7	025009		055605		
Feb. 27. 7. 0	22. 47. 18	0·025142	44·7	0·055605	45·7	G H
5	47. 29	025209		055591		
10	47. 50	025320		055534		
15	48. 14	025310		055515		
20	48. 16	025310		055551		
25	48. 4	025421		055515		
30	48. 7	025531		055515		
35	48. 7	025531		055515		
40	47. 59	025531		055515		
45	47. 59	025521		055496		
50	47. 59	025521		055496		
55	47. 59	025521		055496		G H
Feb. 27. 8. 0	22. 47. 58	0·025455	44·5	0·055496	45·5	H B
5	47. 29	025477		055482		
10	47. 25	025499		055475		
15	47. 20	025609		055475		
20	47. 24	025609		055475		
25	47. 30	025587		055475		
30	47. 33	025632		055494		
35	47. 20	025632		055494		
40	47. 35	025676		055494		
45	47. 44	025676		055487		
50	47. 44	025654		055487		
55	46. 58	025720		055472		
Feb. 27. 9. 0	22. 46. 9	0·025942	44·5	0·055465	45·6	H B
5	45. 26	026451		055465		
10	45. 11	026783		055444		
15	46. 1	026871		055451		
20	46. 18	026385		055444		
25	46. 14	026207		055408		
30	46. 2	026207		055412		
35	46. 13	026296		055398		
40	46. 24	026363		055398		
45	46. 38	026473		055405		
50	47. 15	026407		055405		
55	47. 26	026229		055391		H B

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s{\cdot}8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s{\cdot}97$; in Vertical Plane, $23^s{\cdot}1$.

Term-Day Observations of March 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Mar. 24. 10 0	22. 42. 10	0·025133	49·5	0·054181	50·0	G	Mar. 24. 14. 0	22. 46. 14	0·024394	49·0	0·054903	51·0	G H
5	42. 0	025045		054181			5	46. 19	024338		054867		
10	41. 39	024545		054211			10	46. 27	024282		054888		
15	41. 39	024612		054232			15	46. 32	024447		054888		
20	41. 39	024612		054305			20	47. 21	024425		054936		
25	41. 39	024523		054326			25	47. 12	024569		054944		
30	42. 28	024490		054334			30	46 57	024602		054964		
35	43. 14	024313		054341			35	46. 53	024568		054965		
40	42. 18	024091		054384			40	46. 31	024667		054965		
45	44. 42	024136		054364			45	46. 28	024701		054984		
50	44. 30	025298		054358			50	46. 6	024656		055005		
55	43. 1	025409		054365			55	46. 8	024712		055039		
Mar. 24. 11. 0	22. 42. 9	0·026184	49·8	0·054365	49·5	G	Mar. 24. 15. 0	22. 46. 2	0·024767	50·0	0·055025	51·5	G H
5	42. 22	027169		054423			5	46. 2	024700		055039		
10	45. 35	027944		054410			10	45. 57	024656		055005		
15	46. 37	028088		054367			15	46. 0	024767		055019		
20	50. 39	026705		054304			20	46. 3	024723		054999		
25	51. 45	026373		054205			25	46. 9	024545		054985		
30	51. 37	025344		054078			30	46. 4	024545		054951		
35	50. 54	024890		053850			35	45. 53	024767		054979		
40	49. 25	024580		053829			40	46. 5	024723		054979		G H
45	47. 40	024503		053774			45	46. 10	024612		054959		L
50	46. 46	024559		053774			50	46. 10	024545		054959		
55	45. 26	024825		053790			55	46. 5	024545		054938		
Mar. 24. 12. 0	22. 44. 56	0·025124	49·0	0·053804	49·0	G	Mar. 24. 16. 0	22. 46. 7	0·024545	50·0	0·054938	51·0	L
5	44. 56	025368		053831			5	46. 5	024545		054938		
10	44. 56	025134		053962			10	46. 13	024545		054938		
15	46. 20	025223		054047			15	46. 13	024656		054903		
20	46. 45	024349		054067			20	46. 13	024767		054903		
25	47. 24	024371		054165			25	46. 58	024700		054867		
30	46. 44	024314		054212			30	45. 43	024700		054867		
35	46. 28	024093		054232		G	35	45. 56	024656		054867		
40	45. 28	024248		054309		G H	40	45. 56	024589		054867		
45	44. 52	024215		054366			45	45. 34	024634		054867		
50	44. 52	024591		054441			50	45. 40	024545		054867		
55	44. 52	024447		054532			55	45. 40	024545		054867		
Mar. 24. 13. 0	22. 44. 54	0·024425	49·5	0·054552	50·5	G H	Mar. 24. 17. 0	22. 45. 40	0·024457	50·0	0·054853	51·0	L
5	44. 27	024270		054502			5	45. 24	024368		054846		
10	43. 45	024303		054645			10	45. 16	024324		054846		
15	44. 1	024237		054659			15	45. 16	024324		054826		
20	44. 2	024248		054715			20	45. 16	024324		054826		
25	44. 2	024469		054722			25	45. 16	024324		054812		
30	44. 21	024548		054756			30	45. 16	024435		054812		
35	44. 41	024349		054756			35	45. 29	024213		054812		
40	44. 20	024349		054756			40	45. 53	024102		054790		
45	44. 19	024227		054776			45	46. 41	023881		054756		
50	45. 5	024183		054790			50	47. 3	023771		054756		
55	45. 28	024394		054832			55	47. 30	023660		054756		

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

Term-Day Observations of March 24 and 25.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Mar. 24. 18. 0	22. 47. 31	0·023438	50·0	0·054756	50·8	L
5	48. 4	023372		054756		
10	48. 28	023372		054756		
15	49. 0	023438		054776		
20	49. 56	023261		054776		
25	50. 16	023217		054776		L
30	49. 52	023217		054741		T D
35	49. 43	023217		054705		
40	49. 23	023217		054676		
45	49. 14	023217		054653		
50	49. 12	023328		054653		
55	49. 12	023328		054632		
Mar. 24. 19. 0	22. 49. 12	0·023438	50·0	0·054618	51·0	T D
5	49. 8	023505		054618		
10	49. 5	023505		054653		
15	49. 21	023660		054633		
20	49. 19	023947		054633		
25	49. 19	024036		054633		
30	49. 19	024102		054633		
35	48. 52	023991		054633		
40	48. 26	023881		054633		
45	48. 11	024036		054613		
50	48. 2	024146		054685		
55	48. 11	024146		054685		
Mar. 24. 20. 0	22. 47. 50	0·024102	50·0	0·054685	50·8	T D
5	47. 26	024036		054756		
10	47. 7	023881		054770		
15	46. 54	023881		054826		
20	46. 54	023881		054826		
25	46. 35	023881		054826		
30	46. 26	023881		054826		
35	46. 54	023881		054826		
40	46. 15	023748		054826		
45	46. 15	023660		054867		
50	46. 15	023549		054867		
55	45. 58	023549		054867		
Mar. 24. 21. 0	22. 45. 45	0·023505	50·0	0·054867	51·0	T D
5	45. 54	023448		054867		
10	45. 54	023238		054888		
15	46. 18	023404		054888		
20	46. 33	023470		054908		
25	46. 45	023481		054908		
30	46. 41	023492		054928		
35	46. 58	023282		054978		
40	46. 46	023115		054978		
45	46. 33	023193		054927		
50	46. 37	023038		054913		
55	47. 0	023093		054911		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Mar. 24. 22. 0	22. 47. 16	0·022883	51·0	0·054933	51·5	G
5	47. 4	022673		054933		
10	46. 54	022684		054854		
15	46. 54	022695		054868		
20	47. 20	022651		054867		
25	47. 31	022484		054867		
30	47. 36	022495		054851		
35	47. 46	022462		054865		
40	47. 46	022473		054851		
45	47. 46	022728		054836		
50	48. 15	022528		054836		
55	48. 12	022495		054856		
Mar. 24. 23. 0	22. 48. 11	0·022378	52·0	0·054835	52·0	G
5	48. 11	022384		054799		
10	48. 11	022462		054820		
15	48. 31	022695		054842		
20	48. 54	023027		054862		
25	49. 57	023038		054755		G
30	49. 14	023270		054776		G H
35	49. 31	022883		054705		
40	49. 43	022895		054705		G H
45	49. 47	022640		054712		G
50	49. 29	023017		054691		
55	50. 39	023293		054668		
Mar. 25. 0. 0	22. 50. 59	0·023348	53·0	0·054675	52·5	G
5	51. 12	023448		054716		
10	51. 11	023360		054679		
15	50. 55	023616		054671		
20	51. 29	023716		054712		
25	51. 47	023771		054733		
30	52. 14	023661		054789		
35	52. 31	023806		054760		
40	53. 2	023839		054696		
45	53. 3	023717		054688		
50	53. 9	023740		054730		
55	53. 36	023819		054744		
Mar. 25. 1. 0	22. 54. 18	0·023676	54·5	0·054730	54·3	G
5	54. 16	023509		054715		
10	54. 10	023134		054693		
15	53. 24	023124		054700		
20	53. 11	023269		054678		
25	53. 14	023589		054756		
30	53. 8	023790		054742		
35	52. 55	023925		054763		
40	52. 48	023836		054678		G
45	52. 53	024290		054699		G H
50	53. 17	024293		054770		
55	53. 17	024656		054678		

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 97$; in Vertical Plane, $23^s \cdot 1$.

Term-Day Observations of March 25.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Mar. 25. 2. 0	22. 53. 26	0·024558	56·0	0·054656	56·0	G H
5	53. 26	024702		054670		
10	53. 26	024593		054620		
15	53. 19	024384		054593		
20	53. 1	024507		054636		
25	52. 52	024484		054587		
30	52. 52	024464		054595		G H
35	53. 54	024852		054602		L
40	53. 4	025009		054624		
45	53. 39	025020		054596		
50	53. 30	024977		054582		
55	53. 0	024989		054604		
Mar. 25. 3. 0	22. 53. 0	0·025356	57·5	0·054528	58·0	L
5	53. 0	025412		054465		
10	53. 16	025225		054509		
15	52. 43	025348		054446		
20	52. 13	025017		054454		
25	51. 56	025073		054356		
30	53. 0	025939		054409		
35	53. 14	025731		054453		
40	52. 59	025699		054441		
45	52. 10	025644		054379		
50	52. 23	025669		054373		
55	51. 51	025580		054398		
Mar. 25. 4. 0	22. 51. 44	0·025582	59·0	0·054407	60·5	L
5	51. 19	025417		054407		
10	50. 55	025385		054401		
15	51. 0	025398		054358		
20	51. 0	025309		054381		
25	50. 49	025232		054353		
30	50. 25	025089		054332		
35	49. 35	025212		054332		
40	49. 18	025225		054260		L
45	48. 57	025393		054283		T D
50	48. 16	025459		054319		
55	47. 38	025472		054341		
Mar. 25. 5. 0	22. 46. 41	0·025484	60·0	0·054377	61·0	T D
5	45. 29	025484		054305		
10	44. 55	025484		054284		
15	45. 9	025484		054234		
20	45. 53	025484		054234		
25	46. 54	025484		054234		
30	47. 13	025329		054234		
35	47. 39	025329		054177		
40	47. 23	025196		054163		
45	47. 23	025041		054142		
50	47. 19	024931		054106		
55	47. 6	024820		054092		
Mar. 25. 6. 0	22. 47. 15	0·024598	60·0	0·054092	61·0	T D
5	47. 8	024610		054129		
10	47. 48	024623		054151		
15	47. 8	024635		054174		
20	47. 8	024648		054197		
25	47. 8	024427		054112		
30	47. 27	024439		054135		
35	47. 22	024606		054157		
40	47. 22	024685		054180		T D
45	47. 17	024932		054203		G H
50	47. 20	024932		054203		
55	47. 17	024976		054226		
Mar. 25. 7. 0	22. 47. 8	0·024922	61·0	0·054249	62·0	G H
5	45. 44	024821		054249		
10	45. 20	024786		054154		
15	45. 13	024894		054175		
20	45. 8	024882		054174		
25	44. 55	024870		054145		
30	45. 9	024857		054122		
35	45. 22	024845		054122		
40	45. 26	024832		054108		
45	44. 58	024786		054085		
50	45. 10	024551		054085		
55	44. 41	024318		054063		
Mar. 25. 8. 0	22. 43. 53	0·024327	59·6	0·054063	61·5	G H
5	43. 36	024548		054063		
10	43. 47	024650		054135		
15	43. 46	024783		054084		
20	44. 46	024783		054135		
25	44. 57	024672		054106		
30	45. 32	024573		054135		
35	45. 39	024374		054099		
40	45. 20	024374		054113		
45	45. 14	024241		054099		
50	44. 37	024187		054077		
55	44. 26	024143		054063		G H
Mar. 25. 9. 0	22. 44. 7	0·023988	59·9	0·054056	61·5	G
5	43. 53	023922		054040		
10	43. 53	023909		054023		
15	43. 53	023909		054030		
20	43. 53	023909		054007		
25	43. 43	023875		053962		
30	43. 39	023875		053917		
35	43. 26	023831		053895		
40	43. 7	023818		053879		
45	43. 29	023818		053841		
50	43. 44	023884		053818		
55	44. 6	023828		053774		

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°.27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

Term-Day Observations of April 21.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
April 21. 10. 0	22. 45. 22	0·022203	60·5	0·054362	60·9	G
5	45. 27	022225		054362		
10	45. 32	022247		054355		
15	45. 41	022446		054355		
20	45. 9	022380		054355		
25	45. 51	022446		054333		
30	48. 12	022446		054282		
35	48. 22	022269		054226		
40	46. 45	022159		054248		
45	46. 21	022247		054120		
50	46. 6	022335		054084		
55	44. 17	022335		054070		
April 21. 11. 0	22. 42. 56	0·022889	60·5	0·053920	60·9	G
5	43. 54	023996		053856		
10	45. 4	024660		053578		
15	49. 56	026122		053548		
20	54. 1	025767		053349		
25	54. 44	024439		053128		
30	54. 45	023221		052730		
35	52. 3	022269		052480		
40	49. 56	022225		052345		
45	44. 25	023221		052387		
50	45. 31	023487		052387		
55	46. 50	023553		052544		
April 21. 12. 0	22. 45. 46	0·023553	60·5	0·052615	60·7	G
5	45. 42	022899		052656		
10	46. 29	022700		052784		
15	44. 31	022465		052762		
20	44. 17	022355		052919		
25	44. 13	022276		052960		
30	44. 35	022396		053030		
35	44. 54	022396		053188		
40	44. 50	022384		053214		G
45	44. 26	022495		053342		L
50	44. 26	022594		053298		
55	44. 20	022749		053333		
April 21. 13. 0	22. 44. 38	0·022802	59·8	0·053418	60·0	L
5	44. 47	022657		053440		
10	45. 3	022436		053468		
15	45. 16	022334		053489		
20	46. 47	022268		053480		
25	49. 17	022101		053502		
30	50. 1	022101		053518		
35	50. 36	022089		053515		
40	50. 57	022133		053501		
45	50. 17	022187		053479		
50	49. 5	022187		053387		
55	48. 35	022285		053314		
April 21. 14. 0	22. 48. 4	0·022329	59·2	0·053270	59·5	L
5	46. 59	022507		053256		
10	46. 38	022839		053256		
15	46. 45	022993		053270		
20	47. 9	023082		053328		
25	47. 39	022993		053385		
30	47. 30	023048		053399		
35	47. 6	022981		053399		
40	46. 55	023048		053413		
45	46. 57	023048		053399		
50	47. 12	023159		053420		
55	47. 5	023203		053470		
April 21. 15. 0	22. 46. 9	0·023203	59·1	0·053506	59·5	L
5	46. 20	023048		053541		
10	45. 52	022893		053506		
15	45. 26	022937		053506		
20	44. 58	022760		053484		
25	44. 32	022606		053577		
30	44. 5	022638		053648		
35	44. 0	022704		053684		L
40	44. 4	022483		053741		T D
45	44. 21	022483		053769		
50	44. 38	022483		053769		
55	44. 38	022483		053826		
April 21. 16. 0	22. 44. 44	0·022638	59·0	0·053883	59·5	T D
5	44. 43	022702		053861		
10	44. 27	022547		053861		
15	44. 15	022459		053853		
20	44. 15	022459		053831		
25	44. 15	022446		053831		
30	44. 15	022434		053808		
35	44. 7	022367		053786		
40	44. 7	022355		053822		
45	44. 34	022355		053800		
50	45. 3	022355		053813		
55	45. 10	022343		053813		
April 21. 17. 0	22. 45. 20	0·022175	58·3	0·053791	58·7	T D
5	46. 17	022385		053769		
10	46. 53	022385		053877		
15	46. 53	022373		053840		
20	46. 53	022594		053840		
25	46. 19	022582		053847		
30	46. 12	022580		053846		
35	46. 10	022580		053846		
40	46. 4	022568		053874		
45	46. 4	022723		053895		
50	45. 41	022777		053901		
55	45. 10	022777		053958		

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 97$; in Vertical Plane, $23^s \cdot 1$.

Term-Day Observations of April 21 and 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
April 21. 18. 0	22. 44. 55	0·022866	57·6	0·053936	58·0	T D
5	44. 25	022977		053972		
10	44. 15	022755		053993		
15	44. 3	022777		054036		
20	44. 24	022933		054051		
25	44. 23	022999		054136		
30	44. 22	022999		054150		
35	44. 30	023109		054150		
40	44. 16	023220		054150		T D
45	45. 54	023232		054150		G H
50	45. 56	023099		054193		
55	45. 7	023011		054207		
April 21. 19. 0	22. 44. 52	0·023055	57·8	0·054207	58·0	G H
5	45. 20	022999		054207		
10	45. 10	023065		054199		
15	45. 35	023110		054242		
20	45. 59	023031		054234		
25	45. 50	022943		054270		
30	45. 26	022753		054212		
35	45. 37	022675		054212		
40	45. 20	022564		054248		
45	45. 7	022641		054247		
50	45. 26	022695		054226		
55	45. 22	022618		054226		
April 21. 20. 0	22. 45. 11	0·022684	57·0	0·054226	57·5	G H
5	45. 21	022551		054240		
10	45. 26	022485		054240		
15	45. 21	022574		054298		
20	45. 17	022485		054290		
25	45. 30	022485		054348		
30	45. 34	022662		054312		
35	45. 43	022463		054319		
40	46. 4	022441		054348		
45	46. 9	022684		054362		
50	46. 44	022529		054383		
55	47. 15	022375		054383		
April 21. 21. 0	22. 46. 2	0·022529	57·0	0·054383	57·5	G H
5	47. 26	022562		054397		
10	47. 48	022319		054375		
15	47. 32	022353		054389		
20	47. 55	022277		054410		
25	48. 8	022277		054410		
30	47. 17	022510		054317		
35	47. 58	022522		054317		
40	47. 51	022588		054331		
45	49. 9	022091		054338		
50	49. 27	022291		054316		
55	48. 33	022224		054302		G H

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
April 21. 22. 0	22. 49. 57	0·022236	57·0	0·054310	57·0	G
5	50. 14	022137		054374		
10	50. 44	022181		054375		
15	51. 4	022183		054419		
20	51. 5	022250		054440		
25	51. 14	022306		054462		
30	51. 27	022341		054484		
35	51. 38	022363		054528		
40	51. 50	022419		054550		
45	52. 14	022397		054545		
50	52. 18	022410		054567		
55	52. 20	022232		054611		
April 21. 23. 0	22. 52. 20	0·022311	58·5	0·054597	58·8	G
5	46. 15	022355		054597		
10	46. 22	022367		054597		
15	52. 48	022478		054619		
20	52. 48	022335		054619		
25	52. 51	022446		054568		
30	53. 6	022459		054561		
35	53. 23	022459		054561		
40	53. 30	022459		054526		G
45	53. 37	022526		054534		T D
50	53. 53	022481		054427		
55	54. 14	022571		054427		
April 22. 0. 0	22. 54. 38	0·022571	59·0	0·054427	59·0	T D
5	55. 7	022716		054449		
10	55. 22	022728		054494		
15	55. 33	022741		054196		
20	55. 30	022620		053684		
25	55. 30	022544		053707		
30	55. 26	022556		054391		
35	55. 19	022436		054414		
40	55. 21	022669		054436		
45	55. 36	022992		054458		T D
50	55. 25	022938		054483		L
55	55. 25	022950		054455		
April 22. 1. 0	22. 55. 25	0·022852	60·2	0·054407	60·5	L
5	55. 12	022820		054429		
10	55. 12	022933		054474		
15	55. 12	022901		054454		
20	55. 12	023135		054462		
25	55. 41	023316		054471		
30	55. 56	023216		054516		
35	56. 4	023296		054539		
40	56. 4	023388		054562		L
45	56. 4	023665		054527		G H
50	56. 11	023678		054559		
55	56. 19	023592		054582		

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

Term-Day Observations of April 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
April 22. 2. 0	22. 56. 15	0·023494	61·8	0·054569	62·0	G H
5	56. 22	023285		054555		
10	55. 57	023077		054587		
15	55. 7	022580		054553		
20	54. 52	022659		054562		
25	54. 52	022472		054585		
30	54. 31	022684		054602		
35	54. 34	022919		054618		
40	54. 26	022975		054634		G H
45	54. 17	023121		054643		L
50	54. 6	023244		054690		
55	53. 48	023257		054699		
April 22. 3. 0	22. 53. 29	0·023094	63·0	0·054665	63·5	L
5	53. 7	023027		054665		
10	53. 7	023107		054617		
15	52. 49	023261		054617		
20	52. 54	023407		054588		
25	52. 52	023562		054545		
30	52. 58	023907		054548		
35	53. 13	023996		054498		
40	53. 4	024018		054498		
45	52. 49	024098		054498		
50	52. 41	024186		054463		
55	52. 55	024376		054486		
April 22. 4. 0	22. 52. 44	0·024553	63·5	0·054521	63·8	L
5	52. 40	024487		054464		
10	52. 44	024831		054450		
15	52. 54	024942		054473		
20	52. 59	024955		054473		
25	52. 48	024888		054430		
30	52. 37	024857		054430		
35	52. 37	023971		054416		L
40	51. 44	024082		054331		G H
45	50. 42	024006		054354		
50	49. 0	024228		054340		
55	48. 52	024307		054354		
April 22. 5. 0	22. 47. 52	0·025326	64·0	0·054318	64·0	G H
5	47. 56	026389		054434		
10	48. 15	026424		054508		
15	48. 29	026711		054545		
20	48. 27	026592		054566		
25	49. 9	026658		054519		
30	49. 5	026250		054578		
35	48. 23	025807		054601		
40	47. 57	026250		054589		
45	48. 24	026485		054612		
50	50. 10	026263		054612		
55	49. 0	026056		054622		
April 22. 6. 0	22. 49. 50	0·026056	64·5	0·054264	65·0	G H
5	50. 35	025834		054588		
10	50. 54	025156		054565		
15	51. 19	025466		054536		
20	51. 19	025365		054505		
25	51. 16	025365		054469		
30	51. 16	025463		054446		
35	51. 16	025219		054460		G H
40	50. 31	025130		054460		T D
45	50. 11	025117		054422		
50	50. 11	025184		054422		
55	49. 5	025171		054399		
April 22. 7. 0	22. 49. 5	0·025171	64·0	0·054399	64·5	T D
5	49. 5	025326		054399		
10	49. 1	025424		054448		
15	49. 43	025689		054484		
20	49. 40	025742		054424		
25	49. 52	025742		054424		
30	49. 33	025065		054401		
35	49. 19	024800		054350		
40	41. 5	025065		054308		
45	40. 16	025605		054305		
50	42. 7	025783		054355		
55	43. 13	027254		054354		
April 22. 8. 0	22. 45. 13	0·027121	63·5	0·054318	64·0	T D
5	44. 57	026811		054140		
10	45. 1	026422		054060		
15	45. 29	026134		053975		
20	45. 25	026121		053952		
25	46. 13	024615		053952		
30	47. 35	024271		053929		
35	48. 13	024005		053943		
40	49. 0	023894		053929		T D
45	49. 8	023881		053905		G
50	48. 58	023881		053905		
55	49. 0	023861		053882		
April 22. 9. 0	22. 49. 15	0·023868	63·0	0·053882	63·5	G
5	49. 17	023868		053882		
10	49. 17	023656		053859		
15	49. 11	023634		053859		
20	49. 12	023842		053836		
25	49. 13	023842		053836		
30	49. 15	023829		053813		
35	49. 28	023829		053813		
40	49. 37	023896		053813		
45	48. 56	023927		053789		
50	48. 41	024149		053789		
55	48. 29	024247		053766		

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

Term-Day Observations of May 28.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. forTemp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. forTemp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
May 28. 10. 0	22. 44. 53	0·024103	79·6	0·052357	79·8	G
5	44. 2	023977		052357		
10	43. 41	024021		052330		
15	43. 23	024073		052330		
20	43. 24	024295		052337		
25	43. 41	024390		052317		
30	43. 26	024611		052346		
35	43. 38	024751		052346		
40	43. 31	024751		052324		
45	43. 34	024691		052283		
50	43. 48	024580		052283		
55	43. 48	024344		052256		
May 28. 11. 0	22. 43. 43	0·024123	79·0	0·052256	79·4	G
5	42. 55	023945		052256		
10	42. 29	023857		052283		
15	42. 7	024721		052283		
20	41. 59	024721		052283		
25	41. 55	024499		052290		
30	41. 56	024388		052297		
35	46. 39	024344		052319		
40	46. 45	024388		052326		
45	42. 9	024278		052340		
50	42. 55	024234		052340		
55	43. 44	024079		052340		
May 28. 12. 0	22. 44. 48	0·023975	79·2	0·052333	79·5	G
5	43. 34	023449		052279		
10	43. 53	023412		052232		
15	43. 45	023381		052178		
20	43. 10	023351		052138		
25	43. 9	023335		052085		
30	43. 39	023394		052076		
35	43. 46	023431		052066		
40	44. 12	023526		052006		G
45	44. 12	023563		051960		L
50	44. 12	023754		051907		
55	44. 12	023850		051868		
May 28. 13. 0	22. 44. 35	0·023865	77·0	0·051815	77·0	L
5	44. 51	023973		051789		
10	45. 3	024002		051762		
15	45. 3	023710		051736		
20	45. 14	023761		051736		
25	45. 14	023746		051709		
30	45. 31	023842		051697		
35	45. 19	023937		051693		
40	44. 55	023922		051703		
45	44. 33	023907		051677		
50	44. 39	024003		051677		
55	44. 39	024099		051679		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. forTemp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. forTemp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
May 28. 14. 0	22. 44. 32	0·024018	75·8	0·051652	76·0	L
5	43. 50	023958		051669		
10	43. 36	023958		051643		
15	43. 30	023943		051617		
20	43. 30	023974		051638		
25	43. 41	024084		051627		
30	43. 44	024203		051601		
35	43. 44	024188		051610		
40	43. 54	024143		051584		
45	43. 42	024217		051572		
50	42. 39	024268		051594		
55	42. 4	024202		051568		
May 28. 15. 0	22. 42. 23	0·024188	75·0	0·051577	75·0	L
5	42. 30	023995		051601		
10	42. 54	023936		051596		
15	42. 49	023811		051570		
20	43. 0	023686		051545		
25	43. 14	023672		051519		
30	43. 14	023436		051467		
35	43. 14	023421		051441		
40	43. 14	023407		051415		L
45	43. 21	023547		051462		T D
50	43. 21	023599		051486		
55	43. 21	023585		051482		
May 28. 16. 0	22. 43. 33	0·023658	73·8	0·051470	73·7	T D
5	43. 38	023933		051467		
10	43. 3	023984		051490		
15	42. 54	024125		051501		
20	42. 8	024221		051496		
25	41. 8	024385		051471		
30	41. 1	024436		051495		
35	40. 14	024525		051491		
40	40. 0	024577		051502		
45	42. 40	024497		051512		
50	42. 14	024483		051487		
55	38. 59	024468		051461		
May 28. 17. 0	22. 38. 39	0·024631	72·7	0·051592	72·5	T D
5	38. 7	024859		051624		
10	37. 53	024845		051656		
15	37. 43	024876		051645		
20	37. 32	024920		051691		
25	37. 53	025994		051666		
30	37. 34	025113		051641		
35	36. 47	025365		051698		
40	36. 20	025528		051715		
45	35. 52	025514		051733		
50	35. 23	025514		051758		
55	35. 17	025434		051753		

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

Term-Day Observations of May 28 and 29.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
May 28. 18. 0	22. 35. 15	0·025308	71·7	0·051756	71·4	T D
5	35. 21	025028		051753		
10	35. 38	025028		051753		
15	34. 58	024571		051779		
20	35. 53	025014		051779		
25	36. 55	025000		051861		
30	37. 20	024809		051875		
35	37. 20	024986		051972		
40	38. 27	024528		051972		T D
45	36. 58	024528		051997		G H
50	36. 26	024293		051997		
55	35. 1	023850		051993		
May 28. 19. 0	22. 38. 20	0·024058	71·0	0·051950	72·0	G H
5	36. 16	023615		052093		
10	39. 36	024088		052058		
15	42. 10	023933		052150		
20	43. 20	023587		052129		
25	43. 26	023144		052164		
30	44. 28	022909		052107		
35	45. 3	022687		052164		
40	44. 49	021137		052164		
45	44. 41	020902		052093		
50	46. 21	021013		052164		
55	47. 57	020888		052200		
May 28. 20. 0	22. 49. 14	0·020445	70·5	0·052292	72·0	G H
5	47. 50	020431		052221		
10	47. 21	020816		052139		
15	47. 29	020846		052210		
20	46. 28	020846		052185		
25	47. 55	020788		052185		
30	47. 59	020375		052196		
35	49. 45	020782		052160		
40	50. 56	021199		052231		
45	50. 29	020997		052206		
50	49. 25	021219		052135		
55	49. 8	020983		052145		
May 28. 21. 0	22. 48. 27	0·020528	69·5	0·052109	71·5	G H
5	47. 43	020417		052084		
10	46. 30	019849		052034		
15	45. 2	019517		051974		
20	45. 17	019702		051970		
25	44. 44	019614		052030		
30	44. 39	019710		052017		
35	45. 40	019887		052099		
40	46. 44	020308		052074		G H
45	47. 45	020517		052120		G
50	46. 57	020628		052141		
55	46. 40	021167		052066		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
May 28. 22. 0	22. 46. 24	0·021278	69·0	0·052092	70·0	G
5	49. 21	021123		052092		
10	49. 5	021602		052142		
15	49. 40	022066		052156		
20	49. 35	022124		052142		
25	49. 31	022368		052149		
30	49. 26	022492		052149		
35	49. 21	022492		052149		
40	48. 44	022692		052149		
45	47. 53	023170		052163		
50	48. 17	022706		052163		
55	48. 21	022742		052163		
May 28. 23. 0	22. 47. 43	0·023140	69·5	0·052162	70·0	G
5	47. 54	023840		052187		
10	48. 5	023832		052226		
15	58. 32	024554		052251		
20	49. 1	024731		052251		
25	49. 28	024745		052276		
30	50. 1	024803		052301		
35	50. 44	024485		052326		
40	50. 55	024544		052337		
45	51. 4	024446		052361		G
50	51. 43	024181		052361		T D
55	51. 30	024195		052386		
May 29. 0. 0	22. 52. 2	0·024209	70·5	0·052411	71·0	T D
5	52. 17	024364		052411		
10	52. 31	024223		052411		
15	52. 16	024223		052411		
20	52. 42	024400		052411		
25	52. 3	024334		052411		
30	52. 33	024237		052411		
35	53. 3	024237		052411		
40	52. 35	024237		052411		
45	52. 35	023972		052497		
50	53. 25	024251		052597		
55	54. 44	025004		052597		
May 29. 1. 0	22. 54. 23	0·024915	70·8	0·052625	71·0	T D
5	54. 4	024442		052579		
10	54. 4	024235		052604		
15	53. 54	023850		052672		
20	53. 54	024086		052643		
25	53. 32	023791		052668		
30	53. 32	023561		052715		
35	53. 20	023464		052705		T D
40	53. 27	023921		052702		L
45	53. 12	023935		052755		G H
50	53. 21	024393		052755		
55	53. 27	023743		052780		

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

Term-Day Observations of May 29.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
May 29. 2. 0	22. 53. 25	0·024864	72·0	0·052770	72·9	G H
5	52. 52	024355		052795		
10	52. 47	024214		052759		
15	52. 54	024103		052785		
20	52. 54	024582		052785		
25	53. 25	024560		052831		G H
30	53. 25	024463		052863		L
35	53. 25	024950		052835		
40	53. 8	025127		052896		
45	53. 8	024698		052931		
50	52. 46	024831		052956		
55	52. 46	024712		052956		
May 29. 3. 0	22. 53. 17	0·025598	72·5	0·052982	72·7	L
5	53. 43	025598		053053		
10	53. 43	025709		053078		
15	53. 43	025598		053149		
20	53. 30	024756		053149		
25	52. 48	024668		053135		
30	53. 16	025155		053175		
35	53. 32	025155		053389		
40	53. 14	024823		053403		
45	45. 13	025598		053414		
50	50. 40	025377		053592		
55	50. 40	024934		053627		
May 29. 4. 0	22. 50. 3	0·024668	72·5	0·053641	73·0	L
5	48. 46	024602		053641		
10	46. 12	024616		053641		
15	45. 45	024505		053641		
20	45. 58	024410		053699		
25	45. 58	024520		053685		
30	45. 34	024799		053627		
35	46. 11	025110		053627		
40	46. 38	025420		053627		L
45	47. 9	025324		053592		T D
50	47. 21	025612		053570		
55	47. 21	025670		053556		
May 29. 5. 0	22. 48. 24	0·025670	73·0	0·053521	73·0	T D
5	48. 46	025537		053428		
10	48. 46	025435		053414		
15	48. 23	025479		053318		
20	48. 20	025376		053318		
25	48. 20	025376		053260		
30	48. 20	025406		053246		
35	48. 20	025406		053246		
40	48. 20	025406		053246		
45	48. 14	025435		053206		
50	47. 59	025612		053185		
55	47. 56	025598		053149		
May 29. 6. 0	22. 47. 56	0·025753	72·5	0·053149	72·8	T D
5	47. 54	025819		053114		
10	47. 48	025819		053078		
15	47. 41	025819		053090		
20	48. 37	025863		053104		
25	47. 31	025863		053104		
30	47. 47	026218		053104		
35	47. 47	026262		053104		
40	47. 52	026152		053083		T D
45	47. 44	026152		052987		G H
50	47. 40	026262		052987		
55	47. 32	026041		052987		
May 29. 7. 0	22. 47. 32	0·026041	72·5	0·052973	73·0	G H
5	47. 32	025997		052951		
10	47. 26	025916		052915		
15	47. 16	025805		052915		
20	47. 22	024684		052908		
25	46. 20	024906		052844		
30	46. 54	025113		052844		
35	46. 57	025135		052880		
40	46. 59	025157		052880		
45	46. 59	025210		052844		
50	46. 59	025299		052858		
55	47. 5	025107		052880		
May 29. 8. 0	22. 47. 21	0·025727	72·0	0·052844	73·0	G H
5	47. 4	025257		052800		
10	47. 4	025131		052742		
15	46. 58	025125		052692		
20	46. 50	025000		052642		
25	46. 50	024971		052591		
30	46. 40	024846		052541		
35	46. 40	024708		052491		
40	46. 6	024849		052440		G H
45	46. 15	024887		052426		G
50	46. 15	024829		052411		
55	46. 15	024859		052361		
May 29. 9. 0	22. 46. 15	0·024734	70·3	0·052237	70·7	G
5	46. 14	024640		052287		
10	45. 53	024568		052237		
15	45. 58	024554		052187		
20	46. 10	024526		052163		
25	46. 10	024499		052128		
30	46. 12	024471		052136		
35	46. 12	024436		052087		
40	46. 12	024364		052038		
45	46. 12	024403		051996		
50	46. 12	024376		052001		
55	46. 12	024352		051986		

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

Term-Day Observations of June 23.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
June 23. 10. 0	22. 40. 18	0·026029	64·8	0·052750	65·0	G
5	40. 12	025940		052750		
10	40. 11	025927		052727		
15	39. 49	025927		052727		
20	39. 6	025860		052703		
25	38. 47	025927		052703		
30	38. 47	025914		052680		
35	38. 46	025936		052680		
40	38. 43	026003		052680		
45	38. 45	026003		052656		
50	38. 47	026012		052656		
55	38. 52	026056		052633		
June 23. 11. 0	22. 38. 56	0·026078	64·5	0·052633	64·5	G
5	38. 36	026078		052617		
10	38. 29	026064		052578		
15	38. 17	026064		052554		
20	38. 26	026086		052508		
25	38. 31	026117		052483		
30	38. 31	026184		052474		
35	38. 34	026095		052435		
40	38. 39	026016		052389		
45	39. 4	025972		052365		
50	39. 4	025905		052342		
55	39. 0	025848		052319		
June 23. 12. 0	22. 38. 51	0·025848	64·1	0·052296	62·8	G
5	38. 52	025848		052296		
10	39. 5	025825		052296		
15	39. 1	025825		052319		
20	39. 1	025825		052319		
25	39. 1	025825		052319		
30	39. 0	025812		052319		
35	38. 49	025812		052319		G
40	38. 46	025768		052319		T D
45	38. 58	025768		052342		
50	39. 12	025768		052342		
55	39. 5	025768		052342		
June 23. 13. 0	22. 39. 5	0·025768	64·0	0·052399	63·0	T D
5	39. 5	025768		052413		
10	39. 5	025755		052390		
15	39. 28	025755		052404		
20	39. 28	025742		052404		
25	39. 16	025676		052404		
30	39. 27	025618		052381		
35	39. 27	025618		052381		
40	39. 42	025552		052403		
45	39. 42	025539		052380		
50	39. 33	025672		052380		
55	39. 38	025571		052380		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
June 23. 14. 0	22. 39. 40	0·025521	63·8	0·052380	62·7	T D
5	39. 52	025350		052394		
10	39. 52	025337		052394		
15	39. 32	025337		052392		
20	39. 26	025324		052392		
25	39. 20	025280		052392		
30	39. 20	025223		052371		
35	39. 20	025223		052335		
40	39. 20	025223		052371		
45	39. 20	025210		052369		
50	39. 20	025210		052369		
55	39. 18	025197		052405		
June 23. 15. 0	22. 39. 15	0·025197	63·0	0·052405	62·5	T D
5	38. 59	025197		052419		
10	38. 59	025197		052440		
15	38. 59	025197		052440		
20	38. 59	025131		052490		
25	38. 43	025131		052490		
30	38. 38	025197		052513		
35	38. 43	025086		052534		
40	38. 43	024975		052534		
45	38. 53	025197		052534		
50	38. 46	025197		052534		
55	38. 44	025197		052555		
June 23. 16. 0	22. 38. 47	0·025131	63. 0	0·052555	62·6	T D
5	38. 34	025118		052569		
10	38. 34	025118		052569		
15	38. 25	025105		052560		
20	38. 25	025047		052560		T D
25	38. 25	025047		052537		L
30	38. 25	025034		052537		
35	38. 25	025022		052514		
40	38. 25	025067		052514		
45	38. 37	025009		052527		
50	38. 32	024996		052541		
55	38. 32	024996		052540		
June 23. 17. 0	22. 38. 5	0·024873	62·2	0·052540	62·0	L
5	38. 2	024873		052540		
10	38. 2	024904		052517		
15	38. 14	024904		052517		
20	37. 39	024971		052517		
25	35. 59	024959		052547		
30	37. 18	025070		052522		
35	37. 18	025070		052565		
40	37. 18	025057		052565		
45	37. 18	024924		052601		
50	37. 18	024946		052578		
55	37. 25	024822		052627		

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 17°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

Term-Day Observations of June 23 and 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
June 23. 18. 0	22. 37. 25	0·024822	61·8	0·052613	61·7	L
5	37. 25	024822		052613		
10	37. 13	024822		052664		
15	37. 4	024835		052686		
20	36. 50	024835		052707		
25	36. 55	024835		052707		
30	36. 55	024725		052730		
35	36. 43	024791		052709		
40	36. 43	024791		052730		L
45	36. 52	024760		052767		G H
50	36. 56	024693		052825		
55	37. 21	024649		052825		
June 23. 19. 0	22. 37. 13	0·024671	62·0	0·052825	62·0	G H
5	36. 53	024627		052839		
10	36. 57	024627		052861		
15	36. 57	024627		052882		
20	36. 47	024627		052861		
25	36. 43	024649		052861		
30	37. 7	024605		052861		
35	36. 53	024516		052882		
40	34. 53	024583		052882		
45	37. 11	024184		052861		
50	37. 15	024184		052861		
55	37. 19	024184		052861		
June 23. 20. 0	22. 37. 9	0·024184	62·0	0·052839	62·0	G H
5	37. 9	024086		052882		
10	36. 44	024130		052825		
15	56. 18	024076		052753		
20	35. 59	024133		052753		
25	36. 38	024111		052753		
30	36. 38	024013		052753		
35	36. 53	024026		052739		
40	36. 33	024114		052696		
45	36. 35	024082		052682		
50	36. 32	024095		052682		
55	36. 32	024073		052682		
June 23. 23. 0	22. 36. 32	0·024108	62·0	0·052668	62·8	G H
5	36. 40	024108		052625		
10	36. 38	024298		052633		
15	36. 9	024298		052619		
20	36. 12	024298		052642		
25	36. 3	024453		052621		
30	35. 58	024466		052608		
35	36. 0	024333		052608		
40	36. 1	024479		052608		
45	36. 34	024368		052596		
50	36. 52	024346		052581		G H
55	36. 52	024359		052619		G

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
June 23. 22. 0	22. 36. 53	0·024359	63·2	0·052633	62·5	G
5	37. 14	024372		052640		
10	37. 26	024350		052663		
15	38. 10	024363		052606		
20	38. 20	024363		052636		
25	38. 21	024376		052636		
30	38. 1	024310		052659		
35	38. 2	024322		052652		
40	38. 2	024300		052652		
45	38. 11	024246		052675		
50	38. 10	024335		052675		G
55	38. 19	024414		052676		T D
June 23. 23. 0	22. 38. 16	0·024237	63·8	0·052655	63·0	T D
5	38. 36	024304		052605		
10	39. 30	024304		052614		
15	39. 37	024427		052578		
20	39. 55	024427		052578		
25	40. 23	024427		052557		
30	39. 7	024427		052581		
35	40. 41	024317		052581		
40	40. 41	024250		052531		
45	41. 22	024374		052531		
50	41. 48	024263		052554		
55	42. 41	024263		052533		
June 24. 0. 0	22. 42. 55	0·024396	64·0	0·052519	63·3	T D
5	43. 29	024453		052542		
10	43. 29	024466		052543		
15	43. 29	024479		052590		
20	43. 36	024492		052599		
25	43. 56	024506		052601		
30	43. 56	024532		052624		
35	43. 48	024611		052597		
40	43. 54	024558		052621		
45	44. 9	024571		052668		
50	44. 1	024584		052691		
55	44. 7	024597		052714		T D
June 24. 1. 0	22. 44. 39	0·024832	65·3	0·052738	64·7	G H
5	44. 54	024956		052618		
10	44. 57	024991		052642		
15	45. 16	025093		052666		
20	45. 20	025106		052689		
25	45. 35	025120		052677		
30	45. 41	025133		052689		
35	45. 50	025146		052712		
40	45. 54	025115		052701		
45	46. 9	025062		052688		
50	46. 2	025053		052712		
55	46. 7	024978		052701		

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 17°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 97$; in Vertical Plane, $23^s \cdot 1$.

Term-Day Observations of June 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
June 24. 2. 0	22. 45. 30	0·024991	66·5	0·052689	66·0	G H	June 24. 6. 0	22. 40. 33	0·026948	69·5	0·052558	69·0	G H
5	45. 54	025048		052676			5	40. 13	027170		052558		
10	45. 35	025107		052688			10	43. 53	027059		052544		
15	45. 23	025075		052698			15	45. 9	027170		052523		
20	45. 24	025156		052679			20	51. 15	027281		052544		
25	45. 40	025258		052674			25	22. 58. 23	027235		052523		
30	45. 35	025271		052665			30	23. 2. 14	027325		052487		
35	44. 54	025351		052689			35	10. 21	027391		052487		
40	44. 10	025431		052713		G H	40	13. 48	027391		052487		
45	44. 15	025644		052694		L	45	19. 11	027391		052487		
50	43. 42	025657		052715			50	21. 6	027391		052487		
55	43. 42	025693		052739			55	21. 17	027347		052487		
June 24. 3. 0	22. 43. 27	0·025706	67·7	0·052706	67·5	L	June 24. 7. 0	23. 20. 57	0·027170	69·5	0·052473	69·0	G H
5	42. 41	026038		052706			5	20. 43	027281		052459		
10	42. 25	025986		052656			10	20. 29	027170		052430		
15	42. 14	026118		052620			15	20. 4	027170		052416		
20	41. 35	026406		052620			20	19. 39	027170		052416		
25	41. 21	026406		052620			25	19. 8	027170		052416		
30	40. 52	026419		052644			30	18. 1	027170		052416		
35	40. 39	026508		052644			35	16. 19	027170		052416		
40	40. 29	026508		052644			40	15. 2	027170		052416		G H
45	40. 29	026566		052644			45	9. 33	027170		052416		L
50	40. 32	026566		052644		L	50	8. 16	027126		052416		
55	40. 14	026743		052644		T D	55	7. 51	027170		052416		
June 24. 4. 0	22. 40. 14	0·026743	68·0	0·052644	67·6	T D	June 24. 8. 0	23. 8. 33	0·027126	69·5	0·052416	69·0	L
5	40. 14	026756		052597			5	8. 23	027126		052416		
10	40. 54	026756		052576			10	6. 24	027126		052395		
15	42. 18	026770		052550			15	4. 44	027126		052381		
20	41. 55	026773		052550			20	3. 11	027126		052381		
25	40. 54	026773		052531			25	3. 56	027126		052359		
30	40. 30	026787		052555			30	4. 17	026992		052345		
35	40. 25	026811		052506			35	3. 59	026992		052381		
40	40. 25	026811		052516			40	3. 15	026948		052381		
45	40. 36	026824		052480			45	2. 41	026948		052359		
50	40. 36	026838		052505			50	2. 1	026948		052359		
55	40. 26	026838		052483			55	23. 1. 20	026948		052345		
June 24. 5. 0	22. 40. 26	0·026851	68·8	0·052457	68·3	T D	June 24. 9. 0	22. 57. 48	0·026948	69·5	0·052402	69·0	L
5	40. 26	026851		052495			5	53. 6	026948		052345		
10	40. 32	026865		052495			10	52. 18	026934		052321		
15	40. 33	026879		052506			15	50. 54	026824		052321		
20	40. 38	026879		052506			20	48. 53	026743		052342		
25	40. 49	026827		052531			25	45. 15	026743		052342		
30	40. 47	026840		052555			30	41. 9	026685		052296		
35	40. 31	026906		052555			35	39. 34	026685		052296		
40	40. 31	026920		052566		T D	40	38. 39	026685		052296		
45	40. 40	026920		052509		G H	45	38. 39	026672		052271		
50	40. 31	026934		052534			50	40. 13	026672		052271		
55	40. 25	026934		052534		G H	55	38. 55	026658		052271		L

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 17°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 97$; in Vertical Plane, $23^s \cdot 1$.

June $24^d.\ 6^h.\ 15^m.$ After this time additional observations were taken. (See section of extraordinary observations.)

Term-Day Observations of July 21.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
July 21. 10. 0	22. 59. 43	0·025452	73·8	0·051618	73·5	G	July 21. 14. 0	22. 57. 31	0·025006	73·0	0·051741	73·0	G H
5	22. 59. 52	025430		051618			5	57. 36	024948		051762		
10	23. 0. 19	025430		051586			10	57. 27	024933		051737		
15	0. 19	025385		051586			15	57. 32	024830		051751		
20	0. 19	025327		051560			20	57. 18	024874		051725		
25	0. 19	025438		051560			25	57. 24	024948		051725		
30	0. 19	025490		051521			30	57. 36	024934		051771		
35	0. 19	025490		051514			35	57. 39	025141		051771		
40	0. 19	025512		051507			40	57. 35	025349		051771		
45	0. 20	025586		051473			45	57. 40	025157		051745		
50	0. 20	025586		051473			50	58. 3	024958		051781		
55	0. 17	025586		051448			55	57. 42	024922		051770		
July 21. 11. 0	23. 0. 16	0·025586	73·5	0·051456	73·0	G	July 21. 15. 0	22. 57. 35	0·024864	72·0	0·051756	72·5	G H
5	0. 16	025572		051456			5	57. 19	024836		051728		
10	0. 12	025603		051456			10	57. 9	024821		051691		
15	23. 0. 1	025610		051456			15	57. 4	024793		051641		
20	22. 59. 55	025632		051456			20	56. 43	024787		051648		
25	59. 44	025640		051456			25	56. 39	024772		051576		
30	59. 41	025604		051456			30	56. 44	024678		051522		
35	59. 41	025590		051456			35	56. 44	024650		051472		
40	59. 40	025420		051456			40	56. 27	024680		051436		G H
45	59. 34	025406		051470			45	56. 27	024718		051387		L
50	59. 32	025627		051470			50	56. 27	024624		051365		
55	59. 32	025612		051470			55	56. 27	024610		051358		
July 21. 12. 0	22. 59. 27	0·025199	72·5	0·051484	73·0	G	July 21. 16. 0	22. 56. 45	0·024847	70·0	0·051309	70·0	L
5	59. 25	025236		051516			5	56. 57	024789		051285		
10	59. 25	025251		051542			10	56. 43	024789		051310		
15	59. 17	025287		051567			15	56. 33	024642		051271		
20	59. 21	025302		051581			20	56. 20	024540		051235		
25	59. 18	025294		051607			25	56. 12	024761		051210		
30	59. 11	025255		051690		G	30	56. 4	024747		051222		
35	58. 55	025270		051716		G H	35	56. 4	024646		051197		
40	58. 52	025262		051741			40	56. 15	024778		051207		
45	58. 46	025254		051781			45	56. 38	024720		051233		
50	58. 31	025268		051803			50	56. 52	024706		051254		
55	58. 5	025283		051798			55	57. 7	024884		051229		
July 21. 13. 0	22. 57. 46	0·025120	73·8	0·051875	74·0	G H	July 21. 17. 0	22. 57. 7	0·024914	69·2	0·051255	69·0	L
5	57. 46	025106		051863			5	57. 7	024914		051277		
10	57. 38	025283		051838			10	57. 14	024901		051289		
15	57. 47	025091		051812			15	57. 3	024835		051289		
20	57. 59	025099		051848			20	56. 57	024901		051310		
25	57. 44	025077		051823			25	56. 57	024887		051299		
30	57. 42	025063		051797			30	57. 16	024843		051335		
35	57. 30	025049		051772			35	57. 41	024709		051370		
40	57. 34	025049		051781			40	58. 5	024607		051416		
45	57. 30	025034		051756			45	58. 26	024540		051416		
50	57. 33	025020		051756			50	58. 48	024540		051452		
55	57. 38	025020		051744			55	59. 0	024460		051463		

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, $93\frac{1}{2}°$.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°.27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

Term-Day Observations of July 21 and 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
July 21. 18. 0	22. 59. 48	0·024526	68·8	0·051463	68·6	L
5	23. 0. 33	024416		051463		
10	1. 42	024460		051449		
15	1. 20	024637		051487		
20	1. 20	024593		051487		
25	1. 0	024571		051473		
30	0. 45	024526		051473		
35	0. 23	024637		051487		
40	0. 23	024637		051487		L
45	23. 0. 7	024815		051512		T D
50	22. 59. 49	024815		051512		
55	59. 32	024815		051512		
July 21. 19. 0	22. 59. 32	0·024748	68·8	0·051541	68·8	T D
5	59. 19	024637		051516		
10	59. 7	024624		051537		
15	58. 43	024558		051535		
20	58. 6	024558		051510		
25	58. 6	024499		051510		
30	57. 56	024389		051485		
35	57. 47	024389		051461		
40	57. 45	024376		051461		
45	57. 28	024376		051437		
50	58. 6	024310		051462		
55	58. 22	024130		051483		
July 21. 20. 0	22. 58. 32	0·024130	68·4	0·051459	68·0	T D
5	59. 3	024130		051473		
10	59. 40	024130		051495		
15	59. 56	024116		051495		
20	59. 55	024050		051473		
25	59. 21	024050		051473		
30	58. 50	024116		051473		
35	58. 50	024116		051509		
40	58. 34	024028		051530		
45	58. 23	024025		051580		
50	58. 7	024025		051601		
55	58. 33	023892		051622		
July 21. 21. 0	22. 58. 23	0·023892	68·2	0·051637	68·0	T D
5	58. 23	023892		051637		
10	58. 24	023892		051637		
15	58. 32	023878		051672		
20	57. 56	023812		051672		
25	57. 55	023812		051672		
30	57. 52	023657		051672		
35	57. 40	023657		051672		
40	57. 49	023657		051672		
45	58. 11	023644		051672		
50	58. 27	023688		051672		
55	58. 46	023688		051672		T D

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
July 21. 22. 0	22. 59. 2	0·023600	68·0	0·051672	68·0	G
5	59. 13	023533		051672		
10	59. 26	023435		051696		
15	59. 25	023435		051696		
20	22. 59. 54	023405		051721		
25	23. 0. 7	023427		051721		
30	0. 52	023452		051745		
35	0 58	023452		051766		
40	0. 59	023386		051766		
45	1. 18	023311		051790		
50	1. 45	023267		051790		
55	2. 6	023247		051830		
July 21. 23. 0	23. 2. 11	0·023158	68·5	0·051830	68·5	G
5	2. 8	023091		051852		
10	1. 54	022936		051891		
15	1. 37	023069		051891		
20	1. 27	023047		051915		
25	1. 23	023047		051915		
30	1. 34	023225		051940		
35	2. 9	023291		051947		
40	2. 58	023313		051954		G
45	3. 24	023047		051979		G H
50	3. 47	022826		052036		
55	3. 36	023047		052060		
July 22. 0. 0	23. 3. 49	0·023047	68·5	0·052060	69·0	G H
5	4. 4	023269		052060		
10	5. 5	023060		052060		
15	5. 3	023060		052060		
20	5. 11	023185		052046		G H
25	5. 27	023296		052060		T D
30	5. 54	023464		052060		
35	5. 54	023530		052060		
40	6. 13	023530		052088		
45	6. 27	023810		052088		
50	6. 27	023766		052096		
55	6. 16	023713		052096		
July 22. 1. 0	23. 6. 9	0·023647	69·0	0·052096	69·0	T D
5	6. 4	023794		052120		
10	6. 16	023807		052145		
15	6. 24	023821		052183		
20	6. 24	023821		052194		
25	6. 19	023857		052219		
30	6. 35	023849		052246		
35	6. 35	023795		052257		
40	6. 24	023987		052282		
45	6. 49	024111		052306		
50	6. 41	025218		052330		
55	6. 39	025232		052320		

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 93½°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

Term-Day Observations of July 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
July 22. 2. 0	23. 6.27	0·025025	70·0	0·052345	70·3	T D
5	5.59	024803		052309		
10	5.59	024803		052262		
15	6.15	025069		052262		
20	6.33	025136		052284		
25	6·33	025136		052284		
30	6.47	025910		052259		
35	6.47	025800		052259		T D
40	6.20	025467		052216		G H
45	6.26	025246		052223		
50	6.12	024582		052163		
55	5.55	024139		052092		
July 22. 3. 0	23. 5.21	0·023807	70·0	0·052092	70·0	G H
5	5.21	023807		052045		
10	5. 2	024043		052131		
15	4.57	023976		052120		
20	4.57	024610		052159		
25	5.10	024610		052206		
30	4.44	024580		052219		
35	4.44	024956		052244		
40	4.36	025509		052269		
45	4.47	025745		052294		
50	4.38	025745		052309		
55	4.22	025316		052334		
July 22. 4. 0	23. 4. 2	0·025095	70·5	0·052288	71·5	G H
5	4. 2	025153		052288		
10	4. 9	024915		052314		
15	3.49	024929		052278		
20	3.49	025165		052303		
25	3.55	025304		052303		
30	3.55	025664		052328		
35	3.47	025900		052228		G H
40	4. 8	026578		052328		T D
45	4.21	026607		052353		
50	3.55	026621		052353		
55	3.55	026649		052378		
July 22. 5. 0	23. 3.45	0·026331	72·2	0·052306	72·0	T D
5	3.41	026234		052288		
10	3.11	026124		052286		
15	3. 0	026027		052290		
20	3.45	026041		052315		
25	2.38	025974		052340		
30	2.38	025988		052412		
35	2.29	026070		052416		
40	2.22	026070		052442		
45	2.10	026195		052453		
50	1.51	026210		052478		
55	1.29	026320		052468		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
July 22. 6. 0	23. 1.38	0·026334	73·0	0·052472	73·3	T D
5	1.46	026490		052493		
10	1.46	026586		052493		
15	1.46	026586		052468		
20	1.33	026763		052468		
25	1.33	026873		052425		
30	1.21	026763		052425		
35	1. 8	026630		052397		
40	1.12	026542		052328		T D
45	1.12	025663		052300		G
50	0.52	025531		052286		
55	0.47	025450		052235		
July 22. 7. 0	23. 0.44	0·025406	72·7	0·052228	73·1	G
5	0.45	025384		052221		
10	0.46	025517		052214		
15	0.47	025848		052193		
20	0.47	025833		052193		
25	0.47	025855		052193		
30	0.44	025877		052168		
35	0.33	025877		052132		
40	0.40	025833		052132		
45	0.40	025819		052132		
50	0.40	025930		052132		
55	0.41	025930		052097		
July 22. 8. 0	23. 0.45	0·025819	72·5	0·052061	73·0	G
5	0.45	025819		052029		
10	0.50	025916		052003		
15	0.52	026005		051964		
20	0.52	025991		051964		G
25	0.52	025791		051938		L
30	0.52	025556		051899		
35	0.52	026043		051852		
40	0.52	025888		051827		
45	0.52	025542		051788		
50	0.52	025985		051788		
55	0.52	025971		051819		
July 22. 9. 0	23. 0.52	0·025572	72·0	0·051808	72·0	L
5	0.39	025625		051748		
10	0.36	025611		051701		
15	0.36	025596		051672		
20	0.36	025662		051676		
25	0.32	025692		051637		
30	0.26	025634		051647		
35	0.21	025775		051622		
40	0.21	025694		051597		
45	0.21	025635		051572		
50	0.21	025635		051536		
55	0.21	025555		051511		L

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 93½°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 27′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

Term-Day Observations of August 27.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Aug. 27. 10. 0	23. 0. 44	0·142274	72·2	0·051181	72·0	G	Aug. 27. 14. 0	22. 59. 31	0·141588	69·3	0·050898	69·2	L
5	0. 43	142274		051181			5	22. 59. 35	141760		050873		
10	0. 37	142288		051181			10	23. 0. 12	141946		050873		
15	0. 33	142288		051181			15	1. 6	142095		050849		
20	0. 25	142241		051152			20	0. 41	142095		050849		
25	0. 30	142241		051153			25	0. 41	142242		050825		
30	0. 38	142255		051153			30	0. 41	142414		050800		
35	0. 39	142255		051167			35	0. 25	142414		050800		
40	0. 40	142255		051167			40	0. 6	142400		050847		
45	0. 41	142255		051167			45	0. 6	142400		050847		
50	0. 53	142316		051167			50	23. 0. 6	142387		050823		
55	0. 53	142386		051167			55	22. 59. 49	142433		050823		
Aug. 27. 11. 0	23. 0. 57	0·142246	72·5	0·051174	72·0	G	Aug. 27. 15. 0	22. 59. 50	0·142304	68·6	0·050798	68·5	L
5	1. 5	142232		051181			5	59. 50	142104		050777		
10	1. 5	142218		051163			10	59. 50	141856		050771		
15	1. 5	142204		051178			15	59. 54	141643		050723		
20	0. 57	142204		051192			20	22. 59. 54	141733		050675		
25	0. 43	142190		051199			25	23. 1. 35	141761		050627		
30	0. 38	142176		051181			30	1. 35	141721		050555		
35	0. 37	142162		051188			35	1. 35	141925		050506		L
40	23. 0. 19	142241		051188			40	23. 1. 28	141783		050458		T D
45	22. 59. 48	142342		051188			45	22. 59. 38	141640		050424		
50	59. 24	142296		051163			50	59. 2	141614		050413		
55	58. 30	142282		051163			55	58. 43	141518		050365		
Aug. 27. 12. 0	22. 58. 2	0·142383	71·5	0·051156	71·7	G	Aug. 27. 16. 0	22. 58. 25	0·141444	66·0	0·050339	66·0	T D
5	58. 7	142300		051131			5	57. 47	141328		050367		
10	57. 48	142286		051080			10	57. 5	141328		050367		
15	57. 35	142271		051055			15	56. 38	141328		050389		
20	57. 35	142257		051037			20	56. 14	141328		050424		
25	57. 35	142243		050994			25	55. 54	141259		050481		
30	57. 31	142169		050951			30	55. 46	141212		050510		
35	58. 5	141992		050934			35	55. 44	141189		050510		
40	58. 44	141723		050960			40	56. 16	141212		050553		
45	58. 40	141663		050946			45	56. 25	141212		050603		
50	58. 40	141649		050956			50	56. 42	141212		050624		
55	59. 1	141635		050906		G	55	56. 49	141212		050652		
Aug. 27. 13. 0	22. 59. 37	0·141713	70·2	0·050882	70·0	L	Aug. 27. 17. 0	22. 57. 10	0·141328	66·0	0·050695	66·0	T D
5	23. 0. 0	141885		050929			5	57. 39	141374		050723		
10	0. 12	141871		050908			10	57. 42	141444		050745		
15	0. 5	142034		050904			15	57. 56	141514		050766		
20	0. 5	142274		050964			20	57. 27	141444		050766		
25	0. 5	142306		050950			25	57. 3	141444		050794		
30	23. 0. 5	142292		050996			30	56. 39	141374		050816		
35	22. 59. 40	142061		050986			35	56. 12	141374		050837		
40	59. 44	142163		050972			40	55. 47	141374		050837		
45	59. 31	141848		050947			45	55. 19	141421		050858		
50	59. 31	141556		050922			50	55. 15	141491		050887		
55	59. 31	141602		050922			55	55. 27	141537		050909		

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.5$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

Term-Day Observations of August 27 and 28.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Aug. 27. 18. 0	22. 55. 30	0·141560	66·0	0·050980	66·0	T D	Aug. 27. 22. 0	23. 4. 28	0·139494	63·5	0·050856	63·5	G
5	55. 33	141547		050970			5	4. 55	139564		050856		
10	55. 16	141534		050946			10	5. 44	139622		050856		
15	55. 55	141334		050922			15	6. 20	139622		050891		
20	55. 48	141334		050958			20	6. 50	139645		050928		
25	55. 59	141275		050956			25	7. 13	139645		050928		
30	55. 52	141262		050932		T D	30	7. 46	139658		050974		
35	56. 24	141412		050838		E H	35	8. 36	139635		050974		
40	56. 24	141468		050885			40	8. 49	139658		050974		
45	56. 52	141454		050861			45	9. 4	139635		050974		
50	56. 52	141454		050861			50	9. 18	139648		051011		
55	56. 38	141209		050874			55	9. 48	139648		051011		
Aug. 27. 19. 0	22. 56. 47	0·141312	65·0	0·050850	65·0	E H	Aug. 27. 23. 0	23. 10. 25	0·139648	63·8	0·051032	63·8	G
5	57. 36	141183		050827			5	10. 29	139648		051032		G
10	56. 48	141402		050838			10	11. 0	139880		051032		L
15	56. 20	141389		050851			15	11. 0	139777		051113		
20	56. 20	141273		050851			20	11. 38	139870		051113		
25	55. 41	141028		050827			25	12. 2	139893		051113		
30	55. 41	141015		050839			30	12. 38	139893		051113		
35	55. 16	141117		050874			35	13. 28	140056		051120		
40	55. 16	140872		050850			40	14. 15	140184		051150		L
45	55. 16	140859		050841			45	14. 45	140138		051150		T D
50	54. 46	140859		050855			50	14. 50	140092		051150		
55	53. 29	140730		050817			55	14. 50	140022		051150		T D
Aug. 27. 20. 0	22. 53. 50	0·140833	64·0	0·050794	64·0	E H	Aug. 28. 0. 0	23. 15. 2	0·140439	64·0	0·051150	64·0	L
5	54. 34	140601		050794			5	15. 2	140369		051150		
10	54. 34	140601		050808			10	14. 56	140382		051173		
15	56. 2	140485		050865			15	14. 56	140800		051173		
20	57. 1	140485		050865			20	14. 41	140859		051247		
25	57. 2	140485		050865			25	14. 32	140859		051268		
30	57. 18	140485		050901			30	14. 9	140988		051291		
35	57. 12	140601		050901			35	14. 36	140988		051291		
40	57. 34	140485		050901			40	14. 26	141336		051263		
45	58. 35	140323		050865			45	14. 16	140931		051315		
50	59. 25	140022		050865			50	14. 7	141303		051315		
55	59. 20	140138		050879			55	14. 7	141363		051338		
Aug. 27. 21. 0	22. 59. 20	0·140138	64·0	0·050879	64·0	E H	Aug. 28. 1. 0	23. 14. 36	0·141363	64·5	0·051338	64·5	L
5	22. 58. 40	140022		050879			5	14. 52	141471		051389		G
10	23. 0. 21	140009		050842			10	14. 55	142079		051455		
15	1. 16	139939		050842			15	15. 13	142201		051477		
20	1. 16	139834		050784			20	15. 49	142486		051572		
25	1. 43	139764		050805			25	15. 43	142563		051668		G
30	2. 42	139635		050832			30	15. 43	142616		051787		T D
35	2. 14	139589		050810			35	15. 34	142749		051884		
40	3. 3	139171		050832			40	15. 54	142803		051980		
45	3. 3	139158		050808			45	16. 3	142811		052077		
50	3. 30	139158		050808			50	15. 36	142785		052154		
55	4. 14	139424		050828		E H	55	15. 29	142781		052238		

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.5$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

Term-Day Observations of August 28.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Aug. 28. 2. 0	23. 15. 6	0·142775	69·0	0·052286	69·4	T D
5	15. 29	142686		052314		
10	15. 51	142891		052328		
15	16. 35	142987		052377		
20	16. 52	143145		052426		
25	16. 38	143243		052476		
30	16. 22	143331		052530		
35	16. 14	143359		052529		
40	15. 21	143169		052579		T D
45	14. 45	143243		052654		E H
50	14. 7	143194		052705		
55	13. 34	143167		052720		
Aug. 28. 3. 0	23. 13. 10	0·143079	72 0	0·052734	72·0	E H
5	13. 10	143051		052648		
10	12. 29	143008		052536		
15	12. 19	143050		052486		
20	11. 56	143053		052340		
25	11. 54	142863		052276		
30	11. 54	142867		052181		
35	11. 54	142895		052106		
40	12. 3	143015		052033		
45	11. 50	143205		051936		
50	11. 38	143178		051873		
55	11. 38	143150		051824		
Aug. 28. 4. 0	23. 11. 1	0·143007	69·0	0·051775	69·0	E H
5	10. 48	142918		051789		
10	10. 6	142728		051827		
15	9. 24	142709		051805		
20	8. 46	142520		051807		
25	8. 46	142247		051821		
30	8. 46	142289		051860		
35	8. 52	142432		051910		
40	8. 52	142706		051984		
45	8. 38	142749		052059		E H
50	8. 31	142777		052095		G
55	8. 13	142866		052171		
Aug. 28. 5. 0	23. 8. 6	0·143010	72·0	0·052235	72·0	G
5	8. 6	143033		052235		
10	8. 1	143033		052235		
15	7. 56	143033		052235		
20	7. 9	142848		052178		
25	6. 41	142732		052093		
30	6. 13	142616		052093		
35	6. 5	142616		052093		
40	5. 38	142616		052093		
45	5. 37	142662		052093		
50	5. 29	142639		052093		
55	4. 48	142616		052093		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Aug. 28. 6. 0	23. 4. 14	0·142385	72·0	0·052022	72·0	G
5	4. 1	142362		052022		
10	3. 56	142339		051964		
15	3. 43	142199		051939		
20	3. 38	142153		051939		
25	3. 38	142153		051939		
30	3. 41	142153		051954		
35	3. 55	142501		051925		
40	3. 59	142176		051918		
45	3. 40	142316		051822		
50	3. 16	142431		051687		
55	2. 58	142385		051723		
Aug. 28. 7. 0	23. 2. 39	0·142662	72·0	0·051744	71·8	L
5	2. 39	142964		051723		
10	2. 28	142848		051758		
15	2. 28	142848		051701		
20	2. 28	142894		051687		
25	2. 40	142802		051687		
30	2. 40	142848		051619		
35	2. 48	142848		051591		
40	2. 51	142917		051591		
45	2. 51	142964		051569		
50	2. 51	143079		051519		
55	2. 51	143172		051519		
Aug. 28. 8. 0	23. 2. 51	0·142848	72·0	0·051519	71·7	L
5	2. 25	142862		051530		
10	2. 22	142876		051463		
15	2. 12	142890		051402		
20	2. 12	142890		051406		
25	2. 12	142904		051382		
30	2. 12	142918		051411		
35	2. 12	142932		051436		
40	2. 5	142576		051461		L
45	2. 13	142590		051444		T D
50	2. 13	142498		051440		
55	2. 13	142513		051466		
Aug. 28. 9. 0	23. 1. 56	0·142643	73·0	0·051491	73·0	T D
5	1. 48	142513		051487		
10	1. 48	142498		051461		
15	1. 43	142484		051436		
20	1. 39	142484		051410		
25	1. 39	142400		051385		
30	1. 39	142339		051339		
35	1. 39	142255		051314		
40	1. 39	142241		051289		
45	1. 29	142344		051263		
50	1. 27	142413		051238		
55	1. 21	142399		051213		

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 5$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 97$; in Vertical Plane, $23^s \cdot 1$.

Term-Day Observations of September 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Sep. 22. 10. 0	22. 59. 26	0·142361	68·0	0·050797	68·0	G
5	59. 31	142523		050797		
10	59. 35	142509		050773		
15	59. 43	142509		050787		
20	22. 59. 47	142542		050763		
25	23. 0. 3	142496		050777		
30	0. 22	142482		050782		
35	0. 25	142482		050803		
40	1. 45	142505		050803		
45	2. 7	142492		050793		
50	2. 18	142492		050793		
55	2. 11	142618		050783		
Sep. 22. 11. 0	23. 2. 11	0·142803	67·5	0·050812	67·5	G
5	2. 10	142873		050812		
10	2. 1	142975		050802		
15	1. 56	143045		050809		
20	1. 50	143100		050792		
25	1. 54	143146		050792		
30	1. 54	143133		050768		
35	1. 53	143133		050768		
40	2. 42	143087		050768		
45	2. 44	142934		050757		
50	3. 2	142865		050757		
55	3. 5	142852		050733		
Sep. 22. 12. 0	23. 4. 29	0·142643	67·0	0·050733	67·0	G
5	2. 56	142643		050748		
10	2. 39	142736		050755		
15	2. 39	142666		050784		
20	2. 37	142643		050805		
25	2. 37	142620		050805		
30	2. 47	142620		050798		
35	2. 33	142713		050798		G
40	2. 33	142968		050827		G H
45	2. 40	143315		050862		
50	3. 16	143315		050862		
55	2. 21	143547		050834		
Sep. 22. 13. 0	23. 1. 29	0·143547	67·0	0·050805	67·0	G H
5	23. 1. 24	143292		050827		
10	22. 59. 6	143315		050862		
15	58. 54	143315		050791		
20	59. 47	143083		050719		
25	59. 35	143315		050791		
30	59. 25	143269		050862		
35	22. 59. 42	143269		050791		
40	23. 0. 4	143315		050862		
45	22. 59. 30	143315		050862		
50	22. 59. 24	143199		050862		
55	23. 0. 14	143199		050898		
Sep. 22. 14. 0	22. 59. 45	0·143083	67·0	0·050862	67·0	G H
5	23. 0. 11	143083		050898		
10	0. 35	143083		050933		
15	0. 28	143083		050933		
20	0. 17	142968		050933		
25	1. 12	142968		050933		
30	1. 13	142852		050933		
35	1. 35	142620		050969		
40	0. 27	142620		051004		
45	1. 22	142620		051040		
50	1. 36	142620		051075		
55	1. 58	142620		051075		
Sep. 22. 15. 0	23. 1. 58	0·142620	67·0	0·051061	67·0	G H
5	2. 23	142593		051051		
10	2. 6	142812		051003		
15	2. 14	142669		051015		
20	2. 22	142772		051028		
25	3. 1	142745		051004		
30	3. 1	142499		050970		
35	3. 16	142473		050968		
40	3. 30	142460		050945		
45	3. 22	142317		050921		G H
50	2. 51	142351		050908		L
55	3. 1	142325		050864		
Sep. 22. 16. 0	23. 2. 38	0·142194	65·2	0·050861	65·5	L
5	2. 38	142148		050861		
10	2. 8	142264		050838		
15	2. 2	142135		050838		
20	2. 2	142135		050828		
25	1. 40	142135		050828		
30	1. 23	142020		050804		
35	1. 23	142181		050804		
40	1. 23	142367		050826		
45	1. 19	142354		050838		
50	1. 32	142354		050838		
55	1. 45	142655		050814		
Sep. 22. 17. 0	23. 1. 55	0·142748	65·0	0·050814	65·0	L
5	3. 30	142817		050828		
10	2. 58	142817		050838		
15	2. 58	142946		050838		
20	2. 18	142946		050824		
25	1. 49	143294		050861		
30	1. 7	143526		050861		
35	0. 48	143526		050861		
40	1. 15	143526		050885		
45	1. 5	143470		050885		
50	1. 5	143423		050871		
55	1. 5	143423		050850		

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°.45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.5$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

Term-Day Observations of September 22 and 23.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Sep. 22. 18. 0	23. 4. 4	0·143377	65·2	0·050828	65·3	L
5	1. 5	143423		050814		
10	0. 35	143423		050790		
15	23. 0. 19	143410		050790		
20	22. 59. 51	143526		050790		
25	59. 51	143526		050790		
30	22. 59. 51	143526		050767		
35	23. 0. 27	143526		050824		L
40	0. 47	143513		050838		T D
45	1. 22	143513		050838		
50	1. 22	143513		050814		
55	1. 30	143513		050814		
Sep. 22. 19. 0	23. 0. 40	0·143513	65·0	0·050814	65·0	T D
5	0. 37	143444		050850		
10	0. 32	143281		050871		
15	0. 32	143281		050885		
20	0. 40	143165		050885		
25	0. 47	143049		050864		
30	0. 47	142910		050842		
35	0. 43	142817		050885		
40	0. 43	142817		050913		
45	0. 43	142748		050913		
50	0. 43	142702		050913		
55	1. 8	142702		050942		
Sep. 22. 20. 0	23. 1. 46	0·142702	65·0	0·050956	65·0	T D
5	1. 53	142702		050956		
10	2. 7	142586		050956		
15	1. 47	142586		050956		
20	1. 33	142586		050956		
25	1. 7	142586		050956		
30	0. 53	142586		050956		
35	0. 32	142586		050956		
40	0. 25	142586		050956		
45	0. 25	142586		050956		
50	0. 32	142470		050956		
55	0. 40	142447		050956		
Sep. 22. 21. 0	23. 0. 50	0·142447	65·0	0·050956	65·0	T D
5	23. 0. 12	142311		051003		
10	22. 59. 32	142162		051027		
15	59. 13	142119		051060		
20	59. 17	142145		051107		
25	22. 59. 31	142113		051131		
30	23. 0. 10	142069		051179		
35	23. 0. 12	142050		051226		
40	22. 59. 59	141947		051250		
45	59. 48	141858		051269		
50	59. 48	141885		051316		T D
55	59. 48	141898		051440		E H

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Sep. 22. 22. 0	22. 59. 54	0·141925	67·0	0·051374	67·0	E H
5	22. 59. 54	141810		051374		
10	23. 0. 2	141740		051346		
15	0. 2	141740		051346		
20	0. 2	141740		051325		
25	0. 14	141740		051289		
30	1. 13	141740		051275		
35	1. 35	141810		051275		
40	1. 57	141810		051254		
45	2. 46	141925		051232		
50	3. 0	141925		051218		
55	3. 7	141925		051183		
Sep. 22. 23. 0	23. 3. 7	0·141925	67·0	0·051183	67·0	E H
5	3. 13	141694		051183		E H
10	3. 12	141925		051147		G H
15	3. 15	141925		051147		
20	3. 34	142157		051147		
25	3. 57	141925		051147		
30	4. 18	141925		051147		
35	4. 12	142157		051111		
40	4. 26	141925		051147		
45	4. 49	141810		051147		
50	4. 49	141925		051111		
55	4. 19	141810		051147		
Sep. 23. 0. 0	23. 4. 56	0·141925	67·0	0·051147	67·0	G H
5	5. 13	141925		051147		
10	6. 21	141971		051147		
15	6. 36	141925		051183		
20	6. 30	142157		051204		G H
25	6. 48	142041		051183		T D
30	6. 48	142041		051183		
35	6. 41	141925		051183		
40	7. 18	141925		051218		
45	6. 58	141925		051218		
50	7. 13	142157		051218		
55	7. 28	142088		051218		
Sep. 23. 1. 0	23. 7. 4	0·141925	67·0	0·051232	67·0	T D
5	6. 44	141707		051256		
10	6. 44	141707		051338		
15	6. 49	141883		051376		
20	7. 4	141965		051433		
25	7. 17	142359		051457		
30	7. 36	142442		051502		
35	7. 30	142641		051502		
40	7. 2	142641		051550		
45	7. 2	142655		051589		
50	6. 50	142482		051553		
55	6. 38	142482		051577		

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 5$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 97$; in Vertical Plane, $23^s \cdot 1$.

Term-Day Observations of September 23.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Sep. 23. 2. 0	23. 6. 1	0·142427	67·8	0·051601	68·0	T D	Sep. 23. 6. 0	23. 2. 32	0·140833	67·5	0·051610	67·0	G
5	6. 6	142265		051622			5	2. 59	140833		051588		
10	6. 6	142251		051598			10	3. 2	140658		051560		
15	6. 26	142343		051598			15	3. 6	140612		051517		
20	6. 58	142251		051574			20	2. 31	140297		051489		
25	6. 40	142238		051574			25	2. 26	140389		051431		
30	6. 7	142238		051550			30	1. 56	140562		051374		
35	5. 57	142238		051579		T D	35	1. 23	140816		051360		
40	5. 46	142224		051579		E H	40	0. 58	141025		051360		G
45	5. 56	142340		051555			45	0. 23	141243		051360		T D
50	6. 6	142340		051576			50	23. 0. 15	141406		051360		
55	5. 56	142257		051566			55	22. 59. 57	141879		051360		
Sep. 23. 3. 0	23. 5. 32	0·142211	67·4	0·051566	67·5	E H	Sep. 23. 7. 0	22. 59. 44	0·142157	67·0	0·051360	67·0	T D
5	5. 48	142095		051552			5	59. 27	142157		051360		
10	6. 42	142105		051564			10	59. 37	142434		051360		
15	6. 10	141965		051564			15	59. 38	142620		051360		
20	5. 45	141965		051540			20	59. 27	142481		051360		
25	5. 40	141837		051562			25	59. 2	142273		051303		
30	5. 57	141952		051538			30	59. 11	141694		051289		
35	6. 10	142138		051552			35	59. 11	140998		051289		
40	7. 3	142355		051552			40	58. 47	141230		051289		
45	7. 28	141823		051598			45	59. 9	141462		051289		
50	6. 15	141707		051634			50	59. 35	141671		051289		
55	6. 5	141694		051588			55	22. 59. 56	141508		051268		
Sep. 23. 4. 0	23. 6. 48	0·141648	67·0	0·051574	67·0	E H	Sep. 23. 8. 0	23. 0. 0	0·141508	67·0	0·051254	67·0	T D
5	6. 48	141648		051610			5	0. 7	141625		051254		
10	6. 26	141694		051617			10	0. 41	141810		051218		
15	7. 33	142157		051631			15	1. 0	141925		051242		
20	7. 47	142388		051666			20	1. 38	141694		051242		
25	8. 18	142666		051716			25	1. 0	141786		051221		
30	7. 45	142620		051716			30	0. 59	141694		051171		
35	7. 13	142388		051752			35	1. 0	141694		051171		
40	6. 37	141810		051773		E H	40	0. 58	141694		051196		T D
45	5. 17	141508		051730		G	45	0. 39	141833		051196		L
50	3. 50	140882		051787			50	0. 44	141925		051196		
55	4. 1	140766		051780			55	1. 4	141925		051196		
Sep. 23. 5. 0	23. 3. 31	0·141114	67·0	0·051787	67·0	G	Sep. 23. 9. 0	23. 1. 19	0·142041	67·0	0·051196	67·2	L
5	2. 44	141044		051859			5	1. 19	142375		051171		
10	2. 42	141498		051859			10	1. 20	142283		051142		
15	2. 39	141359		051859			15	1. 28	142407		051089		
20	2. 22	141373		051859			20	1. 16	142580		051075		
25	2. 3	140608		051859			25	1. 5	142673		051051		
30	1. 15	140366		051859			30	1. 10	142566		051027		
35	0. 51	140343		051773			35	1. 10	142553		051027		
40	0. 46	140111		051787			40	1. 10	142461		051003		
45	0. 45	140403		051659			45	1. 10	142424		051003		
50	0. 45	140543		051659			50	1. 10	142294		050979		
55	1. 46	140694		051659			55	0. 57	142109		050979		L

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.5$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

Term-Day Observations of October 20.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Oct. 20. 10. 0	22. 58. 30	0·141688	63·8	0·051136	64·0	G
5	58. 30	141582		051076		
10	58. 37	141592		051045		
15	58. 46	141580		051057		
20	58. 43	141914		051034		
25	58. 43	141909		051068		
30	58. 43	141875		051022		
35	58. 42	141793		050998		
40	58. 42	141664		050982		
45	58. 39	141651		050966		
50	58. 33	141708		050956		
55	58. 26	141695		050954		
Oct. 20. 11. 0	22. 58. 16	0·141798	62·5	0·050945	62·5	G
5	58. 39	141798		050981		
10	59. 1	141787		051004		
15	59. 2	141347		050989		
20	58. 46	141314		050991		
25	58. 33	141314		050991		
30	58. 32	141211		051014		
35	57. 33	141188		051014		
40	57. 27	141304		051121		
45	57. 22	141224		051144		
50	57. 25	141201		051094		
55	57. 19	141145		051167		
Oct. 20. 12. 0	22. 57. 45	0·141006	63·0	0·051202	63·0	G
5	57. 21	141132		051202		
10	57. 51	140691		051179		
15	58. 17	140469		051193		
20	58. 20	140016		051170		
25	58. 27	140016		051170		G
30	58. 27	140073		051147		T D
35	58. 4	140061		051147		
40	57. 44	140176		051147		
45	57. 54	139163		051124		
50	57. 40	140150		051110		
55	57. 31	140150		051110		
Oct. 20. 13. 0	22. 57. 22	0·140138	62·2	0·051066	62·5	T D
5	57. 22	140138		051152		
10	57. 5	140138		051052		
15	57. 13	140138		051073		
20	57. 18	140138		051073		
25	57. 40	140254		051087		
30	57. 42	140347		051087		
35	57. 48	140370		051087		
40	57. 51	140370		051087		
45	58. 19	140463		051087		
50	58. 46	140533		051087		
55	59. 15	140602		051087		
Oct. 20. 14. 0	22. 59. 55	0·140602	62·2	0·051087	62·5	T D
5	23. 0. 16	140602		051087		
10	0. 32	140614		051087		
15	1. 24	140614		051087		
20	23. 0. 44	140846		051073		
25	22. 59. 57	140892		051052		
30	59. 57	140975		051052		
35	56. 30	141045		051016		
40	59. 10	140905		051016		
45	58. 54	140836		050945		
50	58. 47	140849		050931		
55	58. 26	140756		050924		
Oct. 20. 15. 0	22. 58. 26	0·140872	62·5	0·050924	62·5	T D
5	59. 2	140872		050945		
10	59. 27	140918		050945		
15	59. 13	140872		050945		
20	58. 56	140640		050931		
25	58. 41	140640		050902		
30	58. 37	140640		050888		
35	58. 7	140756		050888		
40	58. 7	140872		050910		E H
45	58. 7	140756		050945		
50	58. 15	140826		050945		
55	58. 15	140918		050959		
Oct. 20. 16. 0	22. 58. 15	0·140856	62·5	0·050945	62·5	E H
5	58. 23	140743		050936		
10	22. 59. 49	140846		050935		
15	23. 0. 40	140888		050912		
20	1. 32	140705		050924		
25	0. 58	140809		050916		
30	23. 0. 48	140829		050870		
35	22. 59. 50	140771		050869		
40	59. 50	140712		050796		
45	59. 33	140862		050774		
50	59. 38	140733		050765		
55	59. 16	140605		050778		
Oct. 20. 17. 0	22. 58. 49	0·140476	61·2	0·050776	61·2	E H
5	58. 56	140510		050782		
10	59. 0	140637		050817		
15	59. 0	140555		050809		
20	58. 46	140658		050786		
25	58. 45	140646		050750		
30	58. 15	140749		050763		
35	58. 15	140737		050741		
40	22. 59. 15	140841		050753		
45	23. 0. 31	140944		050745		
50	1. 51	140932		050744		
55	2. 39	141266		050742		E 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.5$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

Term-Day Observations of October 20 and 21.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Oct. 20. 18. 0	23. 2. 15	0·141485	60·0	0·050734	60·0	E H	Oct. 20. 22. 0	22. 52. 30	0·139223	61·0	0·051301	61·5	G
5	1. 6	141279		050765			5	53. 36	139213		051287		
10	0. 42	141059		050696			10	54. 19	139225		051309		
15	23. 0. 5	141084		050719			15	54. 45	139075		051309		
20	22. 59. 40	140994		050764			20	55. 54	138866		051332		
25	59. 29	140890		050772			25	55. 59	138809		051346		
30	59. 15	140799		050831			30	56. 6	138776		051355		
35	59. 11	140708		050876		E H	35	56. 10	138672		051355		
40	58. 39	140721		050899		G H	40	56. 28	138639		051355		
45	58. 14	140630		051002			45	57. 5	138511		051378		
50	58. 14	140539		051033			50	57. 22	138743		051342		
55	58. 33	140551		051070			55	57. 30	138687		051343		
Oct. 20. 19. 0	22. 58. 8	0·140577	62·0	0·051116	62·0	G H	Oct. 20. 23. 0	22. 58. 14	0·138723	62·0	0·051322	62·0	G
5	58. 15	140485		051102			5	58. 22	138723		051322		G
10	58. 16	140438		051116			10	58. 45	138723		051329		T D
15	57. 52	140461		051130			15	59. 16	138537		051308		
20	57. 45	140345		051187			20	22. 59. 43	138491		051294		
25	57. 42	140461		051187			25	23. 0. 3	138491		051244		
30	57. 42	140577		051230			30	0. 23	138259		051244		
35	57. 22	140461		051152			35	0. 26	138259		051187		
40	57. 34	140461		051294			40	0. 41	138259		051144		
45	57. 9	140577		051223			45	1. 7	138259		051116		
50	56. 55	140531		051258			50	1. 19	138259		051116		
55	56. 17	140531		051329			55	1. 58	138259		051116		
Oct. 20. 20. 0	22. 56. 10	0·140531	62·0	0·051329	62·0	G H	Oct. 21. 0. 0	23. 2. 2	0·138422	62·0	0·051116	62·0	T D
5	55. 15	140485		051343			5	2. 43	138491		051116		
10	55. 1	140461		051365			10	2. 43	138491		051116		
15	54. 3	140461		051401			15	3. 8	138537		051116		
20	54. 2	140531		051401			20	3. 26	138537		051116		
25	53. 30	140391		051415			25	3. 46	138537		051116		
30	53. 39	140485		051415			30	3. 48	138491		051095		
35	53. 0	140391		051437			35	3. 18	138491		051046		
40	53. 0	140345		051451			40	3. 18	138584		051002		
45	52. 43	140345		051458			45	3. 55	138769		050973		
50	52. 29	140345		051458			50	4. 2	138954		050973		
55	52. 1	140345		051437			55	4. 7	138954		050902		
Oct. 20. 21. 0	22. 52. 1	0·140345	62·0	0·051437	62·0	G H	Oct. 21. 1. 0	23. 4. 14	0·138954	62·0	0·050902	62·0	T D
5	52. 48	140332		051437			5	4. 14	139095		050947		
10	52. 36	140319		051414			10	4. 14	139177		050949		
15	52. 6	140075		051392			15	4. 17	139203		050945		
20	52. 6	140191		051355			20	4. 31	139274		050991		
25	52. 8	140062		051355			25	5. 39	139380		050957		
30	51. 59	140050		051332			30	5. 45	139545		050989		
35	51. 59	140037		051332			35	5. 46	139571		051036		
40	51. 59	139794		051332			40	5. 48	139584		051038		
45	52. 38	139735		051295		G H	45	5. 50	139610		051034		
50	52. 15	139619		051295		G	50	5. 42	139635		051081		
55	52. 44	139375		051273			55	5. 42	139648		051068		

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.5$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

Term-Day Observations of October 21.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Oct. 21. 2. 0	23. 5. 42	0·139674	64·0	0·051078	64·0	T D
5	5. 44	139674		051078		
10	5. 45	139674		051035		
15	6. 0	139674		051007		
20	5. 31	139674		050986		
25	5. 11	139674		050964		
30	5. 2	139674		050915		
35	4. 56	139674		050915		T D
40	4. 38	140138		050865		G H
45	4. 15	140138		050865		
50	4. 39	140138		050865		
55	4. 47	139906		050830		
Oct. 21. 3. 0	23. 4. 49	0·139906	64·0	0·050865	64·0	G H
5	4. 33	139687		050959		
10	4. 33	139468		050983		
15	4. 15	139481		051006		
20	4. 4	139829		050971		
25	4. 11	139726		051016		
30	4. 13	139972		051053		
35	4. 13	139985		051076		
40	3. 46	140044		051171		
45	3. 40	140127		051123		
50	3. 4	140127		051180		
55	2. 34	140024		051147		
Oct. 21. 4. 0	23. 2. 9	0·139921	65·0	0·051170	65·0	G H
5	1. 49	139908		051147		
10	1. 45	139779		051123		
15	2. 25	139534		051100		
20	2. 19	139534		051100		
25	2. 15	139521		051076		
30	2. 22	139508		051053		
35	2. 27	139494		051101		G H
40	2. 24	139481		051042		T D
45	2. 46	139468		051054		
50	2. 46	139468		051054		
55	2. 2	139618		051030		
Oct. 21. 5. 0	23. 1. 21	0·139674	64·0	0·050986	64·0	T D
5	1. 21	139850		050959		
10	1. 34	139932		050962		
15	1. 48	139945		050985		
20	23. 1. 11	140038		050985		
25	22. 59. 11	140121		051030		
30	59. 11	140204		051053		
35	22. 59. 11	140379		051076		
40	23. 1. 15	140392		051079		
45	1. 18	140474		051102		
50	1. 27	140474		051080		
55	1. 18	140418		051076		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Oct. 21. 6. 0	23. 1. 10	0·140269	65·0	0·051099	65·0	T D
5	1. 10	140487		051076		
10	0. 57	140590		051052		
15	0. 37	140577		051043		
20	0. 33	140693		051043		
25	0. 26	140773		051033		
30	0. 31	140667		051010		
35	0. 38	140514		051069		T D
40	0. 38	140524		051006		E H
45	0. 41	140640		051006		
50	0. 41	140581		050969		
55	0. 49	140660		050888		
Oct. 21. 7. 0	23. 0. 46	0·140717	64·0	0·050830	64·0	E H
5	0. 46	140774		050828		
10	0. 45	140575		050784		
15	0. 49	140678		050739		
20	0. 49	140794		050739		
25	0. 56	140897		050715		
30	0. 59	140955		050714		
35	0. 49	140756		050691		
40	0. 40	140743		050632		
45	0. 40	140743		050646		
50	0. 32	140846		050623		
55	0. 21	140717		050585		
Oct. 21. 8. 0	23. 0. 21	0·140936	63·0	0·050562	63·0	E H
5	0. 21	140820		050562		
10	0. 12	140936		050576		
15	0. 12	140936		050539		
20	0. 8	140820		050525		
25	0. 3	140704		050525		
30	23. 0. 3	140936		050525		
35	22. 59. 48	140936		050525		
40	23. 0. 1	140936		050516		
45	23. 0. 1	140936		050516		E H
50	22. 59. 43	140936		050516		G
55	59. 43	140936		050516		
Oct. 21. 9. 0	22. 59. 36	0·140982	63·0	0·050516	62·8	G
5	59. 30	140982		050516		
10	59. 30	140959		050530		
15	59. 21	140959		050516		
20	59. 8	140982		050516		
25	59. 10	140959		050516		
30	59. 7	141099		050493		
35	59. 5	141168		050529		
40	59. 8	141168		050507		
45	59. 3	141122		050507		
50	58. 39	141122		050507		
55	58. 31	141145		050529		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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.5$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

Term-Day Observations of November 26.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Nov. 26. 10. 0	22. 51. 12	0·139148	54·0	0·051647	54·2	L
5	51. 3	138917		051647		
10	50. 44	138580		051668		
15	49. 14	138696		051703		
20	47. 55	138823		051632		
25	46. 59	139286		051641		
30	46. 10	139067		051653		
35	45. 58	139067		051653		
40	45. 32	138951		051724		
45	46. 12	138777		051724		
50	46. 18	138731		051745		
55	45. 54	138743		051710		
Nov. 26. 11. 0	22. 46. 24	0·138093	54·5	0·051710	54·5	L
5	47. 10	138093		051710		
10	47. 21	138047		051689		
15	47. 58	137908		051724		
20	48. 4	137932		051653		
25	47. 55	137816		051596		
30	47. 8	137584		051561		
35	46. 39	138047		051561		
40	46. 25	138047		051561		
45	47. 32	137352		051490		
50	48. 48	137352		051409		
55	47. 49	137352		051447		
Nov. 26. 12. 0	22. 45. 39	0·137932	54·5	0·051326	54·2	L
5	45. 28	137816		051383		
10	45. 9	138104		051347		
15	45. 43	137827		051418		
20	45. 57	137561		051389		
25	45. 20	136957		051389		
30	42. 0	137850		051376		
35	43. 21	138777		051503		L
40	44. 36	139704		051503		T D
45	47. 3	139948		051560		
50	47. 23	139994		051617		
55	47. 52	139728		051617		
Nov. 26. 13. 0	22. 47. 33	0·139659	55·0	0·051624	55·0	T D
5	47. 16	139496		051566		
10	47. 16	139427		051566		
15	47. 15	139264		051545		
20	47. 14	139264		051531		
25	47. 15	139195		051495		
30	47. 12	139033		051467		
35	47. 10	139033		051467		
40	47. 10	138987		051467		
45	47. 9	138964		051460		
50	47. 28	138755		051424		
55	48. 42	138569		051424		
Nov. 26. 14. 0	22. 49. 5	0·138500	55·0	0·051452	55·0	T D
5	49. 54	138337		051474		
10	50. 28	138337		051474		
15	50. 49	138314		051488		
20	52. 31	138291		051495		
25	53. 0	138105		051495		
30	53. 27	138198		051523		
35	54. 6	138198		051545		
40	54. 56	138268		051545		
45	55. 40	138268		051566		
50	56. 11	138291		051566		
55	57. 47	138291		051566		
Nov. 26. 15. 0	22. 57. 59	0·138337	55·0	0·051523	55·0	T D
5	57. 27	138569		051509		
10	57. 57	138662		051509		
15	56. 58	139079		051523		
20	57. 28	139033		051495		
25	57. 24	139310		051495		
30	57. 22	139264		051495		
35	57. 53	139264		051452		
40	57. 53	139264		051452		
45	57. 53	139310		051452		
50	57. 38	139218		051424		
55	57. 30	139218		051424		
Nov. 26. 16. 0	22. 56. 41	0·139496	55·0	0·051474	55·0	T D
5	57. 7	139496		051474		
10	57. 27	139496		051488		
15	57. 27	139496		051495		
20	57. 12	139728		051495		
25	56. 52	139728		051495		
30	57. 4	139682		051495		
35	57. 38	139728		051531		T D
40	57. 45	139774		051509		G H
45	58. 11	139960		051495		
50	57. 59	140192		051495		
55	58. 1	140192		051495		
Nov. 26. 17. 0	22. 58. 1	0·140076	55·0	0·051531	55·0	G H
5	57. 16	140076		051495		
10	57. 16	140261		051495		
15	57. 16	139914		051566		
20	56. 59	139798		051460		
25	56. 59	140076		051495		
30	56. 49	139960		051566		
35	56. 21	140192		051566		
40	56. 15	140308		051552		
45	56. 19	140308		051531		
50	56. 31	140655		051552		
55	57. 5	140840		051531		

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.5$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

Term-Day Observations of November 26 and 27.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°		d h m	° ′ ″		°		°	
Nov. 26. 18. 0	22. 57. 5	0·140840	55·0	0·051531	55·0	G H	Nov. 26. 22. 0	22. 57. 12	0·138893	55·8	0·051459	55·5	L
5	57. 21	140423		051566			5	57. 12	138673		051481		
10	57. 21	140423		051566			10	56. 57	138395		051524		
15	57. 21	140423		051566			15	57. 12	138685		051545		
20	22. 57. 6	140840		051580			20	56. 46	138267		051437		
25	23. 0. 0	140840		051595			25	56. 5	138928		051444		
30	22. 56. 45	140192		051566			30	59. 4	139172		051630		
35	57. 10	140308		051638			35	58. 43	138708		051723		
40	57. 19	140192		051638			40	58. 56	138674		051603		L
45	57. 38	140192		051638			45	58. 47	138720		051696		T D
50	57. 21	140423		051638			50	58. 47	138732		051717		
55	57. 6	140192		051638			55	59. 4	138732		051760		
Nov. 26. 19. 0	22. 57. 26	0·140192	55·0	0·051638	55·0	G H	Nov. 26. 23. 0	22. 59. 11	0·138744	56·5	0·051782	57·0	T D
5	57. 26	140203		051660			5	59. 16	138744		051782		
10	57. 26	140203		051660			10	58. 44	138697		051768		
15	57. 26	140215		051681			15	58. 56	138534		051810		
20	57. 20	140446		051595			20	22. 59. 8	138546		051832		
25	56. 59	139994		051616			25	23. 0. 15	138546		051853		
30	57. 40	140228		051723			30	0. 15	138651		051796		
35	57. 40	140228		051723			35	0. 31	138651		051711		
40	57. 33	140018		051672			40	0. 31	138558		051711		
45	58. 2	140481		051780			45	0. 22	138570		051711		
50	57. 6	140446		051802			50	0. 14	138570		051711		
55	57. 32	140261		051694			55	0. 11	138572		051711		
Nov. 26. 20. 0	22. 56. 59	0·139809	55·7	0·051787	55·7	G H	Nov. 27. 0. 0	23. 0. 39	0·138804	57·0	0·051782	57·0	T D
5	57. 40	140273		051715			5	1. 42	138850		051796		
10	57. 40	140273		051730			10	1. 25	138746		051803		
15	57. 27	140029		051766			15	1. 6	138583		051689		
20	57. 16	139797		051694			20	1. 38	138629		051732		
25	57. 8	140261		051744			25	2. 18	138629		051803		
30	57. 17	140029		051601			30	2. 18	138758		051754		
35	57. 38	139797		051672			35	2. 17	138827		051754		
40	57. 5	139565		051651		G H	40	2. 15	138827		051754		T D
45	57. 5	139554		051559		L	45	2. 29	138595		051754		G H
50	56. 59	139322		051651			50	1. 57	138607		051776		
55	56. 44	139207		051559			55	2. 22	138607		051704		
Nov. 26. 21. 0	22. 56. 24	0·139207	55·5	0·051559	55·3	L	Nov. 27. 1. 0	23. 2. 4	0·138375	57·3	0·051740	57·3	G H
5	56. 24	139786		051502			5	2. 45	138723		051776		
10	56. 24	139449		051630			10	3. 27	138723		051776		
15	56. 55	139102		051545			15	3. 40	138851		051798		
20	57. 48	139102		051452			20	3. 16	138619		051798		
25	57. 48	139102		051438			25	2. 46	138619		051740		
30	56. 41	139114		051545			30	1. 10	138387		051762		
35	56. 52	139183		051580			35	1. 47	138619		051740		
40	57. 14	139345		051474			40	2. 16	138851		051740		
45	57. 20	139345		051459			45	2. 25	139095		051820		
50	56. 58	139171		051459			50	2. 47	139211		051820		
55	57. 24	139079		051495			55	2. 3	139327		051784		

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.5$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

Term-Day Observations of November 27.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Nov. 27. 2. 0	23. 2. 15	0·139327	57·5	0·051820	57·5	G H
5	1. 41	139327		051820		
10	1. 9	138851		051798		
15	0. 55	138619		051726		
20	1. 18	138839		051740		
25	1. 24	138607		051718		
30	2. 8	138781		051754		
35	2. 39	138363		051754		
40	2. 24	138526		051754		
45	2. 42	138537		051782		
50	2. 25	138537		051803		
55	2. 9	138433		051796		G H
Nov. 27. 3. 0	23. 2. 7	0·138572	57·0	0·051832	57·0	T D
5	1. 53	138769		051888		
10	1. 53	138827		051896		
15	1. 53	139002		051946		
20	1. 53	139071		051946		
25	1. 31	139176		051940		
30	1. 30	139188		051941		
35	1. 32	139270		051962		
40	1. 35	139292		051984		
45	23. 1. 35	139222		051948		
50	22. 58. 11	139234		051970		
55	58. 1	139246		052014		
Nov. 27. 4. 0	22. 52. 47	0·139248	58·0	0·052036	58·0	T D
5	52. 16	139862		052093		
10	52. 43	140662		052165		
15	53. 31	140813		052208		
20	54. 28	141045		052315		
25	55. 22	141220		052301		
30	55. 44	140838		052302		
35	56. 15	140850		052274		
40	56. 18	140862		052296		
45	56. 19	140862		052239		
50	56. 49	140736		052226		
55	57. 6	140480		052212		
Nov. 27. 5. 0	22. 57. 17	0·140482	59·0	0·052270	59·0	T D
5	57. 44	140714		052291		
10	57. 53	140897		052212		
15	57. 53	140897		052127		T D
20	58. 6	140897		052105		L
25	58. 28	141107		052047		
30	58. 36	141107		052011		
35	58. 36	140991		052011		
40	58. 55	141325		052011		
45	58. 43	141789		051989		
50	58. 18	141557		051989		
55	58. 18	141359		051882		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Nov. 27. 6. 0	22. 58. 28	0·141082	58·6	0·051825	58·5	L
5	59. 28	141082		051790		
10	58. 40	141313		051790		
15	58. 40	141325		051754		
20	58. 27	141210		051754		
25	58. 44	141557		051754		
30	58. 25	141418		051754		
35	57. 52	141025		051754		
40	58. 2	140875		051754		
45	57. 52	140598		051754		
50	57. 50	140412		051754		
55	57. 10	140412		051754		
Nov. 27. 7. 0	22. 57. 5	0·140412	58·8	0·051754	58·5	L
5	56. 37	140562		051754		
10	56. 28	140747		051732		
15	56. 28	140619		051732		
20	55. 45	140723		051710		
25	54. 39	140723		051710		
30	53. 34	140711		051688		
35	49. 33	140859		051688		L
40	46. 14	145780		051617		G H
45	45. 25	145552		051666		
50	46. 41	146582		051666		
55	50. 16	146119		051715		
Nov. 27. 8. 0	22. 56. 0	0·144022	58·0	0·051573	58·0	G H
5	59. 13	142051		051430		
10	55. 44	141252		051310		
15	54. 0	141368		051096		
20	53. 40	141728		051189		
25	55. 15	141264		051189		
30	56. 23	140698		051140		
35	56. 47	140582		051140		
40	54. 59	140118		051176		
45	53. 45	140363		051162		
50	52. 6	140595		051198		
55	51. 59	140607		051255		
Nov. 27. 9. 0	22. 51. 36	0·140491	58·5	0·051255	58·5	G H
5	52. 9	140004		051291		
10	52. 15	139877		051313		
15	52. 10	139691		051349		
20	52. 19	139703		051371		
25	51. 57	139472		051371		
30	51. 35	139369		051393		
35	51. 35	139369		051393		
40	51. 55	139485		051393		
45	51. 47	139159		051415		
50	51. 22	139507		051415		
55	48. 23	139625		051437		G 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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°.45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.5$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

November $27^d.7^h.40^m$ to November $27^d.8^h.0^m$. The sudden increase of the reading, its stationary value, and its sudden decrease, appeared at first suspicious; but they are accurately confirmed by the record made by the Photographic Self-registering Apparatus.

Term-Day Observations of December 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Dec. 22. 10. 0	22. 54. 9	0·140182	46·0	0·053004	45·5	G
5	55. 8	139487		053004		
10	55. 3	139557		052933		
15	54. 40	139441		052875		
20	53. 57	139441		052919		
25	53. 11	139395		052919		
30	52. 44	139326		052897		
35	52. 32	139349		052875		
40	52. 32	139487		052911		
45	52. 33	140020		052969		
50	52. 50	139904		053018		
55	52. 9	139904		053004		
Dec. 22. 11. 0	22. 53. 11	0·140136	46·0	0·053004	45·5	G
5	53. 18	140020		053004		
10	53. 18	139904		053004		
15	53. 24	139511		053004		
20	53. 23	139557		053004		
25	52. 28	139673		053004		
30	53. 5	139673		053004		
35	22. 53. 39	139673		053004		
40	23. 1. 20	139210		053004		
45	2. 18	138537		052961		
50	2. 42	138537		052861		
55	1. 48	138328		052861		
Dec. 22. 12. 0	23. 2. 59	0·138051	46·0	0·052505	45·5	G
5	1. 53	137401		052455		
10	23. 0. 48	137008		052375		
15	22. 56. 27	136683		052304		
20	54. 12	136776		052187		
25	51. 36	138305		052187		
30	52. 23	139256		052349		
35	53. 11	139673		052491		G
40	52. 38	140368		052420		G H
45	51. 47	140715		052510		
50	51. 47	140252		052510		
55	50. 52	140368		052529		
Dec. 22. 13. 0	22. 50. 25	0·140368	46·0	0·052600	46·0	G H
5	49. 57	140378		052619		
10	49. 58	139925		052711		
15	50. 28	139820		052801		
20	50. 39	140051		052801		
25	51. 36	140177		052891		
30	52. 14	140419		052910		
35	53. 4	140197		052929		
40	52. 53	140208		052949		
45	54. 15	140324		052949		
50	53. 54	140218		052968		
55	53. 45	140229		052987		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Dec. 22. 14. 0	22. 53. 45	0·139961	47·0	0·053006	47·0	G H
5	53. 38	140007		052971		
10	54. 53	140471		052971		
15	56. 4	140471		053006		
20	56. 42	140471		052971		
25	54. 22	140309		052971		
30	54. 10	140239		052900		
35	54. 34	140239		052900		
40	55. 11	140239		052900		
45	55. 11	140239		052900		
50	56. 18	140239		052900		
55	56. 37	140239		052900		
Dec. 22. 15. 0	22. 56. 45	0·140239	47·0	0·052900	47·0	G H
5	56. 9	140239		052792		
10	54. 48	140113		052773		
15	55. 22	140229		052773		
20	56. 15	140218		052733		
25	56. 15	140102		052754		
30	56. 15	140092		052700		
35	55. 15	140208		052700		G H
40	54. 52	140208		052664		E H
45	55. 6	140208		052609		
50	55. 6	140081		052587		
55	55. 6	140187		052590		
Dec. 22. 16. 0	22. 55. 35	0·140071	46·5	0·052590	46·5	E H
5	55. 56	140048		052568		
10	56. 42	140058		052587		
15	57. 26	139965		052609		
20	57. 35	140208		052593		
25	57. 42	140324		052593		
30	56. 2	140450		052577		
35	57. 53	140450		052612		
40	56. 31	140566		052577		
45	55. 49	140855		052560		
50	55. 50	140692		052539		
55	56. 33	140934		052544		
Dec. 22. 17. 0	22. 57. 55	0·140702	47·0	0·052508	47·0	E H
5	22. 59. 13	140471		052544		
10	23. 0. 8	140702		052544		
15	0. 8	140471		052508		
20	0. 51	141166		052436		
25	0. 51	141050		052508		
30	23. 0. 32	141398		052436		
35	22. 59. 13	141282		052401		
40	22. 58. 50	141630		052365		
45	23. 0. 9	142093		052294		
50	22. 59. 36	141861		052294		
55	59. 25	141514		052294		

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.5$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.97$; in Vertical Plane, $23^s.1$.

Term-Day Observations of December 22 and 23.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Dec. 22. 18 0	22. 59. 25	0·141630	47·0	0·052188	47·0	E H
5	59. 18	141409		052208		
10	59. 57	141893		052281		
15	58. 52	141440		052301		
20	58. 10	140754		052249		
25	57. 2	140997		052268		
30	56. 49	140671		052307		
35	56. 49	140333		052348		
40	57. 9	140344		052383		E H
45	56. 59	140517		052437		L
50	56. 59	140607		052476		
55	57. 6	140734		052532		
Dec. 22. 19. 0	22. 57. 6	0·140745	48·5	0·052552	48·5	L
5	57. 3	140745		052552		
10	56. 57	140745		052552		
15	56. 33	140745		052587		
20	56. 37	140814		052587		
25	56. 37	141324		052587		
30	56. 37	141324		052623		
35	56. 30	141208		052623		
40	56. 11	141208		052587		
45	56. 11	141324		052587		
50	56. 22	141602		052552		
55	56. 43	141788		052552		
Dec. 22. 20. 0	22. 56. 56	0·141904	48·5	0·052502	48·5	L
5	58. 41	141788		052502		
10	58. 41	141566		052464		
15	58. 51	141566		052392		
20	58. 17	141218		052412		
25	57. 28	141218		052412		
30	56. 29	141345		052432		
35	55. 47	141345		052432		
40	55. 13	141577		052432		
45	56. 13	141633		052452		
50	56. 13	141703		052452		
55	56. 21	141703		052429		
Dec. 22. 21. 0	22. 56. 47	0·141819	48·8	0·052330	49·0	L
5	56. 13	141819		052330		
10	56. 13	141461		052330		
15	56. 13	141345		052366		
20	55. 27	141229		052366		
25	55. 7	141044		052259		
30	54. 28	140870		052273		
35	56. 13	141102		052273		
40	56. 13	141010		052330		L
45	56. 41	140906		052273		G
50	56. 30	140860		052116		
55	57. 3	140860		052116		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Dec. 22. 22. 0	22. 57. 25	0·140860	48·5	0·052116	49·0	G
5	58. 18	140675		052116		
10	59. 18	140639		052116		
15	59. 18	140755		052116		
20	57. 24	140650		052116		
25	58. 3	140650		052116		
30	58. 13	140660		052116		
35	58. 48	140729		052116		
40	59. 27	140568		052116		
45	59. 27	140439		052116		
50	59. 51	140485		052116		
55	58. 41	139987		052152		G
Dec. 22. 23. 0	22. 58. 54	0·140218	49·0	0·052188	49·0	G H
5	22. 58. 41	140195		052188		
10	23. 0. 1	139755		052188		
15	22. 59. 10	139755		052202		
20	23. 0. 45	140450		052224		
25	2. 19	140450		052330		
30	2. 8	140218		052202		
35	1. 20	139524		052224		
40	2. 18	140172		052188		
45	1. 11	139755		052188		
50	1. 59	139987		052152		
55	1. 12	139987		052330		
Dec. 23. 0. 0	23. 0. 56	0·139755	49·0	0·052366	49·0	G H
5	22. 59. 19	139292		052295		G H
10	59. 20	139997		052350		L
15	59. 46	139881		052350		
20	59. 4	139348		052350		
25	59. 4	139765		052386		
30	59. 34	140819		052405		
35	58. 38	139545		052405		
40	22. 59. 37	140703		052298		
45	23. 0. 3	140239		052334		
50	22. 58. 16	140481		052283		
55	59. 14	140249		052425		
Dec. 23. 1. 0	22. 59. 4	0·140365	49·3	0·052354	49·3	L
5	58. 52	140713		052354		
10	58. 3	140481		052354		
15	57. 41	140260		052338		
20	57. 12	139797		052338		
25	58. 40	140724		052338		
30	58. 9	140492		052445		
35	57. 56	140492		052338		
40	57. 56	140271		052358		
45	57. 56	140271		052358		
50	58. 26	140508		052358		
55	59. 37	140735		052323		L

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, $20^s{\cdot}5$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s{\cdot}97$; in Vertical Plane, $23^s{\cdot}1$.

Term-Day Observations of December 23.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m	° ′ ″		°		°	
Dec. 23. 2. 0	23. 0. 15	0·140619	49·5	0·052536	49·5	E H
5	22. 58. 58	140271		052465		
10	23. 0. 17	141082		052394		
15	0. 17	141198		052445		
20	23. 0. 1	140735		052494		
25	22. 59. 22	140735		052409		
30	23. 0. 43	140503		052409		
35	0. 18	140735		052409		
40	1. 31	141198		052389		
45	1. 21	140968		052460		
50	0. 40	141082		052425		E H
55	0. 32	141314		052403		G
Dec. 23. 3. 0	23. 0. 34	0·141430	49·5	0·052425	49·3	G
5	0. 43	141198		052403		
10	23. 0. 44	141012		052425		
15	22. 59. 53	140503		052389		
20	23. 0. 14	140735		052389		
25	0. 21	140735		052389		
30	1. 1	141430		052369		
35	1. 59	140966		052369		
40	1. 47	140966		052405		
45	23. 1. 21	140294		052405		
50	22. 59. 35	140040		052405		
55	59. 13	139808		052369		
Dec. 23. 4. 0	22. 59. 2	0·139808	49·5	0·052405	49·2	G
5	58. 23	139829		052445		
10	57. 53	139840		052485		
15	57. 29	139862		052525		
20	57. 19	139872		052529		
25	57. 11	140126		052570		
30	57. 11	140716		052610		
35	57. 11	141317		052737		G
40	58. 22	141560		052742		G H
45	58. 37	141582		052747		
50	22. 59. 14	141593		052752		
55	23. 0. 9	141615		052721		
Dec. 23. 5. 0	22. 59. 41	0·141672	51·3	0·052761	51·5	G H
5	59. 41	141580		052761		
10	59. 41	141812		052690		
15	22. 59. 48	141637		052654		
20	23. 0. 0	141637		052654		
25	23. 0. 0	141637		052618		
30	22. 59. 48	141058		052618		
35	23. 0. 6	140942		052547		
40	0. 6	141694		052583		
45	0. 41	141416		052583		
50	0. 41	141416		052547		
55	1. 23	140953		052547		
Dec. 23. 6. 0	23. 0. 47	0·140374	51·5	0·052547	51·5	G H
5	23. 0. 7	140258		052476		
10	22. 58. 29	140142		052547		
15	57. 20	140131		052527		
20	56. 48	140247		052527		
25	55. 51	140247		052527		
30	55. 22	140131		052527		
35	54. 37	140015		052527		G H
40	54. 20	140004		052507		E H
45	53. 30	140236		052507		
50	53. 30	140931		052543		
55	53. 30	140931		052578		
Dec. 23. 7. 0	22. 54. 55	0·141162	51·3	0·052578	51·3	E H
5	56. 30	141510		052614		
10	57. 23	141626		052614		
15	57. 23	141615		052558		
20	57. 44	141847		052487		
25	58. 2	141847		052501		
30	58. 7	141604		052467		
35	58. 13	141836		052432		
40	58. 13	141720		052432		
45	58. 12	141836		052361		
50	57. 37	141593		052340		
55	57. 47	141361		052375		
Dec. 23. 8. 0	22. 57. 47	0·141245	51·0	0·052304	51·0	E H
5	57. 42	141361		052304		
10	57. 41	141593		052340		
15	57. 32	141361		052304		
20	57. 39	141129		052340		
25	58. 29	141361		052340		
30	59. 28	141129		052318		
35	58. 57	141129		052304		
40	57. 25	141129		052304		E H
45	56. 24	140829		052304		L
50	54. 33	140666		052269		
55	52. 38	140666		052269		
Dec. 23. 9. 0	22. 50. 37	0·140434	51·0	0·052233	51·0	L
5	47. 49	140434		052318		
10	46. 2	140597		052375		
15	45. 3	140782		052375		
20	45. 30	141129		052517		
25	51. 8	141361		052589		
30	54. 1	141779		052589		
35	57. 8	140203		052503		
40	58. 52	139554		052373		
45	57. 4	139276		052304		
50	55. 4	139601		052304		
55	54. 17	139971		052304		L

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.

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 269°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 37°. 45′. Reading for Brass Bar in the same position, 358°. 6′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 5$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 97$; in Vertical Plane, $23^s \cdot 1$.

ROYAL OBSERVATORY, GREENWICH.

EXTRAORDINARY OBSERVATIONS

OF

MAGNETOMETERS.

1847.

Extraordinary Observations of January 29 and 30, and of February 6.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Jan. 29. 9. 57. 30						T D
10. 0. 0	22. 32. 46					
10. 2. 30		0·022183	46·5			
11. 54. 0	26. 38	021467				
56. 0	26. 38	021467				
57. 30						
11. 58. 0	26. 28	021467				
12. 0. 0	26. 21	021467				
2. 0	26. 27	021467				
2. 30		021467	46·0			
7. 0	26. 27	021467				
14. 0	27. 3	021613				
19. 0	28. 6	021679				
22. 0	28. 24	021735				
24. 0	29. 1	021735				
26. 0	29. 1	021735				
29. 0	29. 32	021846				
34. 0	29. 46	021890				
39. 0	29. 46	021879				
44. 0	29. 46	021879				
49. 0	29. 6	021869				
54. 0	29. 13	021869				
12. 59. 0	29. 13	021869				
13. 11. 0	29. 5	021637				
14. 0	29. 25	021637				
13. 57. 30						
14. 0. 0	30. 51					
2. 30		021838	45·3			
Jan. 30. 3. 57. 30						T D
4. 0. 0	22. 50. 38					
4. 2. 30		0·024834	42·0			
5. 57. 30						
6. 0. 0	46. 5					
2. 0	45. 46	024764				
2. 30		024754	43·0			
4. 0	45. 23	024764				
6. 0	44. 21	024764				
8. 0	43. 49	024773				
10. 0	43. 6	024773				
12. 0	42. 32	024783				
14. 0	41. 55	024783				
16. 0	41. 4	024783				
18. 0	40. 51	024783				
20. 0	40. 40	024783				
22. 0	40. 20	024783				
24. 0	40. 8	024793				
26. 0	40. 8	024638				
28. 0	40. 44	024471				
30. 0	42. 11	024139				
32. 0	41. 49	024139				

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Jan. 30. 6. 34. 0	22. 41. 47	0·024104				T D
36. 0	42. 38	023882				
38. 0	42. 58	023892				
40. 0	43. 4	023892				
42. 0	43. 8	023671				
44. 0	42. 16	023681				
46. 0	41. 13	023681				
48. 0	40. 0	022795				
50. 0	39. 53	023083				
52. 0	40. 39	023248				
54. 0	41. 39	023248				
56. 0	42. 44	023248				
6. 58. 0	43. 8	023258				
7. 0. 0	42. 33	023258				
8. 0. 0	46. 49					
2. 30		021807	45·0			T D
Feb. 6. 9. 57. 30				0·054176	52·5	G H
10. 0. 0	22. 35. 50					
1. 30	35. 50	0·022263		054247		
2. 30	35. 50	022241	51·4	054227		
3. 30	35. 35	022152		054192		
5. 30	35. 35	022263		054306		
7. 30	35. 18	022030		054227		
9. 30	35. 25	022362		054335		
11. 30	35. 29	022473		054299		
16. 30	36. 0	022584		054278		
17. 30	36. 27	022473		054278		
18. 30	36. 49	022429		054314		
19. 30	36. 6	022252		054349		
21. 30	37. 14	022019		054278		
23. 30	37. 10	022019		054328		
27. 30	37. 28	022197		054342		
29. 30	37. 42	022241		054328		
32. 30	38. 15	022462		054379		
34. 30	38. 35	022462		054308		
35. 30	38. 51	022573		054344		
36. 30	39. 14	022673		054407		
37. 30	39. 52	022673		054407		
38. 30	43. 13	023005		054308		
39. 30	40. 35	022495		054308		
40. 30	40. 47	022850		054415		
41. 30	40. 57	022673		054379		
42. 30	41. 33	022673		054252		
43. 30	41. 59	022673		054323		
44. 30	42. 8	022717		054323		
46. 30	42. 27	022673		054301		
48. 30	42. 39	022451		054323		
52. 30	43. 21	022230		054216		
54. 30	43. 49	022230		054287		

Jan. 29d. 11h. 54m. The change in the position of the Declination Magnet since 10h was 6′. 8″: extra observations were commenced.

Jan. 30d. The motion of the Declination Magnet seemed to be somewhat different from usual, and extra observations were begun.

Feb. 6d. A change of 10′. 59″ having taken place in the position of the Declination Magnet between 8h and 10h, extra observations were commenced.

Extraordinary Observations of February 6, 22, 23, and 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Feb. 6. 10. 59. 30	22. 43. 51	0·022219		0·054267		G H
11. 57. 30				054165	51·4	
12. 0. 0	42. 45					
2. 30		023071	50·7			G H
Feb. 22. 9. 57. 30				0·054526	53·5	T D
10. 0. 0	22. 44. 16					
10. 2. 30		0·024655	53·0			
11. 57. 30				054486	55·0	
12. 0. 0	35. 38					
2. 30		023773	54·0			
4. 0	37. 21	023773		054486		
7. 0	37. 31	023778		054364		
10. 0	38. 11	023773		054308		
13. 0	38. 47	023662		054208		
16. 0	39. 17	023662		054130		
21. 0	40. 11	023440		054058		
26. 0	38. 12	023374		053966		
31. 0	37. 30	023374		053774		
36. 0	36. 19	023219		053774		
41. 0	35. 36	023153		053774		
46. 0	35. 12	023109		053667		
51. 0	35. 3	023042		053631		
12. 56. 0	34. 35	023042		053560		
13. 1. 0	33. 45	023042		053503		
6. 0	32. 59	023042		053418		
11. 0	32. 40	022998		053289		
16. 0	32. 20	022998		053275		
21. 0	31. 43	022954		053254		
26. 0	31. 18	023042		053254		
31. 0	30. 10	023109		053204		
36. 0	30. 9	023042		053133		
46. 0	30. 30	022998		053169		
51. 0	29. 51	022776		053204		
54. 0	30. 11	022776		053204		
13. 57. 30				053169	55·0	
14. 0. 0	29. 56					
2. 30		022776	54·0			
4. 0	29. 15	022555		053218		
7. 0	29. 59	022344		053155		
12. 0	30. 19	022035		053112		
17. 0	30. 47	021902		053012		
22. 0	29. 59	021237		052920		
27. 0	30. 24	021183		052870		
32. 0	28. 23	021138		052891		
37. 0	27. 28	021360		052891		
42. 0	26. 52	021249		052891		
47. 0	27. 39	021149		052891		
52. 0	29. 29	021260		052962		
14. 57. 0	30. 13	021482		052912		
15. 2. 0	32. 57	021703		052770		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Feb. 22. 15. 7. 0	22. 34. 59	0·022146		0·052734		T D
10. 0	36. 53	022589		052698		
13. 0	38. 34	022601		052770		
16. 0	40. 9	022379		052933		
21. 0	40. 42	022601		052933		
26. 0	40. 42	022822		052862		
31. 0	39. 45	022601		052719		
34. 0	36. 46	022335		052471		
37. 0	35. 38	021715		052292		
40. 0	34. 40	021582		052079		
43. 0	32. 16	021284		051886		
46. 0	30. 55	021284		051744		
49. 0	30. 43	021284		051601		
52. 0	30. 34	021284		051601		
55. 0	30. 34	021284		051601		
15. 57. 30				051601	55·5	
16. 0. 0	33. 54					
2. 0	35. 21	021506		051744		
2. 30		021506	54·5			
5. 0	36. 8	021661		051886		
8. 0	38. 25	021727		052242		
11. 0	42. 4	021727		052456		
14. 0	45. 15	022391		052548		
17. 0	46. 55	022391		052434		
22. 0	47. 39	022613		052456		
27. 0	47. 51	022391		052349		
32. 0	49. 13	022601		052456		
16. 37. 0	49. 30	022601		052456		
17. 57. 30				053025	55·5	
18. 0. 0	42. 30					
2. 30		021814	54·3			T D
Feb. 23. 21. 57. 30				0·055812	43·0	G H
22. 0. 0	22. 45. 59					
22. 2. 30		0·025720	42·0			
23. 23. 57. 30				055709	43·6	
24. 0. 0. 0	54. 37					
2. 30		021832	43·0			
5. 0	55. 46	022174		055799		
6. 0	55. 46	022293		055818		
8. 0	54. 11	022082		055801		
10. 0	54. 39	022193		055855		
11. 0	54. 11	022193		055855		
12. 0	53. 43	021972		055783		
14. 0	53. 50	022082		055860		
16. 0	53. 16	022414		055874		
20. 0	53. 16	022756		055888		
25. 0	53. 49	023209		055963		
30. 0	53. 38	023361		056036		
0. 50. 0	54. 4	023931		056023		
1. 2. 0	55. 5	024581		056061		

Feb. 22d. A change of 8′. 38″ having taken place in the position of the Declination Magnet between 10h and 12h, extra observations were commenced.

Feb. 24d. 0h. Considerable changes having taken place in the positions of the Declination and Horizontal Force Magnets, extra observations were commenced.

Extraordinary Observations of February 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Feb. 24. 1. 4. 0	22. 55. 21	0·024847		0·056080		G H
5. 0	55. 34	024847		056094		
7. 0	55. 34	024857		056132		
12. 0	54. 53	024857		056101		
13. 0	55. 33	025088		056101		
31. 0	58. 36	026004		056122		
33. 0	57. 24	025682		056035		
34. 0	56. 51	025581		055999		
36. 0	57. 35	025913		056070		
44. 0	55. 3	025038		055986		
47. 30				056114		
50. 0	56. 24					
52. 30		025733				
1. 57. 30				056079	46·5	
2. 0. 0	57. 17					
2. 30		025777	45·5			
7. 30				055900		
10. 0	56. 30					
2. 12. 30		024515				G H
3. 57. 30				055673	50·3	H B
4. 0. 0	53. 5					
4. 2. 30		024730	48·2			
5. 57. 30				055319	50·2	
6. 0. 0	46. 58					
6. 2. 30		025181	48·7			
7. 41. 0	37. 1	023942		055311		
43. 0	37. 21	024120		055347		
44. 0	37. 32	024164		055262		
45. 0	37. 16	024230		055262		
47. 0	37. 4	024164		055262		
48. 0	36. 30	023986		055247		
49. 0	35. 57	023787		055206		
50. 0	35. 22	023964		055185		
51. 0	34. 30	023544		055199		
52. 0	33. 31	023389		055185		
54. 0	31. 55	022946		055149		
55. 0	31. 21	022968		055084		
56. 0	29. 58	022879		055135		
57. 30				055063	49·5	
58. 0	27. 43	022835		055077		
7. 59. 0	25. 26	023168		055063		
8. 0. 0	25. 17					
2. 30		024385	48·5			
4. 0	25. 49	024784		055256		
5. 0	25. 35	024629		055256		
7. 0	25. 21	024607		055220		
8. 0	25. 1	024894		055249		
10. 0	23. 12	024385		055206		
11. 0	22. 56	024806		055206		
12. 0	22. 56	025038		055206		
13. 0	22. 6	025127		055242		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Feb. 24. 8. 14. 0	22. 21. 54	0·025304		0·055213		H B
15. 0	21. 28	025194		055206		
16. 0	21. 52	025592		055206		
17. 0	21. 54	025637		055256		
18. 0	22. 11	026101		055256		
19. 0	22. 22	026367		055256		
20. 0	22. 49	026433		055263		
21. 0	23. 20	026588		055277		
23. 0	24. 35	026854		055362		
24. 0	25. 4	026854		055362		
26. 0	25. 50	026832		055341		
27. 0	25. 50	026832		055348		
28. 0	26. 3	026832		055348		
31. 0	26. 42	026810		055242		
36. 0	28. 31	027296		055256		
38. 0	29. 38	027474		055220		
39. 0	30. 0	027695		055213		
40. 0	30. 42	027628		055263		
41. 0	31. 10	027584		055242		
42. 0	31. 37	027628		055206		
44. 0	32. 26	027684		055185		
45. 0	33. 25	027684		055206		
46. 0	33. 58	027684		055213		
47. 0	34. 37	027639		055185		
48. 0	35. 18	027661		055185		
49. 0	35. 55	027441		055185		
55. 0	38. 56	026090		055063		
56. 0	39. 9	025692		055063		
58. 0	39. 10	025692		055063		
8. 59. 0	39. 4	025404		055042		
9. 1. 0	38. 41	024850		055042		
2. 0	38. 23	024806		055028		
4. 0	37. 29	024784		054992		
7. 0	36. 50	025027		055028		
9. 0	36. 10	025293		054978		
12. 0	36. 49	025803		055035		
15. 0	38. 7	025957		055063		
17. 0	38. 50	025847		055056		
19. 0	39. 41	025714		054999		
21. 0	40. 7	025470		055013		
22. 0	40. 16	025249		054992		
24. 0	40. 16	025049		054992		
27. 0	39. 59	025027		054992		
30. 0	41. 22	024686		054985		
32. 0	38. 55	024597		054971		
35. 0	38. 30	024597		054971		
37. 0	38. 30	024597		054971		
40. 0	38. 30	024353		054957		
46. 0	37. 51	024154		054971		
51. 0	37. 51	024132		055006		
9. 57. 30				055028	49·5	

Extraordinary Observations of February 24 and 25, and of March 1.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Feb. 24. 10. 0. 0	22. 39. 12					H B
2. 30		0·024043	48·2			
Feb. 25. 2. 7. 30				0·055958	46·8	T D
10. 0	22. 53. 7	0·025748				
2. 12. 30			45·0			
3. 57. 30				055607	51·0	G H
4. 0. 0	44. 30					
2. 30		024217	49·0			
9. 0	43. 7	024891		055636		
11. 0	42. 45	025002		055636		
14. 0	43. 31	025555		055550		
21. 0	44. 37	026009		055528		
29. 0	45. 56	025798		055484		
34. 0	47. 19	026284		055484		
39. 0	48. 49	026240		055462		
4. 49. 0	51. 13	025587		055375		
5. 3. 0	51. 27	024491		055182		
6. 0	51. 0	024723		055203		
14. 0	50. 9	024723		055131		
27. 0	49. 32	025630		055065		
5. 57. 30				055106	52·0	
6. 0. 0	47. 35					
2. 30		024545	50·0			G H
Feb. 25. 21. 57. 30				0·055491	43·5	H B
22. 0. 0	22. 48. 37					
2. 30		0·023043	42·7			
19. 0	49. 33	022910		055619		
25. 0	48. 48	023109		055655		
22. 36. 0	49. 35	023231		055711		
23. 5. 0	52. 49	023608		055748		
14. 0	51. 52	023785		055762		
31. 0	51. 37	023940		055783		
39. 0	54. 16	023807		055783		
23. 57. 30				055833	43·5	
26. 0. 0. 0	55. 22					
2. 30		023488	42·5			
14. 0	53. 9	023498		055795		
0. 24. 0	52. 15	024172		055802		
1. 47. 30				055929	43·9	
50. 0	52. 39					
52. 30		025644				
1. 57. 30				055929		
2. 0. 0	53. 48					
2. 30		025710	43·5			
7. 30				055894		
10. 0	52. 53					
12. 30		025644				
Mar. 1. 2. 10. 0	22. 58. 2					H B
Mar. 1. 3. 57. 30				0·056938	42·0	H B
4. 0. 0	23. 4. 35					
2. 30		0·027949	41·7			
7. 0	1. 48	027361		056785		
8. 0	2. 5	027317		056771		
10. 0	2. 32	027782		056870		
12. 0	1. 27	027459		056849		
13. 0	1. 36	027602		056875		
16. 0	2. 48	028709		056983		
17. 0	3. 19	028819		057043		
18. 0	3. 47	028775		057029		
19. 0	3. 22	028863		057022		
23. 0	3. 22	028709		057022		
27. 0	5. 19	029616		057143		
28. 0	5. 40	029462		057183		
29. 0	5. 18	029152		057183		
30. 0	5. 13	029095		057183		
31. 0	4. 20	028807		057162		
32. 0	3. 41	028719		057194		
33. 0	3. 37	028851		057035		
34. 0	3. 8	028674		057243		
35. 0	2. 36	028705		057236		
36. 0	3. 17	028794		057300		
37. 0	3. 17	028661		057372		
38. 0	3. 7	028794		057379		
41. 0	1. 25	027997		057436		
42. 0	1. 17	028339		057443		
43. 0	0. 42	028649		057491		
45. 0	0. 59	029114		057533		
47. 0	23. 0. 45	028472		057512		
50. 0	22. 58. 56	028858		057359		
51. 0	55. 48	028858		057181		
57. 0	54. 41	028823		057581		
4. 59. 0	54. 41	028712		057626		
5. 1. 0	54. 31	029177		057647		
2. 0	55. 27	029731		057762		
4. 0	54. 17	028855		057716		
6. 0	53. 18	028368		057659		
9. 0	50. 34	027859		057702		
11. 0	50. 13	028257		057716		
12. 0	50. 29	028200		057699		
13. 0	50. 25	028600		057613		
15. 0	52. 8	028777		057713		
17. 0	53. 35	029397		057784		
18. 0	54. 18	029052		057699		
19. 0	54. 32	029052		057699		
21. 0	55. 24	028697		057639		
22. 0	56. 38	028719		057739		
23. 0	57. 13	027609		057682		
25. 0	57. 49	028286		057682		
26. 0	57. 8	027622		057753		

Feb. 25d. A change of 8′. 37″ having taken place in the position of the Declination Magnet between 2h. 10m and 4h, extra observations were commenced.

March 1d. A change of 6′. 33″ having taken place in the position of the Declination Magnet between 2h. 10m and 4h, extra observations were commenced.

Extraordinary Observations of March 1.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Mar. 1. 5. 27. 0	22. 55. 23	0·027467		0·057611		H B
28. 0	54. 20	027291		057594		
29. 0	53. 25	027379		057650		
30. 0	52. 19	027622		057700		
31. 0	51. 42	027733		057700		
33. 0	53. 5	026636		057750		
34. 0	54. 17	028938		057785		
35. 0	55. 26	028872		057785		
36. 0	55. 47	028806		057750		
39. 0	56. 31	028474		057750		
40. 0	56. 31	028761		057757		
42. 0	57. 8	028960		057764		
43. 0	58. 19	029369		057804		
44. 0	22. 59. 27	029480		057804		
47. 0	23. 0. 55	028771		057790		
48. 0	1. 14	028506		057808		
49. 0	1. 2	028404		057787		
50. 0	23. 1. 2	028315		057773		
54. 30	22. 59. 18	027097		057631		
55. 30	58. 13	027053		057609		
56. 0	57. 29	027063		057627		
5. 57. 30				057613	43·5	
6. 0. 0	58. 9					
2. 30		027683	43·3			
5. 30	59. 33	027450		057639		
7. 0	59. 33	027228		057611		
8. 0	59. 4	026631		057582		
10. 0		027117		057597		
12. 0	56. 40	027305		057632		
13. 0	56. 54	027526		057657		
15. 0	57. 0	027482		057657		
17. 30	56. 30	027548		057650		
21. 0	56. 14	027748		057615		
24. 0	55. 57	027902		057598		
25. 0	57. 53	027579		057598		
28. 0	57. 41	027391		057562		
30. 0	57. 48	027501		057547		
34. 0	57. 46	027611		057580		
40. 0	56. 27	027931		057830		
44. 0	56. 27	028219		057969		
48. 0	58. 32	027777		058083		
51. 0	55. 29	027056		058083		
52. 0	55. 17	026968		058083		
53. 0	54. 37	026834		058124		
54. 0	54. 26	026834		058117		
55. 0	53. 43	026635		058117		
56. 0	53. 14	026635		058095		
57. 0	52. 8	026667		058095		
58. 0	51. 22	026756		058046		
6. 59. 0	51. 16	026844		058010		
7. 3. 0	51. 54	026136		057903		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Mar. 1. 7. 5. 0	22. 52. 48	0·026167		0·057867		H B
8. 0	53. 56	025746		057743		
10. 0	53. 49	025038		057658		
13. 0	53. 6	024583		057600		
14. 0	53. 13	024716		057636		
16. 0	53. 57	024649		057650		
19. 0	52. 31	024296		057621		
20. 0	51. 23	024362		057677		
22. 0	51. 14	024372		057762		
24. 0	51. 7	024239		057769		
26. 0	51. 50	024284		057812		
27. 0	52. 1	024227		057851		
31. 0	51. 1	023253		057936		
32. 0	50. 54	023076		057936		
33. 0	50. 43	023054		057958		
34. 0	50. 16	022876		057936		
35. 0	49. 47	022876		057943		
36. 30	49. 20	022886		057922		
38. 0	49. 38	022864		057929		
44. 0	51. 0	024082		058172		
45. 0	52. 6	024237		058240		
46. 0	53. 28	023971		058205		
47. 0	54. 10	023750		058183		
48. 0	53. 16	023572		058155		
49. 0	52. 29	023716		058169		
50. 0	51. 53	024092		058219		
51. 0	51. 41	024535		058290		
52. 0	50. 29	025796		058368		
53. 0	51. 53	026903		058490		
54. 0	22. 56. 2	027458		058525		
55. 0	23. 0. 54	027590		058511		
56. 0	4. 35	027223		058426		
57. 0	7. 32	026361		058408		
57. 30				058509	44·6	
58. 0	8. 36	025718		058387		
7. 59. 0	8. 44	025098		058437		
8. 0. 0	7. 59	02611				
2. 30	6. 40	023991	44·7	058459		
5. 0	2. 58	023814		058741		
6. 0	23. 1. 15	024257		058783		
8. 0	22. 58. 57	025064		058834		
10. 0	22. 58. 35	025816		058834		
12. 0	23. 0. 42	026038		058698		
13. 0	1. 58	025883		058604		
14. 0	2. 53	025507		058547		
16. 30	6. 6	025441		058425		
18. 0	9. 56	024665		058322		
19. 0	12. 13	023568		058195		
20. 0	12. 43	022284		058073		
20. 30	12. 43	021841		058073		
21. 0	12. 23	021398		058073		

Extraordinary Observations of March 1.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Mar. 1. 8. 22. 0	23. 11. 50	0·020690		0·058108		H B
22. 30		020425		058173		
23. 0	10. 39	020247		058216		
23. 30	9. 36	019916		058280		
24. 30	7. 24	019539		058436		
25. 0	6. 13	019473		058515		
25. 30	4. 51	019340		058586		
26. 30	23. 2. 37	019406		058764		
28. 0	22. 58. 59	019627		059034		
29. 0	56. 43	019982		059213		
30. 0	54. 48	020247		059358		
31. 0	53. 0	020291		059445		
32. 0	51. 2	020403		059495		
33. 0	48. 53	020447		059499		
34. 0	46. 44	020801		059514		
35. 0	45. 22	021310		059457		
36. 0	44. 30	021841		059372		
37. 0	44. 15	022284		059343		
38. 0	44. 26	022838		059315		
39. 0	45. 16	023170		059243		
40. 0	45. 54	023391		059193		
41. 0	47. 7	023524		059108		
42. 0	47. 58	023445		059037		
43. 0	48. 55	023335		059020		
44. 0	49. 19	023190		058999		
46. 0	49. 19	022814		058999		
47. 30	48. 40	022747		058999		
49. 30	47. 10	022459		059004		
51. 0	45. 43	022592		058947		
52. 0	45. 0	022902		058947		
53. 0	44. 19	023035		058947		
54. 30	44. 16	023444		058896		
56. 0	44. 35	023577		058825		
8. 59. 0	44. 58	023821		058702		
9. 1. 30	45. 29	023799		058610		
3. 0	46. 51	023865		058596		
5. 0	46. 55	023444		058557		
9. 0	45. 49	023498		058557		
11. 0	45. 42	023787		058557		
13. 0	45. 11	024096		058541		
15. 0	46. 45	024385		058505		
16. 0	47. 31	024318		058455		
18. 0	48. 54	024096		058335		
19. 0	49. 50	023986		058297		
20. 0	50. 39	023875		058253		
21. 0	51. 11	023454		058168		
22. 0	51. 6	022945		058111		
24. 0	49. 56	022357		058026		
25. 0	48. 52	022158		057933		
26. 0	47. 54	022114		057883		
30. 0	44. 13	021848		057746		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Mar. 1. 9. 31. 0	22. 43. 26	0·021870		0·057725		H B
32. 0	42. 32	021892		057689		
33. 0	41. 43	022004		057708		
34. 0	41. 14	022136		057694		
35. 0	40. 54	022269		057687		
36. 0	40. 30	022402		057637		
37. 0	40. 12	022412		057637		
38. 0	40. 12	022522		057637		
39. 0	39. 46	022522		057637		
41. 0	39. 9	022677		057637		
42. 0	38. 52	022855		057637		
43. 30	39. 4	022987		057656		
45. 0	39. 17	023121		057656		
47. 0	39. 38	023143		057620		
48. 0	40. 4	023121		057596		
55. 30	41. 28	022577		057297		
57. 30	41. 50	022555		057281	46·2	
9. 58. 30	42. 7	022489		057253		
10. 0. 0	42. 34					
2. 30		022467	45·6			
6. 0	39. 34	021869		057286		
7. 0	38. 2	021946		057358		
8. 0	37. 3	021835		057408		
9. 0	34. 12	021768		057479		
10. 0	32. 17	021702		057521		
12. 0	27. 50	022831		057479		
13. 30	27. 41	023164		057443		
15. 0	27. 1	023584		057336		
16. 0	26. 34	023717		057286		
17. 0	26. 12	024093		057215		
18. 0	26. 59	024337		057180		
19. 0	27. 11	024536		057094		
20. 0	28. 4	024913		057073		
21. 0	29. 20	024801		057073		
22. 30	31. 44	025167		057002		
24. 0	33. 20	024946		056999		
25. 0	34. 47	024924		056963		
26. 0	36. 10	024437		056956		
27. 0	37. 22	024348		056935		
31. 0	41. 37	023661		056892		
33. 0	43. 52	023175		056878		
34. 30	45. 32	023108		056878		
36. 0	47. 34	022997		056892		
37. 0	48. 36	022608		056947		
38. 0	49. 27	022321		056954		
39. 0	50. 3	021723		056961		
40. 0	49. 3	021170		056961		
41. 0	47. 54	020904		056968		
42. 0	47. 10	020682		057004		
43. 0	46. 15	020406		056982		
44. 0	45. 7	020439		056982		

March $1^d.10^h.28^m$. The sky along the N. horizon is nearly free from cloud; there is a strong diffused light, but whether it arises from the reflection of the Moon's light or from an aurora, it is impossible to say.

Extraordinary Observations of March 1, 4, 5, 8, and 9..

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Mar. 1. 10. 45. 0	22. 44. 44	0·020394		0·056982		H B
48. 30	43. 40	020506		056968		
50. 0	43. 30	020528		056987		
55. 0	42. 23	020948		056930		
10. 59. 0	41. 39	021578		056937		
11. 2. 0	41. 55	022176		056930		
6. 0	43. 24	022961		056866		
9. 0	43. 51	023205		056815		
12. 0	45. 13	023514		056794		
14. 0	45. 59	023536		056723		
17. 0	46. 48	023514		056658		
18. 0	46. 54	023293		056616		
20. 0	47. 6	023205		056580		
23. 0	46. 38	022961		056478		
26. 0	45. 30	022961		056436		
29. 0	44. 37	022773		056386		
31. 0	44. 1	022706		056372		
33. 0	43. 27	022861		056335		
35. 0	42. 48	022883		056307		
37. 0	42. 14	022883		056269		
39. 30	41. 43	022883		056241		H B
11. 57. 30				056082	47·0	L
12. 0. 0	39. 43					
2. 30		023491	46·3			L
Mar. 4. 11. 57. 30				0·055044	48·5	H B
12. 0. 0	22. 31. 23					
2. 30		0·026060	47·8			
7. 0	33. 8	025706		054987		
9. 0	33. 38	025485		054937		
12. 0	34. 36	025462		054937		
14. 0	34. 54	025019		054923		
17. 0	35. 14	024688		054901		
19. 0	35. 14	024422		054886		
21. 0	35. 14	024378		054886		
23. 0	35. 14	024355		054886		
39. 0	39. 34	024422		054974		
41. 0	40. 1	024489		055009		
43. 0	40. 13	024533		055009		
47. 0	40. 53	024732		055009		
50. 30	41. 6	024754		055009		
53. 0	41. 29	024732		055009		
12. 56. 0	41. 47	024710		055009		
13. 5. 0	42. 25	024919		055009		
13. 57. 30				054968	48·3	
14. 0. 0	39. 51					
2. 30		024499	47·9			
Mar. 5. 6. 0. 0	22. 48. 16			0·055231	48·3	H B
7. 57. 30						
8. 0. 0	39. 0					

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Mar. 5. 8. 2. 30		0·028016	48·3			H B
4. 0	22. 40. 17	027617		0·055202		
6. 0	40. 51	027728		055222		
9. 0	41. 30	027562		055215		
12. 0	42. 21	027363		055201		
15. 0	42. 54	027075		055201		
19. 0	43. 5	026876		055180		
22. 0	43. 20	026632		055171		
25. 0	43. 14	026522		055150		
29. 0	43. 9	026577		055150		
8. 34. 0	43. 9	026577		055115		
9. 57. 30				055107	49·0	
10. 0. 0	46. 1					
2. 30		025945	48·6			H B
Mar. 8. 5. 57. 30				0·055807	49·3	G H
6. 0. 0	22. 47. 35					
6. 2. 30		0·029088	49·0			
7. 57. 30				055284	52·0	
8. 0. 0	46. 55					
2. 30		028971	51·0			
25. 0	36. 17	026005		055040		
26. 0	34. 53	026116		055040		
27. 0	33. 54	026270		055040		
28. 0	33. 4	026669		055040		
30. 0	33. 26	027455		055132		
32. 0	34. 38	028119		055168		
33. 0	35. 26	028340		055203		
34. 0	36. 20	028451		055203		
35. 0	37. 5	028562		055203		
36. 0	37. 42	028562		055203		
37. 0	38. 10	028451		055203		
39. 0	38. 53	028230		055203		
42. 0	39. 29	028008		055132		
45. 0	39. 8	027576		055118		
47. 0	38. 33	027399		055082		
48. 0	37. 52	027355		055082		
51. 0	37. 11	027576		055082		
54. 0	36. 39	028030		055088		
56. 0	36. 35	028362		055067		
8. 58. 0	37. 5	028694		055067		
9. 0. 0	37. 52	028960		055067		
1. 0	38. 17	029137		055074		
3. 0	38. 45	029137		055066		
6. 0	38. 50	029148		055016		
9. 0	39. 15	028927		054980		
13. 0	37. 49	028263		054881		
15. 0	35. 57	028152		054838		
16. 0	35. 8	028208		054803		
17. 0	34. 23	028450		054803		
19. 0	33. 34	028827		054794		

March 5^{d}. A change of 9′. 16″ having taken place in the position of the Declination Magnet between 6^{h} and 8^{h}, extra observations were commenced.

March 8^{d}. 8^{h}. 25^{m}. Considerable changes having taken place in the positions of the Declination and Horizontal Force Magnets, extra observations were commenced.

Extraordinary Observations of March 8, 18, and 19.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Mar. 8. 9. 21. 0	22. 33. 24	0·029048		0·054787		G H
23. 0	33. 38	029270		054787		
27. 0	34. 38	029602		054787		
29. 0	35. 25	029613		054808		
31. 0	36. 18	029503		054898		
34. 0	36. 50	029125		054780		
37. 0	37. 48	028683		054723		
39. 0	38. 15	028285		054679		
44. 0	37. 14	026967		054579		
46. 0	36. 2	026746		054557		
49. 0	34. 44	026746		054543		
56. 0	38. 8	027310		054635		
9. 57. 30				054635	53·0	
10. 0. 0	38. 52					
2. 30		026425	52·0			
7. 0	38. 9	025882		054620		
10. 0	37. 17	025639		054584		
13. 0	36. 53	026005		054605		
15. 0	37. 41	026337		054641		
17. 0	38. 51	026613		054648		
19. 0	40. 21	026613		054648		
23. 0	41. 48	026016		054619		
29. 0	41. 1	025695		054626		
34. 0	40. 35	025927		054612		
39. 0	40. 9	025816		054569		
46. 0	41. 34	026116		054590		
49. 0	41. 34	026061		054576		
10. 59. 0	42. 3	025740		054597		G H
11. 57. 30				054474	54·0	T D
12. 0. 0	40. 31					
2. 30		028254	53·5			
Mar. 18. 23. 57. 30				0·054046	54·0	T D
19. 0. 0. 0	22. 55. 45					
0. 2. 30		0·022267	54·0			
1. 47. 30				054840		
50. 0	23. 5. 1					
52. 30		022975				
1. 57. 30				054854	59·0	
2. 0. 0	4. 30					
2. 30		023152	58·5			
7. 30				054854		
10. 0	23. 5. 13					
2. 12. 30		023086				T D
3. 57. 30				056917	64·0	G H
4. 0. 0	22. 59. 47					
2. 30		028079	59·5			
7. 0	44. 38	028777		057891		
8. 0	43. 38	029198		057891		
9. 0	41. 32	029994		057941		
10. 0	42. 19	030858		057962		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Mar. 19. 4. 11. 0	22. 42. 0	0·031633		0·057891		G H
12. 0	42. 33	031744		057819		
13. 0	43. 42	031633		057748		
14. 0	46. 30	032740		057677		
15. 0	50. 41	032851		057499		
16. 0	50. 54	032961		057392		
17. 0	52. 39	033072		057250		
18. 0	54. 16	032961		057107		
19. 0	56. 16	032851		057072		
20. 0	57. 11	032187		056965		
21. 0	56. 37	031633		056751		
22. 0	57. 24	031522		056716		
23. 0	58. 26	031478		056680		
24. 0	58. 46	030969		056645		
25. 0	58. 54	030083		056510		
26. 0	59. 3	029862		056431		
27. 0	59. 5	029640		056395		
28. 0	58. 16	029419		056395		
29. 0	58. 46	029432		036372		
30. 0	58. 51	028989		056301		
31. 0	58. 21	028104		056266		
33. 0	57. 19	027108		056230		
34. 0	55. 44	026997		056230		
35. 0	54. 32	026775		056230		
37. 0	56. 20	027882		056372		
38. 0	58. 30	027705		056515		
47. 0	54. 30	026554		056764		
49. 0	52. 5	026332		056813		
50. 0	50. 13	026332		056813		
51. 0	48. 48	026332		056813		
54. 0	47. 23	026775		056848		
55. 0	46. 2	026610		056791		
57. 0	44. 13	026743		056691		
4. 59. 0	43. 54	027009		056634		
5. 2. 0	45. 14	027274		057563		
3. 0	45. 58	026920		056462		
9. 0	46. 20	026831		056457		
14. 0	49. 38	026522		056433		
19. 0	49. 6	025791		056440		
24. 0	44. 52	024573		056468		
26. 0	43. 26	024795		056454		
29. 0	43. 54	025472		056454		
32. 0	47. 46	025915		056397		
35. 0	50. 21	025139		056575		
44. 0	48. 53	022827		055946		
46. 0	45. 20	022650		055946		
47. 0	44. 20	022827		055911		
49. 0	44. 23	023934		055946		
53. 0	50. 29	025041		056018		
54. 0	51. 38	024864		056018		
55. 0	51. 40	024598		055946		

March 19d. A change of 9′. 16″ having taken place in the position of the Declination Magnet between 0h and 1h. 50m, extra observations were commenced.

Extraordinary Observations of March 19.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Mar. 19. 5. 57. 30	22. 51. 47	0·023713		0·055946	63·5	G H
6. 0. 0	53. 28	023713		055875		
2. 30	54. 28	023713	60·0	055875		
5. 0	54. 33	022827		055852		
8. 0	52. 14	022938		055852		
14. 0	54. 24	023725		055877		
19. 0	55. 46	023725		055877		
24. 0	57. 2	023282		055877		
6. 29. 0	56. 55	023295		055853		
7. 57. 30				056171	62·0	
8. 0. 0	50. 59					
2. 30		018904	60·5			
4. 0	50. 12	018882		056029		
14. 0	50. 12	019069		056171		
27. 0	48. 26	017785		055744		
28. 0	46. 56	017607		055851		
29. 0	44. 56	018214		055957		
30. 0	43. 15	018436		056100		
31. 0	43. 7	018857		056242		
33. 0	42. 5	018879		056456		
34. 0	40. 37	019322		056584		
35. 0	37. 48	019322		056598		
36. 0	32. 54	019233		056456		
37. 0	30. 44	019211		056171		
38. 0	29. 46	019587		055815		
39. 0	29. 11	018657		055459		
40. 0	27. 39	017772		055245		
41. 0	22. 22. 1	016332		055068		
54. 0	21. 52. 57	023959		054177		
56. 0	57. 19	025176		054035		
57. 0	21. 58. 49	025509		054035		
58. 0	22. 0. 17	026394		054035		
8. 59. 0	2. 19	027170		054035		
9. 0. 0	6. 42	027280		054021		
1. 0	8. 42	027944		053893		
2. 0	13. 40	028166		053950		
3. 0	18. 53	028166		053893		
4. 0	22. 53	027900		053950		
5. 0	4. 29	027059		053679		
9. 0	43. 57	021922		053893		
10. 0	39. 16	021855		053821		
11. 0	35. 55	022188		053893		
12. 0	33. 40	022830		053893		
13. 0	31. 33	023703		053929		
14. 0	33. 54	025141		053907		
15. 0	36. 15	025828		053929		
16. 0	40. 51	027378		053907		
17. 0	45. 12	027090		053893		
18. 0	50. 8	026846		053893		
19. 0	54. 3	025939		053715		
20. 0	58. 5	023725		052896		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Mar. 19. 9. 21. 0	22. 58. 19	0·022175		0·052682		G H
22. 0	57. 1	020802		052611		
23. 0	54. 57	019783		052576		
24. 0	52. 57	019075		052611		
25. 0	49. 52	019075		052682		
26. 0	45. 14	019075		052753		
27. 0	41. 44	019850		052825		
28. 0	40. 14	020846		052967		
29. 0	40. 6	021997		052967		
30. 0	41. 31	022839		052953		
31. 0	45. 30	023503		052910		
32. 0	48. 37	023503		052896		
33. 0	53. 31	023016		052753		
34. 0	57. 54	021953		052668		
35. 0	58. 44	020160		052654		
36. 0	58. 21	019297		052682		
37. 0	52. 24	018632		052753		
38. 0	49. 56	018676		052825		
39. 0	48. 29	019053		052825		
40. 0	47. 51	019075		052753		
41. 0	46. 54	019474		052753		
42. 0	47. 41	019850		052739		
43. 0	48. 34	020404		052753		
44. 0	49. 21	020303		052811		
45. 0	49. 49	020613		052753		
46. 0	50. 13	020392		052789		
47. 0	49. 37	019506		052825		
48. 0	49. 46	019816		052718		
49. 0	49. 35	019462		052611		
9. 57. 30				052825	62·0	
10. 0. 0	43. 48					
2. 30		018509	60·0			
4. 0	41. 56	019241		053109		
5. 0	42. 0	019462		053181		
6. 0	50. 27	019494		052967		
7. 0	43. 21	019715		053015		
8. 0	44. 3	019516		053086		
9. 0	44. 50	019384		052944		
10. 0	44. 50	019273		052980		
11. 0	44. 42	019051		053015		
12. 0	44. 37	018830		053015		
13. 0	43. 52	018608		053015		
17. 0	42. 18	018830		053086		
19. 0	42. 18	018740		053063		
25. 0	40. 15	018431		053206		
27. 0	38. 59	018608		053219		
30. 0	37. 55	018817		053325		
35. 0	36. 57	018817		053325		
39. 0	37. 17	019481		053325		
44. 0	38. 50	019304		053302		
49. 0	37. 35	019304		053302		

Extraordinary Observations of March 19.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Mar. 19. 10. 54. 0	22. 38. 9	0·019260		0·053231		G H
10. 59. 0	39. 24	018916		053280		
11. 4. 0	39. 35	018472		053316		
14. 0	39. 12	018349		053328		
24. 0						G H
11. 57. 30				052953	61·0	T D
12. 0. 0	41. 54					
12. 2. 30		019887	59·5			
13. 57. 30				052746	59·0	
14. 0. 0	36. 38					
14. 2. 30		020191	58·0			
15. 57. 30				048155	58·0	
16. 0. 0	56. 4					
2. 0	56. 4	019186		048155		
2. 30		019186	57·0			
4. 0	57. 18	019186		048155		
6. 0	54. 28	018963		048133		
8. 0	53. 26	018631		048090		
10. 0	53. 26	018476		048041		
12. 0	53. 4	018476		048041		
14. 0	53. 15	018320		047919		
16. 0	53. 23	017922		047919		
18. 0	22. 56. 20	017357		047897		
20. 0	23. 0. 20	016250		047897		
22. 0	23. 3. 20	018242		048289		
24. 0	22. 52. 52	018242		048325		
25. 0	50. 3	018242		048325		
26. 0	48. 31	018242		048232		
27. 0	45. 35	018242		048182		
28. 0	41. 43	018131		048132		
29. 0	41. 14	018009		048110		
30. 0	40. 51	018009		048089		
31. 0	39. 23	018009		048089		
32. 0	36. 42	017610		047983		
33. 0	35. 5	017345		047925		
34. 0	33. 32	016725		047875		
35. 0	31. 16	016681		047854		
36. 0	20. 12	016459		047875		
37. 0	21. 31	016459		047983		
38. 0	22. 4	016348		048032		
39. 0	22. 42	016238		048089		
40. 0	24. 13	016016		048089		
41. 0	24. 49	015241		048089		
42. 0	27. 15	014511		048139		
43. 0	30. 33	013945		048152		
44. 0	29. 38	013126		048209		
45. 0	36. 39	013126		048209		
46. 0	36. 50	013280		048259		
47. 0	37. 24	013414		048281		
48. 0	37. 12	013458		048352		
49. 0	39. 26	013569		048366		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Mar. 19. 16. 50. 0	22. 40. 35	0·013569		0·048366		T D
51. 0	42. 37	013569		048281		
52. 0	48. 49	013569		048366		
53. 0	49. 35	013370		048174		
54. 0	53. 25	007791		048046		
56. 0	55. 25	009230		048082		
57. 0	56. 40	009562		048188		
58. 0	56. 6	009009		047940		
16. 59. 0	55. 22	007569		047619		
17. 0. 0	54. 34	007348		047490		
1. 0	54. 31	007348		047192		
2. 0	54. 22	007238		047099		
3. 0	54. 12	007127		046978		
4. 0	54. 12	006949		046921		
5. 0	53. 54	006351		046480		
6. 0	53. 25	005798		046444		
7. 0	52. 58	005122		046747		
8. 0	51. 40	004015		046266		
9. 0	54. 25	003793		046337		
10. 0	53. 26	004125		046672		
11. 0	52. 38	004613		046764		
12. 0	52. 15	005122		046921		
13. 0	51. 35	005343		047085		
14. 0	51. 14	005941		047148		
15. 0	50. 34	006893		047277		
16. 0	49. 49	007545		047454		
17. 0	48. 38	008209		047597		
18. 0	48. 22	009759		047682		
19. 0	47. 38	010645		047874		
20. 0	47. 38	010977		047931		
21. 0	47. 5	011530		047931		
22. 0	47. 3	012195		048059		
23. 0	47. 13	012747		048087		
24. 0	47. 20	012859		048144		
25. 0	47. 21	013080		048144		
26. 0	46. 48	013368		048287		
27. 0	45. 50	013699		048337		
28. 0	44. 29	013966		048386		
29. 0	43. 29	014064		048407		
30. 0	43. 24	014397		048457		
31. 0	42. 55	014662		048586		
32. 0	42. 31	014950		048692		
33. 0	41. 51	015282		048834		
34. 0	41. 18	015437		049013		
35. 0	40. 32	015548		049084		
36. 0	40. 16	015725		049119		
37. 0	39. 52	015769		049190		
39. 0	39. 47	016266		049404		
41. 0	40. 26	016775		049582		
43. 0	44. 6	016930		049703		
45. 0	44. 37	017041		049902		

Extraordinary Observations of March 19 and 20, and of April 3.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Mar. 19. 17. 47. 0	22. 45. 7	0·017196		0·050116		T D
49. 0	45. 35	017373		050401		
51. 0	44. 35	017373		050935		
53. 0	45. 44	017373		051091		
55. 0	45. 47	017472		051212		
56. 0	45. 52	017472		051283		
17. 57. 30				051355	57·0	
18. 0. 0	45. 29					
2. 30		017473	56·5			
4. 0	45. 49	017582		051391		
6. 0	45. 47	017693		051426		
18. 11. 0	45. 40	017694		051426		
19. 57. 30				052045	57·0	
20. 0. 0	43. 25					
2. 30		019355	56·0			
Mar. 20. 9. 57. 30				0·053651	58·0	T D
10. 0. 0	22. 45. 41					
10. 2. 30		0·023791	57·0			T D
11. 57. 30				052593	56·8	L
12. 0. 0	34. 50					
2. 30		026373	56·0			
4. 0	36. 42	026416		052693		
7. 0	38. 8	026294		052671		
9. 0	39. 36	026073		052742		
10. 0	39. 44	026073		052742		
11. 0	40. 21	026171		052720		
12. 0	40. 45	026006		052698		
13. 0	41. 20	025828		052698		
14. 0	41. 35	025984		052712		
15. 0	42. 4	025939		052698		
16. 0	42. 40	025695		052712		
17. 0	42. 47	025541		052691		
18. 0	42. 57	025253		052691		
19. 0	42. 51	025142		052691		
20. 0	42. 57	025032		052698		
21. 0	42. 57	024853		052676		
22. 0	42. 50	024586		052676		
23. 0	42. 39	024421		052655		
24. 0	42. 23	024022		052634		
25. 0	42. 7	023712		052634		
26. 0	41. 49	023358		052634		
27. 0	41. 19	023036		052613		
28. 0	41. 1	023125		052613		
29. 0	40. 51	023014		052613		
30. 0	40. 51	022903		052613		
31. 0	40. 28	022715		052592		
32. 0	40. 33	022570		052584		
33. 0	40. 8	022536		052563		
34. 0	39. 50	022469		052585		
35. 0	39. 35	022204		052570		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Mar. 20. 12. 36. 0	22. 34. 4	0·022204		0·052585		L
37. 0	38. 55	022469		052620		
38. 0	39. 6	022647		052691		
39. 0	38. 57	022868		052705		
40. 0	38. 57	022868		052727		
41. 0	38. 46	022691		052748		
42. 0	37. 49	022636		052740		
43. 0	37. 19	022592		052740		
44. 0	36. 58	022525		052740		
45. 0	36. 29	022580		052719		
46. 0	36. 12	022513		052762		
47. 0	36. 6					
49. 0	35. 54	022945		052841		
51. 0	36. 19	023144		052912		
52. 0	36. 35	023277		052948		
53. 0	36. 58	023498		052997		
54. 0	37. 13	023542		053054		
55. 0	37. 41	023764		053054		
56. 0	38. 5	023853		053075		
57. 0	38. 20	023929		053105		
58. 0	39. 0	023929		053105		
12. 59. 0	39. 21	023929		053133		
13. 0. 0	39. 42	023929		053148		
1. 0	39. 55	023917		053155		
2. 0	39. 8	023984		053155		
3. 0	40. 5	023984		053155		
4. 0	40. 12	023984		053155		
5. 0	40. 23	023917		053155		
6. 0	41. 10	023917		053155		
7. 0	41. 31	023917		053169		
8. 0	41. 38	023807		053226		
9. 0	41. 38	023796		053147		
10. 0	41. 45	023796		053169		
11. 0	41. 48	023862		053204		
13. 0	41. 48	023840		053204		L
Apr. 3. 3. 57. 30				0·056139	47·0	G H
4. 0. 0	22. 52. 42					
4. 2. 30		0·028877	47·0			
5. 57. 0				056441	48·0	
6. 0. 0	44. 17					
2. 30		024996	48·0			
10. 0	39. 57	025449		056638		
12. 0	38. 49	025460		056709		
15. 0	37. 11	026346		056780		
17. 0	35. 3	026312		056765		
20. 0	32. 12	026688		056729		
23. 0	31. 55	027042		056729		
25. 0	32. 13	027175		056729		
28. 0	33. 38	027252		056729		
30. 0	34. 50	027562		056765		

April 3d. A change of 8′. 25″ having taken place in the position of the Declination Magnet between 4h and 6h, extra observations were commenced.

Extraordinary Observations of April 3.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°		d h m s	° ′ ″		°		°	
Apr. 3. 6.32. 0	22.36. 5	0·027518		0·056765		G H	Apr. 3. 9.40. 0	22.28.29	0·025895		0·055291		G H
34. 0	37.29	027452		056765			42. 0	30. 4	025783		055254		
37. 0	38.46	027086		056743			44. 0	30.54	025407		055183		
40. 0	39.22	026643		056734			45. 0	30.38	025296		055169		
44. 0	39. 9	026609		056697			47. 0	30.31	025972		055183		
46. 0	38.12	026232		056661			48. 0	29.56	025750		055112		
48. 0	37.15	025713		056590			49. 0	29. 2	025972		055119		
50. 0	36. 6	025181		056554			50. 0	28.18	026193		055112		
51. 0	35. 5	025070		056560			51. 0	27.17	026436		055112		
53. 0	34.11	024893		056546			52. 0	26.52	027256		055132		
54. 0	33.59	024960		056539			53. 0	26.38	027699		055132		
56. 0	33.57	024970		056560			54. 0	27.17	028518		055132		
57. 0	34.27	025014		056574			55. 0	28. 2	028982		055132		
6.59. 0	35.46	024903		056574			9.57.30	29.41	029326		055081	51·0	
7. 4. 0	37.29	025091		056588			10. 0. 0	32.45	029924		054938		
9. 0	38.12	025313		056593			2.30	35. 7	029525	51·0	054796		
14. 0	39. 6	024925		056565			4. 0	37. 5	029115		054741		
19. 0	39.13	025213		056585			9. 0	43.31	028617		054719		
29. 0	37.46	024946		056562			11. 0	46. 6	027510		054562		
34. 0	36.55	025323		056491			14. 0	45.25	024422		054257		
44. 0	35·39	025057		056141			15. 0	42.53	024067		054186		
54. 0	34.59	024923		056262			16. 0	40. 1	023315		054123		
7.57.30	35. 5	024934		056238	49·0		17. 0	35.49	022740		054095		
8. 0. 0	35.37	024978		056211			18. 0	32. 8	027145		054095		
2.30	35.43	024491	49·5	056161			19. 0	28.34	023071		054095		
5. 0	35.55	024381		056195			20. 0	25.14	023714		054095		
10. 0	36. 9	024425		056143			21. 0	23. 3	023957		054166		
19. 0	36.48	024501		056091			22. 0	21.21	025285		054237		
24. 0	38. 6	024701		056111			23. 0	20.20	026226		054309		
29. 0	37.40	024756		056060			24. 0	20.54	027046		054380		
31. 0	37.31	024867		055989			25. 0	21.45	027710		054380		
38. 0	36.34	024435		055958			26. 0	23.25	028485		054416		
49. 0	37.27	024345		055907			27. 0	25.40	029038		054431		
8.54. 0	38.42	023902		055920			28. 0	27.25	029304		054431		
9. 2. 0	41.33	023957		055889			29. 0	29.54	029691		054502		
9. 0	42. 6	023747		055845			30. 0	32.42	030134		054502		
25. 0	39.30	023725		055458			31. 0	35.51	030466		054502		
26. 0	38. 4	023681		055458			32. 0	38.28	030345		054481		
27. 0	37. 3	023725		055458			33. 0	41.20	030167		054481		
28. 0	35.26	023769		055423			34. 0	43.14	030123		054481		
29. 0	34.35	023891		055421			35. 0	45. 0	029858		054481		
30. 0	33. 3	023847		055407			36. 0	46.57	029282		054424		
31. 0	32. 6	024001		055407			37. 0	49. 1	028806		054375		
32. 0	30.18	024001		055393			38. 0	50.15	028120		054339		
33. 0	28.58	024200		055357			39. 0	50.55	027345		054268		
34. 0	27.45	024422		055357			40. 0	51. 4	026348		054139		
35. 0	27.28	024665		055357			41. 0	50.19	025463		054125		
36. 0	27. 0	025175		055357			42. 0	49.25	024788		054034		
37. 0	26.47	025274		055377			43. 0	47.58	024478		054034		
38. 0	26.58	025628		055363			44. 0	46.26	024123		054034		
39. 0	27.38	025850		055312			45. 0	44.58	023946		054048		

April 3d. 9h. 55m. There is a bright light towards the N. W. horizon.

Extraordinary Observations of April 3, 6, and 7.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Apr. 3. 10. 46. 0	22. 43. 35	0·023902		0·054077		G H
47. 0	42. 16	023858		054071		
48. 0	40. 52	023902		054085		
49. 0	39. 47	023902		054057		
50. 0	38. 59	023725		054021		
51. 0	38. 35	023792		054014		
52. 0	38. 2	023714		054014		
53. 0	37. 56	023714		054014		
54. 0	37. 42	023670		054014		
55. 0	37. 30	023670		054014		
56. 0	37. 19	023660		053994		
57. 0	37. 6	023616		053980		
58. 0	36. 59	023660		053980		
10. 59. 0	36. 38	023549		053937		
11. 0. 0	36. 24	023438		053923		
1. 0	36. 24	023438		053930		
2. 0	36. 24	023438		053903		
4. 0	36. 7	023449		053903		
6. 0	35. 28	023527		053910		
8. 0	35. 22	023749		053953		
14. 0	37. 12	023627		053939		
19. 0	38. 42	023073		053896		
24. 0	38. 42	022509		053876		
29. 0	36. 17	021945		053856		G H
11. 57. 30				053853	49·5	T D
12. 0. 0	39. 15					
2. 30		021117	49·0			T D
Apr. 6. 13. 57. 30				0·054108	55·9	G H
14. 0. 0	22. 50. 49					
14. 2. 30		0·025770	55·0			
15. 57. 30				054016	55·8	
16. 0. 0	41. 48					
2. 30		025746	55·0			
9. 0	41. 21	025593		054030		
17. 0	41. 56	025382		054065		
24. 0	42. 4	025316		054044		
32. 0	41. 52	025326		054101		
39. 0	42. 2	025481		054093		
49. 0	42. 6	025293		054093		
16. 59. 0	42. 11	025293		054122		
17. 9. 0	42. 43	025404		054122		
17. 57. 30				054201	55·0	
18. 0. 0	43. 25					
2. 30		025668	54·5			G H
Apr. 7. 5. 57. 30				0·054074	56·8	G
6. 0. 0	22. 51. 30					
6. 2. 30		0·027823	57·1			G
7. 57. 30				054655	58·9	G H
8. 0. 0	39. 30					

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Apr. 7. 8. 2. 30		0·028382	58·0			G H
4. 0	22. 41. 35					
7. 0	42. 13	028129		0·054583		
9. 0	42. 27	027686		054469		
12. 0	42. 52	026912		054426		
14. 0	43. 5	027022		054441		
15. 0	43. 23	027221		054476		
20. 0	43. 44	026646		054405		
31. 0	42. 52	025374		054405		
35. 0	43. 36	025041		054441		
38. 0	44. 49	024333		054476		
40. 0	45. 1	024200		054476		
45. 0	45. 31	024134		054533		
52. 0	43. 10	023260		054583		
54. 0	42. 23	023526		054619		
8. 56. 0	41. 46	024057		054626		
9. 5. 0	43. 6	026271		054641		
7. 0	43. 41	026382		054641		
13. 0	44. 16	027480		054569		
22. 0	45. 13	027170		054463		
29. 0	44. 34	028387		054392		
38. 0	47. 56	029295		054285		
39. 0	48. 32	029042		054213		
40. 0	49. 3	028554		054142		
42. 0	49. 9	027514		054071		
45. 0	49. 9	025743		054143		
47. 0	47. 22	024636		053786		
48. 0	46. 53	024636		053965		
49. 0	46. 29	024237		053965		
9. 57. 30				054107	59·0	
10. 0. 0	39. 45					
10. 2. 30		024747	58·5			G H
11. 57. 30				052693	58·5	L
12. 0. 0	36. 14					
12. 2. 50		023204	58·2			
13. 57. 30				052430	57·3	
14. 0. 0	24. 29					
2. 30		020758	57·0			
8. 0	34. 7	020579		052345		
9. 0	34. 27	020070		052168		
10. 0	34. 38	020137		052203		
11. 0	34. 45	020247		052239		
12. 0	34. 45	020247		052239		
13. 0	34. 45	020247		052181		
14. 0	34. 45	020247		052181		
15. 0	34. 26	020247		052146		
16. 0	34. 19	020137		052096		
17. 0	34. 19	020247		052038		
18. 0	34. 8	019915		051967		
19. 0	33. 37	019583		051825		
20. 0	33. 7	019405		051754		

April 6d. A change of 9′. 1″ having taken place in the position of the Declination Magnet between 14h and 16h, extra observations were commenced.

April 7d. A change of 12′ having taken place in the position of the Declination Magnet between 6h and 8h, extra observations were commenced.

Extraordinary Observations of April 7 and 8.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Apr. 7. 14. 21. 0	22. 31. 54	0·018875		0·051611		L
38. 0		021696		051326		
39. 0		021232		051113		
40. 0		021342		051113		
41. 0		021563		051042		
42. 0		021452		050970		
43. 0		021741		050970		
44. 0		022117		050948		
45. 0		022006		050877		
56. 0		022836		051020		
14. 59. 0		022260		051020		
15. 0. 0		021994		050948		
1. 0		021994		050962		
2. 0		022260		050948		
3. 0		022393		050948		
4. 0		022548		050962		
5. 0		022702		051020		
6. 0	42. 54	023367		051020		
7. 0	42. 44	023765		050948		
8. 0	42. 44	023721		050948		
9. 0	42. 44	023632		050863		
10. 0	42. 26	023876		050749		
11. 0	42. 26	023765		050700		
12. 0	42. 8	023765		050664		
13. 0	42. 8	023943		050592		
14. 0	42. 27	023975		050592		
15. 0	43. 35	023975		050592		
16. 0	44. 14	023931		050592		
17. 0	45. 9	023797		050592		
18. 0	45. 37	023532		050521		
19. 0	45. 54	022978		050450		
20. 0	45. 11	022248		050344		
21. 0	44. 14	022315		050344		
22. 0	43. 43	022381		050379		
23. 0	43. 19	022425		050379		
33. 0	38. 58	020322		050109		
15. 57. 30				049646	57·0	
16. 0. 0	35. 8					
2. 30		017200	56·5			
9. 0	36. 47	016868		049624		
10. 0	36. 58	018316		049695		
11. 0	37. 17	018627		049695		
12. 0	37. 26	018738		049695		
16. 47. 0	39. 51	025491		050435		
17. 57. 30				051004	56·2	
18. 0. 0	58. 55					
2. 30		021434	55·8			
9. 0	49. 12	020438		051039		
13. 0	48. 39	019663		051110		
14. 0	49. 8	019553		051182		
15. 0	49. 59	019663		051253		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Apr. 7. 18. 16. 0	22. 51. 9	0·019619		0·051360		L
17. 0	52. 54	019553		051466		
18. 0	54. 9	019376		051466		
18. 30	55. 21	019220		051466		
19. 0	56. 2	019220		051538		
20. 0	55. 48	019442		051609		
21. 0	55. 51	019176		051609		
22. 0	55. 43	019442		051566		
23. 0	55. 32	019553		051538		
24. 0	55. 0	019486		051538		
25. 0	54. 27	019442		051566		
26. 0	53. 21	019220		051538		
27. 0	52. 14	019220		051538		
28. 0	51. 52	019220		051538		
18. 29. 0	50. 44	019209		051516		
19. 26. 0	45. 34	020981		051423		
19. 57. 30				052491	56·0	
20. 0. 0	58. 35					
2. 30		017106	55·7			
14. 0	53. 24	017881		053082		
24. 0	55. 46	018102		053246		
32. 0	54. 4	017991		053246		
20. 52. 0	46. 39	017614		053339		L
21. 57. 30				054066	56·7	T D
22. 0. 0	58. 57					
2. 30		020794	56·0			
Apr. 8. 13. 57. 30				0·053493	57·5	T D
14. 0. 0	22. 48. 34					
14. 2. 30		0·024234	57·0			
15. 57. 30				053161	55·8	
16. 0. 0	37. 43					
2. 30		026690	55·3			
3. 0	37. 42	026690		053161		
5. 0	37. 16	026125		053225		
7. 0	37. 15	026015		053282		
9. 0	36. 53	026015		053261		
11. 0	37. 24	026015		053261		
13. 0	37. 56	026667		053261		
15. 0	38. 57	026822		053261		
17. 0	39. 30	026999		053239		
19. 0	38. 11	027110		053289		
21. 0	38. 11	027221		053324		
23. 0	39. 14	027542		053396		
25. 0	40. 4	027586		053396		
27. 0	40. 26	027697		053481		
29. 0	40. 47	027807		053481		
31. 0	42. 20	027751		053553		
33. 0	42. 42	027751		053567		
35. 0	42. 42	027574		053567		
37. 0	41. 20	027308		053567		

DECLINATION MAGNET.

April 7d. After 14h. 21m the observer shifted the point of suspension, and for some time afterwards he was unable to observe this magnet.

April 8d. 16h. Considerable changes having taken place in the positions of the Declination and Horizontal Force Magnets, extra observations were commenced.

Extraordinary Observations of April 8, 16, 19, and 20.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Apr. 8. 16. 39. 0	22. 40. 45	0·027230		0·053546		T D
41. 0	39. 45	027186		053546		
43. 0	38. 55	027031		053525		
45. 0	39. 53	026853		053561		
47. 0	40. 23	026809		053596		
49. 0	38. 19	026687		053639		
51. 0	37. 57	026555		053653		
53. 0	37. 57	026388		053631		
16. 57. 0	37. 57	026388		053631		
17. 0. 0	39. 45	026277		053610		
3. 0	39. 12	026100		053610		
5. 0	38. 9	025934		053639		
7. 0	37. 38	025712		053660		
9. 0	36. 55	025712		053675		
11. 0	36. 34	025712		053639		
13. 0	37. 18	025712		053568		
16. 0	37. 18	025700		053632		
19. 0	37. 47	025700		053711		
21. 0	38. 11	025700		053740		
23. 0	38. 49	025700		053668		
25. 0	39. 3	025700		053668		
27. 0	39. 33	025700		053668		
29. 0	40. 3	025844		053668		
31. 0	40. 23	025954		053625		
33. 0	40. 26	026131		053611		
36. 0	40. 49	026287		053611		
40. 0	41. 8	026131		053626		
43. 0	41. 19	026020		053683		
46. 0	41. 57	025843		053961		
49. 0	42. 18	025665		054025		
54. 0	42. 18	025444		053776		
55. 0	43. 12	025367		053776		
56. 0	43. 47	025256		053712		
17. 57. 30				053491	54·0	
18. 0. 0	44. 10					
2. 30		025256	54·0			
5. 0	44. 35	025256		053491		
9. 0	44. 45	025245		053470		
12. 0	45. 2	025245		053449		
17. 0	45. 2	025245		053449		
18. 22. 0	45. 5	025233		053428		
19. 57. 30				053994	53·0	
20. 0. 0	43. 10					
2. 30		023105	53·0			T D
Apr. 16. 13. 57. 30				0·053989	50·7	H B
14. 0. 30	22. 45. 44					
14. 2. 30		0·025586	50·0			
15. 57. 30				053634	48·5	
16. 0. 0	37. 41					
2. 30		024736	48·0			

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Apr. 16. 16. 10. 0	22. 38. 2	0·024422		0·053672		H B
19. 0	38. 2	024522		053739		
31. 0	38. 2	024392		053787		
53. 0	39. 28	025059		053993		
16. 58. 0	39. 28	025303		054024		
17. 16. 0	38. 49	025383		054110		
17. 57. 30				054403	46·3	
18. 0. 0	43. 44					
2. 30		025246	45·5			H B
Apr. 19. 19. 57. 30				0·054284	48·8	T D
20. 0. 0	22. 50. 56					
20. 2. 30		0·025661	48·0			T D
21. 57. 30				054395	49·0	G H
22. 0. 0	57. 13					
2. 30		019072	48·5			
14. 0	58. 49	019446		054667		
31. 0	58. 8	019200		054785		
22. 50. 0	55. 49	018667		054916		
23. 0. 0	56. 55	019199		054971		
57. 30				054908	51·2	
20. 0. 0. 0	57. 52					
2. 30		019319	51·2			G H
Apr. 20. 5. 57. 30				0·056893	60·0	T D
6. 0. 0	22. 55. 24					
6. 2. 30		0·025885	59·3			T D
7. 57. 30				055977	60·2	G
8. 0. 0	41. 45					
2. 30		022433	59·5			
5. 0	42. 0	022366		055912		
10. 0	45. 38	022344		055926		
15. 0	44. 52	022477		055912		
20. 0	45. 39	022721		055841		
30. 0	45. 44	022101		055763		
35. 0	45. 20	021658		055699		
40. 0	43. 42	021901		055699		
45. 0	42. 42	021835		055657		
49. 0	40. 20	021548		055542		
50. 0	39. 56	021658		055442		
51. 0	39. 41	021768		055542		
52. 0	39. 23	021879		055542		
53. 0	39. 20	022079		055499		
54. 0	39. 15	022211		055485		
55. 0	39. 5	022278		055471		
55. 30	39. 14	022438		055464		
56. 0	39. 27	022787		055443		
56. 30	39. 39	022986		055428		
57. 0	39. 46	023097		055421		
58. 0	40. 11	023142		055400		
8. 59. 0	40. 30	023075		055379		

April 16d. A change of 8′. 3″ having taken place in the position of the Declination Magnet between 14h and 16h, extra observations were commenced.

April 19d. 22h. Considerable changes having taken place in the positions of the Declination and Horizontal Force Magnets, extra observations were commenced.

April 20d. Considerable changes having taken place between 6h and 8h in the positions of the magnets, extra observations were commenced.

Extraordinary Observations of April 20 and 21.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Apr. 20. 9. 0. 0	22. 40. 43	0·022986		0·055343		G
1. 0	40. 54	022920		055329		
4. 0	41. 0	022544		055301		
12. 0	39. 55	022322		055265		
15. 0	39. 10	022322		055265		
16. 0	38. 31	022522		055265		
17. 0	38. 18	022477		055265		
20. 0	37. 47	022500		055251		
25. 0	37. 56	022986		055243		
30. 0	38. 44	023673		055158		
35. 0	40. 18	023429		055044		
40. 0	42. 0	023385		054987		
45. 0	42. 55	023230		054987		
50. 0	42. 35	023008		054945		
55. 0	41. 57	023186		054909		
9. 57. 30	41. 27	023208		054909	60·2	
10. 0. 0	41. 30	023429		054909		
2. 30	41. 45	023739	59·5	054909		
5. 0	41. 59	023540		054909		
10. 10. 0	42. 15	023429		054909		G
11. 57. 30				054400	59·9	G H
12. 0. 0	45. 28					
2. 30		023407	59·5			G H
Apr. 21. 3. 57. 30				0·056171	62·0	T D
4. 0. 0	23. 8. 2					
4. 2. 30		0·025100	62·0			
5. 57. 30				055758	62·0	
6. 0. 0	22. 55. 26					
2. 30		023993	62·0			
4. 0	53. 17	024405		055317		
6. 0	53. 17	024405		055355		
8. 0	52. 35	024583		056077		
10. 0	51. 35	024851		056169		
12. 0	51. 11	024835		056077		
13. 0	50. 33	025101		056077		
14. 0	49. 53	025101		056077		
15. 0	49. 19	025366		056077		
16. 0	48. 48	025388		056077		
17. 0	48. 21	025942		056127		
18. 0	48. 21	026164		056127		
19. 0	48. 49	026496		056006		
20. 0	49. 57	026496		056006		
21. 0	50. 5	026496		056006		
22. 0	50. 58	026385		056056		
23. 0	51. 28	026208		056006		
24. 0	51. 32	025765		056006		
25. 0	51. 32	025499		056006		
27. 0	51. 23	025433		056006		
29. 0	50. 59	025278		055983		
31. 0	50. 0	024968		055983		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Apr. 21. 6. 33. 0	22. 48. 4	0·025057		0·055940		T D
35. 0	47. 23	025610		055911		
36. 0	47. 24	025942		055911		
37. 0	47. 43	026385		055854		
41. 0	47. 52	026385		055819		
43. 0	47. 12	026319		055712		
45. 0	47. 4	026460		055698		
47. 0	46. 2	026527		055627		
49. 0	46. 57	026593		055569		
51. 0	47. 53	025486		055484		
53. 0	47. 10	024169		055342		
54. 0	46. 5	023893		055271		
55. 0	45. 0	023494		055271		
56. 0	43. 34	023316		055248		
57. 0	43. 4	023272		055276		
58. 0	42. 45	023206		055176		
6. 59. 0	42. 24	022830		055284		
7. 0. 0	41. 23	022608		055248		
1. 0	39. 8	022608		055248		
3. 0	38. 2	022608		055248		
4. 0	31. 33	022608		055248		
5. 0	31. 53	022387		055355		
6. 0	34. 0	022387		055404		
7. 0	34. 30	023051		055390		
8. 0	34. 51	024269		055390		
10. 0	56. 22	025708		055390		
12. 0	38. 11	026151		055876		
14. 0	40. 35	026195		055333		
16. 0	43. 17	026107		055319		
17. 0	44. 0	025929		055319		
18. 0	44. 50	025885		055248		
20. 0	47. 46	025708		055296		
21. 0	49. 5	025420		055275		
22. 0	50. 24	025044		055225		
23. 0	51. 1	024712		055153		
25. 0	52. 0	023494		055096		
26. 0	51. 40	022874		055011		
29. 0	46. 22	021501		054869		
30. 0	46. 46	021489		054869		
31. 0	45. 8	021489		054869		
32. 0	44. 5	021932		054954		
34. 0	42. 50	022264		054940		
35. 0	42. 39	022264		054940		
37. 0	42. 29	022375		054940		
38. 0	42. 22	022375		054940		
40. 0	42. 22	022375		054940		
42. 0	42. 31	022375		054940		
47. 0	43. 28	022375		054904		
49. 0	44. 21	022596		054904		
51. 0	45. 31	022818		054897		
52. 0	45. 48	022774		054883		T D

Extraordinary Observations of April 21 and 29, and of May 7 and 8.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Apr. 21. 7. 53. 0	22. 46. 5	0·022862		0·054868		L
55. 0	46. 38	022929		054847		
56. 0	46. 38	022929		054847		
7. 57. 30				054878	61·5	
8. 0. 0	46. 41					
2. 30		022530	61·7			
6. 0	46. 36	022362		054754		
8. 8. 0	46. 48	022362		054717		L
9. 0. 0	45. 13	022549		054624		G
15. 0	45. 52	022682		054596		
30. 0	45. 32	022172		054539		
9. 57. 30				054362	60·9	
10. 0. 0	45. 22					
2. 30		022203	60·5			G
Apr. 29. 9. 57. 30				0·053477	61·8	G H
10. 0. 0	22. 44. 32					
10. 2. 30		0·027269	61·0			G H
11. 57. 30				053057	60·2	L
12. 0. 0	34. 47					
2. 30		025415	59·8			
3. 30	34. 44	025491		053092		
8. 30	35. 29	025589		053084		
11. 30	35. 29	025589		053084		
14. 30	35. 29	025466		053062		
18. 30	35. 10	025466		053004		
12. 22. 30	35. 4	025521		052988		
13. 57. 30				052044	58·2	
14. 0. 0	37. 20					
2. 30		023232	57·8			L
May 7. 13. 57. 30				0·052576	62·0	T D
14. 0. 0	22. 38. 3					
14. 2. 30		0·025581	62·2			
15. 57. 30				052753	62·0	
16. 0. 0	55. 54					
2. 30		025980	62·2			
3. 0	57. 28	025980		052753		
5. 0	58. 37	025967		052753		
7. 0	59. 31	025967		052730		
9. 0	56. 23	025967		052709		
12. 0	55. 54	025955		052695		
15. 0	55. 17	026110		052659		
18. 0	54. 40	026177		052565		
22. 0	54. 10	026177		052544		
26. 0	53. 25	026319		052544		
28. 0	52. 22	026319		052494		
30. 0	51. 36	026429		052471		
32. 0	49. 35	026606		052471		
34. 0	49. 19	026593		052507		
36. 0	49. 0	026593		052542		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
May 7. 16. 38. 0	22. 48. 33	0·026593		0·052542		T D
40. 0	48. 10	026416		052578		
42. 0	47. 26	026372		052634		
44. 0	47. 8	026306		052661		
47. 0	46. 26	026250		052697		
50. 0	45. 43	026250		052790		
54. 0	44. 55	026250		052804		
16. 59. 0	43. 50	026126		052782		
17. 4. 0	42. 58	026114		052818		
9. 0	42. 19	026114		052809		
14. 0	42. 5	026114		052830		
19. 0	36. 47	026034		052807		
29. 0	41. 33	026022		052784		
17. 57. 30				052454	61·0	
18. 0. 0	22. 46. 16					
18. 2. 30		026449	61·0			
19. 57. 30				051638	60·0	
20. 0. 0	23. 3. 44					
2. 30		020699	59·8			
3. 0	3. 45	020699		051638		
5. 0	3. 43	020809		051588		
7. 0	3. 43	020920		051538		
9. 0	3. 19	021097		051538		
12. 0	3. 39	021085		051517		
14. 0	1. 52	020664		051517		
16. 0	23. 1. 0	020133		051517		
18. 0	22. 59. 59	020000		051517		
20. 0	59. 40	019912		051474		
22. 0	59. 6	019779		051446		
24. 0	57. 9	019624		051446		
26. 0	56. 41	019248		051446		
28. 0	55. 30	018982		051425		
30. 0	54. 44	018362		051375		
32. 0	55. 9	018295		051375		
34. 0	55. 9	018295		051375		
36. 0	54. 55	018362		051375		
20. 39. 0	54. 54	018362		051375		T D
21. 34. 0	22. 57. 38	016366		052314		G
21. 57. 30				052514	60·0	G H
22. 0. 0	23. 2. 12					
22. 2. 30		017230	59·5			
23. 57. 30				053736	61·0	
May 8. 0. 0. 0	22. 54. 21					
2. 30		018239	60·5			
6. 0	53. 6	018583		053604		
8. 0	53. 1	018583		053675		
10. 0	52. 16	018649		053661		
21. 0	53. 40	019162		053912		
0. 31. 0	54. 14	018909		054063		
1. 43. 0	55. 54	019376		054618		
47. 30				055245		

April 29d. A change of 9′. 45″ having taken place in the position of the Declination Magnet between 10h and 12h, extra observations were commenced.

May 7d. A change of 17′. 51″ having taken place in the position of the Declination Magnet between 14h and 16h, extra observations were commenced.

Extraordinary Observations of May 8, and of June 10, 24, 29, and 30.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
May 8. 1. 50. 0	22. 53. 4					G H
52. 30		0·021749				
1. 57. 30				0·055281	62·0	
2. 0. 0	52. 26					
2. 30		022413	62·0			
7. 30				055245		
10. 0	51. 21					
12. 30		022147				G H
June 10. 9. 57. 30				0·053309	61·0	T D
10. 0. 0	22. 46. 11					
10. 2. 30		0·025165	61·0			T D
11. 57. 30				053170	60·7	G H
12. 0. 0	37. 6					
2. 30		027778	61·0			
9. 30	43. 56	030245		053242		
10. 30	44. 53	030245		053206		
11. 30	45. 54	030245		053184		
12. 30	46. 46	030245		053192		
13. 30	47. 37	030200		053164		
14. 30	48. 22	030024		053121		
16. 30	49. 38	029669		053050		
19. 30	50. 32	028873		052979		
21. 30	50. 23	028253		052908		
24. 30	49. 34	027743		052836		
26. 30	49. 55	027212		052765		
29. 30	49. 13	026911		052730		
34. 30	48. 2	026247		052694		
39. 30	47. 26	026247		052694		
44. 30	47. 14	025583		052717		
49. 30	46. 27	025349		052660		
12. 54. 30	45. 36	025172		052703		
13. 57. 30				052989	61·0	
14. 0. 0	42. 31					
2. 30		024439	60·5			G H
June 24. 3. 57. 30	22. 40. 16			0·052644	67·6	T D
4. 0. 0		0·026743	68·0			
4. 2. 30						T D
5. 57. 30				052558	69·0	G H
6. 0. 0	40. 32					
2. 30		026948	69·5			
5. 0	40. 13					
10. 0	43. 53					
15. 0	45. 9					
18. 0	50. 18					
20. 0	51. 15					
21. 0	52. 24					
23. 0	54. 6					
24. 0	58. 52					
25. 0	58. 23					

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
June 24. 6. 26. 0	22. 59. 53					G H
28. 0	23. 1. 10					
30. 0	2. 13					
31. 0	5. 21					
33. 0	8. 8					
35. 0	10. 21					
36. 0	11. 37					
38. 0	13. 4					
40. 0	13. 48					
41. 0	14. 49					
43. 0	17. 17					
45. 0	19. 11					
46. 0	19. 43					
47. 0	20. 16					
48. 0	20. 45					
50. 0	21. 6					
6. 51. 0	21. 17					
7. 20. 0	19. 39					G H
7. 57. 30				0·052416	69·0	L
8. 0. 0	23. 8. 33					
2. 30		0·027126	69·5			L
June 29. 3. 57. 30				0·052446	74·7	T D
4. 0. 0	22. 47. 28					
4. 2. 30		0·025606	74·4			
5. 57. 30				052336	76·0	
6. 0. 0	22. 53. 25					
6. 2. 30		025664	76·0			
7. 14. 0	23. 5. 43	025650		051771		
16. 0	5. 43	025560		051771		
19. 0	5. 43	025636		051746		
24. 0	5. 54					
29. 0	5. 55	025593		051669		
34. 0	5. 55					
46. 0	5. 55					
7. 57. 30				051491	73·0	
8. 0. 0	6. 7					
2. 30		025493	73·0			T D
June 30. 1. 47. 30				0·052065		G H
50. 0	22. 46. 27					
52. 30		0·025731				
1. 57. 30				052044	68·5	
2. 0. 0	46. 8					
2. 30		026174	70·3			
7. 30				052008		
10. 0	22. 45. 59					
2. 12. 30		026262				G H
3. 57. 30				052306	72·0	L
4. 2. 30		026414	72·0			
4. 0		026414		052331		

June 10d. A change of 9′.5″ having taken place in the position of the Declination Magnet between 10h and 12h, extra observations were commenced.

June 24d. A considerable change having taken place in the position of the Declination Magnet between 6h and 6h.18m, extra observations were commenced.

June 29d. A considerable change having taken place in the position of the Declination Magnet between 4h and 6h, extra observations were commenced,

June 30d. Observations were made of the Declination Magnet in the usuul way between June 30d.4h and July 1d.0h; but before July 1d.0h it was found that the mirror for the photographic apparatus, carried by the Declination Magnet, touched a part of the fixed stand: the observations between June 30d.4h and July 1d.0h are therefore rejected.

Extraordinary Observations of June 30 and July 9.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
June. 30. 4. 7. 0		0·026348		0·052403		L
9. 0		026539		052360		
11. 0		026649		052403		
14. 0		026870		052345		
16. 0		026759		052331		
18. 0		026649		052345		
20. 0		026729		052331		
23. 0		026773		052296		
27. 0		026884		052331		
29. 0		026707		052331		
32. 0		026619		052288		
4. 34. 0		026486		052322		
5. 34. 0		025656		052159		
45. 0		025169		052123		
48. 0		025184		052123		
53. 0		025140		052148		
56. 0		025198		052148		
5. 57. 0				052148	72·5	
6. 2. 30		025198	72·8			L
June 30. 13. 57. 30				0·051581	68·5	G H
14. 2. 30		0·024665	67·2			
15. 57. 30				051431	67·0	
16. 2. 30		025367	66·0			
5. 0		025532		051467		
9. 0		025576		051479		
14. 0		025674		051443		
19. 0		025784		051441		
24. 0		025585		051426		
29. 0		025770		051417		
34. 0		025814		051409		
39. 0		025991		051395		
44. 0		025978		051378		
52. 0		025978		051371		
16. 59. 0		025965		051371		
17. 5. 0		025921		051371		
9. 0		025952		051338		
24. 0		026174		051372		
17. 57. 30				051407	66·0	
18. 2. 30		024350	65·0			G H
July 9. 11. 57. 30				0·051109	70·0	L
12. 0. 0	22. 30. 14					
12. 2. 30		0·022279	70·0			
13. 57. 30				045763	68·0	
14. 0. 0	32. 44					
2. 30		005516	68·2			
14. 9. 30	33. 36	006166		045682		
11. 30	34. 1	006276		045561		
14. 30	34. 8	004395		045312		
19. 30	37. 26	006675		045312		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
July 9. 14. 22. 30	22. 39. 5	0·007273		0·045126		L
24. 30	39. 51	007450		045668		
26. 30	40. 34	008380		045668		
29. 30	41. 13	008921		045466		
31. 30	41. 45	009031		045302		
34. 30	39. 58	009474		045288		
35. 30	39. 11	009917		045501		
36. 30	38. 24	010847		045644		
37. 30	37. 44	014123		045843		
39. 30	37. 0	012352		046142		
40. 30	36. 43	013018		046427		
41. 30	36. 43	015009		046783		
42. 30	36. 25	015230		046142		
43. 30	36. 25	015673		046925		
44. 30	34. 41	015784		046901		
45. 30	34. 2	016292		046901		
47. 30	32. 43	016559		047008		
48. 30	31. 40	017444		047257		
49. 30	31. 0	018095		047400		
50. 30	30. 30	018537		047364		
51. 30	30. 48	018869		047613		
52. 30	31. 7	019245		047756		
53. 30	31. 34	020420		047863		
54. 30	31. 42	019776		048040		
55. 30	32. 0	020707		048197		
56. 30	32. 52	021084		048396		
57. 30	33. 24	021194		048432		
58. 30	34. 3	021527		048539		
14. 59. 30	34. 24	021637		048553		
15. 0. 30	34. 38	021748		048610		
1. 30	34. 19	021858		048695		
2. 30	34. 19	021858		048752		
3. 30	34. 19	021748		048738		
4. 30	34. 19	021637		048738		
5. 30	33. 59	021637		048717		
6. 30	33. 26	021527		048681		
7. 30	33. 40	021624		048681		
8. 30	32. 38	021624		048695		
9. 30	32. 21	021491		048681		
10. 30	31. 50	021359		048681		
11. 30	31. 19	021181		048610		
12. 30	30. 23	021181		048681		
13. 30	29. 14	021403		048752		
14. 30	28. 32	021514		048752		
15. 30	28. 6	021735		048752		
16. 30	28. 25	022067		048824		
17. 30	29. 23	021956		048824		
18. 30	30. 0	021403		048824		
19. 30	30. 0	021071		048800		
20. 30	29. 39	020960		048800		
21. 30	29. 39	020960		048871		

July 9d. A considerable change having taken place in the position of the Horizontal Force Magnet between 12h and 14h, extra observations were commenced.

Extraordinary Observations of July 9 and 11, August 4, and September 13.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
July 9. 15. 57. 30				0·049630	67·5	L
16. 0. 0	22. 38. 9					
2. 30		0·019161	67·6			L
July 11. 13. 57. 30				0·050723	75·0	G H
14. 0. 0	22. 46. 54					
14. 2. 30		0·025443	74·5			
15. 57. 30				051120	73·5	
16. 0. 0	37. 23					
2. 30		023456	73·0			
9. 0	37. 24	023442		051140		
14. 0	37. 24	023413		051186		
24. 0	36. 45	023841		051246		
27. 0	37. 38	023885		051243		
29. 0	38. 9	023827		051278		
32. 0	36. 46	023605		051193		
34. 0	36. 25	023724		051262		
39. 0	37. 10	023688		051227		
16. 44. 0	36. 20	023342		051167		
17. 57. 30				051326	71·5	
18. 0. 0	36. 47					
2. 30		022951	71·0			G H
Aug. 4. 15. 57. 30				0·050359	66·5	L
16. 0. 0	22. 40. 36					
16. 2. 30		0·023884	66·5			
17. 57. 30				049082	64·6	
18. 0. 0	30·31					
2. 30		016677	64·8			
5. 30	32. 15	018333		049367		
6. 30	32. 15	018288		049367		
9. 30	32. 8	018222		049401		
11. 30	32. 45	018509		049415		
14. 30	31. 10	018155		049415		
16. 30	30. 52	018111		049415		
18. 30	30. 40	018333		049487		
20. 30	31. 24	018377		049558		
24. 30	31. 24	018320		049558		
29. 30	31. 46	018430		049571		
34. 30	32. 12	018364		049585		
39. 30	32. 23	018373		049642		
44. 30	32. 23	018749		049748		
49. 30	32. 15	018749		049724		
54. 30	31. 46	019444		049667		
18. 59. 30	31. 46	019178		049710		
19. 7. 30	32. 23	019621		049867		
9. 30	32. 40	019941		049867		
11. 30	32. 59	019830		049895		
14. 30	33. 3	020715		049915		
19. 30	33. 30	020605		050057		
24. 30	33. 34	020481		050022		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Aug. 4. 19. 29. 30	22. 33. 43	0·020481		0·050047		L
34. 30	33. 11	020636		050176		
39. 30	34. 46	020733		050461		
42. 30	35. 36	020911		050461		
44. 30	36. 33	020955		050488		
47. 30	37. 35	021243		050651		
51. 30	38. 3	021132		050708		
54. 30	39. 16	021119		050722		
19. 57. 30				050736	64·0	
20. 0. 0	40. 55					
2. 30		021230	64·0			L
6. 30	38. 15	020854		050651		T D
10. 30	41. 39	021575		050901		
17. 30	40. 43	020512		050865		
25. 30	37. 9	020246		050865		
33. 30	36. 14	020259		050972		
35·30	36. 14	020481		050936		
20. 39. 50	37. 0	020437		050936		
21. 57. 30				051150	64·0	
22. 0. 0	44. 33					
2. 30		020078	64·5			T D
Sep. 13. 5. 57. 30				0·052160	64·0	G
6. 0. 0	23. 4. 16					
6. 2. 30		0·142173	64·5			
7. 57. 30				052289	64·0	
8. 0. 0	22. 59. 25					
2. 30		142521	64·8			
16. 0	48. 30	143983		051755		
8. 16. 30	49. 14	144053		051755		
9. 17. 0	50. 10	144110		051755		
18. 0	51. 14	144272		051740		
18. 30	51. 31	144388		051733		
19. 0	51. 45	144388		051719		
19. 30	52. 36	144434		051719		
20. 0	52. 46	144504		051705		
20. 30	53. 16	144620		051719		
21. 0	53. 53	144666		051719		
21. 30	54. 29	144666		051691		
22. 0	55. 11	144666		051691		
22. 30	55. 56	144620		051691		
23. 0	56. 10	144620		051691		
23. 30	56. 59	144736		051648		
24. 0	57. 36	144736		051648		
24. 30	57. 48	144736		051648		
25. 0	58. 23	144620		051648		
25. 30	59. 0	144272		051634		
26. 0	59. 33	144156		051613		
26. 30	22. 59. 45	144110		051591		
27. 0	23. 0. 21	143970		051577		
27. 30	0. 34	143924		051577		

July 11d. A change of 9′. 31″ having taken place in the position of the Declination Magnet between 14h and 16h, extra observations were commenced.

August 4d. A considerable change having taken place in the positions of the Declination and Horizontal Force Magnets between 16h and 18h, extra observations were commenced.

September 13d. A change of 10′. 55″ having taken place in the position of the Declination Magnet between 8h and 8h. 16m, extra observations were commenced.

Extraordinary Observations of September 13, 23, and 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Sep. 13. 9. 28. 0	23. 0. 39	0·143963		0·051577		G
28. 30	1. 2	143670		051577		
29. 0	1. 4	143345		051577		
29. 30	1. 23	143170		051542		
30. 0	1. 5	143170		051542		
30. 30	1. 42	143100		051506		
31. 0	1. 12	142798		051448		
31. 30	1. 19	142637		051434		
32. 0	1. 8	142475		051420		
32. 30	0. 41	142382		051420		
33. 0	0. 31	142289		051420		
33. 30	0. 28	142173		051399		
34. 0	0. 17	142103		051377		
34. 30	23. 0. 2	142057		051292		
35. 0	22. 59. 54	142057		051363		
35. 30	59. 42	142057		051363		
36. 0	59. 35	142057		051363		
36. 30	59. 26	142057		051363		
37. 0	59. 20	142057		051363		
37. 30	59. 16	142057		051363		
38. 0	59. 6	142173		051363		
39. 0	58. 55	142289		051363		
40. 0	58. 10	142289		051377		
41. 0	57. 57	142405		051363		
44. 0	58. 29	142752		051328		
50. 0	58. 58	142752		051363		
55. 0	22. 59. 40	142915		051363		
9. 57. 30				051363	64·0	
10. 0. 0	23. 0. 26					
2. 30		142984	64·5			G
Sep. 23. 21. 57. 30				0·050616	64·0	L
22. 0. 0	23. 4. 29					
22. 2. 30		0·140369	64·0			
23. 57. 30				050912	64·2	
24. 0. 0. 0	23. 7. 33					
2. 30		139906	64·0			L
0. 59. 15	22. 56. 42	137945		051645		G
1. 5. 15	59. 38	137217		052274		
6. 15	53. 57	137448		052203		
7. 15	22. 50. 33	136271		052380		
8. 15	23. 0. 12	135131		052950		
8. 45	22. 53. 42	137217		052808		
9. 45	51. 23	136058		053520		
10. 15	49. 1	137101		053484		
11. 15	45. 18	136800		053128		
12. 15	44. 50	138723		053266		
12. 45	51. 7	138839		053437		G
13. 45	49. 38	137634		053508		G&D
14. 15	55. 17	138909		053814		
15. 15	51. 0	138723		053893		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Sep. 24. 1. 16. 15	22. 52. 48	0·138723		0·054028		G&D
16. 45	48. 23	138028		054042		
17. 45	44. 27	137008		053893		
18. 15	40. 52	137531		053437		
19. 15	39. 24	137554		053636		
20. 45	43. 53	135839		053580		
21. 45	46. 12	136071		053849		
22. 45	53. 4	136906		054086		
23. 15	50. 28			054449		
23. 45	51. 12	136419		054478		
24. 15	53. 24	138342		054549		
26. 45	54. 49	142236		055631		
27. 45	54. 32	145689		056059		
28. 45	50. 55	146268		055739		
29. 45	49. 26	147208		055703		
30. 15	55. 4	148483		055930		
31. 15	55. 10	151657		056436		
32. 15	48. 55	150593		056507		
33. 15	54. 25	150337		056635		
34. 15	54. 42	142712		056557		
34. 25	44. 0					
34. 35	39. 44			055954		
35. 15	33. 2	147532		055407		
36. 15	47. 20			054587		
37. 15	59. 21	136757		055228		
38. 15	54. 52	145702		055691		G&D
39. 15	58. 47	146444		055442		G, L, & D.
39. 45	59. 28	145702		055708		
40. 45	57. 14	146166		055822		
41. 15	53. 16	146304		056028		
42. 15	51. 24	146976		056797		
42. 45	48. 26	150916		057559		
43. 30	46. 38	153432		057694		
44. 15	46. 57	152228		057388		
44. 45	47. 19	150790		057025		
45. 15	52. 10	151392		057096		
45. 45	22. 58. 17	152320		057552		
46. 45	23. 9. 34	156838		058100		
47. 25	23. 7. 10	160385		057838		
47. 30				058123		
48. 15	22. 59. 43	157070		056770		
48. 55	57. 13	152459		056379		
49. 30	47. 26	148311		055774		
50. 0	57. 12					
50. 15	48. 13	146340		055596		
51. 0	47. 59	147824		055631		
51. 45	48. 53	149168		055510		
52. 15	53. 6	146410		055454		
52. 30		149181				
53. 15	54. 33	147175		055596		
54. 0	58. 32	147999		056450		

September 24d. Considerable changes having taken place in the positions of the three magnets between 0h and 0h. 50m, extra observations were commenced.

Extraordinary Observations of September 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Sep. 24. 1. 54. 35	22. 56. 55	0·148856		0·056443		G, L, & D.
55. 45	49. 44	151174		057020		
56. 15	44. 43	149228		056756		
57. 0	45. 44	149783		056628		
57. 30				056671	65·5	
57. 45	46. 29	150896		056806		
58. 30	46. 50	152796		057091		
1. 59. 45	50. 40	153607		057184		
2. 0. 0	48. 46					
0. 15	51. 53	153955		057184		
1. 0	57. 27	151869		056272		
2. 15	57. 34	150942		056308		
2. 30		151869	65·5			
3. 0	57. 24	150595		056023		
3. 30	58. 35	150492		056082		
4. 15	57. 50	151025		056082		
5. 15	57. 53	149982		054110		
6. 15	57. 9	150469		056403		
6. 45	56. 39	149565		056546		
7. 30	57. 22	150724		056673		
8. 30	47. 28	150492		056388		
9. 15	44. 3	151372		056794		
10. 0	43. 49	152740		056759		
10. 45	47. 18	154547		056958		
11. 30	48. 12	154640		057008		
12. 15	46. 21	154663		056958		
13. 15	48. 36	155604		056034		
14. 0	49. 33	155489		057408		
14. 45	47. 0	155558		056696		
15. 15	48. 54	157319		057102		
16. 15	48. 14	158153		057123		
16. 45	49. 50	160587		057337		
17. 45	54. 9	162441		057373		
18. 30	55. 59	165685		057423		
19. 15	22. 58. 49	166937		057458		
19. 45	23. 0. 26	170783		056960		
21. 15	5. 18	172592		057123		
22. 15	9. 5	171479		056996		
23. 15	12. 13	170449		056920		
23. 45	10. 43	169245		057126		
25. 15	13. 30	165003		057034		
26. 15	10. 10	163960		057197		
26. 45	9. 51	164424		057482		
27. 45	2. 32	163033		057859		
28. 45	1. 52	164262		058194		
29. 45	3. 38	164887		058465		
30. 45	2. 21	165119		058536		
31. 45	23. 0. 44	168248		058729		
32. 45	22. 55. 54	171098		059272		
33. 45	22. 56. 14	173475		058645		
34. 15	23. 2. 25	172988		057577		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Sep. 24. 2. 35. 15	23. 5. 5	0·172084		0·057364		G, L, & D
35. 45	22. 55. 44	167287		056901		
36. 45	22. 57. 50	167333		056438		
37. 30	23. 8. 46	170693		056937		
38. 15	7. 1	170856		057150		
39. 15	4. 48	171621		057032		
39. 45	23. 4. 40	170114		057566		
40. 45	22. 57. 50	170879		058121		
41. 30	47. 12	170416		058349		
42. 45	22. 53. 45	171690		057566		G, L, & D
48. 15	23. 6. 49	164334		055736		L, D, & EH
48. 45	6. 31	164334		055893		
50. 45	6. 42	162364		057174		
51. 15	23. 2. 22	159815		056576		
52. 15	22. 56. 59	158772		059417		
53. 15	50. 22	157497		056839		
54. 15	52. 31	158772		056628		
55. 15	22. 54. 46	157881		056058		
56. 15	23. 0. 2	157046		055759		
57. 15	6. 32	155656		055367		
58. 15	8. 53	152875		055197		
2. 59. 15	13. 8	151369		055211		
3. 0. 15	13. 21	149862		055275		
1. 15	10. 7	147892		055311		
2. 15	7. 54	147035		055438		
3. 15	6. 13	146155		055509		
4. 15	5. 3	145459		055620		
5. 15	4. 52	144602		055691		
6. 15	5. 41	144022		055691		
7. 15	6. 21	143141		056260		
8. 15	4. 54	141650		055833		
10. 15	23. 2. 25	140259		056545		
11. 45	22. 59. 3	139100		055833		
13. 15	57. 59	138868		055807		
14. 15	56. 3	142993		055579		
15. 45	52. 36	137432		055288		
17. 15	50. 23	136783		054789		
19. 15	53. 11	137491		054941		
20. 15	54. 47	137722		054956		
21. 15	56. 40	137606		054884		
23. 15	22. 57. 5	137676		054770		
24. 45	23. 0. 1	137445		054692		
26. 15	23. 0. 13	135753		054550		
27. 15	22. 59. 12	134014		053930		
29. 15	57. 54	131478		054339		
31. 15	58. 19	131200		054232		
32. 15	22. 58. 45	131779		054331		
34. 15	23. 1. 8	132637		054525		
36. 15	4. 23	132869		054560		
38. 15	5. 32	133100		054632		
40. 15	7. 20	134143		054468		

Extraordinary Observations of September 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°		d h m s	° ′ ″		°		°	
Sep. 24. 3. 42. 15	23. 8. 49	0·134331		0·054895		L & E H	Sep. 24. 4. 56. 15	23. 15. 47	0·171419		0·056534		L & E H
44. 15	10. 24	134574		054967			59. 15	8. 14	174085		057161		
46. 15	11. 12	134504		054895			4. 59. 45	2. 59	179994		056021		
48. 15	9. 46	134496		054988			5. 3. 15	20. 8	183934		055893		L & E H
50. 15	10. 1	133461		054824			5. 45	13. 11	186831		055039		G&D
52. 15	8. 51	132650		054955		L, D, & E H	7. 15	12. 6	188569		054561		
54. 15	6. 8	132664		054635		L	7. 45	9. 6	189032		053899		
56. 15	4. 23	133243		054599			8. 45	12. 39	189278		053814		
57. 30				054599	66·7		9. 45	15. 36	190321		053152		
58. 15	4. 14	134240		054599			10. 45	19. 55	191596		052262		
3. 59. 15	6. 35	135561		054599			11. 45	29. 43	191480		053152		
4. 0. 0	6. 44						12. 45	38. 24	185686		053864		
2. 15	10. 40	140196		054919			13. 45	35. 44	184179		054469		
2. 30		140196	66·2				14. 15	35. 53	183716		054149		
4. 15	13. 46	142119		054919			15. 15	42. 24	182557		054220		
6. 15	21. 27	144020		055404			16. 15	44. 39	181978		054861		
8. 15	27. 4	145642		055404		T D	17. 15	46. 17	181746		055893		
10. 15	31. 11	147462		055703		L & E H	18. 15	40. 1	182339		055075		
12. 15	33. 16	151333		056166			19. 15	23. 48. 54	182223		053722		
14. 15	37. 8	152097		056403			20. 15	24. 1. 39	179441		054434		
17. 15	44. 46	156431		057079			21. 15	23. 50. 59	179441		055146		
19. 15	55. 42	160603		057400			22. 15	28. 44	181991		054241		
20. 15	53. 18	161761		057791			23. 15	23. 43. 9	181527		053686		
21. 15	53. 2	161529		057863			24. 15	24. 9. 6	182223		052939		
22. 15	50. 25	161831		057934			25. 15	20. 30	175965		053280		
23. 15	48. 13	162123		058255			26. 15	11. 36	174343		053130		
24. 15	46. 32	162888		058397			27. 15	14. 46	173416		053010		
25. 15	45. 0	163050		058753			28. 45	16. 29	171330		053543		
26. 15	44. 41	164209		059180			29. 45	24. 15. 1	169593		053567		
27. 15	42. 26	164673		059536			31. 15	23. 58. 46	166347		053232		
28. 15	42. 0	166063		060283			32. 45	23. 57. 13	165189		053090		
29. 15	41. 59	168265		060732			33. 30	24. 0. 47	164378		052656		
31. 45	56. 55	171625		060782			34. 15	3. 41	164378		052784		
33. 15	57. 44	172088		060711			35. 25	4. 44	166231		053232		
35. 15	42. 24	177432		063131			36. 25	24. 0. 50	168086		053909		
36. 15	13. 36	178359		063651			37. 25	23. 50. 34	169963		054315		
38. 15	10. 42	178591		062833			38. 25	42. 16	170070		054635		
39. 15	7. 0	178359		062063			40. 15	15. 59	168679		054315		
40. 15	7. 39	178127		061779			41. 15	15. 59	169722		054244		
41. 15	8. 14	179749		061103			42. 15	16. 46	169722		054137		
42. 15	15. 29	179633		060960			43. 15	15. 15	168100		054265		
43. 15	22. 50	179981		059489			44. 15	17. 31	167984		054337		
44. 45	48. 33	180096		058904			45. 15	19. 30	167868		054635		
46. 15	46. 50	180560		058991			46. 15	20. 20	168100		054479		G&D
47. 15	36. 47	181255		059418			47. 15	23. 37	167520		054743		G
48. 15	36. 48	182067		059268			47. 45	22. 29	165782		055099		
49. 15	41. 47	182299		058243			48. 15	20. 31	165319		055419		
50. 15	23. 50. 18	180676		057567			49. 15	18. 56	164972		055462		
52. 15	24. 3. 24	174882		056855			50. 15	18. 6	164740		055775		
54. 15	24. 0. 8	175011		056783			51. 15	14. 50	165782		055582		
55. 15	23. 21. 14	174201		056641			52. 15	12. 19	166709		056024		

Extraordinary Observations of September 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Sept. 24. 5. 53. 15	23. 10. 5	0·167173		0·055938		G
54. 15	7. 50	167186		055703		
55. 15	9. 14	170314		054991		
56. 15	13. 47	172632		054529		
57. 15	12. 37	171937		054173		
57. 30				054016	67·0	
58. 15	12. 24	173096		053852		
58. 25	13. 4	174718		053639		
59. 15	10. 57	176108		053675		
5. 59. 45	7. 17	174949		052998		
6. 0. 0	9. 12					
2. 30		171937	67·0			
2. 45	23. 1. 14	171937		051787		G
4. 15	22. 57. 30	174486		051645		G & H
5. 15	22. 59. 39	176456		051574		
6. 15	23. 0. 31	177035		051645		
7. 15	22. 54. 49	176340		051431		
10. 15	23. 1. 27	173327		052001		
11. 15	22. 58. 33	172052		052713		
12. 15	22. 58. 18	171357		053354		
13. 15	23. 0. 20	170893		053675		
14. 15	22. 58. 15	164869		053710		
16. 15	57. 28	159422		054137		
17. 15	54. 10	156873		054600		
18. 15	55. 26	155830		055419		
20. 15	49. 39	152702		055988		
22. 15	42. 31	148298		056059		
23. 15	38. 11	145401		056095		
25. 15	31. 41	141462		056380		
28. 15	25. 25	137522		055241		
29. 15	36. 42					
30. 45	44. 6	135900		054778		
32. 15	43. 30	135552		054885		
34. 15	40. 8	134625		054814		
36. 15	41. 55	134509		054778		
39. 15	46. 21	134741		054529		
41. 15	50. 11	134741		054458		G & H
43. 15	55. 27	134741		054493		G H
46. 15	54. 17	134045		054493		
48. 15	55. 51	134509		054279		
50. 15	22. 59. 18	133999		053781		
52. 15	23. 1. 21	133234		053675		
54. 15	0. 25	133350		053532		
56. 15	2. 42	133929		053496		
6. 59. 15	3. 41	136247		054066		
7. 1. 15	6. 20	136827		053959		
3. 15	8. 58	135436		053710		
5. 15	8. 48	132887		053247		
7. 15	6. 0	131728		053105		
9. 15	23. 1. 16	130569		053034		
11. 15	22. 56. 12	131612		053247		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Sep. 24. 7. 13. 15	22. 52. 19	0·133118		0·053496		G H
15. 15	22. 51. 19	134509		053781		
26. 15	23. 1. 23	137290		053567		
28. 15	3. 44	136827		053710		
33. 15	4. 54	134741		053496		
38. 15	8. 50	137059		053639		
40. 15	8. 57	134277		053567		
42. 15	4. 56	134972		053639		
44. 15	4. 56	134972		053710		
46. 15	4. 17	134277		053923		G H
48. 15	2. 51	133582		053852		E H
53. 15	23. 1. 6	135436		054564		E H
56. 35	22. 57. 41	135204		054493		G H
57. 30				054493	67·0	
7. 59. 15	58. 15	135436		054351		
8. 0. 0	58. 15					
1. 45	56. 22	134741		054173		
2. 30		134741	67·0			
3. 30	22. 57. 47	134728		053971		
5. 30	23. 0. 36	134728		053828		
7. 30	2. 23	135423		053828		
12. 30	5. 19	136118		053686		
17. 30	5. 6	134250		053163		
20. 30	3. 43	134134		053021		
23. 30	5. 31	133786		052950		
31. 30	4. 24	132268		052997		
46. 30	6. 19	133759		053471		
8. 58. 30	6. 57	134223		053021		
9. 4. 30	6. 47	133270		052712		
9. 30	5. 49	133270		052712		
14. 30	3. 13	132923		052641		
23. 30	4. 2	133024		052404		
28. 30	23. 2. 12	132780		052237		G H
39. 30	22. 43. 11	133011		052451		G
46. 30	14. 23	134620		050077		
47. 30	9. 38	140877		050433		
48. 30	10. 16	139602		049864		
50. 30	17. 12	142486		049485		G
51. 30	23. 6	141560		049129		G & H
52. 0	30. 3	142486		049129		
52. 30	26. 17	140864		049698		
53. 30	25. 45	139010		049769		
54. 0	30. 27	139705		049734		
54. 30	26. 40	142023		050197		
55. 30	24. 20	143413		050125		
56. 30	25. 47	144920		049698		G & H
57. 30	27. 12	145963		049698	66·0	G
58. 30	26. 3	148048		049769		
9. 59. 30	57. 22					
10. 0. 0	22. 57. 28					
0. 30	23. 13. 5	141096		049057		

September 24d. 9h. 47m. Streamers of an Aurora suddenly appeared; the three magnets moved simultaneously; the cross of the declination-magnet apparently to the left (or so as to shew a diminution of Westerly Declination) and out of the field: at 9h. 52m red streamers were observed due West.

Extraordinary Observations of September 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Sep. 24. 10. 1. 30	23. 16. 22					G
2. 30		0·137619	66·0			
3. 30	22. 57. 15	132753		0·048488		
4. 30	45. 50	134825		049033		G
6. 30	33. 9	141547		049888		G H
8. 30	37. 21	143632		049745		
9. 30	42. 54	143400		050030		
10. 30	48. 28	142936		048891		G H
11. 30	51. 23	131547		048891		G & G H
12. 30	49. 31	141083		049081		
13. 30	51. 48	141534		048511		
14. 30	22. 59. 26	140838		047799		G & G H
15. 30	23. 7. 53	138520		048803		G H
16. 30	23. 25			047205		
17. 30	25. 20	133871		047561		
18. 30	18. 43	131786		048430		
19. 30	23. 2. 15	131554		049341		
20. 30	22. 50. 30	132250		039626		
21. 30	42. 0	132713		050125		G H
22. 30	39. 45	132700		050118		G & G H
23. 30	39. 26	131773		049840		
24. 30	39. 29	131773		049840		
25. 30	38. 31	131773		049769		
26. 30	38. 14	132237		049626		
27. 30	39. 56	132931		049697		
28. 30	40. 11	132918		049674		
29. 30	40. 3	134077		049746		
30. 30	42. 21	134077		049674		
31. 30	46. 0	134541		049461		
33. 30	50. 48	131760		049650		
34. 30	22. 53. 29	131992		048732		
35. 30	23. 3. 8	129720		048369		
36. 30	6. 58	129442		048440		
37. 30	8. 5	128734		048938		
38. 30	6. 11	129429		049081		
39. 30	7. 8	128850		049223		
41. 30	7. 57	128026		049058		
43. 30	2. 29	128559		049414		
44. 30	2. 24	128837		049485		
46. 30	23. 0. 39	128026		049556		
48. 30	22. 56. 9	128938		049532		
49. 30	56. 34	129170		049888		
50. 30	54. 58	131256		050458		
53. 30	47. 48	132763		050743		
54. 30	48. 11	134024		050671		
10. 55. 30	22. 50. 49	134719		050647		
11. 4. 30	23. 1. 41	136561		050268		
6. 30	4. 32	135634		050055		G & G H
8. 30	5. 26	134346		050126		G H
10. 30	23. 0. 1	134184		050126		
11. 30	22. 58. 4	134184		050126		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Sep. 24. 11. 12. 30	22. 55. 3	0·134693		0·050244		G H
16. 30	59. 56	135621		049960		
20. 30	55. 47	135028		049853		
26. 30	22. 59. 25	136290		049794		
35. 30	23. 3. 10	137088		049984		
37. 30	6. 45	136913		049961		
40. 30	8. 44	136728		049890		
42. 30	10. 27	136482		049961		
44. 30	13. 57	135972		049890		G H
11. 57. 30	16. 27	133442		049415	64·5	L
12. 0. 0	16. 5	133165		049344		
2. 30	15. 57	132979	64·2	049344		
4. 0	14. 19	132863		049321		
6. 0	12. 13	132979		049250		
10. 0	10. 28	133545		049392		
14. 0	12. 8	134171		049378		
19. 0	12. 8	135503		049440		
24. 0	11. 58	135503		049724		
26. 0	10. 44	135619		049724		
29. 0	8. 33	135721		049701		
34. 0	3. 20	135953		049701		
39. 0	23. 0. 41	135304		049687		
41. 0	22. 59. 29	135304		049701		
44. 0	59. 35	135245		049677		
12. 58. 0	22. 35. 37	134768		049726		
13. 4. 0	23. 0. 4	133841		049726		
11. 0	5. 0	133133		049788		
16. 0	7. 24	132206		049845		
19. 0	10. 49	131279		049730		
24. 0	14. 11	130108		049537		
27. 0	15. 17	131731		049537		
37. 0	12. 58	133108		049457		
48. 0	11. 17	134962		049348		
13. 57. 30	6. 48	136340		049325	63·5	
14. 0. 0	7. 14	136386		049290		
2. 30	7. 13	135876	63·3	049339		
4. 0	6. 55	136572		049752		
9. 0	7. 36	136989		049681		
11. 0	8. 34	136919		049923		
14. 0	9. 4	136803		050250		
19. 0	9. 7	136688		050037		
29. 0	23. 5. 0	136688		050606		
36. 0	22. 59. 39	136271		050678		
14. 52. 0	23. 2. 31	135876		050962		
15. 9. 0	2. 41	135992		050962		
14. 0	2. 8	136108		051105		
24. 0	1. 33	135992		051105		
39. 0	2. 9	136108		051461		
54. 0	2. 9	136108		051674		
15. 57. 30				051660	63·5	
16. 0. 0	0. 40					

September 24d. 9h. 59m. 30s. Streamers were observed shortly after 10h; a fine white streamer was observed whose direction was from the W. N. W., South of the zenith towards the Moon.

Extraordinary Observations of September 24, 26, and 27.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Sep. 24. 16. 2. 30		0·136224	63·3			L
16. 44. 0	23. 0. 16	136340		0·051888		
17. 57. 30				051856	61·5	
18. 0. 0	22. 59. 53					
2. 30		136156	61·3			L
Sep. 26. 11. 57. 30						L
12. 0. 0						
12. 2. 30						L
13. 57. 30				0·048972	57·5	T D
14. 0. 0	22. 44. 26					
2. 30		0·140949	57·5			
3. 0	44. 28	141412		049612		
5. 0	44. 15	141515		049505		
7. 0	44. 15	141400		049505		
8. 0	46. 59	141053		049306		
9. 0	48. 11	139083		049377		
10. 0	46. 41	138735		049377		
11. 0	45. 16	139037		049476		
13. 0	45. 28	139431		049576		
15. 0	46. 35	140242		049234		
16. 0	45. 51	139083		049035		
17. 0	43. 56	138712		048892		
18. 0	42. 26	138607		048928		
19. 0	42. 10	138306		049212		
20. 0	43. 22	138793		049391		
21. 0	43. 5	138839		049140		
23. 0	44. 59	138955		049013		
26. 0	45. 22	138839		049013		
29. 0	46. 3	138700		048991		
34. 0	46. 52	138595		048991		
39. 0	47. 5	138595		048991		
51. 0	47. 48	138444		049012		
14. 56. 0	48. 23	138340		049076		
15. 1. 0	49. 4	138340		049183		
5. 0	49. 51	138269		049161		
11. 0	52. 22	138338		049197		
19. 0	53. 27	138604		049297		
27. 0	53. 27	138744		049318		
35. 0	55. 10	138871		049367		
45. 0	56. 36	139230		049403		
55. 0	57. 9	139671		049467		
15. 57. 30				049467	56·5	
16. 0. 0	59. 35					
2. 30		139671	56·5			
16. 14. 0	59. 59	139659		049516		
17. 57. 30				050641	55·0	
18. 0. 0	50. 18					
2. 30		138291	55·0			
4. 0	50. 16	138291		050691		
7. 0	49. 13	138209		050741		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Sep. 26. 18. 9. 0	22. 48. 54	0·138209		0·050769		T D
11. 0	48. 54	138093		050769		
14. 0	49. 33	138093		050812		
17. 0	49. 33	138244		050884		
19. 0	50. 21	138429		050884		
24. 0	51. 39	138429		050970		
29. 0	53. 53	138302		050984		
34. 0	54. 42	138302		051055		
39. 0	55. 18	138302		051112		
44. 0	56. 41	138290		051176		
18. 49. 0	56. 41	138290		051176		
19. 57. 30				051171	53·8	
20. 0. 0	57. 10					
20. 2. 30		137989	54·0			T D
21. 57. 30				051854	54·0	G H
22. 0. 0	22. 56. 39					
2. 30		139380	54·0			
9. 0	23. 7. 44	138116		051789		
22. 34. 0	8. 24	136227		051767		
23. 13. 0	2. 14	134235		052321		
29. 0	5. 48	134502		052812		
31. 0	23. 8. 23	135197		052954		
40. 0	22. 58. 33	127919		052905		
42. 0	23. 2. 57	128499		052712		
43. 0	3. 37	129438		052976		
44. 0	1. 52	129670		052734		
45. 0	23. 1. 17	128974		052877		
46. 0	22. 57. 21	131061		052734		
49. 0	58. 24	130145		052734		
23. 57. 30				052634	56·0	
27. 0. 0. 0	22. 59. 52					
2. 30		128269	56·5			
14. 0	23. 9. 43	131851		053596		
15. 0	8. 1	131504		053761		
17. 0	2. 57	131862		053497		G H
39. 0	6. 48	133579		054355		G
48. 0	9. 36	135007		054612		G
0. 57. 0	14. 29	138508		054919		G H
1. 16. 0	21. 5	141490		056158		
31. 0	10. 32	141204		056812		
47. 30				057118		
50. 0	10. 22					
52. 30		141663				
1. 57. 30				056584	61·0	
2. 0. 0	8. 33					
2. 30		142474	60·5			G H
6. 0	10. 8	138547		054542		E H
7. 30				056299		
10. 0	9. 35					
12. 30		142706				
21. 0	15. 24	138803		054458		

September 26d. 14h. The Declination Magnet being out of its usual position, extra observations were commenced. There was no appearance of an aurora.

Extraordinary Observations of September 27, 28, and 29.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Sep. 27. 2. 36. 0	23. 14. 5	0·138133		0·054409		E H
2. 51. 0	10. 4	135377		053898		
3. 14. 0	6. 21	135673		054014		
39. 0	3. 53	135105		053656		
54. 0	6. 27	135697		053181		E H
3. 57. 30				053964	62·0	T D
4. 0. 0	7. 39					
2. 30		136174	62·0			
4. 59. 0	5. 28	135601		053423		
5. 4. 0	5. 28	134707		053400		
9. 0	5. 28	134707		053328		
19. 0	4. 54	134626		053220		
24. 0	5. 41	134695		053092		
34. 0	5. 17	134682		052962		
39. 0	5. 17	134868		052855		
44. 0	5. 22	134902		052741		
49. 0	5. 35	134995		052620		
51. 0	5. 47	135065		052335		
53. 0	5. 51	135134		052221		
55. 0	5. 57	135121		052027		
5. 57. 30				051956	61·0	
6. 0. 0	5. 56					
2. 30		135121	61·0			
14. 0	23. 4. 58	135344		051953		
49. 0	22. 54. 49	135105		051924		
6. 59. 0	53. 1	135247		051970		
7. 9. 0	49. 43	135272		052015		
11. 0	44. 16	136199		052158		
13. 0	43. 50	136860		052181		
15. 0	42. 58	138064		052266		
17. 0	43. 34	138760		052266		
19. 0	45. 12	138528		052266		
21. 0	46. 40	138528		052266		
26. 0	47. 33	139329		052289		
31. 0	49. 25	139759		052204		
36. 0	52. 2	139493		052178		
41. 0	54. 24	139622		052144		
46. 0	55. 32	139055		052132		
51. 0	22. 56. 11	139287		052082		
7. 57. 30				052128	63·0	
8. 0. 0	23. 0. 49					
2. 30		138618	63·0			
9. 0	22. 59. 9	138618		051986		
19. 0	23. 1. 4	139313		052071		
29. 0	3. 31	139127		051972		
39. 0	2. 41	138664		051843		
8. 49. 0	2. 41	139313		051914		
9. 9. 0	3. 43	139499		051914		
39. 0	3. 6	138942		051843		
9. 57. 30				051914	63·0	
10. 0. 0	3. 15					

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Sep. 27. 10. 2. 30		0·139476	63·0			T D
Sep. 28. 7. 57. 30				0·052091	62·5	G H
8. 0. 0	23. 0. 48					
8. 2. 30		0·140345	62·0			
9. 57. 30				052041	62·0	
10. 0. 0	22. 42. 40					
2. 30		143589	62·0			
5. 0	43. 30	143576		051947		
10. 0	43. 17	143345		051876		
13. 0	42. 42	142520		051747		
15. 0	41. 55	142289		051782		
19. 0	41. 9	141941		051747		
25. 0	42. 28	141813		051724		
30. 0	44. 41	141407		051701		
35. 0	47. 44	141094		051701		
40. 0	52. 32	140862		051714		
45. 0	56. 5	140269		051714		
49. 0	56. 59	139910		051691		
10. 54. 0	57. 32	139794		051620		
11. 0. 0	56. 15	139503		051490		
5. 0	54. 17	139305		051360		
10. 0	53. 3	139769		051360		
15. 0	54. 55	140451		051338		
20. 0	57. 44	140451		051338		
35. 0	55. 13	139035		051151		
40. 0	53. 57	139255		051151		
45. 0	52. 57	139023		051092		
11. 57. 30				050892	60·7	
12. 0. 0	54. 30					
2. 30		139230	60·5			G H
Sep. 29. 7. 57. 30				0·052062	66·0	L
8. 0. 0	22. 54. 33					
8. 2. 30		0·136667	65·8			
9. 57. 30				051455	65·0	
10. 0. 0	43. 45					
2. 30		134565	64·8			
3. 30	43. 45	134495		051455		
14. 30	46. 4	134367		051384		
19. 30	47. 13	133740		051241		
22. 30	47. 13	133508		051184		
24. 30	47. 13	133393		051241		
29. 30	47. 2	133508		051241		
32. 30	46. 35	133323		051298		
34. 30	46. 35	133277		051312		
36. 30	46. 26	133161		051312		
10. 40. 30	46. 26	133323		051384		
11. 45. 30	22. 59. 58	133959		049284		L
50. 30	23. 4. 37	134294		049426		G
57. 30				049426	65·0	

September 28d. 10h. A change of 18′. 8″ having taken place in the position of the Declination Magnet between 8h and 10h, extra observations were commenced.

September 29d. A change of 10′. 48″ having taken place in the position of the Declination Magnet between 8h and 10h, extra observations were commenced.

Extraordinary Observations of September 29, and of October 12 and 15.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Sep. 29. 12. 0. 0	23. 0. 55					G
2. 30		0·132579	64·5			
12. 30	22. 54. 32	134410		0·049782		
20. 30	52. 9	134641		050024		
28. 30	47. 58	136032		050258		
33. 30	48. 27	136728		050095		
40. 30	45. 32	136959		050244		
46. 30	50. 4	136496		050024		
12. 59. 30	50. 52	132787		049689		
13. 12. 30	44. 51	132787		050045		
24. 30	51. 4	134641		050258		
37. 30	47. 3	134410		048834		
51. 30	49. 52	136032		049105		
13. 57. 30				049532	65·0	
14. 0. 0	46. 7					
2. 30		137422	64·5			
4. 30	44. 46	138581		049746		
9. 30	48. 9	138813		049810		
19. 30	53. 2	138581		050116		
27. 30	49. 16	137538		050352		
40. 30	50. 22	136264		050543		
49. 30	49. 5	136728		050757		
14. 59. 30	46. 44	136728		050814		
15. 29. 30	49. 24	137654		049604		
15. 57. 30				050757	65·0	
16. 0. 0	49. 36					
2. 30		138465	64·5			
16. 34. 30	46. 3	137307		050708		
17. 49. 30	56. 7	137654		051455		
17. 57. 30				051455	65·0	
18. 0. 0	56. 3					
2. 30		137376	64·5			
18. 39. 30	59. 6	136829		051470		
19. 57. 30				051251	61·0	
20. 0. 0	58. 12					
2. 30		136756	61·0			G
Oct. 12. 5. 57. 30				0·050954	72·0	T D
6. 0. 0	22. 58. 21					
6. 2. 30		0·141850	71·5			T D
7. 57. 30				050811	72·0	G H
8. 0. 0	50. 5					
2. 30		141921	72·0			
5. 0	46. 55	141907		050786		
9. 0	44. 52	141907		050786		
12. 0	42. 56	142602		050715		
16. 0	42. 19	142936		050690		
18. 0	41. 39	143268		050665		
20. 0	41. 24	143454		050701		
24. 0	41. 59	144079		050701		
29. 0	43. 3	144761		050782		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Oct. 12. 8. 34. 0	22. 44. 55	0·144631		0·050614		G H
39. 0	45. 56	144213		050614		
44. 0	48. 17	144037		050589		
49. 0	49. 14	143444		050564		
54. 0	49. 19	142633		050493		
8. 59. 0	48. 16	142271		050397		
9. 7. 0	48. 16	141793		050372		
14. 0	47. 36	141315		050347		
24. 0	47. 54	141391		050393		
29. 0	48. 12	141056		050368		
9. 57. 30				050365	70·5	
10. 0. 0	52. 21					
2. 30		140550	70·5			G H
Oct. 15. 9. 57. 30				0·051202	63·0	G H
10. 0. 0	22. 56. 42					
10. 2. 30		0·139893	63·0			G H
11. 57. 30				050730	64·0	T D
12. 0. 0	23. 2. 35					
2. 30		140369	64·0			
4. 0	2. 32	140369		050509		
9. 0	1. 49	140138		050438		
14. 0	23. 0. 29	140138		050438		
19. 0	22. 58. 47	139860		050366		
24. 0	58. 12	139952		050594		
29. 0	57. 0	140207		050722		
34. 0	56. 7	140369		050651		
39. 0	55. 3	140254		050438		
44. 0	54. 13	140138		050331		
49. 0	52. 52	140555		050224		
54. 0	51. 31	141065		050110		
12. 59. 0	50. 15	141528		050203		
13. 4. 0	49. 36	141760		050366		
9. 0	48. 20	141760		050523		
14. 0	46. 47	141714		050580		
15. 0	51. 0	141714		050580		
16. 0	47. 53	141760		050637		
17. 0	48. 52	141760		050651		
22. 0	49. 34	141111		050687		
27. 0	50. 8	140601		050722		
32. 0	59. 16	140369		050438		
33. 0	44. 37	140138		050068		
34. 0	54. 31	140138		050010		
35. 0	52. 13	140138		050082		
36. 0	51. 7	140138		050366		
39. 0	51. 30	139720		050509		
42. 0	52. 25	139906		050637		
45. 0	54. 11	140230		050865		
50. 0	54. 27	139674		050865		
55. 0	54. 47	139906		050915		
13. 57. 30				050936	64·0	

October 12d. A change of 8′. 16″ having taken place in the position of the Declination Magnet between 6h and 8h, extra observations were commenced.

October 15d. 12h. A considerable change having taken place in the position of the Declination Magnet since 10h, extra observations were commenced.

Extraordinary Observations of October 15, 22, and 23.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Oct. 15. 14. 0. 0	22. 55. 13					T D
2. 30		0·140184	64·0			T D
Oct. 22. 17. 57. 30				0·050973	62·0	G
18. 0. 0	22. 54. 52					
18. 2. 30		0·141967	62. 0			G
19. 57. 30				050658	59·5	E H
20. 0. 0	48. 7					E H
20. 2. 30		138411	59·5			G H
21. 40. 0		128024				
41. 0	56. 50	126402		050335		
42. 0	56. 25	128372		050798		
43. 0	58. 1	126982		051012		
44. 0	58. 38	127573		050656		
45. 0	58. 3	127573		050762		
46. 0	57. 41	127573		050904		
47. 0	22. 58. 17	127457		050571		
48. 0		128499		050607		
49. 0	23. 3. 57	127470		051035		
50. 0	23. 3. 4	127933		050500		
52. 0	22. 58. 42	127586		050167		
53. 0	22. 58. 54	127586		050381		
54. 0	23. 2. 23	130032		050594		
55. 0	5. 59	129800		050594		
57. 30	4. 0	129916		050689	62·0	
21. 58. 0	7. 9	130380		050902		
22. 0. 0	4. 32	130380		050689		
1. 0	5. 26	128757		050511		
2. 30	5. 39	128757	62·0	050475		
3. 0	6. 12	125513		050261		
4. 0	23. 2. 45	126440		050404		
4. 30	22. 52. 4					
5. 0	54. 23	124006		049977		
6. 0	52. 41	123427		049977		
7. 0		120878				
8. 0	51. 42	123787		049821		
9. 0	51. 10	122165		049927		
10. 0	40. 14	120774		049714		
11. 0	22. 50. 35	126916		050070		
12. 0	23. 0. 52	129233		050426		
13. 0	5. 46	130624		050995		
15. 0		131899		050995		
16. 0	4. 52	132941		050853		
17. 0	8. 19	135838		051209		
18. 0	9. 42	136534		051138		
19. 0	5. 16	135503		050995		
20. 0	4. 0	135503		050995		
21. 0	23. 0. 0	135040		050639		
23. 0	22. 58. 6	135040		050497		
24. 0	22. 59. 1	136199		050426		
25. 0	23. 1. 48	137589		050711		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Oct. 22. 22. 27. 0	23. 1. 42	0·136894		0·050568		G H
28. 0	2. 35	137473		050533		
31. 0	6. 59	137137		050556		
32. 0	7. 48	137137		050662		
34. 0	5. 6	136906		050556		
36. 0	6. 7	135979		050449		
39. 0	11. 15	136211		050520		
40. 0	11. 15	133082		050627		
41. 0	4. 12	131576		050058		
43. 0	5. 54	128691		050022		
45. 0	0. 22	126606		049630		
47. 0	4. 7	129039		049773		
49. 0	2. 56	130314		050152		
50. 0	3. 22	132168		050187		
51. 0	1. 59	131009		050081		
52. 0	2. 46	131589		050116		
54. 0	1. 33	132992		049902		
55. 0	4. 52	134382		050365		
57. 0	2. 37	133571		050187		
58. 0	1. 39	136469		050045		
22. 59. 0	23. 0. 35	136353		050116		
23. 1. 0	22. 58. 22	135310		050116		
3. 0	56. 17	136469		050187		
4. 0	55. 59	135773		050081		
6. 0	55. 58	136353		050294		
10. 0	55. 7	136133		050472		
13. 0	55. 7	137639		050258		
14. 0	53. 9	137523		050329		
18. 0	55. 12	138347		050614		
20. 30	22. 58. 39	139622		050744		
23. 0	23. 1. 57	140317		051064		
28. 0	4. 54	139042		050922		
39. 0	8. 25	138708		050708		
47. 0	8. 5	142429		050589		
49. 0	8. 32	140227		050660		
23. 57. 30				050247	62·5	
23. 0. 0. 0	23. 3. 37					
2. 30		138549	63·0			G H
22. 0	22. 58. 15	138154		050589		T D
24. 0	23. 3. 27	138386		051087		
26. 0	2. 15	135953		050981		
28. 0	7. 44	139847		051159		
30. 0	8. 25	137737		051287		
32. 0	1. 24	137112		051372		
34. 0	0. 49	136301		051230		
36. 0	1. 18	136347		051266		
38. 0	23. 0. 59	135605		051393		
40. 0	22. 58. 54	135628		051195		
42. 0	23. 1. 40	135559		050888		
54. 0	22. 58. 16	133264		051301		
0. 57. 0	57. 30	133264		051479		

October 22^{d}. 20^{h}. Considerable changes having taken place in the positions of the Declination and Horizontal Force Magnets since 18^{h}, extra observations were commenced.

Extraordinary Observations of October 23.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Oct. 23. 1. 0. 0	22. 59. 57	0·134678		0·051586		T D
5. 0	57. 12	134215		051586		
8. 0	22. 57. 7	132824		051586		
14. 0	23. 4. 9	136533		051693		
19. 0	23. 4. 45	134794		051907		
24. 0	22. 57. 54	134910		052234		
29. 0	23. 0. 31	136162		052220		
34. 0	6. 31	137089		052511		
39. 0	9. 54	138479		052867		
44. 0	8. 49	137992		053166		
47. 30				053544		
50. 0	23. 15. 45					
52. 30		135605				T D
57. 30				053971	62·5	G H
1. 58. 0	22. 44. 33	127031		054363		
2. 0. 0	44. 45	127263		054932		
1. 0	46. 15	127147		055146		
2. 0	46. 15	125640		055182		
2. 30		125640	63·0			
4. 0	51. 4	125408		055146		
5. 0	53. 43	128073		055525		
6. 0	55. 25	128421		055418		
7. 30	55. 23	130507		055311		
10. 0	22. 59. 0	130404		055026		
11. 0	23. 0. 30	131330		054884		
12. 30	1. 53	132374		054778		
14. 0	1. 47	132953		054742		
17. 0	0. 44	133069		054765		
19. 0	0. 44	133777		054788		
20. 0	2. 21	133847		054824		
22. 0	3. 47	134241		055108		
23. 0	0. 14	135979		055678		
25. 0	1. 27	138992		055713		
30. 0	11. 20	140279		055238		
32. 0	11. 57	140511		055060		
35. 0	21. 4	141207		054953		
38. 0	24. 0	142133		054905		
39. 0	25. 13	142563		054834		
40. 0	25. 26	142378		054834		G H
41. 0	25. 55	142309		054976		T D
42. 0	25. 28	141891		054976		
44. 0	23. 2	142146		055056		
46. 0	21. 13	141799		054885		
49. 0	20. 53	139597		054667		
50. 0	20. 45	141001		054667		
51. 0	21. 52	139378		054845		
54. 0	25. 25	141927		054759		
57. 0	32. 31	144245		054904		
2. 59. 0	35. 41	143318		054726		
3. 0. 0	35. 32	142738		054940		
4. 0	31. 27	142970		055496		T D

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Oct. 23. 3. 6. 0	23. 30. 40	0·146331		0·056244		G H
7. 0		147038				
8. 0	33. 41	147965		056707		
9. 0	34. 49	148660		057063		
11. 0	35. 58	149889		057739		
12. 0	38. 10	154222		058487		
14. 0	37. 50	155150		058415		
15. 0	37. 23	155729		058558		
16. 0	32. 57	157351		059293		
17. 0	27. 18	155844		058937		
18. 0	24. 50	155381		058604		
20. 0	18. 12	157943		058390		
21. 0	23. 45	160145		058319		
22. 0	22. 44	158870		057928		
24. 0	21. 40	159566		057785		
25. 0		165359				
26. 0	27. 35	166866		057963		
27. 0	34. 9	168140		058248		
28. 0	29. 44	166170		058141		
30. 0	30. 4	165604		058984		
32. 0	26. 49	165604		060550		
33. 0	26. 49	163750		060550		
34. 0	22. 2	160274		058913		
36. 0	43. 30	159927		057773		G H
38. 0	32. 57	157609		057311		G
39. 0	35. 8	156751		057369		
40. 0	33. 15	156635		057982		
42. 0	27. 42	155430		057796		
43. 0	27. 2	155536		057369		
45. 0	29. 15	152639		056645		
46. 0	29. 4	151017		056645		
48. 0	24. 25	151017		057264		
50. 0	15. 48	150090		057107		
51. 0	23. 8. 45	148699		058959		
52. 0	22. 57. 36	147540		058674		
53. 0	56. 35	145919		057748		
54. 30	56. 9	145004		056623		
55. 30	57. 24	144587		056646		
56. 0	22. 58. 33	144077		056418		
56. 30	23. 0. 37	143845		056170		
57. 0	3. 45	143845		055849		
57. 30	4. 31	143150		055720	64·0	
58. 0	6. 47	143382		055956		
58. 30	5. 52	143845		055849		
3. 59. 30	1. 29	143034		056062		
4. 0. 0	9. 20	143614		055991		
0. 30	8. 44	142455		055991		
1. 0	9. 14	143150		055991		
1. 30	9. 53	141991		056205		
2. 0	7. 43	142686		056134		
2. 30	9. 53	142686	64·0	056027		

Extraordinary Observations of October 23.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Oct. 23. 4. 7. 0	23. 16. 17	0·141482		0·056703		G
8. 0	15. 7	139952		057130		
8. 30	12. 29	139674		057130		
10. 0	10. 20	141760		057130		
12. 0	1. 58	141528		057130		
13. 0	2. 48	142686		056917		
14. 0	4. 41	141991		056717		
16. 0	2. 39	141528		056005		
17. 0	3. 30	141297		055849		
19. 0	9. 1	141991		055564		
21. 0	8. 6	140369		055934		
25. 0	1. 23	140369		055991		
26. 0	0. 1	140184		055706		
27. 0	2. 44	140833		055600		
28. 0	2. 16	140369		055458		
31. 0	4. 54	140787		055279		
34. 0	3. 45	140369		055151		
38. 0	2. 18	141760		054994		
44. 0	13. 28	141528		054567		
45. 0	12. 47	140601		054425		
46. 0	15. 33	139210		054282		
47. 0	16. 43	138515		054211		
50. 0	17. 55	139674		054795		
51. 30	8. 24	139674		055222		
52. 0	6. 46	140601		055350		
55. 0	3. 28	141991		055422		
4. 59. 0	1. 11	144123		055279		
5. 0. 0	1. 8	144309		055279		
5. 0	9. 25	144541		055137		
7. 0	9. 49	144077		055137		
10. 0	11. 29	146163		055706		
11. 0	9. 41	145932		055863		
16. 0	3. 47			056425		
17. 0	4. 12	145120		055948		
18. 0	23. 3. 46	145282		056027		
23. 0	22. 58. 50	146372		057202		
25. 0	22. 57. 1	147367		057493		
27. 0	23. 0. 21	146372		056988		
29. 0	22. 58. 6	146974		057195		
30. 0	22. 58. 49	147090		057095		
33. 0	23. 1. 23	146395		057401		
35. 0	22. 54. 53	146904		057558		
36. 0	52. 40	147321		057486		
37. 0	49. 27	147785		057309		
38. 0	46. 51	148249		057144		
39. 0	47. 12	148573		057059		
39. 30	48. 12					
40. 0	51. 5	148249		056846		
43. 0	56. 17	147785		056774		
44. 0	56. 7	148249		056846		
45. 0	55. 17	148712		056917		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Oct. 23. 5. 47. 0	22. 54. 39	0·148480		0·056882		G
51. 0	52. 42	147090		056490		
54. 0	53. 3	147321		056219		
56. 0	56. 1	147321		056027		
57. 0	56. 53	146441		055885		
5. 57. 30				056027	64·0	
6. 0. 0	58. 21					
2. 30		145468	64·0			
5. 0	22. 59. 15	145468		056027		
9. 0	23. 0. 30	145481		055943		
14. 0	1. 13	143395		056228		
19. 0	23. 0. 42	145262		056465		G
24. 0	22. 58. 43	147070		056679		T D
26. 0	55. 57	147811		056750		
29. 0	56. 58	151542		056964		
31. 0	22. 56. 17	154290		056453		
33. 0	23. 9. 18	154870		055029		
35. 0	4. 59	146318		055136		
37. 0	14. 5	144232		054017		
39. 0	5. 49	143305		053748		
41. 0	22. 10	143653		053676		
43. 0	13. 57	141336		054092		
45. 0	5. 29	140190		054519		
47. 0	4. 17	139262		054270		
49. 0	3. 31	139262		054519		
51. 0	23. 0. 50	139031		054697		
53. 0	22. 58. 33	138985		055219		
55. 0	58. 20	139147		055325		
57. 0	57. 16	141131		055788		
6. 59. 0	22. 56. 37	142868		055539		
7. 1. 0	23. 4. 28	144375		055859		
4. 0	7. 14	143448		055859		
7. 0	11. 33	140899		055624		
10. 0	11. 15	140680		055775		
13. 0	8. 30	140148		056025		
16. 0	5. 44	140448		056274		
19. 0	23. 5. 44	140230		056383		
25. 0	22. 58. 58	139627		056511		
30. 0	57. 15	138620		056605		
35. 0	57. 28	137461		055395		
40. 0	48. 57	136767		055253		
43. 0	48. 7	136998		055395		
45. 0	46. 49	136780		055547		
47. 0	45. 29	136594		055490		
49. 0	44. 45	136548		055419		
50. 0	39. 54	135552		055277		
51. 0	34. 41	135621		054849		
53. 0	30. 42	137243		054209		
55. 0	33. 18	136548		054137		
57. 0	33. 31	136213		054068		
57. 30				054039	65·0	

Extraordinary Observations of October 23 and 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Oct. 23. 7. 59. 0	22. 37. 25	0·136097		0·054018		T D
8. 0. 0	43. 11	134706		053997		
1. 0	43. 11	135634		053876		
2. 30		137256	65·0			
3. 0	45. 1	137256		053733		
5. 0	39. 43	138113		053760		
7. 0	38. 29	138368		053425		
9. 0	43. 34	139166		053333		
11. 0	42. 1	138981		053212		
13. 0	43. 2	139213		053117		
14. 0	47. 47	138517		053117		
16. 0	49. 51	138054		053045		T D
18. 0	52. 46	138633		052951		G
20. 0	53. 53	137809		052880		
23. 0	58. 2	136998		053022		
25. 0	53. 59	137925		053165		
29. 0	54. 36	137647		053070		
34. 0	57. 0	136581		053056		
40. 0	55. 22	131900		052833		
41. 0	55. 9	132132		052762		
47. 0	52. 26	135131		052668		
51. 30	57. 58	135386		052444		
54. 0	54. 45	135131		052359		
8. 57. 0	22. 55. 57	134204		052145		
9. 57. 30				051532	63·5	
10. 0. 0	23. 15. 41					
1. 30	22. 55. 53	133508		052051		
2. 30		135105	64·5			
7. 0	55. 31	133323		052098		
26. 0	22. 56. 28	134191		051839		
54. 0	23. 3. 24	131692		049590		
10. 59. 0	22. 47. 27	133313		048997		
11. 4. 0	45. 47	132142		046910		
14. 0	48. 26	137909		048311		
24. 0	22. 52. 41	140665		049142		
39. 0	23. 18. 33	127404		047530		G
11. 57. 30				048233	62·0	E H
12. 0. 0	22. 50. 38					
2. 30		134783	62·0			E H
Oct. 23. 21. 57. 30				0·051427		G
22. 0. 0	22. 51. 1					
2. 30		0·137352	54·5			
18. 10	43. 35	139962		051645		
28. 10	54. 16	137644		051645		
22. 53. 0	53. 19	136253		051218		
23. 8. 0	55. 44	135558		051502		
14. 7	55. 7	134863		051431		
19. 0	56. 5	137644		051716		
33. 0	58. 14	137458		051652		
39. 0	57. 35	136067		051716		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Oct. 23. 23. 57. 30	22. 59. 57	0·135327		0·051858		G
24. 0. 14. 0	23. 0. 8	133704		051930		
30. 0	2. 33	135790		052214		
0. 37. 0	3. 42	136716		052286		
1. 14. 0	11. 37	136612		052733		
18. 0	5. 37	140101		053110		
19. 0	4. 47	137087		052042		
23. 0	7. 36	144156		052042		
26. 0	2. 31	137319		052035		
28. 0	23. 8. 20	140922		051849		
28. 20	22. 57. 31					
29. 0	55. 54	135708		051636		
36. 0	59. 56	136287		051636		
46. 0	56. 25	137690		051657		
51. 0	22. 58. 25	136762		052796		
1. 53. 0	23. 0. 11					
2. 5. 50	0. 53	140945		052674		
16. 50	2. 32	139334		052055		
40. 50	6. 12	143529		053022		
48. 50	4. 36	142845		052830		G
2. 56. 50	23. 1. 31	141929		052851		G H
4. 7. 50	22. 58. 19	144609		054864		G
17. 50	22. 57. 23	145536		055092		
24. 50	23. 1. 24	139974		054651		
30. 50	22. 57. 17	140913		054886		
39. 50	22. 49. 9	140913		054687		
49. 50	23. 4. 59	145560		055051		
4. 59. 50	8. 1	144413		055180		
5. 13. 50	23. 6. 0	144078		055949		
26. 50	22. 51. 38	145815		055736		
34. 50	22. 58. 56	145827		055828		
40. 50	23. 0. 59	145596		056191		
49. 50	22. 55. 31	147286		057843		
50. 20	50. 6	146544		057843		
50. 50	47. 23	147008		057915		
55. 50	22. 52. 24	147008		057310		
58. 10	23. 0. 39	148862		057701		
58. 40	1. 47	149326		057701		
5. 59. 10	23. 2. 27	149094		057915		
6. 8. 10	22. 45. 26	147020		057581		G
23. 10	49. 47	146788		057937		G H
28. 40	49. 33	149002		057959		
33. 30	54. 40	147496		058315		
38. 40	46. 34	145873		058528		
41. 40	40. 5	147496		058386		
43. 10	37. 15	147264		058030		
44. 30	36. 55	148425		057909		
49. 10	48. 23	147961		057269		
6. 52. 0	53. 20	147845		057269		
7. 1. 40	43. 29	143558		057126		
8. 40	45. 23	143326		056343		

October 23d. 22h. Remarkable changes having taken place in the positions of the Declination and Horizontal Force Magnets, extra observations were commenced.

Extraordinary Observations of October 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°		d h m s	° ′ ″		°		°	
Oct. 24. 7. 11. 40	22. 46. 51	0·143558		0·056201		G H	Oct. 24. 8. 33. 40	22. 39. 25	0·140288		0·052361		G
12. 40	39. 35	144022		055916			36. 20	42. 20	140520		051720		
13. 40	36. 13	141240		054916			39. 10	48. 59	140520		051364		
14. 40	35. 17	144022		056699			40. 40	49. 13	140288		051222		
16. 10	37. 13	146339		057269			42. 50	52. 34	140056		051129		
17. 10	26. 27	147034		057411			45. 10	55. 35	139802		050951		
18. 10	34. 54	147498		057981			51. 40	52. 27	138180		050630		
20. 10	36. 35	149352		058052			8. 58. 10	47. 42	135155		049968		
21. 10	39. 21	151206		059761			9. 5. 10	54. 6	135155		049043		
22. 10	31. 50	149120		059903			9. 10	22. 59. 38	133057		049234		
23. 40	21. 16	148888		059405			11. 10	23. 0. 55	133752		049384		
24. 10	22. 19. 11	148193		059333			15. 10	5. 0	133752		049590		
25. 10	23. 14. 3	147498		058479			18. 10	8. 18	135131		050494		
26. 10	22. 12. 14	146570		057269			21. 10	23. 3. 4	134436		050708		
30. 10	24. 28	149584		055845			26. 10	22. 59. 53	139766		051491		
32. 10	20. 56	147498		055061			28. 10	59. 53	138340		051070		
33. 10	38. 13	144022		054848			32. 10	56. 39	137645		051070		
34. 10	36. 42	142863		054563			40. 10	22. 59. 14	135558		050870		
35. 10	33. 57	143094		054421			43. 10	23. 0. 9	135326		050407		
37. 10	34. 33	145181		054349			44. 10	0. 11	136484		050051		
39. 10		144949		053709			47. 10	1. 55	134862		050563		
40. 10	46. 45	145381		053780			51. 10	23. 0. 22	134155		050528		
41. 10	43. 10	145644		053922			9. 58. 10	22. 58. 47	131837		050386		
43. 10	50. 21	144949		054065			10. 0. 30	55. 10	130795		049816		
44. 10	53. 16	144717		053780			7. 30	55. 53	131131		050079		
46. 10	54. 12	144949		053780			16. 10	49. 9					
48. 10	57. 28	143094		053424			17. 40	50. 48	130655		050628		
49. 10	56. 45	143558		053495			18. 10	47. 11	133436		050913		
50. 10	54. 35	142399		053353			18. 40	48. 10	135290		051126		
52. 10	58. 14	142631		053281			19. 10	47. 3	136426		051603		
53. 10	57. 21	141704		053068			19. 40	47. 3	137353		051674		
54. 10	56. 12	141935		052925			20. 10	47. 3	137585		052101		
56. 10	57. 38	141009		053139			21. 40	47. 2	136195		051531		
7. 58. 10	45. 59	141009		052997			22. 40		138049		051460		
8. 0. 10	48. 31	140777		052712			23. 10	46. 4	139903		051674		
1. 10	45. 41	141356		052712			23. 40	46. 54	139903		051745		
2. 10	45. 41	142167		052712			24. 10	22. 47. 15	140367		051674		
7. 10	46. 24	141240		052285			28. 10	23. 11. 6	137109		050655		
7. 40	52. 35	140082		052285			34. 30	37. 2	136414		049801		
8. 0	51. 58	140314		052213			37. 0	39. 38	120192		047309		
9. 10	55. 52	139850		052427		G H	37. 10		117874				
11. 10	54. 43	139618		052783		G	44. 10		058164				
13. 10	47. 33	138923		053353			44. 40	57. 51	093529		047287		
14. 10	46. 39	138923		053424			45. 10	14. 0	101176		049494		
15. 10	41. 59	138098		053237			45. 40	17. 42	094456				
18. 10	30. 19	139604		052525			45. 50		092370		049636		
20. 40	35. 23	140532		052027			46. 20	19. 29	093529		049707		
22. 10	43. 59	141226		051956			46. 30	24. 30	091443		049779		
25. 10	51. 49	138214		052098			47. 40	25. 48	090516		049992		
28. 10	50. 17	137506		052147			48. 10		092370				
30. 40	45. 31	137738		052503			48. 30	32. 43	093297		050847		

October 24d. 7h. 13m. An aurora was observed; there were deep rose-coloured streamers reaching from the N.W. and N.N.W. horizon half way to the zenith: 7h. 20m, the rose-coloured streamers have become more brilliant and numerous, they reach from the N.W. round to the N.; they have the appearance in some places of sheets of flame: 7h. 30m, the auroral streamers still continue flashing with the same brilliancy and to the same extent as they did ten minutes since.

October 24d. 7h. 36m. The red auroral streamers are less brilliant; they are in the N.N.W., N., and N.W.: 7h. 45m, the red streamers are gradually becoming less brilliant: 7h. 50m, they have nearly faded away, but still appear to spread along the N.W. horizon towards the N.

Extraordinary Observations of October 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Oct. 24. 10. 49. 10		0·092834		0·050704		G
49. 40		097469				
50. 0	23. 30. 2	093993		050277		
50. 50	27. 33	097005				
53. 10	22. 21	096993		049117		
54. 10	20. 13	098847		048974		
55. 10	17. 3	108580		048832		
55. 40	15. 37	104177		048547		
56. 10	21. 18	106031		048690		
57. 0	21. 47	107422		048903		
58. 10	29. 21	108349		048761		
58. 40	31. 22	109044		049117		
10. 59. 10	31. 5	110666		049772		
11. 2. 50	28. 53	112057		051182		
3. 10	29. 32	113679		051538		
	27. 2	114374		051466		
8. 40	22. 50	113203		051729		
11. 30	13. 5	116669		051851		
11. 50	23. 6. 47					
12. 30		118754				
13. 30		118870				G
15. 30	22. 51. 24	123157				E H
17. 30	50. 18	125475				
23. 30	22. 55. 0	126159		049734		
28. 30		129403		049947		
33. 30	23. 2. 27	129855		050385		
38. 30	22. 59. 10	128696		050100		
43. 30	23. 1. 4	129496		049935		
48. 30	9. 2	126268		047657		
53. 30	8. 2	125197		048775		
56. 30	4. 28	125660		048704		
11. 58. 30	4. 28	117317		046782		
12. 0. 30	23. 3. 15	117780		047921		
2. 30	22. 55. 2	118906		047949		
4. 30	51. 45	119601		048234		
6. 30	48. 10	117979		046810		
8. 30		121688		047665		
12. 30	29. 52	119368		047857		
17. 30		119136		046931		
33. 30	51. 24	114490		043137		
38. 30	38. 51	125151		048761		
43. 30	32. 40					
48. 30	32. 44	119576		047459		
53. 30	29. 38	115162		044518		
12. 58. 30	40. 33	126287		044874		
13. 3. 30	38. 6	130226		045372		
8. 30		131604		044497		
13. 30	43. 1	130446		049481		
18. 30	23. 2	133910		048748		
23. 30	41. 11	132867		047324		
28. 30	27. 58	132972		050578		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Oct. 24. 13. 33. 30	22. 33. 15	0·128337		0·049011		E H
38. 30	22. 20. 14	131118		049047		
43. 30	23. 11. 5	128093		050272		
48. 30	14. 56	127398		049916		
53. 25	11. 2	128082		049894		
13. 57. 30				050464	54·5	
14. 0. 0	5. 35					
2. 30		130980	54·5			
8. 30	6. 49	131083		050692		
13. 30	1. 49	132010		050723		
28. 30	3. 33	135243		051490		
43. 30	28. 56	135475		051062		
48. 30	10. 8	134536		051540		
14. 58. 30	7. 27	132218		050864		
15. 13. 30	2. 31	135220		052160		
28. 30	4. 14	135336		052088		
43. 30	4. 2	135904		052851		
15. 57. 30				051035	54·0	
16. 0. 0	2. 35					
2. 30		136367	54·0			
14. 30	2. 4	134387		052438		
28. 30	1. 45	136207		052716		
43. 30	23. 2. 34	132845		052482		
16. 58. 30	22. 59. 2	135615		052390		
17. 13. 30	53. 3	138396		051158		
18. 30	58. 24	131420		050568		
23. 30	58. 36	134897		051992		
29. 30	22. 56. 40	133727		050974		
43. 30	23. 3. 21	136032		052662		
17. 57. 30				052286	53·0	
18. 0. 0	22. 57. 31					
2. 30		137180	53·0			
13. 30	23. 4. 27	136716		052001		
28. 30	2. 50	137180		051218		
43. 30	6. 9	132545		052037		
18. 58. 30	10. 54	131386		052072		E H
19. 8. 30	12. 9	131386		052001		T D
47. 30	23. 47	122116		050933		
48. 30	27. 48	124666		051075		
49. 30	23. 45	124434		051075		
51. 30	27. 57	126173		051360		
52. 30	25. 23	125593		051360		
53. 30	27. 57	126057		051218		
55. 30	28. 7	125129		050862		
57. 30	31. 39	125871		050790	53·0	
19. 59. 30	31. 39	124898		050648		
20. 0. 0	31. 39					
0. 30	34. 32	125315		050684		
1. 30	34. 14	125871		050648		
2. 30	34. 40	126011	53·0	050648		
3. 30	32. 6	123739		050577		

October 24d. Between 11h. 3m. 10s and 11h. 8m. 40s observations of the three magnets were taken, but the time was not recorded. For other particulars with respect to the aurora, see the section of Extraordinary Meteorological Observations.

Extraordinary Observations of October 24 and 25.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Oct. 24. 20. 5. 30	23. 31. 12	0·123855		0·050363		T D
8. 30	20. 26	122742		050434		
9. 30	26. 0	123739		050506		
10. 30	26. 0	125361		050613		
11. 30	20. 6	124898		050506		
12. 30	20. 48	125315		050434		
13. 30	23. 28	125941		050506		
14. 30	23. 47	126288		050648		
16. 30	23. 43	126057		050648		
18. 30	26. 49	126983		050755		
20. 30	31. 12	129397		050790		
21. 30	29. 57	128374		050933		
22. 30	30. 23	130111		051025		
24. 30	30. 50	129602		051096		
26. 30	32. 39	129394		050933		
28. 30	26. 3	128374		050434		
30. 30	22. 59	128142		050506		
32. 30	20. 50	128142		050627		
35. 30	19. 11	127910		050719		
37. 30	22. 37	128605		050577		
38. 30	18. 19	129927		050484		
40. 30	14. 4	132035		050506		
41. 30	23. 10. 54	130923		050542		
42. 30	22. 55. 58	129533		050221		
43. 30	23. 1. 42	130228		050078		
44. 30	2. 1	130923		050221		
45. 30	23. 0. 4	132081		050463		
47. 30	22. 59. 22	131850		050292		
50. 30	23. 1. 56	132313		050648		
53. 30	22. 59. 58	132777		050862		
56. 30	55. 50	130576		051075		
20. 58. 30	58. 4	132522		051146		
21. 0. 30	54. 38	134052		051254		
2. 30	22. 56. 21	134515		051488		
4. 30	23. 0. 18	133588		051360		
6. 30	22. 59. 27	134399		051431		
8. 30	23. 0. 51	135141		051360		
13. 30	2. 34	134168		051459		
18. 30	23. 2. 44	133204		051787		
23. 30	22. 59. 27	131386		051431		
36. 30	22. 56. 45	128374		051645		
48. 30	23. 1. 30	119799		051431		
49. 30	22. 59. 2	122116		051645		T D
57. 30	23. 13. 16	125129		052143	53·0	G H
21. 59. 30	13. 57	128837		052001		
22. 0. 0	6. 13	127215		052428		
2. 30	1. 47	126057	53·0	051930		
3. 30	5. 14	129080		051807		
4. 10	15. 54	129775		052590		
19. 20	10. 40	130715		051828		
26. 20	9. 29	133032		051757		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Oct. 24. 22. 36. 20	23. 7. 56	0·136101		0·051636		G H
22. 54. 50	5. 37	133761		052746		
23. 8. 20	5. 15	138871		051699		
23. 20	6. 45	134933		052930		G H
33. 20	3. 30	135418		053022		G
23. 57. 30				053135	54·0	
25. 0. 0. 0	2. 5					
2. 30		138685	54·0			
0. 29. 20	1. 52	138047		053027		G
1. 1. 20	5. 12	138801		053062		G H
47. 30				054379		
50. 0	9. 39					
52. 30		140655				
1. 57. 30				054549	56·0	
2. 0. 0	5. 56					
2. 30		139844	56·0			
7. 30				054648		
10. 0	1. 20					
12. 30		138221				G H
39. 0	11. 35	139577		054777		T D
49. 0	8. 39	138290		055055		
2. 59. 0	4. 39	138163		054592		
3. 9. 0	9. 34	139625		054692		
19. 0	5. 38	141152		054692		
29. 0	1. 19	141373		054956		T D
39. 0	23. 1. 39	142068		056736		E H
49. 0	22. 51. 12	143215		055320		
3. 57. 30				055198	55·0	
4. 0. 0	23. 7. 52					
2. 30		143668	55·0			
9. 0	6. 42	143215		055220		
19. 0	2. 23	139623		054579		
29. 0	9. 13	140215		054671		
39. 0	23. 1. 1	139519		055027		
49. 0	22. 56. 45	138128		054386		
4. 59. 0	56. 20	138603		054122		
5. 9. 0	57. 14	137676		053766		
19. 0	57. 54	138605		053716		
29. 0	59. 29	137330		053360		
39. 0	59. 10	137562		053218		
49. 0	59. 29	137932		053025		
5. 57. 30				052883	55·5	
6. 0. 0	58. 45					
2. 30		137584	55·5			
24. 0	59. 5	138012		052663		
6. 39. 0	58. 37	137990		052776		
7. 28. 0	49. 38	142718		052856		
30. 0	50. 6	141559		052714		
34. 0	54. 43	140169		052429		
39. 0	53. 45	138558		052166		
48. 0	46. 12	139266		052045		

Extraordinary Observations of October 25, and November 1, 19, and 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Oct. 25. 7. 53. 0	22. 50. 50	0·139961		0·051902		G H
7. 57. 30	47. 32	138804		051782	57·0	
8. 0. 0	49. 39	138804		051782		
2. 30	48. 51	138109	57·0	051782		
9. 0	46. 28	137413		051924		
31. 0	40. 56	136718		052138		G H
8. 46. 0	45. 44	136718		052280		E H
9. 1. 0	51. 46	136371		052601		
16. 0	55. 17	136486		052672		
31. 0	22. 58. 27	137645		052750		
46. 0	23. 0. 25	138109		052957		
9. 57. 30				052081	57·0	
10. 0. 0	22. 53. 43					
2. 30		138209	57·0			E H
Nov. 1. 9. 57. 30				0·050606	60·0	E H
10. 0. 0	22. 53. 54					
10. 2. 30		0·140791	60·0			E H
11. 57. 30				050161	60·3	T D
12. 0. 0	43. 49					
2. 30		140505	60·5			
3. 0	44. 30	140644		050090		
6. 0	44. 49	140459		050090		
11. 0	43. 16	140145		049926		
16. 0	43. 23	139728		049853		
21. 0	42. 11	139218		049903		
26. 0	41. 17	139218		049953		
31. 0	40. 32	139530		049996		
36. 0	41. 11	139785		049953		
41. 0	40. 25	139831		049889		
46. 0	39. 54	140016		049830		
12. 56. 0	39. 57	140074		049688		
13. 6. 0	38. 13	139193		049474		
16. 0	36. 38	139054		049261		
21. 0	36. 29	139644		049261		
26. 0	38. 0	138994		049261		
50. 0	33. 21	136862		049452		
55. 0	34. 11	136804		049524		
13. 57. 30				049452	60·0	
14. 0. 0	34. 13					
2. 30		136550	60·0			
5. 0	37. 30	135970		049524		
10. 0	38. 49	136156		049702		
15. 0	42. 21	136573		049808		
20. 0	47. 8	136202		049666		
25. 0	49. 25	135924		049524		
30. 0	51. 45	135692		049452		
14. 40. 0	52. 47	135506		049452		
15. 57. 30				049310	60·0	
16. 0. 0	51. 15					
2. 30		138241	60·0			T D

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Nov. 19. 9. 57. 30				0·051827	45·3	L
10. 0. 0	23. 2. 40					
10. 2. 30		0·144140	45·5			L
11. 57. 30				052864	44·0	T D
12. 0. 0	22. 49. 39					
2. 30		139285	44·0			
4. 0	51. 14	139702		052900		
9. 0	51. 45	134929		052935		
14. 0	52. 15	139239		053007		
19. 0	52. 36	139239		053007		
24. 0	52. 43	139239		053007		
29. 0	55. 50	139471		053057		
34. 0	57. 6	139471		053092		
39. 0	56. 52	139656		053092		
44. 0	53. 56	139170		053007		
49. 0	52. 48	139239		053007		
12. 59. 0	51. 37	140351		053007		
13. 57. 30				052843	44·0	
14. 0. 0	53. 19					
2. 30		140097	44·0			T D
Nov. 22. 3. 57. 30				0·052109	54·2	G H
4. 0. 0	22. 56. 14					
4. 2. 30		0·141998	54·6			
5. 57. 30				051780	55·0	
6. 0. 0	23. 5. 38					
2. 30		146101	55·0			
3. 0	6. 56	145521		051994		
4. 0	2. 43	144363		052065		
5. 0	4. 41	145058		051851		
6. 0	2. 45	144131		051851		
8. 0	3. 37	144595		052136		
10. 0	3. 10	144131		051944		
12. 0	1. 29	143910		052087		
15. 0	2. 0	143563		052158		
18. 0	2. 56	143447		052229		
20. 0	4. 55	143922		052250		
25. 0	4. 35	144154		052464		
27. 0	6. 56	144386		052393		
30. 0	7. 41	144165		052556		
33. 0	10. 18	144049		052556		
35. 0	5. 45	143702		052627		
40. 0	1. 51	144861		052770		
43. 0	1. 45	145789		052898		
6. 45. 0	1. 59	146252		052862		
7. 30. 0	9. 11	145150		054799		
31. 0	9. 41	143760		054870		
33. 0	23. 4. 35	142369		055226		
34. 0	22. 59. 47	142485		055653		
35. 0	55. 44	142832		055867		
36. 0	54. 28	143991		055796		

November 1d. A change of 10′. 5″ having taken place in the position of the Declination Magnet between 10h and 12h, extra observations were commenced. A faint aurora is now visible.

November 19d. A considerable change having taken place in the positions of the Declination and Horizontal Force Magnets between 10h and 12h, extra observations were commenced.

November 22d. A considerable change having taken place in the positions of the Declination and Horizontal Force Magnets between 4h and 6h, extra observations were commenced.

Extraordinary Observations of November 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°		d h m s	° ′ ″		°		°	
Nov. 22. 7. 37. 0	22. 51. 24	0·144409		0·055582		G H	Nov. 22. 10. 30. 0	22. 53. 14	0·135328		0·052992		G H
38. 0	50. 10	143644		055511			32. 0	51. 36	136139		053206		
39. 0	50. 21	144223		055333			35. 0	51. 47	136950		053206		
40. 0	49. 56	144037		055226			40. 0	47. 37	136834		052884		
42. 0	47. 39	144177		055191			45. 0	47. 53	136950		052565		
45. 0	52. 9	144235		054856			52. 0	50. 53	135328		052850		
49. 0	46. 14	144467		054464			10. 55. 0	50. 4	135560		052351		
51. 0	53. 14	144699		054037			11. 0. 0	48. 26	135328		052672		
53. 0	55. 33	144931		054073			6. 0	50. 18	135560		052779		
55. 0	22. 59. 35	144467		053717			15. 0	51. 41	135560		052921		
7. 57. 30	23. 2. 6	143552		053631	56·0		30. 0	54. 27	136950		053063		
8. 0. 0	1. 22	142856		053488			35. 0	54. 52	136602		052992		
2. 30	0. 55	142161	56·0	053488			40. 0	55. 3	136602		052992		G H
5. 0	3. 24	142856		053417			11. 57. 30				052921	57·0	L
8. 0	0. 54	142636		053367			12. 0. 0	58. 29					
10. 0	1. 18	141593		053367			2. 30		137413	57·0			
15. 0	2. 25	142983		053438			14. 30	22. 58. 48	137875		052886		
26. 0	5. 25	142879		053318			12. 27. 30	23. 0. 12	137064		052650		
35. 0	2. 19	142080		053446			13. 57. 30				051780	55·5	
43. 0	6. 16	144178		053788			14. 0. 0	22. 59. 11					
8. 55. 0	10. 45	142220		054344			14. 2. 30		138418	56·6			
9. 4. 0	5. 40	141942		055234			15. 57. 30				047757	56·0	
5. 0	4. 41	142220		055590			16. 0. 0	51. 30					
10. 0	2. 26	142474		055897			2. 30		133309	56·0			
26. 0	3. 27	143645		057057			9. 30	54. 49	130817		046959		
30. 0	1. 32	144700		057577			12. 30	22. 59. 0	129774		046710		
32. 0	6. 12	144816		057577			16. 30	23. 3. 53	130006		046603		
37. 0	23. 5. 44	140529		057221			19. 30	16. 13	133146		047159		
39. 0	22. 58. 57	140193		057385			22. 30	18. 53	135858		047515		
40. 0	55. 39	140425		057278			24. 30	16. 55	136159		047266		
41. 0	52. 32	139845		057136			27. 30	23. 0. 56	131292		045949		
42. 0	49. 44	139497		056922			28. 30	22. 57. 56	130829		044987		
43. 0	49. 20	139729		056744			29. 30	55. 39	128986		045058		
44. 0	50. 36	139729		056459			30. 30	49. 17	130030		045058		
45. 0	52. 2	139266		056103			32. 30	44. 35	132347		045272		
46. 0	51. 58	138918		055947			34. 30	42. 22	132694		045201		
48. 0	50. 24	140425		056032			36. 30	35. 30	130679		044916		
50. 0	52. 47	139961		055961			39. 30	34. 8	131767		045079		
53. 0	51. 8	139497		055961			43. 30	40. 31	131652		045791		
55. 0	48. 35	139268		055876			45. 30	44. 15	131085		045791		
9. 57. 30	42. 32	137529		055413	57·0		47. 30	43. 39	131316		045948		
10. 0. 0	40. 23	137367		055342			50. 30	41. 42	132474		046112		
1. 0	38. 24	137645		054986			53. 30	39. 51	133402		046575		
2. 30	39. 3	137645	57·0	054986			55. 30	36. 34	133877		046859		
7. 0	41. 20	139036		054701			57. 30	35. 11	133645		046788		
12. 0	41. 51	138804		054416			16. 59. 30	34. 11	133530		046881		
16. 0	43. 17	140195		053954			17. 15. 30	36. 50	134131		048933		
18. 0	45. 46	140427		053633			31. 30	40. 29	133460		049467		
20. 0	49. 22	140427		053348			17. 57. 30				050827	56·7	
22. 0	53. 28	139963		053206			18. 0. 0	48. 28					
25. 0	56. 27	139545		053028			2. 30		136486	57·0			L

Extraordinary Observations of November 24 and 25, and of December 17.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Nov. 24. 15. 57. 30				0·051139	56·0	G H
16. 0. 0	23. 1. 19					
16. 2. 30		0·138453	56·0			
17. 57. 30				051210	56·0	
18. 0. 0	22. 50. 28					
2. 30		137248	56·0			
4. 0	49. 14	137642		051281		
8. 0	50. 0	138278		051373		
14. 0	49. 14	138580		051373		
20. 0	50. 47	138812		051444		
29. 0	53. 14	138708		051494		
39. 0	53. 14	138604		051609		
18. 44. 0	55. 24	138906		051609		
19. 9. 0	56. 43	139671		051630		
19. 57. 30				051567	56·5	
20. 0. 0	56. 14					
2. 30		140632	56·7			G H
Nov. 25. 3. 57. 30				0·052172	56·5	G H
4. 0. 0	23. 7. 28					
4. 2. 30		0·141061	56·5			
5. 57. 30				052315	56·5	
6. 0. 0	23. 1. 59					
6. 2. 30		140598	56·5			
7. 48. 0	22. 31. 47	136890		052742		
50. 0	33. 3	137539		052671		
52. 0	32. 30	138049		052671		
7. 57. 30	33. 45	139439		052528	56·5	
8. 0. 0	38. 26	140135		052457		
2. 30	40. 24	139439	56·5	052386		
4. 0	40. 7	138418		052315		
6. 0	37. 47	137723		052208		
8. 0	33. 28	137723		052123		
9. 0	32. 5	137839		052052		
10. 0	31. 19	138071		051874		
11. 0	31. 30	137839		051767		
12. 0	31. 15	137607		051696		
14. 0	32. 9	136924		051482		
19. 0	31. 56	136229		051482		
20. 0	31. 20	136113		051482		
21. 0	31. 9	135766		051432		
24. 0	35. 0	135546		051574		
29. 0	39. 58	136369		051952		
34. 0	44. 57	135906		052273		
39. 0	43. 26	135674		052380		
44. 0	40. 12	135444		052487		
49. 0	41. 14	136023		052543		
54. 0	40. 6	136220		052707		
8. 59. 0	43. 23	136232		052707		
9. 6. 0	45. 44	135131		052707		
14. 0	45. 44	135375		052850		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Nov. 25. 9. 21. 0	22. 46. 36	0·136418		0·053035		G H
30. 0	49. 26	136314		052915		
9. 57. 30				052888	57·5	
10. 0. 0	47. 31					
2. 30		137518	57·8			
6. 0	41. 8	138667		052816		
9. 0	44. 24	140534		052980		
11. 0	49. 13	140997		052695		
14. 0	55. 27	139722		052553		
16. 0	56. 17	138679		052339		
21. 0	51. 5	137752		052197		
24. 0	49. 43	137984		051983		
29. 0	54. 0	138216		051863		
34. 0	57. 58	137057		051614		
35. 0	58. 20	136709		051578		
39. 0	53. 26	135203		051649		
42. 0	50. 32	135667		051649		
50. 0	50. 16	135911		051529		
54. 0	49. 19	136258		051671		
10. 59. 0	49. 29	136142		051671		G H
11. 57. 30				050291	58·0	L
12. 0. 0	46. 46					
2. 30		134312	58·2			L
Dec. 17. 1. 57. 30	23. 1. 0	0·142881		0·050747	55·5	G
2. 0. 0	0. 43	142881				
2. 30	5. 30	143436	56·0			
15. 0	1. 0	144069				
30. 0	23. 0. 0	144957				
45. 0	22. 59. 0	147346				
2. 50. 0	23. 0. 0	149034				
3. 10. 0	1. 0	144801				
27. 0	9. 0	148099				
41. 0	1. 0	141288				G
3. 57. 30	7. 0	144276		051353	55·0	E H
4. 0. 0	8. 7	144265				
2. 30	9. 0	144363	55·0			
35. 0	26. 0	144065				
50. 0	10. 30	144665				
53. 0	19. 0	145065				
55. 0	13. 30	144665				
4. 57. 0	18. 0	143665				
5. 0. 0	14. 0	143065				
5. 0	5. 0	144265				
12. 0	15. 0	145265				
15. 0	8. 0	144665				
23. 0	23. 15. 0	143465				
25. 0	22. 54. 0	143065				
30. 0	23. 0. 0	140865				
45. 0	23. 2. 0	143065				
52. 0	22. 54. 0	143465				

November 24. A change of 10′. 51″ having taken place in the position of the Declination Magnet between 15^h and 18^h, extra observations were commenced.

November 25. A considerable change having taken place in the position of the Declination Magnet between 4^h and 6^h, extra observations were commenced.

December $17^d.1^h.57^m.30^s$. From this time to the end of the year the whole of the results in this section for the Western Declination and the Horizontal Force have been deduced from the registers of the photographic self-registering apparatus. Every point of extreme motion of each magnet is recorded in the numbers above. The times are nearly accurate, but perhaps not perfectly so.

Extraordinary Observations of December 17.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Dec. 17. 5. 57. 30	22. 57. 0	0·143665		0·058259	55·0	E H
6. 0. 0	22. 53. 57	144265				
2. 30	23. 3. 0	144595	55·0			
5. 0	3. 0	144065		057547		
10. 0	1. 0	144065		057441		
15. 0	7. 0	144065		058046		
20. 0	23. 6. 30	144465		057476		
25. 0	22. 57. 0	145465		057832		
30. 0	22. 57. 0	144465		058615		
35. 0	23. 0. 0	143265		057974		
37. 0	22. 58. 0	143065		057370		
38. 0	59. 0	143065		057120		
40. 0	22. 58. 0	140665		057014		
45. 0	23. 0. 30	140265		055910		
50. 0	22. 58. 0	140065		055411		
51. 0	22. 53. 0	140065				
52. 0	23. 3. 0	140065		055198		
54. 0	22. 50. 0	140065		055126		
55. 0	23. 3. 0	139865		055198		
56. 0	22. 50. 0	139865				
6. 58. 0	23. 6. 0	139865				
7. 0. 0	22. 26. 30	139665		056978		
2. 0	22. 55. 0	139465		056622		
3. 0	23. 0. 0	139465		056337		
5. 0	13. 0	139465		054486		
7. 0	11. 0	139265		055554		
10. 0	23. 6. 30	138865		054166		
12. 0	22. 56. 0	138865		052350		
14. 0	23. 11. 30	138865				
15. 0	22. 56. 0	138765		054058		
18. 0	22. 51. 0	138665		054343		
20. 0	23. 11. 0	138665		054486		
20. 30	23. 0. 0	138665		053631		
21. 0	22. 51. 0	138665				
22. 0	53. 0	138665		054201		
22. 30	53. 0	138665		055055		
25. 0	55. 0	138965		053774		
25. 30	52. 0	138965		054414		
28. 0	54. 30	142065		055554		
28. 30	54. 30	142065		055269		
30. 0	52. 0	141665		055590		
30. 30	52. 0	141665		055198		
32. 0	54. 0	141265		054913		
32. 30	54. 0	141265		055981		
35. 0	56. 0	140465		055198		
35. 30	57. 0	140465		055055		
40. 0	57. 0	139665		054201		
40. 30	57. 0	139665		054770		
43. 0	56. 30	138665				
45. 0	45. 0	138065		054664		
45. 30	22. 46. 0	138065		054072		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Dec. 17. 7. 57. 30	23. 6. 0	0·141065		0·055824	55·0	E H
8. 0. 0	22. 58. 25	141065				
2. 30	23. 0. 0	141813	55·0			
5. 0	22. 58. 0	142065		056622		
6. 0	22. 55. 0	142965		056479		
8. 0	23. 0. 0	141065		056550		
9. 0	2. 0	141065		056693		
12. 0	8. 0	140265		056693		
13. 0	10. 0	140065		056479		
15. 0	12. 0	139665		056835		
16. 0	23. 9. 0	139465		056586		
20. 0	22. 59. 0	138065		055198		
21. 0	23. 1. 0	137865		055340		
25. 0	1. 30	137465		055696		
26. 0	1. 0	137465		055767		
31. 0	2. 0	137365		054913		
36. 0	7. 0	137265		055126		
41. 0	9. 0	137865		054984		
42. 0	11. 0	137865				
46. 0	6. 0	138865		055482		
8. 55. 0	4. 0	139465		055910		
9. 0. 0	3. 0	139065		055590		
5. 0	7. 0	139465				
15. 0	23. 0. 0	139265		054735		
25. 0	22. 47. 0	136765				
30. 0	55. 0	140465		054664		
33. 0	59. 0	139865				
45. 0	22. 44. 30	141265		052563		
54. 0	23. 4. 0	141265				
9. 57. 30	22. 40. 0	139665		052136	55·0	
10. 0. 0	23. 1. 27	137265				
2. 30	22. 43. 0	135557	55·0			
15. 0	23. 1. 0	139899				
10. 30. 0	22. 44. 0	136134				
11. 45. 0	58. 0	136381				E H
11. 57. 30	53. 0	137016		052849	56·5	B
12. 0. 0	53. 40	137062				
12. 2. 30	53. 0	136486	57·0			
13. 20. 0	22. 53. 30	138098				
37. 0	23. 24. 30	142986				
13. 57. 30	23. 0. 0	134744		051495	56·0	
14. 0. 0	22. 52. 13	134062				
2. 30	54. 30	135732	56·5			
18. 0	48. 0	136040				
22. 0	52. 0	136440				
24. 0	47. 0	136940				
28. 0	54. 0	137440				
44. 0	48. 0	138440				
14. 56. 0	57. 0	139040				
15. 0. 0	49. 0	139840				
5. 0	54. 0	137440				

Extraordinary Observations of December 17, 18, and 19.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Dec. 17. 15. 10. 0	22. 51. 30	0·138640				B
15. 57. 30	55. 0	138940		0·051851	56·0	
16. 0. 0	53. 48	138840				
2. 30	22. 55. 0	138744	56·5			
35. 0	23. 0. 0	140040				
43. 0	22. 50. 30	138028				
16. 52. 0	57. 30	139816				
17. 57. 30	56. 0	139704		051210	55·5	
18. 0. 0	55. 12	139492				
18. 2. 30	55. 30	139265	56·0			
19. 57. 30	55. 0	139381		051566	55·5	
20. 0. 0	55. 11	139381				
20. 2. 30	55. 0	139844	56·0			
21. 10. 0	55. 30	139581				
11. 0	47. 0	139569				
20. 0	56. 0	139557				B
21. 57. 30	55. 0	140646		051395	55·7	G H
22. 0. 0	56. 44	141134				
22. 2. 30	55. 30	141871	55·5			
23. 57. 30	57. 0	139346		051715	55·7	
18. 0. 0. 0	56. 53	139346				
2. 30	56. 30	139345	55·7			
1. 0. 0	22. 58. 0					
17. 0	23. 3. 0	141099				
19. 0	2. 0	140399				
38. 0	8. 0	140088				
45. 0	1. 30	141288				
50. 0	5. 50	140876				
51. 0	0. 0	140876				
55. 0	6. 30	140665				
1. 57. 30	23. 2. 30	140265		051780	55·0	
2. 0. 0	22. 59. 31	139665				
2. 30	23. 0. 0	136946	55·0			
5. 0	0. 0	136265				
8. 0	23. 3. 0	137265				
12. 0	22. 58. 0	140265				
22. 0	23. 3. 0	136265				
28. 0	22. 55. 0	136865				
35. 0	53. 0	135865				
44. 0	58. 0	138065				
47. 0	22. 58. 0	139265				
53. 0	23. 0. 0	139265				
2. 58. 0	22. 54. 30	140665				
3. 3. 0	23. 2. 0	141465				
7. 0	22. 57. 30	140265				
10. 0	23. 2. 30	139665				
25. 0	4. 0	141265				
28. 0	0. 0	139065				
39. 0	23. 3. 0	137265				
40. 0	22. 58. 30	139665				
43. 0	23. 2. 0	139265				

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Dec. 18. 3. 50. 0	23. 0. 0	0·140465				G H
54. 0	5. 0	141065				
55. 0	2. 0	141065				
3. 57. 30	23. 5. 0	139565		0·052813	55·0	
4. 0. 0	22. 52. 34	140265				
4. 2. 30	23. 2. 0	140192	55·0			
7. 50. 0	22. 54. 30	139865				G H
7. 57. 30	54. 30	141065		051851	55·0	G
8. 0. 0	53. 31	140465				
2. 30	45. 0	140655	55·0			
13. 0	30. 0	139865				
8. 36. 0	41. 0	143549				
9. 0. 0	49. 30	141635				G
9. 57. 30	54. 0	139713		050773	51·0	E H
10. 0. 0	53. 36	139713				
10. 2. 30	53. 30	139971	51·0			
11. 57. 30	54. 30	140704		050621	50·0	
12. 0. 0	54. 2	140704				
2. 30	54. 30	140325	50·0			E H
Dec. 19. 13. 57. 30	23. 2. 0	0·127283		0·044772	46·0	G H
14. 0. 0	0. 58	129283				
2. 30	1. 30	129012	46·0			
30. 0	0. 0	139683				
36. 0	1. 30	141793				
14. 50. 0	40. 30	137293				
15. 0. 0	5. 0	126304				
8. 0	23. 35. 0	120704				
45. 0	22. 56. 0	128724				
52. 0	49. 0	120714				
15. 57. 30	56. 0	120714		044864	46·5	
16. 0. 0	22. 58. 5	121324				
2. 30	23. 15. 0	122796	46·4			
45. 0	10. 0	133934				
16. 55. 0	27. 30	133355				
17. 5. 0	12. 0	135165				
24. 0	26. 0	131976				
37. 0	8. 0	137986				
40. 0	11. 30	136607				
45. 0	7. 0	136428				
17. 57. 30	15. 0	134449		049063	48·5	
18. 0. 0	8. 25	133670				
2. 30	10. 0	133624	48·0			
15. 0	4. 0	133301				
25. 0	15. 30	136112				
44. 0	9. 0	136522				
45. 0	11. 0	136544				
50. 0	7. 0	137754				
54. 0	10. 0	137965				
55. 0	3. 0	137075				
18. 57. 0	9. 0	136397				

Extraordinary Observations of December 19 and 20.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor.for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor.for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°		d h m s	° ′ ″		°		°	
Dec. 19. 19. 2. 0	23. 6. 0	0·136797				G H	Dec. 19. 23. 43. 0	22. 45. 30	0·135597				E H
14. 0	7. 0	137397					47. 0	36. 0	133797				
20. 0	6. 0	137607					49. 0	42. 0	139397				
30. 0	2. 0	136007					55. 0	25. 0	141597				E H
32. 0	23. 4. 0	136218					23. 57. 30	30. 0	141997		0·057884	49·0	L
36. 0	22. 59. 0	137018					20. 0. 0. 0	26. 17	143597				
40. 0	23. 1. 30	137028					2. 30	45. 0	144020	49·0			
41. 0	22. 58. 0	136639					5. 0	41. 0	145597				
43. 0	23. 2. 30	136950					10. 0	35. 0	143997				
45. 0	22. 57. 30	136960					15. 0	44. 30	140597				
19. 57. 30	23. 12. 0	138071		0·051888	50·0		20. 0	30. 0	139597				
20. 0. 0	7. 3	137082					27. 0	39. 0	144597				
2. 30	14. 30	137522	49·8				31. 0	34. 0	141597				
7. 0	7. 30	134682					0. 45. 0	54. 0	133497				
8. 0	17. 0	137482					1. 0. 0	53. 0	146597				
22. 0	25. 0	130282					10. 0	22. 51. 0	140597				
27. 0	17. 0	130871					25. 0	23. 7. 0	138297				
29. 0	20. 30	133871					45. 0	22. 54. 0	139997				
39. 0	13. 0	134471					55. 0	23. 9. 30	139097				L
44. 0	9. 0	132071					1. 57. 30	6. 0	140597		053861	49·0	E H
45. 0	11. 0	134271					2. 0. 0	6. 8	142597				
46. 0	5. 30	130260					2. 30	6. 0	143000	49·0			
48. 0	9. 0	133060					6. 0	4. 0	142597				
20. 50. 0	3. 0	131060					15. 0	24. 0	146097				
21. 0. 0	23. 2. 30	129460					20. 0	1. 0	153797				
1. 0	22. 57. 30	130650					26. 0	15. 0	156597				
7. 0	56. 0	132450					27. 0	23. 6. 0	159538				
10. 0	59. 0	132450					31. 0	22. 59. 0	157197				
11. 0	56. 0	133250					35. 0	23. 20. 0	159538				
12. 0	58. 0	131650					43. 0	22. 53. 0	159548				
35. 0	34. 0	133228					47. 0	23. 24. 0	155618				
40. 0	50. 0	131628					55. 0	22. 54. 0	159569				
45. 0	30. 0	125818					2. 58. 0	23. 37. 0	159580				
53. 0	43. 0	122618					3. 1. 0	3. 0	159591				
55. 0	38. 0	128607				G H	8. 0	23. 35. 30	159601				
21. 57. 30	40. 0	128807		053327	49·0	E H	15. 0	22. 59. 30	159616				
22. 0. 0	41. 51	129597					18. 0	23. 16. 0	159634				
2. 30	42. 0	128213	49·0				21. 0	3. 0	159645				
10. 0	40. 0	130797					27. 0	25. 0	159655				
11. 0	33. 30	126597					29. 0	9. 0	159666				
20. 0	44. 0	126597					34. 0	23. 15. 30	159677				
30. 0	38. 30	127797					39. 0	22. 53. 0	159688				
37. 0	42. 0	126397					40. 0	23. 10. 0	159699				
43. 0	36. 0	124797					42. 0	4. 30	159721				
22. 53. 0	45. 0	127797					47. 0	43. 30	150191				
23. 13. 0	34. 0	130597					53. 0	2. 30	155802				E H
20. 0	41. 30	128397					3. 57. 30	15. 0	152513		056107	51·5	G H
28. 0	33. 0	133597					4. 0. 0	11. 0	147824				
35. 0	37. 0	127597					2. 30	44. 0	151117	51·2			
40. 0	49. 0	133597					16. 0	20. 0	159776				
42. 0	41. 0	133997					25. 0	23. 34. 0	148435				

Extraordinary Observations of December 20.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Dec. 20. 4. 26. 0	22. 29. 0	0·151835				G H
30. 0	38. 0	159776				
31. 0	23. 0	159776				
33. 0	28. 0	159776				
34. 0	13. 30	159776				
42. 0	52. 0	154835				
4. 55. 0	19. 30	134824				
5. 8. 0	46. 0	136224				
9. 0	22. 38. 0	136024				
20. 0	23. 7. 0	132024				
22. 0	22. 42. 0	133024				
23. 0	53. 0	133024				
24. 0	47. 0	132824				
34. 0	22. 48. 0	156824				
41. 0	23. 8. 0	151813				
44. 0	1. 0	141213				
48. 0	7. 0	139813				
56. 0	0. 0	142613				
5. 57. 30	3. 0	142613		0·058000	51·0	
6. 0. 0	1. 42	139813				
2. 30	1. 0	138117	51·0			
15. 0	23. 17. 0	140013				
16. 0	22. 59. 0	142513				
20. 0	23. 3. 0	141213				
43. 0	22. 46. 0	128613				
50. 0	46. 0	130813				
6. 53. 0	45. 0	128624				
7. 6. 0	57. 0	134824				
15. 0	22. 37. 30	133024				
30. 0	23. 15. 0	146224				
46. 0	22. 32. 0	130435				
53. 0	59. 0	135235				
55. 0	33. 0	135435				
7. 57. 30	53. 0	138835		060450	51·5	
8. 0. 0	33. 58	139846				
2. 30	55. 0	140931	51·3			
4. 0	40. 0	148446				
10. 0	20. 0	137046				
13. 0	45. 0	143657				
17. 0	22. 50. 0	122857				

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force cor. for Temp.	Thermometer of Horizontal Force Magnetometer.	Vertical Force Reading in parts of the whole Vert. Force cor. for Temp.	Thermometer of Vertical Force Magnetometer.	Observers.
d h m s	° ′ ″		°		°	
Dec. 20. 8. 30. 0	22. 59. 0	0·141857				G H
37. 0	23. 14. 0	135468				
45. 0	22. 28. 30	126868				
50. 0	22. 50. 0	130068				
54. 0	23. 4. 0	128068				
8. 58. 0	22. 28. 0	137479				
9. 6. 0	35. 30	131479				
7. 0	31. 0	133079				
17. 0	39. 30	133090				
21. 0	36. 0	133290				
33. 0	54. 0	134690				
41. 0	42. 0	131490				
9. 57. 30	53. 0	133490		0·052293	52·0	
10. 0. 0	52. 32	133501				
2. 30	22. 56. 0	132875	51·8			
30. 0	23. 1. 0	135679				
47. 0	22. 50. 0	132457				
10. 51. 0	54. 0	133635				
11. 16. 0	27. 30	136813				
33. 0	34. 0	134191				
46. 0	50. 0	134780				
11. 57. 30	58. 0	132969		052096	50·5	G H
12. 0. 0	57. 6	131758				E H
2. 30	58. 0	131109	50·5			
15. 0	45. 0	135136				
12. 30. 0	48. 0	132914				
13. 7. 0	49. 0	128282				
24. 0	43. 0	129460				
30. 0	42. 30	130328				
13. 57. 30	45. 0	130397		052116	49·0	
14. 0. 0	44. 57	130197				
14. 2. 30	45. 0	129790	49·0			
15. 35. 0	54. 0	132254				
15. 57. 30	56. 0	133591		052703	48·0	
16. 0. 0	54. 33	133591				
2. 30	22. 58. 0	133160	48·0			
16. 15. 0	23. 1. 0	133059				
17. 57. 30	22. 58. 30	134686		052472	47·0	
18. 0. 0	57. 55	134786				
2. 30	58. 30	134446	47·0			E H

ROYAL OBSERVATORY, GREENWICH.

OBSERVATIONS

OF

THE MAGNETIC DIP.

1847.

DAY and APPROXIMATE HOUR, 1847.	Letter referring to Needle.	Whether moved from its bearing subsequently to the last Observation.	Observations with the marked End of the Needle pointing downwards. Marked Side of Needle East. Graduated Face of Circle (1) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (3) West. Circle Reading Upper.	Lower.	Marked Side of Needle West. Graduated Face of Circle (4) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (2) West. Circle Reading Upper.	Lower.	Observations with the unmarked End of the Needle pointing downwards. Marked Side of Needle West. Graduated Face of Circle (4) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (2) West. Circle Reading Upper.	Lower.	Marked Side of Needle East. Graduated Face of Circle (1) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (3) West. Circle Reading Upper.	Lower.	Resulting Dip.	Observer.
d h			° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	
Jan. 24. 21	A 1		68. 75	65	55	60	68. 38	40	30	40	69. 9	0	16	18	69. 25	22	15	25	69. 3·25	G H
Jan. 25. 3	A 1	Not moved									68. 69	58	50	55	68. 75	72	55	65		G H
Jan. 29. 3	A 1		68. 75	80	50	55	68. 53	45	70	78	68. 55	60	50	45	68. 60	70	50	50	68. 59·25	T D
Jan. 31. 21	A 1		68. 65	58	70	72	68. 42	42	32	40	69. 15	18	10	15	68. 50	50	45	47	68. 57·00	L
Feb. 1. 3	A 1	Not moved									69. 10	12	0	5	68. 60	50	45	40		T D
Feb. 4. 3	A 1		69. 15	10	17	15	68. 53	50	42	47	68. 63	55	59	61	69. 5	3	2	7	69. 1·50	H B
Feb. 7. 21	A 1		69. 50	45	18	28	68. 58	52	40	55	68. 35	25	50	55	68. 60	50	30	40	68. 58·25	G H
Feb. 8. 3	A 1	Not moved									68. 40	28	50	55	68. 66	63	30	40		G H
Feb. 11. 3	A 1		69. 0	5	10	20	68. 40	47	50	55	68. 70	60	55	58	68. 60	67	55	60	68. 59·50	T D
Feb. 18. 3	A 1		68. 72	68	60	55	68. 50	45	50	60	68. 47	52	50	53	69. 12	10	12	10	68. 59·00	L
Feb. 21. 21	A 1		69. 15	10	5	10	68. 48	52	60	65	68. 53	48	74	77	68. 60	63	50	52	69. 1·50	H B
Feb. 25. 3	A 1		69. 10	10	0	10	68. 40	47	40	45	68. 60	60	55	60	69. 0	10	12	15	68. 59·75	T D
March 1. 21	A 1		68. 60	55	70	80	68. 96	88	55	58	68. 28	25	25	35	69. 28	14	5	0	69. 0·00	G H
March 4. 3	A 1		68. 72	70	65	58	68. 50	55	57	65	68. 40	50	55	60	69. 12	10	5	10	69. 1·00	T D
March 8. 21	A 1		69. 15	12	5	10	68. 45	40	50	55	68. 55	57	68	72	68. 65	62	55	60	69. 0·50	H B
March 9. 3	A 1	Not moved	68. 45	40	55	58	68. 60	57	58	60										L
March 11. 3	A 1		68. 72	75	58	60	68. 50	45	47	45	68. 65	60	55	57	68. 70	72	50	54	68. 58·50	T D
March 14. 21	A 1		68. 60	58	62	70	68. 80	75	32	30	68. 65	68	28	35	68. 60	52	45	52	68. 54·50	T D

DAY and APPROXIMATE HOUR, 1847.	Letter referring to Needle.	Whether moved from its bearing subsequently to the last Observation.	Observations with the marked End of the Needle pointing downwards. Marked Side of Needle East. Graduated Face of Circle (1) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (3) West. Circle Reading Upper.	Lower.	Marked Side of Needle West. Graduated Face of Circle (4) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (2) West. Circle Reading Upper.	Lower.	Observations with the unmarked End of the Needle pointing downwards. Marked Side of Needle West. Graduated Face of Circle (4) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (2) West. Circle Reading Upper.	Lower.	Marked Side of Needle East. Graduated Face of Circle (1) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (3) West. Circle Reading Upper.	Lower.	Resulting Dip.	Observer.
d h			° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	
March 21. 21	A 1		69. 12	10	0	7	68. 50	55	65	70	68. 55	60	70	72	68. 60	55	50	45	69. 1·00	T D
March 28. 21	A 1		68. 63	60	52	57	68. 60	60	42	50	68. 40	38	35	45	69. 20	15	18	23	68. 57·50	L
March 29. 3	A 1	Not moved	68. 45	47	60	70	68. 40	40	70	68										
April 1. 3	A 1		69. 30	25	0	5	68. 40	40	35	42	69. 15	20	0	0	68. 60	58	50	56	68. 59·75	L
April 4. 21	A 1		68. 72	68	48	45	68. 55	45	60	57	68. 40	36	25	35	69. 30	22	30	32	68. 58·75	G H
April 5. 3	A 1	Not moved	69. 16	13	2	16	68. 62	56	80	85										G H
April 8. 3	A 1		68. 90	95	55	60	68. 30	27	50	55	68. 80	85	55	55	68. 50	55	55	60	68. 59·75	T D
April 11. 21	A 1		68. 42	38	70	68	68. 82	74	48	40	68. 32	32	58	70	69. 56	48	58	58	69. 9·50	G H
April 12. 3	A 1	Not moved	68. 40	38	16	25	68. 54	48	58	55										G H
April 19. 21	A 1		68. 70	60	50	55	68. 50	55	60	65	68. 40	45	50	50	69. 12	17	20	25	69. 0·00	T D
April 26. 21	A 1		68. 60	55	70	72	68. 57	60	65	65	68. 45	47	50	55	69. 10	12	10	15	69. 1·75	
April 27. 3	A 1	Not moved	68. 50	55	57	60	69. 10	15	20	20										T D
April 29. 3	A 1		68. 60	55	65	70	68. 50	45	15	30	68. 78	70	55	57	68. 30	32	32	40	68. 49·00	L
May 2. 21	A 1		68. 55	50	65	67	68. 55	48	55	60	68. 60	57	50	58	68. 60	70	55	60	68. 58·00	T D
May 9. 21	A 1		68. 47	50	60	70	68. 60	53	50	57	68. 65	60	55	60	68. 30	35	40	47	68. 52·50	
May 10. 3	A 1	Not moved									69. 10	7	0	0	68. 40	45	50	53		T D
May 13. 3	A 1		68. 80	85	22	30	68. 42	38	58	62	69. 18	16	30	40	68. 55	50	68	72	69. 3·00	L
May 16. 21	A 1		69. 20	15	5	10	68. 85	90	45	50	68. 60	55	40	45	68. 70	72	50	50	69. 2·50	T D

April 11d. 21h. The readings with the unmarked end dipping, and marked side of the needle East, do not agree with others in the same position. It is possible that an error of 1° has been made in each reading, and if so, the resulting dip would be 68°. 54′·5. No use has been made of this observation in subsequent calculations.

May 9d. 21h. The observations were unsatisfactory; the needle would not take up a definite position.

DAY and APPROXIMATE HOUR, 1847.	Letter referring to Needle.	Whether moved from its bearing subsequently to the last Observation.	Observations with the marked End of the Needle pointing downwards. Marked Side of Needle East. Graduated Face of Circle (1) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (3) West. Circle Reading Upper.	Lower.	Marked Side of Needle West. Graduated Face of Circle (4) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (2) West. Circle Reading Upper.	Lower.	Observations with the unmarked End of the Needle pointing downwards. Marked Side of Needle West. Graduated Face of Circle (4) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (2) West. Circle Reading Upper.	Lower.	Marked Side of Needle East. Graduated Face of Circle (1) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (3) West. Circle Reading Upper.	Lower.	Resulting Dip.	Observer.
d h			° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	
May 17. 3	A 1	Not moved									68. 55	57	50	55	68. 60	60	40	45		T D
May 20. 3	A 1		68. 95	93	52	58	68. 60	68	22	25	69. 15	20	10	12	68. 70	62	40	45	69. 1·50	
May 23. 21	A 1		69. 20	15	0	5	68. 90	90	45	50	68. 65	60	40	40	68. 75	80	45	50	69. 3·00	
May 24. 3	A 1	Not moved									68. 70	72	45	50	68. 85	90	50	50		T D
May 27. 3	A 1		68. 55	55	45	48	68. 72	67	48	45	68. 78	78	49	53	68. 85	82	57	58	68. 59·75	L
May 30. 21	A 1		68. 60	50	25	30	68. 65	60	30	40	69. 25	20	110	108	68. 15	15	55	62	69. 3·00	
May 31. 3	A 1	Not moved									69. 25	22	2	5	68. 30	27	28	36		
June 6. 21	A 1		68. 60	65	40	50	68. 65	55	72	75	69. 13	13	10	25	69. 12	4	12	18	69. 6·75	L
June 7. 3	A 1	Not moved	68. 68	68	45	55	68. 48	48	78	82										G H
June 10. 3	A 1		69. 25	30	2	10	68. 27	30	40	46	69. 8	2	8	12	68. 62	66	42	50	68. 58·75	L
June 13. 21	A 1		68. 40	40	55	66	68. 80	70	50	48	67. 140	145	50	60	68. 45	35	68	72	68. 51·50	G H
June 14. 3	A 1	Not moved	68. 78	80	36	48	68. 70	64	30	35										G H
June 17. 3	A 1		69. 10	12	0	0	68. 75	80	50	53	68. 70	64	52	56	68. 55	52	63	70	69. 2·50	L
June 20. 21	A 1		69. 25	25	18	30	69. 38	30	2	10	68. 35	38	18	30	68. 60	55	20	30	68. 59·00	
June 21. 3	A 1	Not moved	68. 38	35	20	32	68. 62	55	30	35										L
June 27. 21	A 1		68. 60	55	60	65	68. 72	75	53	57	68. 70	68	38	44	68. 75	72	45	50	69. 0·00	T D
June 28. 3	A 1	Not moved									68. 60	65	50	50	68. 58	60	40	45		T D
July 1. 3	A 1		68. 55	52	57	63	69. 5	8	13	12	68. 57	55	40	45	69. 5	3	0	0	68. 59·50	L
July 4. 21	A 1		68. 60	57	65	70	68. 70	70	55	60	60. 60	65	45	50	68. 72	70	50	55	69. 1·00	T D

May 30d. 21h. The readings with the unmarked end of the needle dipping, and with the marked side of the needle both West and East, are different from other readings in the same positions.

June 13d. 21h. The morning was unfavourable, and the needle would not take up any definite position: the observations were very unsatisfactory.

DAY and APPROXIMATE HOUR, 1847.	Letter referring to Needle.	Whether moved from its bearing subsequently to the last Observation.	Observations with the marked End of the Needle pointing downwards.								Observations with the unmarked End of the Needle pointing downwards.								Resulting Dip.	Observer.
			Marked Side of Needle East.				Marked Side of Needle West.				Marked Side of Needle West.				Marked Side of Needle East.					
			Graduated Face of Circle (1) East.		(3) West.		(4) East.		2) West.		Graduated Face of Circle (4) East.		(2) West.		Graduated Face of Circle (1) East.		(3) West.			
			Circle Reading		Circle Reading		Circle Reading		Circle Reading		Circle Reading		Circle Reading		Circle Reading		Circle Reading			
			Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.		
d h			° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	
July 5. 3	A 1	Not moved									68. 60	60	45	48	68. 65	70	55	60		T D
July 8. 3	A 1		68. 48	45	30	35	69. 5	8	8	12	68. 35	40	52	55	68. 55	50	70	72	68. 53·75	L
July 11. 21	A 1		68. 55	50	55	60	69. 10	12	0	10	69. 5	8	0	0	68. 60	60	50	55	69. 0·75	T D
July 12. 3	A 1	Not moved									68. 70	65	55	60	68. 60	60	44	50		
July 15. 3	A 1		68. 60	60	34	40	69. 15	10	12	10	68. 70	75	40	45	68. 60	50	70	72	69. 0·50	T D
July 18. 21	A 1		68. 75	70	60	56	68. 50	48	42	50	68. 58	55	75	80	68. 60	65	52	60	68. 59·75	L
July 19. 3	A 1	Not moved									68. 60	60	45	50	68. 60	55	45	50		L
July 25. 21	A 1		67. 45	40	120	130	68. 50	40	17	20	68. 65	65	42	45	68. 48	38	12	15	68. 34·50	G H
July 26. 3	A 1	Not moved	68. 55	52	92	95	69. 20	32	18	20										G H
July 29. 3	A 1		68. 82	78	48	52	68. 57	54	67	73	68. 68	60	48	52	68. 45	40	45	54	68. 57·50	L
Aug. 1. 21	A 1		68. 80	85	60	55	68. 50	45	50	55	68. 55	60	65	70	68. 50	55	57	60	68. 59·50	T D
Aug. 2. 3	A 1	Not moved	68. 60	57	45	50	68. 55	60	60	70										
Aug. 12. 3	A 1		68. 75	80	45	50	68. 65	57	60	65	68. 60	55	50	50	68. 55	60	50	55	68. 58·25	T D
Aug. 15. 21	A 1		68. 50	60	42	46	68. 78	80	65	56	68. 58	66	20	20	68. 78	88	52	60	68. 57·50	G H
Aug. 19. 3	A 2		68. 70	72	60	55	68. 60	70	40	35	68. 60	70	50	55	69. 0	10	10	5	69. 0·00	T D
Aug. 22. 21	A 2		68. 47	50	55	50	68. 70	78	45	40	69. 0	8	15	12	69. 15	18	5	0	69. 1·75	L
Aug. 23. 3	A 2	Not moved	68. 85	90	50	55	69. 0	5	30	30										L
Aug. 26. 3	A 2		69. 5	10	0	0	68. 70	80	20	25	68. 70	72	50	55	69. 0	10	15	20	69. 1·50	T D
Aug. 29. 21	A 2		69. 25	30	35	40	68. 5	8	28	32	69. 5	0	15	20	68. 45	50	45	45	68. 56·75	T D

July 25d. 21h. The readings are discordant as compared with all other observations, and the resulting dip has not been used in subsequent calculations.

Aug. 29d. 21h. The readings in all positions differ somewhat from their usual values.

DAY and APPROXIMATE HOUR, 1847.	Letter referring to Needle.	Whether moved from its bearing subsequently to the last Observation.	Observations with the marked End of the Needle pointing downwards. Marked Side of Needle East. Graduated Face of Circle (1) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (3) West. Circle Reading Upper.	Lower.	Marked Side of Needle West. Graduated Face of Circle (4) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (2) West. Circle Reading Upper.	Lower.	Observations with the unmarked End of the Needle pointing downwards. Marked Side of Needle West. Graduated Face of Circle (4) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (2) West. Circle Reading Upper.	Lower.	Marked Side of Needle East. Graduated Face of Circle (1) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (3) West. Circle Reading Upper.	Lower.	Resulting Dip.	Observer.
d h			° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	
Aug. 30. 3	A 2	Not moved									68. 75	75	20	25	69. 3	10	0	0		T D
Sep. 2. 3	A 2		68. 70	72	60	55	68. 65	60	40	35	68. 72	77	40	45	68. 65	70	60	55	68. 58·75	
Sep. 5. 21	A 2		68. 60	55	70	75	68. 10	12	35	40	69. 10	15	10	12	69. 15	20	10	12	68. 58·75	
Sep. 6. 3	A 2	Not moved									68. 75	80	50	55	69. 0	10	10	12		T D
Sep. 9. 3	A 2		68. 57	62	28	30	68. 40	44	50	50	69. 0	5	15	20	68. 68	65	60	58	68. 55·75	G H
Sep. 12. 21	A 2		69. 20	25	15	20	68. 10	15	30	35	69. 12	15	20	25	68. 50	55	40	45	68. 57·00	T D
Sep. 13. 3	A 2	Not moved									69. 0	5	20	25	68. 55	60	50	55		
Sep. 16. 3	A 2		68. 60	65	45	50	68. 45	50	55	60	69. 10	12	15	20	68. 60	65	60	55	69. 0·50	T D
Sep. 19. 2	A 2		68. 84	86	55	58	68. 65	68	40	40	69. 10	10	17	20	68. 42	50	20	25	68. 58·00	G H
Sep. 20. 3	A 2	Not moved									69. 20	15	8	10	68. 35	40	40	40		G H
Sep. 24. $5\frac{1}{3}$	A 2		67. 90	95	60	95	68. 45	50	30	40	68. 35	40	45	50	68. 40	44	50	53	68. 38·75	T D
Sep. 26. 21	A 2		68. 78	80	40	30	68. 50	50	50	52	69. 10	12	20	20	68. 40	50	30	40	68. 55·75	G H
Sep. 27. 3	A 2	Not moved									68. 42	48	20	10	69. 30	35	16	14		G H
Sep. 30. 3	A 2		68. 70	72	50	55	68. 60	60	50	55	68. 50	55	60	65	69. 20	15	10	12	69. 2·50	T D
Oct. 7. 3	A 2		68. 35	40	55	60	68. 60	70	50	55	68. 55	60	65	70	69. 12	10	0	5	68. 58·50	T D
Oct. 10. 21	A 2		68. 45	50	50	55	68. 55	60	50	45	68. 50	55	70	75	69. 20	25	0	5	68. 59·25	G H
Oct. 11. 3	A 2	Not moved	68. 45	50	50	55	68. 75	80	45	50										
Oct. 14. 3	A 2		68. 50	62	70	68	68. 50	55	30	32	68. 52	58	58	60	68. 48	52	60	65	68. 54·25	G H
Oct. 18. 21	A 2		68. 50	55	55	60	68. 65	72	50	55	68. 45	50	50	60	68. 70	72	57	65	68. 58·50	T D

September $24^d.\ 5^h.\ 20^m$. These readings were taken during the great magnetic disturbance which took place on this day.

DAY and APPROXIMATE HOUR, 1847.	Letter referring to Needle.	Whether moved from its bearing subsequently to the last Observation.	Observations with the marked End of the Needle pointing downwards.								Observations with the unmarked End of the Needle pointing downwards.								Resulting Dip.	Observer.
			Marked Side of Needle East.				Marked Side of Needle West.				Marked Side of Needle West.				Marked Side of Needle East.					
			Graduated Face of Circle (1) East.		(3) West.		(4) East.		(2) West.		(4) East.		(2) West.		(1) East.		(3) West.			
			Circle Reading		Circle Reading		Circle Reading		Circle Reading		Circle Reading		Circle Reading		Circle Reading		Circle Reading			
			Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.		
d h			° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	
Oct. 24. 21	A 2		68. 58	60	40	45	69. 5	10	10	5	68. 80	78	58	55	68. 50	45	75	80	69. 2·00	G H
Oct. 25. 3	A 2	Not moved									68. 65	72	45	40	69. 20	25	10	5		G H
Oct. 28. 3	A 2		68. 45	50	60	65	68. 65	70	55	60	68. 65	70	45	50	68. 70	72	55	60	68. 59·75	T D
Nov. 1. 21	A 2		68. 80	70	50	55	68. 40	50	35	32	68. 50	45	60	65	68. 45	50	58	60	68. 52·75	G H
Nov. 2. 3	A 2	Not moved									68. 58	55	60	65	68. 70	65	52	55		G H
Nov. 11. 3	A 2		68. 50	55	65	65	68. 55	60	50	55	68. 60	65	50	55	68. 65	70	55	60	68. 58·50	T D
Nov. 14. 21	A 2		68. 58	70	60	65	68. 58	60	60	54	68. 65	60	55	50	68. 50	47	65	70	68. 59·25	L
Nov. 15. 3	A 2	Not moved									68. 63	60	58	60	68. 55	58	70	75		L
Nov. 18. 3	A 2		68. 55	60	65	70	68. 45	50	50	55	68. 65	70	45	50	68. 60	65	55	60	68. 57·50	T D
Nov. 21. 21	A 2		68. 53	56	75	72	68. 70	65	30	25	68. 40	45	35	40	69. 0	0	15	12	68. 54·50	
Nov. 25. 3	A 2		68. 55	60	60	65	68. 45	50	45	50	68. 65	65	50	55	68. 60	65	55	60	68. 56·50	T D
Nov. 28. 21	A 2		68. 45	48	62	60	68. 72	75	37	40	69. 18	20	0	2	68. 45	50	30	35	68. 55·00	L
Dec. 6. 21	A 2		68. 30	30	60	56	68. 50	52	40	45	69. 8	10	40	40	69. 0	0	12	15	69. 1·75	L
Dec. 7. 3	A 2	Not moved	68. 65	65	55	60	69. 0	0	5	10										T D
Dec. 9. 3	A 2		68. 40	45	40	50	68. 60	60	50	55	68. 70	65	40	50	68. 40	45	45	40	68. 49·75	G H
Dec. 19. 21	A 2		68. 45	48	25	20	68. 45	48	60	57	68. 60	65	55	55	69. 20	22	12	15	68. 55·75	L
Dec. 20. 3	A 2	Not moved	68. 40	45	60	55	68. 63	65	30	32										
Dec. 26. 21	A 2		69. 20	25	0	0	68. 52	56	40	40	68. 65	65	35	40	68. 48	52	45	50	68. 54·50	L

October 24d. 21h. The recorded readings, with the marked end dipping, the marked side of the needle East, and the graduated face of the instrument West, were 69°. 40′ and 69°. 45′: these values have been altered conjecturally to 68°. 40′ and 68°. 45′.

ROYAL OBSERVATORY, GREENWICH.

OBSERVATIONS

OF

DEFLEXION OF A MAGNET

FOR

ABSOLUTE MEASURE

OF

HORIZONTAL FORCE.

1847.

Year, Month, and Day.	Position of Marked End of Declination Magnet.	Position of Deflecting Magnet with respect to suspended Magnet.	Distance of Centers of Magnets.	Temperature.	Mean temperature.	Reduced Circle Reading.	Micrometer Reading of Declination Magnet reduced to Arc.	Scale Reading of Horizontal Force Magnet.	Circle Reading increased by Micrometer Reading, for Declination Magnet, omitting 2°.	Mean of the Numbers in the preceding Column, when the Deflecting Magnet was on opposite sides of the suspended Magnet.	Half Difference of Reduced Readings for Reversed Positions of Deflecting Magnet, or Observed Deflexion.	Natural Sine of Deflexion.	Mean of the Times of Vibration of Deflecting Magnet.	Number of Vibrations.	Temperature.
			ft. in.	°	°	° ′ ″	° ′ ″	div.	° ′ ″	° ′ ″	° ′ ″		s		°
1847. Mar. 3													5·011	118	41
		Away				24. 0. 18·30	2. 31. 41·00		24. 31. 59·30						
	E	W	1·0	41·0		11. 19. 12·27	2. 31. 3·10		11. 50. 15·37	11. 53. 5·60					
	E	E		41·0		11. 24. 52·72	2. 31. 3·10		11. 55. 55·82		12. 35. 29·07	0·21800			
	W	W		41·0		36. 34. 31·36	2. 29. 56·40		37. 4. 27·76	37. 4. 3·75					
	W	E		41·0		36. 43. 1·25	2. 29. 34·00		37. 12. 35·25						
	W	N		41·0		17. 19. 51·71	2. 30. 27·50		17. 50. 19·21	17. 54. 27·18					
	W	S		41·0		17. 28. 7·64	2. 30. 27·50		17. 58. 35·14		6. 38. 5·60	0·11554			
	E	N		41·0		30. 46. 7·27	2. 29. 34·00	55·48	31. 15. 41·27	31. 10. 38·38					
	E	S		41·0	41·4	30. 36. 1·19	2. 29. 34·30	55·53	31. 5. 35·49						
	W	W	1·6	44·0		27. 47. 7·05	2. 28. 48·90	55·65	28. 15. 55·95	28. 13. 29·94					
	W	E		42·8		27. 42. 9·13	2. 28. 54·80	55·80	28. 11. 3·93		3. 42. 24·68	0·06465			
	E	W		41·0		20. 18. 7·55	2. 29. 18·80	55·50	20. 47. 26·35	20. 48. 40·58					
	E	E		41·0		20. 21. 11·90	2. 28. 42·90	55·41	20. 49. 54·80						
	E	N		41·7		25. 55. 31·31	2. 29. 4·60	56·00	26. 24. 35·91	26. 25. 19·01					
	E	S		41·8		25. 57. 6·81	2. 28. 55·30	56·10	26. 26. 2·11		1. 53. 36·24	0·03304			
	W	N		41·0		22. 11. 13·03	2. 27. 49·40	55·49	22. 39. 2·43	22. 38. 6·53					
	W	S		41·4		22. 8. 56·03	2. 28. 14·60	55·59	22. 37. 10·63						
		Away				24. 3. 52·92	2. 29. 16·90		24. 33. 9·82						
													5·003	76	42
Apr. 24													5·022	98	54
		Away				23. 37. 45·86	2. 44. 41·10		24. 22. 26·96						
	E	W	1·0	57·0		10. 57. 35·46	2. 44. 19·70	54·37	11. 41. 55·16	11. 45. 43·73					
	E	E		58·0		11. 5. 32·29	2. 44. 0·10	54·30	11. 49. 32·29		12. 34. 41·74	0·21787			
	W	W		59·2		36. 7. 53·22	2. 42. 55·10	54·41	36. 50. 48·32	36. 55. 7·20					
	W	E				36. 16. 44·07	2. 42. 42·00	54·38	36. 59. 26·07						
	W	N		58·0		16. 50. 2·85	2. 43. 18·80	54·32	17. 33. 21·65	17. 38. 48·62					
	W	S		58·3		17. 0. 56·79	2. 43. 18·80	54·32	17. 44. 15·59		6. 41. 51·73	0·11663			
	E	N		59·5		30. 26. 12·33	2. 42. 33·20	54·36	31. 8. 45·53	31. 2. 22·07					
	E	S		60·0		30. 13. 51·01	2. 42. 7·60	54·25	30. 55. 58·61						
	W	W	1·6	61·0	59·7	27. 19. 5·00	2. 41. 47·20	54·42	28. 0. 52·20	28. 0. 14·98					
	W	E		61·5		27. 17. 50·55	2. 41. 47·20	54·42	27. 59. 37·75		3. 41. 13·75	0·06431			
	E	W		60·0		19. 55. 47·85	2. 42. 7·00	54·37	20. 37. 54·85	20. 37. 47·49					
	E	E		60·9		19. 55. 38·72	2. 42. 1·40	54·35	20. 37. 40·12						
	E	N		62·0		25. 28. 37·93	2. 41. 43·40	54·45	26. 10. 21·33	26. 11. 10·06					
	E	S		62·5		25. 30. 15·39	2. 41. 43·40	54·45	26. 11. 58·79		1. 53. 4·62	0·02389			
	W	N		57·2		21. 42. 3·76	2. 43. 28·70	54·38	22. 25. 32·46	22. 25. 0·83					
	W	S		60·5		21. 42. 35·20	2. 41. 54·00	54·35	22. 24. 29·20						
		Away				23. 35. 28·21	2. 41. 43·40		24. 17. 11·61						
													5·021	98	61
July 13													5·038	84	84
		Away				22. 27. 4·29	2. 27. 7·50		22. 54. 11·79						
	E	W	1·0	83·8		11. 2. 20·52	2. 26. 42·80	52·65	11. 29. 3·32	11. 33. 23·26					
	E	E		84·0		11. 11. 13·60	2. 26. 29·60	52·70	11. 37. 43·20		12. 21. 8·29	0·21392			
	W	W		84·0		35. 49. 54·08	2. 25. 0·50	52·80	36. 14. 54·58	36. 15. 39·83					
	W	E		84·0		35. 51. 45·27	2. 24. 39·80	52·85	36. 16. 25·07						

Year, Month, and Day.	Position of Marked End of Declination Magnet.	Position of Deflecting Magnet with respect to suspended Magnet.	Distance of Centers of Magnets.	Temperature.	Mean temperature.	Reduced Circle Reading.	Micrometer Reading of Declination Magnet reduced to Arc.	Scale Reading of Horizontal Force Magnet.	Circle Reading increased by Micrometer Reading, for Declination Magnet, omitting 2°.	Mean of the Numbers in the preceding Column, when the Deflecting Magnet was on opposite sides of the suspended Magnet.	Half Difference of Reduced Readings for Reversed Positions of Deflecting Magnet, or Observed Deflexion.	Natural Sine of Deflexion.	Mean of the Times of Vibration of Deflecting Magnet.	Number of Vibrations.	Temperature.
			ft. in.	°	°	° ′ ″	° ′ ″	div.	° ′ ″	° ′ ″	° ′ ″		s		°
1847.															
July 13	W	N	1. 0	84·0		16. 54. 11·75	2. 25. 47·60	52·75	17. 10. 59·35						
	W	S		84·0		16. 55. 15·42	2. 25. 17·50	52·80	17. 20. 32·92	17. 15. 46·14					
	E	N		84·0		30. 6. 31·60	2. 24. 7·70	52·88	30. 30. 39·30		6. 36. 18·47	0·11503			
	E	S		84·0		30. 1. 59·16	2. 24. 7·70	52·78	30. 26. 6·86	30. 28. 23·08					
					84·4										
	W	W	1. 6	85·2		27. 9. 49·77	2. 21. 58·70	53·10	27. 31. 48·47						
	W	E		85·2		27. 11. 13·73	2. 21. 46·40	53·12	27. 33. 0·13	27. 32. 24·30					
	E	W		84·0		19. 50. 22·44	2. 23. 41·50	52·75	20. 14. 3·94		3. 38. 45·90	0·06359			
	E	E		84·0		19. 52. 57·28	2. 22. 43·80	53·07	20. 15. 41·08	20. 14. 52·51					
	E	N		85·4		25. 23. 20·39	2. 21. 49·30	53·11	25. 45. 9·69						
	E	S		85·4		25. 24. 37·78	2. 21. 49·30	53·11	25. 46. 27·08	25. 45. 48·39					
	W	N		84·0		21. 40. 17·49	2. 22. 21·20	53·08	22. 2. 38·69		1. 52. 6·48	0·03261			
	W	S		85·0		21. 38. 18·39	2. 22. 13·80	53·09	22. 0. 32·19	22. 1. 35·44					
		Away				23. 31. 37·69	2. 30. 28·84		24. 2. 6·53				5·027	94	85
Sep. 30		Away				23. 16. 31·03	2. 45. 15·50		24. 1. 46·53				5·026	70	58
	E	W	1. 0	59·0		10. 50. 38·82	2. 43. 41·40	53·10	11. 34. 20·22						
	E	E		59·0		10. 56. 32·79	2. 43. 35·80	53·00	11. 40. 8·59	11. 37. 14·41					
	W	W		60·3		35. 36. 19·56	2. 42. 23·80	53·00	36. 18. 33·36		12. 22. 3·08	0·21418			
	W	E		60·0		35. 41. 31·76	2. 42. 36·00	52·92	36. 24. 7·76	36. 21. 20·56					
	W	N		59·0		16. 36. 49·04	2. 43. 2·30	53·00	17. 19. 51·34						
	W	S		59·5		16. 44. 53·63	2. 42. 40·70	53·00	17. 27. 34·33	17. 23. 42·89					
	E	N		61·0		29. 55. 8·84	2. 42. 29·30	53·00	30. 37. 38·14		6. 13. 57·23	0·10856			
	E	S		60·0		28. 23. 54·63	2. 41. 41·90	52·90	29. 5. 36·53	29. 51. 37·34					
					59·8										
	W	W	1. 6	60·0		26. 55. 56·51	2. 39. 25·80	53·25	27. 35. 22·31						
	W	E		60·0		26. 59. 59·01	2. 39. 42·90	53·15	27. 39. 41·91	27. 37. 32·21					
	E	W		60·0		19. 35. 12·50	2. 41. 35·10	52·90	20. 16. 47·60		3. 40. 19·73	0·06405			
	E	E		60·0		19. 35. 58·79	2. 40. 59·10	53·04	20. 16. 57·89	20. 16. 52·75					
	E	N		59·2		25. 8. 39·95	2. 39. 53·30	53·15	25. 48. 33·25						
	E	S		59·5		25. 10. 34·46	2. 39. 53·30	53·02	25. 50. 27·76	25. 49. 30·51					
	W	N		60·0		21. 23. 8·23	2. 40. 59·10	52·90	22. 4. 7·33		1. 52. 54·50	0·03284			
	W	S		60·0		21. 23. 14·90	2. 40. 0·80	53·00	22. 3. 15·70	22. 3. 41·52					
		Away				23. 16. 56·24	2. 39. 34·40		23. 56. 30·64				5·111*	106	58

OBSERVATIONS OF VIBRATION FOR THE ABSOLUTE MEASURE OF HORIZONTAL FORCE.

Month and Day, 1847.		Mean of the Times of Vibration of Deflecting Magnet.	Number of Vibrations.	Temperature.
		s		°
March	25	5·016	128	60
April	12	5·008	96	64
	19	4·995	102	53
June	2	5·006	98	78
	30	5·021	96	76
July	10	5·034	122	76
	29	5·016	122	82
September	10	5·012	96	70
November	19	5·000	71	40
	24	5·000	98	50

* This value has not been used in subsequent calculations. The observations were unsatisfactory.

ROYAL OBSERVATORY, GREENWICH.

METEOROLOGICAL OBSERVATIONS.

1847.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Jan. 0. 14	30·302	27·5	26·4	1·1	22·0	5·5	35·7 / 20·0	0·00	SE	..	..	..	Pos.	30	..	30	35	5. 0
16	30·258	28·0	26·5	1·5	20·0	8·0			SE	..	..	..	Pos.	10	..	10	12	4. 0
18	30·240	27·0	26·0	1·0	22·0	5·0	41·8 / 17·0	0·00	NE	..	SSE	0·24	Pos.	10	..	8	10	7. 0
20	30·222	26·7	25·7	1·0	20·0	6·7			NNE	..	..	..	Pos.	20	..	20	25	7. 0
22	30·227	28·6	27·3	1·3	23·0	5·6	.. / 33·0	0·000	NNE	..	NE	0·20	Pos.	25	..	20	22	20. 0
Jan. 1. 0	..	30·5	29·2	1·3	..	..	..	..	NNE	..	..	..	..	..	0	0	0	..
2	30·147	32·0	30·4	1·6	..	..	..	..	NE	..	..	..	Pos.	40	..	50	50	..
4	..	..	..	..	..	..	34·6	..	NE	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	28·0	0·00	NE	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..			NE	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	42·5	0·00	ENE	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	23·5		E	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..		0·000	E	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..		E	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	33·0	..	ENE	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	ENE	..	..	..	..	..	..	..	..	..
22	29·900	32·7	..	..	29·5	3·2	..	..	ENE	0 to 1½	ENE	1·56	..	..	0	0	0	..
Jan. 2. 0	29·844	33·0	..	..	..	..	..	..	ENE	..	..	..	Pos.	2	..	..	..	..
2	29·790	33·4	..	..	..	..	..	..	ENE	..	..	..	Pos.	2	..	..	..	..
4	..	..	..	..	..	..	33·7	..	E	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	26·0	0·00	SSE	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..			SE	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	0·00	ESE	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	20·0		SSE	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..		0·010	SE	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	33·5		E by S	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	33·0	..	E	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	E	0 to ½	..	..	..	..	..	..	..	..
22	29·613	30·4	..	..	..	..	..	..	E	0 to ½	E	4·80	..	..	0	0	0	..
Jan. 3. 0	..	..	..	..	..	..	..	..	E by N	0 to 1	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	ENE	0 to 1½	..	..	..	..	..	..	..	..
4	29·567	34·4	..	..	..	..	40·0	..	ENE	..	..	..	Pos.	..	..	30	40	..
6	..	..	..	..	..	..	30·6	0·05	E	..	E	1·20	..	..	..	..	..	..
8	..	..	..	..	..	..			E	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	0·08	E	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	25·2		E	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..		0·110	E by S	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	34·0		ESE	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	33·0	..	SE	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SSE	..	..	..	..	..	..	..	..	..
22	29·704	39·7	..	..	39·0	0·7	..	..	S	..	SSE	2·20	..	..	0	0	0	..
Jan. 4. 0	29·702	39·5	39·1	0·4	..	..	43·1	..	S by E	..	..	..	Pos.	10	20	5	..	..
2	29·670	40·0	39·8	0·2	..	..	37·9	0·07	SSE	..	..	..	Pos.	10	20	5	..	..
4	..	..	..	..	..	..			SSE	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	0·05	SE	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	35·3		SSE	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	35·0	0·155	SSE	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	33·5	..	SSE	..	..	..	..	..	..	..	..	..

The day referred to in the foot-notes is always to be understood as that of Civil Reckoning, unless the time of the observation be mentioned, and then it is referred to Astronomical Reckoning.

Jan. 1d. Every part of each instrument was examined, and found to be in good order.

During the month of January a few observations only were taken daily.

WET THERMOMETER.—Jan. 1d. 22h. The instrument was found broken.

DRY AND WET THERMOMETERS.—Jan. 4d. 0h. From this time a pair of thermometers whose readings were identical when under the same circumstances, the property of Mr. Glaisher, were used.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast: cirro-stratus and fleecy clouds.	L
10	..	,, ,,	
5	..	Cirro-stratus and fleecy clouds: there are extensive breaks near the N.W.	
10	..	Overcast: cirro-stratus and fleecy clouds.	
10	..	,, cirro-stratus and scud.	G H
..	..		
10	..	Overcast: slight snow falling; it commenced at about $1^h.\ 30^m$, at which time the electricity was strongly positive.	L
..	Full		
..	..		
..	..		
..	..		
..	..		
..	Transit		
..	..		
..	..		
..	..		
10	..	Overcast: cirro-stratus and scud.	G H
10	..	Overcast: cirro-stratus and scud.	H B
10	..	,, ,,	H B
..	..		
..	..		
..	..		
..	..		
..	..		
..	Transit		
..	..		
..	..		
..	..		
5	..	Cirri, cirro-strati, and scud in various directions.	G H
..	..		
..	..		
9	..	Cirro-stratus and scud: there has been a gradual increase in the amount of the clouds since the last observation.	
..	..	At $5^h.\ 30^m$ sleet began to fall, which changed to snow at about $6^h.\ 30^m$: the day throughout was gloomy.	
..	..		
..	..		
..	..		
..	Transit		
..	..		
..	..		
..	..		
10	..	Overcast: cirro-stratus and scud.	
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	
..	..		
..	..		
..	..		
..	..		
..	..		

MAXIMUM THERMOMETER USED IN DETERMINING THE TEMPERATURE OF THE WATER OF THE THAMES.
January 1^d. The instrument was in the hands of the maker for repair.

STRENGTH OF WIND BY ESTIMATION.—In the general remarks, by the expression "wind in gusts to $1\frac{1}{2}$," as on January 23^d at 22^h, is meant that the pressure of the wind by estimation sometimes amounted to 1 and $1\frac{1}{2}$, although its general value for that time was less. The strength of the wind is estimated by considering a calm to be represented by 0, and a hurricane by 6; and the pressure in lbs. per square foot will be nearly measured by the square of the numbers thus given. A similar expression occurs frequently in the general remarks, and is always to be interpreted in the same way.

MAXIMUM RADIATION THERMOMETER.—January 2. The instrument was sent to the maker to be repaired.

ELECTRICITY.—January $3^d.\ 4^h$. There was a spark at the distance of $0^{in}.03$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Jan. 4. 14	..	..	..	..	..	..	..	..	S	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	S	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	S by E	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	S by E	..	..	..	..	..	..	..	..	..
22	29·674	43·0	42·1	0·9	41·5	1·5	..	..	S	..	SSE	3·43	..	..	0	0	0	..
Jan. 5. 0	29·667	42·9	42·1	0·8	..	..	..	..	S by E	..	..	..	..	..	0	0	0	..
2	29·661	46·0	44·1	1·9	..	..	..	..	S by E	..	..	..	Pos.	2	..	..	..	..
4	..	..	..	..	..	..	46·1	..	S by E	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	35·8	0·10	SSE	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	——		SSE	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	0·00	SSE	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	30·0		SSE	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	——	0·180	SSE	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	35·8		SE	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	34·8	..	Calm	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..
22	29·788	38·5	38·4	0·1	38·0	0·5	..	..	Calm	..	SE	1·62	Pos.	2	..	..	..	..
Jan. 6. 0	29·899	40·8	40·5	0·3	..	..	..	..	Calm	..	..	..	Pos.	2	..	..	..	..
2	29·900	42·2	42·0	0·2	..	..	..	..	Calm	..	..	..	Pos.	2	..	..	..	..
4	..	..	..	..	..	..	42·3	..	Calm	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	37·9	0·10	Calm	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	——		Calm	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	0·00	Calm	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	35·5		Calm	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	——	0·195	Calm	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	35·8		Calm	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	34·8	..	Calm	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..
22	29·990	40·0	40·0	0·0	40·0	0·0	..	..	Colm	..	SSE	0·55	..	..	0	0	0	..
Jan. 7. 0	29·974	41·0	40·5	0·5	..	..	..	..	Calm	..	..	..	Pos.	..	..	50	70	4. 0
2	29·959	42·0	41·8	0·2	..	..	..	..	Calm	..	..	..	Pos.	40	..	30	40	..
4	..	..	..	..	..	..	42·1	..	Calm	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	36·8	0·10	Calm	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	——		Calm	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	0·00	SSE	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	34·0		SSE	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	——	0·200	SSE	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	38·2		S by E	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	35·5	..	S by E	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	ESE	0 to 2	..	..	..	..	..	..	..	..
22	29·987	37·0	36·5	0·5	36·0	1·0	..	..	SE	0 to $1\frac{1}{2}$	ESE	2·40	..	..	..	..	..	..
Jan. 8. 0	30·013	37·3	36·7	0·6	..	..	38·3	..	SE	..	..	..	Pos.	10	..	10	..	..
2	30·010	37·5	36·5	1·0	..	..	33·4	0·10	SE	..	..	..	Pos.	5	..	5	..	30. 0
4	..	..	..	..	..	..	——		E by S	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	0·00	E	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	31·3		E by S	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	——	0·200	E by S	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	39·0		E by S	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	36·5	..	ESE	..	..	..	..	..	..	..	..	..

ELECTRICITY.

January 7d. 0h. There was a spark at the distance of 0in·03.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
..	..		
..	Transit		
..	..		
..	..		
10	..	Overcast: cirro-stratus and scud.	G H
10	..	Overcast: cirro-stratus: there is a break towards the S.: rain has been falling since the last observation.	
10	..	,, cirro-stratus and scud.	
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
..	Transit		
..	..		
..	..		
10	..	Overcast: cirro-stratus and scud.	G H
10	..	Overcast: cirro-stratus and scud: foggy.	T D
10	..	,, ,, ,,	L
..	..		
..	Apogee		
..	..		
..	..		
..	..		
..	..		
..	Transit		
..	..		
..	..		
10	..	Overcast: cirro-stratus and scud.	G H
10	..	Overcast: cirro-stratus and scud: a thin misty rain is falling.	T D
10	..	,, cirro-stratus: a thin misty rain is falling.	G H
..	In Equator		
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
..	Transit		
..	..		
10	..	Overcast: cirro-stratus and scud.	H B
10	..	Overcast: cirro-stratus and scud.	
..	..	,, ,,	H B
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Jan. 8. 16	..	..	..	..	..	..	..	..	E by S	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	ESE	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	E	..	..	..	..	..	..	..	..	..
22	30·214	35·0	34·0	1·0	31·0	4·0	..	..	E by S	..	E	3·55	..	..	..	..	..	..
Jan. 9. 0	30·223	35·0	34·0	1·0	..	..	..	..	SE	..	..	..	..	..	0	0	0	..
2	30·210	34·2	33·3	0·9	..	..	..	..	E	..	..	..	Pos.	2	..	..	..	..
4	..	..	..	..	..	..	36·4	..	E	..	E	1·20	..	..	..	..	..	..
6	..	..	..	..	..	..	27·3	0·10	ESE	..	..	..	..	..	..	..	..	..
8	30·238	31·9	31·0	0·9	..	..	..		SE	..	..	..	Pos.	5	..	10	10	10. 0
10	..	..	..	..	..	..	..	0·00	SSE	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	16·0		SSE	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..		0·200	SSE	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	39·0		SE	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	37·2	..	ESE	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	ESE	..	..	..	..	..	..	..	..	..
22	30·200	31·4	30·5	0·9	..	..	..	..	SSE	..	ESE	1·13	Pos.	5	..	10	10	20. 0
Jan. 10. 0	..	..	..	..	..	..	..	..	ESE	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	SSE	..	..	..	..	..	..	..	..	..
4	30·139	30·9	30·2	0·7	..	..	32·1	..	SE	..	..	..	Pos.	5	..	12	10	..
6	30·125	30·3	29·8	0·5	..	..	24·0	0·10	SSE	..	..	..	Pos.	5	..	12	10	..
8	..	..	..	..	..	..	..		SE	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	0·00	SSE	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	14·0		SSE	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..		0·200	SSE	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	38·5		SSE	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	37·0	..	ESE	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	ESE	..	..	..	..	..	..	..	..	..
22	30·067	28·5	28·5	0·0	25·5	3·0	..	..	ESE	..	ESE	1·22	..	..	0	0	0	..
Jan. 11. 0	30·041	32·0	30·1	1·9	..	..	..	..	Calm	..	..	..	Pos.	35	35	30	40	..
2	30·018	33·5	32·0	1·5	..	..	..	..	Calm	..	..	..	Pos.	8	..	15	10	..
4	..	..	..	..	..	..	35·2	..	Calm	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	26·0	0·10	Calm	..	..	..	..	..	..	..	..	..
8	29·976	27·2	26·0	1·2	..	..	..		Calm	..	..	..	Pos.	2	..	..	..	..
10	..	..	..	..	..	..	..	0·00	Calm	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	19·6		Calm	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..		0·205	Calm	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	37·8		Calm	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	36·5	..	Calm	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..
22	29·928	27·0	27·0	0·0	24·8	2·2	..	..	Calm	..	E	1·10	Pos.	12	..	20	25	20. 0
Jan. 12. 0	29·906	34·0	32·0	2·0	..	..	39·7	..	SE	..	..	..	Pos.	2	..	..	..	..
2	29·871	38·0	35·5	2·5	..	..	30·8	..	E by S	..	..	..	Pos.	10	..	15	20	..
4	..	..	..	..	..	..		0·10	Calm	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..		Calm	..	..	..	..	..	..	..	..	..
8	29·805	31·5	31·4	0·1	..	..	21·0	0·01	Calm	..	..	..	Pos.	2	..	..	..	..
10	..	..	..	..	..	..			Calm	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	37·0	0·225	Calm	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	36·2	..	Calm	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..		..	Calm	..	..	..	..	..	..	..	..	..

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
..	..		
..	Transit		
..	..		
10	..	Overcast: cirro-stratus.	T D
10	..	Overcast: cirro-stratus.	
10	..	,, ,,	T D
..	..		
..	..		
10	3rd Qr.	,, ,,	H B
..	..		
..	..		
..	..		
..	..		
..	Transit		
..	..		
10	..	,, cirro-stratus and scud: there are small breaks in every direction.	
..	..		
..	..		
10	..	Overcast: cirro-stratus and scud: with the exception of a few breaks in the clouds, the sky has been overcast since 22^h.	
10	..	,, ,,	H B
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
..	Transit		
0	..	Cloudless.	G H
0	..	Cloudless.	
0	..	,,	
..	..		
..	..		
0	..	,, before $9^h.40^m$ the sky became nearly overcast.	G H
..	..		
..	..		
..	..		
..	..		
..	..		
..	Transit		
2	..	Cirro-stratus and vapour around the horizon: there is a slight fog in the Park.	H B
0	..	Cloudless.	G H
0	..	,,	H B
..	..		
..	..		
0	..	,,	L
..	..		
..	..		
..	..		
..	..		

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. — of Free Therm. — of Rad. Therm. — of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). — Reading of No. 2. — Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Jan. 12. 18	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..
22	29·772	33·5	33·5	0·0	33·0	0·5	..	..	Calm	..	ENE	1·32	..	..	0	0	0	..
Jan. 13. 0	29·876	38·2	38·1	0·1	..	..	..	..	SE	..	..	..	Pos.	2	..	..	..	..
2	29·767	40·0	39·0	1·0	..	..	..	..	Calm	..	..	..	Pos.	15	..	20	25	15. 0
4	..	..	..	..	..	..	40·6	..	Calm	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	28·0	0·10	Calm	..	..	..	..	..	..	..	..	..
8	29·819	35·2	35·1	0·1	..	..	—		Calm	..	..	..	..	..	0	0	0	..
10	..	..	..	..	..	..	..	0·00	Calm	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	19·0		Calm	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	—	0·225	Calm	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	37·0		Calm	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	36·0	..	Calm	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..
22	29·912	29·7	29·5	0·2	26·0	3·7	..	..	Calm	..	SSE	0·29	Pos.	2	..	..	..	..
Jan. 14. 0	29·907	36·9	35·2	1·7	..	..	..	..	Calm	..	..	..	Pos.	8	..	20	20	..
2	29·910	40·8	38·9	1·9	..	..	..	..	Calm	..	..	..	Pos.	25	..	30	30	..
4	..	..	..	..	..	..	42·6	..	Calm	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	26·0	0·10	Calm	..	..	..	..	..	..	..	..	..
8	29·947	32·5	31·5	1·0	..	..	—		Calm	..	..	..	Pos.	5	..	12	10	7. 0
10	..	..	..	..	..	..	..	0·00	Calm	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	14·7		Calm	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	—	0·230	Calm	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	36·5		Calm	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	35·5	..	Calm	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..
22	29·956	30·0	30·0	0·0	28·0	2·0	..	..	Calm	..	ESE	0·69	Pos.	2	..	..	..	..
Jan. 15. 0	29·947	35·5	33·9	1·6	..	..	..	..	Calm	..	..	..	Pos.	8	..	20	20	5. 0
2	29·928	38·0	36·5	1·5	..	..	..	..	Calm	..	..	..	Pos.	10	..	10	10	..
4	..	..	..	..	..	..	39·8	..	Calm	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	27·7	0·10	Calm	..	..	..	..	..	..	..	..	..
8	29·915	32·0	31·9	0·1	..	..	—		Calm	..	..	..	Pos.	30	..	30	40	..
10	..	..	..	..	..	..	..	0·00	Calm	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	22·2		Calm	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	—	0·235	Calm	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	36·0		Calm	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	34·8	..	Calm	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..
22	29·924	30·5	30·5	0·0	30·5	0·0	..	..	Calm	..	ESE	0·98	..	..	0	0	0	..
Jan. 16. 0	29·931	32·0	32·0	0·0	..	..	..	..	E by S	..	..	..	Pos.	2	..	..	..	..
2	29·921	34·0	33·5	0·5	..	..	..	..	ENE	..	..	..	Pos.	2	..	..	..	..
4	..	..	..	..	..	..	35·6	..	ENE	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	27·2	0·10	ENE	..	..	..	..	..	..	..	..	..
8	29·972	29·5	29·0	0·5	..	..	—		ENE	..	..	..	..	..	0	0	0	..
10	..	..	..	..	..	..	..	0·00	ENE	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	23·8		NE	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	—	0·245	ENE	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	35·8		NE	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	34·0	..	NNE	..	..	..	..	..	..	..	..	..

BAROMETER.

January 13d. 0h. The reading had increased 0in·104 since the previous observation.

ELECTRICITY.

January 15d. 0h. There was a spark at the distance of 0in·02.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
..	..		
..	..		
10	Transit	Overcast: cirro-stratus and broken scud: during the night some frozen rain fell.	G H
..	..		
10	..	Overcast: cirro-stratus and scud.	G H
10	..	The clouds are now slightly broken in several directions.	H B
..	..		
..	..		
10	..	The sky is covered with cirro-stratus and thin scud, through which Jupiter is visible: a thin haze prevails: the sky	T D
..	..	has been uniformly covered since 5^h.	
..	..		
..	..		
..	..		
..	..		
..	..		
0	Transit	Cloudless.	G H
..	..		
0	..	Cloudless.	
0	..	,,	G H
..	..		
..	..		
1	Greatest declination S.	Cirro-stratus and vapour around the horizon: hazy: the sky has been generally cloudless since 2^h.	H B
..	..	A dense fog formed at this time, and continued through the greater part of the night.	
..	..		
..	..		
..	..		
..	..		
..	..		
0	..	Cloudless.	
..	..		
0	Transit	Cloudless.	H B
0	..	,,	L
..	..		
..	..		
0	..	,,	G H
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
10	..	A dense fog.	
..	..		
10	Transit	Overcast: cirro-stratus and scud.	G H
10	..	The sky is covered with a thin cloud, of the cirro-stratus character, slightly broken in several directions.	T D
..	..		
..	..		
10	..	Overcast: cirro-stratus.	
..	..		
..	..		
..	New		
..	..		
..	..		

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Jan. 16. 20	..	..	..	..	..	..	..	..	NE	..	..	..	..	..	..	..	..	..
22	30·020	28·8	28·5	0·3	..	..	..	..	NE	..	NE	2·12	..	..	0	0	0	..
Jan. 17. 0	..	..	..	..	..	..	..	..	E by N	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	ENE	..	..	..	..	..	..	..	..	..
4	29·999	29·3	29·2	0·1	..	..	29·4	..	ENE	..	..	..	..	..	0	0	0	..
6	..	..	..	..	..	..	28·3	0·10	ENE	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	——		ENE	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	0·00	E	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	24·7		SSE	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	——	0·245	SSE	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	35·0		SSE	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	33·5	..	SSE	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	E	..	..	..	..	..	..	..	..	..
22	29·990	28·4	28·0	0·4	24·0	4·4	..	..	ENE	..	E	1·20	Pos.	10	..	10	5	..
Jan. 18. 0	30·002	29·0	28·9	0·1	..	..	..	..	E by S	..	..	..	Pos.	2	..	..	..	..
2	29·983	31·5	31·5	0·0	..	..	..	..	Calm	..	..	..	Pos.	2	..	..	..	..
4	..	..	..	..	..	..	32·6	..	Calm	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	28·0	0·10	Calm	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	——		Calm	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	0·00	Calm	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	24·9		Calm	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	——	0·245	Calm	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	34·8		Calm	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	33·5	..	Calm	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..
22	30·053	31·1	31·0	0·1	26·5	4·6	..	..	Calm	..	E	0·71	Pos.	10	30	10	15	..
Jan. 19. 0	30·040	32·0	32·0	0·0	..	..	..	..	Calm	..	..	..	Pos.	15	45	15	20	5. 0
2	30·014	32·2	32·1	0·1	..	..	..	..	Calm	..	..	..	Pos.	40	95	40	50	..
4	..	..	..	..	..	..	33·3	..	Calm	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	28·5	0·10	Calm	..	..	..	..	..	..	..	..	..
8	29·988	31·9	31·8	0·1	..	..	——		Calm	..	..	..	Pos.	25	..	30	40	5. 0
10	..	..	..	..	..	..	..	0·00	Calm	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	19·5		Calm	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	——	0·245	Calm	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	34·5		Calm	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	33·5	..	Calm	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..
22	29·935	27·1	27·1	0·0	25·8	1·3	..	..	Calm	..	N	0·09	..	..	0	0	0	..
Jan. 20. 0	29·933	31·2	30·7	0·5	..	..	..	..	Calm	..	..	..	Pos.	10	30	20	30	..
2	29·901	33·0	32·0	1·0	..	..	..	..	Calm	..	..	..	Pos.	40	..	90	100	5. 0
4	..	..	..	..	..	..	35·4	..	Calm	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	28·6	0·13	Calm	..	..	..	..	..	..	..	..	..
8	29·881	31·8	31·5	0·3	..	..	——		SSW	..	..	..	Pos.	20	..	20	25	5. 0
10	..	..	..	..	..	..	..	0·03	SSW	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	19·6		S by W	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	——	0·280	SSW	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	34·5		SSW	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	33·5	..	SSW	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SSW	..	..	..	..	..	..	..	..	..
22	29·808	33·5	32·5	1·0	29·0	4·5	..	..	S	..	SSW	0·73	Pos.	2	..	3	5	6. 0

MINIMUM FREE THERMOMETER.

January 19d. 22h. The reading was higher than that of the Dry Thermometer at 22h.

ELECTRICITY.

January 20d. 2h. There was a spark at the distance of 0in·02.

RAIN.

January 20d. The increase in the rain-gauges was caused by the melting of snow.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
..	..		
10	..	Overcast: cirro-stratus and scud.	T D
..	..		
..	Transit		
10	..	Overcast: cirro-stratus and scud.	G H
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
10	..	,, cirro-stratus.	
10	..	Overcast: cirro-stratus and scud: a light snow beginning to fall.	G H
8	Transit	Cirro-strati, scud, and fleecy clouds: at 1^h the clouds became broken in many directions, exhibiting large portions	T D
..	Perigee	of clear sky.	
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
10	..	Overcast: cirro-stratus and scud.	T D
10	..	Overcast: cirro-stratus and scud.	G H
10	..	,, ,,	
..	Transit		
..	..		
10	..	,, ,, very dark.	
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
2	..	A bank of cirro-stratus towards the S. horizon.	
5	..	Cirro-stratus and scud towards the S. horizon and about the zenith.	G H
8	..	Cirro-strati and light clouds; the Sun is shining through them.	L
..	Transit	Overcast: cirro-stratus: snow is falling.	
..	..		
10	..	,, ,,	L
..	In Equator		
..	..		
..	..		
..	..		
..	..		
..	..		
10	..	,, ,, snow has fallen to the depth of half an inch.	H B

Day and Hour, Göttingen Astronomical Reckoning.	Barometer corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Jan. 21. 0	29·801	35·5	33·8	1·7	..	..	..	..	Calm	..	..	..	Pos.	10	..	20	25	15. 0
2	29·765	33·0	32·8	0·2	..	..	..	..	Calm	..	..	..	Pos.	30	..	20	20	8. 0
4	..	..	..	..	..	..	37·8	..	Calm	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	32·8	0·18	Calm	..	..	..	..	..	..	..	..	..
8	29·700	34·5	34·2	0·3	..	..	——		Calm	..	..	..	Pos.	2	..	..	..	..
10	..	..	..	..	..	..	..	0·34	Calm	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	29·5		SSW	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	——	0·685	S	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	34·5		SSE	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	33·8	..	SSE	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SSE	..	..	..	..	..	..	..	..	..
22	29·666	34·0	34·0	0·0	34·0	0·0	..	..	SSE	..	S	0·17	Pos.	2	..	..	..	..
Jan. 22. 0	29·661	35·0	35·0	0·0	..	..	..	..	Calm	..	..	..	Pos.	10	..	50	80	1. 30
2	29·638	35·5	36·0	–0·5	..	..	..	..	Calm	..	..	..	Pos.	10	80	30	40	5. 0
4	..	..	..	..	..	..	36·5	..	Calm	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	32·8	0·18	Calm	..	..	..	..	..	..	..	..	..
8	29·642	35·0	35·0	0·0	..	..	——		Calm	..	..	..	Pos.	2	..	..	..	..
10	..	..	..	..	..	..	..	0·00	Calm	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	27·5		Calm	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	——	0·695	Calm	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	34·8		Calm	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	34·0	..	ESE	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	ESE	..	..	..	..	..	..	..	..	..
22	29·560	33·5	33·4	0·1	32·0	1·5	..	..	S by E	..	S	1·13	..	..	0	0	0	..
Jan. 23. 0	29·551	36·1	36·0	0·1	..	..	..	..	S by E	..	..	..	Pos.	10	10	8	..	..
2	29·521	38·0	38·0	0·0	..	..	..	..	S by E	..	..	..	..	..	0	0	0	..
4	..	..	..	..	..	..	43·9	..	S	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	32·8	0·18	S by W	..	..	..	..	..	..	..	..	..
8	29·564	40·0	39·5	0·5	..	..	——		S by W	..	..	..	Pos.	2	..	..	..	..
10	..	..	..	..	..	..	..	0·03	S by W	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	31·3		S by W	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	——	0·710	S by W	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	35·5		S by W	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	34·0	..	S by W	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	S	0 to ½	..	..	..	..	..	..	..	..
22	29·303	43·4	42·0	1·4	..	..	..	..	S	0 to 2	S	4·94	..	..	0	0	0	..
Jan. 24. 0	..	..	..	..	..	..	..	..	S by W	1 to 5	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	S	1 to 5	S	1·30	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	SSW	1 to 3	..	..	..	..	..	..	..	..
5	29·175	48·0	46·3	1·7	..	..	52·7	..	WSW	0 to 3	..	..	..	..	0	0	0	..
							39·2											
6	..	..	..	..	..	..	——	0·28	SW	0 to 1	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	0·07	SSW	0 to 1	SW	3·40	..	..	..	..	..	..
10	..	..	..	..	..	..	33·7		S by W	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	——	0·890	S	..	..	..	..	..	..	..	..	..
14	29·238	44·6	41·2	3·4	..	..	37·0		S	1 to 4	..	..	Pos.	2	..	..	..	..
16	29·190	43·0	41·0	2·0	38·0	5·0	34·5	..	S	2 to 6	..	..	..	..	0	0	0	..
18	29·184	42·0	40·2	1·8	..	..	..	..	S	1 to 5	..	..	..	..	0	0	0	..
20	29·217	41·5	39·7	1·8	..	..	..	..	S by E	1 to 3	..	..	..	..	0	0	0	..
22	29·213	40·5	38·3	2·2	34·5	6·0	..	..	S by E	1 to 3½	S	5·15	Pos.	3	..	5	5	15. 0

ELECTRICITY.

January 21d, at 2h, and 22d, at 0h and 2h. There were sparks at the distances of 0in·01, 0in·03, 0in·03, and 0in·03 respectively.

DRY THERMOMETER.

January 22d. 2h. The reading was lower than that of the Wet Thermometer.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast: cirro-stratus: a few flakes of light snow are falling.	H B
10	..	,, ,, snow has been constantly falling since the last observation.	T D
..	Transit		
..	..		
10	..	,, ,, rain and sleet falling: a rapid thaw has been going forward during the evening.	H B
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
10	..	,, dense cirro-stratus: a thin rain falling: very hazy.	T D
10	..	Overcast: cirro-stratus: a dense fog.	G H
..	..	,, ,, ,, the electricity has been very active during the morning.	G H
..	..		
..	Transit		
10	..	,, ,, ,,	T D
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
10	..	,, cirro-stratus and scud.	G H
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	
..	1st Qr.		
..	Transit		
10	..	,, cirro-stratus and scud, through which the Moon is visible.	
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
10	..	,, dense cirro-stratus: a thick misty rain is falling: the wind is blowing in gusts to $1\frac{1}{2}$.	G H
..	..		
..	..		
..	..		
9	..	Cirro-stratus and broken scud in the W. and S.W.: along the horizon, extending from the N. N.W. to S.W., there is a long line of blue sky, within which the Sun is visible: rain fell heavily from 0^h to 4^h.	L
..	..		
..	Transit		
..	..		
..	..		
7	..	Cirro-strati and masses of loose scud in every direction: the wind is blowing in gusts to 3.	
10	..	Overcast: cirro-stratus and scud: the wind is blowing in gusts to 4.	
10	..	,, ,, the wind is blowing in gusts to 3.	
10	..	,, ,, the wind is blowing in occasional gusts to $3\frac{1}{2}$: slight rain is falling.	
7	..	Cirro-strati and large masses of slate-coloured scud in rapid motion: gusts of wind to $1\frac{1}{2}$ and 2.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	Max. and Min. as read at 22h. of Rad. Therm.	Max. and Min. as read at 22h. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's).	RAIN GAUGES. Reading of No. 2.	RAIN GAUGES. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	From Osler's Anemometer. Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	From Whewell's Anemometer. Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Readings of Double Gold Leaf.	Readings of Straws of Volta 1.	Readings of Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°			in.		in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Jan. 25. 0	29·242	43·0	40·5	2·5	..	..	..			..		..	SSW	1½ to 2	..	..	Pos.	2	..	..	..	..
2	29·251	45·0	42·7	2·3	..	..	..			..		..	SSW	1½ to 2	..	..	Pos.	2	..	..	..	..
4	29·261	44·2	41·5	2·7	38·0	6·2	..			..		..	SSW	½ to 2	SW	3·58	Pos.	2	..	..	..	..
6	29·279	42·0	39·8	2·2	..	..	45·2			..		..	SSW	½ to 2½	..	..	Pos.	2	..	..	..	..
8	29·275	41·2	40·2	1·0	..	..	38·1			0·31		..	SW	..	..	..	..	..	0	0	0	..
10	29·239	41·8	40·2	1·6	39·0	2·8	..					..	S	..	..	..	Pos.	..	..	5	5	7. 0
12	29·224	43·0	41·0	2·0	..	..	31·5			0·04		..	S	..	..	..	Pos.	2	..	..	..	..
14	29·195	43·8	42·0	1·8	..	..	..			0·945		..	S by E	..	SSW	1·42	..	..	0	0	0	..
16	29·193	41·9	41·0	0·9	41·4	0·5	38·8					..	SSE	..	..	..	..	..	0	0	0	..
18	29·204	40·0	39·0	1·0	..	..	35·8			..		..	SSE	..	..	..	..	..	0	0	0	..
20	29·247	39·0	38·8	0·2	..	..	..			..		..	SSE	..	..	..	Pos.	15	20	10	15	7. 0
22	29·301	41·2	40·5	0·7	39·8	1·4	..			..		..	S	..	SW	0·70	Pos.	..	..	5	8	12. 0
Jan. 26. 0	29·330	47·0	44·3	2·7	..	..	..			..		..	SW	..	..	..	Pos.	..	..	8	10	..
2	29·354	49·3	45·7	3·6	..	..	..			..		..	WSW	0 to 2½	..	..	Pos.	..	..	10	10	5. 0
4	29·347	48·0	44·0	4·0	41·0	7·0	..			..		..	SSW	0 to 1	SW	5·75	Pos.	..	..	10	15	6. 0
6	29·287	46·0	43·0	3·0	..	..	..			..		..	SSW	½ to 3	..	..	Pos.	15	20	10	15	10. 0
8	29·203	44·8	43·0	1·8	..	..	..			..		..	SSW	2 to 7	..	..	Pos.	2	..	..	..	..
h m 8. 15	29·164	..	..	..	..	..	..			..		..	SSW	1½ to 5	..	..	..	..	..	..	..	..
8. 30	29·188	..	..	..	..	..	..			..		..	SSW	2½ to 4	..	..	..	..	..	..	..	..
8. 50	29·180	..	..	..	..	..	..			..		..	SSW	2½ to 5	..	..	..	..	..	..	..	..
9. 30	29·158	..	..	..	..	..	..			..		..	SSW	2½ to 5	..	..	..	..	..	..	..	..
10. 0	29·151	46·6	45·0	1·6	44·0	2·6	49·4			..		..	SSW	2½ to 7	..	..	..	..	0	0	0	..
11. 40	29·107	..	..	..	..	..	~~35·5~~			0·37		..	SSW	2 to 6	..	..	..	..	..	..	..	..
12. 0	29·107	48·0	45·6	2·4	..	..	..					..	SSW	3 to 7	WSW	2·05	Pos.	2	..	..	..	..
12. 30	29·113	..	..	..	..	..	56·4			0·00		..	SSW	2½ to 10	..	..	..	..	..	..	..	..
13. 0	29·078	..	..	..	..	..	35·5					..	SSW	3 to 3½	..	..	..	..	..	..	..	..
13. 30	29·070	..	..	..	..	..	..			1·095		..	SSW	3 to 5	..	..	..	..	..	..	..	..
14. 0	29·059	46·0	43·0	3·0	..	..	39·8					..	SSW	1½ to 4	..	..	..	..	0	0	0	..
14. 50	29·052	..	..	..	..	..	37·0			..		..	SSW	6 to 10	..	..	..	..	..	..	..	..
15. 20	29·052	..	..	..	..	..	..			..		..	SW	4 to 5	..	..	..	..	..	..	..	..
16. 0	29·074	48·0	46·0	2·0	42·0	6·0	..			..		..	SW	3½ to 7	..	..	Pos.	2	..	..	..	..
16. 15	29·085	..	..	..	..	..	..			..		..	SW	4 to 7½	..	..	..	..	..	..	..	..
h 18	29·153	46·5	45·3	1·2	..	..	..			..		..	WSW	6 constant	..	..	Pos.	2	..	..	..	..
20	29·225	44·5	43·8	0·7	..	..	..			..		..	SW	2 to 5	..	..	..	..	0	0	0	..
22	29·282	44·0	43·7	0·3	35·0	9·0	..			..		..	SSW	0 to 1½	SW	0·60	..	..	0	0	0	..
Jan. 27. 0	29·299	48·0	43·5	4·5	..	..	..			..		..	SSW	0 to 2	..	..	Pos.	2	..	..	..	..
2	29·282	48·2	45·1	3·1	..	..	49·1			..		..	SSW	0 to 1½	..	..	Pos.	2	..	..	..	..
4	29·240	48·3	45·8	2·5	45·0	3·3	44·4			0·41		..	SSW	0 to 1½	..	..	Pos.	5	..	5	5	3. 0
6	29·218	46·7	44·2	2·5	..	..	..			..		..	SSW	..	..	..	Pos.	20	..	8	8	12. 0
8	29·188	44·2	43·0	1·2	..	..	48·3			0·07		..	SSW	0 to 1	..	..	Pos.	30	..	20	25	15. 0
10	29·140	46·2	45·5	0·7	45·0	1·2	36·4			..		..	SSW	1 to 2	..	..	Pos.	2	..	..	..	..
12	29·110	48·0	46·6	1·4	..	..	41·0			1·130		..	SSW	½ to 2½	..	..	..	..	0	0	0	..
14	29·036	49·0	47·0	2·0	..	..	39·0			..		..	SSW	1 to 2½	..	..	..	..	0	0	0	..

OSLER'S ANEMOMETER.
January 26d. 16h. 20m. A pressure of 11½ lbs. was recorded.

MAXIMUM RADIATION THERMOMETER.
January 25d. The instrument was returned from the maker.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
1	..	Cirro-stratus and scud towards the S.W. horizon: very thin cirro-stratus about the zenith, but to no numerical amount.	L
9	..	Cirro-stratus and scud in various direction: the wind is blowing in gusts to $1\frac{1}{2}$.	
3	..	Loose scud and fleecy clouds in various directions: the wind is blowing in gusts to 2.	
2	..	Loose scud towards the N. and W.: the wind is blowing in gusts to $2\frac{1}{2}$.	
10	Transit	Overcast: cirro-stratus and scud: the wind is blowing in gusts to 1: rain falling.	L
4	..	Fleecy clouds, of various densities, are distributed in every direction, but principally to the N.: gusts of wind occasionally to 1: at $10^h.\ 10^m$ the sky became covered by cloud.	H B
10	..	Cirro-stratus and scud: the aspect of the sky is very wild and stormy: the wind is blowing in gusts to $1\frac{1}{2}$.	T D
10	..	Overcast: cirro-stratus and masses of dark scud: the wind is blowing in gusts from $1\frac{1}{2}$ to 2.	
10	..	Dense cirro-stratus: since the last observation the wind has lulled.	
5	..	Cirro-stratus all around the horizon to a considerable altitude: those stars situated near the zenith are shining.	
10	..	The sky is covered with cirro-stratus and masses of scud of various densities: a few drops of rain have fallen since the last observation.	T D
7	..	Cirri, passing into cirro-strati, S. of zenith; fleecy clouds and scud in motion in other directions: an extensive bank of cirro-stratus around the S. horizon.	H B
$1\frac{1}{2}$	..	A few fleecy clouds in different directions.	G H
8	..	Cirro-strati, fleecy clouds, and scud in every direction; the sky became covered with these clouds at $0^h.\ 40^m$.	H B
10	..	Cirro-stratus, extending from the N horizon to the zenith; the remaining portion of the sky is covered with a thin stratus.	T D
10	..	Overcast: cirro-stratus and scud: the wind is blowing in gusts to 2 and $2\frac{1}{2}$.	
10	..	,, ,, the wind is now blowing in gusts to 2 and 3: at $7^h.\ 30^m$ a shower of rain fell: rain is now falling in very large drops: a very stormy evening.	
..	..		
..	..		
..	..		
..	..		
10	Transit	Cirro-stratus and masses of quick-moving scud: a few stars have been occasionally seen: the Moon has been visible at intervals, and rain has fallen occasionally since 8^h: the wind is blowing in gusts to $2\frac{1}{2}$ and 3.	T D
8	..	Cirro-stratus and scud; the latter is of a fleecy texture, and is moving rapidly from the S.W.: the wind is blowing in frequent gusts to $2\frac{1}{2}$: the amount of cloud is constantly varying.	H B
..	..		
..	..		
..	..		
4	..	Fleecy clouds passing rapidly from the S.W.: gusts of wind to $2\frac{1}{2}$: a heavy shower of rain fell between $12^h.\ 10^m$ and $12^h.\ 23^m$: there were frequent gusts of wind at this time to 3.	
..	..		
..	..		
4	..	Fleecy clouds and cirro-strati: the wind is blowing in frequent gusts to 3 and $3\frac{1}{2}$: light rain is falling: a heavy gust of wind occurred at $15^h.\ 10^m$ to $3\frac{1}{2}+$.	
..	..		
5	..	Cirro-strati and large masses of scud are continually passing: frequent gusts of wind to 3.	
0	..	Cloudless: gusts of wind occasionally to $2\frac{1}{2}$.	H B
10	..	Overcast: thin cirro-stratus.	G H
10	..	Overcast: cirro-stratus and scud: the wind is blowing in gusts to 1.	
10	Greatest declination N.	,, ,,	G H
10	..	,, ,, occasional gusts of wind to 1.	H B
10	..	,, ,, occasional drops of rain.	
8	..	Fleecy clouds and cirro-strati in every direction: a low scud is continually passing over the sky: the wind is blowing in gusts to 1: half an hour since the amount of cloud was scarcely 3.	
10	Transit	The sky became overcast, with cirro-stratus and scud, soon after the last observation, and still continues so: rain has been falling: frequent gusts of wind to $1\frac{1}{2}$.	H B
10	..	Overcast: cirro-stratus and scud: the Moon's place is visible: the wind is blowing in gusts to 1.	G H
10	..	,, ,, the wind is blowing in gusts to 2: a few drops of rain have fallen since the last observation.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. — of Free Therm. — of Rad. Therm. — of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). — Reading of No. 2. — Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Jan. 27. 16	28·973	48·0	46·9	1·1	45·0	3·0	..	..	SSW	2 to 5	..	..	..	..	0	0	0	..
18	28·867	48·2	46·0	2·2	..	..	..	..	SSW	1 to 4	..	..	..	..	0	0	0	..
20	28·888	42·5	40·0	2·5	..	..	..	..	SSW	2 to 7	..	..	..	..	0	0	0	..
22	28·904	44·8	41·0	3·8	38·0	6·8	..	..	SSW	2½ to 6	SW	10·55	..	..	0	0	0	..
Jan. 28. 0	28·966	47·0	42·0	5·0	..	..	..	..	WSW	5 to 12	..	..	..	..	0	0	0	..
2	28·990	44·0	41·0	3·0	..	..	..	..	SW	1 to 3½	..	..	..	..	0	0	0	..
4	29·006	44·0	41·2	2·8	38·0	6·0	47·1 / 35·2	..	WSW	1½ to 4	..	..	Neg.	..	..	..	..	3. 0
6	29·046	41·0	38·5	2·5	..	..		..	WSW	½ to 2	..	..	..	..	0	0	0	..
8	29·118	38·9	37·0	1·9	..	..	52·3 / 28·3	0·41	WSW	..	..	..	..	..	0	0	0	..
10	29·182	38·0	35·9	2·1	33·0	5·0		0·00	SW	..	..	..	Pos.	6	6	6	..	..
12	29·199	39·0	37·0	2·0	..	..	41·5 / 40·0		SSW	..	..	..	Pos.	15	..	10	12	2. 0
14	29·196	38·7	37·0	1·7	..	..		1·130	S	..	..	..	..	..	0	0	0	..
16	29·204	38·0	36·5	1·5	35·0	3·0		..	S by E	..	..	..	..	..	0	0	0	..
18	29·199	36·0	35·5	0·5	..	..		..	S by E	..	..	..	..	..	0	0	0	..
20	29·205	36·5	36·2	0·3	..	..	..	..	S by W	..	..	..	..	..	0	0	0	..
22	29·221	37·3	36·0	1·3	33·8	3·5	..	..	S	..	SW	6·98	..	..	0	0	0	..
Jan. 29. 0	29·250	40·0	38·0	2·0	..	..	..	..	WSW	..	..	..	Pos.	15	..	10	15	5. 0
2	29·242	41·0	38·7	2·3	..	..	..	..	SW	..	..	..	Pos.	2	..	..	..	..
4	29·245	41·8	39·2	2·6	36·0	5·8	44·5 / 29·4	..	WSW	..	..	..	Pos.	15	..	10	15	5. 0
6	29·253	37·0	35·5	1·5	..	..		..	WSW	..	..	..	Pos.	20	..	15	20	5. 0
8	29·273	35·2	34·4	0·8	..	..	56·6 / 20·7	0·41	WSW	..	..	..	Pos.	40	..	30	40	2. 0
10	29·281	35·0	34·0	1·0	33·5	1·5		0·00	W by S	..	..	..	Pos.	2	..	..	..	..
12	29·303	30·2	30·0	0·2	..	..	41·2 / 39·5		W by S	..	..	..	Pos.	2	..	..	..	..
14	29·306	30·0	30·0	0·0	..	..		1·165	SW	..	..	..	Pos.	2	..	..	..	..
16	29·316	30·0	30·0	0·0	28·0	2·0		..	WSW	..	..	..	Pos.	2	..	..	..	..
18	29·335	30·0	30·0	0·0	..	..		..	SW	..	..	..	Pos.	15	..	10	15	7. 0
20	29·347	30·2	30·2	0·0	..	..	..	..	SW	..	..	..	Pos.	15	..	10	12	2. 0
22	29·379	32·7	31·7	1·0	31·3	1·4	..	..	SW	..	WSW	1·35	Pos.	23	95	30	30	..
Jan. 30. 0	29·385	37·0	35·9	1·1	..	..	..	..	WSW	..	..	..	Pos.	40	..	50	150	4. 0
2	29·398	40·5	39·0	1·5	..	..	..	..	WSW	..	..	..	Pos.	40	..	70	100	5. 0
4	29·414	40·0	39·0	1·0	38·5	1·5	40·9 / 31·9	..	W by S	..	..	..	..	..	0	0	0	..
6	29·430	39·5	38·0	1·5	..	..		0·41	Calm	..	..	..	Pos.	20	30	20	15	8. 0
8	29·444	38·5	38·0	0·5	..	..	45·5 / 29·8		Calm	..	..	..	Pos.	30	40	20	20	4. 30
10	29·446	39·0	37·5	1·5	36·0	3·0		0·00	Calm	..	..	..	Pos.	40	..	30	30	3. 0
12	29·451	37·9	37·2	0·7	..	..	40·5 / 39·0		Calm	..	..	..	Pos.	40	..	30	30	12. 0
14	..	..	..	..	..	..		1·165	Calm	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..		..	Calm	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..		..	Calm	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	NNW	..	..	..	..	..	..	..	..	..
22	29·463	36·5	35·9	0·6	..	..	..	..	NNW	..	N	1·35	Pos.	10	15	10	15	..
Jan. 31. 0	..	..	..	..	..	..	..	..	N	0 to ¼	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	N	..	..	..	..	..	..	..	..	..
3	29·470	39·0	36·9	2·1	..	..	..	..	N	..	..	..	Pos.	10	..	10	20	..
4	..	..	..	..	..	..	..	..	N	..	..	..	..	..	..	..	..	..

BAROMETER.
January 27d. 18h. The reading was 0in·106 less than at the previous observation.

MINIMUM FREE THERMOMETER.
January 27d. 22h. The reading was higher than that of the Dry Thermometer at 20h.

OSLER'S ANEMOMETER.
January 27d. 19h and 21h, There was a pressure of 11 lbs, on the square foot recorded at both these times.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast: cirro-stratus and scud: the wind is blowing in gusts to 2: rain commenced falling heavily just before this observation: negative electricity was strongly shewn for two or three minutes, and then suddenly ceased.	G H
10	..	Overcast: cirro-stratus and scud: the rain ceased about one hour since: the wind is blowing in gusts to 2.	
9	..	Cirro-stratus and scud: the wind is blowing in gusts to 3: at about 19^h a violent squall of wind and rain, during which the mercury in the barometer oscillated.	G H
8	..	Cirro-stratus and scud are scattered in masses over the sky: the wind is blowing in gusts to 2 and 3.	T D
8	..	Cirro-stratus, cumulo-stratus, and masses of scud in every direction: the wind is blowing in gusts to 3+.	T D
10	..	The sky is covered with cirro-stratus, through which the Sun is visible: at about $1^h.\ 50^m$ a shower of rain fell.	G H
7	..	Cirro-stratus and scud in various directions: the wind is blowing in gusts to 3.	
$\frac{1}{2}$	..	A very small amount of thin scud near the S., the rest of the sky being cloudless: the wind is blowing in gusts to 1.	
0	..	A few lines of cirri towards the S., of no numerical amount: fifteen minutes before this observation slightly positive electricity was shewn.	
0	Transit	Cloudless.	G H
3	..	Fleecy clouds near the place of the Moon, and towards the S. and W. horizon.	L
8	..	Cirro-stratus and fleecy clouds cover the greater part of the sky; the only portion of clear sky is towards the N.	
9	..	Cirro-stratus and fleecy clouds; small breaks in various directions.	
$\frac{1}{2}$	..	A few clouds about the place of the Moon; the sky is clear elsewhere.	
10	..	Overcast: cirro-stratus and scud.	L
9	..	The whole of the sky is covered with a thin cirro-stratus, with the exception of a few breaks in the W.	T D
10	..	Overcast: cirro-stratus and scud.	
8	..	Cirro-stratus and masses of white scud: large portions of blue sky are seen S. and S. E. of the zenith.	T D
10	..	Cirro-stratus, fleecy clouds, and scud cover the sky: a few small breaks here and there, but to no numerical extent.	L
1	..	Since the last observation the sky has been generally about one-half covered with clouds; at present there are only some masses of dark brown scud towards the W. horizon.	
2	..	Cloudy around the horizon: foggy: very few stars are visible.	L
0	..	Cloudless: foggy.	T D
0	Transit	,, ,,	
0	..	,, ,,	
0	..	,, the fog has nearly disappeared.	
0	..	,,	
0	..	,, the ground is covered with hoar frost.	T D
5	..	Fleecy clouds in several directions: cirro-stratus around the horizon.	H B
9	..	The sky is nearly covered with cirro-stratus, fleecy clouds, and scud.	
9	..	Cirro-strati and fleecy clouds: the clouds are extensively broken to the S. of the zenith: a slight fog prevails: the cirro-strati in the neighbourhood of the Sun are slightly tinged with red.	H B
10	..	Overcast: cirro-stratus: very gloomy: at about $3^h.\ 30^m$ slight rain commenced falling.	T D
10	..	,, ,, hazy.	
10	..	,, ,,	
10	..	,, ,, ,,	T D
10	Transit	,, ,, ,,	H B
..	..		
..	..		
..	..		
..	..		
$9\frac{1}{2}$	Full	Cirro-stratus and scud; a break towards the N.	G H
..	..		
..	..		
8	..	Cirro-stratus and scud.	
..	..		G H

ELECTRICITY.

January $28^d.\ 4^h$. There were sparks at the distance of $0^{in}.16$, two in a second.
January $29^d.\ 22^h$. There was a spark at the distance of $0^{in}.01$.
January $30^d.\ 0^h$ and 2^h. There were sparks at the distances of $0^{in}.02$ and $0^{in}.01$ respectively.

HENLEY'S ELECTROMETER.

January $28^d.\ 4^h$. The reading was 22°.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	of Rad. Therm.	of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's).	Reading of No. 2.	Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°			in.				from lbs. to lbs.		in.		°	°	div.	div.	m s
Jan. 31. 6	..	..	..	..	..	..	40·7			..			N	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	~~31·4~~			..			N	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..				0·41			N	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	51·4						N by W	..	..	..	..	..	..	..	..	..
14	29·501	29·8	28·5	1·3	..	..	19·5			0·00			W by S	..	..	..	Pos.	40	..	50	50	0. 30
16	29·499	28·8	28·0	0·8	26·0	2·8							W	..	..	..	Pos.	10	..	20	20	20. 0
18	29·487	29·6	29·0	0·6	..	..	40·0			1·165			SW	..	..	..	Pos.	40	..	50	70	12. 0
20	29·491	30·5	30·0	0·5	..	..	38·5			..			WSW	..	..	..	Pos.	8	..	8	10	15. 0
22	29·509	31·2	30·8	0·4	28·5	2·7				..			SSW	..	N	2·32	Pos.	40	..	60	100	0. 30
Feb. 1. 0	29·525	33·2	32·0	1·2	..	..	..			..			SW	..	..	..	Pos.	40	..	100	120	..
2	29·544	35·2	34·1	1·1	..	..	..			..			SE	..	..	..	Pos.	30	80	30	40	..
4	29·572	34·2	32·5	1·7	28·0	6·2	36·1			..			ENE	..	..	..	Pos.	3	..	5	5	2. 0
6	29·599	32·3	30·7	1·6	..	..	29·8						ENE	..	..	..	Pos.	30	..	25	30	20. 0
8	29·634	31·0	29·9	1·1	..	..				0·41			NNE	..	..	..	Pos.	20	..	15	20	18. 0
10	29·650	32·2	31·5	0·7	30·5	1·7	40·0						N	..	..	..	Pos.	15	..	12	10	13. 0
12	29·663	33·0	32·0	1·0	..	..	22·3			0·00			N	..	..	..	Pos.	2	..	..	..	..
14	29·670	32·2	31·9	0·3	..	..							N	..	..	..	Pos.	30	..	40	50	..
16	29·680	29·9	29·2	0·7	27·0	2·9	39·5			1·165			N	..	..	..	Pos.	10	..	20	30	15. 0
18	29·680	31·0	30·5	0·5	..	..	37·2						NNE	..	..	..	Pos.	30	..	40	50	15. 0
20	29·696	32·5	31·9	0·6	..	..	..			..			N by E	..	..	..	Pos.	10	..	20	30	20. 0
22	29·714	33·0	32·0	1·0	31·0	2·0	..			..			N	..	NNE	1·53	Pos.	2	..	..	..	..
Feb. 2. 0	29·709	35·0	33·2	1·8	..	..	..			..			N	0 to 1	..	..	Pos.	2	..	..	..	..
2	29·681	35·8	34·9	0·9	..	..	..			..			N	..	..	..	..	..	0	0	0	..
4	29·672	34·8	34·0	0·8	31·0	3·8	37·2			..			NNE	0 to 1	..	..	..	..	0	0	0	..
6	29·673	34·0	32·0	2·0	..	..	31·3			0·41			N by E	..	..	..	Pos.	2	..	..	..	..
8	29·679	32·0	31·8	0·2	..	..							N	..	..	..	Pos.	2	..	..	..	..
10	29·688	32·0	31·5	0·5	32·0	0·0	43·0			0·00			N	..	..	..	Pos.	2	..	..	..	..
12	29·696	31·5	31·2	0·3	..	..	28·0						N	..	..	..	..	..	0	0	0	..
14	29·695	31·2	31·0	0·2	..	..				1·175			N	..	..	..	..	..	0	0	0	..
16	29·695	31·7	31·4	0·3	30·5	1·2	39·0			..			N by W	..	..	..	..	..	0	0	0	..
18	29·695	32·0	32·0	0·0	..	..	36·5			..			N by W	..	..	..	..	..	0	0	0	..
20	29·714	32·5	32·3	0·2	..	..	..			..			N by W	..	..	..	..	..	0	0	0	..
22	29·753	33·0	33·0	0·0	32·0	1·0	..			..			N by E	..	N	3·53	..	..	0	0	0	..
Feb. 3. 0	29·789	34·0	33·8	0·2	..	..	..			..			NNE	..	..	..	..	..	0	0	0	..
2	29·806	35·4	34·6	0·8	..	..	..			..			ENE	..	..	..	..	..	0	0	0	..
4	29·852	32·8	32·5	0·3	31·0	1·8	36·4			..			ENE	..	..	..	..	..	0	0	0	..
6	29·878	32·4	31·7	0·7	..	..	31·2						NE	..	..	..	..	..	0	0	0	..
8	29·901	32·0	31·6	0·4	..	..				0·41			NE	..	..	..	..	..	0	0	0	..
10	29·934	31·9	30·5	1·4	27·0	4·9	39·2						ENE	..	..	..	Pos.	40	..	100	120	10. 0
12	29·956	32·0	31·0	1·0	..	..	25·5			0·07			ENE	..	..	..	..	..	0	0	0	..
14	29·960	31·4	31·0	0·4	..	..							N by E	..	..	..	..	..	0	0	0	..
16	29·960	31·8	31·0	0·8	29·3	2·5	38·0			1·235			N	..	..	..	..	..	0	0	0	..
18	29·962	32·0	31·8	0·2	..	..	36·0			..			N	..	..	..	..	..	0	0	0	..
20	29·989	32·0	31·8	0·2	..	..	..			..			N	..	..	..	..	..	0	0	0	..
22	30·018	31·5	30·0	1·5	26·5	5·0	..			..			N by W	..	NE	1·47	Pos.	40	..	70	100	13. 0
Feb. 4. 0	30·035	34·5	31·9	2·6	..	..	..			..			NNW	..	..	..	Pos.	40	..	..	200	25. 0
2	30·033	36·5	34·4	2·1	..	..	..			..			N by W	..	..	..	Pos.	30	..	20	20	..
4	30·032	38·0	35·0	3·0	29·5	8·5	..			..			N by W	..	..	..	Pos.	2	..	..	..	..
6	30·054	36·0	33·0	3·0	..	..	..			..			NNW	..	..	..	Pos.	2	..	..	..	..

MINIMUM FREE THERMOMETER.

January 31d. 22h. The reading was higher than those of the Dry Thermometer at 14h, 16h, 18h, 20h, and 22h.

ELECTRICITY.

January 31d. 14h and 22h. There were sparks at the distances of 0in·02 and 0in·01 respectively.

February 3d. 22h. There was a spark at the distance of 0in·01.

February 4d. 0h and 22h. There were sparks at the distances of 0in·04 and 0in02 respectively.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
..	..		
..	..		
..	..		
..	..		
0	Transit	Cloudless: hazy.	H B
10	..	At $15^h.\ 35^m$ some fleecy clouds came up from the W., and in a short time covered the sky. A finely-coloured lunar	
10	..	Overcast: cirro-stratus and scud. [corona was visible at $15^h.\ 30^m$.	
10	..	,, ,,	H B
10	..	,, ,, snow is falling.	G H
10	..	Overcast: cirro-stratus and scud: snow ceased falling at $22^h.\ 30^m$.	
9½	..	,, ,, a few breaks about the zenith.	
9	..	Cirro-stratus, scud, and vapour: breaks in every direction.	
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	
10	..	,, ,,	G H
10	..	,, ,, the Moon is occasionally faintly visible.	T D
10	Transit	,, ,,	T D
0	..	Cloudless.	G H
8	..	Cirro-stratus and scud: the clouds have gradually increased since the last observation.	
10	..	Overcast: cirro-stratus and scud: a small quantity of snow has fallen since the last observation.	G H
8	..	Cirro-stratus and thin scud in every direction, with several patches of blue sky, principally in the horizon.	T D
10	..	Overcast: cirro-stratus and scud. [at present look dark and threatening.	
10	..	,, ,, at about 1^h snow and rain commenced falling, and continued till $1^h.\ 50^m$: the clouds	T D
10	..	,, cirro-stratus: sleet fell just before the observation: at present fine snow is falling.	G H
10	..	,, cirro-stratus and scud: snow has fallen heavily since the last observation; it has now ceased.	G H
10	..	,, ,, fine snow is falling slightly.	L
10	..	,, ,, ,,	T D
10	..	,, ,, the snow has ceased falling.	L
10	Transit	,, ,,	
10	..	,, ,, slight snow is falling.	
10	..	,, ,, ,,	
10	..	,, ,, the snow ceased falling soon after the last observation.	L
10	Apogee	,, ,, snow falling slightly.	T D
10	..	Cirro-stratus, cumulo-stratus, and masses of scud: snow has fallen frequently since 22^h.	
10	..	Overcast: cirro-stratus.	
10	..	,, cirro-stratus and scud: very fine snow is falling occasionally.	
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	
10	In Equator	,, cirro-stratus.	
10	Transit	,, ,,	
10	..	,, ,,	
10	..	,, ,,	T D
9½	..	Cirro-stratus, fleecy clouds, and scud: a few detached cumuli in the N. E.	H B
10	..	Overcast: cirro-stratus and scud: the clouds were extensively broken at $22^h.\ 40^m$.	
10	..	,, ,,	H B
9	..	Cirro-stratus, scud, and fleecy clouds: a few small breaks here and there.	T D
10	..	Overcast: cirro-stratus and scud.	

HENLEY'S ELECTROMETER.

February $4^d.\ 0^h$. The reading was 3°.

RAIN.

January $31^d.\ 12^h$. The amount collected during the month of January in the rain-gauge No. 4 was $1^{in}.38$, and that collected by the Rev. G. Fisher in a rain-gauge of the same construction at Greenwich Hospital Schools during the same period was $1^{in}.19$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Feb. 4. 8	30·056	36·0	33·0	3·0	..	..	39·6	..	NW	..	..	..	Pos.	2	..	..	..	..
10	30·071	33·0	31·5	1·5	29·5	3·5	28·4	0·41	NNW	..	..	..	Pos.	30	..	20	25	3. 0
12	30·082	31·5	30·3	1·2	..	..			NNW	..	..	..	Pos.	20	..	10	10	8. 0
14	30·069	30·0	29·0	1·0	..	..	48·0	0·00	WSW	..	..	..	Pos.	2	..	..	..	..
16	30·056	28·5	28·0	0·5	27·0	1·5	20·4		WSW	..	..	..	Pos.	30	..	20	20	12. 0
18	30·049	30·4	30·0	0·4	..	..		1·245	SSW	..	..	..	Pos.	2	..	..	..	..
20	30·037	31·5	30·6	0·9	..	..	37·5		S by W	..	..	..	Pos.	30	..	20	25	5. 0
22	30·040	32·8	31·9	0·9	27·5	5·3	35·5	..	SW	..	W	1·85	Pos.	40	..	120	150	15. 0
Feb. 5. 0	30·021	34·2	33·1	1·1	..	..	..	..	SW	..	..	..	Pos.	40	..	120	150	20. 0
2	29·979	37·1	35·3	1·8	..	..	..	..	WSW	..	..	..	Pos.	40	..	120	150	30. 0
4	29·952	38·0	36·3	1·7	33·5	4·5	42·7	..	WSW	..	..	..	Pos.	20	..	30	30	..
6	29·922	38·0	37·0	1·0	..	..	31·9	0·41	SW	..	..	..	Pos.	40	..	30	35	30. 0
8	29·898	37·8	37·2	0·6	..	..			SW	..	..	..	Pos.	30	..	15	15	40. 0
10	29·860	38·3	37·5	0·8	35·0	3·3	48·0	0·03	WSW	..	..	..	Pos.	30	..	20	25	25. 0
12	29·820	38·0	37·2	0·8	..	..	28·0		SW	..	..	..	Pos.	40	..	40	50	10. 0
14	29·770	38·5	37·9	0·6	..	..		1·280	WSW	..	..	..	..	..	0	0	0	..
16	29·704	38·7	38·5	0·2	37·5	1·2	36·5		SW	..	..	..	..	..	0	0	0	..
18	29·660	39·5	39·5	0·0	..	..	35·2	..	SW	..	..	..	Pos.	2	..	..	..	..
20	29·614	41·2	40·8	0·4	..	..	..	..	SW	..	..	..	Pos.	2	..	..	..	..
22	29·572	42·6	42·2	0·4	40·0	2·6	..	..	SW	..	WSW	4·25	Neg.	..	..	50	70	5. 0
Feb. 6. 0	29·526	48·5	45·5	3·0	..	..	..	..	WSW	½ to 2	..	..	Pos.	2	..	..	..	..
2	29·429	48·5	45·8	2·7	..	..	..	..	WSW	1 to 3	..	..	Pos.	2	..	..	..	..
4	29·375	47·8	45·6	2·2	43·5	4·3	..	..	WSW	1 to 2	..	..	..	..	0	0	0	..
6	29·356	47·1	45·2	1·9	..	..	49·0	..	WSW	½ to 2	..	..	..	..	0	0	0	..
8	29·386	44·1	41·2	2·9	..	..	33·2	0·41	NW	1 to 4	..	..	Pos.	2	..	..	..	..
10	29·413	40·9	37·8	3·1	33·5	7·4			WNW	1 to 3	..	..	Pos.	2	..	..	..	..
12	29·445	38·2	35·2	3·0	..	..	59·3	0·00	WNW	..	..	..	Pos.	2	..	..	..	..
14	..	..	..	..	..	..	25·5		W	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..		1·285	W	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	37·0		W by S	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	35·5	..	WSW	..	..	..	..	..	..	..	..	..
22	..	..	..	..	..	..	..	..	SW	..	W	5·80	..	..	..	..	..	..
h m																		
22. 20	29·382	32·7	31·3	1·4	..	..	..	..	SW	..	..	..	Pos.	35	..	25	30	10. 0
23. 5	29·392	33·1	32·5	0·6	..	..	..	..	S	..	..	..	Pos.	2	..	..	..	..
d h																		
Feb. 7. 0	..	..	..	..	..	..	..	..	S	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	ESE	..	..	..	..	..	..	..	..	..
4	29·277	30·0	30·0	0·0	..	..	33·7	..	NE	..	..	..	Pos.	30	..	25	30	5. 0
6	..	..	..	..	..	..	18·8	0·41	NE	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..			N	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	34·5	0·00	NNW	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	13·0		NNW	0 to ½	..	..	..	..	..	..	..	..
14	29·471	23·8	22·8	1·0	..	..		1·380	NW	0 to ½	..	..	Pos.	15	..	10	15	..
16	29·508	20·0	19·6	0·4	15·0	5·0	36·5		W by N	..	..	..	Pos.	2	..	..	..	..
18	29·528	19·0	18·5	0·5	13·0	6·0	35·2	..	WSW	..	..	..	Pos.	2	..	..	..	..
20	29·541	18·5	18·0	0·5	15·0	3·5	..	..	SW	..	..	..	Pos.	20	..	15	20	3. 0
22	29·552	23·0	22·0	1·0	16·5	6·5	..	..	SW	..	SSW	1·98	Pos.	25	..	20	25	6. 0
Feb. 8. 0	29·534	27·2	26·2	1·0	20·0	7·2	..	..	SW	..	..	..	Pos.	2	..	..	..	..
2	29·493	28·0	27·2	0·8	23·0	5·0	..	..	SSW	..	..	..	Pos.	2	..	..	..	..
4	29·380	28·2	28·4	−0·2	28·0	0·2	..	..	SSE	..	..	..	Pos.	15	..	10	15	1. 0

BAROMETER.

February 6d. From 0h to 6h the decrease in the readings was considerable.

February 8d. 4h. The reading was 0in·113 less than at the previous observation.

WET BULB THERMOMETER.

February 8d. 4h. The reading was higher than that of the Dry Thermometer.

MINIMUM FREE THERMOMETER.

February 7d. 22h. The reading was higher than that of the Dry Thermometer at 20h.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
9	..	Cirro-stratus, scud, and vapour: a few stars are visible occasionally in the zenith.	T D
6	..	Cirro-stratus and vapour around the horizon: the stars are bright in the zenith.	T D
6	..	Fleecy clouds and cirro-strati covering the eastern portion of the sky have recently risen from the S. E.	H B
$9\frac{3}{4}$	..	Cirro-strati, fleecy clouds, and scud: the sky became cloudless at about $12^h.\ 30^m$, and remained so generally till $13^h.\ 35^m$.	
1	Transit	Fleecy clouds around the horizon; otherwise cloudless: the amount of cloud has been variable since 14^h.	
10	..	Overcast: cirro-stratus and scud: a heavy bank of cirro-stratus came up from the N. at about $16^h.\ 20^m$, and in a few	
10	..	,, ,, [minutes covered every portion of the sky.	H B
10	..	,, cirro-stratus.	G H
10	..	Overcast: cirro-stratus.	
10	..	,, cirro-stratus and scud.	G H
10	..	,, ,, a slight shower of rain.	H B
10	..	,, ,,	
10	..	,, ,, a shower of rain fell at about $7^h.\ 30^m$.	
10	..	,, ,, several stars have been visible since the last observation: foggy.	H B
10	..	,, ,,	G H
10	..	,, ,,	
10	Transit	,, ,, a slight rain is falling.	
10	..	,, ,, the rain has ceased falling.	
10	..	,, cirro-stratus and broken soud.	G H
10	..	,, ,, light rain is falling.	L
3	..	Cirro-stratus around the horizon: light clouds here and there: the wind is blowing in gusts to $\frac{1}{2}$.	
10	..	Overcast: cirro-stratus and scud: the wind is blowing in gusts to $\frac{3}{4}$.	L
10	..	,, ,,	G H
8	..	,, ,, clear towards the S.	
0	..	Cloudless: the wind is blowing in gusts to 1. At $7^h.\ 50^m$ a bright meteor passed from the zenith towards Orion.	
0	..	,, ,,	
0	..	,, ,,	G H
..	..		
..	..		
..	Transit		
..	..		
..	..		
10	..	Overcast: sleet is falling.	H B
10	..	,, the sleet has ceased falling.	
..	..		
..	..		
10	..	Overcast: snow and sleet have been falling almost incessantly since the last observation.	H B
..	..		
..	..		
..	..		
..	..		
0	..	Cloudless: gusts of wind to $\frac{1}{2}$.	L
0	..	,, ,,	
0	Transit	,, ,,	
0	..	A few light clouds, but to no numerical amount.	L
10	..	The sky is covered with cirro-stratus and scud: the clouds came up at $21^h.\ 45^m$.	T D
10	..	Overcast; cirro-stratus: the sky has been covered with clouds since the last observation.	
10	3rd Qr.	,, ,, snow commenced falling at noon.	T D
10	..	,, ,, snow is falling heavily.	L

RAIN.

February 8d. The increase in the readings of the rain-gauges was caused by the melting of snow.

ELECTRICITY.

February $5^d.\ 0^h$, 2^h, 12^h, and 22^h. There were sparks at the distances of $0^{in}.02$, $0^{in}.02$, $0^{in}.01$, and $0^{in}.02$ respectively.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. / of Free Therm. / of Rad. Therm. / of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). / Reading of No. 2. / Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Feb. 8. 6	29·298	27·0	26·5	0·5	..	..	30·1	..	SE	..	..	..	Pos.	40	..	30	40	2. 0
8	29·228	27·5	27·2	0·3	..	..	18·3	..	ENE	..	..	..	Pos.	30	..	20	30	2. 0
10	29·217	27·5	27·2	0·3	25·0	2·5		0·41	NE	..	..	..	Pos.	40	..	30	40	3. 0
12	29·244	25·5	25·0	0·5	..	..	(31·5)		NNW	..	..	..	Pos.	40	..	40	45	2. 0
14	29·281	25·9	25·5	0·4	24·0	1·9	14·5	0·37	NW	..	..	..	..	..	0	0	0	..
16	29·272	24·5	24·0	0·5	22·0	2·5			WSW	..	..	..	..	..	0	0	0	..
18	29·257	21·0	20·7	0·3	19·5	1·5		1·390	WSW	..	..	..	Pos.	20	..	10	15	7. 0
20	29·257	18·0	18·0	0·0	17·0	1·0	35·8	..	SW	..	..	..	..	..	0	0	0	..
22	29·275	19·5	19·7	−0·2	17·0	2·5	35·0	..	SW	..	WSW	0·42	..	..	0	0	0	..
Feb. 9. 0	29·306	24·8	24·5	0·3	19·0	5·8	..	..	WSW	..	..	..	Pos.	2	..	..	..	..
2	29·292	28·2	27·7	0·5	..	..	..	..	W	..	..	..	Pos.	10	..	8	5	5. 0
4	29·297	27·5	(25·8)	1·7	17·0	10·5	29·6	..	W	..	..	..	..	..	0	0	0	..
6	29·305	24·6	24·1	0·5	17·0	7·6	19·8	0·41	W by S	..	..	..	Pos.	40	..	30	40	..
8	29·289	25·4	25·2	0·2	..	..			W by S	..	..	..	Pos.	30	..	25	25	4. 0
10	29·288	23·7	23·5	0·2	19·0	4·7	37·2	0·00	WSW	..	..	..	Pos.	20	..	20	20	7. 0
12	29·275	24·5	24·0	0·5	22·0	2·5	12·0		W	..	..	..	Pos.	25	..	30	30	14. 0
14	29·266	21·0	20·7	0·3	17·0	4·0		1·470	WSW	..	..	..	Pos.	8	..	10	10	4. 0
16	29·260	19·5	19·2	0·3	17·0	2·5	34·8		SW	..	..	..	Pos.	2	..	..	..	..
18	29·285	21·7	21·5	0·2	..	..	34·0	..	W by S	..	..	..	Pos.	30	..	12	15	12. 0
20	29·320	21·5	21·2	0·3	18·0	3·5	..	..	N	..	..	..	Pos.	30	..	20	20	12. 0
22	29·365	24·0	23·7	0·3	20·5	3·5	..	..	N by W	..	SSW	3·05	Pos.	20	..	10	15	3. 0
Feb. 10. 0	29·401	32·0	30·5	1·5	..	..	..	..	NW	..	..	..	Pos.	25	25	20	25	4. 0
2	29·408	32·3	31·8	0·5	..	..	..	..	WNW	0 to 1/32	..	..	Pos.	15	..	10	12	7. 0
4	29·420	34·5	32·3	2·2	24·0	10·5	36·2	..	W	0 to 1/16	..	..	..	..	0	0	0	..
6	29·423	31·7	30·8	0·9	..	..	25·7	0·51	W by S	0 to 1/8	..	..	..	..	0	0	0	..
8	29·441	29·8	28·5	1·3	..	..			W	..	..	..	..	..	0	0	0	..
10	29·454	29·7	28·5	1·2	25·0	4·7	38·4	0·00	W by S	..	..	..	..	..	0	0	0	..
12	29·471	27·0	27·0	0·0	24·0	3·0	18·3		W	..	..	..	..	..	0	0	0	..
14	29·471	27·2	27·2	0·0	24·0	3·2		1·580	W	..	..	..	..	..	0	0	0	..
16	29·479	29·7	29·5	0·2	25·5	4·2	34·0		W by N	..	..	..	..	..	0	0	0	..
18	29·510	31·0	30·9	0·1	..	..	33·5	..	NW	..	..	..	Pos.	35	50	20	30	20. 0
20	29·550	30·5	30·5	0·0	..	..	..	..	NNW	..	..	..	Pos.	2	..	..	..	..
22	29·582	32·0	31·5	0·5	29·0	3·0	..	..	N by E	..	W	4·00	Pos.	2	..	..	..	..
Feb. 11. 0	29·617	33·8	33·0	0·8	..	..	..	..	N by W	..	..	..	..	..	0	0	0	..
2	29·642	36·0	34·0	2·0	..	..	..	..	N	..	..	..	Pos.	20	..	12	15	8. 0
4	29·669	35·5	33·0	2·5	29·8	5·7	39·6	..	N by E	..	..	..	Pos.	30	..	20	40	..
6	29·702	32·0	30·0	2·0	..	..	11·2	0·54	N	..	..	..	Pos.	10	..	10	20	9. 0
8	29·732	28·0	27·0	1·0	..	..			Calm	..	..	..	Pos.	40	..	60	80	10. 0
10	29·768	25·0	24·0	1·0	23·0	2·0	54·0	0·00	Calm	..	..	..	Pos.	40	..	80	100	12. 0
12	29·764	17·0	16·5	0·5	15·0	2·0	6·5		Calm	..	..	..	Pos.	40	..	30	30	2. 0
14	29·765	15·0	14·6	0·4	13·5	1·5		0·780	Calm	..	..	..	Pos.	2	..	..	..	..
16	29·763	12·5	12·0	0·5	9·8	2·7	34·0		SW	..	..	..	Pos.	40	..	40	50	4. 0
18	29·761	12·0	11·7	0·3	10·0	2·0	32·8	..	SW	..	..	..	..	..	0	0	0	..
20	29·774	14·0	13·7	0·3	12·0	2·0	..	..	SW	..	..	..	Pos.	30	..	20	30	7. 0
22	29·778	18·8	19·3	−0·5	16·5	2·3	..	..	SW	..	SSW	0·72	Pos.	30	..	20	30	30. 0
Feb. 12. 0	29·773	29·0	28·2	0·8	..	..	..	..	SW	..	..	..	Pos.	20	..	10	20	..
2	29·752	33·0	31·0	2·0	..	..	..	..	SW	..	..	..	Pos.	15	..	10	12	..
4	29·751	32·0	30·0	2·0	25·5	6·5	..	..	WSW	..	..	..	Pos.	2	..	..	..	..
6	29·757	29·8	28·0	1·8	..	..	..	..	WSW	..	..	..	Pos.	40	..	40	50	2. 0

DRY THERMOMETER.

February 11d. The increase in the reading between 22h and 24h was 10°·2.

February 11d. 22h. The reading was lower than that of the Wet Thermometer.

WET BULB THERMOMETER.

February 8d. 22h. The reading was higher than that of the Dry Thermometer.

February 9d. 4h. The reading was 27°·5, which is evidently wrong; the inferred reading from the readings of the Dry and Dew Point Thermometers is 25°·8, which reading is used in subsequent calculations.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast: cirro-stratus: snow is falling heavily.	L
10	..	,, ,, ,,	
10	..	,, snow is falling, but not so heavily.	L
8	..	Cirro-stratus all round the horizon; in the N. it extends from the horizon to the zenith: at about $11^h.\ 50^m$ the sky	T D
10	..	Overcast: cirro-stratus. [became cloudless.	
10	..	,, ,,	
7	..	Cirro-stratus, scud, and fleecy clouds: near the Moon's place the clouds are much broken.	
3	Transit	Cirro-stratus in the eastern horizon; the sky is otherwise cloudless.	T D
7	..	Cirri and light clouds: there are $5\frac{1}{2}$ inches of snow on the level.	H B
10	..	Overcast: cirro-stratus and scud.	
5	..	The clouds became broken at $1^h.\ 30^m$; at present cirro-strati and light scud prevail: haze around the horizon.	H B
0	..	Cloudless; the horizon misty.	G H
8	..	Cirro-stratus and scud: clear about the zenith.	G H
8	..	Cirro-stratus: clear about the zenith. [became covered with clouds.	L
2	..	Cloudy around the horizon; clear elsewhere, but the stars look dim: at about $10^h.\ 5^m$ the northern portion of the sky	L
0	..	Cloudless, but hazy.	H B
0	..	,,	
8	..	Cirro-stratus and dense vapour: the sky became totally obscured at about $14^h.\ 35^m$, and since that time the amount of	
10	..	Overcast: cirro-stratus and scud: snow is falling. [cloud has been very variable.	
7	Transit	Cirro-stratus and vapour.	
3	..	Hazy around the horizon; otherwise the sky is clear.	H B
4	..	Cirro-stratus from the N. horizon to within 10° of the zenith: cirri and light clouds are scattered in various directions.	T D
8	..	Cirro-stratus in every direction; near the place of the Sun, and N. of the zenith, the clouds are much broken.	T D
8	..	Cirro-stratus, scud, and light clouds.	H B
4	..	Cirro-stratus and vapour principally around the horizon.	
0	..	Cloudless, but hazy near the horizon.	
0	..	,,	H B
0	..	Cloudless.	G H
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	
10	..	,, ,,	
10	Transit Greatest dec. S.	,, ,,	G H
8	..	Cirro-stratus all around: in the zenith some portions of clear sky are visible: a few flakes of snow are falling.	T D
7	..	Cirro-stratus and light fleecy clouds: several portions of clear sky are visible N. of the zenith: from $22^h.\ 30^m$ to	
8	..	Cirro-stratus, fleecy clouds, and scud. [$23^h.\ 20^m$ snow was falling thickly.	T D
10	..	Overcast: cirro-stratus: a heavy bank of scud towards the S.W. horizon.	G H
10	..	,, thin cirro-stratus about the zenith; scud towards the S.W.	
0	..	Cloudless.	
0	..	,,	G H
4	..	Cirro-stratus around the horizon: hazy: several small meteors have been seen since 10^h.	T D
0	..	Cloudless: very hazy.	
0	..	,, ,,	
7	..	Cirro-stratus and thick haze all around: in the zenith a few stars are visible.	
10	..	,,	T D
0	Transit	Cloudless.	L
0	..	Cloudless.	G H
3	..	Light fleecy clouds towards the N.; clear elsewhere.	L
8	..	Thin cirro-stratus: lines of cirri and fleecy clouds in every direction.	T D
9	..	Thin cirro-stratus, cumulo-stratus, and thin scud in every direction.	

MAXIMUM RADIATION THERMOMETER.

February $8^d.\ 22^h$. The reading was noted as $21°\cdot5$, it is altered conjecturally to $31°\cdot5$.

MINIMUM FREE THERMOMETER.

February $8^d.\ 22^h$. The reading was higher than that of the Dry Thermometer at 20^h.

February $9^d.\ 22^h$. The reading was higher than that of the Dry Thermometer at 16^h.

ELECTRICITY.

February $11^d.\ 10^h$. There was a spark at the distance of $0^{in}\cdot01$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	Max. and Min. as read at 22h. of Rad. Therm.	Max. and Min. as read at 22h. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's).	RAIN GAUGES. Reading of No. 2.	RAIN GAUGES. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in lbs. per square foot.	WIND. From Whewell's Anemometer. Direction.	WIND. From Whewell's Anemometer. Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Single Gold Leaf of Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Double Gold Leaf.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 1.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 2.	ELECTRICAL INSTRUMENTS. Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°			in.				from lbs. to lbs.		in.		°	°	div.	div.	m s
Feb. 12. 8	29·764	28·5	27·0	1·5	..	..	35·5	45·6	..	..	0·00	..	WSW	..	..	..	..	..	0	0	0	..
10	29·782	28·0	27·0	1·0	24·0	4·0	18·5	11·4	..	0·54		..	WSW	..	..	..	..	..	0	0	0	..
12	29·800	27·5	26·8	0·7	..	..							WSW	..	..	..	..	..	0	0	0	..
14	29·803	23·2	22·5	0·7	..	..							WSW	..	..	..	..	..	0	0	0	..
16	29·818	22·0	21·4	0·6	18·0	4·0							WSW	..	..	..	..	..	0	0	0	..
18	29·835	20·0	19·5	0·5	18·0	2·0							WSW	..	..	..	..	..	0	0	0	..
20	29·876	20·5	20·0	0·5	18·0	2·5		33·2	32·5	1·780			W	..	..	..	Pos.	25	..	20	20	4. 0
22	29·909	20·5	20·4	0·1	20·0	0·5				..			WSW	..	SW	2·00	Pos.	30	..	30	30	9. 0
Feb. 13. 0	29·922	21·3	21·3	0·0	19·0	2·3	..			..			SSW	..	..	..	Pos.	30	..	30	30	5. 0
2	29·927	28·5	27·5	1·0	22·0	6·5	..			..			SW	..	..	..	Pos.	30	..	30	35	20. 0
4	29·937	31·8	30·0	1·8	20·5	11·3	41·2			..			SW	..	SW	5·28	Pos.	35	..	25	30	5. 0
6	29·923	27·0	26·2	0·8	20·0	7·0	20·5			0·54			SSW	..	..	..	Pos.	40	..	30	30	3. 0
8	29·911	25·2	24·5	0·7	19·0	6·2							SSW	..	..	..	Pos.	30	..	20	25	5. 0
10	29·853	26·5	25·5	1·0	..	..	41·5			0·22			SSW	..	..	..	Pos.	15	..	10	12	7. 0
12	29·849	30·5	29·0	1·5	..	..	17·0						SSW	½ to 1	..	..	Pos.	8	..	8	10	12. 0
14	..	..	..	..	..	..				2·040			SSW	1 to 2	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	33·2			..			SSW	1½ to 3	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	32·5			..			SSW	2½ to 3	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..			..			SW	3 to 4½	..	..	..	..	..	..	..	..
22	29·515	41·0	41·0	0·0	..	..	..			..			WSW	2½ to 3	WSW	0·62	..	..	0	0	0	..
Feb. 14. 0	29·515	42·7	42·5	0·2	..	..	..			..			SW	0 to ½	..	..	..	..	0	0	0	..
2	..	..	..	..	..	..	..			..			W by S	0 to ½	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	46·2			..			W by S	0 to ½	W	4·51	..	..	..	..	..	..
6	..	..	..	..	..	..	39·9			0·54			Calm	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..							Calm	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	46·5			0·15			Calm	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	39·0						Calm	..	..	..	..	..	..	..	..	..
14	29·484	44·9	44·5	0·4	..	..				2·215			Calm	..	..	..	Pos.	2	..	..	..	..
16	29·496	44·0	43·8	0·2	43·8	0·2	34·0						Calm	..	..	..	Pos.	..	..	30	40	..
18	29·490	44·0	43·9	0·1	..	..	32·5			..			Calm	..	..	..	Pos.	2	..	..	..	..
20	29·465	44·0	43·9	0·1	..	..	..			..			Calm	..	..	..	Pos.	2	..	..	..	..
22	29·376	44·0	44·0	0·0	44·0	0·0	..			..			Calm	..	S	0·30	..	..	0	0	0	..
Feb. 15. 0	29·292	46·5	45·2	1·3	..	..	..			..			SW	½ to 1	..	..	..	..	0	0	0	..
2	29·261	51·5	49·8	1·7	..	..	..			..			WSW	1 to 3	..	..	..	..	0	0	0	..
4	29·247	52·0	49·5	2·5	47·5	4·5	49·2			..			WSW	2 to 4	..	..	..	..	0	0	0	..
6	29·267	50·5	47·5	3·0	..	..	37·1			..			WSW	3 to 4½	..	..	Pos.	2	..	..	..	..
8	29·342	45·5	41·5	4·0	..	..				0·54			W by S	4 to 7	..	..	..	..	0	0	0	..
10	29·420	43·2	39·5	3·7	35·0	8·2	55·0			0·26			W by S	2 to 3	..	..	Pos.	10	..	5	8	10. 0
12	29·484	41·9	38·7	3·2	..	..	30·8						W by S	2 to 3½	WSW	6·69	Pos.	2	..	..	..	..
14	29·545	40·9	37·1	3·8	..	..				2·375			W by S	3 to 3½	..	..	..	..	0	0	0	..
16	29·608	39·0	36·5	2·5	33·0	6·0	37·0			..			WSW	2 to 2½	..	..	..	..	0	0	0	..
18	29·648	38·5	36·1	2·4	..	..	34·0			..			WSW	1 to 1½	..	..	..	..	0	0	0	..
20	29·692	37·1	36·0	1·1	..	..	..			..			SSW	0 to ½	..	..	Pos.	5	7	8	10	..
22	29·700	40·0	38·3	1·7	35·0	5·0	..			..			SSW	..	SW	0·80	Pos.	2	..	..	..	..
Feb. 16. 0	29·684	44·0	41·2	2·8	..	..	..			..			SSW	0 to ¼	..	..	Pos.	2	..	..	..	..
2	29·647	44·0	42·4	1·6	..	..	..			..			SSW	..	..	..	Pos.	2	..	..	..	..
4	29·571	43·1	42·5	0·6	40·0	3·1	..			..			S	..	..	..	..	..	0	0	0	..

MAXIMUM FREE THERMOMETER.

February 15d. 22h. The reading was lower than those of the Dry Thermometer at 2h, 4h, and 6h.

OSLER'S RAIN GAUGE.

Feb 14d. The rain-cistern was full and the water was frozen.

ELECTRICITY.

February 12d. 22h and 13d. 0h and 6h. There were sparks at the distances of 0in·02, 0in·01, and 0in·02 respectively.

February 14d. 16h. There was a spark at the distance of 0in·01.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
			T D
10	..	Overcast: cirro-stratus.	
10	..	,, ,,	T D
10	..	,, ,,	L
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,, a few stars are visible in the zenith.	
6	..	Cirro-stratus around the horizon; clear in and about the zenith.	L
10	Transit	Overcast: cirro-stratus: foggy: the Sun's place is visible.	H B
10	..	Overcast: cirro-stratus: foggy.	
5	..	Cirro-stratus and vapour principally S. of the zenith and near the horizon: the fog has cleared off considerably since 0^h; and the temperature has increased 7°·2 since that time: there is a slight tinge of colour around the Sun.	H B
2	..	Thin cirro-stratus around the horizon; clear elsewhere.	L
2	..	,, ,,	
3	..	Cloudy around the horizon.	
9	..	The greater part of the sky became covered with clouds soon after 8^h; at present it is nearly overcast.	L
10	..	Overcast: cirro-stratus and scud: a few stars are occasionally visible.	H B
..	..		
..	..		
..	..		
..	..		
10	..	Overcast: cirro-stratus and scud: slight rain is falling.	
10	Transit	Overcast: cirro-stratus and scud.	
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,, a damp fog is prevalent.	H B
10	..	,, ,, rain is falling heavily.	G H
10	Transit	Overcast: cirro-stratus: a few drops of rain are falling. [observation.	
9	..	Cirro-stratus and scud: a break near the zenith: the Sun is occasionally visible: the rain ceased soon after the last	G H
10	..	Overcast: cirro-stratus and scud; slight breaks frequently occur: the wind is blowing in gusts to $1\frac{1}{2}$.	H B
9	..	Cirro-stratus and scud, the latter in rapid motion from the W.S.W.: gusts of wind to 2.	
0	..	Cloudless: at $6^h.20^m$ the clouds became dark and threatening; shortly afterwards a shower of rain fell; during this time the wind was blowing very frequently in gusts to $2\frac{1}{2}+$.	
5	..	Cirro-stratus and vapour: at $8^h.30^m$ the sky was overcast: since $8^h.40^m$ it has been generally cloudless: occasional	H B
0	..	Cloudless: the wind is blowing in gusts to 2. [gusts of wind to 2.	G H
0	Perigee	,, the wind is blowing in gusts to 1.	
0	..	,, the wind is blowing in gusts to $1\frac{1}{2}$.	
0	..	,, the wind is blowing in gusts to $\frac{1}{2}$.	
10	..	Overcast: very thin cirro-stratus, with a few lines of cirri, towards the E. horizon.	G H
10	..	,, cirro-stratus, fleecy clouds, and scud: the Sun's place is visible.	L
10	..	Overcast: cirro-stratus and scud.	
10	Transit	,, ,, rain has just begun to fall slightly.	L
10	..	,, ,, light rain is falling.	G H

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	Max. and Min. as read at 22h. of Rad. Therm.	Max. and Min. as read at 22h. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's).	RAIN GAUGES. Reading of No. 2.	RAIN GAUGES. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	From Osler's Anemometer. Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	From Whewell's Anemometer. Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Readings of Double Gold Leaf.	Readings of Straws of Volta 1.	Readings of Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°			in.				℔ from lbs. to lbs.		in.		°	°	div.	div.	m s
Feb. 16. 6	29·523	42·9	42·8	0·1	..	..	46·8			..			S by E	..	..	..	..	..	0	0	..
8	29·526	46·0	45·8	0·2	..	..	38·9			0·61			WSW	..	..	..	Pos.	10	10	20	30	..
10	29·571	45·2	44·2	1·0	43·0	2·2	———						WSW	0 to ½	..	..	Pos.	25	18	30	40	..
12	29·612	43·5	42·5	1·0	..	..	50·5			0·15			SW	0 to ½	..	..	Pos.	15	..	10	12	5. 0
14	29·639	44·0	42·5	1·5	..	..	36·0						WSW	1 to 2½	..	..	Pos.	2	..	..	..	..
16	29·656	44·0	42·6	1·4	40·0	4·0	———			2·555			WSW	1 to 2½	..	..	Pos.	2	..	..	..	..
18	29·687	43·5	42·3	1·2	..	..	38·0						WSW	3 to 4	..	..	Pos.	2	..	..	..	..
20	29·747	43·8	42·2	1·6	..	..	35·5			..			WSW	½ to 1	..	..	Pos.	2	..	..	..	..
22	29·788	46·5	44·3	2·2	42·3	4·2	..			..			SW	½ to 1	WSW	6·90	..	..	0	0	0	..
Feb. 17. 0	29·815	50·0	46·5	3·5	..	..	..			..			SW	1 to 2	..	..	..	..	0	0	0	..
2	29·795	54·0	48·9	5·1	..	..	..			..			SW	0 to 2	WSW	2·19	..	..	0	0	0	..
4	29·778	52·6	48·3	4·3	45·0	7·6	55·0			..			SW	1 to 3	..	..	..	..	0	0	0	..
6	29·774	48·8	47·5	1·3	..	..	45·5			0·61			SW	..	SW	1·88	..	..	0	0	0	..
8	29·760	50·0	49·0	1·0	..	..	———						SW	1 to 3	..	..	..	..	0	0	0	..
10	29·771	51·0	49·6	1·4	48·0	3·0	65·5			0·00			WSW	2 to 2½	WSW	1·75	..	..	0	0	0	..
12	29·784	51·6	49·9	1·7	..	..	39·0						WSW	1 to 4	..	..	..	..	0	0	0	..
14	29·780	50·9	49·0	1·9	..	..	———			2·555			WSW	½ to 2	..	..	..	..	0	0	0	..
16	29·776	50·0	48·0	2·0	47·0	3·0	41·2						WSW	1 to 3½	..	..	..	..	0	0	0	..
18	29·782	49·0	47·4	1·6	..	..	37·5			..			SW	1 to 3½	SW	2·35	..	..	0	0	0	..
20	29·789	49·0	47·0	2·0	..	..	..			..			WSW	3 to 4½	..	..	..	..	0	0	0	..
22	29·806	50·0	48·2	1·8	46·0	4·0	..			..			WSW	2 to 4½	WSW	1·48	Pos.	2	..	..	..	..
Feb. 18. 0	29·804	52·0	49·5	2·5	..	..	..			..			SW	1½ to 4	..	..	..	..	..	..	..	..
2	29·782	49·7	48·4	1·3	..	..	55·0			..			SW	2 to 4½	..	..	Pos.	2	..	..	..	..
4	29·761	50·0	47·9	2·1	46·0	4·0	42·5			..			SW	1½ to 4	..	..	..	..	0	0	0	..
6	29·735	48·5	47·4	1·1	..	..	———			0·61			SW	3 to 4	..	..	..	..	0	0	0	..
8	29·704	48·0	47·6	0·4	..	..	57·0						SW	2 to 3½	..	..	..	..	0	0	0	..
10	29·667	47·6	47·4	0·2	46·0	1·6	35·5			0·01			SW	1½ to 4	..	..	..	..	0	0	0	..
12	29·605	47·2	47·1	0·1	..	..	———						SW	2 to 4	..	..	Pos.	2	..	..	..	..
14	29·539	48·0	47·7	0·3	..	..	44·0			2·585			SW	2 to 5	..	..	..	..	0	0	0	..
16	29·525	49·1	48·8	0·3	46·0	3·1	40·2			..			SW	3 to 6	..	..	..	..	0	0	0	..
18	29·540	46·0	45·4	0·6	..	..	..			..			WSW	5 to 18	..	..	..	..	0	0	0	..
20	29·685	43·2	40·6	2·6	..	..	..			..			WSW	3½ to 12	..	..	..	..	0	0	0	..
22	29·787	45·5	40·9	4·6	35·0	10·5	..			..			WSW	4 to 5	SW	11·55	..	..	0	0	0	..
Feb. 19. 0	29·883	46·7	40·9	5·8	..	..	..			..			WSW	2 to 8	..	..	..	..	0	0	0	..
2	29·913	47·6	40·4	7·2	..	..	..			..			WSW	3 to 4½	..	..	..	..	0	0	0	..
4	29·975	47·5	40·6	6·9	31·0	16·5	~~45·2~~			..			WSW	1 to 2½	..	..	..	..	0	0	0	..
6	30·020	45·1	40·4	4·7	..	..	37·9			0·61			WSW	½ to 1	..	..	..	..	0	0	0	..
8	30·060	41·5	38·6	2·9	..	..	———						WSW	..	..	..	Pos.	2	..	..	..	..
10	30·093	39·7	37·9	1·8	35·5	4·2	59·5			0·00			WSW	..	..	..	Pos.	2	..	..	..	..
12	30·114	39·0	37·2	1·8	..	..	31·0						WSW	0 to ½	..	..	..	..	0	0	0	..
14	30·114	38·8	37·4	1·4	..	..	———			2·585			WSW	..	..	..	..	..	0	0	0	..
16	30·103	39·2	37·7	1·5	35·0	4·2	44·2						WSW	..	..	..	..	..	0	0	0	..
18	30·116	39·0	38·0	1·0	..	..	42·0			..			WSW	..	..	..	..	..	0	0	0	..
20	30·131	39·6	38·5	1·1	..	..	..			..			WSW	..	..	..	..	..	0	0	0	..
22	30·149	41·5	40·0	1·5	37·5	4·0	..			..			WSW	..	WSW	6·65	Pos.	35	..	4	60	10. 0
Feb. 20. 0	30·150	48·0	44·3	3·7	..	..	..			..			SW	0 to ½	..	..	Pos.	30	..	20	30	10. 0
2	30·122	49·0	44·9	4·1	..	..	..			..			SW	0 to ½	..	..	Pos.	10	..	10	20	10. 0
4	30·116	49·3	44·4	4·9	39·7	9·6	..			..			WSW	..	..	..	Pos.	2	..	..	..	..

BAROMETER.

February 18d. 22h. The reading had increased by 0in·247 since 18h.

DRY AND WET THERMOMETERS.

February 18d. 2h. Commencing with this observation the Dry and Wet Thermometers of the Royal Observatory were used, the latter having been repaired; both instruments had been compared with a standard instrument.

MAXIMUM FREE THERMOMETER.

February 19d. 22h. The reading was lower than those of the Dry Thermometer at 0h, 2h, and 4h.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast: cirro-strutus and scud.	G H
10	..	,, ,, damp falling.	
10	..	,, ,, ,, at about 15^m before this observation the sky was cloudless.	
0	..	Cloudless.	G H
0	..	,, the wind is blowing in gusts to $\frac{1}{2}$.	L
0	..	,, ,,	
0	..	,, ,,	
0	In Equator	,, ,,	L
4	..	Cirro-stratus and light scud scattered here and there.	T D
7	..	Cirro-stratus, scud, and light fleecy clouds N. of the zenith; a portion of the sky is perfectly clear.	
4	Transit	Cirro-strati, cumuli, and fleecy clouds chiefly around the horizon, the zenith being beautifuly clear.	T D
2	..	Cirro-stratus towards the N. horizon: light clouds and scud in every direction: the wind is blowing in gusts to 1.	L
10	..	Overcast: cirro-stratus and scud: the sky became covered with clouds soon after 4^h: the wind is blowing in gusts to 3.	
10	..	,, ,, the wind is blowing in gusts to 1+.	
10	..	,, ,, ,,	L
10	..	,, ,, a few drops of rain are falling occasionally: the wind is blowing in gusts to $\frac{3}{4}$+.	T D
10	..	,, ,, the wind is blowing in gusts to $1\frac{1}{2}$.	
10	..	,, ,, ,, a few stars are faintly seen here and there.	
9	..	Cirro-stratus and dark masses of scud: the wind is blowing in gusts to 2.	
10	..	The sky is covered with cirro-stratus and masses of quickly-moving scud: the wind is blowing in gusts to 2.	T D
$9\frac{3}{4}$	..	Cirro-stratus and scud; small breaks constantly appear: frequent gusts of wind to 2.	H B
10	..	Cirro-stratus and quickly-moving scud: gusts of wind to 2 and 2+.	
10	..	Overcast: cirro-stratus and scud: the wind is blowing in gusts to 2.	H B
10	Transit	,, ,, the wind is blowing in gusts to 2+.	T D
10	..	,, ,,	
10	..	,, ,, a few drops of a misty rain are falling occasionally.	
10	..	,, ,, very dark: the wind is blowing in gusts to $2\frac{1}{2}$.	T D
10	..	,, ,, rain is falling: gusts of wind to 2 and $2\frac{1}{2}$.	H B
10	..	,, ,, rain is falling heavily: gusts of wind to 2.	
9	..	,, ,, gusts of wind to $2\frac{1}{2}$: the clouds are extensively broken S. of the zenith.	
9	..	,, ,, several stars are visible: the sky is very unsettled: gusts of wind to 4 and 4+.	
5	..	,, cirro-stratus and scud in every direction: gusts of wind to $3\frac{1}{2}$: the amount of cloud is exceedingly variable: soon after the last observation the wind blew in frequent gusts to 4 and 4+.	H B
4	..	Light fleecy clouds in every direction.	T D
6	..	Light fleecy clouds and scud in every direction: the wind is blowing in gusts to 2.	G H
4	..	Cumuli towards the S. horizon; fleecy clouds and scud towards the W. and N.: the wind is blowing in gusts to 2.	G H
4	Transit	Cumuli, cirro-strati, and masses of scud around the horizon in every direction: gusts of wind to 2 and $2\frac{1}{2}$.	H B
5	..	Cirro-stratus around the horizon; fleecy clouds and cirri in other directions.	H B
0	..	Cloudless: hazy.	L
0	..	,, ,,	
1	..	Cloudy towards the S. horizon; clear elsewhere.	
1	..		
8	..	Clear about the zenith; cirro-stratus and scud in other directions.	
10	..	Overcast: cirro-stratus and scud: the clouds are very thin towards the S.	
10	..	,, cirro-stratus.	L
10	..	,, cirro-stratus and scud.	G H
8	..	The greater portion of the sky is covered with a thin cloud of the cirro-stratus character; in the E. portions of blue	T D
8	..	Thin cirro-stratus about the zenith: portions of cumuli near the horizon generally. [sky are seen.	G H
10	..	Overcast: cirro-stratus and scud: a few drops of rain have just fallen.	T D

MAXIMUM FREE THERMOMETER.

February 17^d.22^h. The reading was 50°, which is evidently wrong; the inferred reading is 55°·0, which value is used in subsequent calculations.

ELECTRICITY.

February 18^d.0^h. The apparatus was lowered for examination, and hence no observation could be taken.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	Max. and Min. as read at 22h. of Rad. Therm.	Max. and Min. as read at 22h. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's).	RAIN GAUGES. Reading of No. 2.	RAIN GAUGES. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in lbs. per square foot.	WIND. From Whewell's Anemometer. Direction.	WIND. From Whewell's Anemometer. Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity as shewn by Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Single Gold Leaf of Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Double Gold Leaf.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 1.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°			in.				from lbs. to lbs.		in.		°	°	div.	div.	m s
Feb. 20. 6	30·117	46·9	44·0	2·9	..	..	51·9			..			SSW	..	..	..	Pos.	2	..	..	..	..
8	30·117	44·6	42·8	1·8	..	..	39·2			..			SSW	..	..	..	Pos.	25	..	40	50	..
10	30·133	43·5	41·9	1·6	40·0	3·5				0·61			SSW	..	..	..	Pos.	15	30	10	20	15. 0
12	30·137	43·2	41·8	1·4	..	..	62·0						SSW	..	..	..	Pos.	15	..	10	12	5. 0
14	..	..	..	..	..	..	36·5			0·00			SSW	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..							SSW	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	44·0			2·585			SW	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	43·2			..			SW	..	..	..	..	..	..	..	..	..
22	30·148	46·5	44·9	1·6	..	..				..			SSW	..	SW	5·27	..	..	0	0	0	..
Feb. 21. 0	..	..	..	..	..	..	..			..			WSW	½ constant	..	..	..	..	..	..	..	..
2	30·168	48·5	45·7	2·8	..	..	..			..			WSW	..	..	..	..	..	0	0	0	..
4	..	..	..	..	..	..	..			..			WSW	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..				..			WSW	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	~~45·8~~			..			WSW	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	42·4			0·61			WSW	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..							W by S	..	..	..	..	..	..	..	..	..
14	30·179	45·1	44·4	0·7	..	..	51·3			0·00			W by S	..	..	..	Pos.	15	..	20	30	..
16	30·180	45·1	44·4	0·7	44·0	1·1	36·0						WSW	..	..	..	Pos.	10	10	8	20	..
18	30·200	45·2	44·5	0·7	..	..				2·585			WSW	..	..	..	Pos.	2	..	..	..	..
19	30·203	45·7	44·5	1·2	..	..	44·0			..			WSW	..	..	..	..	..	..	..	..	..
20	30·209	45·9	44·8	1·1	..	..	43·5			..			W by S	..	..	..	Pos.	10	10	8	20	10. 0
21	30·225	45·7	44·5	1·2	..	..	..			..			WSW	..	..	..	..	..	..	..	..	..
22	30·204	46·0	44·8	1·2	43·0	3·0	..			..			WSW	..	..	..	Pos.	2	..	..	..	..
23	30·206	46·0	44·4	1·6	..	..	..			..			WSW	..	WSW	2·95	..	..	..	..	..	..
Feb. 22. 0	30·206	46·1	44·8	1·3	..	..	..			..			WSW	..	..	..	Pos.	30	..	20	30	4. 0
1	30·206	46·0	44·1	1·9	..	..	..			..			WSW	..	..	..	..	..	..	..	..	..
2	30·188	45·6	44·3	1·3	..	..	..			..			WSW	..	..	..	Pos.	15	..	12	15	7. 0
3	30·186	45·5	43·9	1·6	..	..	..			..			WSW	..	..	..	..	..	..	..	..	..
4	30·185	45·5	44·2	1·3	41·0	4·5	..			..			W	..	..	..	Pos.	10	15	10	20	..
5	30·185	45·3	43·9	1·4	..	..	..			..			W	..	..	..	..	..	..	..	..	..
6	30·190	44·9	43·9	1·0	..	..	..			..			W by N	..	..	..	..	..	0	0	0	..
8	30·187	44·1	43·7	0·4	..	..	46·3			..			WNW	..	..	..	..	..	0	0	0	..
9	30·181	44·0	43·3	0·7	..	..	38·0			0·61			WNW	..	..	..	..	..	..	..	..	..
10	30·176	44·6	43·8	0·8	43·0	1·6							WNW	..	..	..	Pos.	10	30	20	40	10. 0
11	30·175	44·6	43·5	1·1	..	..	48·5			0·00			WNW	..	..	..	..	..	..	..	..	..
12	30·177	44·0	43·5	0·5	..	..	35·0						WNW	..	..	..	Pos.	20	..	12	15	7. 0
13	30·171	44·2	43·2	1·0	..	..				2·585			WNW	..	..	..	..	..	..	..	..	..
14	30·167	44·4	43·2	0·9	..	..	44·0						WNW	..	..	..	Pos.	25	..	20	20	5. 0
15	30·165	43·9	43·0	0·9	..	..	43·5			..			WNW	..	..	..	..	..	..	..	..	..
16	30·157	43·6	43·2	0·4	43·0	0·6	..			..			WNW	..	..	..	Pos.	15	..	10	12	5. 0
17	30·148	43·0	42·2	0·8	..	..	..			..			E by S	..	..	..	..	..	..	..	..	..
18	30·144	42·2	41·9	0·3	..	..	..			..			E by S	..	..	..	Pos.	15	..	10	12	7. 0
19	30·144	41·5	41·0	0·5	..	..	..			..			E by S	..	..	..	..	..	..	..	..	..
20	30·152	38·5	38·6	−0·1	..	..	..			..			E by S	0 to ½	..	..	..	..	0	0	0	..
22	30·158	39·6	39·3	0·3	39·0	0·6	..			..			E	..	..	..	..	..	0	0	0	..
23	30·157	40·7	39·8	0·9	..	..	..			..			E by N	..	E	0·50	..	..	..	..	..	..
Feb. 23. 0	30·150	40·9	40·2	0·7	..	..	..			..			ESE	..	..	..	..	..	0	0	0	..
1	30·157	40·4	39·1	1·3	..	..	..			..			E	..	..	..	..	..	..	..	..	..
2	30·140	41·0	38·9	2·1	..	..	..			..			E	0 to ½	..	..	Pos.	2	..	..	..	..
3	30·127	41·1	38·6	2·6	..	..	..			..			E	..	..	..	..	..	..	..	..	..

DRY THERMOMETER.
February 22d. 20h. The reading was lower than that of the Wet Thermometer.

MAXIMUM FREE THERMOMETER.
February 21d. 22h. The reading was lower than that of the Dry Thermometer at 2h.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	Transit	Overcast: cirro-stratus and scud: a light rain has commenced falling. [whose diameter is about 25°.	G H
10	..	Overcast, with very thin cirro-stratus, through which the Moon and the principal stars are visible. There is a lunar halo,	
10	..	Overcast: cirro-stratus and scud: the Moon's place is visible, and some of the principal stars.	G H
10	..	,, ,,	T D
..	..		
..	..		
..	..		
..	..		
10	..	,, ,,	
..	..		
10	..	Overcast: cirro-stratus and scud.	T D
..	..		
..	Transit		
..	..		
..	..		
..	..		
10	..	,, ,,	G H
10	1st Qr.	,, ,,	
10	..	,, ,,	
10	..		
10	..	,, ,,	G H
10	..	,, ,,	T D
10	..	,, ,,	
10	..		
10	..	Overcast: cirro-stratus and scud: misty.	
10	..		
10	..	,, ,,	T D
10	..		
10	..	,, ,,	G H
10	..		
10	..	,, ,, a slight rain is falling.	
10	Transit	,, ,,	
10	..		
10	..	,, ,,	G H
10	..		
10	..	,, ,,	T D
10	..		
10	..	,, ,,	
10	..		
10	..	,, ,,	
10	..		
10	..	,, ,,	
10	..		
10	..	,, ,, foggy; the fog has come up since 19h.	T D
10	..	,, ,,	H B
10	..		
10	..	Overcast: cirro-stratus and scud.	
10	..		
10	..	,, ,,	H B
10	..		

Day and Hour, Göttingen Astronomical Reckoning.	Barometer corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Feb. 23. 4	30·137	40·0	37·3	2·7	34·0	6·0	..	..	E	..	..	..	Pos.	2	..	..	..	..
5	30·126	39·3	36·5	2·8	..	..	44·7	..	E	..	..	..	..	..	..	..	..	..
6	30·121	38·6	36·2	2·4	..	..	29·1	..	E	0 to ½	..	..	..	..	0	0	0	..
8	30·126	38·0	35·5	2·5	..	..		0·61	ESE	0 to ½	..	..	..	..	0	0	0	..
10	30·107	37·0	35·2	1·8	33·5	3·5	44·5		E	..	..	..	..	..	0	0	0	..
12	30·107	32·7	32·2	0·5	..	..	22·5	0·00	E	..	..	..	..	..	0	0	0	..
14	30·096	32·3	30·5	1·8	..	..			ESE	..	..	..	..	..	0	0	0	..
16	30·085	31·5	29·7	1·8	25·0	6·5	43·8	2·585	ESE	..	..	..	..	..	0	0	0	..
18	30·083	30·5	28·6	1·9	..	..	43·0	..	ESE	..	..	..	..	..	0	0	0	..
20	30·096	30·6	28·6	2·0	..	..		..	E	..	..	..	..	..	0	0	0	..
22	30·108	34·0	31·2	2·8	25·0	9·0	..	..	E	..	E	4·50	..	..	0	0	0	..
Feb. 24. 0	30·102	39·2	31·7	7·5	..	..	..	..	ESE	0 to ½	..	..	Pos.	5	8	5	10	..
2	30·084	40·0	32·7	7·3	..	..	..	..	ESE	0 to 1	..	..	Pos.	5	8	5	10	..
4	30·060	37·7	33·6	4·1	26·5	11·2	40·2	..	E	0 to ½	..	..	Pos.	30	..	10	20	..
6	30·051	34·7	31·6	3·1	..	..	29·0		E	..	..	..	Pos.	2	..	..	..	..
8	30·059	31·5	29·7	1·8	..	..		0·61	Calm	..	..	..	Pos.	20	..	5	8	20. 0
10	30·059	30·6	28·6	2·0	25·0	5·6	51·8		Calm	..	..	..	Pos.	30	..	10	10	8. 0
12	30·055	29·7	28·2	1·5	..	..	19·5	0·00	Calm	..	..	..	Pos.	10	..	20	40	..
14	30·043	31·2	29·2	2·0	..	..			Calm	..	..	..	Pos.	2	..	..	..	..
16	30·021	31·5	29·1	2·4	23·0	8·5	42·8	2·585	Calm	..	..	..	..	..	0	0	0	..
18	30·027	30·6	28·6	2·0	..	..	42·0	..	ESE	..	..	..	..	..	0	0	0	..
20	30·027	30·8	29·2	1·6	..	..	..	..	ESE	..	..	..	..	..	0	0	0	..
22	30·044	34·8	31·5	3·3	26·0	8·8	..	..	E	..	E	2·90	..	..	0	0	0	..
Feb. 25. 0	30·038	37·9	32·3	5·6	..	..	..	..	E	..	..	..	Pos.	2	..	..	..	..
2	30·023	40·3	34·6	5·7	..	..	..	..	ENE	..	..	..	Pos.	2	..	..	..	..
4	29·999	39·7	33·9	5·8	22·0	17·7	41·5	..	ENE	..	..	..	..	..	0	0	0	..
6	29·997	34·8	31·1	3·7	..	..	27·9		Calm	..	..	..	..	..	0	0	0	..
8	29·996	32·0	29·5	2·5	..	..		0·61	Calm	..	..	..	Pos.	20	..	30	50	20. 0
10	29·989	30·4	28·6	1·8	24·0	6·4	58·2		Calm	..	..	..	Pos.	20	..	40	60	..
12	29·985	30·0	28·6	1·4	..	..	15·5	0·00	Calm	..	..	..	Pos.	30	..	20	20	6. 0
14	29·976	29·0	27·6	1·4	..	..			Calm	..	NE	1·10	Pos.	2	..	..	..	..
16	29·958	28·5	27·5	1·0	24·0	4·5	42·0	2·585	Calm	..	..	..	Pos.	2	..	..	..	..
18	29·955	31·0	29·5	1·5	..	..	41·0	..	Calm	..	..	..	Pos.	30	..	20	20	2. 0
20	29·959	32·0	30·9	1·1	..	..		..	Calm	..	..	..	Pos.	40	..	30	30	1. 30
22	29·960	34·1	31·8	2·3	28·5	5·6	..	..	Calm	..	NNW	0·32	Pos.	40	..	..	140	5. 0
Feb. 26. 0	29·981	38·2	36·2	2·0	..	..	..	..	NE	..	..	..	Pos.	30	..	30	30	5. 0
2	30·000	38·4	35·8	2·6	..	..	..	..	ESE	..	..	..	Pos.	30	..	20	20	15. 0
4	30·012	37·0	34·1	2·9	30·5	6·5	40·4	..	E	..	..	..	Pos.	25	..	20	20	8. 0
6	30·039	31·7	28·9	2·8	21·0	10·7	27·2		E	..	..	..	Pos.	..	..	30	35	..
8	30·046	29·5	27·4	2·1	..	..		0·61	ENE	..	..	..	Pos.	..	30	10	..	..
10	30·029	29·0	27·6	1·4	24·0	5·0	55·5		ENE	..	..	..	Pos.	12	..	10	12	15. 0
12	30·024	28·0	27·1	0·9	..	..	19·2	0·00	ENE	..	..	..	Pos.	2	..	..	..	..
14	30·008	29·4	28·1	1·3	..	..			NNE	..	..	..	Pos.	2	..	..	..	..
16	29·978	30·2	29·5	0·7	..	..	41·5	2·585	NNE	..	..	..	Pos.	2	..	..	..	..
18	29·971	31·4	29·5	1·9	..	..	39·2	..	ENE	..	..	..	Pos.	2	..	..	..	..
20	29·976	31·0	28·2	2·8	..	..	..	..	E by N	..	..	..	Pos.	20	12	7	..	..
22	29·996	31·3	28·3	3·0	20·0	11·3	..	..	ENE	..	E	2·35	Pos.	..	10	..	..	..
Feb. 27. 0	30·002	31·4	29·7	1·7	..	..	..	..	E	0 to ½	..	..	Pos.	2	..	..	..	..
2	29·986	31·7	28·3	3·4	..	..	..	..	E	..	..	..	Pos.	2	5	..	..	..

DEW POINT THERMOMETER.
February 26d. 16h. The observation was inadvertently omitted.

HENLEY'S ELECTROMETER.
February 25d. 22h. The reading was 3°.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast: cirro-stratus and scud: the Sun has been occasionally visible since 2^h.	T D
10	..		
10	..	,, ,,	
10	Transit	,, ,, [the sky suddenly became nearly free from clouds at $9^h.\ 50^m$.	
3	Greatest declination N.	Cirro-stratus, cumulo-stratus, and scud, chiefly around the horizon; every other part of the sky is beautifully clear:	T D
0	..	Cloudless.	H B
0	..	,,	
0	..	,,	
0	..	,, the night has been unusually clear.	
0	..	,,	H B
0	..	,,	G H
0	..	Cloudless.	
0	..	,,	G H
0	..	,,	H B
8	..	Cirri, cirro-cumuli, cirro-strati, and vapour.	
6	Transit	Fleecy clouds and cirro-strati in every direction. The Moon is occasionally surrounded by an imperfectly coloured corona.	
4	..	Fleecy clouds and cirro-strati; the latter are distributed principally in the E.	H B
3	..	Fleecy clouds towards the W.	G H
10	..	Overcast: cirro-stratus and scud.	
10	..	Overcast, with very thin cirro-stratus.	
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	G H
5	..	Cirro-stratus, light scud, and fleecy clouds.	T D
4	..	Cirro-strati and finely-formed cumuli are scattered over the sky.	
2	..	A few detached portions of cumuli are scattered over the sky.	T D
9	..	Cirro-stratus: the sky is clear towards the W.	G H
10	..	Overcast, with thin cirro-stratus broken in every direction.	
8	..	Cirro-stratus: the sky is clear towards the N.W.	
10	Transit	Overcast, with thin fleecy clouds broken in every direction.	G H
8	..	Cirro-stratus, cumulo-stratus, and scud. A coloured corona is visible around the Moon.	T D
5	..	,, The sky near the Moon's place is clear. [in and near the zenith.	
6	..	Cirro-stratus all around the horizon to a considerable altitude: detached portions of cirri and fleecy clouds are scattered	
10	..	Overcast: cirro-stratus: snow is now falling; it commenced at about $17^h.\ 15^m$.	
10	..	,, ,, the snow ceased at $18^h.\ 50^m$.	T D
4	..	Fleecy clouds: cirro-stratus and scud.	H B
		[$22^h.\ 40^m$ a shower of snow fell.	
9	..	Cirro-stratus and scud: breaks of considerable extent in the N.E.: the sky became overcast at about $22^h.\ 10^m$; and at	
9	..	,, a remarkable gloom has prevailed since the last observation: the clouds towards the N. were	H B
8	..	Cirro-stratus, cumulo-stratus, and scud: clear breaks S.E. of the zenith. [exceedingly dark and threatening at 1^h.	T D
1	..	A few thin clouds are scattered about the sky.	G
0	..	Cloudless.	G
8	Transit	Cirro-stratus, cumulo-stratus, and scud.	T D
3	..	Cumulo-stratus in the S. horizon, and near the place of the Moon; every other part of the sky is clear.	
9	..	Broken masses of fleecy clouds and scud in every direction.	T D
10	..	Cirro-stratus and scud: snow commenced falling at about 15^h, and still continues falling slightly.	G H
10	..	Overcast: cirro-stratus and scud.	H B
10	..	,, ,,	G
10	..	,, ,, a few small flakes of snow are occasionally falling.	T D
9	..	Cirro-stratus and scud: snow is falling slightly,	T D
10	..	Overcast: snow is falling slightly.	H B

ELECTRICITY.

February 25^d, 20^h and 22^h. There were sparks at the distance of $0^{in}.03$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Feb. 27. 4	29·966	33·2	30·1	3·1	23·0	10·2	34·1	..	E	0 to 1	E	0·55	Pos.	20	..	12	15	10. 0
6	29·961	30·2	28·7	1·5	..	..	26·7	..	ESE	..	ESE	1·08	Pos.	4	5	10	..	..
8	29·976	28·5	25·7	2·8	..	..		0·61	ENE	..	..	..	Pos.	2	..	..	..	..
10	29·991	29·3	27·1	2·2	22·0	7·3	40·6		ENE	..	..	..	Pos.	25	..	15	12	15. 0
12	30·009	29·2	27·3	1·9	..	..	19·0	0·00	ENE	..	..	..	Pos.	30	..	12	15	13. 0
14	..	..	..	..	..	..			ENE	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	40·2	2·585	NE	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	37·8	..	NE	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..		..	ENE	..	..	..	..	..	..	..	..	..
22	..	32·7	31·4	1·3	..	..	..	..	ENE	0 to ½	..	..	Pos.	10	..	5	8	..
23	30·109	34·8	31·8	3·0	..	..	..	..	E	1 to 3½	SE	0·92	Pos.	2	..	..	..	..
Feb. 28. 0	..	..	..	..	..	..	..	..	ENE	1 to 3	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	NE	1 to 3	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	38·6	..	NE	0 to ½	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	31·6		NE	..	..	..	..	..	..	..	..	..
8	30·110	34·0	32·2	1·8	..	..		0·61	NE	0 to ½	NE	1·40	Pos.	1	3	..	..	..
10	..	..	..	..	..	..	51·0		NNE	½ to 2	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	27·0	0·00	NNE	..	..	..	..	..	..	..	..	..
14	30·127	35·9	33·8	2·1	..	..			NNE	0 to ½	..	..	Pos.	3	5	..	..	..
16	30·123	35·1	34·6	0·5	33·0	2·1	39·2	2·585	NNE	..	..	..	Pos.	2	..	..	..	..
18	30·146	35·5	34·6	0·9	..	..	36·2	..	NNE	..	..	..	Pos.	1	3	..	..	..
20	30·172	34·0	33·0	1·0	..	..	..	..	NNE	..	..	..	Pos.	1	2	..	..	..
22	30·194	36·3	34·1	2·2	32·0	4·3	..	..	NNE	..	NNE	2·95	..	..	0	0	0	..
Mar. 1. 0	30·225	38·2	35·2	3·0	..	..	..	..	NE	0 to ½	..	..	..	..	0	0	0	..
2	30·220	38·5	35·7	2·8	..	..	..	..	NE	0 to ½	..	..	..	..	0	0	0	..
4	30·217	38·9	35·6	3·3	30·5	8·4	38·8	..	NE	..	..	..	Pos.	8	5	5	5	30. 0
6	30·230	37·5	34·9	2·6	..	..	31·6		NE	..	..	..	Pos.	1	3	..	..	..
8	30·263	36·4	33·6	2·8	..	..		0·61	NNE	..	..	..	Pos.	30	..	10	10	..
10	30·293	35·8	33·6	2·2	31·5	4·3	42·0		NNE	..	..	..	Pos.	30	..	10	10	..
12	30·295	32·5	31·4	1·1	..	..	23·5	0·00	NNE	..	..	..	Pos.	2	..	..	..	..
14	30·302	34·0	32·4	1·6	..	..			NNE	..	..	..	Pos.	2	..	..	..	..
16	30·300	34·5	33·1	0·4	31·0	3·5	38·5	2·590	NNE	..	..	..	..	..	0	0	0	..
18	30·312	35·3	33·7	1·6	..	..	36·0	..	NNE	..	..	..	..	..	0	0	0	..
20	30·352	36·0	33·9	2·1	..	..	..	..	N	..	..	..	..	..	0	0	0	..
22	30·361	39·0	36·7	2·3	33·0	6·0	..	..	N	..	NNE	1·55	..	..	0	0	0	..
Mar. 2. 0	30·378	43·4	40·0	3·4	..	..	..	..	NNE	0 to 1	..	..	..	..	0	0	0	..
2	30·370	44·4	40·2	4·2	..	..	..	..	N	..	..	..	Pos.	2	..	..	..	..
4	30·373	43·7	40·0	3·7	34·0	9·7	45·3	..	N	..	..	..	Pos.	2	..	..	..	..
6	30·387	42·7	39·9	2·8	..	..	37·9		N	..	..	..	Pos.	2	..	..	..	..
8	30·398	41·3	39·4	1·9	..	..		0·61	N	..	..	..	Pos.	15	..	10	12	7. 0
10	30·399	40·0	38·5	1·5	36·0	4·0	58·2		N	..	..	..	Pos.	15	..	10	12	5. 0
12	30·399	39·3	38·0	1·3	..	..	32·5	0·00	N	..	..	..	Pos.	2	..	..	..	..
14	30·399	39·5	38·4	1·1	..	..			N	..	..	..	Pos.	2	..	..	..	..
16	30·386	39·0	38·1	0·9	37·0	2·0	38·0	2·590	N	..	..	..	..	..	0	0	0	..
18	30·380	39·5	36·7	2·8	..	..	36·2	..	N	..	..	..	Pos.	4	4	5	..	..
20	30·390	38·4	36·8	1·6	..	..	..	..	N	..	..	..	..	..	0	0	0	..
22	30·397	39·6	36·2	3·4	30·0	9·6	..	..	N	..	NNE	3·58	Pos.	12	..	10	12	..
Mar. 3. 0	30·407	40·5	36·4	4·1	..	..	..	..	ENE	..	..	..	Pos.	..	20	..	..	..
2	30·395	40·6	36 6	4·0	..	..	..	..	NE	..	..	..	Pos.	..	10	..	..	..

MAXIMUM FREE THERMOMETER.
March 1d. 22h. The reading was lower than those of the Dry Thermometer at 4h and 22h.

OSLER'S ANEMOMETER.
February 27d. 23h. 20m. A pressure of 5½ lbs. was recorded.

ELECTRICITY.
February 27d. 10h. There was a spark at the distance of 0in·01.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
3	..	Cirro-stratus and clouds of the cumulus character scattered around the horizon.	T D
2	..	Cirro-stratus around the horizon; every other part of the sky is clear.	G H
8	..	Fleecy clouds in every direction.	H B
10	..	Overcast: cirro-stratus and scud.	
10	Transit	,, ,,	
..	..		
..	..		
..	..		
..	..		
9	..	Cirro-stratus and scud.	
8	..	The clouds are extensively broken S. of the zenith.	
..	..		
..	..		
..	..		
..	..		
10	..	Overcast: cirro-stratus and scud: the sky has been overcast, with few exceptions, since 23^h.	
..	..		
..	Transit		
10	..	,, ,, the Moon is occasionally visible.	
10	..	,, ,, sleet is falling.	
10	..	,, ,,	
10	..	,, ,,	H B
10	..	,, ,,	L
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	L
10	..	,, ,,	H B
10	..	Cirro-stratus and scud: the clouds are broken in in several directions.	
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	H B
8	Transit	Loose masses of scud and fleecy clouds are in every direction.	L
10	..	Overcast: cirro-stratus, fleecy clouds, and scud.	
10	Full	,, cirro-stratus and scud.	
10	..	,, ,,	
10	..	,, ,,	L
10	..	,, ,, a slight rain falling.	G H
10	..	Overcast: cirro-stratus and scud.	
10	Apogee	,, ,,	G H
10	..	,, ,,	L
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	L
10	..	,, ,,	G H
10	Transit	,, ,,	
10	..	,, ,,	
10	..	,, ,,	G H
10	In Equator	,, ,,	T D
10	..	,, ,,	
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	T D

WHEWELL'S ANEMOMETER.

February 28^d. The readings were registered S. W. and S. S. W., which are evidently wrong: they have been altered conjecturally to N. E. and N. N. E., which directions have been used in subsequent calculations.

RAIN.

February $28^d.\ 12^h$. The amount collected during the month of February in the rain-gauge No. 4 was $1^{in}.39$, and that collected by the Rev. G. Fisher in a rain-gauge of the same construction at Greenwich Hospital Schools during the same period was $1^{in}.45$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Mar. 3. 4	30·374	41·5	37·2	4·3	31·0	10·5	..	..	NNE	..	..	..	Pos.	5	5	10	..	..
6	30·373	39·8	36·7	3·1	..	..	40·0	..	NNE	..	..	..	Pos.	8	8	10	..	..
8	30·393	34·4	33·0	1·4	..	..	27·3	0·61	Calm	..	..	..	Pos.	8	8	15	20	..
10	30·394	30·8	30·3	0·5	28·0	2·8	——		Calm	..	..	..	Pos.	..	..	80	100	10. 0
12	30·404	31·5	31·1	0·4	..	..	51·6	0·00	Calm	..	..	..	Pos.	..	..	50	70	8. 0
14	30·394	31·0	30·6	0·4	..	..	15·0		Calm	..	..	..	..	..	0	0	0	..
16	30·387	31·5	31·1	0·4	31·0	0·5	——	2·590	Calm	..	..	..	..	..	0	0	0	..
18	30·386	29·6	29·1	0·5	..	..	38·0		Calm	..	..	..	Pos.	40	..	30	40	5. 0
20	30·386	30·0	29·6	0·4	..	..	37·0	..	Calm	..	..	..	Pos.	..	..	150	200	1. 30
22	30·367	33·9	32·0	1·9	29·5	4·4	..	..	Calm	..	ENE	0·58	Pos.	..	..	..	180	25. 0
Mar. 4. 0	30·346	39·7	36·8	2·9	..	..	..	..	NNE	..	..	..	Pos.	40	..	..	150	25. 0
2	30·319	43·0	39·7	3·3	..	..	..	..	NNE	..	..	..	Pos.	30	..	30	70	15. 0
4	30·290	42·5	39·2	3·3	36·0	6·5	43·3	..	NNE	..	..	..	Pos.	40	..	40	60	3. 0
6	30·281	40·0	38·2	1·8	..	..	32·0	0·61	NNE	..	..	..	Pos.	35	..	30	30	4. 0
8	30·284	39·7	37·7	2·0	..	..	——		NNE	..	NNE	1·70	Pos.	40	..	100	120	4. 0
10	30·272	39·0	37·6	1·4	36·0	3·0	63·0	0·00	NNE	..	..	..	Pos.	..	..	80	100	..
12	30·261	38·3	37·4	0·9	..	..	29·7		NNE	..	..	..	Pos.	..	..	70	90	20. 0
14	30·242	38·6	37·7	0·9	..	..	——	2·595	N	..	..	..	Pos.	30	..	30	50	..
16	30·208	39·3	38·7	0·6	38·0	1·3	37·8		N	..	..	..	Pos.	20	..	12	10	12. 0
18	30·175	39·4	38·7	0·7	..	..	37·2	..	N	..	..	..	Neg.	20	..	10	10	..
20	30·157	40·0	39·4	0·6	..	..	..	..	N	..	..	..	Pos.	..	5	2	..	..
22	30·155	40·2	39·5	0·7	38·0	2·2	..	..	N by E	..	N	0·55	Pos.	15	..	15	20	20. 0
Mar. 5. 0	30·152	41·5	39·2	2·3	..	..	..	..	NNE	0 to 1	..	..	Pos.	10	..	10	12	..
2	30·145	41·0	38·9	2·1	..	..	..	..	NE	0 to ½	..	..	Pos.	15	..	10	12	15. 0
4	30·129	41·9	38·8	3·1	34·5	7·4	42·4	..	NNE	..	..	..	Pos.	20	..	10	10	20. 0
6	30·132	40·8	38·7	2·1	..	..	34·3	0·61	NNE	..	..	..	Pos.	10	..	8	8	10. 0
8	30·144	38·8	37·4	1·4	..	..	——		NE	..	..	..	Pos.	3	10	3	5	..
10	30·141	37·1	35·2	1·9	32·0	5·1	44·0	0·00	NE	..	..	..	Pos.	8	10	5	..	15. 0
12	30·144	36·0	34·8	1·2	..	..	31·3		NE	..	..	..	Pos.	2	..	..	..	..
14	30·122	35·8	34·5	1·3	..	..	——	2·600	NNE	..	..	..	Pos.	2	..	..	..	..
16	30·093	35·3	34·3	1·0	33·0	2·3	38·0		NNE	0 to 1	..	..	Pos.	2	..	..	..	..
18	30·075	35·2	34·2	1·0	..	..	38·0	..	NNE	0 to 1	..	..	Pos.	2	..	..	..	..
20	30·070	35·5	34·1	1·4	..	..	..	..	NNE	0 to ½	..	..	Pos.	2	..	..	..	..
22	30·064	36·4	34·7	1·7	31·5	4·9	..	..	NNE	..	NNE	2·85	Pos.	5	5	8	..	..
Mar. 6. 0	30·054	38·0	35·8	2·2	..	..	..	..	NNE	..	..	..	Pos.	10	10	12	15	..
2	30·022	39·3	36·2	3·1	..	..	..	..	NNE	..	..	..	Pos.	10	20	10	..	..
4	29·992	39·6	36·3	3·3	31·0	8·6	40·3	..	NNE	..	..	..	Pos.	20	40	20	30	..
6	29·968	40·0	37·2	2·8	..	..	32·3	0·61	N by E	..	..	..	Pos.	30	..	25	30	12. 0
8	29·969	38·7	34·7	4·0	..	..	——		N by E	..	NNE	1·00	Pos.	15	..	10	12	10. 0
10	29·945	37·8	35·6	2·2	33·0	4·8	42·0	0·01	N	..	..	..	Pos.	10	..	8	10	10. 0
12	29·925	37·3	36·4	0·9	..	..	27·0		N	..	..	..	Pos.	10	..	8	10	5. 0
14	..	..	..	..	..	..	——	2·615	N	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	38·0		N	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	38·0	..	N	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	N	..	..	..	..	..	..	..	..	..
22	29·853	40·7	39·0	1·7	..	..	..	..	N	..	NNW	1·75	Pos.	2	..	..	..	..
Mar. 7. 0	..	..	..	..	..	..	..	..	NE	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	N	0 to 2	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	NNE	0 to 2	..	..	..	..	..	..	..	..

MAXIMUM FREE THERMOMETER.

March 3d. 22h. The reading was lower than those of the Dry Thermometer at 0h, 2h, and 4h.

March 5d. 22h. The reading was registered 37°·4, which is evidently wrong; the inferred reading is 42°·4, which is used in subsequent calculations.

ELECTRICITY.

March 3d. 10h, 12h, 18h, 20h, and 22h. There were sparks at the distances of 0in·01, 0in·02, 0in·03, 0in·02, and 0in·02 respectively.

March 4d. 0h, 4h, 6h, 8h, and 10h. There were sparks at the distances of 0in·02, 0in·03, 0in·03, 0in·02, and 0in·03, respectively.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
6	..	Cirro-stratus and fleecy clouds, principally around the horizon.	G H
3	..	Small patches of cirro-stratus are scattered about the sky.	
$\frac{1}{2}$	..	Cirro-stratus in the W., near the horizon.	
0	..	Cloudless, but hazy: a small but well-defined corona around the Moon.	G H
0	..	,,	T D
10	Transit	Overcast: cirro-stratus and scud: the Moon is indistinctly visible through the clouds.	
10	..	,, ,,	
10	..	,, ,,	
10	..	Cirro-stratus, scud, and light clouds.	T D
10	..	Overcast: cirro-stratus and scud.	H B
10	..	Overcast: cirro-stratus and scud: the clouds were extensively broken at $22^h.40^m$, but the sky shortly afterwards [became covered.	
10	..	,, ,,	H B
10	..	,, ,,	T D
10	..	,, ,, about $4^h.20^m$ a shower of rain fell, and rain has been falling at intervals since	
10	..	,, ,, [that time.	
10	..	,, ,,	T D
10	..	,, ,,	H B
10	Transit	,, ,,	
10	..	,, ,,	
10	..	,, ,, occasional drops of rain.	
10	..	,, ,, misty rain has been falling since 18^h.	H B
10	..	,, ,, slight rain is falling.	L
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	L
10	..	,, ,,	H B
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	H B
10	..	,, ,,	L
10	..	,, ,,	
10	Transit	,, ,,	
10	..	,, ,,	
10	..	,, ,,	L
10	..	,, ,,	G H
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	
10	..	,, ,,	G H
10	..	,, ,,	L
10	..	,, ,,	
10	..	,, ,, a few drops of fine rain are falling.	
10	..	,, ,,	L
..	..		
..	Transit		
..	..		
..	..		
10	..	,, ,, ,, the sky was overcast, with cirro-stratus and [scud throughout the day.	G H
..	..		
..	..		
..	..		

HENLEY'S ELECTROMETER.
March $3^d.22^h$. The reading was 2°.
March $4^d.0^h$. The reading was 1°.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. / of Rad. Therm. / of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1, (Osler's). / Reading of No. 2. / Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of: Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Mar. 7. 6	..	..	..	..	..	..	41·6	..	NE	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	34·2	..	N by E	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	—	0·61	NNE	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	50·5	—	N	..	..	..	..	..	..	..	..	..
14	30·021	35·0	34·3	0·7	..	..	26·5	0·00	N	..	..	..	Pos.	20	40	20	30	..
16	30·001	35·3	35·2	0·1	35·0	0·3	—	—	N	..	..	..	Pos.	10	20	15	..	..
18	30·007	36·6	36·2	0·4	..	..	38·2	2·630	N	..	..	..	Pos.	10	..	10	20	..
20	30·015	38·4	37·7	0·7	..	..	38·2	..	N	..	..	..	Pos.	1	..	..	..	..
22	30·018	41·6	39·2	2·4	37·0	4·6		..	N	..	NNE	2·92	Pos.	30	..	20	30	3. 0
Mar. 8. 0	30·018	45·5	41·5	4·0	..	..	..	..	N	..	..	..	Pos.	12	..	10	12	5. 0
2	29·989	47·5	42·5	5·0	..	..	..	..	N	0 to 1	..	..	Pos.	15	..	10	12	7. 0
4	29·982	45·8	41·9	3·9	38·0	7·8	48·8	..	N	..	..	..	Pos.	4	8	5	..	..
6	29·971	45·0	41·6	3·4	..	..	34·3	0·61	NNW	..	..	..	Pos.	3	5	5	..	..
8	29·976	44·1	40·8	3·3	..	..	—	—	N	..	..	..	Pos.	10	12	10	..	..
10	29·945	43·2	40·3	2·9	37·0	6·2	67·0	0·00	N	..	..	..	Pos.	10	..	20	30	..
12	29·918	41·5	39·7	1·8	..	..	27·3	—	WSW	..	..	..	Pos.	2	..	..	..	..
14	29·882	40·0	38·1	1·9	..	..	—	2·640	W	..	..	..	Pos.	10	..	10	12	10. 0
16	29·860	39·0	37·6	1·4	36·0	3·0	38·8	—	W	..	..	..	Pos.	..	10	..	..	15. 0
18	29·859	38·5	35·6	2·9	..	..	38·8	..	N by W	0 to $2\frac{1}{2}$	..	..	..	..	0	0	0	..
20	29·884	36·9	33·6	3·3	..	..	..	..	NNW	..	..	..	Pos.	..	12	..	..	10. 0
22	29·886	39·5	33·9	5·6	26·0	13·5	..	..	NNW	1 to $3\frac{1}{2}$	WNW	2·78	Pos.	8	..	..	..	..
Mar. 9. 0	29·900	40·0	34·6	5·4	..	..	..	..	N	2 to 3	..	..	..	..	0	0	0	..
2	29·908	38·8	33·8	5·0	..	..	..	..	N	1 to 2	..	..	..	..	0	0	0	..
4	29·911	40·2	34·5	5·7	26·0	14·2	..	..	N	$\frac{1}{2}$ to 1	..	..	..	..	0	0	0	..
6	29·926	35·2	32·6	2·6	..	..	27·0	0·61	N by E	..	..	..	Pos.	2	..	..	..	..
8	29·929	30·8	29·1	1·7	..	..	—	—	NNE	..	..	..	Pos.	2	..	..	..	..
10	29·919	30·6	29·2	1·4	26·0	4·6	55·2	0·00	WSW	..	..	..	Pos.	2	..	..	..	..
12	29·910	29·9	29·1	0·8	..	..	19·0	—	W	..	..	..	..	..	0	0	0	..
14	29·882	29·4	28·7	0·7	..	..	—	2·640	N	..	..	..	..	..	0	0	0	..
16	29·861	29·0	28·4	0·6	27·0	2·0	39·0	—	NNW	..	..	..	..	..	0	0	0	..
18	29·843	28·2	27·7	0·5	..	..	39·0	..	NNW	..	..	..	..	..	0	0	0	..
20	29·837	29·5	29·1	0·4	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
22	29·821	30·6	29·9	0·7	27·0	3·6	..	..	SW	..	WNW	2·05	Pos.	20	85	30	40	5. 0
Mar. 10. 0	29·826	35·5	32·1	3·4	..	..	..	..	NNE	..	..	..	Pos.	15	80	30	40	15. 0
2	29·825	38·0	33·2	4·8	..	..	..	..	NNE	..	..	..	Pos.	12	..	30	40	..
4	29·850	34·5	32·1	2·4	29·0	5·5	~~44·0~~	..	ESE	..	..	..	..	..	0	0	0	..
6	29·901	31·0	29·9	1·1	..	..	16·9	0·61	ENE	..	..	..	Pos.	..	..	10	12	..
8	29·957	27·8	27·1	0·7	..	..	—	—	NE	..	..	..	Pos.	..	..	15	20	5. 0
10	30·007	24·7	23·1	1·6	15·0	9·7	53·5	0·00	NE	..	..	..	Pos.	..	..	20	20	..
12	30·046	23·8	23·1	0·7	..	..	3·5	—	ENE	..	..	..	Pos.	..	90	40	50	..
14	30·077	23·0	22·4	0·6	..	..	—	2·640	ENE	..	..	..	Pos.	..	80	20	30	..
16	30·101	21·5	20·4	1·1	15·0	6·5	39·0	..	ENE	..	..	..	Pos.	..	10	8	..	..
18	30·134	19·5	18·3	1·2	..	..	38·5	..	ENE	..	..	..	..	..	0	0	0	..
20	30·154	18·7	18·1	0·6	..	..	..	..	ENE	..	..	..	..	..	0	0	0	..
22	30·077	28·0	24·8	3·2	8·0	20·0	..	..	SSW	..	NE	1·00	Pos.	30	..	50	70	..
Mar. 11. 0	30·185	31·4	27·1	4·3	..	..	..	..	SSW	..	..	..	Pos.	10	..	10	12	5. 0
2	30·161	34·5	30·3	4·2	15·0	19·5	..	..	SW	..	..	..	Pos.	2	..	..	..	..
4	30·136	35·2	32·2	3·0	14·5	20·7	..	..	WSW	..	..	..	..	..	0	0	0	..

BAROMETER.

March 11d. 0h. The reading had increased 0in·108 since the previous observation.

MAXIMUM FREE THERMOMETER.

March 9d. The instrument was out of order.

Amount of Clouds. 0—10.	Phases of the Moon.	REMARKS.	Observer.
,,	..		
..	..		
..	..		
..	..		
10	..	Overcast: cirro-stratus and scud: rain is falling: the electricity has suddenly become negative.	G H
1	..	Thin cirro-stratus towards the S.W. part of the horizon; the rest of the sky clear: the rain ceased soon after the last	
10	Transit	Overcast, with very thin cirro-stratus. [observation.	
10	..	Overcast: cirro-stratus and scud: a slight rain is falling.	G H
10	..	,, ,, a few small patches of blue sky E. of the zenith: thin rain is occasionally falling.	T D
10	..	Cirro-stratus and scud: a few small breaks in the S. horizon: the Sun has been occasionally visible since the last	
9	..	Cirro-stratus and scud slightly broken S. of the zenith. [observation.	T D
10	..	Overcast: cirro-stratus and scud.	G H
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,, very dark: rain fell shortly after the last observation.	G H
10	..	,, cirro-stratus: a thin rain is falling.	T D
10	..	,, ,, the rain has ceased.	
10	..	,, ,,	
10	Transit	,, ,. there have been frequent gusts of wind since the last observation.	
7	..	,, cirro-stratus and scud extending all around the horizon: detached portions of cirri in the zenith.	T D
10	..	,, cirro-stratus and scud: the wind is blowing in gusts.	L
10	..	Overcast: cirro-stratus and scud: a few small breaks, but to no numerical extent.	
10	..	,, ,,	L
9	..	,, ,, snow is falling.	T D
4	..	Cirro-stratus and light scud, chiefly in the horizon.	
4	..	Cirro-stratus and haze all around the horizon: the stars in every direction look dim.	
7	..	Cirro-stratus and haze: the stars visible in and near the zenith are rendered indistinct by vapour.	T D
10	..	Overcast: cirro-stratus and scud: a few flakes of snow are falling.	L
10	..	,, ,, ,,	
10	..	,, ,, the snow ceased soon after the last observation.	
10	Transit 3rd Quarter	The sky is covered with a thin cirro-stratus, through which some of the larger stars are visible.	
10	..	Thin cirro-stratus, fleecy clouds, and badly-formed cirri cover the sky.	L
10	..	Overcast: cirro-stratus and scud, through which the Sun is occasionally visible.	G H
10	..	Overcast: stratus and scud.	
10	..	Overcast, with very thin stratus and masses of scud in various directions.	G H
5	Greatest declination S.	Cumulo-strati near the S. horizon: cirro-stratus and light scud in various directions: the sky is clear principally about the zenith, and in the N. snow was falling heavily at about $3^h.\ 10^m$.	L
7	..	Cirro-stratus and light clouds: small breaks in various directions: snow has been falling at intervals since the last	
1	..	A few loose clouds about the N. and W.; the other part of the sky is clear. [observation.	
0	..	Cloudless.	L
$\frac{1}{10}$	..	Clear, with the exception of some small patches of scud towards the E. and S. E.	G H
1	..	A few patches of scud towards the S.; otherwise the sky is cloudless.	
$\frac{1}{10}$	..	A few patches of scud towards the S., and near the Moon's place.	
0	..	Cloudless.	
0	Transit	,,	G H
0	..	,,	T D
4	..	Cirro-strati, cumulo-strati, and scud are scattered in every direction.	
2	..	Detached portions of cirri chiefly N. of the zenith.	T D
1	..	Small portions of light cumuli are scattered over the W.	G H

ELECTRICITY.

March $10^d.\ 22^h$. There was a spark at the distance of $0^{in}.02$.

RAIN.

March 11^d. The increase in the rain-gauges Nos. 2 and 3 was from the melting of snow.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	Max. and Min. as read at 22h. of Rad. Therm.	Max. and Min. as read at 22h. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's).	RAIN GAUGES. Reading of No. 2.	RAIN GAUGES. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	From Osler's Anemometer. Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	From Whewell's Anemometer. Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Readings of Double Gold Leaf.	Readings of Straws of Volta 1.	Readings of Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°			in.				from lbs. to lbs.		in.		°	°	div.	div.	m s
Mar. 11. 6	30·115	32·3	28·6	3·7	..	..	..			..			SSW	..	..	..	Pos.	2	3	..	..	..
8	30·094	28·6	26·2	2·4	..	..	38·1			..			SSW	..	..	..	Pos.	5	8	6	..	..
10	30·064	29·4	26·5	2·9	19·0	10·4	24·8			0·61			SW	..	..	..	Pos.	8	12	10	..	..
12	30·013	31·0	28·3	2·7	..	..	———						SW	0 to ½	..	..	Pos.	2	..	..	..	..
14	29·942	32·5	32·1	0·4	..	..	53·5			0·03			WSW	2 to 3	..	..	Pos.	40	..	70	100	2. 0
16	29·908	33·0	32·4	0·6	31·0	2·0	21·0						WSW	1 to 2	..	..	Pos.	40	..	80	100	2. 30
18	29·896	33·8	33·3	0·5	..	..	———			2·740			WSW	..	..	..	Pos.	2	..	..	..	..
20	29·921	34·0	33·5	0·5	..	..	38·5						WSW	..	..	..	..	..	0	0	0	..
22	29·949	38·7	35·5	3·2	31·0	7·7	38·2			..			N	..	SW	5·40	..	..	0	0	0	..
Mar. 12. 0	29·984	43·6	38·9	4·7	..	..	..			..			N by W	0 to ½	..	..	..	..	0	0	0	..
2	30·009	45·7	39·0	6·7	..	..	..			..			N by W	0 to ½	..	..	..	..	0	0	0	..
4	30·030	45·8	38·2	7·6	29·0	16·8	45·9			..			NNW	..	..	..	Pos.	2	..	..	..	..
6	30·063	42·0	36·6	5·4	..	..	31·9			0·61			N	..	..	..	..	..	0	0	0	..
8	30·091	36·0	32·3	3·7	..	..	———						N	..	N	1·10	Pos.	15	..	20	20	7. 0
10	30·118	33·6	31·3	2·3	27·0	6·6	66·4			0·00			E	..	..	..	Pos.	2	..	..	..	..
12	30·125	35·0	32·1	2·9	..	..	22·0						S	..	..	..	..	..	0	0	0	..
14	30·119	34·5	32·1	2·4	..	..	———			2·745.			SSW	..	..	..	..	..	0	0	0	..
16	30·118	34·7	32·4	2·3	28·0	6·7	38·0						WSW	..	..	..	..	..	0	0	0	..
18	30·111	33·5	31·9	1·6	..	..	38·0			..			SW	..	..	..	..	..	0	0	0	..
20	30·144	32·3	31·3	1·0	..	..	..			..			WSW	..	..	..	Pos.	10	..	8	10	7. 0
22	30·162	37·8	35·1	2·7	30·5	7·3	..			..			WSW	..	W	2·07	Pos.	20	..	50	70	..
Mar. 13. 0	30·160	43·7	38·3	5·4	..	..	..			..			W	..	..	..	..	..	0	0	0	..
2	30·155	45·3	39·3	6·0	..	..	..			..			W by S	..	..	..	..	..	0	0	0	..
4	30·146	45·8	39·7	6·1	34·0	11·8	45·4			..			W	..	..	..	..	..	0	0	0	..
6	30·161	45·0	40·4	4·6	..	..	35·8			0·61			WSW	..	..	..	..	..	0	0	0	..
8	30·194	43·0	39·9	3·1	..	..	———						WSW	..	..	..	..	..	0	0	0	..
10	30·200	42·0	39·7	2·3	35·0	7·0	58·5			0·00			WSW	..	..	..	..	..	0	0	0	..
12	30·231	41·6	38·7	2·9	..	..	27·0						WSW	..	..	..	..	..	0	0	0	..
14	..	..	..	..	..	..	———			2·745			SW	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	38·5						SW	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	38·5			..			SW	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..			..			SSW	..	..	..	..	..	..	..	..	..
22	30·261	45·7	40·2	5·5	..	..	..			..			WSW	..	SW	3·42	..	..	0	0	0	..
Mar. 14. 0	..	..	..	..	..	..	..			..			SSW	..	..	..	..	..	..	..	..	..
2	30·213	49·5	42·0	7·5	..	..	..			..			S by W	0 to 1½	..	..	..	..	0	0	0	..
4	..	..	..	..	..	..	~~49·1~~			..			S by W	0 to ½	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	32·1			0·61			S by W	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	———						S by W	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	64·0			0·00			S	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	23·5						S	..	..	..	..	..	..	..	..	..
14	30·158	38·2	35·7	2·5	..	..	———			2·745			S by W	..	..	..	Pos.	15	35	8	15	..
16	30·125	36·6	35·0	1·6	32·0	4·6	39·2						SSW	..	..	..	Pos.	15	35	8	15	..
18	30·112	33·7	32·6	1·1	..	..	39·0			..			S	..	..	..	Pos.	20	..	40	50	..
20	30·112	35·6	34·3	1·3	..	..	..			..			S by E	..	..	..	..	..	0	0	0	..
22	30·100	43·5	38·7	4·8	33·0	10·5	..			..			S	..	SSW	3·78	Pos.	2	..	..	..	..
Mar. 15. 0	30·079	50·7	41·7	9·0	..	..	..			..			SSW	0 to ½	..	..	Pos.	..	15	..	..	..
2	30·029	55·0	43·8	11·2	..	..	..			..			SSW	..	..	..	Pos.	..	12	..	..	..
4	29·988	55·0	44·6	10·4	30·8	24·2	..			..			SSW	..	..	..	Pos.	10	10	8	..	..

MAXIMUM FREE THERMOMETER.

March 11d. 22h. The reading was lower than that of the Dry Thermometer at 22h.
March 13d. 22h. The reading was lower than those of the Dry Thermometer at 4h and 22h.
March 14d. 22h. The reading was lower than those of the Dry Thermometer at 2h and 22h.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
5	..	Cirri and scud in all directions.	G H
0	..	Cloudless.	
10	..	Overcast.	G H
10	..	,, cirro-stratus.	T D
10	..	,, ,, snow commenced falling about half an hour previous to this observation.	
10	..	,, ,, snow is falling.	
10	..	,, ,, the snow ceased falling at about $17^h.\ 10^m$.	
5	Transit	Cirro-stratus, light cirri, fleecy clouds, and scud: at $18^h.\ 55^m$ the sky was nearly cloudless, and remained so until $19^h.\ 30^m$, after which time dark clouds came up from every direction, and the sky was covered for a short time.	T D
0	..	A few light clouds towards the N. horizon, but to no numerical extent.	L
3	..	Cloudless N. of the zenith: cirro-stratus and light clouds scattered about the S.	L
6	..	Cirro-cumulus and scud in various directions.	G H
5	..	Cirro-stratus, cumulo-stratus, and scud around the horizon: the zenith is clear.	G H
5	..	Cirro-stratus, cumulo-stratus, and scud.	T D
4	..	Cirro-stratus in the W. and N. W. horizon: hazy.	
10	..	Overcast: cirro-stratus.	T D
10	..	,, cirro-stratus and scud.	L
3	..	Cloudy around the horizon; clear elsewhere.	
10	..	Overcast: cirro-stratus: it became cloudy shortly after the last observation.	
10	..	,, cirro-stratus and scud: a few stars are occasionally visible.	
3	..	Cirro-stratus and light haze around the horizon: a few fleecy and light clouds in the zenith.	L
10	Transit	Overcast: cirro-stratus and scud.	G H
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	G H
10	..	,, cirro-stratus, scud, and fleecy clouds: a few small breaks near the zenith.	L
9	..	Cirro-stratus, scud, and fleecy clouds: small breaks in various directions.	
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	L
10	..	,, ,,	G H
..	..		
..	..		
..	..		
..	..		
0	Transit	Cloudless.	
..	..		
8	..	The sky throughout the day was partly covered with thin cirri.	
..	..		
..	..		
..	..		
..	..		
..	..		
0	..	Cloudless.	
0	..	,,	
0	..	,,	
0	..	,,	G H
2	..	Some light clouds in the N. horizon; every other part of the sky is clear.	T D
0	Transit	Cloudless.	
0	..	,,	T D
0	..	,,	G H

ELECTRICITY.

March $11^d.\ 14^h$ and 16^h. There were sparks at the distance of $0^{in}.03$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	Max. and Min. as read at 22h. of Rad. Therm.	Max. and Min. as read at 22h. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's).	RAIN GAUGES. Reading of No. 2.	RAIN GAUGES. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in lbs. per square foot.	WIND. From Whewell's Anemometer. Direction.	WIND. From Whewell's Anemometer. Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Single Gold Leaf of Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Double Gold Leaf.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 1.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 2.	ELECTRICAL INSTRUMENTS. Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°			in.				from lbs. to lbs.		in.		°	°	div.	div.	m s
Mar. 15. 6	29·965	50·5	42·0	8·5	..	..				..			S	..	..	..	Pos.	4	8	5	..	..
8	29·941	43·9	38·9	5·0	..	..		41·8		0·61			SSE	..	..	..	Pos.	4	7	4	..	..
10	29·921	45·5	40·1	5·4	33·0	12·5							S	..	..	..	Pos.	3	5	..	..	..
12	29·896	46·3	40·9	5·4	..	..		70·5		0·00			SSW	..	..	..	Pos.	2	..	..	..	..
14	29·858	44·6	39·7	4·9	..	..		31·7					SSW	..	..	..	Pos.	2	..	..	..	..
16	29·819	45·0	38·2	6·8	31·5	13·5				2·745			SSW	..	..	..	Pos.	2	..	..	..	..
18	29·795	43·6	38·2	5·4	..	..		40·2					SSW	0 to 2	..	..	Pos.	2	..	..	..	..
20	29·814	42·9	38·6	4·3	..	..		39·2		..			SSW	..	..	..	Pos.	2	..	..	..	..
22	29·792	49·3	42·6	6·7	35·0	14·3				..			SSW	..	S	5·20	Pos.	30	..	25	30	4. 0
Mar. 16. 0	29·791	55·2	46·1	9·1	..	..				..			S	..	..	..	Pos.	20	..	18	20	5. 0
2	29·750	56·7	47·0	9·7	..	..				..			S	½ to 1	..	..	Pos.	20	..	15	20	7. 0
4	29·712	58·3	47·9	10·4	37·0	21·3		57·1		..			S by E	0 to 1	..	..	Pos.	12	..	10	12	10. 0
6	29·707	55·5	45·9	9·6	..	..		43·2		0·61			S by E	1 to 2	..	..	..	..	0	0	0	..
8	29·702	51·0	43·7	7·3	..	..							S by E	1 to 1½	..	..	Pos.	2	..	..	..	..
10	29·689	50·7	44·3	6·4	39·0	11·7		72·1		0·00			S	2½ to 3½	..	..	Pos.	2	..	..	..	..
12	29·677	49·0	43·1	5·9	..	..		35·8					S by W	0 to ½	..	..	..	..	0	0	0	..
14	29·686	47·0	41·8	5·2	..	..				2·745			S by W	0 to ½	..	..	..	..	0	0	0	..
16	29·677	45·8	41·3	4·5	37·0	8·8		41·8					S	0 to 1	..	..	..	..	0	0	0	..
18	29·689	44·5	40·5	4·0	..	..		40·0		..			S	0 to ½	..	..	Pos.	15	..	10	15	4. 0
20	29·708	46·0	40·5	5·5	..	..				..			S by W	..	..	..	Pos.	30	..	20	25	8. 0
22	29·711	52·2	43·0	9·2	32·0	20·2		..		..			S by W	½ to 1½	SSW	6·50	Pos.	15	40	20	..	..
Mar. 17. 0	29·717	57·0	44·9	12·1	..	..		..		..			S by W	..	..	..	Pos.	10	35	15	..	..
2	29·711	60·2	46·9	13·3	..	..		..		..			S by W	..	..	..	Pos.	10	..	10	20	..
4	29·700	61·2	48·4	12·8	33·0	28·2		..		..			S by W	..	..	..	Pos.	20	..	15	15	2. 0
6	29·696	57·4	46·1	11·3	34·0	23·4		..		..			Calm	..	..	..	Pos.	15	..	10	15	5. 0
8	29·710	49·7	42·3	7·4	..	..		..		..			Calm	..	..	..	Pos.	10	..	8	10	3. 0
10	29·730	48·0	41·5	6·5	34·5	13·5				..			Calm	..	..	..	Pos.	40	..	15	20	35. 0
11	29·738	45·7	40·7	5·0	..	..		64·2		..			Calm	..	..	..	...	..	0	0	0	..
12	29·724	45·1	40·7	4·4	..	..		37·8		0·61			Calm	..	..	..	Pos.	40	..	17	20	..
13	29·716	46·6	41·3	5·3	..	..							Calm	..	..	..	Pos.	25	..	10	12	12. 0
14	29·717	43·5	39·0	4·5	..	..		77·3		0·00			Calm	..	..	..	Pos.	30	..	20	20	7. 0
15	29·715	42·4	38·2	4·2	..	..		29·3					Calm	..	..	..	Pos.	12	..	10	12	20. 0
16	29·721	41·2	37·6	3·6	33·0	8·2				2·745			Calm	..	..	..	Pos.	3	5	..	..	..
17	29·725	39·7	37·4	2·3	..	..		42·8					Calm	..	..	..	Pos.	4	8	5	..	..
18	29·726	40·7	37·2	3·5	..	..		41·0		..			Calm	..	..	..	Pos.	10	..	10	20	..
19	29·729	39·4	35·8	3·6	..	..		..		..			Calm	..	..	..	Pos.	20	..	15	20	4. 0
20	29·735	42·3	37·9	4·4	..	..		..		..			S	..	..	..	Pos.	12	..	10	12	6. 0
21	29·740	47·3	40·7	6·6	..	..		..		..			S	..	..	..	Pos.	30	..	30	30	8. 0
22	29·744	51·9	42·0	9·9	32·5	19·4		..		..			SSW	..	..	..	Pos.	40	..	12	20	10. 0
23	29·749	53·7	42·7	11·0	..	..		..		..			SSW	..	SSW	4·69	..	..	..	..	..	..
Mar. 18. 0	29·743	57·7	44·3	13·4	..	..		..		..			SSW	..	..	..	Pos.	40	..	20	20	..
1	29·730	58·5	43·8	14·7	..	..		61·5		..			SSW	..	..	..	..	..	..	..	..	..
2	29·725	60·5	45·1	15·4	..	..		37·2		0·61			SSW	..	..	..	Pos.	20	..	12	15	30. 0
3	29·713	61·2	45·3	15·9	..	..							SSW	..	..	..	Pos.	10	15	10	..	..
4	29·719	59·6	45·1	14·5	32·0	27·6		77·3		0·00			SSW	..	..	..	Pos.	5	10	10	..	..
5	29·720	55·6	43·5	12·1	..	..		28·8					SSW	..	..	..	Pos.	8	20	10	..	..
6	29·721	53·2	42·3	10·9	..	..				2·745			SSW	..	..	..	Pos.	5	..	5	6	..
7	29·728	48·7	40·8	7·9	..	..		43·2					S	..	..	..	..	..	..	..	..	..
8	29·723	46·1	39·2	6·9	..	..		41·2		..			Calm	..	..	..	Pos.	25	..	20	20	8. 0
9	29·739	45·0	37·3	7·7	..	..		..		..			Calm	..	..	..	..	..	..	..	..	..

MAXIMUM FREE THERMOMETER.

March 15d. 22h. The instrument was out of order.

March 16d. 22h. The reading was registered 52° ·1, which is evidently wrong, as several of the readings of the Dry Thermometer were greater than this value. It has been altered conjecturally to 57° ·1, which is still less than the reading of the Dry Thermometer at 4h. The value used in subsequent calculations is 57° ·1.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
0	..	Cloudless.	G H
0	..	,,	
0	..	,,	G H
0	..	,,	T D
0	..	,,	
0	..	,,	
0	..	,,	
0	..	,,	T D
0	..	,,	L
2	Transit Perigee	Cirri and light clouds in various directions.	
3	..	Reticulated cirri about the zenith: light clouds in various directions.	L
3	..	,, ,,	T D
2	..	A few light clouds are scattered in various directions.	
2	In Equator	Cirro-stratus low in the horizon; every other part of the sky is clear.	
0	New	Cloudless.	T D
0	..	,,	L
0	..	,,	
0	..	,,	
1	..	A bank of cirro-stratus along the N. and W. horizon; clear elsewhere.	
1	..	A bank of cirro-stratus: a few light clouds in the zenith.	L
0	..	Cloudless.	G H
0	..	Cloudless.	
0	Transit	,,	G H
0	..	,,	L
0	..	A few light clouds, but to no numerical extent.	
0	..	Cloudless.	L
0	..	,,	G
0	..	,,	
0	..	,,	G
0	..	,,	T D
0	..	,,	
0	..	,,	T D
0	..	,,	G H
0	..	,,	
0	..	,,	
0	..	,,	G H
0	..	,,	L
0	..	,,	L
0	..	,,	G
0	..	,,	
0	..	Cloudless.	
0	..	,,	G
0	Transit	,,	T D
0	..	,,	
0	..	,,	
0	..	,,	
0	..	,,	
0	..	,,	
0	..	,,	T D
0	..	,, a splendid night; the Moon, Venus, and Mars have been shining with great brilliancy.	G

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Mar.18. 10	29·721	43·0	37·2	5·8	30·3	12·7	..	..	Calm	..	..	..	..	..	0	0	0	..
12	29·711	40·5	35·4	5·1	..	..	..	..	Calm	..	..	..	Pos.	3	5	..	..	..
14	29·688	42·4	37·7	4·7	..	..	..	..	Calm	..	..	..	Pos.	2	..	..	..	..
16	29·677	42·2	37·7	4·5	32·0	10·2	..	..	S	..	..	..	Pos.	2	..	..	..	..
18	29·649	39·9	35·8	4·1	..	..	..	..	S	..	..	..	Pos.	2	..	..	..	..
20	29·632	41·4	37·4	4·0	..	..	..	..	SSE	..	..	..	Pos.	20	..	20	40	..
22	29·601	50·7	43·8	6·9	35·0	15·7	..	..	SSE	..	SSW	1·26	Pos.	2	..	..	..	..
Mar.19. 0	29·579	56·6	44·8	11·8	..	..	..	..	S	1 to 2	..	..	Pos.	..	12	..	..	..
2	29·525	56·2	45·6	10·6	..	..	..	..	S	1 to 2	..	..	Pos.	2	..	..	..	..
4	29·474	57·0	44·3	12·7	..	..	..	..	S	2 to 3½	..	..	..	..	0	0	0	..
6	29·441	55·6	43·8	11·8	..	..	..	..	S	1 to 1½	..	..	..	..	0	0	0	..
8	29·415	51·4	41·8	9·6	..	..	45·6	0·61	S	..	..	..	Pos.	2	..	..	..	..
10	29·390	47·5	40·5	7·0	33·0	14·5	71·7		S	..	..	..	Pos.	20	..	40	50	..
12	29·379	47·9	41·8	6·1	..	..	38·0	0·00	SSW	..	..	..	Pos.	2	..	..	..	..
14	29·362	48·0	44·8	3·2	..	..	44·5	2·745	SSW	½ to 3	..	..	..	..	0	0	0	..
16	29·357	47·5	45·2	2·3	42·5	5·0	42·5	..	SW	0 to ½	..	..	..	..	0	0	0	..
18	29·373	47·5	45·6	1·9	..	..		..	SSW	..	..	..	..	..	0	0	0	..
20	29·390	47·5	45·7	1·8	..	..	..	..	SSW	..	..	..	Pos.	15	..	10	12	12. 0
22	29·425	48·7	46·7	2·0	45·0	3·7	..	..	SW	..	SSW	6·15	Pos.	25	..	..	..	..
Mar.20. 0	29·437	51·6	48·6	3·0	..	..	..	..	SSW	0 to ½	..	..	Pos.	20	..	15	20	..
2	29·433	57·0	49·2	7·8	..	..	..	..	SSW	1 to 1½	..	..	Pos.	20	..	15	20	..
4	29·452	54·9	47·0	7·9	39·0	15·9	56·7	..	SSW	1 to 3	..	..	Pos.	30	..	20	30	4. 0
6	29·442	51·6	45·8	5·8	..	..	44·1	0·61	S by W	..	..	..	Pos.	30	..	20	25	12. 0
8	29·420	49·0	44·3	4·7	..	..			S by E	..	..	..	Pos.	2	..	..	..	..
10	29·408	46·0	42·9	3·1	40·8	5·2	71·0		SSE	..	..	..	Pos.	2	..	..	..	..
12	29·391	46·0	42·5	3·5	..	..	36·2	0·00	SSE	..	..	..	Pos.	2	..	..	..	..
14	..	..	..	..	..	..			SSE	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	45·0	2·745	S	0 to ½	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	43·2	..	S	..	..	..	..	..	..	..	..	..
20	29·407	49·5	45·7	3·8	..	..	..	..	S	..	..	..	Pos.	20	..	20	30	10. 0
22	29·428	50·7	45·9	4·8	..	..	..	..	S by W	0 to 1	SW	5·52	Pos.	12	..	12	15	12. 0
Mar.21. 0	..	..	..	..	..	..	..	..	S by W	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	S by W	..	..	..	..	..	..	..	..	..
4	29·464	57·5	50·8	6·7	..	..	..	..	S by W	..	SSW	1·38	Pos.	..	..	20	20	..
6	..	..	..	..	..	..	58·2	..	S	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	31·3	..	S by E	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..		0·61	S by E	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	70·5		S by E	..	..	..	..	..	..	..	..	..
14	29·550	35·3	33·8	1·5	..	..	25·0	0·00	S by E	..	..	..	..	..	0	0	0	..
16	29·548	34·7	33·4	1·3	31·0	3·7			S by E	..	..	..	..	..	0	0	0	..
18	29·570	32·5	32·3	0·2	..	..	45·0	2·745	S by E	..	..	..	..	..	0	0	0	..
19	29·584	33·0	32·7	0·3	..	..	44·0	..	SSE	..	..	..	..	..	0	0	0	..
20	29·599	35·5	35·4	0·1	..	..		..	SE	..	..	..	..	..	0	0	0	..
21	29·599	41·3	40·9	0·4	..	..	..	..	SE	..	..	..	..	..	..	..	..	..
22	29·613	47·0	45·0	2·0	42·0	5·0	..	..	SE	..	E	0·20	Pos.	10	..	10	20	..
23	29·625	50·4	49·4	1·0	..	..	..	..	NE	..	..	..	..	..	..	..	..	..
Mar.22. 0	29·628	57·6	50·3	7·3	..	..	..	..	NE	..	..	..	Pos.	10	30	10	..	..
1	29·651	57·6	48·9	8·7	..	..	..	..	ENE	..	..	..	..	..	..	..	..	..

DEW POINT THERMOMETER.

March 19d. 4h The observation was inadvertently omitted.

MAXIMUM FREE THERMOMETER.

March 19d. The instrument was out of order.

March 20d. 22h. The reading was lower than that of the Dry Thermometer at 2h.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
0	..	Cloudless.	G
0	..	,,	G H
0	..	,,	
0	..	,,	
0	..	,,	
0	..	,,	G H
0	..	,,	T D
0	..	Cloudless.	
0	..	,,	T D
0	Transit	,,	G H
0	..	,,	
2	..	A heavy bank of cloud with a few light cirri towards the S. and W. parts of the horizon. [to beyond the zenith.	
4	..	Clouds generally about the horizon: clear about the zenith: a stream of white light from the S.W. part of the horizon	G H
5	..	Cirro-stratus extending from the S. and S.W. horizon to the zenith: in the N. a bank of cirro-stratus is also exhibited, but at a low elevation.	T D
10	..	Overcast: cirro-stratus and scud: a thin misty rain is falling: the wind is blowing in gusts to 2.	
10	..	,, ,, the rain has ceased, and the wind has abated considerably.	
10	..	,, ,,	
10	..	,, ,,	T D
10	..	,, ,, fine rain has been falling since the last observation.	L
10	..	Overcast: cirro-stratus and scud. [and about the Sun's place.	
5	..	The greater part of the sky N. of the zenith is covered with cirro-stratus and detached cumuli: clear mostly in the S.	L
7	Transit	Cirro-stratus, cumulo-stratus, and scud scattered in every direction.	T D
7	..	Cirro-stratus, scud, and light clouds in every direction.	
7	..	A thin cirro-stratus. A faint corona is visible around the Moon. [N. N. E. to S.	
6	..	Long lines of strati in the W. obscuring the Moon: a bank of cirro-stratus extending around the horizon from the	T D
9	..	Clear in the W. horizon; cloudy elsewhere.	L
..	..		
..	..		
..	..		
7	..	Cirro-stratus, cumulo-stratus, and scud scattered in every direction.	T D
8	..	,, ,,	T D
..	..		
..	..		
5	..	Cirri, loose cumuli, and thin scud are scattered over the sky: a very fine day, followed by a very clear bright night.	G
..	Transit		
..	..		
..	..		
..	..		
0	..	Cloudless.	L
1	..	A few light clouds in the E.	
0	..	Cloudless: foggy: hoar frost.	
0	..	,, ,, ,,	
0	..	,, ,, ,,	
0	..	,, ,, ,,	L
2	..	A small bank of light cloud in the S.	G H
5	..	Cirri, and light fleecy clouds in various directions.	
8	..	Light fleecy clouds and scud in various directions: several breaks near the zenith.	
10	..	Overcast: cirro-stratus and scud.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Mar. 22. 2	29·653	57·0	49·9	7·1	..	..	..	..	NE	..	..	..	Pos.	8	20	10	..	..
3	29·660	58·0	50·4	7·6	..	..	..	..	NE	..	..	..	..	..	..	..	..	..
4	29·667	55·5	49·9	5·6	44·0	11·5	..	..	E by S	..	..	..	Pos.	20	..	20	20	3. 0
5	29·674	52·4	48·0	4·4	..	..	..	..	E by S	..	..	..	..	..	..	..	..	..
6	29·686	50·7	47·1	3·6	..	..	..	..	E by S	..	..	..	Pos.	15	..	15	20	..
7	29·702	48·4	45·9	2·5	..	..	..	..	E by S	..	..	..	..	..	..	..	..	..
8	29·711	47·5	45·4	2·1	..	..	..	..	E by S	..	..	..	Pos.	15	..	12	15	..
9	29·718	46·3	44·4	1·9	..	..	60·4	..	E by S	..	..	..	..	..	..	..	..	..
10	29·718	46·0	44·3	1·7	42·0	4·0	38·0	0·61	E by S	..	..	..	Pos.	12	..	10	10	..
12	29·721	45·5	43·9	1·6	..	..			E by S	..	..	..	..	..	0	0	0	..
13	29·722	44·5	43·5	1·0	..	..	77·7	0·00	E by S	..	..	..	..	..	..	..	..	..
14	29·723	44·2	43·1	1·1	..	..	30·6		E by S	..	..	..	..	..	0	0	0	..
15	29·718	44·2	42·9	1·3	..	..		2·750	SSW	..	..	..	..	..	..	..	..	..
16	29·700	43·0	42·2	0·8	41·5	1·5	46·2	..	S by W	..	..	..	Pos.	6	12	10	..	..
17	29·697	40·8	40·2	0·6	..	..	45·2	..	S by W	..	..	..	..	..	..	..	..	..
18	29·693	39·0	38·9	0·1	..	..	..	..	SSW	..	..	..	Pos.	2	..	..	..	..
19	29·706	39·2	38·8	0·4	..	..	..	..	SSW	..	..	..	..	..	..	..	..	..
20	29·707	40·3	39·7	0·6	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
21	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
22	29·694	49·4	45·4	4·0	42·0	7·4	..	..	SW	..	..	..	Pos.	..	10	..	..	..
23	29·690	52·5	46·4	6·1	..	..	..	..	SW	..	SW	0·77	..	..	..	..	..	..
Mar. 23. 0	29·688	54·0	44·1	9·9	..	..	..	..	SW	1 to 2	..	..	Pos.	..	12	..	..	..
1	29·684	52·8	43·3	9·5	..	..	..	..	SSW	½ to 1	..	..	..	..	..	..	..	..
2	29·664	51·5	43·3	8·2	..	..	..	..	SSW	1 to 2½	..	..	Pos.	..	10	..	..	..
3	29·638	54·1	45·8	8·3	..	..	..	..	SSW	1 to 2½	..	..	..	..	..	..	..	..
4	29·618	50·5	44·8	5·7	40·0	10·5	55·7	..	SSW	1½ to 3	SSW	3·63	Pos.	4	8	6	..	..
5	29·616	48·5	43·9	4·6	..	..	37·0	0·61	SSW	1 to 2½	..	..	..	..	..	..	..	..
6	29·604	45·6	44·0	1·6	..	..			S by W	1 to 1½	..	..	..	..	0	0	0	..
8	29·605	44·7	43·5	1·2	..	..	72·0	0·00	SSW	0 to ½	..	..	Pos.	10	15	10	..	..
10	29·620	41·6	41·0	0·6	40·5	1·1	30·8		SSW	..	..	..	Pos.	3	8	5	..	..
12	29·619	40·0	39·7	0·3	..	..		2·775	SSW	..	..	..	Pos.	2	..	..	..	..
14	..	..	..	..	..	..	46·8	..	SSW	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	46·0	..	SSW	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..
22	29·691	47·0	42·8	4·2	..	..	..	..	WSW	..	WSW	1·60	Pos.	20	..	15	20	..
Mar. 24. 0	29·695	47·7	42·5	5·2	..	..	..	..	WSW	..	..	..	Pos.	2	..	..	..	..
2	..	..	..	..	..	..	..	..	WSW	0 to ½	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	W by S	0 to ½	..	..	..	..	..	..	..	..
6	29·746	48·0	42·5	5·5	..	..	54·2	..	W by S	..	..	..	Pos.	10	..	8	10	..
8	..	..	..	..	..	..	30·8	0·61	WSW	..	..	..	..	..	..	..	..	..
10	29·797	40·6	38·3	2·3	35·5	5·1			SW	..	..	..	Pos.	40	..	20	20	..
11	29·811	40·1	37·8	2·3	..	..	64·0	0·00	SW	..	..	..	Pos.	40	..	20	20	35. 0
12	29·817	39·0	37·2	1·8	..	..	23·3		SW	..	..	..	Pos.	40	..	18	20	30. 0
13	29·822	38·7	37·2	1·5	..	..		2·775	SW	..	..	..	Pos.	10	..	8	15	..
14	29·850	37·7	35·5	2·2	..	..	46·5	..	SW	..	..	..	Pos.	12	20	15	..	..
15	29·848	36·2	35·7	0·5	..	..	46·0	..	SW	..	..	..	Pos.	15	..	20	30	..
16	29·857	33·3	32·8	0·5	32·0	1·3	..	..	SW	..	..	..	Pos.	10	..	10	12	20. 0
17	29·871	32·4	32·1	0·3	..	..	..	..	SSW	..	..	..	..	..	..	..	..	..
18	29·883	31·8	31·5	0·3	..	..	..	..	SSW	..	..	..	Pos.	20	..	15	20	..

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
9	..	Cirro-stratus and scud: breaks towards the S. E.	G H
10	..	Overcast: cirro-stratus and broken scud.	G H
10	..	Cirro-strati, cumulo-strati, and scud: several breaks near the zenith, but to no numerical extent.	L
10	..	Overcast: cirro-stratus and scud.	
7	Transit	Cirro-stratus and scud: breaks about the zenith.	
10	..	Overcast: thin cirro-stratus and scud: the Moon's place is visible.	
10	..	Thin cirro-stratus covers the sky, through which the Moon and a few stars are visible.	
9	..	The sky is covered with a thin cirro-stratus.	
10	..	Overcast: cirro-stratus and scud.	L
10	..	,, ,,	G H
10	..	,, ,,	
10	..	,, ,,	
4	..	Cirro-stratus and scud: clear about the zenith.	
5	Greatest declination N.	,, ,,	
1	..	A heavy bank of cloud towards the S. E. portion of the horizon; the rest of the sky is clear.	
1	..	A heavy bank of cloud towards the S. E. portion of the horizon, with a few lines of cirri above it.	
$\frac{1}{4}$	..	A few lines of strati about the horizon: the atmosphere hazy.	
1	..	A bank of cumulo-stratus in the S.W. horizon: a few detached cirri about the zenith.	G H
..	..		
0	..	Cloudless.	T D
0	..	A few light clouds in the W., but to no numerical amount.	
5	..	Thin cirro-strati are distributed in large detached portions, but of so thin a character that blue sky is visible.	
9	..	Cirro-stratus and scud, which have gradually accumulated since the last observation.	
10	..	Cirro-stratus and scud: the Sun's place is visible.	T D
7	..	Cirro-strati, cumulo-strati, and scud: breaks towards the N. and W.	G H
10	..	Overcast: cirro-stratus and heavy scud. [S.W. and lasted about 15^m.	
10	..	,, ,, about ten minutes after the last observation a squall of rain came up from the	
10	Transit 1st Quarter	,, cirro-stratus and scud: rain has just commenced falling.	
3	..	Light fleecy clouds about the zenith, with cirro-stratus and scud around the horizon: the rain ceased at about 30^m after	
0	..	Cloudless. [the last observation.	G H
0	..	,,	T D
..	..		
..	..		
..	..		
..	..		
10	..	Overcast: cirro-strati, cumulo-strati, and scud.	G
10	..	Overcast: cirro-strati, cumulo-strati, and scud.	
..	..		
..	..		
3	..	Cloudy around the horizon: light clouds here and there.	
..	Transit		
0	..	Cloudless.	
0	..	,,	
0	..	,,	
0	..	,,	G
0	..	,,	G H
0	..	,,	G H
0	..	,,	L
0	..	,,	
0	..	,, hoar frost.	L

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Mar. 24. 19	29·886	31·9	31·6	0·3	..	..	..	..	SSW	..	..	..	..	..	..	..	..	..
20	29·893	33·5	33·1	0·4	..	..	..	..	SSW	..	..	..	Pos.	25	..	20	25	6. 0
21	29·895	41·8	39·4	2·4	..	..	..	..	SSW	..	..	..	..	..	..	..	..	..
22	29·911	42·2	39·8	2·4	36·7	5·5	..	..	SE	..	W	1·70	Pos.	25	..	20	25	..
23	29·906	53·0	47·4	5·6	..	..	..	..	SE	..	..	..	..	..	..	..	..	..
Mar. 25. 0	29·908	55·5	48·0	7·5	..	..	..	..	SSE	..	..	..	Pos.	40	40	10	10	..
1	29·894	57·0	47·4	9·6	..	..	..	..	SSE	..	..	..	..	..	..	..	..	..
2	29·888	58·8	49·0	9·8	..	..	..	..	S	..	..	..	Pos.	10	15	10	..	..
3	29·879	59·0	48·8	10·2	..	..	..	..	SE	..	..	..	Pos.	2	..	..	..	..
4	29·876	54·5	47·7	6·8	40·0	14·5	..	..	E	..	..	..	Pos.	2	..	..	..	..
5	29·868	51·8	46·4	5·4	..	..	60·2	..	E by N	..	..	..	..	..	..	..	..	..
6	29·877	50·5	45·8	4·7	..	..	39·6	..	E by N	..	..	..	Pos.	2	..	..	..	..
7	29·884	47·2	43·7	3·5	..	..		0·61	E by N	..	..	..	Pos.	5	10	8	..	..
8	29·901	43·2	41·2	2·0	..	..	80·0		E by N	..	..	..	Pos.	10	..	10	20	..
9	29·925	41·2	39·7	1·5	..	..	33·0	0·00	E by N	..	..	..	..	..	..	..	..	..
10	29·914	42·3	39·3	3·0	36·0	6·3	46·3	2·785	E by N	..	..	..	Pos.	40	..	15	20	15. 0
12	29 888	40·5	38·7	1·8	..	..	46·3	..	E by N	..	..	..	..	..	0	0	0	..
14	29·891	41·0	39·7	1·3	..	..	..	..	E by N	..	..	..	..	..	0	0	0	..
16	29·874	42·2	41·3	0·9	41·0	1·2	..	..	ENE	..	..	..	..	..	0	0	0	..
18	29·847	42·5	41·6	0·9	..	..	..	..	ENE	..	..	..	..	..	0	0	0	..
20	29·875	42·5	41·8	0·7	..	..	..	..	E	..	..	..	Pos.	12	..	10	12	13. 0
22	29·880	48·2	45·6	2·6	43·0	5·2	..	..	ENE	..	E	1·80	..	..	0	0	0	..
Mar. 26. 0	29·890	55·3	50·4	4·9	..	..	..	..	E	..	..	..	..	..	0	0	0	..
2	29·873	60·7	54·1	6·6	..	..	..	..	WSW	..	..	..	Pos.	20	..	20	25	..
4	29·869	60·0	52·4	7·6	45·0	15·0	62·2	..	SW	..	..	..	Pos.	15	..	10	12	20. 0
6	29·879	56·0	50·1	5·9	..	..	40·3	0·61	SW	..	..	..	Pos.	25	..	20	20	5. 0
8	29·902	51·0	47·3	3·7	..	..			SSW	..	..	..	Pos.	30	..	20	20	9. 0
10	29·908	47·5	45·9	1·6	44·0	3·5	79·0		SSW	..	..	..	Pos.	2	..	..	..	..
12	29·910	46·0	44·9	1·1	..	..	32·0	0·00	SSW	..	..	..	Pos.	2	..	..	..	..
14	29·916	44·0	42·8	1·2	..	..			SSW	..	..	..	Pos.	2	..	..	..	..
16	29·903	43·0	42·6	0·4	42·0	1·0	46·7	2·790	W	..	..	..	Pos.	2	..	..	..	..
18	29·894	41·2	41·0	0·2	..	..	46·7	..	W	..	..	..	Pos.	30	..	30	40	1. 30
20	29·899	40·7	40·7	0·0	..	..	..	..	S	..	..	..	Pos.	40	..	50	50	1. 0
22	29·900	45·4	44·9	0·5	44·0	1·4	..	..	S by E	..	WSW	1·82	..	..	0	0	0	..
Mar. 27. 0	29·874	53·8	50·9	2·9	..	..	..	..	ENE	..	..	..	..	..	0	0	0	..
2	29·838	60·0	52·9	7·1	..	..	..	..	SE	..	..	..	Pos.	2	3	..	..	..
4	29·814	60·3	51·4	8·9	43·0	17·3	62·2	..	S	..	..	..	Pos.	5	..	3	5	..
6	29·791	57·8	47·7	10·1	..	..	42·8	..	S	..	..	..	Pos.	10	..	8	10	..
8	29·760	51·6	47·2	4·4	..	..		0·61	S	..	..	..	Pos.	2	..	..	..	..
10	29·734	46·4	44·5	1·9	42·0	4·4	89·0		SSE	..	..	..	Pos.	2	..	..	..	..
12	29·702	45·0	43·3	1·7	..	..	35·5	0·00	SSE	..	..	..	Pos.	15	..	20	40	..
14	..	..	..	..	..	..			SSE	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	47·2	2·790	SSE	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	47·0	..	SSE	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..		..	SSE	..	..	..	..	..	..	..	..	..
22	29·473	51·4	46·9	4·5	..	..	..	..	SSE	..	S	0·20	Pos.	..	30	20	20	..
23	29·439	50·0	47·1	2·9	..	..	..	..	SSE	..	..	..	Neg.	..	..	30	30	..

ELECTRICITY.

March 26d. 20h. There was a spark at the distance of 0in·02.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
0	..	Cloudless: hoar frost.	T D
0	..	,,	
0	..	,,	
0	..	,,	T D
0	..	,,	G
0	..	Cloudless.	G
2	..	Thin cirri are scattered about the sky.	G H
2	..	Light cirri in every direction; some light fragments of scud are also seen in the zenith.	
3	..	Light clouds in various directions; a few loose cumuli towards the South.	G H
2	..	Light clouds in various directions.	L
3	..	,,	
3	..	Light clouds chiefly W. of the zenith.	L
4	..	Light clouds in various directions. [of the horizon.	G H
4	Transit	A band of cymoid cirri reaching across the zenith from N. to S.: a heavy bank of stratus towards the W. and N. W.	
9	..	The sky is nearly covered by white loose clouds, through which in many places the stars are visible; there is no upper cloud.	G H
4	..	White clouds grouped together with a beautiful clear sky between them, the appearance of the sky is very variable; at times it has been beautifully mottled with white clouds, and at other times nearly cloudless.	G
10	..	Overcast: cirro-stratus and scud: the sky became covered at $11^h.50^m$.	T D
10	..	,, ,, no change since 12^h.	
10	..	,, ,, a shower of rain has fallen since the last observation.	
10	..	,, ,, [sionally large portions of clear sky having been seen.	
7½	..	Cirro-stratus, cumulo-stratus, and scud: since the last observation the aspect of the sky has been very variable, occa-	T D
2	..	A bank of cirro-stratus towards the horizon in the E., a few light clouds in various directions.	L
10	..	Overcast: cirro-stratus, fleecy clouds and scud.	
8	..	Dark cirro-stratus N. of the zenith; cumuli towards the S.; loose scud floating about.	L
10	..	The sky is covered with cirro-strati, cumuli, and scud: the Sun is occasionally seen through the clouds.	T D
8	..	Cirro-stratus, cumulo-stratus, light cirri, and scud:	
7	..	Cirri, cumuli, cirro-strati, and masses of scud: a corona around the Moon.	
4	Transit	Light clouds of the stratus character chiefly in the horizon, and in the zenith but of small amount.	T D
0	..	Cloudless.	L
0	..	,,	
0	..	,,	
10	..	Overcast: thick fog.	
10	..	,, ,, the trees are dripping with moisture.	L
0	..	Very foggy.	G H
10	..	Overcast: cirro-stratus and scud.	
10	..	,, cirro-stratus and broken scud.	G H
10	..	,, ,,	L
2	..	Cirri and light clouds in various directions; the clouds have cleared off within the last half-hour.	
8	..	Cirro-stratus: fleecy clouds and scud. There is a perfect halo formed around the Moon: radius 23° by measurement.	
1	Transit	A few light clouds. The halo has just disappeared, but has been very faint for some time.	L
8	..	Cirri and light fleecy clouds in various directions, more particularly towards the N. W. and N. parts of the horizon.	G H
..	..		
..	..		
..	..		
..	..		
10	..	Overcast: a light rain has just began to fall.	G
..	..	,, rain is falling.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. / of Rad. Therm. / of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). / Reading of No. 2. / Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Mar. 28. 0	..	..	..	..	..	..	..	..	SSE	..	..	..	..	..	..	..	..	..
1	29·377	47·7	48·0	−0·3	..	..	..	..	SSE	..	..	..	Neg.	40	..	..	50	0. 4
h m 1. 30	29·369	47·7	47·9	−0·2	..	..	..	..	SSE	..	..	..	Neg.	40	..	..	50	..
2. 0	..	..	..	..	..	..	52·9	..	SW	..	..	..	..	..	..	..	..	..
4. 0	..	..	..	..	..	..	31·6	..	WSW	..	..	..	..	..	..	..	..	..
4. 40	29·312	49·7	47·7	2·0	..	..	—	0·81	WSW	..	..	..	Neg.	..	..	30	40	..
h 6	..	..	..	..	..	..	67·0	0·25	W by S	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	24·0		N by E	1 to 3½	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	—	3·185	N	1½ to 4½	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	47·0		N	1 to 3½	..	..	..	..	..	..	..	..
14	29·552	36·8	34·8	2·0	..	..	47·0	..	N	..	..	..	..	0	0	0	..	
16	29·591	35·6	33·6	2·0	31·0	4·6	..	..	WNW	..	..	..	Pos.	2	..	..	..	..
18	29·614	33·1	31·7	1·4	..	..	..	..	WNW	..	..	..	Pos.	2	..	..	..	..
20	29·646	33·3	31·6	1·7	..	..	..	..	W	..	..	..	Pos.	2	..	..	..	..
22	29·643	37·6	34·1	3·5	28·5	9·1	..	..	W	..	NNW	3·85	Pos.	..	..	100	120	3. 0
Mar. 29. 0	29·620	44·4	38·7	5·7	..	..	..	..	W	..	..	..	..	..	0	0	0	..
2	29·590	44·4	38·7	5·7	..	..	..	..	NNW	..	..	..	Pos.	12	..	10	12	17. 0
4	29·551	42·3	38·5	3·8	33·0	9·3	..	..	N	..	..	..	Neg.	2	..	..	..	..
6	29·539	39·0	37·2	1·8	..	..	46·3	..	NNW	..	..	..	Neg.	10	15	10	..	..
							30·6	0·86										
8	29·552	34·5	33·3	1·2	..	..	—	0·05	NNE	..	..	..	Pos.	..	..	60	80	Recovered instantly
10	29·557	34·5	33·1	1·4	31·0	3·5	24·2		W	..	..	..	Pos.	20	..	20	40	..
12	29·551	36·2	34·6	1·6	..	..	—	3·270	W	..	..	..	Pos.	30	..	30	40	7. 0
14	29·550	33·5	32·7	0·8	..	..	47·0		W	..	..	..	Pos.	25	..	20	25	10. 0
16	29·558	34·5	33·1	1·4	31·0	3·5	46·2	..	W	..	..	..	Pos.	10	..	12	10	12. 0
18	29·579	32·6	32·0	0·6	..	..	..	..	W	..	..	..	Pos.	20	..	15	20	12. 0
20	29·593	32·4	31·6	0·8	..	..	..	..	WSW	..	..	..	Pos.	27	..	15	20	3. 0
22	29·598	39·5	36·5	3·0	33·0	6·5	..	..	NW	..	NW	2·18	Pos.	30	..	20	30	..
Mar. 30. 0	29·587	42·4	37·2	5·2	..	..	..	..	W	..	W	0·42	..	..	0	0	0	..
2	29·554	43·0	36·5	6·5	..	..	..	..	WNW	..	..	..	Pos.	2	..	..	..	..
4	29·532	43·7	36·7	7·0	28·0	15·7	45·3	..	WSW	..	..	..	Pos.	2	..	..	..	..
6	29·514	43·5	37·6	5·9	..	..	25·3	0·86	WSW	..	..	..	Pos.	12	..	10	12	5. 0
8	29·506	36·6	33·6	3·0	..	..	—		SSW	..	..	..	Pos.	30	..	50	70	3. 40
10	29·502	35·5	34·0	1·5	32·0	3·5	(53·0)	0·00	SW	..	..	..	Pos.	25	..	30	40	8. 0
12	29·490	31·0	30·6	0·4	..	..	15·0		SSW	..	..	..	Pos.	35	..	45	50	2. 0
14	29·464	30·2	29·9	0·3	..	..	—	3·270	SW	..	..	..	Pos.	30	..	25	30	4. 0
16	29·430	29·0	28·8	0·2	28·5	0·5	46·2		WSW	..	..	..	Pos.	25	..	20	20	5. 0
18	29·412	28·0	27·9	0·1	..	..	46·0	..	S by W	..	..	..	Pos.	10	..	10	15	5. 0
20	29·414	30·2	30·0	0·2	..	..	..	..	S by W	..	..	..	Pos.	25	..	30	30	3. 0
22	29·415	37·0	35·5	1·5	32·8	4·2	..	..	SSE	..	E	0·12	Pos.	25	..	30	30	5. 0
Mar. 31. 0	29·396	43·5	39·2	4·3	..	..	45·8	..	ENE	..	..	..	Pos.	25	..	30	40	12. 0
2	29·354	42·5	37·4	5·1	..	..	29·5	0·86	NE	..	..	..	Pos.	25	..	40	50	..
4	29·313	44·2	38·5	5·7	28·5	15·7	—		NE	..	..	..	Pos.	15	..	15	20	7. 0
6	29·309	40·3	36·5	3·8	..	..	60·5	0·00	NE	..	..	..	Pos.	20	..	20	25	10. 0
8	29·309	36·0	33·9	2·1	..	..	22·0		NE	..	..	..	Pos.	25	..	25	30	10. 0
10	29·314	34·2	33·1	1·1	31·0	3·2	—	3·270	E by S	..	..	..	Pos.	15	..	15	20	8. 0
12	29·308	34·6	33·1	1·5	..	..	45·5		SW	..	..	..	Pos.	2	..	..	..	..
14	29·301	32·5	31·4	1·1	..	..	45·0	..	SW	..	..	..	Pos.	2	..	..	..	..

DRY THERMOMETER.

March 28d. 1h and 1h. 30m. The readings were lower than those of the Wet Thermometer.

MAXIMUM RADIATION THERMOMETER.

March 29d. The instrument was out of order.

ELECTRICITY.

March 28d.22h; 29d. 8h; 30d. 8h; and 31d. 0h. There were sparks at the distances of 0in·04, 0in·01, 0in·02, and 0in·02 respectively.

GALVANOMETER.

March 30d. 8h. There was a current of 1° towards B.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
..	..		
10	..	Overcast: rain is falling.	G
10	..	,, ,,	
..	..		
..	..		
10	..	,, rain continued falling heavily till $2^h.\ 40^m$; since then light rain has fallen, and it still continues.	G
..	..		
..	..		
..	Transit		
..	..		
10	..	,, cirro-stratus and scud.	G H
7	..	Cirro-stratus, fleecy clouds, and scud: a large space S. of the zenith is clear.	
0	..	Cloudless.	
10	..	Overcast, with very thin cirro-stratus.	G H
10	..	Thin cirro-stratus: very hazy.	T D
6	..	Cirro-stratus, cumulo-stratus, and scud: hazy in the horizon.	
10	..	,,	T D
9	..	Cirro-stratus and scud: a large break towards the N.: a shower of rain has just fallen, which lasted about ten minutes.	G H
1	Apogee	A few light cirri, of no numerical amount, about the zenith: a heavy bank of cumuli about the eastern horizon: at $4^h.\ 50^m$ a large mass of cirro-stratus and scud passed from the N. W. over the zenith, when very strong negative electricity was shewn; heavy rain fell at the same time and lasted about thirty minutes.	
10	..	Overcast: cirro-stratus and scud: rain beginning to fall.	
2	..	Light fleecy clouds and scud towards the S.; the rest of the sky is clear.	G H
4	Transit	Cirro-stratus and masses of scud chiefly N. and N. W. of the zenith.	T D
0	..	Cloudless.	
2	..	A few detached cirri in the W.; every other portion of the sky is clear.	
1	..	Some lines of cirri in the W.: hazy: hoar frost.	
5	..	Cirro-stratus, fleecy clouds, and scud: a thin fog prevails.	T D
5	..	Cloudy around the horizon: vapour is prevalent: cumuli and loose scud are in various directions.	L
8	..	Cumulo-strati, fleecy clouds, and loose scud in every direction.	
8	In Equator	Clear about the zenith; cumulo-strati, fleecy clouds, and large masses of loose scud elsewhere.	L
9	..	Cirro-stratus, cumulo-stratus and scud: several portions of blue sky N. of the zenith.	T D
7	..	,, ,,	
5	..	,, ,, clear in the zenith, and in the eastern portion of the sky.	
0	..	Cloudless: hazy in the horizon.	T D
8	Transit	A very thin stratus covers the greater part of the sky, through which the Moon is visible; and a few stars of the first	L
0	..	Cloudless: hazy. [magnitude can also be seen.	
0	..	,,	
0	..	,, slight fog.	
0	..	,, ,,	L
0	..	,, hazy chiefly around the horizon.	T D
9	..	Cirro-stratus, cumuli, and scud: small breaks of blue sky in the zenith and W. of it. [rays.	
9	..	Cirro-stratus, finely formed cumuli, and scud; the edges of the cumuli in the S. W. are beautifully tinged by the Sun's	T D
8	..	Cirro-stratus, fleecy clouds, and scud: small breaks about and to the N. of the zenith.	L
10	..	Overcast: cirro-stratus, fleecy clouds, and scud.	
7	..	Cirro-stratus, fleecy clouds, and scud: clear about the zenith and N. of it.	
7	Full	,, ,,	L
10	Transit	Cirro-stratus, cumulo-stratus, and masses of dark scud: the Moon visible, but occasionally obscured by passing clouds.	T D
9	..	Nearly the whole of the sky, except a portion in the W. S. W., is covered by a thin cloud of the cirro-stratus character.	

HENLEY'S ELECTROMETER.

March $28^d.\ 1^h$ and $1^h.\ 30^m$. The reading was 3°.

RAIN.

March $31^d.\ 12^h$. The amount collected during the month of March in the rain-gauge No. 4 was $0^{in}.77$, and that collected by the Rev. G. Fisher in a rain-gauge of the same construction at Greenwich Hospital Schools during the same period was $0^{in}.62$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Mar. 31. 16	29·285	31·5	30·5	1·0	28·5	3·0	..	..	SW	..	..	..	Pos.	2	..	..	..	..
18	29·278	31·5	30·2	1·3	..	..	..	..	SSW	..	..	..	Pos.	2	..	..	..	..
20	29·281	33·5	32·0	1·5	..	..	..	..	SSW	..	..	..	Pos.	2	..	..	..	..
22	29·278	39·0	36·2	2·8	32·0	7·0	..	..	SSW	..	SSW	0·60	Pos.	20	..	30	50	..
April 1. 0	29·265	41·4	37·9	3·5	..	..	..	..	S by W	..	..	..	Pos.	8	..	10	20	..
2	29·251	39·6	36·7	2·9	..	..	..	..	SW	..	..	..	Pos.	20	..	20	30	..
4	29·209	41·5	39·4	2·1	36·0	5·5	45·4	..	S by W	..	..	..	Neg.	25	85	30	40	..
6	29·189	41·5	38·4	3·1	..	..	27·0	0·88	SSW	..	..	..	Pos.	40	..	35	40	..
8	29·193	36·5	35·7	0·8	..	..			WSW	..	..	..	Pos.	40	..	50	70	3. 0
10	29·187	36·3	34·3	2·0	32·0	4·3	58·0	0·05	S	..	..	..	Pos.	40	..	25	20	3. 0
12	29·162	35·7	33·6	2·1	..	..	18·5		S	..	..	..	Pos.	..	..	50	70	15. 0
14	..	..	..	..	..	..		3·310	SSW	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	44·3		SSW	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	44·3	..	WSW	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	WNW	..	..	..	..	..	..	..	..	..
22	29·121	33·8	32·5	1·3	..	..	..	..	N by E	..	SSW	2·25	Pos.	20	..	20	30	13. 0
April 2. 0	..	..	..	..	..	..	..	..	NNW	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	NNW	..	..	..	..	..	..	..	..	..
h m																		
3. 45	29·102	40·7	36·7	4·0	..	..	..	..	NNW	..	..	..	Pos.	2	..	..	..	..
h																		
4	29·105	40·7	35·7	5·0	..	..	44·2	..	NNW	0 to 1	..	..	..	..	0	0	0	..
6	..	..	..	..	..	..	31·7	0·88	NNW	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..			NW	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	61·5	0·00	NW	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	24·0		NW	..	..	..	..	..	..	..	..	..
14	29·219	33·2	31·8	1·4	..	..		3·310	NNW	..	..	..	Pos.	8	..	8	15	..
16	29·225	33·5	32·0	1·5	30·0	3·5	44·5	..	NNW	..	..	..	Pos.	20	..	20	30	..
18	29·237	32·5	31·1	1·4	..	..	44·0	..	W	..	..	..	Pos.	40	..	60	80	20. 0
20	29·250	33·5	31·6	1·9	..	..	..	..	WNW	0 to ½	..	..	..	..	0	0	0	..
22	29·254	38·7	34·4	4·3	28·0	10·7	..	..	WNW	0 to 1	NW	2·23	Pos.	20	..	15	20	..
d h																		
April 3. 0	29·241	39·7	35·2	4·5	..	..	..	..	NNW	½ to 1	..	..	Pos.	2	..	..	..	..
2	29·248	40·8	36·2	4·6	..	..	..	..	W	½ to 2	..	..	Pos.	2	..	..	..	..
4	29·238	42·4	36·7	5·7	28·5	13·9	42·6	..	WNW	½ to 2	WNW	2·70	..	..	0	0	0	..
6	29·256	36·5	34·5	2·0	..	..	32·2	..	W	0 to ½	..	..	Pos.	8	10	5	..	..
8	29·287	36·0	34·5	1·5	..	..		0·88	W	..	..	..	Pos.	8	10	5	..	..
10	29·326	36·0	35·2	0·8	34·0	2·0	51·0		NNW	..	..	..	Pos.	15	..	10	20	..
12	29·362	36·5	35·6	0·9	..	..	25·5	0·01	N	..	..	..	Pos.	20	..	20	30	7. 0
14	..	..	..	..	..	..		3·350	NNW	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	43·8	..	N by W	0 to ½	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	43·5	..	N by W	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	NNW	..	..	..	..	..	..	..	..	..
22	29·594	41·2	38·5	2·7	..	..	..	..	NNW	..	NNW	0·65	Pos.	4	6	5	..	..
April 4. 0	..	..	..	..	..	..	..	..	NNW	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	W by S	..	..	..	..	..	..	..	..	..
3	29·621	47·2	39·5	7 7	..	..	..	..	W by S	..	..	..	Pos.	30	..	40	50	..
4	..	..	..	..	..	..	..	..	WSW	0 to ½	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	SSW	..	..	..	..	..	..	..	..	..

ELECTRICITY.

April 2d. 18h. There was a spark at the distance of 0in·02.

SQUALL OF WIND, RAIN, AND SNOW.

April 1. Before 4h there was a heavy squall of wind, rain, and snow, during which the reading of the Dry Thermometer decreased from 45°·3 to 38°·0 within five minutes, while the reading of the Wet Bulb remained unchanged: no water fell upon the Dry Bulb. Within five minutes after the squall ceased the reading had increased to 41°·5. Between 6h and 8h there were three squalls, during which hail, sleet, and rain fell. (See the Section of Electrometer Observations.) G.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
9	..	Nearly the whole of the sky, except a portion in the W.S.W., is covered by a thin cloud of the cirro-stratus character.	T D
10	..	The sky is covered with a thin cirro-stratus cloud of uniform density.	
10	..	Cirro-stratus and haze, through which the Sun is visible.	T D
10	..	Overcast with thin cirro-stratus, through which the Sun is dimly visible.	G H
8	..	Cirro-stratus and scud about the horizon; a space about the zenith is clear.	
10	..	Overcast: cirro-stratus and scud. [to no numerical extent.	
4	..	Detached masses of cumuli with scud about the horizon; there are also some very thin cirro-strati near the zenith, but	G H
9	..	Ill-formed cumuli around the horizon: there are a few portions of dull blue sky near the zenith; the remainder of the	G
10	..	The sky is covered with cirro-stratus and dark scud, the latter in large masses. [sky is covered by scud.	
10	..	Overcast: cirro-stratus.	G
10	..	,, cirro-stratus and scud.	G H
..	Transit		
..	..		
..	..		
..	..		
10	..	,, ,, the Sun's place is occasionally seen.	T D
..	..		
..	..	[time.	
7	..	Cirro-stratus and large masses of scud: the clouds became much broken at $23^h.\ 10^m$, and have continued so since that	T D
2	..	A few detached cumuli: very cold.	G
..	..		
..	..		
..	..		
..	..		
10	Transit	Overcast: cirro-stratus and scud.	G H
10	..	,, ,,	
10	..	,, ,, the Moon's place occasionally visible.	
0	..	Some light cirri, but of no numerical amount: hazy.	G H
10	..	Overcast: cirro-stratus and scud.	L
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	L
10	..	,, ,, [but without any display of electricity.	G H
10	..	,, ,, there have been several squalls of snow, rain, and wind since the last observation,	
10	..	,, ,, rain has just commenced falling.	
8	..	,, ,, a break in the clouds towards the S: a heavy squall of rain commenced immediately after the last observation, which continued about twenty minutes, accompanied with strong electricity.	G H
10	..	The sky is covered with cirro-stratus and masses of dark scud: the Moon is visible at intervals through breaks in the clouds.	T D
..	..		
..	Transit		
..	..		
..	..		
8	..	Broken cirro-stratus aud scud in every direction.	G
..	..		
..	..		
4	..	Cirro-cumuli in different directions.	G
..	..		
..	..		
..	..		

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. / of Rad. Therm. / of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). / Reading of No. 2. / Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of: Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
April 4. 10	..	..	..	..	..	..	48·5	..	SW	0 to 1	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	39·9	0·88	SW	..	..	..	..	..	..	..	..	..
14	29·527	43·5	42·7	0·8	..	..	61·3		SW	½ to 2	..	..	Pos.	2	..	..	..	..
16	29·501	43·7	42·8	0·9	41·0	2·7	32·5	0·04	SW	..	..	..	..	..	0	0	0	..
18	29·491	44·3	43·0	1·3	..	..	43·3		WSW	½ to 1	..	..	..	..	0	0	0	..
20	29·505	45·3	43·8	1·5	..	..	43·3	3·390	WSW	..	..	..	Pos.	10	..	8	10	5. 0
22	29·532	46·5	44·3	2·2	41·0	5·5		..	WSW	..	SW	4·37	Pos.	25	..	20	20	13. 0
April 5. 0	29·551	50·5	45·0	5·5	..	..	..	..	W	0 to ½	..	..	Pos.	12	..	12	10	..
2	29·565	52·7	44·3	8·4	..	..	..	..	WNW	1 to 1½	..	..	Pos.	2	..	..	..	..
4	29·572	52·8	44·1	8·7	35·0	17·8		..	WNW	½ to 1½	WNW	2·13	Pos.	10	..	8	10	10. 0
6	29·579	51·7	43·5	8·2	..	..	55·2	..	W	½ to 1½	..	..	Pos.	15	..	10	12	14. 0
8	29·607	47·4	42·0	5·4	..	..	40·0	0·88	W	..	..	..	Pos.	..	..	50	60	5. 0
10	29·621	45·5	40·9	4·6	26·0	19·5			W	..	..	..	Pos.	40	..	40	45	..
12	29·612	41·9	39·7	2·2	..	..	65·0	0·00	W by S	..	..	..	Pos.	15	..	10	12	22. 0
14	29·594	42·3	40·3	2·0	..	..	32·0		W	½ to 1	..	..	Pos.	2	..	..	..	..
16	29·588	42·0	40·3	1·7	38·0	4·0		3·400	W	..	..	..	Pos.	2	..	..	..	..
18	29·586	42·5	40·3	2·2	..	..	43·5	..	W by N	..	..	..	Pos.	2	..	..	..	..
20	29·606	44·2	40·3	3·9	..	..	43·5	..	WNW	1 to 2	..	..	Pos.	2	..	..	..	..
22	29·653	46·5	40·9	5·6	34·0	12·5	..	..	NNW	1 to 2	NNW	2·32	Pos.	4	10	5	..	..
April 6. 0	29·677	49·2	42·3	6·9	..	..	..	..	NNW	0 to 1	..	..	Pos.	2	4	3	..	..
2	29·695	50·7	41·9	8·8	..	..	..	..	NNW	½ to 2	NNW	1·85	Pos.	3	4	5	..	..
4	29·695	52·1	43·9	8·2	35·4	16·7			NW	0 to 1	..	..	Pos.	15	..	12	15	..
6	29·712	50·7	43·3	7·4	..	..	53·4	..	WNW	..	..	..	Pos.	20	..	20	25	17. 0
8	29·742	47·1	43·8	3·3	..	..	44·2	0·88	W	..	..	..	Neg.	40	..	70	100	..
10	29·753	45·5	44·0	1·5	42·5	3·0			SW	..	..	..	Neg.	40	..	30	40	20. 0
12	29·726	46·9	46·0	0·9	..	..	66·0	0·00	SW	..	..	..	Pos.	26	..	30	50	..
14	29·719	46·7	45·6	1·1	..	..	39·0		SSW	..	..	..	Pos.	30	..	50	60	20. 0
16	29·684	46·4	45·6	0·8	45·0	1·4		3·410	SW	..	..	..	Pos.	26	..	40	50	..
18	29·684	48·4	46·9	1·5	..	..	44·0	..	WSW	..	..	..	Pos.	15	..	20	40	10. 0
20	29·696	48·3	46·4	1·9	..	..	44·0	..	WSW	..	..	..	Pos.	2	..	..	..	..
22	29·703	49·2	45·7	3·5	42·0	7·2	..	..	WSW	0 to ½	WSW	2·65	Pos.	2	..	..	..	..
April 7. 0	29·704	52·4	46·4	6·0	..	..	..	..	W by S	..	..	..	Pos.	25	..	20	25	..
2	29·691	55·0	46·6	8·4	..	..	..	..	W by S	½ to 1½	..	..	Pos.	25	..	20	25	..
4	29·680	54·7	46·7	8·0	39·0	15·7		..	W by S	½ to 2	..	..	Pos.	15	..	10	15	..
6	29·701	54·5	47·1	7·4	..	..	55·2		W by S	..	W	2·20	Pos.	40	30	12	10	..
8	29·709	49·5	46·0	3·5	..	..	44·2	0·93	WSW	..	..	..	..	..	0	0	0	..
10	29·731	47·8	45·7	2·1	44·0	3·8			WSW	..	..	..	Pos.	20	..	40	50	..
12	29·715	45·5	44·3	1·2	..	..	61·0	0·05	SW	..	..	..	Pos.	20	..	15	20	..
14	29·675	46·0	44·9	1·1	..	..	38·5		SW	..	..	..	..	..	0	0	0	..
16	29·629	47·4	46·6	0·8	45·0	2·4		3·430	SSW	..	..	..	..	..	0	0	0	..
18	29·564	48·8	48·2	0·6	..	..	44·5		SSW	..	..	..	..	..	0	0	0	..
20	29·510	51·3	50·2	1·1	..	..	44·5	..	SSW	½ to 3½	..	..	..	..	0	0	0	..
22	29·485	53·5	51·3	2·2	49·0	4·5	..	..	SW	1 to 4	SW	2·77	..	..	0	0	0	..
April 8. 0	29·456	55·5	50·6	4·9	..	..	..	..	SW	4 to 11	..	..	Pos.	2	..	..	..	..
2	29·440	55·5	51·4	4·1	..	..	..	..	WSW	3 to 5	..	..	Pos.	2	..	..	..	..
4	29·383	57·6	52·4	5·2	49·0	8·6	..	..	WSW	2 to 6	..	..	Pos.	2	..	..	..	..
6	29·364	55·0	50·0	5·0	..	..	..	..	WSW	3 to 12	..	..	Pos.	2	..	..	..	..
8	29·400	51·0	45·7	5·3	..	..	..	..	WSW	1½ to 4	..	..	..	..	0	0	0	..

OSLER'S ANEMOMETER.

April 8d. 5h. 50m. There was a pressure of 15 lbs. on the square foot.

ELECTRICITY.

April 5d. 8h. There was a spark at the distance of 0in·02.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
,,	..		L
..	..		
10	..	Overcast: cirro-stratus and scud.	
10	Transit	,, ,,	
10	..	,, ,,	
10	..	,, ,,	L
10	..	,, ,, rain has been falling at intervals since the last observation.	T D
		[observation.	
10	..	Cirro-stratus and scud: about $23^h.\ 30^m$ a great gloom prevailed, and rain has been falling at intervals since the last	
8	..	Cirro-stratus, cumulo-stratus, and scud: portions of blue sky are seen in the zenith, and N. of it.	T D
10	..	Cirro-stratus, fleecy clouds, and scud: a few small breaks, but to no numerical extent.	L
2	..	A bank of cirro-stratus along the N. and N.W. horizon: a few light clouds in various directions.	
1	..	A few light clouds are scattered about the sky.	L
6	..	The appearance of the sky has been variable since 8^h: at times a few stars only have been visible near the zenith, and at other times the greater part of the sky has been clear, the stars shining brilliantly.	G
4	..	Cirro-stratus and portions of scud principally N. of the zenith.	T D
10	..	Overcast: cirro-stratus and scud.	
10	Transit	,, ,, a slight shower of rain fell soon after the last observation.	
10	..	,, ,,	
5	..	Cumulo-stratus, cirro-stratus, and scud.	T D
7	..	Cumuli and scud in different directions.	G H
5	..	Masses of cumuli and scud, more particularly towards the S.W. and W. parts of the horizon.	
7	..	Cumuli, scud, and fleecy clouds: a large space of clear sky towards the S. E.	G H
10	..	The sky is covered with cirro-stratus, cumulo-stratus, and scud: the Sun is occasionally visible.	T D
10	..	Overcast: cirro-stratus and scud: very gloomy.	T D
10	..	,, ,, a fine rain is falling.	G
10	Greatest declination S.	,, ,, ,,	G
10	..	,, very dark.	G H
3	..	Cirro-stratus and scud about the horizon.	
1	..	Thin cirro-stratus towards the S. horizon; the rest of the sky is clear. [was 25°.	
10	Transit	Overcast: cirro-stratus and scud. At $16^h.\ 30^m$ a faintly-defined lunar halo was observed; the radius by measurement	
10	..	,, ,,	G H
10	..	,, ,,	L
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	
10	..	,, ,,	L
10	..	,, thin cirro-stratus of various densities: the Sun's place is visible, and occasionally a faint shadow is cast.	G
2	..	A bank of thick scud towards the N. W. horizon.	G H
10	..	Overcast, with thin stratus.	G H
10	..	,,	L
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	
10	Transit	,, ,,	
10	..	,, ,, a slight rain is falling.	L
10	..	,, ,, the rain ceased at $21^h.\ 45^m$.	T D
10	..	Overcast: cirro-stratus and scud: the Sun's place is visible.	
10	..	,, ,,	
8	3rd Qr.	Cirro-stratus, cumuli, and scud: in the N. E. large portions of blue sky are seen.	T D
2	..	Cumuli, fleecy clouds, and scud floating about.	L
3	..	Cirro-stratus and fleecy clouds towards the N.	L

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
April 8. 10	29·401	49·0	44·0	5·0	39·0	10·0	58·2	..	WSW	3 to 4½	..	..	Pos.	10	..	8	10	..
12	29·417	46·4	42·8	3·6	..	..	39·7	0·98	WSW	2 to 3½	..	..	Pos.	2	..	..	..	..
14	29·451	43·6	38·2	5·4	..	..	63·6		WSW	3 to 4½	..	..	Pos.	2	..	..	..	..
16	29·462	41·9	37·2	4·7	31·0	10·9	32·0	0·00	WSW	2 to 3½	..	..	Pos.	2	..	..	..	..
18	29·498	40·4	36·5	3·9	..	..			WSW	1 to 2	..	..	Pos.	2	..	..	..	..
20	29·532	43·0	38·2	4·8	..	..	46·2	3·480	WSW	2 to 3½	..	..	Pos.	30	..	30	40	10. 0
22	29·568	47·0	39·7	7·3	32·0	15·0	45·2	..	WSW	2 to 5	WSW	10·25	Pos.	3	3	..	..	..
April 9. 0	29·577	50·7	41·6	9·1	..	..	..	..	W	3 to 4½	..	..	..	..	0	0	0	..
2	29·595	51·5	42·3	9·2	..	..	..	..	W	3 to 4½	..	..	Pos.	2	2	..	..	..
4	29·596	52·0	41·7	10·3	31·0	21·0	56·2	..	W	3½ to 5	..	..	Pos.	1	1	..	..	..
6	29·618	50·6	42·7	7·9	..	..	38·7	0·98	W by S	1 to 3	..	..	Pos.	2	..	..	..	..
8	29·631	47·7	43·3	4·4	..	..			WSW	0 to ½	..	..	Pos.	20	..	20	30	..
10	29·652	45·0	42·2	2·8	40·0	5·0	64·8	0·00	WSW	..	..	..	Pos.	20	..	15	20	12. 0
12	29·655	45·2	42·5	2·7	..	..	30·2		WSW	0 to ½	..	..	Pos.	12	..	7	10	11. 0
14	29·677	42·5	40·0	2·5	..	..		3·480	WSW	0 to ½	..	..	..	..	0	0	0	..
16	29·678	40·2	38·4	1·8	36·5	3·7	46·2		WSW	..	..	..	..	..	0	0	0	..
18	29·708	39·4	37·8	1·6	..	..	45·5	..	WSW	..	..	..	..	..	0	0	0	..
20	29·741	42·3	39·7	2·6	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
22	29·764	47·2	41·0	6·2	35·0	12·2	..	..	NNW	..	W	5·53	Pos.	40	..	70	80	..
April 10. 0	29·755	53·2	43·6	9·6	..	..	..	..	SW	..	..	..	Pos.	15	..	20	20	..
2	29·755	55·3	44·3	11·0	..	..	..	..	SW	..	..	..	Pos.	30	..	30	35	..
4	29·734	52·5	43·3	9·2	33·5	19·0	56·0	..	SW	..	..	..	Pos.	25	..	30	40	..
6	29·740	50·2	43·6	6·6	..	..	38·5	0·98	SSW	..	..	..	Pos.	20	..	20	40	..
8	29·751	44·7	42·4	2·3	..	..			SSW	..	..	..	Pos.	15	..	10	20	..
10	29·770	41·5	40·5	1·0	39·0	2·5	73·0	0·00	SSW	..	..	..	Pos.	15	..	10	20	..
12	29·775	41·0	40·3	0·7	..	..	31·7		SSW	..	..	..	Pos.	15	..	10	15	..
14	..	..	..	..	..	..		3·480	S by W	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	46·5		S by W	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	45·5	..	S	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	S by W	..	..	..	..	..	..	..	..	..
22	29·820	49·2	44·9	4·3	..	..	..	..	S by E	..	SSW	1·37	Pos.	10	..	10	12	13. 0
April 11. 0	..	..	..	..	..	..	..	..	SSW	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	S by W	..	..	..	..	..	..	..	..	..
h m																		
3. 45	29·761	47·0	44·3	2·7	..	..	52·9	..	S by W	..	..	..	Pos.	10	..	5	7	..
h																		
4	..	..	..	..	..	..	45·1	0·98	S by W	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..			S by W	..	..	..	..	..	..	..	..	..
8	29·720	47·0	46·3	0·7	..	..	57·0	0·06	S by W	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	42·3		SSW	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..		3·575	SSW	..	..	..	..	..	..	..	..	..
14	29·618	48·5	47·7	0·8	..	..	47·8		SW	..	..	..	Pos.	10	..	8	10	..
16	29·612	48·2	47·6	0·6	47·0	1·2	46·0	..	SW	..	..	..	..	..	0	0	0	..
18	29·605	48·0	47·5	0·5	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
20	29·599	48·7	48·0	0·7	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
22	29·594	53·0	52·1	0·9	52·0	1·0	..	..	SW	..	SSW	2·10	Pos.	40	..	30	50	9. 0
d h																		
April 12. 0	29·576	59·0	54·2	4·8	..	..	..	..	WSW	..	..	..	Pos.	2	3	..	..	..
2	29·563	61·0	53·4	7·6	..	..	..	..	WSW	..	..	..	Pos.	40	..	50	70	17. 0
4	29·554	59·3	53·4	5·9	48·0	11·3	..	..	WSW	..	..	..	Pos.	30	..	30	35	14. 0

MAXIMUM FREE THERMOMETER.

April 11d. The reading was lower than that of the Dry Thermometer at 22h.

ELECTRICITY.

April 9d. 22h. There was a spark at the distance of 0in·01.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
2	..	Cloudy along the horizon: in the N. and W. light clouds are floating about.	T D
4	..	,, ,, [very high, blowing in gusts to 2.	
4	..	Cirro-stratus in the W., extending to the N. at a low elevation: detached portions of scud here and there: the wind is	
0	..	A few light portions of cirri in the N., but to no numerical extent.	
0	..	Cloudless.	
0	Transit	,,	T D
5	..	Cumuli and scud in every direction: the wind very high.	G H
7	..	Masses of cumuli and scud in every direction: wind very high.	
10	..	Cumuli and scud: the clouds have been occasionally broken since the last observation.	
10	..	Cirro-stratus and broken scud.	G H
10	..	Cirro-stratus and masses of scud in every direction: a few drops of rain fell at about $5^h.\ 40^m$. [blue sky are seen.	T D
8	..	Cirro-stratus, light detached portions of scud, and a few cumulo-strati W. of the zenith: in the N. some portions of	
4	..	Cirro-stratus extending from the W. to the N., at an elevation of 30°; every other part of the sky is clear.	
10	..	Overcast: cirro-stratus and scud.	T D
0	..	Cloudless.	G H
0	..	,,	
$\frac{1}{2}$	..	Cloudless, with the exception of a few small patches of scud around the horizon.	
0	Transit	Cloudless.	G H
4	..	Cumuli, fleecy clouds, and scud scattered about.	L
5	..	Cumuli, cirro-stratus, and scud.	
10	..	Cumuli, thin cirro-stratus, and scud cover the sky, through which portions of blue sky are visible.	L
10	..	Overcast: cirro-stratus and scud: a few drops of rain are falling.	G H
10	..	,, ,,	
10	..	Overcast with thin cirro-stratus; there is also a bank of scud towards the S.W. and W. parts of the horizon.	
0	..	Cloudless.	G H
0	..	,,	L
..	..		
..	..		
..	..		
..	..		
10	Transit	Overcast: cirro-stratus: a few drops of rain are falling.	D T
..	..		
..	..		
10	..	Overcast: cirro-stratus: a few drops of rain are falling.	
..	..		
..	..		
10	..	,, ,, ,,	T D
..	..		
..	..		
10	..	,, cirro-stratus and scud.	L
10	..	,, ,,	
10	..	,, ,, fine rain is falling.	
10	..	,, ,, ,,	L
10	Transit	,, ,, the rain has ceased.	T D
5	..	Masses of cumuli and scud, more particularly to the N.W.	
9	..	Masses of finely-formed cumuli W. and S.W. of the zenith: in the N. an unbroken cirro-stratus, reaching nearly to the zenith: masses of scud in every direction.	T D
10	..	Overcast: cirro-stratus, fleecy clouds, and scud.	L

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. / of Rad. Therm. / of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). / Reading of No. 2. / Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
April 12. 6	29·551	59·5	53·2	6·3	..	..	63·8 / 41·4 / 82·0 / 38·0 / 47·5 / 46·0	..	WSW	..	..	..	Pos.	40	..	40	50	10. 0
8	29·561	55·2	52·1	3·1	..	..		..	W by N	..	..	..	Pos.	20	..	20	25	..
10	29·572	53·7	51·6	2·1	49·0	4·7		1·13	WSW	..	..	..	Pos.	20	..	15	20	10. 0
12	29·589	52·4	51·1	1·3	..	..		0·16	WSW	..	..	..	Pos.	..	12	7	5	20. 0
14	29·609	50·6	49·4	1·2	..	..		3·795	WNW	..	..	..	..	..	0	0	0	..
16	29·625	48·7	47·9	0·8	47·8	0·9			NNE	..	..	..	..	..	0	0	0	..
18	29·673	44·4	43·8	0·6	..	..			NNE	0 to ½	..	..	Neg.	40	..	70	90	2. 0
20	29·704	42·5	41·6	0·9	..	..			NE	1 to 1½	..	..	Neg.	35	..	50	70	4. 0
22	29·741	43·0	40·7	2·3	38·0	5·0			NE	..	NNE	1·84	Pos.	4	5	..	..	..
April 13. 0	29·745	48·4	43·8	4·6	..	..	..	..	NNE	..	..	..	Pos.	4	6	4	..	..
2	29·743	47·2	43·0	4·2	..	..	..	..	NNE	..	..	..	Pos.	6	8	5	..	..
4	29·734	45·9	41·5	4·4	36·0	9·9	52·7 / 34·1 / 60·3 / 27·0 / 47·5 / 46·2	..	NNE	..	..	..	Pos.	10	10	7	..	..
6	29·740	43·7	38·8	4·9	..	..		1·13	NNE	..	..	..	Pos.	10	12	10	..	..
8	29·763	40·5	37·4	3·1	..	..		0·00	NE	..	..	..	Pos.	10	10	7	..	..
10	29·788	39·5	36·7	2·8	33·0	6·5		3·795	NNE	..	..	..	Pos.	2	..	..	..	..
12	29·813	38·5	36·3	2·2	..	..			NNE	..	..	..	Pos.	15	10	10	20	..
14	29·811	37·4	35·8	1·6	..	..			NE	..	..	..	Pos.	8	20	10	..	..
16	29·816	37·5	35·9	1·6	34·0	3·5			NE	..	..	..	Pos.	10	15	10	..	..
18	29·829	35·0	34·1	0·9	..	..			NNE	..	..	..	Pos.	10	..	10	20	..
20	29·829	40·1	38·2	1·9	..	..	..	..	NNE	..	..	..	Pos.	12	25	10	..	..
22	29·834	46·2	41·3	4·9	35·0	11·2	..	..	NNE	..	NNE	2·46	Pos.	10	12	10	..	..
April 14. 0	29·811	48·5	43·3	5·2	..	..	..	..	NNE	0 to 2	..	..	Pos.	5	12	10	..	..
2	29·788	49·9	44·2	5·7	..	..	..	..	NNE	0 to 2	..	..	Pos.	20	..	20	25	10. 0
4	29·779	46·0	40·9	5·1	35·0	11·0	50·7 / 35·1 / 65·7 / 28·3 / 47·0 / 46·2	..	N by E	0 to 3½	..	..	Pos.	10	20	10	7	3. 0
6	29·790	43·5	38·8	4·7	..	..		1·13	N by E	0 to 3	NE	1·68	Pos.	20	12	3	..	7. 0
8	29·829	39·4	36·4	3·0	..	..		0·00	N	0 to 1	..	..	Pos.	20	12	3	..	..
10	29·827	38·0	35·4	2·6	31·5	6·5		3·795	N by W	..	..	..	Pos.	20	12	5	..	..
12	29·801	37·7	35·5	2·2	..	..			N by W	..	NNE	0·65	Pos.	5	..	5	5	7. 0
14	29·767	37·5	34·1	3·4	..	..			NNW	0 to ½	..	..	Pos.	2	..	..	..	..
16	29·749	37·2	34·9	2·3	31·0	6·2			NNW	..	..	..	Pos.	2	..	..	..	..
18	29·746	37·0	34·8	2·2	..	..			NNW	0 to 2	..	..	Pos.	2	..	..	..	..
20	29·764	38·2	35·5	2·7	..	..	..	..	NNW	0 to 3	..	..	Pos.	12	..	10	8	15. 0
22	29·787	41·9	38·2	3·7	32·0	9·9	..	..	NNW	0 to 3	N	2·85	Pos.	20	..	5	5	5. 0
April 15. 0	29·778	46·4	39·8	6·6	..	..	..	..	N	2 to 4½	..	..	Pos.	5	..	3	3	..
2	29·789	43·3	38·5	4·8	..	..	..	..	N	3 to 4	..	..	..	..	0	0	0	..
4	29·782	47·0	39·5	7·5	32·0	15·0	49·3 / 29·0 / 65·7 / 20·5 / 46·0 / 45·8	..	N	2 to 4½	N	2·25	Pos.	2	..	..	..	..
6	29·827	43·3	36·9	6·4	..	..		1·13	N	1 to 3½	..	..	Pos.	2	..	..	..	..
8	29·857	40·0	35·7	4·3	..	..		0·00	N	1 to 2	..	..	Pos.	2	..	..	..	..
10	29·886	38·0	34·9	3·1	..	..		3·795	N	..	..	..	Pos.	2	..	..	..	..
12	29·898	36·0	32·6	3·4	..	..			N by E	0 to ½	NNE	1·48	Pos.	2	..	..	..	..
14	29·897	31·0	29·5	1·5	..	..			N by W	..	..	..	Pos.	2	..	..	..	..
16	29·902	30·5	29·1	1·4	24·0	6·5			NNW	..	..	..	Pos.	2	..	..	..	..
18	29·908	30·5	29·1	1·4	..	..			NNW	..	..	..	Pos.	5	12	7	10	..
20	29·909	35·2	32·1	3·1	..	..	..	..	NNW	..	..	..	Pos.	10	20	12	15	..
22	29·886	43·2	37 9	5·3	28·0	15·2	..	..	N	0 to ½	N	0·83	..	..	0	0	0	..
April 16. 0	29·867	47·4	39·5	7·9	..	..	..	..	N	0 to ½	..	..	Pos.	10	..	5	5	15. 0
2	29·861	44·8	38·8	6·0	..	..	..	..	N	..	..	..	Pos.	30	20	7	..	7. 0
4	29·827	46·0	39·0	7·0	28·0	18·0	..	..	N	..	..	..	Pos.	20	20	10	..	12. 0

DEW POINT THERMOMETER.

April 15d. 10h. The observation was inadvertently omitted.

ELECTRICITY.

April 12d. 18h and 20h. There were sparks at the distance of 0in·03.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast: cirro-stratus, fleecy clouds, and scud.	L
10	..	,, ,,	
10	..	,, ,,	L
10	..	,, ,,	T D
10	..	,, ,,	
10	..	,, cirro-stratus: a thick rain has commenced falling.	
10	In Equator	,, ,, the rain is falling heavily.	
10	..	,, ,, the rain ceased at $19^h.\ 40^m$.	T D
10	..	,, cirro-stratus and scud.	G H
10	Transit	Overcast: cirro-stratus and broken scud.	
10	..	,, ,,	G H
10	..	,, ,,	T D
10	..	,, cirro-stratus and scud.	
10	..	,, ,,	
10	..	,, ,,	T D
10	Perigee	,,	G H
10	..	Overcast with thin cirro-stratus: the places of the principal stars about the zenith are visible.	
10	..	Overcast: cirro-stratus and scud. [soon after the last observation.	
3	..	A bank of stratus cloud towards the S.W. horizon, with some light scud moving from the S. E.: the sky began to clear	
0	..	Cloudless.	G H
8	..	Cumuli, cumulo-stratus, cirro-stratus, and scud: breaks, through which the clear sky is seen in every direction.	T D
7	Transit	Cirro-stratus, cumulo-stratus, and scud in every direction.	
8	..	Cumuli and cumulo-strati in the N. to a considerable altitude: masses of scud, with detached cumuli, are scattered over the sky: E. of the zenith a large portion of clear sky is seen.	
10	..	Overcast: cirro-stratus and scud.	T D
10	..	Cumulo-stratus and scud: a few patches of blue sky are to be seen, but to no numerical amount: there is no upper cloud.	G
0	..	Cloudless, with the exception of a low bank of slate-coloured cloud in the N., of no numerical amount.	
10	..	Overcast: cirro-stratus: the clouds are high.	G
10	..	,, ,, ,,	L
10	..	,, cirro-stratus and scud.	
10	..	,, ,,	
10	..	,, ,,	
2	New	Cirri and light clouds are scattered about.	L
7	..	Rocky cumuli around the N.W. horizon; cirro-cumuli and undefined clouds in other directions: the clouds are [extensively broken S. of the zenith.	H B
5	Transit	Cumuli, cirro-strati, fleecy clouds, and scud: a shower of hail and sleet fell at $22^h.\ 40^m$.	
9	..	Cirro-strati, cumulo-strati, and scud: a shower of hail and sleet fell at $1^h.\ 45^m$.	H B
9	..	Cirro-strati, fleecy clouds, and scud cover the greater portion of the sky.	L
8	..	Cirro-strati, detached cumuli, and scud.	
10	..	Cirro-strati and scud: a small break towards the W. horizon.	
10	..	Overcast: cirro-stratus and scud.	L
4	..	Cirro-stratus around the horizon; every other part of the sky is clear.	T D
2	..	Cirro-stratus around the horizon, chiefly in the W. and S.W.	
5	..	Cirro-stratus in detached portions, and masses of dark scud are scattered over the sky.	
8	..	Cirro-stratus, fleecy clouds, and scud: clear breaks in the N. and N. E.	
0	..	Cloudless.	
10	..	Cirro-stratus, cumuli, and scud: breaks of small extent S. of the zenith, but of no numerical amount.	T D
9	..	Cirro-stratus and dark scud.	H B
9	Transit	Cumulo-strati scattered generally over the sky with dark scud.	H B
7	..	Cumulo-strati all around the zenith; portions of dark scud in the N. and N. E. horizon.	T D

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	Max. and Min. as read at 22h. of Rad. Therm.	Max. and Min. as read at 22h. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's).	RAIN GAUGES. Reading of No. 2.	RAIN GAUGES. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in lbs. per square foot.	WIND. From Whewell's Anemometer. Direction.	WIND. From Whewell's Anemometer. Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Single Gold Leaf of Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Double Gold Leaf.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 1.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 2	ELECTRICAL INSTRUMENTS. Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°			in.				from lbs. to lbs.		in.		°	°	div.	div.	m s
April 16. 6	29·808	42·0	36·9	5·1	..	..	..			..			N	..	..	..	..	..	0	0	0	..
8	29·808	39·5	36·1	3·4	..	..	23·0			..			NNE	..	..	..	Pos.	12	20	10	5	..
10	29·807	32·9	32·1	0·8	31·0	1·9				1·13			E by S	..	..	..	Pos.	35	..	50	70	7. 0
12	29·797	30·7	30·4	0·3	..	..		68·6					Calm	..	..	..	Pos.	2	..	..	..	..
14	29·766	30·6	30·6	0·0	..	..		17·0		0·00			Calm	..	..	..	Pos.	2	..	..	..	..
16	29·729	27·3	27·4	−0·1	27·0	0·3							Calm	..	..	..	Pos.	2	..	..	..	..
18	29·717	24·3	24·6	−0·3	..	..		45·8		3·800			ESE	..	..	..	Pos.	..	..	60	100	0. 32
20	29·705	30·2	29·6	0·6	..	..		45·5		..			ESE	..	..	..	Pos.	..	..	..	70	6. 0
22	29·695	41·7	36·5	5·2	29·0	12·7				..			ESE	..	N	0·56	Pos.	..	..	70	80	30. 0
April 17. 0	29·674	43·8	37·0	6·8	..	..	..			..			SSE	..	..	..	Pos.	..	..	40	50	20. 0
2	29·650	47·8	39·9	7·9	..	..	..			..			SSE	..	..	..	Pos.	..	..	30	40	..
4	29·629	48·8	39·7	9·1	21·0	27·8	..			..			SSE	..	..	..	Pos.	30	..	20	20	..
6	29·631	45·2	38·7	6·5	..	..	26·2			1·13			SSE	..	..	..	Pos.	20	..	20	30	10. 0
8	29·661	40·0	36·9	3·1	..	..							SSE	..	..	..	..	..	..	..	..	..
10	29·684	37·0	33·6	3·4	28·0	9·0	75·0			0·00			SSE	..	..	..	..	..	..	..	..	..
12	29·704	33·5	31·4	2·1	..	..	15·3						SSE	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..				3·800			SSE	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	45·8						SSE	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	45·8			..			W by S	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..			..			W by N	..	..	..	..	..	..	..	..	..
22	..	..	..	..	..	..	..			..			W by N	..	..	..	..	..	..	..	..	..
h m 22. 30	29·744	48·0	41·5	6·5	..	..	..			..			W by N	..	SE	0·33	..	..	..	..	..	..
d h April 18. 0	29·742	49·2	42·0	7·2	..	..	..			..			NNW	0 to 1	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..			..			NNW	½ to 2	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	56·2			..			NNW	0 to 2	..	..	..	..	..	..	..	..
6	29·688	47·7	40·8	6·9	..	..	36·5			1·13			NNW	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..							NNW	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	74·0			0·00			NW	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	27·5						WNW	..	..	..	..	..	..	..	..	..
14	29·633	39·7	36·5	3·2	..	..				3·800			NNW	..	..	..	..	..	..	..	..	..
16	29·623	38·2	36·0	2·2	33·0	5·2	45·8						NNW	..	..	..	..	..	..	..	..	..
18	29·614	37·5	35·4	2·1	..	..	45·8			..			WNW	..	..	..	..	..	..	..	..	..
20	29·622	40·6	36·0	4·6	..	..	..			..			WNW	..	..	..	..	..	..	..	..	..
22	29·621	45·0	39·4	5·6	30·0	15·0	..			..			NNW	..	NNW	1·90	..	..	..	..	..	..
April 19. 0	29·607	47·0	40·0	7·0	..	..	..			..			NW	..	..	..	..	..	..	..	..	..
2	29·605	51·8	43·3	8·5	..	..	..			..			NW	..	..	..	..	..	..	..	..	..
4	29·591	50·2	43·0	7·2	34·0	16·2	52·2			..			W by N	..	..	..	..	..	..	..	..	..
6	29·605	50·0	43·1	6·9	..	..	36·6			1·13			S by W	..	..	..	..	..	..	..	..	..
8	29·631	45·2	40·5	4·7	..	..							S	..	..	..	..	..	..	..	..	..
10	29·652	46·7	39·2	7·5	32·0	14·7	72·0			0·00			Calm	..	..	..	..	..	..	..	..	..
12	29·671	41·5	40·1	1·4	..	..	27·0						Calm	..	..	..	..	..	..	..	..	..
14	29·680	39·6	38·3	1·3	..	..				3·800			Calm	..	..	..	..	..	..	..	..	..
16	29·690	37·5	37·2	0·3	37·0	0·5	46·0						SSW	..	..	..	..	..	..	..	..	..
18	29·696	38·4	38·2	0·2	..	..	46·0			..			SSW	..	..	..	..	..	..	..	..	..
20	29·750	39·5	39·5	0·0	..	..	..			..			SSW	..	..	..	..	..	..	..	..	..
22	29·760	46·2	44·5	1·7	41·0	5·2	..			..			S	..	SW	0·10	..	..	..	..	..	..
April 20. 0	29·773	54·3	47·4	6·9	..	..	..			..			SW	..	..	..	..	..	..	..	..	..
2	29·773	53·4	47·0	6·4	..	..	..			..			SSW	..	..	..	..	..	..	..	..	..
4	29·766	56·5	47·9	8·6	40·0	16·5	..			..			SE	..	..	..	..	..	..	..	..	..

DRY THERMOMETER.

April 16d. 16h and 18h. The readings were lower than those of the Wet Thermometer.

April 16d. The increase in the reading between 20h and 22h was 11° ·5.

MAXIMUM FREE THERMOMETER.

April 16d and 17d. This instrument was out of order.

ELECTRICITY.

April 16d. 10h, 18h, 20h, and 22h. There were sparks at the distances of 0in·02, 0in·04, 0in·04, and 0in·02 respectively.

April 17d. 8h. The apparatus was found broken.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
9	..	Cumulo-stratus, cirro-stratus, and scud in every direction : the clouds are slightly broken in the zenith.	T D
9	..	Cumulo-stratus, cirro-stratus, scud, and fleecy clouds.	
2	..	Some stratus clouds prevail in the N. horizon ; every other part of the sky is clear.	T D
1	..	Cloudless, with the exception of fragments of dark scud near the S. horizon : the stars appear unusually large.	H B
0	..	Cloudless : hazy.	
10	..	Cirro-stratus and vapour : hoar frost.	
7	..	,, very foggy.	
0	..	Cloudless : fog is still prevalent.	H B
4	..	Cirro-strati, detached cumuli, and scud.	L
5	..	Detached cumuli, cirro-strati, and large masses of white scud.	
4	Transit	,,	L
7	..	Detached cumuli, cirro-strati, and large masses of white scud are still prevalent.	H B
7	..	Cumulo-stratus, cirro-stratus, and scud : the zenith and the portions of sky E. and S. E. of it are very clear.	T D
10	..	Overcast : cirro-stratus and scud.	
8	..	Cirro-stratus and haze extending from the horizon to a considerable elevation : the stars in the zenith are occasionally [bright.	T D
0	..	Cloudless.	L
..	..		
..	..		
..	..		
..	..		
..	..		
5	..	Loose cumuli, fleecy clouds, and scud are scattered about.	G
6	..	Loose cumuli, fleecy clouds, and scud are scattered about.	
..	..		
..	Transit	,,	G
8	..		
..	..		
..	..		
..	..		
0	..	Cloudlesss.	L
8	..	Cloudy : a long clear break extending along the E. horizon.	
7	..	Fleecy clouds and cirro-strati are scattered over the greater part of the sky.	
1	..	Cirro-stratus towards the horizon in the N. and S. ; clear elsewhere.	L
2	..	Cirro-stratus of a thin character, and haze in the S.W. horizon ; the remainder of the sky is clear.	T D
7	Greatest declination N.	Cirro-stratus, cumulo-stratus, and haze : the only portion of clear sky is W. and N.W. of the zenith.	
8	..	,,	T D
10	Transit	Overcast : cirro-stratus and scud.	L
10	..	,, ,, a small break towards the W. horizon.	
7	..	The sky is clear in the N. : cirro-stratus and fleecy clouds elsewhere.	
10	..	Cirro-stratus and scud cover the sky, through which a few stars are visible.	L
10	..	,, ,,	T D
5	..	Cirro-stratus and haze in the horizon ; light clouds occasionally pass over the zenith and obscure the stars.	
7	..	Cirro-stratus and haze : clear sky W. and N.W. of the zenith.	
10	..	Overcast : cirro-stratus : a thick fog prevails ; it began to gather at about 17^h.	
10	..	,, ,, the fog still prevails.	T D
0	..	Cloudless, but hazy.	G H
5	..	Cumuli in various directions.	
8	..	Cirro-cumuli and scud : two breaks in the clouds, one towards the S. E. and the other towards the S.W.	G H
8	..	Cirro-stratus, cumulo-stratus, and scud.	T D

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. / of Rad. Therm. / of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). / Reading of No. 2. / Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of: Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
April 20. 6	29·782	53·5	46·2	7·3	..	..	..	..	SSW	..	..	..	..	..	..	..	..	..
8	29·791	47·2	42·4	4·8	..	..	..	..	S	..	..	..	..	..	..	..	..	..
10	29·814	44·0	40·3	3·7	36·0	8·0	57·2	..	S	..	..	..	..	..	..	..	..	..
12	29·821	42·9	39·6	3·3	..	..	37·9	1·13	SSW	..	..	..	..	..	..	..	..	..
14	29·820	41·6	38·4	3·2	..	..	———		SSW	..	..	..	..	..	..	..	..	..
16	29·822	41·9	39·7	2·2	37·0	4·9	77·8	0·00	SW	..	..	..	..	..	..	..	..	..
18	29·827	38·9	37·8	1·1	..	..	28·3		SW	..	..	..	..	..	..	..	..	..
19	29·846	41·1	39·4	1·7	..	..	———	3·800	SSW	..	..	..	..	..	..	..	..	..
20	29·846	43·5	40·9	2·6	..	..	47·0		SW	..	..	..	..	..	..	..	..	..
21	..	..	..	..	..	..	46·5	..	SW	..	..	..	..	..	..	..	..	..
22	29·851	51·0	45·7	5·3	38·5	12·5	..	..	SW	..	SSW	0·65	..	..	..	..	..	..
23	29·851	58·2	48·7	9·5	..	..	..	..	WNW	..	..		..	..	..	..	..	..
April 21. 0	29·848	58·0	48·6	9·4	..	..	..	..	WNW	..	..	..	..	..	..	..	..	..
1	29·847	57·2	47·1	10·1	..	..	..	..	WNW	..	..	..	..	..	..	..	..	..
2	29·851	56·6	47·8	8·8	..	..	..	..	WNW	..	..	..	..	..	..	..	..	..
3	29·844	55·8	47·7	8·1	..	..	..	..	WNW	..	..	..	..	..	..	..	..	..
4	29·842	54·5	47·6	6·9	41·0	13·5	..	..	NNE	..	..	..	..	..	..	..	..	..
5	29·842	54·3	47·4	6·9	..	..	..	..	NNE	..	..	..	..	..	..	..	..	..
6	29·843	54·0	47·0	7·0	..	..	..	..	NNE	..	..	..	..	..	..	..	..	..
7	29·843	54·0	45·9	8·1	..	..	..	..	NNE	..	..	..	..	..	..	..	..	..
8	29·858	51·3	45·6	5·7	..	..	61·5	..	NNE	..	..	..	..	..	..	..	..	..
9	29·882	48·7	44·8	3·9	..	..	37·9	1·13	NNE	..	..	..	..	..	..	..	..	..
10	29·877	48·0	44·0	4·0	40·0	8·0	———		NNE	..	..	..	..	..	..	..	..	..
11	29·894	46·4	44·7	1·7	..	..	87·0	0·00	NNE	..	..	..	..	..	..	..	..	..
12	29·903	45·7	43·8	1·9	..	..	31·0		NNE	..	..	..	..	..	..	..	..	..
13	29·904	42·3	41·2	1·1	..	..	———	3·800	NE	..	..	..	..	..	..	..	..	..
14	29·906	41·0	39·2	1·8	..	..	47·0		NE	..	..	..	..	..	..	..	..	..
15	29·908	39·7	38·2	1·5	..	..	47·0	..	NE	..	..	..	..	..	..	..	..	..
16	29·899	40·0	38·5	1·5	37·0	3·0	..	..	NE	..	..	..	..	..	..	..	..	..
17	29·906	39·0	38·1	0·9	..	..	..	..	NE	..	..	..	..	..	..	..	..	..
18	29·920	39·8	38·6	1·2	..	..	..	..	NE	..	..	..	..	..	..	..	..	..
19	29·928	40·7	39·2	1·5	..	..	..	..	NE	..	..	..	..	..	..	..	..	..
20	29·936	42·5	40·9	1·6	..	..	..	..	NE	..	..	..	..	..	..	..	..	..
21	29·939	45·5	42·8	2·7	..	..	..	..	NE	..	..	..	..	..	..	..	..	..
22	29·954	49·5	44·8	4·7	36·5	13·0	..	..	NNE	..	NNE	0·30	..	..	..	..	..	..
23	..	..	..	..	..	..	..	..	NNE	..	..		..	..	..	..	..	..
April 22. 0	29·945	55·5	48·0	7·5	..	..	..	..	NNE	..	..	..	..	..	..	..	..	..
1	29·941	54·5	47·6	6·9	..	..	..	..	NE	..	..	..	..	..	..	..	..	..
2	29·930	55·5	47·8	7·7	..	..	..	..	NE	..	..	..	..	..	..	..	..	..
3	29·921	53·7	46·0	7·7	..	..	57·7	..	NE	..	..	..	..	..	..	..	..	..
4	29·916	49·3	43·0	6·3	37·0	12·3	31·3	1·13	ENE	..	..	..	..	..	..	..	..	..
5	29·916	49·0	42·7	6·3	..	..	———		ENE	..	..	..	..	..	..	..	..	..
6	29·917	47·4	41·7	5·7	..	..	82·0	0·00	E by S	..	..	..	..	..	..	..	..	..
7	29·925	44·5	40·7	3·8	..	..	21·7		E by S	..	..	..	..	..	..	..	..	..
8	29·929	41·5	38·6	2·9	..	..	———	3·800	E by S	..	..	..	..	..	..	..	..	..
9	29·951	39·5	36·7	2·8	..	..	48·5		E by S	..	..	..	..	..	..	..	..	..
10	29·949	38·8	36·4	2·4	33·2	5·6	47·5	..	ESE	..	..	..	..	..	..	..	..	..
12	29·933	35·7	34·5	1·2	..	..	..	..	ESE	..	..	..	..	..	..	..	..	..
14	29·926	31·8	31·3	0·5	..	..	..	..	ESE	..	..	..	..	..	..	..	..	..
16	29·909	33·5	32·6	0·9	31·0	2·5	..	..	ESE	..	..	..	..	..	..	..	..	..

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
5	Transit	Cirro-stratus, cumulo-stratus, fleecy clouds, and scud: the zenith and the parts for a considerable distance around it is clear.	T D
1	..	A bank of slate-coloured clouds near the horizon, extending from the S.W. to N.W.; those parts near the Sun are tinged yellow, with gold-coloured edges. A well-defined parhelion was visible vertically above the Sun at $7^h.\ 20^m$.	G
0	..	Cloudless.	G
0	..	Cloudless, with the exception of a few lines of cirri about the Moon's place.	G H
5	..	The N. and W. portions of the sky are overcast.	
4	..	Cloudy towards the horizon generally.	
1	..	A bank of stratus towards the E. horizon.	
0	..	Cloudless.	
0	..	,,	G H
..	..		
8	..	The principal part of the sky is covered with thin cirro-stratus, through which the Sun's place is visible.	T D
2	..	Cumuli around the horizon.	L
6	..	Cumuli, loose scud, and fleecy clouds.	
9	..	,,	
10	..	Cirro-stratus, loose scud, and fleecy clouds cover the sky.	
10	..	Overcast: cirro-stratus and scud.	L
10	..	,, ,, rain commenced falling at $3^h.\ 50^m$, and still continues.	T D
10	..	,, ,,	
10	Transit	,, cirro-stratus of a thin character.	
10	..	,, ,,	T D
10	..	,, cirro-stratus, fleecy clouds, and scud.	L
10	..	,, cirro-stratus, fleecy clouds, and scud of different densities.	G
10	..	,, cirro-stratus: very dark.	
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	G
10	..	,, ,,	L
10	..	,, ,,	L
9	..	A small portion of clear sky in the S.; every other part of the sky is covered.	T D
9	..	Cirro-stratus, fleecy clouds, and scud: a few breaks in the zenith.	
7	..	Fleecy clouds in the zenith, and for a considerable distance around it: cirro-stratus in the horizon.	
1	..	A few light clouds towards the S.W.	T D
5	..	Cumuli in every direction.	G H
2	..	Small portions of cumuli about the horizon.	G H
2	1st Qr.	Cirri and cumuli in various directions, more particularly about the horizon.	G
..	..		
9	..	Cirro-stratus, cumulo-stratus, and fleecy clouds.	T D
6	..	,,	T D
1	..	Several portions of cumuli about the zenith.	G H
10	..	Overcast: cirro-stratus, fleecy clouds, and scud.	
10	..	,, ,,	
8	..	Light fleecy clouds and scud: a large break towards the S. E. [no numerical amount.	
3	..	A heavy bank of cirro-stratus, with light fleecy clouds and scud near the W. and S.W.; a few cirri elsewhere, but of	
4	..	Cirro-stratus in the S. horizon: cumulo-strati and fleecy clouds in the W. and N.W.	G H
2	Transit	A bank of cumulo-stratus in the W.; every other part of the sky is clear.	T D
0	..	Cloudless.	G
0	..	,,	G
0	..	,,	L
0	..	,,	
7	..	Cirro-stratus and loose masses of scud.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after "discharge."
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
April 22. 18	29·908	34·8	33·6	1·2	..	..	..	..	ESE	..	..	..	..	..	..	..	..	..
20	29·910	42·7	40·8	1·9	..	..	..	..	ESE	..	..	..	..	..	..	..	..	..
22	29·906	48·4	44·1	4·3	39·0	9·4	..	..	ESE	..	ESE	0·50	..	..	..	..	..	..
April 23. 0	29·897	52·5	46·0	6·5	..	..	..	..	NNE	..	..	..	..	..	..	..	..	..
2	29·873	54·5	46·5	8·0	..	..	..	..	NNE	..	..	..	..	..	..	..	..	..
4	29·855	55·2	47·1	8·1	33·5	21·7	61·3	..	NNE	..	..	..	..	..	..	..	..	..
6	29·853	51·2	44·1	7·1	..	..	32·7	1·13	ENE	..	..	..	..	..	..	..	..	..
8	29·864	43·2	38·9	4·3	..	..	——		E	..	..	..	..	..	..	..	..	..
10	29·868	39·9	38·4	1·5	36·0	3·9	86·0	0·00	S	..	..	..	..	..	..	..	..	..
12	29·869	37·0	35·4	1·6	..	..	21·5		S by E	..	..	..	..	..	..	..	..	..
14	29·862	36·2	34·5	1·7	..	..	——	3·800	S by E	..	..	..	..	..	..	..	..	..
16	29·855	33·0	32·1	0·9	31·0	2·0	49·0		S by E	..	..	..	..	..	..	..	..	..
18	29·857	34·8	34·1	0·7	..	..	47·8	..	SSE	..	..	..	..	..	..	..	..	..
20	29·864	41·6	39·2	2·4	..	..	..	..	SSE	..	..	..	..	..	..	..	..	..
22	29·871	47·1	43·4	3·7	38·5	8·6	..	..	W	..	E	0·26	..	..	..	..	..	..
April 24. 0	29·860	54·4	46·9	7·5	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
2	29·858	57·0	46·9	10·1	..	..	..	..	NNE	..	..	..	..	..	..	..	..	..
4	29·828	57·0	46·5	10·5	35·0	22·0	62·7	..	NNE	..	..	..	..	..	..	..	..	..
6	29·819	53·0	44·3	8·7	..	..	36·5	1·13	NE	..	..	..	..	..	..	..	..	..
8	29·845	46·0	42·8	3·2	..	..	——		NE	..	..	..	Pos.	25	..	50	70	9. 0
10	29·859	42·2	40·3	1·9	37·5	4·7	81·0	0·00	SSW	..	..	..	Pos.	40	..	20	20	..
12	29·847	40·6	39·2	1·4	..	..	30·0		SSW	..	..	..	Pos.	8	..	10	20	..
14	..	..	..	..	..	..	——	3·800	SSW	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	48·5		SSW	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	48·5	..	SSW	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
22	29·885	46·7	44·3	2·4	..	..	..	..	SW	..	WSW	0·50	Pos.	4	5	8	..	..
April 25. 0	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
h m																		
4. 40	29·834	60·2	50·1	10·1	..	..	62·8	..	SW	0 to ½	..	..	Pos.	5	12	10	..	..
h							37·3	1·13										
6	..	..	..	..	..	..	——		WSW	0 to ½	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	80·0	0·00	SSW	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	33·0		S	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	——	3·800	S	..	..	..	..	..	..	..	..	..
14	29·826	40·0	39·4	0·6	..	..	49·8		S	..	..	..	Pos.	4	10	5	..	..
16	29·793	40·7	40·5	0·2	40·0	0·7	49·2	..	S by W	..	..	..	Pos.	8	30	15	..	..
18	29·734	44·4	42·8	1·6	..	..	..	..	S by W	0 to ⅓	..	..	..	..	0	0	0	..
20	29·697	47·0	43·7	3·3	..	..	..	..	S by W	0 to 1½	..	..	Pos.	2	3	..	..	..
22	29·651	49·0	46·7	2·3	44·0	5·0	..	..	SSW	3 to 5	SSW	3·90	Pos.	2	..	..	..	..
d h																		
April 26. 0	29·666	49·2	46·9	2·3	..	..	56·9	..	SW	..	..	..	..	..	0	0	0	..
2	29·673	54·6	46·6	8·0	..	..	43·6	1·17	SW	0 to 3½	..	..	Pos.	10	..	8	10	..
4	29·662	55·5	45·4	10·1	33·5	22·0	——		SW	0 to 3	..	..	Pos.	4	15	10	..	..
6	29·666	54·5	45·4	9·1	..	..	..	0·11	WSW	½ to 1	..	..	Pos.	3	5	6	..	..
8	29·679	50·5	43·3	7·2	..	..	39·8		SW	..	..	..	Pos.	2	3	..	..	..
10	29·672	48·2	42·6	5·6	35·5	12·7	——	3·950	SSW	..	..	..	Pos.	12	..	15	30	..
12	29·630	47·5	43·8	3·7	..	..	49·8		S	..	..	..	Pos.	10	..	8	10	..
14	29·592	46·5	45·1	1·4	..	..	49·2	..	S	..	..	..	Pos.	2	..	..	..	..

ELECTRICITY.

April 24d. 8h. Previously to this time the electrical apparatus was repaired and put in action. There was a spark at the distance of 0in·02.

MAXIMUM RADIATION THERMOMETER.

April 26d. The instrument was out of order.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
2	..	A bank of cirro-stratus in the N. and W.: a few light clouds are scattered about the sky.	L
6	..	Cirro-stratus, fleecy clouds, and scud.	L
5	..	Cumuli all around the horizon, and small detached portions are scattered over the zenith.	T D
7	..	Cirro-stratus in the S. and S.W., extending to the zenith; detached portions of cumuli are scattered over the remainder [of the sky.	
6	..	Cumuli are scattered over the sky in every direction.	T D
0	..	A few detached portions of cumuli towards the S. horizon, but to no numerical amount.	L
0	..	Cloudless.	
0	Transit	,,	L
0	..	,,	G H
0	..	,,	T D
2	..	A bank of cirro-stratus in the W.; otherwise cloudless.	
3	..	Cirro-stratus in the N. horizon, extending to the W.S.W.	
5	..	Cirro-stratus and light portions of scud are scattered around.	
3	..	Cirri, light scud, and fleecy clouds.	T D
9	..	Cirro-stratus, light fleecy clouds, and scud.	G H
0	..	Cloudless, but hazy.	G H
0	..	Cloudless, except a few small cumuli to the S., to no numerical amount: hazy.	G
2	..	Some large masses of cumuli in the S. S.W are the only prevailing clouds.	T D
3	..	A bank of cumuli extending along the S. S.W.: cirro-stratus in the W. and N.W. horizon.	
4	Transit	Cirro-stratus all around the horizon, more especially in the N., where the clouds extend to a considerable elevation.	T D
0	..	Cloudless.	G
0	..	,,	G H
..	..		
..	..		
..	..		
..	..		
0	..	Cloudless, but hazy.	G H
..	..		
..	..		
..	..		
5	..	Massive and finely formed cumuli S. and S.W. of the zenith: cirro-stratus in the horizon, extending from the N. to the S. S. E.: light clouds here and there.	T D
..	..		
..	..		
..	Transit		
..	..		
0	..	Cloudless: a few light cirri towards the S.W., but to numerical amount. [is very hazy.	G H
4	..	Cirro-stratus and scud: since the last observation the sky has been overcast; at present the part that is free from cloud	
10	Apogee	Overcast: cirro-stratus and scud.	
10	..	,, ,,	G H
10	..	,, ,, rain in squalls.	L
10	..	Overcast: cirro-stratus and scud: rain has been falling very heavily since the last observation, and strong negative [electricity was then shown.	
10	..	,, ,,	L
10	..	Overcast, with very thin cirro-stratus and detached masses of scud, principally about the horizon.	G H
10	..	Overcast, with cirri, cymoid cirri, and very thin cirro-stratus, and a few detached portions of scud about the horizon.	
9½	In Equator	Cirro-stratus: a small break towards the western part of the horizon.	
10	Transit	Overcast: cirro-stratus and scud.	G H
10	..	,, ,,	L
10	..	,, ,,	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
April 26. 16	29·534	46·3	45·0	1·3	43·0	3·3	..	..	S	0 to ½	..	..	..	..	0	0	0	..
18	29·492	47·0	45·8	1·2	..	..	..	..	S	0 to ½	..	..	..	..	0	0	0	..
20	29·483	52·5	51·6	0·9	..	..	..	..	SSW	0 to 3½	..	..	Pos.	2	..	..	..	..
22	29·500	55·7	48·5	7·2	41·5	14·2	..	..	SW	1 to 5	WSW	6·32	Pos.	2	..	..	..	..
April 27. 0	29·523	59·5	48·8	10·7	..	..	..	..	WSW	2 to 5½	..	..	Neg.	2	..	..	..	..
2	29·538	59·4	48·9	10·5	..	..	60·1	..	WSW	0 to 6	..	..	Pos.	20	..	20	30	..
4	29·547	59·3	47·7	11·6	35·0	24·3	42·4	..	WSW	3 to 8	..	..	Pos.	2	..	..	..	..
6	29·563	55·2	45·7	9·5	..	..		1·17	WSW	3½ to 6	..	..	Pos.	2	..	..	..	..
8	29·592	51·0	43·5	7·5	..	..	75 0		WSW	½ to 6	..	..	Pos.	2	..	..	..	..
10	29·602	47·4	43·3	4·1	37·0	10·4	38·5	0·00	SW	1 constant	..	..	Pos.	15	..	10	15	..
12	29·584	46·7	43·3	3·4	..	..			SW	2 to 4	..	..	Pos.	10	..	10	12	..
14	29·565	46·0	43·3	2·7	..	..		3·960	SW	2 to 4	..	..	Pos.	15	..	12	15	..
16	29·561	45·9	44·5	1·4	41·8	4·1	50·8	..	WSW	1 to 3½	..	..	Pos.	30	..	20	30	22. 0
18	29·559	46·4	44·7	1·7	..	..	49·5	..	SW	2 to 2½	..	..	Pos.	10	..	10	12	..
20	29·568	49·2	44·8	4·4	..	..	..	..	WSW	2 to 4	..	..	..	..	0	0	0	..
22	29·569	53·5	46·6	6·9	38·0	15·5	..	..	WSW	3 to 4½	WSW	10·35	..	..	0	0	0	..
April 28. 0	29·548	55·7	47·0	8·7	..	..	..	..	SW	2½ to 5	..	..	Neg.	2	..	..	..	..
2	29·533	56·1	50·1	6·0	..	..	..	..	SW	1 to 5	..	..	Neg.	..	..	100	110	..
4	29·498	57·7	49·4	8·3	43·5	14·2	60·1	..	SSW	2 to 7	..	..	Pos.	12	..	10	12	..
6	29·507	46·2	44·6	1·6	..	..	41·4	..	WSW	½ to 2	..	..	Pos.	30	..	70	100	3. 30
8	29·480	47·0	44·0	3·0	..	..		1·19	SW	0 to 1	..	..	Pos.	25	..	30	50	8. 0
10	29·462	45·6	43·5	2·1	42·0	3·6	72·5		SSW	0 to 1½	..	..	Pos.	12	..	12	15	12. 0
12	29·425	45·5	43·8	1·7	..	..	34·5	0·08	SSW	..	..	..	..	..	0	0	0	..
14	29·395	44·3	43·2	1·1	..	..			SSW	..	..	..	Pos.	3	4	..	..	..
16	29·366	43·4	42·1	1·3	41·0	2·4	50·5	4·060	SSW	..	..	..	Pos.	5	8	10	..	..
18	29·360	42·4	41·5	0·9	..	..	49·5	..	SW	0 to ½	..	..	Pos.	12	..	10	20	..
20	29·395	45·5	43·3	2·2	..	..	..	..	WSW	..	..	..	Pos.	2	3	..	..	..
22	29·422	52·2	47·4	4·8	42·0	10·2	..	..	WSW	..	..	..	Pos.	..	5	..	..	..
April 29. 0	29·417	56·4	50·2	6·2	..	..	..	..	WSW	0 to 3	..	..	..	..	0	0	0	..
2	29·430	51·0	47·9	3·1	..	..	..	..	SW	1 to 2½	..	..	..	..	0	0	0	..
4	29·440	48·1	45·4	2·7	42·0	6·1	58·7	..	SSW	..	..	..	Neg.	40	..	..	280	..
6	29·447	46·4	45·0	1·4	..	..	40·6		SW	..	..	..	Neg.	..	..	..	..	..
8	29·460	45·5	44·7	0·8	..	..		1·19	SW	..	..	..	Pos.	..	..	60	80	10. 0
10	29·471	43·8	42·8	1·0	41·5	2·3	67·7		SW	..	..	..	Pos.	..	..	40	60	10. 0
12	29·488	42·3	41·4	0·9	..	..	34·3	0·12	SW	..	..	..	Pos.	30	..	25	30	8. 0
14	29·489	41·8	41·4	0·4	..	..			SW	..	..	..	Pos.	20	..	20	20	10. 0
16	29·505	42·0	41·5	0·5	40·5	1·5	50·8	4·190	SW	..	..	..	Pos.	10	..	10	10	..
18	29·522	41·7	41·3	0·4	..	..	49·8	..	SW	..	..	..	Pos.	7	..	8	8	..
20	29·535	46·0	43·0	3·0	..	..	..	..	SW	..	..	..	Pos.	15	..	10	15	12. 0
22	29·546	50·3	44·8	5·5	38·0	12·3	..	..	SW	..	..	..	Pos.	2	..	..	..	..
April 30. 0	29·554	49·8	44·8	5·0	..	..	..	..	SW	..	..	..	Pos.	15	..	10	12	..
2	29·537	55·6	46·9	8·7	..	..	..	..	NNW	..	..	..	Pos.	25	..	20	25	10. 0

DRY THERMOMETER.

April 28d. The decrease in the reading between 4h and 6h was 11°·5.

April 30d. The decrease in the reading between 2h and 4h was 10°·9.

WHEWELL'S ANEMOMETER.

April 28d. 0h. The instrument was sent to the maker to be repaired.

HENLEY'S ELECTROMETER.

April 29d. 4h and 6h. The readings were 7° and 20° respectively.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast: cirro-stratus and scud: a slight rain is now falling.	L
10	..	,, ,, the rain has ceased.	
10	..	,, ,, thin rain has just begun to fall.	L
9	..	Cirro-stratus, cumulo-stratus, and masses of scud: a portion of blue sky is seen to the N.W. of the zenith.	T D
9	..	The whole of the sky, with the exception of a few small breaks in the zenith, is covered with cirro-stratus, cumulo-stratus, and masses of quickly moving scud. [and quickly moving scud.	
7	..	Massive and rocky cumuli in the S. and S.W.: cirro-stratus reaching from the N. to the zenith, and masses of dark	T D
3	..	Loose cumuli and large masses of scud floating about the sky.	L
3	..	,,	
2	..	Cirro-stratus towards the N.; clear elsewhere.	
3	Transit	,,	L
2	..	Cumulo-stratus and masses of scud in the S. E.	T D
0	..	Cloudless.	
0	..	,,	
2	..	A bank of cirro-stratus in the S.W.; otherwise clear.	
3	..	Detached portions of cirri and scud are scattered over the sky.	T D
7	..	Detached masses of cumuli and scud are in every direction.	G H
9	..	Detached masses of cumuli and scud cover the greater part of the sky.	L
6	..	Heavy masses of scud about the horizon: a light rain is falling: the electricity has been very variable both in amount and kind during the morning: since the last observation there has been a squall of rain, which lasted about 20^m.	G H
6	..	Cumuli, cirro-stratus, and masses of quick moving scud in every direction.	T D
10	..	The sky is covered with cirro-stratus, cumulo-stratus, and scud: at about $4^h.45^m$ a shower of rain and hail commenced, and has continued to the present time; occasionally violent.	
5	..	Cirro-stratus, cumulo-stratus, and scud: the clouds in the W. and S.W. look very dark and threatening.	
0	..	Cloudless, with the exception of a few cirri in the S. S.W., of no numerical amount.	T D
7	Transit	Very thin cirro-stratus towards the S.W. portion of the sky, and about the horizon generally.	G H
10	..	Large masses of cumuli and scud near the S.E. portion of the sky; the remainder is covered with a very thin cirro-stratus and fleecy clouds: rain has fallen since the last observation.	
6	..	A large mass of scud and fleecy clouds towards the W.; scud about the horizon generally.	
2	..	Scud towards the horizon, more particularly in the S.W.: a few light cirri scattered about the sky.	
5	..	Scud and light fleecy clouds in various directions.	G H
10	..	Cumulo-strati, cirro-stratus, and large masses of dark scud cover the sky; occasionally there are a few small breaks. [are breaks towards the S.	L
8	..	Cumuli, fleecy clouds, and large masses of loose scud: at about $23^h.10^m$ hail fell; it lasted about three minutes: there	
8	..	Cumuli, cirro-stratus, and large masses of scud: hail has been falling since the last observation, and several peals of thunder were heard in the S.W. [ceased falling.	L
6	..	Cirro-cumuli, cirro-stratus, and large masses of scud: a clear space of blue sky towards the N.W.: heavy rain has just	G H
10	..	Cirro-stratus and large masses of scud: a very dark mass of cloud towards the E.: a heavy squall of rain has nearly passed.	
6	..	Cirro-cumuli, fleecy clouds, and scud scattered about the sky: a large space clear towards the S. E.: about fifteen minutes after the last observation the rain ceased: a rainbow was observed in the S. E. at about $6^h.45^m$.	
5	..	Fragments of fleecy clouds and scud scattered over the sky.	G H
10	Transit	Overcast: fleecy clouds and scud.	L
6	..	Mostly clear N. of the zenith; the rest of the sky is covered with cirro-stratus and fleecy clouds.	
10	..	Overcast: cirro-stratus, fleecy clouds, and scud.	
8	..	Cirro-stratus and scud, very thin in some parts, cover the greater part of the sky: breaks towards the N. and E. horizon.	
8	..	Thin cirro-stratus, fleecy clouds, and scud.	L
10	..	The sky is covered with thin cirro-stratus, through which the Sun is visible: hazy.	T D
10	..	Cirro stratus, cumulo-stratus, and dark scud prevail in every direction: from $23^h.10^m$ to $23^h.40^m$ a great gloom prevailed.	T D
9	Full	A dark and threatening cumulo-stratus cloud extending from the N. horizon to within 5° of the zenith; every other portion of the sky is nearly covered with cirro-stratus and dark scud.	T D

ELECTRICITY.

April $28^d.6^h$ and 8^h, and 29^d at 4^h. There were sparks at the distances of $0^{in}.03$, $0^{in}.02$, $0^{in}.02$ respectively; and at April $29^d.6^h$ there were three sparks in one second at the distance of $0^{in}.11$.

GALVANOMETER.

April $29^d.6^h$. There was a current of 3° towards A.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	Max. and Min. as read at 22h. of Rad. Therm.	Max. and Min. as read at 22h. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's).	RAIN GAUGES. Reading of No. 2.	RAIN GAUGES. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in lbs. per square foot.	WIND. From Whewell's Anemometer. Direction.	WIND. From Whewell's Anemometer. Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Single Gold Leaf of Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Double Gold Leaf.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 1.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 2.	ELECTRICAL INSTRUMENTS. Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°			in.				from lbs. to lbs.		in.		°	°	div.	div.	m s
April 30. 4	29·582	44·7	43·5	1·2	42·0	2·7	..		..	..			SSW	..	..	..	Neg.	..	..	50	70	Instantly
6	29·589	44·7	43·1	1·6	..	..	58·7		..	..			SSW	..	..	..	Neg.	..	..	40	50	2. 0
8	29·622	44·2	42·3	1·9	..	..	34·6			1·19			WNW	..	..	..	Pos.	15	..	10	15	5. 0
10	29·662	41·0	39·7	1·3	38·0	3·0							WSW	..	..	..	Pos.	12	..	10	12	10. 0
12	29·675	38·2	37·7	0·5	..	..	76·5			0·00			SW	..	..	..	Pos.	12	..	7	12	13. 0
14	29·687	37·5	36·7	0·8	..	..	28·5						SW	..	..	..	..	..	0	0	0	..
16	29·697	37·0	36·0	1·0	35·0	2·0				4·190			SSW	..	..	..	Pos.	10	20	5	7	..
18	29·719	37·7	36·8	0·9	..	..	50·5						SSW	..	..	..	Pos.	10	..	10	12	17. 0
20	29·719	43·5	41·1	2·4	..	..	49·5			..			SW	..	..	..	Pos.	25	..	20	25	7. 0
22	29·719	50·5	45·4	5·1	37·5	13·0	..		..	..			SSW	..	..	..	Pos.	15	..	10	20	..
May 1. 0	29·696	56·7	48·1	8·6	..	..	..		..	..			SW	0 to ½	..	..	Pos.	15	..	20	40	..
2	29·680	51·7	47·0	4·7	..	..	..		..	..			SSW	½ to 1½	..	..	Neg.	..	..	40	60	..
4	29·649	53·5	44·8	8·7	38·0	15·5	57·7			..			SSW	1 to 1½	..	..	Pos.	20	..	20	25	7. 0
6	29·632	48·0	43·3	4·7	..	..	43·7			1·19			S	..	..	..	Pos.	35	..	20	30	11. 0
8	29·590	45·7	43·7	2·0	..	..							S by E	..	..	..	Pos.	5	12	5	..	..
10	29·560	46·5	43·9	2·6	42·0	4·5	73·0			0·00			S by E	..	..	..	Pos.	35	..	30	40	3. 0
12	29·533	46·1	45·4	0·7	..	..	37·3						S by E	..	..	..	Pos.	2	3	..	..	..
14	..	..	..	..	..	..				4·335			S by E	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	50·5						SSE	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	50·0			..			SSE	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..			..			SSE	..	..	..	..	..	..	..	..	..
22	..	..	..	..	..	..	..			..			SSE	..	..	..	..	..	..	..	..	..
h m 22. 30	29·485	51·0	47·7	3·3	..	..	..			..			..	..	..	..	..	..	0	0	0	..
d h May 2. 0	..	..	..	..	..	..	..			..			S by W	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..			..			SSW	..	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..			..			SSW	..	..	..	..	..	..	..	..	..
h m 4. 20	29·504	55·8	51·2	4·6	..	..	60·2			..			SSW	..	..	..	Pos.	15	..	10	12	7. 0
h 6	→	..	..	..	..	..	36·1			1·19			SSW	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..							N by W	½ to 2½	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	73·4			0·08			N by W	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	28·0						N by W	..	..	..	..	..	..	..	..	..
14	29·632	40·7	38·2	2·5	..	..				4·435			NNW	0 to 1	..	..	Pos.	6	8	..	..	..
16	29·648	40·7	38·2	2·5	35·0	5·7	51·0						NW	..	..	..	Pos.	2	2	..	..	..
18	29·677	37·7	36·4	1·3	..	..	50·2			..			W by S	..	..	..	Pos.	2	2	..	..	..
20	29·695	41·2	38·9	2·3	..	..	..			..			W by S	..	..	..	Pos.	..	..	40	60	..
22	29·698	46·0	42·5	3·5	38·0	8·0	..			..			W by S	..	..	..	Pos.	20	..	15	20	30. 0
d h May 3. 0	29·680	50·0	45·1	4·9	..	..	..			..			W	0 to ½	..	..	Neg.	..	..	..	80	1. 0
2	29·678	48·3	44·6	3·7	..	..	52·8			..			WNW	0 to 3½	..	..	Neg.	2	2	..	..	..
4	29·675	42·7	41·7	1·0	40·0	2·7	39·5			1·24			SW	..	..	..	Neg.	..	..	..	..	..
6	29·680	46·0	43·3	2·7	..	..							W	..	..	..	Pos.	2	2	..	..	..
8	29·681	45·1	43·2	1·9	..	..	64·7			0·16			WNW	..	..	..	Pos.	2	2	..	..	..
10	29·695	42·5	41·5	1·0	41·0	1·5	34·0						WSW	..	..	..	Pos.	..	..	..	200	5. 0
12	29·703	43·4	42·1	1·3	..	..				4·630			WNW	..	..	..	..	..	0	0	0	..
14	29·712	42·0	40·3	1·7	..	..	50·8			..			WNW	..	..	..	..	..	0	0	0	..
16	29·716	43·5	40·0	3·5	35·0	8·5	50·0			..			NNE	..	..	..	..	..	0	0	0	..
18	29·714	43·0	39·9	3·1	..	..	..			..			NNE	..	..	..	..	..	0	0	0	..

OSLER'S ANEMOMETER.

May 3d. 2h. 5m. A gust recording a pressure of 1½ lbs.; at 2h. 10m the pressure increased to 4½ lbs.; at 2h. 15m the force had decreased to ½ lb.

May 3d. 2h. 5m. A sudden change in the direction of the wind from W. by N. to N. by W.; at 2h. 15m the direction was S. W.

ELECTRICITY.

April 30d. 4h and May 1d. 10h. There were sparks at the distance of 0in·02 at each time.

May 3d. 0h, 2h, 4h, and 10h. There were sparks at the distances of 0in·03, 0in·16, 0in·12, and 0in·08 respectively.

HENLEY'S ELECTROMETER.

May 3d. 2h. 20m. The reading was 35°.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast: cirro-stratus and scud: rain is now falling.	L
10	..	,, ,, rain is falling slightly.	
10	..	,, ,,	
3	..	Thin cirro-stratus towards the N.; clear elsewhere.	L
0	..	Cloudless.	T D
0	Transit	,,	
0	..	,,	
2	..	Some cirri in the S.W.; every other part of the sky is clear.	
4	..	Cirro-stratus and fleecy clouds: hazy around the horizon.	T D
2	..	Masses of cumuli piled upon each other about the W. horizon.	G H
7	..	Cumuli, cumulo-strati, and scud: clear towards the S. E.: since the last observation two or three distant claps of thunder have been heard, and at about $0^h.\ 45^m$ there was a squall of hail and rain.	
10	..	Cumulo-stratus and scud.	G H
$7\frac{1}{2}$	..	Cirro-stratus and scud: the sky E. N. E. of the zenith is clear, but every other portion is covered.	T D
10	..	Overcast: cirro-stratus: rain is falling; it commenced at $5^h.\ 45^m$.	
10	..	,, ,, the rain continues; it has not ceased falling since 6^h.	
10	..	,, ,, at about $9^h.\ 35^m$ the rain ceased.	T D
10	..	,, cirro-stratus and scud: a slight rain is falling.	G H
..	Transit		
..	..		
..	..		
..	..		
..	..		
10	..	,, ,, ,,	L
..	..		
..	..		
..	..		
6	..	Cirro-stratus, fleecy clouds, and scud: there are small breaks in various directions.	L
..	..		
..	..		
..	..		
..	..		
10	Transit	Overcast: cirro-stratus and scud.	G H
10	..	,, ,,	
0	..	Cloudless.	
1	..	A bank of cirro-stratus towards the N.W.: hazy.	G H
10	..	Overcast: cirro-stratus and dark scud.	L
10	..	Overcast: cirro-stratus and dark scud: a few drops of rain are falling.	
10	..	,, cirro-stratus and scud: very dark and gloomy: rain was falling heavily from $2^h.\ 20^m$ to $2^h.\ 30^m$, during which time strong negative electricity was shown: the Dry Thermometer read $42°\cdot5$ at $2^h.\ 35^m$.	L
10	..	Overcast: cirro-stratus and scud: rain is falling.	G H
10	..	,, very thin cirro-stratus and scud: the rain has ceased.	
10	..	,, cirro-stratus and scud: very dark and gloomy.	
10	..	,, ,,	G H
10	..	,, ,,	L
10	..	,, ,,	
10	Transit Greatest dec. S.	,, cirro-stratus.	
10	..	,, ,,	

GALVANOMETER.

May $3^d.\ 4^h.$ There was a current of 6° towards A.

May $3^d.\ 10^h.$ There was a current of 3° towards B.

RAIN.

April $30^d.\ 12^h.$ The amount collected during the month of April in the rain-gauge No. 4 was $0^{in}.99$, and that collected by the Rev. G. Fisher in a rain-gauge of the same construction at Greenwich Hospital Schools during the same period was $0^{in}.91$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
May 3. 20	29·743	46·4	45·0	1·4	..	..	..	..	NNE	..	..	..	Pos.	10	..	8	10	..
22	29·756	46·5	44·3	2·2	42·0	4·5	..	..	NNE	..	..	..	Pos.	12	..	7	10	..
May 4. 0	29·760	46·3	44·8	1·5	..	..	..	..	ESE	..	..	..	Neg.	30	..	20	30	..
2	29·758	50·8	46·8	4·0	..	..	..	..	ESE	0 to ½	..	..	Neg.	20	..	12	10	..
4	29·753	51·0	46·6	4·4	42·0	9·0	52·2	..	ESE	0 to ½	..	..	Pos.	10	..	8	10	1. 0
6	29·743	48·8	45·7	3·1	..	..	39·5	1·24	E	0 to ½	..	..	Pos.	15	..	12	15	..
8	29·748	45·2	42·6	2·6	..	..	——		ESE	..	..	..	Pos.	20	..	15	20	..
10	29·744	44·3	43·1	1·2	40·0	4·3	67·5	0·01	E by S	..	..	..	Pos.	10	..	8	10	..
12	29·722	42·0	41·7	0·3	..	..	32·5		E by S	..	..	..	Pos.	12	..	7	10	..
14	29·687	41·5	41·3	0·2	..	..	——	4·680	E by S	..	..	..	Pos.	12	..	10	12	..
16	29·676	41·0	40·8	0·2	41·0	0·0	50·5		E by S	..	..	..	..	..	0	0	0	..
18	29·653	41·0	41·0	0·0	..	..	50·0	..	ESE	..	..	..	..	..	0	0	0	..
20	29·645	46·2	44·7	1·5	..	..	..	..	ESE	..	..	..	Pos.	20	..	12	15	..
22	29·633	52·0	48·0	4·0	43·0	9·0	..	..	SE	..	..	..	Pos.	10	..	8	10	..
May 5. 0	29·619	53·4	48·6	4·8	..	..	..	..	E by N	..	..	..	Pos.	10	..	8	10	..
2	29·606	55·5	49·4	6·1	..	..	..	..	S by E	..	..	..	Pos.	5	10	..	..	..
4	29·594	56·6	50·1	6·5	45·0	11·6	60·5	..	S by E	..	..	..	Pos.	15	..	12	15	..
6	29·593	53·0	48·4	4·6	..	..	40·1	1·24	S by E	..	..	..	..	..	0	0	0	..
8	29·603	49·0	46·9	2·1	..	..	——		S by E	..	..	..	Pos.	30	..	20	25	8. 0
10	29·613	47·5	45·9	1·6	44·0	3·5	75·7	0·00	S by E	..	..	..	Pos.	20	..	20	25	12. 0
12	29·616	47·5	46·1	1·4	..	..	34·5		SW	..	..	..	..	..	0	0	0	..
14	29·616	46·2	44·7	1·5	..	..	——	4·680	SW	..	..	..	..	..	0	0	0	..
16	29·614	41·3	41·3	0·0	41·0	0·3	50·7		SSW	..	..	..	..	..	0	0	0	..
18	29·624	41·1	41·0	0·1	..	..	50·7	..	WSW	..	..	..	Pos.	8	10	..	..	..
20	29·625	44·1	43·8	0·3	..	..	..	..	S by W	..	..	..	Pos.	..	..	80	100	5. 0
22	29·619	53·5	49·4	4·1	45·8	7·7	..	..	SSW	..	..	..	Pos.	40	..	100	120	4. 0
May 6. 0	29·606	55·5	49·8	5·7	..	..	..	..	SW	..	..	..	Pos.	20	..	30	40	..
2	29·603	58·0	51·0	7·0	..	..	..	..	SSW	0 to ½	..	..	Pos.	20	..	20	25	10. 0
4	29·596	58·0	50·7	7·3	41·0	17·0	62·0	..	SSW	0 to ½	..	..	Pos.	12	..	8	10	..
6	29·592	55·0	48·6	6·4	..	..	43·7	1·24	SSW	0 to ½	..	..	..	..	0	0	0	..
8	29·602	51·8	46·7	5·1	..	..	——		S by W	..	..	..	..	..	0	0	0	..
10	29·600	48·0	45·1	2·9	42·0	6·0	80·0	0·00	S	..	..	..	Pos.	10	20	10	..	10. 0
12	29·591	46·7	44·2	2·5	..	..	32·0		S by E	..	..	..	Pos.	10	..	8	10	10. 0
14	29·572	46·2	44·1	2·1	..	..	——	4·680	S by E	..	..	..	Pos.	5	..	5	5	4. 0
16	29·570	45·7	44·2	1·5	..	..	51·5		S by E	..	..	..	..	..	0	0	0	..
18	29·573	46·2	44·7	1·5	..	..	51·2	..	S by E	..	..	..	..	..	0	0	0	..
20	29·578	56·7	51·6	5·1	..	..	..	..	SSE	..	..	..	Pos.	30	..	20	25	12. 0
22	29·560	59·0	53·1	5·9	44·0	15·0	..	..	SE	..	..	..	Pos.	12	..	10	20	..
May 7. 0	29·536	62·5	52·9	9·6	..	..	..	..	SSE	1 to 4	..	..	Pos.	2	2	..	..	..
2	29·523	62·5	52·9	9·6	..	..	..	..	SSE	½ to 3	..	..	Pos.	8	8	..	..	..
4	29·519	56·8	51·7	5·1	47·0	9·8	65·0	..	S by E	0 to ½	..	..	Pos.	8	..	5	7	..
6	29·493	55·4	51·6	3·8	..	..	49·8	1·29	S by E	0 to ½	..	..	Pos.	10	..	8	10	12. 0
8	29·486	54·2	50·9	3·3	..	..	——		S by E	0 to ½	..	..	Pos.	10	..	8	10	..
10	29·482	53·0	50·6	2·4	48·0	5·0	80·0	0·06	S by E	0 to ½	..	..	Pos.	15	..	10	12	6. 0
12	29·464	51·0	50·2	0·8	..	..	46·0		S by E	0 to ½	..	..	Pos.	12	..	10	12	11. 0
14	29·407	51·0	49·9	1·1	..	..	——	4·765	S by E	0 to ½	..	..	Pos.	25	..	20	25	5. 0
16	29·367	50·3	49·9	0·4	49·0	1·3	52·0		S by E	0 to ½	..	..	Pos.	10	..	7	10	..
18	29·301	50·5	49·9	0·6	..	..	52·0	..	ENE	0 to ½	..	..	..	..	0	0	0	..
20	29·255	51·3	50·9	0·4	..	..	..	..	ENE	..	..	..	..	..	0	0	0	..
22	29·239	55·7	54·1	1·6	52·5	3·2	..	..	S	..	..	..	Pos.	6	10	..	..	..

DRY THERMOMETER.
May 6d. The increase in the reading between 18h and 20h was 10°·5.

DEW POINT THERMOMETER.
May 6d. 16h. The observation was inadvertently omitted.

ELECTRICITY.
May 5d. 20h and 22h. There were sparks at the distance of 0in·02.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
7	..	Cirro-stratus and fleecy clouds.	L
10	..	Overcast: cirro-stratus and scud.	T D
		[instruments have been considerably affected.	
10	..	Overcast: cirro-stratus and scud: frequent showers of rain have fallen since the last observation, and the electrical	
9	..	Cirro-stratus and masses of scud: the only portion of clear sky is N. N. E. of the zenith.	T D
10	..	Cirro-strati, cumulo-strati, and large masses of scud cover the sky: a few small breaks, but to no numerical extent.	L
7	..	Cirro-stratus and large masses of scud.	
1	..	A bank of cirro-stratus along the N. and S. horizon; clear elsewhere.	
10	..	Overcast: cirro-stratus and scud: at 9^h the sky was almost cloudless, and before $9^h.\ 10^m$ it was overcast.	L
5	..	Cirro-stratus all around the horizon: detached masses of scud are scattered in every direction: the amount of cloud is	T D
8	..	Cirro-stratus, fleecy clouds, and scud. [variable.	
5	Transit	Thin cirro-stratus near the horizon: hazy.	
10	..	Overcast: cirro-stratus: a thick fog prevails.	
0	..	Cloudless.	T D
2	..	Small patches of cumuli in various directions.	G H
10	..	Broken masses of cumuli and scud: a few drops of rain are falling.	
10	..	Cirro-stratus, with masses of scud in every direction.	
9	..	Cirro-stratus, cumulo-stratus, scud, and fleecy clouds.	G H
8	..	,, ,,	T D
$7\frac{1}{2}$	..	,, ,, the sky is clear in the S. S.W. only.	
10	..	Cirro-stratus and scud: a few stars are occasionally visible through the clouds.	
10	..	Overcast: very dark: a slight damp is falling.	T D
8	..	Cirro-stratus and scud: a large space clear towards the S.W. horizon.	G H
0	..	Cloudless: very foggy.	
10	Transit	Very foggy.	
8	..	Very thin cirro-stratus of different densities, principally about the horizon.	G H
8	..	Cirro-stratus, cumulo-stratus, and masses of scud: the Sun is frequently obscured by clouds.	T D
8	..	Cumuli in large masses in the S. and S.W.: cirro-stratus and scud are scattered in every other direction.	
8	..	Cumuli in large masses, and scud are scattered over the sky: at $0^h.\ 55^m$ a shower of rain fell.	T D
3	..	Cumuli in various directions.	G H
3	..	,,	G H
3	..	Cirro-stratus and reticulated cirri.	L
8	..	A thin cirro-stratus nearly covers the sky: many stars are visible: several flashes of lightning have been seen in the	
7	..	Clear in and around the zenith. [S. S. E.	
6	..	Cloudy around the horizon for some extent; clear elsewhere.	
7	..	The western half of the sky is covered with a thin cirro-stratus: cloudy around the horizon.	
6	Transit	Cirro-stratus and fleecy clouds scattered about.	
3	..	Cirro-strati, cirri, and fleecy clouds: at $20^h.\ 25^m$ some very fine mottled cirri and cirro-cumuli about the zenith.	
8	..	Thin cirro-stratus and scud: breaks in the S.W. and E.	L
10	..	Overcast, with thin cirro-stratus of different densities and scud.	G H
10	..	Overcast, with thin cirro-stratus and scud.	G H
10	..	,, slight rain has been falling occasionally since the last observation.	L
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	
10	..	,, ,,	L
10	3rd Qr.	,, cirro-stratus: rain is now falling.	T D
10	..	,, ,, ,,	
10	..	,, ,, ,,	
10	..	,, ,, ,,	
10	Transit	,, ,, the rain has ceased.	T D
9	..	Cirro-stratus and scud: a large space clear towards the N.	G H

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	Max. and Min. as read at 22h. of Rad. Therm.	Max. and Min. as read at 22h. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's).	RAIN GAUGES. Reading of No. 2.	RAIN GAUGES. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	From Osler's Anemometer. Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	From Whewell's Anemometer. Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Readings of Double Gold Leaf.	Readings of Straws of Volta 1.	Readings of Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°			in.				from lbs. to lbs.		in.		°	°	div.	div.	m s
May 8. 0	29·233	56·0	54·5	1·5	..	..	..			..			S	0 to ½	..	..	..	..	0	0	0	..
2	29·218	54·5	52·1	2·4	..	..	..			..			S by W	..	..	..	Pos.	10	12	..	..	..
4	29·233	54·7	51·4	3·3	49·0	5·7	..			..			WSW	0 to 1½	..	..	Pos.	30	..	30	40	4. 0
6	29·319	49·7	48·1	1·6	..	..	59·2			..			SSW	1½ to 4½	..	..	Neg.	40	..	40	50	2. 0
8	29·381	51·5	48·2	3·3	..	..	47·7			1·30			SSW	1 to 3½	..	..	Neg.	..	5	..	..	..
10	29·428	50·6	47·9	2·7	45·0	5·6	67·2			0·05			SSW	1½ to 3½	..	..	..	..	0	0	0	..
12	29·472	51·0	48·8	2·2	..	..	42·2			4·860			SSW	1 to 1½	..	..	..	..	0	0	0	..
14	..	..	..	..	..	..							SSW	1 to 3	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	52·5						SSW	½ to 1	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	52·5			..			SSW	0 to ½	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..			..			SSW	0 to ½	..	..	..	..	..	..	..	..
22	..	..	..	..	..	..	..			..			SSW	0 to 1½	..	..	..	..	..	..	..	..
h m 22. 10	29·652	55·5	52·3	3·2	..	..	..			..			SSW	0 to 2	..	..	Pos.	10	..	10	12	..
d h May 9. 0	..	..	..	..	..	..	..			..			SSW	½ to 1	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..			..			SSW	1 to 2½	..	..	..	..	..	..	..	..
h m 3. 40	29·672	62·6	56·0	6·6	..	..	65·7			..			SSW	1 to 3	..	..	Pos.	10	..	7	10	..
h 4	..	..	..	..	..	..	43·0			1·33			SSW	1 to 2	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..							SSW	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	80·0			0·08			S by W	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	39·2			4·980			S by W	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..							SSW	..	..	..	..	..	..	..	..	..
14	29·692	50·5	49·9	0·6	..	..	53·5						S	..	..	..	..	..	0	0	0	..
16	29·676	48·4	47·9	0·5	47·0	1·4	52·5			..			S by E	..	..	..	..	..	0	0	0	..
18	29·682	48·4	48·4	0·0	..	..	..			..			S by E	..	..	..	Pos.	10	12	..	..	..
20	29·692	53·5	51·1	2·4	..	..	..			..			S by E	..	..	..	Pos.	40	..	80	100	15. 0
22	29·689	60·5	54·6	5·9	48·0	12·5	..			..			WSW	..	..	..	Pos.	15	..	10	12	20. 0
d h May 10. 0	29·692	65·7	55·3	10·4	..	..	..			..			W	..	..	..	Pos.	10	..	8	10	..
2	29·694	68·0	60·0	8·0	..	..	..			..			SSW	..	..	..	Pos.	10	..	20	30	..
4	29·675	66·2	56·1	10·1	48·0	18·2	70·0			..			SSW	..	..	..	..	..	0	0	0	..
6	29·649	62·6	56·1	6·5	..	..	50·6			1·36			SSW	..	..	..	Pos.	2	2	0	0	..
8	29·643	59·2	54·5	4·7	..	..							SSW	..	..	..	Pos.	30	..	20	40	..
10	29·639	56·5	53·9	2·6	52·5	4·0	97·3			0·05			SSW	..	..	..	Neg.	40	..	60	80	..
12	29·594	55·0	52·4	2·6	..	..	46·8			5·050			S	..	..	..	..	..	0	0	0	..
14	29·560	53·5	51·8	1·7	..	..							S	..	..	..	..	..	0	0	0	..
16	29·524	52·7	51·4	1·3	50·0	2·7	55·0						S by E	..	..	..	Neg.	30	..	20	25	0. 30
18	29·479	51·7	51·0	0·7	..	..	54·2			..			NNE	..	..	..	Pos.	2	2	0	0	..
20	29·458	53·7	52·2	1·5	..	..	..			..			NNE	..	..	..	Pos.	10	..	8	10	7. 0
22	29·461	52·0	51·8	0·2	51·0	1·0	..			..			NNE	..	..	..	Pos.	20	..	20	30	11. 0
May 11. 0	29·484	56·2	53·4	2·8	..	..	65·2			..			NW	..	..	..	Pos.	20	..	20	30	7. 0
2	29·501	60·4	55·5	4·9	..	..	44·1			..			SW	..	..	..	Pos.	30	..	20	20	12. 0
4	29·501	61·5	55·7	5·8	50·0	11·5				1·36			SW	..	..	..	Pos.	40	..	40	35	15. 0
6	29·499	60·7	55·7	5·0	..	..	82·0						SSW	..	..	..	Pos.	30	..	25	30	8. 0
8	29·524	57·4	54·1	3·3	..	..	36·0			0·00			SSW	..	..	..	Pos.	20	..	15	20	7. 0
10	29·539	52·6	50·6	2·0	48·0	4·6							S	..	..	..	Pos.	20	..	15	20	12. 0
12	29·556	50·0	48·8	1·2	..	..	56·0			5·050			S	..	..	..	Pos.	10	20	7	10	13. 0
14	29·561	49·0	47·7	1·3	..	..	54·2			..			S	..	..	..	..	..	0	0	0	..
16	29·564	46·4	45·9	0·5	46·0	0·4				..			S by E	..	..	..	..	..	0	0	0	..

OSLER'S ANEMOMETER.

May 8d. 5h. 15m. A pressure of 8 lbs. was recorded.

ELECTRICITY.

May 8d. 4h, 6h, and May 9d. 20h. There were sparks at the distances of 0in·02, 0in·03, and 0in·03, respectively.

HENLEY'S ELECTROMETER.

May 8d. 20h. The reading was 1°.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast: cirro-stratus and broken scud.	G H
9	..	Cirro-stratus and broken scud: a break S. E. of the zenith: rain has fallen since the last observation.	G H
10	..	Overcast: cirro-stratus.	T D
10	..	,, ,, at $4^h.\ 50^m$ rain commenced falling, and the wind blew in gusts.	T D
10	..	Cirro-stratus and scud: since 6^h there has been but little rain, and the wind has become somewhat lulled.	G
8	..	Clear for a small space in the zenith; every other part of the sky is covered with a thin cirro-stratus cloud, through which several of the larger stars are visible: the wind is blowing in gusts to $1\frac{1}{2}$.	T D
10	..	Overcast; very dark.	G H
..	..		
..	..		
..	..		
..	Transit		
..	..		
10	..	Cirro-stratus and masses of scud are scattered over the sky.	T D
..	..		
..	..		
4	..	Cirro-stratus and masses of scud are scattered over the sky, principally in the S. S.W.	T D
..	..		
..	..		
..	..		
..	..		
..	..		
10	..	Overcast: heavy rain is falling.	G H
10	..	,, thin cirro-stratus and scud: the rain ceased at about 15^h.	
6	..	Cirri and light fleecy clouds are scattered about the sky: there is a large mass of scud towards the E.	
0	Transit	Cloudless, but very hazy.	G H
5	..	Cirro-stratus, cumulo-stratus, and haze.	L
6	..	Cirro-stratus, cumulo-stratus, and haze. [N. and N. E.	L
7	..	Massive cumuli are scattered over the sky; those in the S. and S. S.W. are very fine specimens: cirro-stratus in the	T D
8	In Equator	Thin cirro-strati, cumuli, and scud.	G H
10	..	Overcast, with very thin cirro-stratus.	
10	..	Overcast: cirro-stratus.	
10	..	,, rain is now falling.	G H
10	..	,, a few drops of rain are falling occasionally.	L
10	..	,,	
10	..	,, cirro-stratus and scud: rain is falling.	
10	..	,, cirro-stratus.	
10	..	,, ,,	L
10	Transit	,, cirro-stratus and scud: from $20^h.\ 50^m$ to 22^h a great gloom prevailed, accompanied with a thin misty rain.	T D
10	..	Overcast: cirro-stratus.	
9	..	Cirro-stratus slightly broken in the zenith: there are small portions of blue sky visible.	T D
6	..	Cirro-stratus, fleecy clouds, and detached cumuli.	L
3	..	Cumuli, fleecy clouds, and scud.	
8	..	Cirro-stratus, fleecy clouds, and scud.	
10	..	Cirro-stratus, fleecy clouds, and scud cover the sky.	L
4	Perigee	A large bank of cirro-stratus in the N. to a considerable elevation: the appearance of the sky is variable.	T D
3	..	Cirro-stratus and vapour around the horizon.	
0	..	Cloudless.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	RAIN GAUGES. Stand of No. 1. (Osler's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
May 11. 18	29·574	49·0	47·7	1·3	..	..	..	..	S by E	..	..	..	Pos.	3	10	7	..	..
20	29·582	56·5	52·9	3·6	..	..	..	..	S by E	..	..	..	..	..	0	0	0	..
22	29·609	60·0	54·7	5·3	49·5	10·5	..	..	S by E	..	..	..	Pos.	15	..	20	40	..
May 12. 0	29·603	60·6	56·2	4·4	..	..	..	..	S	..	..	..	Pos.	12	..	20	30	..
2	29·590	60·5	56·1	4·4	..	..	..	..	SSW	..	..	..	Pos.	10	..	10	20	..
4	29·567	62·0	55·7	6·3	51·0	11·0	63·0	..	S	..	..	..	Pos.	10	..	10	12	..
6	29·557	61·4	56·0	5·4	..	..	44·7	1·36	SSW	..	..	..	Pos.	30	..	30	40	6. 0
8	29·586	56·5	52·9	3·6	..	..	———		SSW	..	..	..	Pos.	30	..	50	60	4. 0
10	29·615	52·0	50·6	1·4	50·0	2·0	77·0	0·00	SSW	..	..	..	Pos.	30	..	40	50	6. 0
12	29·661	48·5	47·6	0·9	..	..	37·2		SSW	..	..	..	Pos.	8	..	8	10	..
14	29·670	47·0	46·4	0·6	..	..	———	5·072	SW	..	..	..	Pos.	8	10	..	..	..
16	29·688	45·1	44·8	0·3	44·5	0·6	56·5		SW	..	..	..	Pos.	6	8	..	..	..
18	29·700	49·8	48·8	1·0	..	..	55·0	..	S by W	..	..	..	Pos.	4	6	..	..	..
20	29·720	55·0	52·5	2·5	..	..	..	..	S by W	..	..	..	Pos.	6	..	8	10	..
22	29·720	60·0	55·1	4·9	50·0	10·0	..	..	S by W	0 to ½	..	..	Pos.	15	..	10	12	7. 0
May 13. 0	29·717	63·1	56·8	6·3	..	..	..	..	SW	½ to 1	..	..	Pos.	10	..	8	10	10. 0
2	29·705	64·7	57·2	7·5	..	..	..	..	SW	½ to 2	..	..	Pos.	10	..	8	10	..
4	29·701	64·0	56·5	7·5	47·0	17·0	67·2	..	SW	0 to 2	..	..	Pos.	5	..	5	10	..
6	29·698	60·0	53·4	6·6	..	..	47·7	1·39	SSW	½ to 1	..	..	Pos.	10	20	..	..	..
8	29·693	54·0	51·4	2·6	..	..	———		SSW	..	..	..	Pos.	10	20	..	..	..
10	29·710	51·9	50·6	1·3	50·0	1·9	84·0	0·04	SSW	..	..	..	Pos.	10	..	10	20	..
12	29·705	50·7	49·3	1·4	..	..	41·3		S by W	..	..	..	Pos.	20	..	10	..	10. 0
14	29·701	49·2	48·6	0·6	..	..	———	5·125	SSW	..	..	..	Pos.	15	..	10	15	8. 0
16	29·714	51·2	49·7	1·5	48·0	3·2	57·0		SSW	..	..	..	Pos.	10	..	8	10	14. 0
18	29·723	51·7	50·7	1·0	..	..	56·0	..	SSW	..	..	..	Pos.	5	..	..	..	..
20	29·728	58·2	54·1	4·1	..	..	..	..	SW	..	..	..	Pos.	20	..	15	20	10. 0
22	29·746	59·6	55·5	4·1	49·0	10·6	..	..	SW	0 to ½	..	..	Pos.	20	..	20	30	..
May 14. 0	29·740	61·7	54·9	6·8	..	..	..	..	SW	0 to ½	..	..	Pos.	12	..	12	15	..
2	29·738	62·7	56·5	6·2	..	..	..	..	SW	0 to 2	..	..	Pos.	30	20	14	..	..
4	29·729	62·8	56·0	6·8	49·0	13·8	65·5	..	SW	½ to 2	..	..	Pos.	10	..	8	10	..
6	29·723	60·7	55·0	5·7	..	..	49·2	1·39	SW	½ to 1	..	..	Pos.	7	..	..	5	5. 0
8	29·739	54·8	51·1	3·7	..	..	———		SW	..	..	..	Pos.	10	..	8	10	7. 0
10	29·762	51·2	49·2	2·0	47·0	4·2	83·5	0·00	SSW	..	..	..	Pos.	10	..	8	10	10. 0
12	29·765	50·0	48·4	1·6	..	..	41·5		SSW	..	..	..	Pos.	20	..	10	12	11. 0
14	29·777	51·0	49·0	2·0	..	..	———	5·135	SW	..	..	..	Pos.	20	..	12	15	10. 0
16	29·789	50·5	48·4	2·1	47·0	3·5	57·2		SW	..	..	..	..	..	0	0	0	..
18	29·815	51·3	49·9	1·4	..	..	56·2	..	SSW	..	..	..	..	..	0	0	0	..
20	29·817	53·0	49·8	3·2	..	..	..	..	SW	..	..	..	Pos.	12	..	7	10	..
22	29·835	58·0	52·8	5·2	47·0	11·0	..	..	WSW	..	..	..	Pos.	20	..	40	50	..
May 15. 0	29·830	62·8	55·2	7·6	..	..	..	..	WSW	0 to ½	..	..	Pos.	5	7	..	..	..
2	29·828	60·5	54·3	6·2	..	..	66·2	..	WSW	..	..	..	Pos.	10	..	10	20	..
4	29·804	63·5	57·0	6·5	51·0	12·5	51·7	1·61	SSW	..	..	..	Pos.	20	..	20	30	12. 0
6	29·793	60·5	54·9	5·6	..	..	———		SSW	..	..	..	Pos.	30	..	30	40	17. 0
8	29·780	57·0	53·0	4·0	..	..	85·5	0·24	S by W	..	..	..	Pos.	30	..	40	50	8. 0
10	29·768	54·7	52·4	2·3	50 0	4·7	46·5		S by W	..	..	..	Neg.	30	..	30	40	4. 0
12	29·743	53·0	51·9	1·1	..	..	———	5·405	S by W	..	..	..	Pos.	10	..	20	30	..
14	..	..	..	..	..	..	58·0		S by E	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	56·5	..	SSE	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SSE	..	..	..	..	..	..	..	..	..

ELECTRICITY.

May 12d. 6h, 8h, and 10h. There were sparks at the distances of 0in·02, 0in·03, and 0in·02 respectively.

May 15d, 6h, 8h, and 10h. There were sparks at the distance of 0in·02 at each time.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
0	..	Cloudless.	T D
4	..	Thin cirro-strati and light clouds in several directions.	T D
6	Transit	Cirri, cirro-strati, cumuli, and scud.	G H
10	..	Overcast: cirro-stratus and scud: rain has fallen since the last observation.	
10	..	Overcast, with cirro-stratus of different densities, and scud.	G H
10	..	Thin cirro-stratus and scud cover the sky: the Sun is visible through the clouds.	T D
7	..	Cirro-stratus of various densities, cumulo-stratus, and scud: the sky is clear in the W. N.W.	
3	..	Detached portions of cumuli are scattered in the W. and N.W. horizon, and some light cirri in the S.	
7	..	Cirro-stratus and detached portions of scud.	T D
0	..	Cloudless.	G H
0	..	,,	
1	..	A bank of heavy cloud towards the N. and E. parts of the horizon; otherwise clear.	
6	..	Thin cirri and light scud about the zenith: a heavy bank of scud about the horizon generally.	
10	..	Overcast with cirro-stratus of different densities and scud.	G H
8	..	Cumulo-strati, cirro-strati, and scud.	L
7	Transit	Cumulo-strati, cirro-strati, and scud.	
4	..	Detached cumuli, thin cirro-stratus, and loose masses of scud: the arc of a solar halo is visible.	L
4	..	Cirri and thin cirro-stratus, with detached masses of cumuli about the horizon.	G H
10	..	Cirri and cirro-strati of different densities, and scud.	
8	..	Light clouds of the cirrus and cirro-stratus character, with patches of scud principally about the horizon.	
10	..	Overcast: cirro-stratus and scud: rain commenced falling at about $9^h.\ 15^m$.	G H
9	..	Since 10^h the sky has been partially clear; it is now nearly covered with cirro-stratus and scud: a few stars are visible	G
1	..	Cirro-stratus along the eastern horizon: there are a few light clouds scattered about the sky. [here and there.	G
6	..	Cirro-stratus and fleecy clouds in various directions.	L
10	..	Overcast: cirro-stratus and fleecy clouds.	G
10	..	,, ,, a few small breaks, but to no numerical extent.	L
7	..	Cirro-stratus and light fleecy clouds.	T D
4	Transit	Cirro-stratus and cumulo-stratus low down in the S. horizon: light cirri and particles of scud E. and S.E. of the zenith.	T D
9	..	The sky is very nearly covered with clouds of no particular modification, except near the horizon where cumuli are	G
6	New	Cumuli, fleecy clouds, and scud. [numerous.	L
7	..	Cumuli, fleecy clouds, and large masses of white scud.	
1	..	A bank of cirro-stratus along the N. horizon, and a few light clouds scattered about the sky.	
0	..	Cloudless.	L
0	..	,,	T D
4	..	Cirro-stratus all around the S. horizon, and some detached portions W. of the zenith.	
10	..	Overcast: cirro-stratus.	
3	..	Cirri, light particles of scud, and fleecy clouds.	
8	..	Cirro-stratus and scud: blue sky is visible in the W. and N.W.	T D
9	..	Cumulo-stratus and scud: there are breaks towards the E.	G H
6	..	Cumuli, cumulo-strati, and large masses of scud	L
10	Transit	Overcast: cumulo-strati and large masses of scud.	G H
7	..	Cirro-stratus, cumulo-stratus, and scud. [its radius is 22°.	G H
8	..	Thin cirro-stratus, and loose fragments of scud: the upper arc of a solar halo is visible; it is slightly tinged with red,	T D
8	..	Thin cirro-stratus, light scud, and fleecy clouds: in the W. and S.W. a heavy bank of dense cirro-stratus is exhibited.	
10	..	Overcast: cirro-stratus: a steady rain is falling; it commenced at about $9^h.\ 35^m$.	T D
10	..	,, rain is falling.	G H
..	..		
..	..		
..	..		

PARHELION.

May $13^d.\ 7^h.\ 15^m$. Mr. Main observed a well-defined parhelion at the estimated distance of 25° to the left of the Sun; the inside edge was red, and the outside edge was straw-coloured.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	Max. and Min. as read at 22h. of Rad. Therm.	Max. and Min. as read at 22h. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's).	RAIN GAUGES. Reading of No. 2.	RAIN GAUGES. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in lbs. per square foot.	WIND. From Whewell's Anemometer. Direction.	WIND. From Whewell's Anemometer. Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Single Gold Leaf of Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Double Gold Leaf.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 1.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 2.	ELECTRICAL INSTRUMENTS. Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°			in.				from lbs. to lbs.		in.		°	°	div.	div.	m s
May 15. 20	..	..	..	..	..	..	..			..			ESE	..	..	..	..	..	..	..	..	..
22	29·452	55·9	55·3	0·6	..	..	..			..			SE	..	..	..	..	0	0	0	..	..
May 16. 0	..	..	..	..	..	..	..			..			SSW	½ to 2	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..			..			SW	1 to 2	..	..	..	..	..	..	..	..
h m 2. 30	29·445	66·0	59·1	6·9	..	..	67·6			..			SW	1 to 2½	..	..	Pos.	10	15	..	..	..
d h 16. 4	..	..	..	..	..	..	50·4			1·61			SW	2 to 3	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..							SW	½ to 2	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	80·5			0·00			SW	½ to 1	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	43·5						WSW	0 to ½	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..				5·415			SW	..	..	..	..	..	..	..	..	..
14	29·662	54·3	51·3	3·0	..	..	58·0						WSW	1 to 3	..	..	Pos.	7	..	8	10	..
16	29·682	53·0	50·8	2·2	49·0	4·0	57·0			..			WSW	2 to 2½	..	..	Pos.	5	8	..	..	..
18	29·710	51·4	49·1	2·3	..	..	..			..			SW	½ to 2	..	..	Pos.	5	8	..	..	..
20	29·740	55·0	51·7	3·3	..	..	..			..			SW	½ to 1½	..	..	Pos.	2	2	0	0	..
22	29·773	58·7	53·1	5·6	48·0	10·7	..			..			WSW	1 to 2½	..	..	Pos.	2	2	0	0	..
May 17. 0	29·806	61·4	54·4	7·0	..	..	..			..			SW	2 to 3	..	..	Pos.	2	2	0	0	..
2	29·820	64·7	55·9	8·8	..	..	..			..			SW	1 to 5	..	..	Pos.	7	..	10	..	..
4	29·826	64·8	56·9	7·9	48·5	16·3	67·2			..			SW	1 to 3	..	..	Pos.	5	8	..	..	..
6	29·828	62·7	56·1	6·6	..	..	48·7			1·61			SSW	½ to 1	..	..	..	..	0	0	0	..
8	29·856	57·5	53·1	4·4	..	..							SSW	..	..	..	Pos.	8	12	..	..	..
10	29·881	54·1	50·4	3·7	47·0	7·1	86·3			0·00			S by W	..	..	..	Pos.	20	..	30	40	..
12	29·883	52·3	50·0	2·3	..	..	40·3						S by W	..	..	..	Pos.	10	..	8	10	7. 0
14	29·881	50·2	48·9	1·3	..	..				5·415			S by W	..	..	..	Pos.	7	5	..	..	..
16	29·878	49·4	48·4	1·0	47·0	2·4	58·5						S by W	..	..	..	Pos.	2	2	0	0	..
18	29·871	53·0	51·4	1·6	..	..	57·2			..			S by W	..	..	..	Pos.	2	2	0	0	..
20	29·882	54·8	52·9	1·9	..	..	..			..			S by W	..	..	..	Pos.	2	2	0	0	..
22	29·870	59·3	55·7	3·6	50·0	9·3	..			..			S by W	..	..	..	Pos.	40	..	50	70	7. 0
May 18. 0	29·834	65·6	59·0	6·6	..	..	..			..			SSE	..	..	..	Pos.	15	..	20	30	..
2	29·801	67·7	59·5	8·2	..	..	..			..			S	..	..	..	Pos.	7	..	8	10	..
4	29·753	66·3	57·9	8·4	48·0	18·3	69·0			..			S	0 to ½	..	..	Pos.	10	..	8	10	10. 0
6	29·737	60·3	57·0	3·3	..	..	46·2			1·68			S	..	..	..	Pos.	10	..	10	12	4. 0
8	29·692	56·3	55·5	0·8	..	..							S	..	..	..	Pos.	25	..	20	25	6. 0
10	29·676	56·2	55·5	0·7	54·0	2·2	88·3			0·09			S	..	..	..	Pos.	10	..	8	10	..
12	29·673	56·8	55·0	1·8	..	..	39·5						WSW	..	..	..	Pos.	..	10	5	..	..
14	29·693	52·5	51·0	1·5	..	..				5·535			WSW	0 to ½	..	..	Pos.	5	15	10	5	..
16	29·710	50·6	49·1	1·5	48·0	2·6	58·5						SW	..	..	..	..	..	0	0	0	..
18	29·740	48·5	47·9	0·6	..	..	58·0			..			SSW	..	..	..	..	..	0	0	0	..
20	29·776	54·9	51·7	3·2	..	..	..			..			WSW	0 to ½	..	..	..	..	..	..	..	..
22	29·786	57·0	52·9	4·1	48·5	8·5	..			..			SW	0 to 2	..	..	..	..	0	0	0	..
May 19. 0	29·795	63·5	57·0	6·5	..	..	..			..			WSW	½ to 2½	..	..	Pos.	10	20	..	..	..
2	29·792	63·7	58·0	5·7	..	..	66·0			..			SW	1 to 1½	..	..	Pos.	8	15	..	..	..
4	29·789	64·2	57·0	7·2	51·0	13·2	50·2			1·68			SW	0 to 2½	..	..	Pos.	40	30	10	..	4. 0
6	29·782	61·9	55·5	6·4	..	..							SW	0 to 1	..	..	Pos.	20	..	20	30	6. 0
8	29·769	57·2	53·6	3·6	..	..	80·0			0·00			SSW	..	..	..	Pos.	30	..	40	50	10. 0
10	29·769	53·0	50·9	2·1	49·0	4·0	43·0						SSW	..	..	..	Pos.	12	..	20	25	12. 0
12	29·752	52·5	50·4	2·1	..	..				5·540			SSW	..	..	..	Pos.	8	12	..	..	..
14	29·727	53·0	50·7	2·3	..	..	59·0						SSW	0 to 2	..	..	Pos.	4	5	..	..	..
16	29·696	53·0	50·1	2·9	46·5	6·5	58·2						SW	0 to 2	..	..	Pos.	8	15	..	..	..

ELECTRICITY.

May 18d. 20h. The instruments were detached for the purpose of cleaning them.

May 19d. 8h. There was a spark at the distance of 0in·02.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
..	..		G H
10	..	Overcast: cirro-stratus and scud: rain is falling.	
..	..		
..	Transit		
5	..	Cumuli, cumulo-strati, and scud: rain ceased falling at about $22^h.30^m$: the amount and kind of cloud have been continually varying during the morning: there have been several squalls of rain.	
..	..		
..	..		
..	..		
..	Greatest declination N.		
..	..		
10	..	Overcast.	
10	..	Overcast with light fleecy clouds and masses of dark scud. [horizon.	
10	..	Overcast with thin cirri, through which the blue sky is discernible: several masses of dark scud towards the S.W.	
5	..	Light fleecy clouds and scud, principally about the horizon.	G H
10	..	Overcast: cirro-stratus, fleecy clouds, and scud.	L
		[$23^h.55^m$, radius 23° by measurement.	
4	..	Cirro-stratus, fleecy clouds, and masses of scud. The lower part of a solar halo was visible for a few minutes at about	
7	..	Cirro-stratus, fleecy clouds, and scud.	L
4	Transit	Detached masses of cumuli about the horizon: the amount of cloud is constantly varying.	G H
6	..	Cirri, light fleecy clouds, and scud are scattered over the sky.	
8	..	Cirri, cirro-cumuli, cirro-strati, and scud: a small portion of clear sky towards the S. E.	
7	..	Cirri, thin cirro-strati, and scud: the zenith and the parts around it are clear.	G H
10	..	Overcast: cirro-stratus and scud: a few stars occasionally visible.	L
8	..	For a small distance S. of the zenith the sky is clear; cloudy elsewhere.	
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	
10	..	,, ,,	L
10	..	,, ,, the Sun's place is visible.	T D
10	..	Overcast: cirro-stratus and scud.	G H
10	..	,, ,,	G H
10	Transit	,, ,,	L
10	..	,, ,, rain is falling slightly.	
10	..	,, ,, rain has been falling continually since the last observation.	
10	..	,, ,, the rain ceased at about $9^h.30^m$.	L
10	..	,, cirro-stratus: very dark.	T D
4	..	Cirro-stratus in the horizon all around: the zenith is clear, with the exception of some small portions of scud.	
5	..	Cirro-stratus and scud scattered over the sky in large detached portions: clear in the W. and S.W.	
4	..	Cirri and light scud are scattered all around the zenith: clear in the horizon.	
10	..	Cirro-stratus and scud.	T D
8	..	,, a large space clear towards the N.W.	G H
7	..	Cirro-stratus and scud: clear towards the N.	
8	..	Cumuli, light fleecy clouds, and scud in every direction.	G H
7	..	Cumuli are scattered about the sky generally: some scud is seen in the N. and cirri in the zenith.	G
10	Transit	Cumuli, cirro-strati, and scud; more dense in the S. and S.W. than in any other direction.	T D
10	..	Overcast: cirro-stratus and scud.	
9	..	Cirro-stratus, scud, and vapour: a small break in the E., and the Moon's place is visible.	T D
0	..	Cloudless: thin cirri about the horizon, but to no numerical extent.	G H
8	..	Cirro-stratus and scud: breaks towards the S. and E.	
10	..	Overcast: cirro-stratus and scud.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. / of Rad. Therm. / of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). / Reading of No. 2. / Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
May 19. 18	29·700	52·4	49·8	2·6	..	..	..	..	SSW	0 to 1½	..	..	..	..	0	0	0	..
20	29·722	55·3	51·1	4·2	..	..	..	..	SW	0 to 2½	..	..	Pos.	3	5	..	..	..
22	29·716	58·5	52·6	5·9	48·0	10·5	..	..	SW	½ to 2½	..	..	Pos.	2	2	0	0	..
May 20. 0	29·717	59·0	53·2	5·8	..	..	..	..	SW	0 to 3	..	..	Pos.	2	2	0	0	..
2	29·723	63·2	57·7	5·5	..	..	..	..	SW	0 to 2	..	..	Pos.	25	..	20	25	..
4	29·739	64·2	57·5	6·7	54·0	10·2	..	..	WSW	0 to 2½	..	..	Pos.	8	..	8	10	..
6	29·758	63·2	56·1	7·1	..	..	65·6	..	WSW	..	..	..	Pos.	10	..	10	20	..
8	29·813	60·0	53·8	6·2	..	..	47·4	..	W by S	..	..	..	Pos.	15	45	10	30	..
10	29·865	53·5	49·9	3·6	47·0	6·5	—	1·68	SW	..	..	..	Pos.	..	..	80	100	..
12	29·908	50·2	47·8	2·4	..	..	78·8	—	SW	..	..	..	Pos.	25	..	20	25	..
14	29·917	50·0	48·4	1·6	..	..	38·5	0·00	SW	..	..	..	Pos.	12	..	12	15	..
16	29·925	48·7	48·1	0·6	47·0	1·7	—	—	SW	..	..	..	Pos.	10	..	8	10	12. 0
18	29·966	50·7	48·4	2·3	..	..	59·0	5·550	SW	..	..	..	Pos.	2	2	0	0	..
19	29·975	52·0	49·4	2·6	..	..	58·8	..	SW	..	..	..	..	..	..	..	..	..
20	29·992	55·4	50·6	4·8	..	..	..	..	WSW	..	..	..	Pos.	30	..	20	25	8. 0
21	29·998	56·5	51·1	5·4	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..
22	30·013	56·9	51·1	5·8	47·0	9·9	..	..	WSW	..	..	..	Pos.	10	12	5	..	..
23	30·013	62·9	59·9	3·0	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..
May 21. 0	30·015	65·0	56·0	9·0	..	..	..	..	SW	..	..	..	Pos.	30	..	30	40	7. 30
1	30·013	65·5	55 8	9·7	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
2	30·014	67·5	57·6	9·9	..	..	..	..	WSW	..	..	..	Pos.	40	..	50	70	8. 0
3	30·012	68·0	58·0	10·0	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..
4	29·995	68·7	58·5	10·2	45·0	23·7	..	..	SW	..	..	..	Pos.	30	..	25	30	20. 0
5	29·996	62·6	52·9	9·7	..	..	..	..	SW	..	..	..	Pos.	10	..	20	40	..
6	29·993	66·0	57·5	8·5	..	..	..	..	SW	..	..	..	Pos.	20	..	15	20	9. 0
7	29·995	63·0	56·7	6·3	..	..	69·2	..	SW	..	..	..	..	..	..	..	..	..
8	30·002	58·8	54·1	4·7	..	..	49·7	—	S	..	..	..	Pos.	5	..	..	7	..
9	30·007	56·0	52·2	3·8	..	..	—	1·68	S	..	..	..	..	..	..	..	..	..
10	30·006	54·6	51·1	3·5	48·0	6·6	92·0	—	S	..	..	..	Pos.	7	..	10	..	..
12	29·992	53·5	50·4	3·1	..	..	41·3	0·00	S	..	..	..	Pos.	3	12	5	..	..
13	29·979	53·5	50·7	2·8	..	..	—	—	S	..	..	..	..	..	..	..	..	..
14	29·976	53·5	50·9	2·6	..	..	62·0	5·555	S	..	..	..	Pos.	3	10	5	..	..
15	29·966	53·0	50·5	2·5	..	..	59·0	..	SSE	..	..	..	..	..	..	..	..	..
16	29·967	53·0	50·5	2·5	48·5	4·5	..	..	S by E	..	..	..	Pos.	2	5	..	..	..
17	29·962	52·5	50·2	2·3	..	..	..	..	S by E	..	..	..	..	..	..	..	..	..
18	29·954	51·9	50·1	1·8	..	..	..	..	S by E	..	..	..	Pos.	3	12	5	..	..
19	29·952	55·0	52·2	2·8	..	..	..	..	S	..	..	..	..	..	..	..	..	..
20	29·948	58·5	54·7	3·8	..	..	..	..	S	..	..	..	Pos.	15	..	20	25	10. 0
22	29·937	64·8	58·2	6·6	49·0	15·8	..	..	SSW	..	..	..	Pos.	5	7	..	..	..
23	29·932	67·7	58·9	8·8	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
May 22. 0	29·925	68·8	57·7	11·1	..	..	..	..	SW	..	..	..	Pos.	7	10	..	..	..
1	29·913	71·9	59·5	12·4	..	..	75·2	..	SW	0 to 1	..	..	..	..	..	..	..	..
2	29·905	73·3	61·0	12·3	..	..	53·4	1·68	WSW	½ to 2½	..	..	Pos.	5	8	..	..	..
3	29·897	75·0	62·7	12·3	..	..	—	—	SW	½ constant	..	..	..	..	..	..	..	..
4	29·890	73·0	61·4	11·6	55·0	18·0	99·0	0·00	SW	½ to 1	..	..	Pos.	4	12	..	..	..
5	29·883	73·8	61·9	11·9	..	..	44·8	—	WSW	1 to 1½	..	..	..	..	..	..	..	..
6	29·877	71·6	61·0	10·6	..	..	—	5·555	WSW	½ constant	..	..	Pos.	5	20	5	..	..
7	29·879	69·3	60·5	8·8	..	..	60·5	—	SW	..	..	..	..	..	..	..	..	..
8	29·888	66·0	59·4	6·6	..	..	60·0	..	WSW	..	..	..	Pos.	20	..	20	30	5. 0
9	29·900	62·9	56·5	6·4	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
2	..	A bank of cirro-stratus towards the W. part of the horizon, with a few scattered light clouds.	G H
3	..	Cumuli near the horizon; also a few patches of light coloured cloud scattered over the sky.	G H
9	..	Cirro-stratus, fleecy clouds, and large masses of scud: there are small breaks in various directions.	L
10	..	Overcast: cirro-stratus and scud: slight rain is falling.	
7	..	Detached cumuli, cirro-strati, and large masses of loose scud.	L
2	..	Detached cumuli, light fleecy clouds, and scud about the horizon.	G H
3	Transit	Masses of cumuli and scud in various directions.	
0	..	Cloudless: the sky is hazy.	
0	..	,,	G H
2	..	Clouds are coming up from the W.N.W.	L
8	..	Cirro-strati and fleecy clouds cover the greater part of the sky: a few small breaks.	
0	..	Cloudless.	
0	..	,,	
0	..	,,	
0	..	,,	L
3	..	Cumuli about the Sun's place and around the horizon.	T D
8	..	Cumuli and cumulo-strati are scattered over the sky in every direction. [over the remainder of the sky.	
6	..	Masses of finely-formed cumuli are exhibited in the S. and S.W.: cumulo-strati, cirro-strati, and scud are scattered	
4	..	Light portions of cumuli scattered W. and S.W. of the zenith: cirro-stratus in the horizon.	
2	..	Some small portions of cumuli in the S. are the only prevailing clouds.	
4	..	Cumuli all around the zenith, also in the N. and N.W. horizon: light portions of scud scattered here and there.	T D
0	..	Cloudless.	L
0	..	,,	
0	..	,,	
0	Transit	Cloudless, with the exception of some loose scud, but to no numerical extent.	
2	..	Cirro-stratus and haze towards the N. horizon: a few light clouds are scattered over the sky.	
3	..	,, ,,	
2	..	Cirro-stratus towards the N. horizon: a few light clouds are scattered over the sky.	
2	..	,, ,,	L
8	..	Cirro-stratus and portions of scud in every direction: the Moon is visible through a break in the clouds, and also some	T D
10	..	Overcast: cirro-stratus and scud. [stars E. of the zenith.	
10	1st Qr.	,, ,,	
10	..	,, ,, a few stars are occasionally visible in the zenith.	
10	..	,, ,,	
10	..	,, ,,	
8	..	Cirro-stratus, scud, and fleecy clouds: large portions of blue sky in the zenith.	
4	..	Fleecy clouds in the zenith: cirro-stratus low in the W. horizon; the remainder of the sky is clear.	
0	..	Cloudless.	T D
0	..	There are a few light clouds, but to no numerical extent.	L
0	..	,,	
½	..	A bank of cirro-stratus along the S. horizon: a few cirri and light clouds are scattered about the zenith.	
½	..	,, ,,	
½	..	,, ,,	
½	..	,, ,,	L
0	..	Light portions of cirri are scattered over the sky, but to no numerical extent.	T D
2	..	Light portions of cirri are scattered in the N.: a bank of thin cirro-stratus prevails.	
2	..	Light portions of cirri in every direction.	
3	..	,, [other direction.	
4	Transit	Cirro-stratus, light cirri, and portions of scud in every direction: the clouds are more dense in the N. than in any	
4	..	Light cirri and vapour.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. / of Rad. Therm. / of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). / Reading of No. 2. / Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
May 22. 10	29·902	61·9	56·5	5·4	53·0	8·9	..	..	SSW	..	..	..	Pos.	10	30	10	5	..
11	29·917	61·5	57·0	4·5	..	..	..	..	SSW	..	..	..	..	..	..	..	..	..
12	29·918	60·9	56·7	4·2	..	..	..	..	SSW	..	..	..	Pos.	40	..	40	40	16. 0
14	..	..	..	..	..	..	..	..	S	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	S	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SSE	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SE	..	..	..	..	..	..	..	..	..
22	..	..	..	..	..	..	..	..	ESE	..	..	..	..	..	..	..	..	..
h m																		
22. 15	29·842	74·0	64·0	10·0	..	..	..	..	ESE	..	..	..	Pos.	10	..	8	10	..
d h																		
May 23. 0	..	..	..	..	..	..	..	..	SSE	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	83·8	..	Calm	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	61·3	..	Calm	..	..	..	..	..	..	..	..	..
h m								1·68										
8. 30	29·663	71·8	66·5	5·3	..	..	103·5		Calm	..	..	..	Pos.	..	..	50	50	3. 0
d h								0·00										
23. 10	..	..	..	..	..	..	54·8		SSE	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	62·5	5·555	SW	..	..	..	..	..	..	..	..	..
14	29·713	64·2	61·1	3·1	..	..	60·8	..	SW	..	..	..	Pos.	40	30	20	20	60. 0
16	29·693	64·6	60·0	4·6	55·8	8·8		..	WSW	..	..	..	Pos.	20	15	10	10	..
18	29·698	63·5	58·9	4·6	..	..	..	..	SW	..	..	..	Pos.	..	5	..	..	..
20	29·753	61·5	58·0	3·5	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
22	29·788	63·4	59·2	4·2	55·0	8·4	..	..	SW	..	..	..	Pos.	2	2	0	0	..
May 24. 0	29·783	66·3	59·8	6·5	..	..	..	..	WSW	..	..	..	Pos.	5	8	..	..	..
2	29·787	68·5	59·2	9·3	..	..	..	..	SW	½ to 1	..	..	Pos.	..	7	..	..	..
4	29·728	64·8	59·5	5·3	55·5	9·3	69·0	..	SW	..	..	..	Pos.	30	20	10	10	50. 0
6	29·755	62·5	57·2	5·3	..	..	46·2		SW	1 to 2½	..	..	..	..	..	..	..	..
8	29·763	58·9	54·6	4·3	..	..		1·68	SSW	1 to 1½	..	..	Pos.	..	20	10	10	60. 0
10	29·759	56·5	54·6	1·9	53·0	3·5	87·3		SSW	½ constant	..	..	..	..	0	0	0	..
12	29·754	55·2	53·7	1·5	..	..	37·7	0·00	SSW	0 to ½	..	..	Pos.	..	..	8	10	20. 0
14	29·821	50·2	48·8	1·4	..	..			SW	1 to 2½	..	..	Pos.	..	10	..	..	..
16	29·861	48·0	46·4	1·6	45·0	3·0	63·5	5·575	SW	..	..	..	Pos.	2	2	0	0	..
18	29·932	48·7	46·6	2·1	..	..	62·0	..	SW	½ to 1	..	..	Pos.	2	2	0	0	..
20	29·979	55·5	51·1	4·4	..	..	..	..	SW	1 to 1½	..	..	Pos.	2	2	0	0	..
22	30·014	59·0	52·7	6·3	44·8	14·2	..	..	SW	1 to 2½	..	..	Pos.	..	10	..	..	..
May 25. 0	30·038	64·0	54·4	9·6	..	..	..	..	WSW	1 to 2	..	..	Pos.	6	5	..	..	..
2	30·054	65·3	54·4	10·9	..	..	..	..	WSW	1 to 2	..	..	Pos.	10	20	7	5	..
4	30·069	67·2	56·7	10·5	41·0	26·2	69·5	..	WSW	0 to ½	..	..	Pos.	5	8	..	3	..
6	30·073	61·7	55·7	6·0	..	..	42·7		SW	½ constant	..	..	Pos.	5	8	..	..	..
8	30·087	57·4	53·1	4·3	..	..		1·68	SSW	0 to ½	..	..	Pos.	5	8	..	..	..
10	30·114	51·7	49·2	2·5	46·0	5·7	92·5		S	..	..	..	Pos.	2	2	0	0	..
12	30·103	48·0	46·9	1·1	..	..	34·5	0·00	S	..	..	..	Pos.	5	12	5	..	..
14	30·091	46·4	45·0	1·4	..	..			S by W	..	..	..	Pos.	4	10	4	..	..
16	30·097	43·5	42·8	0·7	42·5	1·0	63·5	5·575	S	..	..	..	Pos.	3	7	..	..	..
18	30·113	49·0	47·4	1·6	..	..	62·0	..	S by E	..	..	..	..	..	0	0	0	..
20	30·121	54·8	50·8	4·0	..	..	..	..	S by E	..	..	..	Pos.	20	30	12	8	8. 0
22	30·119	61·2	54·0	7·2	45·0	16·2	..	..	S by W	..	..	..	Pos.	40	..	60	50	..
May 26. 0	30·107	66·8	57·3	9·5	..	..	..	..	SW	..	..	..	Pos.	30	..	25	30	..

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
		[by passing clouds.	
9	..	Cirro-stratus, masses of dark scud, and fleecy clouds are scattered in every direction: the Moon is frequently obscured	T D
10	..	Overcast with clouds of various densities.	G
10	..	,, no change: a fine warm night.	
..	..		
..	..		
..	..		
..	..		
..	..		
1	..	There are a few cirri and light clouds scattered about the sky.	
..	..		
..	..		
..	..		
..	..		
..	Transit		
3	..	Cirro-stratus towards the S. E.; clear elsewhere.	
..	Apogee	The day has been remarkably fine, with an unusually high temperature: the evening was cloudless till about 9^h; at this time a few clouds collected at first about the place of the Moon, and afterwards spread all over the sky,	
..	..	those in the N. and N.W. being very black. Lightning was carefully looked for, but not a single flash was seen.	
10	..	The sky is wholly covered with clouds at a great elevation; occasionally a few stars have been visible.	
10	In Equator	Overcast: cirro-stratus.	
10	..	,, ,, the Sun has not yet been visible this morning.	
8	..	The clouds have become much broken since 18^h, particularly about the place of the Sun.	G
10	..	Overcast: cirro-stratus, fleecy clouds, and scud.	L
10	..	Overcast: fleecy clouds and scud.	
10	..	,, ,,	L
10	..	The sky is wholly covered by cirro-stratus and scud: there are occasional gleams of sunshine.	G
2	..	Since $4^h.\ 20^m$ the greater part of the sky has been free from cloud: at present there are a few ill-formed cumuli near	
7	Transit	The greater part of the sky is covered with cirro-stratus and scud. [the horizon, principally in the N.	
10	..	Overcast: a shower of rain has fallen since 8^h.	G
10	..	,, light rain has been falling since the last observation.	L
3	..	Cloudy around the horizon, but mostly to the N.	
3	..	Cirro-strati and light clouds are scattered in various directions.	
0	..	Cloudless.	
2	..	Cirri and thin cirro-strati are scattered in various parts of the sky.	L
5	..	Cumuli, cirro-stratus, and masses of scud: clear portions of blue sky in every direction.	T D
		[is the N. and N.N.E.	
6	..	Cumuli, cumulo-strati, and scud, principally W. and S.W. of the zenith: the portion of the sky most free from cloud	
5	..	Detached portions of imperfectly-formed cumuli and fragments of scud in every direction.	T D
5	..	Detached portions of cumuli and masses of scud.	L
10	..	Cirro-stratus, fleecy clouds, and scud cover the sky.	
10	..	,,	
0	Transit	Cloudless: the sky became clear soon after 8^h.	L
0	..	,,	T D
0	..	,,	
0	..	,,	
0	..	,,	
0	..	,,	T D
0	..	A few light clouds, but to no numerical extent.	L
0	..	A few light clouds, but to no numerical extent.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	Max. and Min. as read at 22h. of Rad. Therm.	Max. and Min. as read at 22h. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's).	RAIN GAUGES. Reading of No. 2.	RAIN GAUGES. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	From Osler's Anemometer. Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	From Whewell's Anemometer. Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Readings of Double Gold Leaf.	Readings of Straws of Volta 1.	Readings of Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°			in.				from lbs. to lbs.		in.		°	°	div.	div.	m s
May 26. 2	30·086	68·2	54·4	13·8	..	..	..			..			SW	..	..	..	Pos.	40	..	35	40	..
4	30·071	69·0	55·9	13·1	48·0	21·0	77·0			..			SW	..	..	..	Pos.	35	..	40	50	7. 0
6	30·049	65·6	53·9	11·7	..	..	42·9			..			SW	..	..	..	Pos.	20	..	20	30	12. 0
8	30·041	60·4	50·9	9·5	..	..				1·68			S by W	..	..	..	Pos.	20	..	20	25	11. 0
10	30·043	52·6	46·3	6·3	37·7	14·9	97·5						S	..	..	..	Pos.	30	..	30	40	13. 0
12	30·042	48·2	42·3	5·9	..	..	29·0			0·00			S	..	..	..	Pos.	40	20	10	5	5. 0
14	30·010	44·8	41·5	3·3	..	..							S by E	..	..	..	Pos.	40	20	5	5	4. 0
16	29·997	46·8	41·9	4·9	36·5	10·3	63·0			5·575			S by E	..	..	..	Pos.	40	20	5	5	4. 0
18	29·982	47·8	44·3	3·5	..	..	62·0			..			S by E	..	..	..	Pos.	40	30	10	10	6. 0
20	29·973	59·9	55·3	4·6	..	..				..			SSE	..	..	..	Pos.	40	30	10	10	12. 0
22	29·956	68·4	59·2	9·2	52·0	16·4	..			..			ENE	..	..	..	Pos.	25	..	25	30	25. 0
May 27. 0	29·937	75·7	64·2	11·5	..	..	..			..			E by S	..	..	..	Pos.	10	..	10	12	17. 0
2	29·906	76·7	63·9	12·8	..	..	..			..			E	0 to ½	..	..	Pos.	10	..	8	10	12. 0
4	29·889	73·8	62·6	11·2	53·2	20·6	81·3			..			E	0 to ½	..	..	Pos.	40	40	12	10	20. 0
6	29·865	73·3	63·7	9·6	..	..	52·6			1·68			ENE	..	..	..	Pos.	40	50	20	20	12. 0
8	29·874	70·3	62·2	8·1	..	..							S by E	..	..	..	Pos.	40	60	30	30	3. 0
10	29·868	62·2	59·5	2·7	57·5	4·7	106·0			0·00			S by E	..	..	..	Pos.	40	30	20	20	10. 0
12	29·856	58·5	57·2	1·3	..	..	44·5						S by E	..	..	..	Pos.	15	..	10	12	7. 0
14	29·835	55·8	55·2	0·6	..	..				5·575			SSE	..	..	..	Pos.	25	..	20	25	25. 0
16	29·815	54·2	53·7	0·5	53·0	1·2	67·8						SSE	..	..	..	Pos.	10	..	8	10	10. 0
18	29·815	60·0	55·5	4·5	..	..	62·5			..			W by S	..	..	..	Pos.	2	2	0	0	..
20	29·815	71·5	65·2	6·3	..	..	..			..			WSW	..	..	..	Pos.	30	..	25	30	15. 0
22	29·818	81·5	69·6	11·9	60·0	21·5	..			..			SSE	..	..	..	Pos.	5	12	5	..	..
May 28. 0	29·812	80·8	69·2	11·6	..	..	..			..			SSW	..	..	..	Pos.	2	7	0	0	..
2	29·796	83·0	70·6	12·4	..	..	..			..			SW	..	..	..	Pos.	5	20	7	0	..
4	29·775	85·3	68·4	16·9	56·0	29·3	..			..			S	..	..	..	Pos.	20	..	15	20	17. 0
6	29·771	81·8	67·9	13·9	..	..	..			..			S	..	..	..	Pos.	20	..	15	20	10. 0
8	29·759	76·0	68·6	7·4	..	..	..			..			S by W	..	..	..	Pos.	25	..	20	30	11. 0
10	29·763	70·5	65·8	4·7	63·5	7·0	..			..			S by W	..	..	..	Pos.	20	20	10	0	..
11	29·767	70·1	65·5	4·6	..	..	..			..			S by W	..	..	..	..	..	..	..	..	..
12	29·747	66·5	64·4	2·1	..	..	86·2			..			S by W	..	..	..	Pos.	5	5	0	0	..
13	29·719	64·5	63·0	1·5	..	..	60·3			1·82			S by W	..	..	..	..	..	..	..	..	..
14	29·703	63·2	62·2	1·0	..	..							S	..	..	..	..	..	0	0	0	..
15	29·710	62·7	61·9	0·8	..	..	111·0			0·19			WSW	0 to ½	..	..	Pos.	30	..	25	30	Instantly
16	29·730	63·0	61·9	1·1	..	..	56·0						WSW	0 to ½	..	..	Pos.	35	..	40	50	Instantly
17	29·711	61·0	60·5	0·5	..	..	68·5			5·755			W	..	..	..	Pos.	25	..	20	25	14. 0
18	29·693	61·6	61·5	0·1	..	..	63·5			..			W	..	..	..	Pos.	8	..	10	12	27. 0
19	29·680	61·5	61·0	0·5	..	..	..			..			S	..	..	..	Neg.	20	..	20	40	..
20	29·698	62·0	61·3	0·7	..	..	..			..			S by W	..	..	..	Pos.	2	3	0	0	..
21	29·726	65·1	63·9	1·2	..	..	..			..			S by W	..	..	..	Pos.	25	..	20	40	..
22	29·744	67·2	64·2	3·0	62·5	4·7	..			..			WSW	..	..	..	Pos.	..	50	30	35	15. 0
23	29·743	70·0	65·0	5·0	..	..	..			..			SW	..	..	..	..	..	..	..	..	..
May 29. 0	29·739	72·0	66·3	5·7	..	..	..			..			WSW	..	..	..	Pos.	40	..	50	60	..
1	29·753	74·0	65·3	8·7	..	..	..			..			SW	..	..	..	..	..	..	..	..	..

DRY THERMOMETER.
May 27d. A great rise of temperature since May 26d.

DEW POINT THERMOMETER.
May 28d. 16h. The observation was inadvertently omitted.

MAXIMUM FREE THERMOMETER.
May 27d. 22h. The reading was lower than that of the Dry Thermometer at 22h.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
0	..	Cloudless.	L
0	..	,,	T D
0	..	,,	
0	..	,,	
0	Transit	,,	T D
0	..	,, the reading of a thermometer placed on long grass is 30°, and one placed on flax is 24°.	G
0	..	A low bank of cloud appears in the W. and S.W., but to no numerical extent.	
0	..	Cloudless.	
0	..	,,	
0	..	,,	G
3	..	Cirro-stratus, fleecy clouds, and scud mostly towards the S.	L
3	..	Cirro-stratus, fleecy clouds, and scud mostly towards the S.: a few mottled cirri about the zenith.	
5	..	Cirro-stratus, fleecy clouds, and scud scattered over the sky.	L
3	..	There are some cumuli and cumulo-strati near the horizon, and some cirri near the zenith.	G
0	..	A few small cumuli are scattered here and there, but to no numerical extent.	
0	..	Cloudless.	G
1	Transit	Cloudless, with the exception of a few clouds near the S. horizon.	L
2	..	A few light clouds in various directions.	
0	..	Cloudless.	
0	..	,, [of rain fell.	
2	..	A few light clouds about the sky: at about $17^h.10^m$ it became almost overcast for a few minutes, and some large drops	
3	..	Cirro-strati, a few cumuli, and fleecy clouds.	L
1	..	A few light cirri scattered about the sky.	T D
6	..	Cumuli, cumulo-strati, cirro-strati, and scud: clear in the zenith and E. of it.	
6	..	Cirro-stratus and fleecy clouds all around the horizon to a considerable elevation: since the last observation the sky has been covered with cirro-stratus and scud, and at $1^h.5^m$ a few drops of rain fell.	T D
1	..	Cirro-stratus towards the S. horizon: light clouds about the zenith.	L
1	..	A few fleecy clouds and scud are scattered about: there are a few cirro-cumuli about the zenith.	L
4	..	Thin cirro-strati and a few cirro-cumuli, chiefly in the S. and S.S.W.	T D
3	..	There are some loose clouds about the Moon's place and some near the place of Venus, and to the N., of no particular modification.	G
10	..	[very small portion clear. The amount of the clouds has been increasing since 10^h, and they now very nearly cover the sky, there being only a	
0	Transit	The sky is very nearly cloudless.	
10	..	Overcast: cirro-stratus, fleecy clouds, and scud.	G
10	..	,, ,,	L
10	..	,, ,, for the last three-quarters of an hour there have been continued distant peals of thunder from the N.W., and sheet lightning in almost incessant flashes.	L
10	..	Overcast: cirro-stratus and scud: since the last observation the flashes of lightning have been incessant, accompanied with distant thunder: occasionally a few drops of rain have fallen.	T D
10	..	Overcast: cirro-stratus and scud: at $16^h.30^m$ heavy rain fell, accompanied with vivid lightning, and loud claps of thunder in the S.S.W.: at $16^h.35^m$ the rain was descending in torrents.	
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,, slight rain has fallen since the last observation.	T D
10	..	,, ,, a few drops of rain are falling.	G H
10	..	,, ,, ,,	
10	..	,, ,,	G H
10	..	The clouds are becoming broken, and the Sun has been shining occasionally for a few moments.	T D
9	..	Massive cumuli in the S. and S.S.W.; cirro-strati and scud elsewhere.	T D
7	..		

ELECTRICITY.

May $26^d.4^h$ and 10^h. There were sparks at the distance of $0^{in}.02$ at each time.

May $28^d.12^h.30^m$. The sky became overcast, and from this time till 13^h there were frequent flashes of lightning in the S.S.W.

May $28^d.16^h$. There was a spark at the distance of $0^{in}.02$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	Max. and Min. as read at 22h. of Rad. Therm.	Max. and Min. as read at 22h. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's).	RAIN GAUGES. Reading of No. 2.	RAIN GAUGES. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in lbs. per square foot.	WIND. From Whewell's Anemometer. Direction.	WIND. From Whewell's Anemometer. Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Single Gold Leaf of Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Double Gold Leaf.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 1.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 2.	ELECTRICAL INSTRUMENTS. Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°			in.				from lbs. to lbs.		in.		°	°	div.	div.	m s
May 29. 2	29·768	73·0	65·2	7·8	..	..	..			..			S W	½ to 1½	..	..	Pos.	5	10	5	0	..
3	29·783	67·3	63·3	4·0	..	..	..			..			SW	1 to 1½	..	..	..	..	..	..	..	..
4	29·803	68·0	61·2	6·8	56·0	12·0	..			..			WSW	½ to 1½	..	..	Pos.	5	10	0	0	..
5	29·820	67·5	60·5	7·0	..	..	..			..			WSW	1 to 1½	..	..	..	..	..	..	..	..
6	29·838	66·2	58·7	7·5	..	..	..			..			WSW	½ to 1½	..	..	Pos.	12	20	10	..	16. 0
7	29·867	65·0	57·1	7·9	..	..	75·4			..			WSW	1 to 2	..	..	..	..	..	..	..	..
8	29·899	60·9	53·6	7·3	..	..	47·9			1·82			W by S	..	..	..	Pos.	6	12	..	..	..
9	29·946	57·5	52·4	5·1	..	..							WSW	..	..	..	..	..	..	..	..	..
10	29·983	55·7	50·9	4·8	47·0	8·7	95·0			0·00			WSW	..	..	..	Pos.	40	30	15	15	..
12	30·028	53·0	49·9	3·1	..	..	40·5						WSW	..	..	..	..	..	0	0	0	..
14	..	..	..	..	..	..				5·775			SW	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	69·0						SW	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	64·0			..			SW	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..			..			WSW	..	..	..	..	..	..	..	..	..
21	30·218	60·9	54·4	6·5	..	..	..			..			WSW	..	..	..	Pos.	5	12	7	..	..
22	..	..	..	..	..	..	..			..			WSW	..	..	..	..	..	..	..	..	..
h m 22. 30	30·232	65·4	56·5	8·9	..	..	..			..			WSW	..	..	..	Pos.	5	20	10	7	..
d h May 30. 0	..	..	..	..	..	..	..			..			WSW	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..			..			WSW	..	..	..	..	..	..	..	..	..
h m 3. 35	30·247	71·8	58·5	13·3	..	..	74·0			..			SW	..	..	..	Pos.	5	10	5	..	..
d h 30. 4	..	..	..	..	..	..	47·7			1·82			WSW	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..							SW	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	92·5			0·00			W	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	37·8						SSW	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..				5·775			SSW	..	..	..	..	..	..	..	..	..
14	30·291	50·5	49·4	1·1	..	..	69·5						SSW	..	..	..	Pos.	10	15	8	..	..
16	30·308	49·0	48·4	0·6	48·0	1·0	64·2			..			SSW	..	..	..	Pos.	3	5	..	..	..
18	30·326	50·3	49·6	0·7	..	..	..			..			SSW	..	..	..	..	..	0	0	0	..
20	30·342	61·1	57·4	3·7	..	..	..			..			S	..	..	..	Pos.	5	20	8	..	..
22	30·378	70·6	61·4	9·2	51·0	19·6	..			..			S	..	..	..	Pos.	30	..	40	60	10. 0
May 31. 0	30·387	72·2	60·2	12·0	..	..	..			..			NE	..	..	..	Pos.	20	..	20	40	..
2	30·362	79·2	64·4	14·8	..	..	..			..			NNE	..	..	..	Pos.	15	..	20	40	..
4	30·340	75·9	63·0	12·9	55·0	20·9	82·3			..			N	..	..	..	Pos.	30	..	30	40	8. 0
6	30·336	72·4	62·5	9·9	..	..	48·9			1·82			NNE	..	..	..	Pos.	25	..	20	30	16. 0
8	30·328	67·9	60·5	7·4	..	..							NNE	..	..	..	Pos.	35	..	30	40	17. 0
10	30·330	60·7	56·5	4·2	53·0	7·7	114·8			0·00			NNE	..	..	..	Pos.	40	..	30	40	7. 0
12	30·338	56·4	54·2	2·2	..	..	38·5						NNE	..	..	..	Pos.	2	2	0	0	..
14	30·331	52·4	51·0	1·4	..	..				5·775			N by E	..	..	..	Pos.	2	5	0	0	..
16	30·335	50·5	49·4	1·1	48·5	2·0	69·8						N by E	..	..	..	Pos.	2	2	0	0	..
18	30·357	51·7	51·0	0·7	..	..	65·0			..			N by E	..	..	..	..	..	0	0	0	..
20	30·367	61·0	57·0	4·0	..	..	..			..			N	..	..	..	Pos.	12	..	10	30	10. 0
22	30·371	69·0	59·5	9·5	49·5	19·5	..			..			N by W	..	..	..	Pos.	20	..	15	20	..
June 1. 0	30·374	74·7	61·5	13·2	..	..	80·2						NNE	..	..	..	Pos.	20	..	15	20	20. 0
2	30·351	79·0	64·1	14·9	..	..	46·8			1·82			NNE	..	..	..	Pos.	10	..	8	10	10. 0
4	30·328	77·5	63·1	14·4	53·5	24·0	108·0			0·00			N	..	..	..	Pos.	10	..	10	25	..
6	30·321	70·9	61·4	9·5	..	..	35·0						ENE	..	..	..	Pos.	20	..	30	50	..
8	30·326	62·5	54·4	8·1	..	..	..			5·775			E by S	..	..	..	Pos.	12	..	10	30	..
10	30·342	56·7	50·8	5·9	43·5	13·2	65·5						E by S	..	..	..	Pos.	8	15	0	0	..

DRY THERMOMETER.

May 30d. The increase in the reading between 18h and 20h was 10°·8.

TEMPERATURE OF THE WATER OF THE THAMES.

June 1d. The Maximum Thermometer was sent to the maker to be repaired.

ELECTRICITY.

May 31d. 4h and 10h. There were sparks at the distance of 0in 02 at each time.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
9	..	Cirro-cumuli and scud: a break towards the S. E.	G H
10	..	Overcast: cirro-stratus and scud: rain has been falling slightly since the last observation.	G H
4	..	Detached cumuli, fleecy clouds and scud.	L
5	..	,,	L
2	..	Some detached portions of cumuli are the only prevailing clouds.	T D
4	..	Patches of cumuli and cumulo-strati scattered over the sky.	G H
0	..	Cloudless.	
0	..	,,	G H
0	..	,,	G
7	Transit	The whole of the southern portion of the sky, extending from the horizon to the zenith, is covered with a thin cloud	T D
..	..	of the stratus character, the Moon and principal stars being visible through it; detached masses of scud in every	
..	Full	other direction.	
..	..		
..	..		
0	..	Cloudless: hazy in the N. horizon.	
..	..		
3	..	Light cirri and detached portions of cumuli in every direction.	
..	..		
..	..		
4	..	A bank of cirro-stratus in the N., and some detached portions of stratus near the Sun's place.	
..	..		
..	..		
..	..		
..	..		
..	..		
0	Transit	Cloudless.	
0	..	,,	
0	..	,,	
0	..	,, a thin haze prevails.	T D
1	Greatest Declination S.	A large mass of cumuli towards the S.W. part of the horizon.	G H
2	..	Detached patches of cumuli are scattered over the sky.	
3	..	Detached patches of cumuli and cumulo-strati scattered over the sky. [portions of scud elsewhere.	G H
8	..	The whole of the southern portion of the sky is covered with cumulo-strati; in the N. cirro-strati prevail; light	T D
9	..	With the exception of some small breaks in the zenith the whole of the sky is covered with cumulo-strati and portions	
0	..	Cloudless. [of scud.	
0	..	,,	T D
0	..	,,	G H
0	Transit	,,	
0	..	,,	
0	..	,,	
0	..	,,	G H
0	..	,,	L
0	..	,,	G
0	..	,,	L
0	..	Cloudless, with the exception of a few fleecy clouds, but to no numerical extent.	
½	..	A small patch of cumulo-strati towards the N.W.	
0	..	Cloudless.	L
0	..	,,	G H

RAIN.

May 31d. 12h. The amount collected during the month of May in the rain-gauge No. 4 was 1in.40, and that collected by the Rev. G. Fisher in a rain-gauge of the same construction at Greenwich Hospital Schools during the same period was 1in.28.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. / of Rad. Therm. / of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of: Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
June 1. 12	30·341	52·8	50·4	2·4	..	..	..	..	E by S	..	..	..	Pos.	7	10	0	0	..
14	30·331	51·2	49·1	2·1	..	..	..	..	E by S	..	..	..	Pos.	5	9	0	0	..
16	30·337	50·0	46·6	3·4	43·0	7·0	..	..	ENE	..	..	..	Pos.	2	2	0	0	..
18	30·342	50·0	46·9	3·1	..	..	..	..	NE	..	..	..	Pos.	2	2	0	0	..
20	30·337	61·4	54·6	6·8	..	..	..	..	NE	..	..	..	Pos.	10	..	8	10	7. 0
22	30·335	70·6	60·0	10·6	49·8	20·8	..	..	NNE	..	..	..	Pos.	5	12	8	0	..
June 2. 0	30·331	76·4	63·9	12·5	..	..	..	..	NNE	0 to ½	..	..	Pos.	10	20	10	..	..
2	30·314	76·0	64·5	11·5	..	..	..	..	NNE	..	..	..	Pos.	7	12	10	..	..
4	30·300	75·2	63·2	12·0	53·5	21·7	80·4	..	NE	..	..	..	Pos.	7	10	..	..	..
6	30·280	69·5	58·9	10·6	..	..	46·4	1·82	Calm	..	..	..	Pos.	7	10	..	..	..
8	30·276	63·5	56·2	7·3	..	..	——		Calm	..	..	..	Pos.	8	10	..	..	..
10	30·290	57·2	52·6	4·6	49·0	8·2	97·8	0·00	Calm	..	..	..	Pos.	5	7	..	..	..
12	30·282	52·5	51·1	1·4	..	..	38·0		Calm	..	..	..	Pos.	10	20	10	7	..
14	30·266	51·5	50·4	1·1	..	..	——	5·775	Calm	..	..	..	Pos.	4	10	..	..	..
16	30·246	50·2	49·4	0·8	49·0	1·2	70·2		Calm	..	..	..	Pos.	12	25	12	7	..
18	30·244	51·6	49·8	1·8	..	..	65·8	..	Calm	..	..	..	..	..	0	0	0	..
20	30·238	61·0	56·0	5·0	..	..	..	..	Calm	..	..	..	Pos.	25	..	20	30	9. 0
22	30·227	70·6	61·7	8·9	54·0	16·6	..	..	N	..	..	..	Pos.	15	..	20	30	20. 0
June 3. 0	30·197	74·5	62·5	12·0	..	..	..	..	N by W	0 to ½	..	..	Pos.	10	..	10	20	..
2	30·162	78·3	64·0	14·3	..	..	..	..	N	½ to 1	..	..	Pos.	10	..	10	20	..
4	30·135	77·0	61·7	15·3	50·0	27·0	80·2	..	N	½ to 1	..	..	Pos.	40	..	50	70	4. 0
6	30·131	70·5	57·5	13·0	..	..	51·1	1·82	N	½ to 1½	..	..	Pos.	20	..	20	30	13. 0
8	30·119	64·0	55·3	8·7	..	..	——		N	0 to ½	..	..	Pos.	40	..	60	70	11. 0
10	30·119	56·5	50·2	6·3	44·5	12·0	97·0	0·00	N	..	..	..	Pos.	40	50	20	20	20. 0
12	30·112	53·5	51·0	2·5	..	..	41·5		N	..	..	..	..	..	0	0	0	..
14	30·102	53·6	51·0	2·6	..	..	——	5·775	NNE	0 to ½	..	..	..	..	0	0	0	..
16	30·091	53·6	51·0	2·6	48·5	5·1	70·5		N	..	..	..	..	..	0	0	0	..
18	30·105	54·0	50·9	3·1	..	..	66·0	..	NNE	..	..	..	..	..	0	0	0	..
20	30·112	57·2	52·8	4·4	..	..	..	..	NNE	..	..	..	..	..	0	0	0	..
22	30·117	64·0	57·1	6·9	51·0	13·0	..	..	NNE	..	..	..	Pos.	2	2	..	..	..
June 4. 0	30·109	73·5	63·5	10·0	..	..	..	..	N	..	..	..	Pos.	10	..	15	10	..
2	30·092	77·0	64·7	12·3	..	..	..	..	N	..	..	..	Pos.	6	10	..	..	..
4	30·074	78·2	64·8	13·4	54·5	23·7	80·0	..	N	..	..	..	..	..	0	0	0	..
6	30·069	69.8	63·0	6·8	..	..	49·9	1·82	ENE	..	..	..	..	..	0	0	0	..
8	30·079	62·8	57·9	4·9	..	..	——		N	½ to 2	..	..	..	..	0	0	0	..
10	30·106	57·0	54·4	2·6	53·0	4·0	98·5	0·00	N by W	½ to 1	..	..	..	..	0	0	0	..
12	30·120	53·8	52·1	1·7	..	..	43·2		N	½ to 1	..	..	..	..	0	0	0	..
14	30·109	53·0	50·1	2·9	..	..	——	5·775	N	0 to 1	..	..	..	..	0	0	0	..
16	30·101	52·0	49·4	2·6	47·0	5·0	70·2		N	0 to 1	..	..	..	..	0	0	0	..
18	30·108	51·0	47·9	3·1	..	..	65·8	..	N	0 to ½	..	..	..	..	0	0	0	..
20	30·109	58·4	52·1	6·3	..	..	..	..	N	..	..	..	..	..	0	0	0	..
22	30·099	61·2	53·8	7·4	45·0	16·2	..	..	N	..	..	..	Pos.	5	10	..	..	..
June 5. 0	30·073	68·5	56·0	12·5	..	..	69·0	..	N	0 to ½	..	..	Pos.	5	7	..	..	..
2	30·060	66·0	56·5	9·5	..	..	49·5	1·82	N	½ to 1	..	..	Pos.	3	7	..	..	..
4	30·041	61·5	52·4	9·1	42·0	19·5	——		N	0 to ½	..	..	..	..	..	..	..	..
6	30·032	60·2	51·8	8·4	..	..	92·5	0·00	N	..	..	..	..	..	..	..	..	..
8	30·002	56·7	50·4	6·3	..	..	43·5		N	..	..	..	..	..	0	0	0	..
10	30·007	53·8	48·7	5·1	42·0	11·8	——	5·775	N	..	..	..	..	..	0	0	0	..
							69·5											
							65·2											

DRY THERMOMETER.

June 1d. The increase in the reading between 18h and 20h was 11°·4.

ELECTRICITY.

June 3d. 4h and 8h. There were sparks at the distance of 0in·02 at each time.

June 5d. 4h and 6h. The apparatus was under repair.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
0	..	Cloudless.	L
0	..	,,	
0	Transit	,,	
0	..	,,	
0	..	,,	L
0	..	,, a slight haze prevails.	T D
2	..	There are detached portions of cumuli chiefly in the S. and S,W.	G H
2	..	Some imperfectly-formed cumuli and lines of cirri in the zenith and around it are the only prevailing clouds.	T D
2	..	Cumuli towards the N.; clear elsewhere.	L
1	..	Cirro-stratus along the N. horizon; clear elsewhere.	
0	..	There are a few light clouds, but to no numerical extent.	
0	..	Cloudless.	L
0	..	,,	T D
0	..	,,	
0	Transit	,,	
0	..	There are a few light cirri in the zenith, but not sufficient to affect the notation.	
3	..	Some portions of cirri, light undefined clouds, and vapour prevail in the N.	T D
8	..	Cirro-cumuli and haze.	G H
10	..	Overcast: cirri, thin cirro-stratus, and haze.	
5	..	Cirri, very thin cirro-strati, and haze: at $1^h.\ 10^m$ there was a perfect solar halo, its radius (from estimation) was about 22°, the inner circle was tinged with pale orange, gradually varying into a dull greenish hue.	G H
6	..	A considerable portion of the sky is covered with a thin cirro-stratus cloud: the halo is very faint, its radius is 23°.	T D
3	..	Light cirri are scattered over the sky in small detached portions.	
0	..	Cloudless.	T D
½	..	Cloudless, except a low bank of dark cirro-stratus in the N. horizon.	G
10	..	Overcast.	G H
10	..	,,	
10	..	,, cirro-cumuli and scud.	
10	Transit	,, ,,	
8	..	Cirro-cumuli and scud: a large space of blue sky about the zenith.	G H
3	..	Fleecy clouds and masses of scud are scattered about the sky.	L
4	..	Detached cumuli, fleecy clouds, and scud.	
5	..	,,	
4	..	Detached masses of cirro-cumuli in every direction.	L
1	..	One large mass of cumulus and scud half way between the zenith and the N.W. parts of the horizon.	G H
0	..	There is some loose scud toward the S., but to no numerical extent.	L
10	..	Overcast: cirro-stratus and scud: the clouds began to gather about $9^h.\ 15^m$, soon after which time the sky became covered.	T D
10	..	,, ,,	L
10	..	,, ,,	
10	..	,, ,,	
10	Transit	,, ,,	L
10	..		
7	..	Cumulo-strati and fleecy clouds in every direction: portions of blue sky of small extent are seen through the clouds.	T D
4	..	Cumuli and cumulo-strati in the S .horizon; some large detached portions of the same clouds are exhibited in the	
9	..	Cirro-stratus and scud cover the sky, with the exception of a small portion E. of the zenith. [W.N.W.	T D
10	..	Overcast: cirro-stratus and scud.	L
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	L

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
June 5. 12	29·994	53·0	47·8	5·2	..	..	..	..	N by W	..	..	..	..	..	0	0	0	..
14	..	..	..	..	..	..	..	..	NNW	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	NNW	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	NNW	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	NNW	..	..	..	..	..	..	..	..	..
22	29·931	60·6	51·4	9·2	..	..	..	..	NNW	0 to ½	..	..	..	..	0	0	0	..
June 6. 0	..	..	..	..	..	..	..	..	NNW	0 to ½	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	N by W	0 to 1	..	..	..	..	..	..	..	..
h m 2. 30	29·911	59·3	50·4	8·9	..	..	..	..	N by W	0 to 1	..	..	Pos.	2	5	..	..	..
d h 6. 4	..	..	..	..	..	..	66·3	..	N by W	0 to 1	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	42·9	1·82	N by W	..	..	..	..	..	..	..	..	..
h m 7. 20	29·915	54·3	49·4	4·9	..	..	83·3	0·00	N by W	..	..	..	..	..	0	0	0	..
d h 6. 8	..	..	..	..	..	..	20·0	5·775	N by W	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..			N by E	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	68·8		N by W	..	..	..	..	..	..	..	..	..
14	29·938	44·0	42·5	1·5	..	..	64·5	..	NNW	..	..	..	..	..	..	..	..	..
16	29·939	47·0	43·9	3·1	41·3	5·7	..	..	NNW	..	..	..	..	..	..	..	..	..
18	29·970	48·0	44·8	3·2	..	..	..	..	NNW	..	..	..	..	..	..	..	..	..
20	29·977	52·0	46·8	5·2	..	..	..	..	NNW	..	..	..	Pos.	3	7	..	..	..
22	29·984	59·5	49·8	9·7	42·0	17·5	..	..	NNW	..	..	..	Pos.	20	..	20	40	..
June 7. 0	29·985	63·4	52·2	11·2	..	..	..	..	N by W	..	..	..	Pos.	12	..	10	20	..
2	29·967	62·8	51·9	10·9	..	..	..	..	N by W	..	..	..	Pos.	6	10	..	..	..
4	29·944	62·0	51·9	10·1	44·0	18·0	..	..	N by W	..	..	..	Pos.	8	12	5	..	..
6	29·910	61·5	53·4	8·1	..	..	68·5	..	N by W	..	..	..	..	..	0	0	0	..
8	29·894	59·5	52·2	7·3	..	..	49·4	1·85	WSW	..	..	..	Pos.	10	12	5	..	..
10	29·881	55·0	50·2	4·8	47·0	8·0	82·0	0·07	S by W	..	..	..	Pos.	12	20	7	..	..
12	29·853	54·8	50·4	4·4	..	..	41·5	5·865	SW	..	..	..	Pos.	8	12	..	..	..
14	29·819	52·0	48·0	4·0	..	..	67·5		WSW	..	..	..	Pos.	20	..	20	40	..
16	29·781	50·5	48·0	2·5	45·5	5·0	64·0	..	WSW	..	..	..	Pos.	10	20	..	..	..
18	29·761	50·6	47·6	3·0	..	..	..	..	SW	..	..	..	Pos.	10	..	10	20	..
20	29·724	51·2	49·9	1·3	..	..	..	..	SW	..	..	..	Pos.	6	8	..	..	..
22	29·667	52·0	51·4	0·6	50·5	1·5	..	..	SW	..	..	..	Neg.	20	..	15	20	5. 0
June 8. 0	29·623	56·2	53·6	2·6	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
2	29·600	56·5	51·6	4·9	..	..	..	..	NW	½ constant	..	..	Pos.	5	8	..	..	..
4	29·573	61·6	52·0	9·6	43·0	18·6	62·5	..	NW	½ constant	..	..	..	..	0	0	0	..
6	29·575	55·6	49·4	6·2	..	..	41·4	1·92	W	..	..	..	Pos.	15	..	10	30	
8	29·600	48·5	45·7	2·8	..	..		0·10	WNW	0 to ½	..	..	Pos.	2	4	..	..	..
10	29·616	48·0	45·6	2·4	43·0	5·0	32·5	6·025	WNW	..	..	..	Neg.	20	80	10	20	..
12	29·651	45·3	43·1	2·2	..	..	66·8		WNW	0 to ½	..	..	Pos.	10	..	8	10	7. 0
14	29·657	44·6	42·5	2·1	..	..	62·8	..	W by N	..	..	..	Pos.	6	10	..	..	..
16	29·667	43·0	42·1	0·9	41·0	2·0	..	..	W	..	..	..	Pos.	5	8	..	..	..
18	29·685	44·3	42·8	1·5	..	..	..	..	W	..	..	..	Pos.	5	8	..	..	..
20	29·706	50·3	45·7	4·6	..	..	..	..	NNW	1 to 1½	..	..	Pos.	15	..	10	12	10. 0
22	29·726	53·0	45·9	7·1	39·0	14·0	..	..	NNW	1½ to 3	..	..	Pos.	10	12	5	..	..

MAXIMUM RADIATION THERMOMETER.
June 8d. The instrument was out of order.

OSLER'S ANEMOMETER.
June 8d. 6h. 20m. A pressure of 4½ lbs. was recorded.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast: cirro-stratus and scud.	T D
..	..		
..	3rd Qr.		
..	Transit		
..	..		
8	..	Cirri, cirro-cumuli, cirri, and a few patches of scud: there is a break towards the N.W.	
..	..		
..	..		
10	..	Overcast: cirro-stratus, with detached masses of cumuli and scud.	
..	..		
..	..		
10	..	Overcast with cumuli and detached masses of scud.	
..	..		
..	In Equator		
..	..		
3	..	Some detached cirri in the zenith: the stars are dim.	
10	..	Cirro-stratus, cumulo-stratus, and scud. [is seen.	
8	..	Cirro-stratus, cumulo-stratus, and fleecy clouds broken considerably E. of the zenith, where a large portion of clear sky	
2	Transit	Cumuli in various directions.	T D
½	..	A few detached cumuli are scattered over the sky.	G H
7	..	Detached masses of cumuli and scud in every direction.	
9	..	Cirro-stratus, cumulo-stratus, and scud.	G H
10	..	Overcast: cirro-stratus and scud.	T D
10	..	Cumuli, cumulo-strati, cirro-strati, and scud cover the sky: since the last observation the clouds have become broken.	
8	..	Cumuli, cumulo-strati, fleecy clouds, and scud: the clouds became broken almost in every direction at $7^h.\ 10^m$, and have continued so until the present time.	
10	..	The whole of the sky is covered with a thin cirro-stratus cloud; in the N. densely-packed cumulo-strati are exhibited to 40° of altitude, extending from the N. N. E.	T D
10	..	Overcast: very dark. [quite clear, and remained so until within ten minutes of this observation.	G H
10	Perigee	,, the places of a few of the principal stars about the zenith are dimly visible: at about $1^h.\ 15^m$ the sky became	
10	..	,, cirro-stratus and scud.	
10	..	,, ,, a few drops of rain are falling.	
10	Transit	,, ,, rain is falling.	G H
10	..	,, ,, fine rain is falling.	L
10	..	Overcast: cirro-stratus and scud: the rain ceased at about 23^h.	
10	..	,, cirro-strati, cumulo-strati, and scud: heavy rain has fallen occasionally since the last observation, and several peals of thunder were heard in the W. S.W.: there are some heavy electrical-looking clouds in the S.	
5	..	Detached masses of cumuli and scud in different directions: atmosphere very hazy. [N. and W. parts of the horizon.	L
10	..	Overcast, with cirro-stratus and large masses of dark scud: there is a heavy bank of electrical-looking cloud about the	G H
3	..	Cirro-strati and light fleecy clouds near the horizon: cumulo-strati towards the N.W.; elsewhere clear but hazy: since the last observation there has been a violent squall of wind and rain, accompanied by negative electricity.	
7	..	Cirro-stratus and large masses of scud; clear towards the N. and N.W.	G H
0	..	Cloudless.	L
8	..	Clear in the zenith and a little S. of it; elsewhere the sky is covered with cirro-stratus and scud: the clouds began to	
7	..	Thin cirro-strati, fleecy clouds, and masses of scud. [collect about twenty minutes since.	
0	..	Cloudless.	
0	..	,,	L
8	Transit	Cumuli in large masses in every direction, with portions of quickly-moving scud.	T D

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. / of Rad. Therm. / of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). / Reading of No. 2. / Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
June 9. 0	29·729	58·5	48·1	10·4	..	..	..	..	NNW	1 to 2	..	..	Pos.	15	20	7	..	..
2	29·735	63·0	51·3	11·7	..	..	..	..	NNW	1 to 3	..	..	Pos.	3	5	..	..	..
4	29·727	64·0	52·2	11·8	42·0	22·0	65·0	..	NNW	½ to 1	..	..	Pos.	5	7	..	..	..
6	29·731	59·2	50·4	8·8	..	..	48·5	1·99	NNW	..	..	..	Pos.	7	10	..	..	..
8	29·727	55·3	50·9	4·4	..	..	——		NNW	..	..	..	Pos.	8	12	5	7	..
10	29·717	51·3	48·7	2·6	46·0	5·3	79·2	0·12	N by E	..	..	..	Pos.	20	..	20	25	10. 0
12	29·696	51·0	48·2	2·8	..	..	40·5		SSE	..	..	..	..	..	0	0	0	..
14	29·667	49·6	48·0	1·6	..	..	——	6·155	WSW	..	..	..	Neg.	30	..	30	40	5. 0
16	29·619	48·5	47·9	0·6	47·0	1·5	65·8	..	SSW	..	..	..	Neg.	40	..	40	50	7. 0
18	29·599	49·5	49·0	0·5	..	..	62·2	..	SSW	..	..	..	Neg.	25	..	25	35	11. 30
20	29·552	50·5	50·0	0·5	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
22	29·547	54·2	50·6	3·6	48·0	6·2	..	..	WNW	½ to 1	..	..	Pos.	2	2	..	..	..
June 10. 0	29·565	56·2	49·8	6·4	..	..	..	..	WNW	½ to 3	..	..	Pos.	2	2	..	..	..
2	29·573	56·4	49·8	6·6	..	..	..	..	NW	½ to 2	..	..	Pos.	6	10	..	..	..
4	29·603	58·1	50·9	7·2	46·0	12·1	61·5	..	NW	½ to 2	..	..	Pos.	4	10	..	..	..
6	29·633	54·6	50·9	3·7	..	..	44·9	1·99	NNW	0 to 2	..	..	..	..	0	0	0	..
8	29·672	52·6	51·0	1·6	..	..	——		NNW	..	..	..	Neg.	20	..	20	30	4. 0
10	29·709	52·5	50·0	2·5	48·0	4·5	78·5	0·00	NW	0 to ½	..	..	Pos.	5	10	..	..	..
12	29·734	50·5	46·8	3·7	..	..	35·4		NW	..	..	..	Pos.	2	3	..	..	..
14	29·752	48·0	45·4	2·6	..	..	——	6·185	WNW	..	..	..	Pos.	4	3	..	..	..
16	29·763	47·5	45·4	2·1	43·0	4·5	65·0		W	..	..	..	..	..	0	0	0	..
18	29·804	47·0	45·0	2·0	..	..	61·2	..	WNW	..	..	..	Pos.	3	4	..	..	..
20	29·829	53·2	48·6	4·6	..	..	..	..	NNW	..	..	..	Pos.	5	8	..	..	..
22	29·853	59·2	51·4	7·8	45·0	14·2	..	..	NNW	0 to ½	..	..	Pos.	6	10	..	..	..
June 11. 0	29·871	58·8	49·8	9·0	..	..	..	..	NNW	0 to ½	..	..	Pos.	3	5	..	..	..
2	29·866	64·2	52·4	11·8	..	..	..	..	NNW	..	..	..	Pos.	3	5	..	..	..
4	29·869	63·2	52·2	11·0	41·0	22·2	67·9	..	NNW	..	..	..	Pos.	20	35	15	10	..
6	29·877	61·7	53·0	8·7	..	..	44·9	1·99	NW	..	..	..	Pos.	18	30	10	..	..
8	29·889	58·2	50·7	7·5	..	..	——		Calm	..	..	..	Pos.	8	25	8	..	..
10	29·897	51·3	47·9	3·4	43·5	7·8	83·2	0·00	Calm	..	..	..	Pos.	40	..	50	70	10. 0
12	29·893	46·2	45·1	1·1	..	..	34·5		Calm	..	..	..	Pos.	15	..	10	15	10. 0
14	29·869	46·5	45·4	1·1	..	..	——	6·185	SSW	..	..	..	Pos.	10	..	8	10	7. 0
16	29·866	46·3	45·1	1·2	44·0	2·3	64·5		SSW	..	..	..	Pos.	7	10	..	..	..
18	29·869	48·2	46·7	1·5	..	..	60·2	..	SSW	..	..	..	Pos.	7	10	..	..	..
20	29·866	56·0	51·6	4·4	..	..	..	..	SW	..	..	..	Pos.	20	..	15	20	15. 0
22	29·862	63·9	53·9	10·0	46·0	17·9	..	..	SW	..	..	..	Pos.	10	..	7	10	..
June 12. 0	29·857	66·2	55·3	10·9	..	..	..	..	SW	..	..	..	Pos.	10	18	8	..	..
2	29·821	67·0	54·8	12·2	..	..	..	..	SW	..	..	..	Pos.	8	15	..	..	..
4	29·797	66·7	55·7	11·0	47·0	19·7	..	..	SSW	0 to ½	..	..	Pos.	7	10	..	..	..
6	29·788	62·6	52·7	9·9	..	..	70·3	..	SSW	0 to ½	..	..	Pos.	7	10	..	..	..
8	29·785	57·3	51·7	5·6	..	..	51·6	1·99	SSW	..	..	..	Pos.	10	..	8	10	..
10	29·774	53·0	50·1	2·9	47·0	6·0	——		S by W	..	..	..	Pos.	12	..	10	12	7. 0
12	29·757	53·3	50·0	3·3	..	..	89·0	0·00	S by W	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	44·0		S by W	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	——	6·205	S	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	64·5		SSW	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	61·0	..	SSW	..	..	..	..	..	..	..	..	..
22	..	..	..	..	..	..	..	..	SSW	..	..	..	..	..	..	..	..	..
h m																		
22. 20	29·642	59·8	57·7	2·1	..	..	..	..	SSW	½ to 1	..	..	..	..	0	0	0	..

MINIMUM FREE THERMOMETER.

June 9d. 0h. The reading was 53°·7, which is evidently wrong; the inferred reading from the reading of the Dry Thermometer at 16h is 48°·5, which reading has been used in subsequent calculations.

ELECTRICITY.

June 9d. 16h. There was a spark at the distance of 0in·02.

June 11d. 10h. There was a spark at the distance of 0in·01.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
8	..	Cumuli, cumulo-strati, cirro-strati, and scud: a large clear break W. of the zenith; every other portion of the sky is	T D
9	..	Cirro-stratus and scud in every direction: a few cumuli E. of the zenith. [covered with clouds.	T D
5	..	Detached cumuli, fleecy clouds, and scud.	L
7	..	Cirro-stratus, fleecy clouds, and scud: clear mostly in the E. and S.: a few cirro-cumuli rather to the E. of the zenith.	
10	..	Cirro-stratus, fleecy clouds, and scud cover the sky.	
10	..	A very thin cirro-stratus covers the sky.	L
10	..	Overcast: cirro-stratus and scud.	T D
10	..	,, ,, rain is falling; it commenced at $13^h.\ 10^m$.	
10	..	,, ,, rain is falling.	
10	..	,, ,, ,,	
10	..	,, cirro-stratus: the rain ceased at about $19^h.\ 45^m$, having fallen without intermission since its commencement.	T D
10	Transit	,, cirro-stratus and scud.	G H
10	..	Overcast: cirro-stratus and scud.	G H
10	..		
10	..	Cumulo-stratus, cirro-stratus and scud: the Sun occasionally gleams through the clouds.	T D
10	..	Overcast: cirro-stratus and scud: rain has fallen since the last observation.	
10	..	,, cirro-stratus: rain is falling: it commenced at $7^h.\ 30^m$, and has continued to the present time.	
10	..	,, cirro-stratus and scud: rain has fallen at intervals since 8^h.	T D
7	..	Cirro-stratus and scud: a large space clear near the zenith towards the S. E.	G H
2	..	Cloudless, with the exception of a low bank of cirro-stratus about the horizon; the sky has only just become clear.	
10	..	Overcast with thin cirro-stratus and scud.	
0	..	Cloudless, but hazy.	
1	..	Cloudless, with the exception of a bank of cirro-stratus and haze in the S. E. horizon.	G H
7	..	Cumulo-stratus, cirro-stratus, and scud in every direction.	L
8	Transit	Cumulo-stratus, cirro-stratus, and scud in every direction.	
6	..	Detached cumuli, fleecy clouds, and masses of scud.	L
6	..	Masses of cumuli, cirro-cumuli, and scud in various directions.	G H
4	..	A large mass of cumuli towards the S. E. horizon, elsewhere a few patches of cirro-cumuli and haze.	
0	..	Cloudless: hazy about the horizon.	
0	..	,,	G H
0	..	,, a slight haze.	L
10	..	A thin cirro-stratus covers the sky; it became overcast at about $13^h.\ 10^m$.	
2	..	Cirro-stratus towards the N. horizon: loose clouds are floating about.	
1	..	,, ,,	
1	..	Thin cirro-stratus towards the South horizon.	L
4	..	Detached patches of cumuli in various directions.	G H
4	Transit	Detached patches of cumuli in various directions.	
4	..	Small fragments of cumuli in various directions.	G H
0	..	There are a few light clouds, but to no numerical extent.	L
1	..	Cirro-stratus in the horizon in the W.; clear elsewhere: a few cirro-cumuli about the zenith.	
2	..	Cirro-stratus towards the N. and W. horizon: light clouds are scattered in various directions.	
6	..	A thin cirro-stratus covers the greater part of the sky; the part that is clear is about the zenith, and S. of it.	L
10	..	Overcast: cirro-stratus.	G
..	New		
..	..		
..	..		
..	..		
..	Greatest declination N.		
10	..	,, cirro-stratus and scud: a fine drizzling rain is falling.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	Max. and Min. as read at 22h. of Rad. Therm.	Max. and Min. as read at 22h. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's).	RAIN GAUGES. Reading of No. 2.	RAIN GAUGES. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in lbs. per square foot.	WIND. From Whewell's Anemometer. Direction.	WIND. From Whewell's Anemometer. Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Single Gold Leaf of Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Double Gold Leaf.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 1.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 2.	ELECTRICAL INSTRUMENTS. Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°			in.				from lbs. to lbs.		in.		°	°	div.	div.	m s
June 13. 0	..	..	..	..	..	..	..		..	..		..	SSW	0 to 1	..	..	..	..	..	..	..	..
2	29·613	62·0	58·9	3·1	..	..	..		..	..		..	SSW	1 to 3½	..	..	Pos.	..	4	..	.	..
4	..	..	..	..	..	..	..		..	..		..	SSW	0 to ½	..	..	..	..	..	..	..	..
6	29·546	61·9	58·8	3·1	..	..	..		..	..		..	SSW	½ to 1	..	..	..	..	0	0	0	..
8	..	..	..	..	..	..				..		..	SSW	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	64·3			..		..	S by W	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	55·1			2·01		..	S by W	..	..	..	..	..	..	..	..	..
14	29·452	57·0	55·2	1·8	..	..	69·0			0·03		..	SSW	0 to ½	..	..	Pos.	10	10	2	..	..
							48·5			6·270												
							64·5			..												
							61·2															
16	29·425	57·0	54·5	2·5	53·0	4·0				..		..	SSW	0 to ½	..	..	Pos.	10	2	..	..	..
18	29·419	56·0	54·9	1·1	..	..	..		..	..		..	SSW	..	..	..	Pos.	2	2	..	..	..
20	29·433	56·8	55·2	1·6	..	..	..		..	..		..	SSW	0 to ½	..	..	Pos.	2	3	..	..	..
22	29·423	58·2	56·7	1·5	55·0	3·2	..		..	..		..	SW	½ to 3	..	..	..	..	0	0	0	..
June 14. 0	29·401	58·3	57·2	1·1	..	..	..		..	..		..	SSW	0 to 1	..	..	..	..	0	0	0	..
2	29·396	58·7	56·8	1·9	..	..	..		..	..		..	SSW	1 to 3½	..	..	..	..	0	0	0	..
4	29·404	63·1	59·2	3·9	56·5	6·6	67·5			..		..	SSW	½ to 1	..	..	Pos.	10	30	12	10	..
6	29·410	62·1	57·6	4·5	..	..	48·2			2·08		..	SSW	0 to ½	..	..	Pos.	30	30	10	10	..
8	29·401	57·6	54·5	3·1	..	..	76·2			0·13		..	SSW	0 to ½	..	..	Pos.	30	30	10	10	..
10	29·397	54·0	50·4	3·6	47·5	6·5	41·2			6·483		..	SSW	..	..	..	Pos.	30	30	10	10	30. 0
12	29·359	51·3	51·1	0·2	..	..	64·2			..		..	SSW	..	..	..	..	..	0	0	0	..
14	29·343	50·8	50·4	0·4	..	..	61·0			..		..	SSW	..	..	..	..	..	0	0	0	..
16	29·347	49·4	48·6	0·8	48·0	1·4				..		..	SSW	..	..	..	..	..	0	0	0	..
18	29·373	50·2	49·1	1·1	..	..				..		..	SSW	0 to ½	..	..	..	..	0	0	0	..
20	29·399	56·2	51·6	4·6	..	..	..		..	..		..	SW	0 to ½	..	..	..	..	0	0	0	..
22	29·411	58·5	51·9	6·6	46·0	12·5	..		..	..		..	SW	1½ to 3	..	..	Neg.	30	..	30	40	..
June 15. 0	29·410	59·0	53·8	5·2	..	..	..		..	..		..	SSW	1½ to 7	..	..	Pos.	..	..	..	..	..
2	29·396	57·5	54·4	3·1	..	..				..		..	SSW	1 to 5	..	..	Neg.	2	2	..	..	..
4	29·443	54·5	51·9	2·6	49·0	5·5	62·6			..		..	SSW	½ to 3	SSW	3·20	Neg.	..	..	..	..	..
6	29·475	58·7	52·1	6·6	..	..	46·2			2·08		..	SW	1 to 2	..	..	..	..	0	0	0	..
8	29·545	56·2	51·1	5·1	..	..	74·0			0·00		..	SW	1 to 2½	SW	2·15	..	..	0	0	0	..
10	29·602	51·7	48·6	3·1	47·0	4·7	37·5			6·483		..	SSW	..	..	..	..	..	0	0	0	..
12	29·628	50·3	47·9	2·4	..	..	64·0			..		..	SSW	..	..	..	Pos.	6	10	..	..	..
14	29·655	49·4	47·9	1·5	..	..	60·5			..		..	SSW	..	..	..	Pos.	2	3	..	..	..
16	29·657	47·4	46·4	1·0	45·0	2·4				..		..	S by W	..	..	..	Pos.	12	40	..	..	..
18	29·661	49·0	47·4	1·6	..	..				..		..	S	..	..	..	Pos.	12	35	..	..	..
20	29·654	55·6	52·9	2·7	..	..	..		..	..		..	S	..	..	..	Pos.	4	10	..	..	..
22	29·634	53·8	51·8	2·0	49·5	4·3	..		..	..		..	S	..	WSW	0·85	Neg.	40	40	15	15	..
June 16. 0	29·603	57·7	52·5	5·2	..	..	62·7			..		..	SSW	..	..	..	Neg.	5	5	0	0	5. 0
2	29·573	55·0	51·8	3·2	..	..	49·6			2·13		..	SSW	½ to 3	..	..	Pos.	3	10	0	0	..
4	29·519	54·5	52·9	1·6	50·5	4·0	78·0			0·10		..	S by W	0 to 1	..	..	..	..	0	0	0	..
6	29·475	54·7	53·8	0·9	..	..	42·2			6·680		..	S by W	0 to ½	..	..	Pos.	2	3	0	0	..
8	29·436	56·5	54·9	1·6	..	..	63·2			..		..	SSW	..	..	..	Pos.	2	2	0	0	..
10	29·459	55·7	54·1	1·6	52·0	3·7	60·2			..		..	SSW	..	..	..	Pos.	2	2	0	0	..
12	29·451	54·8	53·5	1·3	..	..				..		..	SSW	..	..	..	..	..	0	0	0	..

OSLER'S ANEMOMETER.

June 15d. 0h. 15m and 2h. 50m. There were pressures of 6½ lbs. and 7 lbs. respectively.

WHEWELL'S ANEMOMETER.

June 15d. 0h. Previously to this time the instrument was returned from the maker and set to work.

ELECTRICITY.

June 14d. 22h and June 15d. 0h and 4h. There were sparks at the distances of 0in·01, 0in·11, and 0in·05 respectively.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
..	..		G
10	Transit	Overcast: cirro-stratus and scud: there are occasional slight showers of rain.	
..	..		
10	..	,, ,,	
..	..		
..	..		
..	..		
5	..	At 9^h the greater part of the sky was free from cloud, but continued so for a short time only: between 10^h and the present time the appearance of the sky has been variable, it having been at times much covered with dark clouds, and at other times but little covered by them: at present there are some dark clouds nearly at every part of the sky, and particularly so in the N. where a black cirro-stratus cloud appears to be motionless; it extends from the E. to W. and is at an altitude of about 45°.	
10	..	Overcast: cirro-stratus.	
10	..	,, ,, a slight rain is falling.	
10	..	A very thin rain was falling till $19^h.\ 45^m$: a large quantity of scud is passing quickly from the S.W., and there is a faint gleam of sunshine at present, the first that has been seen this morning.	G
10	..	Overcast: cirro-stratus and scud: fine rain is falling.	L
10	..	Overcast: cirro-stratus and scud: fine rain is falling.	
10	Transit	,, ,, the rain ceased about half an hour since.	L
8	..	Ill-formed cumuli near the horizon all around: white clouds of no particular modification are scattered over the remainder of the sky: patches of blue sky are seen here and there.	G
9	..	Ill-formed cumuli near the horizon: fleecy clouds and scud nearly cover the remainder of the sky.	
10	..	Cirro-stratus and scud: a thin rain is falling.	
10	..	,, ,,	G
10	..	,, ,,	L
10	..	,,	
0	..	Cloudless: the rain ceased soon after the last observation.	
0	..	,,	
5	..	The southern half of the sky is covered with cirro-strati and cumuli: light scud passing over the sky.	L
9	..	Masses of cumuli, cirro-cumuli, and scud: a few minutes since a slight rain was falling.	G H
5	..	Cumuli, cirro-cumuli, and scud: the amount of cloud is continually varying: there have been two short squalls of wind and rain since the last observation.	
5	Transit	Large masses of cumuli and scud about the horizon: the squalls of wind and rain have continued since the last observation.	G H
10	..	Overcast: cirro-stratus and scud: rain is falling heavily, it commenced at $3^h.\ 50^m$.	L
9	..	Cumulo-strati, cirro-strati, and large masses of scud: a few breaks about the zenith: distant thunder is heard in the N.	
2	..	Cirro-stratus towards the horizon: in the N. and S. a few cumuli are scattered about: the sky became clear about ten	
0	..	Cloudless. [minutes since.	
0	..	,,	L
0	..	,,	G H
10	..	Overcast with thin hazy cirri.	
10	..	Overcast with very thin cirro-stratus, and a few lines of cirri and scud.	
10	..	,, ,,	G H
10	..	Overcast: rain is falling.	G
10	..	Rain has been falling nearly continuously since the last observation; at present it is falling very lightly.	
10	..	Overcast: cirro-stratus: no rain has fallen since the last observation.	G
10	Transit	,, cirro-stratus and scud: rain is falling.	G H
10	..	,, ,, the rain has just ceased falling.	
10	..	,, ,,	G H
10	..	,, ,,	L
10	..	,, there have been occasional breaks in the clouds near the zenith since 10^h.	G

HENLEY'S ELECTROMETER.
June $15^d.\ 4^h$. The reading was 7°.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
June 16. 14	29·443	52·7	52·0	0·7	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
16	29·445	50·7	50·5	0·2	49·8	0·9	..	..	SSW	..	..	..	..	..	0	0	0	..
18	29·453	53·3	52·4	0·9	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
20	29·452	56·9	53·9	3·0	..	..	..	..	SSW	..	..	..	Pos.	30	30	10	10	..
22	29·464	60·3	53·1	7·2	47·0	13·3	..	..	SW	..	SSW	4·60	Pos.	20	..	15	20	10. 0
June 17. 0	29·465	62·6	53·7	8·9	..	..	..	..	SSW	..	..	..	Pos.	15	..	10	12	17. 0
2	29·462	63·2	54·1	9·1	..	..	..	..	SSW	..	..	..	Pos.	15	..	10	15	20. 0
4	29·462	62·4	56·1	6·3	49·0	13·4	..	..	SW	..	..	..	Pos.	..	5	0	0	..
6	29·451	61·8	54·9	6·9	..	..	..	..	SSW	..	..	..	Pos.	..	0	0	0	..
8	29·464	59·8	56·0	3·8	..	..	68·3 / 51·1	.. / 2·33	S	..	..	..	Pos.	40	..	40	50	0. 12
10	29·505	51·8	50·9	0·9	50·0	1·8	88·5 / 42·5	0·25	WSW	..	..	..	Pos.	20	..	70	80	35. 0
12	29·476	52·6	51·1	1·5	..	..	63·5	6·938	S	..	..	..	Pos.	2	2	0	0	..
14	29·458	52·4	50·9	1·5	..	..	60·2	..	SSW	..	..	..	Pos.	2	2	0	0	..
16	29·463	52·0	50·7	1·3	49·0	3·0		..	SW	..	..	..	..	..	0	0	0	..
18	29·470	52·3	51·6	0·7	..	..	..	..	WSW	..	..	..	Neg.	20	..	20	25	0. 30
20	29·496	52·3	52·0	0·3	..	..	..	..	SW	..	..	..	Neg.	40	..	40	50	Instantly
22	29·508	53·6	52·9	0·7	51·5	2·1	..	..	SW	..	WSW	0·80	Neg.	6	8	0	0	..
June 18. 0	29·520	58·4	53·9	4·5	..	..	..	..	WSW	..	..	..	Neg.	12	25	..	..	..
2	29·566	56·5	55·1	1·4	..	..	..	..	N	..	..	..	Neg.	40	..	..	110	..
4	29·577	57·7	55·8	1·9	53·5	4·2	61·5	..	NNW	..	..	..	Neg.	40	..	..	60	..
6	29·605	59·8	56·0	3·8	..	..	49·6 / 2·41		NNW	..	..	..	Pos.	15	..	10	12	4. 0
8	29·644	56·0	53·4	2·6	..	..			NW	..	..	..	Pos.	10	..	8	10	10. 0
10	29·660	54·7	52·4	2·3	51·0	3·7	69·0	0·13	W	..	..	..	Pos.	15	..	10	12	7. 0
12	29·675	52·2	51·0	1·2	..	..	41·0		W by S	..	..	..	Pos.	30	..	30	50	12. 0
14	29·692	50·9	49·8	1·1	..	..			W by S	..	..	..	Pos.	30	..	30	50	..
16	29·700	50·9	49·0	1·9	47·5	3·4	62·8	7·150	W by S	..	..	..	Pos.	25	..	10	20	..
18	29·713	50·9	49·2	1·7	..	..	60·0	..	W by S	..	..	..	Pos.	20	..	10	20	..
20	29·746	53·3	52·0	1·3	..	..	..	..	W	..	..	..	Pos.	15	..	12	15	5. 0
22	29·756	59·0	54·2	4·8	49 0	10·0	..	..	W	..	WSW	2·22	Pos.	20	..	25	30	..
June 19. 0	29·758	65·2	57·8	7·4	..	..	..	..	W	0 to $\frac{1}{2}$	W	0·68	Pos.	15	..	15	20	..
2	29·781	62·8	56·3	6·5	..	..	..	..	NW	0 to $\frac{1}{2}$	..	..	Pos.	5	..	8	5	..
4	29·780	66·6	58·8	7·8	53·0	13·6	..	..	NW	..	NW	0·15	Pos.	2	5	..	..	..
6	29·793	64·8	57·0	7·8	..	..	68·9 / 49·8	.. / 2·41	NNW	..	..	..	Pos.	40	..	20	20	..
8	29·826	59·7	57·0	2·7	..	..			NNE	..	..	..	Pos.	40	..	30	40	16. 30
10	29·829	55·3	54·1	1·2	53·0	2·3	85·4	0·00	NNE	..	..	..	..	..	0	0	0	..
12	29·851	53·0	52·4	0·6	..	..	39·5		SSE	..	..	..	..	..	0	0	0	..
14	..	..	..	..	..	..			..	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	63·0	7·150	..	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	60·2	..	..	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	29·839	57·6	56·0	1·6	..	..	..	..	..	..	SW	0·55	..	..	0	0	0	..
23	29·828	61·3	57·8	3·5	..	..	..	..	SW	..	..	..	..	..	0	0	0	..

OSLER'S ANEMOMETER.

June 19d. 22h. The direction pencil was found off the rack-work, and had been so since 12h. 20m.

ELECTRICITY.

June 17d. 20h. There was a spark at the distance of 0in·02.

June 18d. 2h, 4h, 12h, and 14h. There were sparks at the distances of 0in·02, 0in·02, 0in·01, and 0in·01 respectively.

HENLEY'S ELECTROMETER.

June 18d. 2h and 4h. The reading was 2° at each time.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
2	..	Till $13^h.42^m$ the sky was covered by a thin cirro-stratus cloud, which has dissipated, and the sky is cloudless, except near the horizon, where a low bank remains: the stars look small and dull.	G
10	..	The sky is covered again with a thin cirro-stratus cloud, broken here and there, but the portion of sky without cloud	
10	..	A thin cirro-stratus covers the sky. [is of no numerical extent.	
$9\frac{1}{2}$	..	There have been occasional faint gleams of sunshine: the sky is very nearly covered with cirro-stratus and scud; the former, within the last hour, has sensibly become less dense, and the latter has diminished in quantity.	G
8	..	Cirro-strati, fleecy clouds, and scud cover the greater part of the sky: there are some breaks a little S. of the zenith.	L
10	..	Overcast: fleecy clouds and scud.	
10	..	,, cirro-strati, fleecy clouds, and scud: there have been occasional breaks since the last observation.	L
9	Transit	With the exception of a portion of blue sky about and to the E. of the zenith, the sky is covered with cumulo-strati, fleecy clouds, and scud.	G
10	..	The sky is wholly covered by cloud, portions of cumuli, cumulo-strati, dark cirro-strati, and scud.	
10	..	The sky is covered with very black clouds, particularly to the N. and N.W.; the clouds are so dense and dark as to cause a considerable gloom: a light rain is falling.	
8	..	A shower of rain fell at $8^h.10^m$, and since that time a portion of the sky about the zenith has been nearly free from cloud: at present the sky near the zenith and around it, just reaching to the Moon and Venus, is clear, everywhere else being covered by cirro-stratus.	G
10	..	Overcast: cirro-stratus and scud.	L
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,, rain is now falling.	
10	..	,, ,, rain is falling heavily: several peals of thunder have been heard in the N., and rain has fallen continuously since the previous observation.	L
10	..	Overcast: cirro-stratus and scud: the rain has just ceased falling.	G H
10	..	Overcast: cirro-cumuli and dark scud.	
10	..	,, cirro-stratus and scud: rain is falling, and has been falling since the last observation.	G H
10	..	,, cumulo-strati, cirro-strati, and scud: the rain is falling heavily: at $4^h.3^m$ the rain ceased.	L
3	Transit	Cirro-strati, fleecy clouds, and cirri: a few cumuli towards the S.	
7	..	Thin cirro-strati, fleecy clouds, and scud.	
10	..	Overcast: cirro-stratus and scud.	L
8	..	Overcast, with the exception of clear sky reaching from the zenith towards the N.W. part of the horizon.	G H
2	..	Cloudless, with the exception of a low bank of cloud towards the N. and N.W. parts of the horizon.	
10	..	Overcast: cirro-stratus and scud.	
0	..	Cloudless, with the exception of a few lines of cirri to no numerical amount.	G H
10	..	Overcast: cirro-stratus, fleecy clouds, and scud.	L
10	..	,, ,,	
8	..	Cumulo-strati, cirro-strati, and scud.	
10	..	Overcast: cumulo-strati, dense cirro-strati, and scud.	
10	..	,, cirro-strati, cumulo-strati, and scud: a few small breaks, but to no numerical extent.	L
8	Transit	A portion of the sky, near the zenith and around it, is generally free from cloud, but it is of a very pale blue colour; the remainder of the sky is generally covered with cirro-stratus clouds.	G
1	..	The sky is cloudless, except a few clouds about the place of the Sun and a few small clouds scattered about the sky,	G
5	..	Cirro-cumuli in various directions. [which are becoming less in amount.	G H
0	..	Cloudless.	G H
..	..		
..	..		
..	..		
..	..		
10	..	The morning has been dull, and the sky covered with clouds: at present a very thin rain is falling.	G
10	..	The clouds are much lighter and thinner: the Sun is shining faintly.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. / of Rad. Therm. / of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). / Reading of No. 2. / Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
June 20. 0	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
2	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
4	29·793	64·5	60·0	4·5	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	66·5	..	WSW	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	55·1	2·41	WSW	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..			WSW	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	77·0		SSW	..	..	..	..	..	..	..	..	..
14	29·747	56·1	55·1	1·0	..	..	48·5	0·01	SW	..	..	..	Pos.	..	3	..	..	..
16	29·714	56·5	55·0	1·5	54·0	2·5			SW	..	..	..	..	..	0	0	0	..
18	29·704	57·6	55·8	1·8	..	..	63·5	7·175	SSW	..	..	..	..	..	0	0	0	..
19	29·702	58·6	55·9	2·7	..	..	60·2	..	SSW	0 to ½	..	..	..	..	0	0	0	..
20	29·704	58·7	55·2	3·5	..	..	..	..	SSW	½ to 1	..	..	..	..	0	0	0	..
21	29·705	59·3	55·6	3·7	..	..	..	..	SSW	1 to 4	..	..	..	..	0	0	0	..
22	29·683	60·6	55·9	4·7	51·0	9·6	..	..	SSW	0 to ½	SW	4·60	..	..	0	0	0	..
June 21. 0	29·661	62·4	58·2	4·2	..	..	..	..	SSW	½ to 2½	..	..	..	..	0	0	0	..
1	29·660	62·0	57·5	4·5	..	..	..	..	SW	0 to 2	..	..	..	..	0	0	0	..
2	29·655	61·2	56·5	4·7	..	..	..	..	SSW	1 to 3	..	..	..	..	0	0	0	..
3	29·653	60·7	56·7	4·0	..	..	..	..	SSW	0 to 3	..	..	..	..	0	0	0	..
4	29·653	62·5	57·5	5·0	53·0	9·5	..	..	SSW	1 to 3	..	..	..	..	0	0	0	..
5	29·646	60·6	56·7	3·9	..	..	..	..	SW	0 to 2	SW	3·80	..	..	0	0	0	..
6	29·637	60·7	57·0	3·7	..	..	..	..	SSW	1 to 2	..	..	..	..	0	0	0	..
7	29·641	59·2	56·4	2·8	..	..	..	..	SSW	0 to 1	..	..	..	..	0	0	0	..
8	29·632	58·5	56·2	2·3	..	..	62·7	..	SSW	0 to ½	..	..	..	..	0	0	0	..
							51·7	2·41										
9	29·633	56·8	54·5	2·3	..	..			SSW	..	..	..	..	..	0	0	0	..
10	29·630	55·6	53·7	1·9	52·0	3·6	76·0	0·00	S by W	..	..	..	..	..	0	0	0	..
12	29·619	53·2	52·6	0·6	..	..	44·8		S	..	..	..	..	..	0	0	0	..
13	29·607	53·5	52·6	0·9	..	..		7·200	S	..	..	..	..	..	0	0	0	..
14	29·592	52·5	52·2	0·3	..	..	63·8		S by W	..	..	..	..	..	0	0	0	..
15	29·585	52·5	52·2	0·3	..	..	60·2	..	S	..	..	..	..	..	0	0	0	..
16	29·582	52·6	52·1	0·5	51·5	1·1	..	..	S	..	..	..	..	..	0	0	0	..
17	29·585	52·5	51·9	0·6	..	..	..	..	S by W	..	..	..	..	..	0	0	0	..
18	29·592	52·7	51·9	0·8	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
19	29·597	54·0	51·4	2·6	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
20	29·604	56·0	51·1	4·9	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
21	29·600	59·0	52·4	6·6	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
22	29·597	60·7	52·8	7·9	45·0	15·7	..	..	SW	..	WSW	1·20	..	..	0	0	0	..
23	29·591	63·0	53·9	9·1	..	..	..	..	SW	..	..	..	Pos.	2	2	..	..	..
June 22. 0	29·580	61·5	52·8	8·7	..	..	..	..	SW	..	..	..	Pos.	6	8	5	..	..
1	29·578	60·3	53·7	6·6	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
2	29·561	62·6	54·9	7·7	..	..	..	..	SSW	0 to ½	..	..	Pos.	8	10	..	..	..
3	29·555	62·6	56·1	6·5	..	..	66·0	..	SSW	0 to ½	..	..	Pos.	4	5	..	..	..
4	29·544	63·4	55·1	8·3	48·0	15·4	44·6	2·41	SSW	0 to ½	..	..	Pos.	4	7	..	..	..
5	29·533	63·6	54·9	8·7	..	..			SSW	0 to ½	..	..	Pos.	6	10	..	..	..
6	29·519	61·8	53·7	8·1	..	..	84·2	0·00	SSW	0 to ½	..	..	Pos.	5	8	..	..	..
8	29·532	56·8	51·2	5·6	..	..	36 0		SSW	..	..	..	Pos.	5	8	..	..	..
10	29·527	52·2	49·1	3·1	46·0	6·2		7·225	S by W	..	..	..	Pos.	7	10	..	..	..
12	29·522	49·4	47·9	1·5	..	..	64·0	..	S by W	..	..	..	..	..	0	0	0	..
13	29·503	47·5	46·9	0·6	..	..	60·5	..	SSW	..	..	..	..	..	0	0	0	..
14	29·516	47·0	46·7	0·3	..	..	..	..	S	..	..	..	..	..	0	0	0	..
16	29·515	46·0	45·9	0·1	45·0	1·0	..	..	SSW	..	..	..	..	..	0	0	0	..

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
..	..		
..	In Equator		
10	Apogee	The clouds have been frequently more or less broken since 23^h; at present the sky is quite cloudy.	G
..	Transit	Between 4^h and 9^h the sky was generally covered by cirro-stratus clouds; a little rain fell between 9^h and 10^h,	
..	1st Qr.	after which the sky became clear in different places; the Moon was visible for a short time near the horizon, and	
..	..	the clouds gradually dissipated.	
..	..	[seem to be of a fleecy character.	
4	..	The whole of the western hemisphere is clear, and the greater part of the eastern hemisphere is cloudy, but the clouds	
8	..	A large quantity of scud is scattered over the sky, moving from the W.: a very wild looking sky.	
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	G
10	..	,, ,,	L
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	L
9	..	Overcast, except a small portion of blue sky to the S.; the sky is generally covered with scud: there does not seem	G
10	..	Overcast: large masses of scud: the wind is in gusts to $1\frac{1}{2}$ and to 2. [to be any upper cloud.	
10	..	,, ,,	
10	Transit	,, the scud is less in quantity than before: the wind is blowing in gusts to $1\frac{1}{2}$ and 2.	
8	..	There are many small portions of blue sky in different places: the Moon was visible for some little time about half an hour.	
		since: large quantities of scud moving from the W. [horizon.	
9	..	Thin detached cirri, through which the blue sky in places is visible, with a very long bank of scud towards the N.W.	G
8	..	Cirri, light fleecy clouds, and scud, more particularly towards the S. and S.W. portions of the sky.	G H
3	..	Cirro-stratus around the horizon: a few light clouds about.	L
8	..	The greater part of the sky is covered with cirro-stratus and scud.	
10	..	Overcast: cirro-stratus and scud: rain is falling.	
10	..	,, ,, the rain has ceased.	
10	..	,, ,,	
10	..	,, ,,	
8	..	Fleecy clouds, cirro-strati, and scud: breaks towards the W.	
4	..	Cirro-stratus and light clouds are scattered about the sky.	
3	..	Cirro-stratus and fleecy clouds about the horizon.	L
2	..	Cirro-stratus around the horizon, some cumuli towards the N.	G H
7	..	Cirri, detached patches of cumuli, and scud are in every direction.	
7	..	Cirri, with masses of cumuli in various directions, and small portions of scud.	
8	..	Cirri, with large masses of cumuli and scud in various directions.	
10	..	Cirro-strati, cumuli, and scud.	
$9\frac{1}{2}$	..	Cirro-strati, cumuli, and masses of dark scud. [about ten minutes, fell very shortly after the last observation.	
7	..	Cirrus, thin cirro-stratus, cumulus, and scud: a large space in and near the zenith is clear: a shower of rain, lasting	G H
8	..	Detached cumuli, cirro-strati, and masses of white scud cover the greater part of the sky.	L
4	..	Cirri with detached cumuli principally about the horizon.	
4	..	Cumulo-strati and detached cumuli around the horizon: a few cirri and light clouds are floating about.	
2	Transit	Cirro-stratus around the horizon: there are a few light clouds scattered about: a bank of cumulo-strati towards the N.	
0	..	A few light clouds, but to no numerical extent.	L
0	..	Cloudless.	G H
0	..	,,	
2	..	A patch of thin hazy cloud towards the S.W. horizon.	
10	..	Overcast with thin and uniform stratus.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	RAIN GAUGES. Stand of No. 1. (Osler's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
June 22. 18	29·516	46·5	45·9	0·6	..	..	..	..	S by W	..	..	..	..	..	0	0	0	..
19	29·521	50·6	48·8	1·8	..	..	..	..	S by W	..	..	..	..	..	0	0	0	..
20	29·527	54·9	50·9	4·0	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
22	29·525	61·8	53·2	8·6	47·0	14·8	..	..	SSW	..	SSW	4·55	..	..	0	0	0	..
June 23. 0	29·521	63·3	55·2	8·1	..	..	..	..	SSW	0 to 1	..	..	Neg.	30	..	40	30	Instantly
2	29·523	58·5	54·6	3·9	..	..	..	..	SSW	..	..	..	Neg.	15	..	10	15	..
4	29·514	57·5	55·4	2·1	52·5	5·0	..	..	NW	..	..	..	Neg.	40	..	..	..	..
6	29·509	59·4	53·9	5·5	..	..	..	..	SSW	..	..	..	Pos.	4	5	..	..	..
8	29·510	56·5	51·9	4·6	..	..	..	..	SSW	..	..	..	Pos.	5	8	..	..	..
10	29·518	52·2	50·4	1·8	48·0	4·2	..	..	S	..	..	..	Pos.	40	30	10	10	28. 30
11	29·518	51·8	50·6	1·2	..	..	62·7	..	S by W	..	..	..	..	..	..	..	..	..
							49·9	..										
								2·46										
12	29·517	51·2	49·9	1·3	..	..	81·2		S by W	..	..	..	Pos.	40	40	10	10	..
13	29·506	50·8	49·9	0·9	..	..	44·5	0·07	S by W	..	..	..	..	..	..	..	..	..
14	29·497	50·7	49·9	0·8	..	..			S by W	..	..	..	Pos.	25	30	12	7	..
							64·0	7·330										
15	29·482	51·5	50·4	1·1	..	..	60·2	..	S by W	..	..	..	..	..	..	..	..	..
16	29·477	51·8	50·9	0·9	49·0	2·8		..	S by W	..	..	..	Pos.	20	30	10	10	..
17	29·480	52·2	51·1	1·1	..	..	..	..	S by W	..	..	..	..	..	..	..	..	..
18	29·480	53·2	51·6	1·6	..	..	..	..	S by W	..	..	..	Pos.	10	..	8	10	..
19	29·484	53·4	51·9	1·5	..	..	..	..	S by W	..	..	..	Pos.	15	20	..	8	..
20	29·488	57·5	53·9	3·6	..	..	..	..	SSW	0 to ½	..	..	Pos.	18	25	..	10	..
21	29·488	59·7	55·0	4·7	..	..	..	..	S by W	0 to 1	..	..	Neg.	2	2	..	..	..
22	29·487	57·0	54·1	2·9	51·0	6·0	..	..	SSW	..	SSW	5·00	Pos.	18	25	10	..	..
23	29·478	62·3	55·6	6·7	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
June 24. 0	29·482	61·0	55·0	6·0	..	..	..	..	SW	½ to 1	..	..	Pos.	40	..	40	50	..
1	29·472	63·2	56·1	7·1	..	..	..	..	SW	½ to 1½	..	..	Pos.	5	8	..	..	..
2	29·471	64·0	56·1	7·9	..	..	..	..	SW	½ to 1	..	..	Pos.	3	4	..	..	..
3	29·458	64·0	56·5	7·5	..	..	..	..	SW	½ to 3	..	..	..	..	..	..	..	..
4	29·462	65·0	56·1	8·9	50·0	15·0	65·7	..	SW	1 to 1½	..	..	Pos.	8	10	..	..	..
5	29·465	62·0	55·5	6·5	..	..	52·3	2·46	SW	1 to 1½	..	..	..	..	..	..	..	..
6	29·465	61·5	54·5	7·0	..	..			SSW	½ to 2	..	..	Pos.	15	20	5	..	..
7	29·465	59·7	53·4	6·3	..	..	81·2	0·00	SSW	0 to ½	..	..	..	..	..	..	..	..
8	29·470	58·0	53·3	4·7	..	..	45·0		SSW	0 to ½	..	..	Pos.	20	40	12	..	..
9	29·479	56·2	53·1	3·7	..	..		7·335	SSW	..	..	..	..	..	..	..	..	..
10	29·487	55·0	52·7	2·3	51·0	4·0	64·0	..	SSW	..	..	..	Pos.	10	..	12	10	..
12	29·502	54·5	52·3	2·2	..	..	60·2	..	SSW	..	..	..	Pos.	5	25	10	7	..
14	29·503	53·8	52·3	1·5	..	..	..	..	SSW	..	..	..	Pos.	3	10	..	..	..
16	29·504	53·0	51·9	1·1	51·0	2·0	..	..	SSW	..	..	..	Pos.	5	12	..	..	..
18	29·535	55·0	53·4	1·6	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
20	29·547	57·5	54·0	3·5	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
22	29·542	58·7	56 7	2·0	55·0	3·7	..	..	SSW	0 to 2	SSW	6·35	..	..	0	0	0	..
June 25. 0	29·547	61·2	58·2	3·0	..	..	..	..	SSW	1½ to 2	..	..	..	..	0	0	0	..
2	29·563	67·5	59·3	8·2	..	..	..	..	SW	1 to 2	..	..	Pos.	5	..	8	5	..

MAXIMUM FREE THERMOMETER.
June 23d. 22h. The reading was lower than that of the Dry Thermometer at 0h.

ELECTRICITY.
June 23d. 4h. There were sparks at the distance of 0in·05 occurring at intervals of two seconds.

HENLEY'S ELECTROMETER.
June 23d. 4h. The reading was 10°.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
3	..	A few light cirri are scattered over the sky towards the S. E.	G H
0	..	Cloudless.	
0	..	Cloudless, except a few light cirri of no numerical amount.	G H
6	..	Detached cumuli, cirro-strati, and large masses of scud.	L
7	..	Cumuli, cumulo-strati, and large masses of scud.	
10	..	The sky is covered with cirro-stratus and fleecy clouds: a little rain has been falling.	L
10	..	Overcast: cirro-strati, cirro-cumuli, and nimbi towards the N.W.: since the last observation two heavy showers of rain have fallen, of short duration. During the observations several peals of thunder have been heard, the storm appearing to move from the N.W. by N. to the E.	G H
9	..	Cirri, cumuli, and cirro-cumuli in the southern half of the sky; the northern half is covered with a mass of dark scud.	
6	Transit	Cirri and cirro-strati scattered over the sky, with a large mass of scud towards the N.W. and N. portions of the horizon.	
$9\frac{3}{4}$	..	Within the last few minutes the sky has become very nearly covered by cirro-stratus.	G H
10	..	Overcast: cirro-stratus: the Moon's place visible: at $11^h.\,40^m$ the clouds became much thinner: a fine halo, perfect as far as it could be seen, was formed, whose radius was $23\frac{1}{2}°$: a corona was also formed around the Moon.	G
7	..	At present there is no halo, but the greater part of the sky is covered with cirro-stratus cloud. [no halo is visible.	G
5	..	The sky is covered in several directions with thin cirro-stratus clouds; the Moon is also covered with a thin cloud, but	T D
9	..	The only portion of clear sky is E. of the zenith, and that of small extent; in every other direction cirro-stratus and masses of dark scud prevail.	
10	..	Overcast: cirro-stratus and scud.	T D
10	..	,, ,,	L
10	..	,, ,,	
10	..	,, ,,	
7	..	Cirri, cirro-cumuli, with masses of scud, are scattered over various parts of the sky: clear S.W. of the zenith: a light rain of short continuance has fallen since the last observation.	L
$9\frac{1}{2}$	..	Cirro-cumuli and scud: a few breaks towards the S.E. [also fallen at intervals since the last observation.	G H
8	..	Cirro-cumuli and dark scud: there is a large space of blue sky towards the E. horizon: rain is beginning to fall; it has	
7	..	Broken clouds of no particular modification are scattered over the sky.	G H
8	..	Cumuli, cumulo-strati, and scud in every direction: a portion of clear sky in the S.W. and S. S.W.: no rain has [fallen since the last observation.	T D
10	..	The whole of the sky is covered with cirro-stratus of various densities: some portions of scud prevail in the W.: the Sun is visible through the clouds: at $23^h.\,40^m$ a slight shower of rain fell.	T D
8	..	Several portions of blue sky are exhibited in the zenith and E. of it: cirro-strati, fragments of quickly moving scud, and fleecy clouds prevail in every direction.	G H
8	..	Cirri, cirro-cumuli, and scud in every direction.	
9	..	,,	G H
9	..	Cumuli and cumulo-strati are scattered in every direction.	T D
8	..	,, no change since 4^h.	T D
5	..	Cirri and small patches of cumuli are scattered about the sky.	G H
4	..	No change since the last observation, except that the clouds are not quite so numerous.	G H
6	..	Cirri, cirro-cumuli, and scud: a large space clear towards the E.	L
2	..	A bank of cirro-stratus in the N.: light clouds in various other directions. [there is a corona around the Moon.	
7	Transit	Cirro-stratus, fleecy clouds, and a few cirri cover the greater part of the sky, which is clear towards the E. and S.:	L
10	..	The sky is covered with cirro-stratus and masses of dark scud: the Moon's place is visible.	T D
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,, a few drops of rain have just fallen.	T D
10	..	,, ,, slight rain was falling shortly before this observation.	L
10	..	Overcast: cirro-stratus and scud.	
7	..	Detached cumuli, fleecy clouds, and scud.	L

PARASELENÆ.

June $23^d.\,12^h.\,10^m$. Two well formed paraselenæ were seen, each at the distance of about $23\frac{1}{2}°$ from the Moon; that on the E. or left side was the better defined, and was perfectly formed; that on the W. side was pretty well defined: there were horizontal lines of cirro-strati about the place.—G.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1, (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
June 25. 4	29·574	63·4	58·5	4·9	54·0	9·4	..	..	SSW	0 to ½	..	..	Pos.	8	..	10	7	..
6	29·595	63·0	57·6	5·4	..	..	68·1	..	SW	½ constant	..	..	Pos.	25	..	20	20	7. 0
8	29·617	60·7	57·0	3·7	..	..	49·2	2·46	SW	..	..	..	Pos.	8	..	10	12	..
10	29·664	57·2	55·8	1·4	54·0	3·2			SW	..	..	..	Pos.	20	..	15	20	..
12	29·697	55·5	52·6	2·9	..	..	82·4	0·00	WSW	..	..	..	Pos.	10	..	8	10	..
14	29·720	53·0	51·4	1·6	..	..	41·5		WSW	..	..	..	Pos.	10	..	8	10	..
16	29·747	50·7	50·1	0·6	49·0	1·7		7·385	WSW	..	..	..	Pos.	2	2	0	0	..
18	29·786	51·5	50·7	0·8	..	..	64·0		WSW	..	..	..	Pos.	2	2	0	0	..
20	29·834	59·5	54·7	4·8	..	..	60·8	..	WSW	..	..	..	Pos.	20	..	18	20	7. 0
22	29·884	64·4	57·6	6·8	50·5	13·9	..	..	WSW	..	WNW	5·30	Pos.	30	..	30	50	10. 0
June 26. 0	29·919	66·5	57·4	9·1	..	..	..	..	WSW	..	..	..	Pos.	25	..	10	20	..
2	29·947	66·7	57·9	8·8	..	..	..	..	WSW	..	..	..	Pos.	10	15	..	..	..
4	29·966	69·8	59·3	10·5	51·0	18·8		..	WSW	..	..	..	Pos.	10	..	8	10	..
6	29·991	64·7	56·7	8·0	..	..	69·7	..	W by N	..	..	..	Pos.	10	..	8	10	..
8	30·018	62·4	56·3	6·1	..	..	51·3	2·46	W by S	..	..	..	Pos.	15	..	15	20	10. 0
10	30·055	58·0	54·6	3·4	52·0	6·0			W by S	..	..	..	Pos.	10	..	8	10	..
12	30·086	55·3	52·9	2·4	..	..	92·0	0·00	SW	..	..	..	Pos.	2	2	..	..	..
14	..	..	..	..	..	..	44·0		SW	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..		7·385	SSW	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	64·0	..	SW	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	60·8	..	WSW	..	..	..	..	..	..	..	..	..
22	30·138	61·7	58·5	3·2	..	..	..	..	WSW	..	WSW	2·60	Pos.	10	15	..	..	..
June 27. 0	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
h m							..	..										
2. 30	30·129	70·4	62·4	8·0	..	..	74·4	..	SW	..	..	..	Pos.	25	40	10	20	..
h 4	..	..	..	..	..	..	55·5	2·46	W	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..			W by N	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	92·0	0·00	WNW	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	47·5		NW	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..		7·385	NW	..	..	..	..	..	..	..	..	..
14	30·149	57·5	56·7	0·8	..	..	65·0	..	NW	..	..	..	Pos.	2	3	..	..	..
16	30·140	56·5	55·8	0·7	55·0	1·5	61·2	..	NW	..	..	..	..	..	0	0	0	..
18	30·141	58·0	56·9	1·1	..	..	..	..	NW	..	..	..	..	..	0	0	0	..
20	30·158	65·2	61·5	3·7	..	..	..	..	N by W	..	..	..	Pos.	2	2	..	..	..
22	30·155	66·5	62·0	4·5	60·0	6·5	..	..	N by W	..	WSW	2·30	Pos.	3	5	..	..	..
June 28. 0	30·152	75·0	67·1	7·9	..	..	..	..	N by W	..	..	..	Pos.	4	7	..	..	..
2	30·138	71·7	65·0	6·7	..	..	..	..	N by W	..	..	..	Pos.	2	5	..	..	..
4	30·127	72·0	65·5	6·5	62·0	10·0		..	N by W	..	..	..	Pos.	3	4	..	..	..
6	30·111	72·4	65·2	7·2	..	..	77·8	..	N by W	..	..	..	Pos.	2	2	..	..	..
8	30·125	64·5	61·1	3·4	..	..	54·1	2·46	E	..	..	..	..	..	0	0	0	..
10	30·136	58·5	57·2	1·3	55·5	3·0			E	..	..	..	..	..	0	0	0	..
12	30·147	57·8	57·1	0·7	..	..	93·6	0·00	E	..	..	..	..	..	0	0	0	..
14	30·142	56·4	55·7	0·7	..	..	45·5		E	..	..	..	..	..	0	0	0	..
16	30·140	55·0	52·9	2·1	52·0	3·0		7·385	NE	..	..	..	..	..	0	0	0	..
18	30·143	57·0	53·9	3·1	..	..	65·8	..	NE	..	..	..	..	..	0	0	0	..
20	30·148	60·5	57·0	3·5	..	..	61·8	..	N by W	..	..	..	Pos.	3	5	..	..	..
22	30·147	67·7	61·5	6·2	57·0	10·7	..	..	N by W	..	N	3·00	Pos.	4	7	..	..	..

MAXIMUM FREE THERMOMETER.

June 26d. 22h. The reading was lower than that of the Dry Thermometer at 4h.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Cirro-stratus and scud: a few drops of rain have just fallen.	T D
7	..	Cirro-stratus, scud, and light clouds in every direction: at $4^h.\ 10^m$ a shower of rain fell, and continued till $4^h.\ 23^m$.	
8	..	Detached masses of cirro-stratus and scud around the horizon, extending to within a few degrees of the zenith.	
10	Transit	Overcast: cirro-stratus and scud: rain was falling from $8^h.\ 40^m$ to $9^h.\ 30^m$.	T D
10	..	,, ,,	L
9	..	Dark cirro-stratus and scud cover the greater part of the sky: small breaks about the zenith.	
10	..	Cirro-stratus, fleecy clouds, and scud cover the sky.	
7	..	Cirro-stratus, fleecy clouds, and small breaks principally S. of the zenith.	
1	..	Cirro-stratus and light clouds about the horizon.	L
3	..	A few light cumuli are scattered over the sky.	G H
9	..	Cirro-stratus, cirro-cumuli, fleecy clouds, and scud: two or three small breaks in the clouds towards the S.W.: the clouds gradually increased after the last observation till $23^h.\ 30^m$, when a few drops of rain fell.	
9	..	Cirro-cumuli, fleecy clouds, and scud are thickly spread over the sky.	G H
10	..	Cirro-stratus, fleecy clouds, and scud cover the sky.	L
10	..	Cirro-stratus and fleecy clouds: a few small breaks, but to no numerical extent.	
10	..	,, small breaks, but to no numerical extent.	
4	..	,, clear, mostly S. of the zenith.	L
4	Transit	Light fleecy clouds, with a small amount of scud towards the S.W.; clear elsewhere.	G H
..	..		
..	..		
..	..		
..	..		
10	..	Overcast: cirro-stratus and scud.	
..	..		
..	..		
6	..	Cirro-cumuli and haze: overcast occasionally during the day, principally with cirro-cumuli and haze.	
..	..		
..	..		
..	Greatest Declination S.		
..	..		
..	Transit		
8	..	The sky is nearly covered with a woolly kind of cloud, the only clear space being towards the S.W.	
10	..	Overcast: cirro-cumuli.	
10	..	,, cirro-stratus and scud. [hour since.	
8	..	Cirri, cirro-cumuli, and scud: there are a few breaks in different directions: the clouds began to break about half an	G H
10	..	Overcast: cirro-stratus and scud.	T D
$9\frac{1}{2}$	..	Cirro-stratus and scud; the clouds are slightly broken in the zenith.	
10	Full	Overcast: cirro-stratus and scud.	T D
5	..	Cirro-cumuli, fleecy clouds, and scud, principally towards the horizon.	G H
6	..	Cirri, cirro-cumuli, fleecy clouds, and scud in various directions.	
8	..	The sky is nearly overcast with cymoid cirri and a few small patches of cumuli: breaks towards the horizon generally.	
5	..	Small patches of cirro-cumuli in every direction.	G H
10	..	Cirro-stratus and masses of scud: the Moon is occasionally visible: the clouds have come up within these last ten minutes, previously to which time the sky was cloudless.	T D
10	Transit	Overcast: cirro-stratus and scud.	
10	..	,, ,,	
10	..	,, ,,	
8	..	Cirro-stratus, cumulo-stratus, and fleecy clouds in every direction.	T D
10	..	Overcast: cirro-stratus and scud.	L

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
June 29. 0	30·147	72·0	64·5	7·5	..	..	..	..	NNE	..	.	..	Pos.	7	10	..	..	..
2	30·126	76·7	65·8	10·9	..	..	..	..	NNE	½ constant	..	..	Pos.	5	8	..	..	..
4	30·126	69·5	63·1	6·4	59·0	10·5	79·3	..	N	,,	..	..	Pos.	6	10	..	..	..
6	30·124	66·5	61·0	5·5	..	..	53·9	2·46	N	,,	..	..	Pos.	6	12	..	..	..
8	30·130	62·9	58·5	4·4	..	..	——		N	..	..	..	Pos.	3	5	..	..	..
10	30·144	60·0	57·4	2·6	57·0	3·0	100·0	0·00	N	..	..	..	..	..	0	0	0	..
12	30·134	58·8	56·5	2·3	..	..	51·4		N	½ constant	..	..	..	..	0	0	0	..
14	30·117	57·3	55·3	2·0	..	..	——	7·400	N	½ to 1	..	..	..	..	0	0	0	..
16	30·109	55·0	54·4	0·6	54·0	1·0	66·2		N	..	..	..	..	..	0	0	0	..
18	30·111	54·7	54·0	0·7	..	..	62·2	..	N	..	..	..	..	..	0	0	0	..
20	30·119	56·2	53·1	3·1	..	..	..	..	N	½ to 1	..	..	..	..	0	0	0	..
22	30·122	64·6	58·0	6·6	52·0	12·6	..	..	N	0 to 1½	N	4·40	Pos.	3	7	..	..	..
June 30. 0	30·119	72·0	62·9	9·1	..	..	..	..	N	0 to ½	..	..	Pos.	8	10	..	..	..
2	30·111	72·9	63·5	9·4	..	..	..	..	N	½ to 2	..	..	Pos.	8	10	..	..	..
4	30·112	70·5	61·7	8·8	55·0	15·5	76·7	..	N	½ to 1	..	..	Pos.	7	10	..	..	..
6	30·108	65·8	59·3	6·5	..	..	52·6	2·46	N	0 to 1	..	..	Pos.	4	8	..	..	..
8	30·132	60·0	56·9	3·1	..	..	——		NNE	0 to ½	..	..	Pos.	5	12	..	..	..
10	30·142	55·3	53·4	1·9	52·0	3·3	96·0	0·00	NNE	..	..	..	Pos.	4	7	..	..	..
12	30·147	54·8	52·7	2·1	..	..	45·0		NNE	..	..	..	..	..	0	0	0	..
14	30·149	54·6	52·2	2·4	..	..	——	7·400	N by E	0 to 1	..	..	..	..	0	0	0	..
16	30·142	53·5	51·4	2·1	49·5	4·0	67·0		N by E	0 to 1½	..	..	..	..	0	0	0	..
18	30·148	54·1	51·4	2·7	..	..	62·5	..	N by E	0 to 2	..	..	..	..	0	0	0	..
20	30·161	56·5	52·9	3·6	..	..	..	..	N by E	0 to 2	..	..	..	..	0	0	0	..
22	30·169	61·0	56·3	4·7	53·5	7·5	..	..	N by E	0 to 1	N	5·50	..	..	0	0	0	..
July 1. 0	30·162	67·2	60·0	7·2	..	..	..	..	N	0 to ½	..	..	Pos.	7	12	..	..	..
2	30·163	68·0	60·3	7·7	..	..	..	..	N	0 to 1	..	..	..	..	0	0	0	..
4	30·157	69·6	61·7	7·9	56·0	13·6	75·1	..	N	..	..	..	Pos.	2	2	..	..	..
6	30·136	68·2	60·6	7·6	..	..	52·3	2·46	N	..	..	..	Pos.	2	2	..	..	..
8	30·153	60·8	57·1	3·7	..	..	——		N	..	..	..	..	..	0	0	0	..
10	30·173	56·5	53·8	2·7	52·0	4·5	92·8	0·00	N by E	..	..	..	..	..	0	0	0	..
12	30·165	54·5	51·9	2·6	..	..	45·7		N by E	..	..	..	..	..	0	0	0	..
14	30·142	54·3	51·7	2·6	..	..	——	7·400	N by E	0 to ½	..	..	..	..	0	0	0	..
16	30·143	54·0	51·4	2·6	49·0	5·0	67·0		N by E	0 to ½	..	..	..	..	0	0	0	..
18	30·145	54·6	51·7	2·9	..	..	62·8	..	N by E	..	..	..	..	..	0	0	0	..
20	30·144	56·5	53·1	3·4	..	..	..	..	N	0 to ½	..	..	..	..	0	0	0	..
22	30·153	56·8	52·7	4·1	50·0	6·8	..	..	N	0 to ½	N	4·37	..	..	0	0	0	..
July 2. 0	30·141	59·0	53·9	5·1	..	..	..	..	N	..	..	..	..	..	0	0	0	..
2	30·128	62·2	56·3	5·9	..	..	..	..	N by E	..	..	..	..	..	0	0	0	..
4	30·113	61·5	56·5	5·0	52·0	9·5	68·5	..	N by E	..	..	..	..	..	0	0	0	..
6	30·086	64·4	57·5	6·9	..	..	50·3	2·46	N	..	..	..	Pos.	10	15	5	7	17. 0
8	30·086	60·5	55·9	4·6	..	..	——		NNE	..	..	..	..	..	0	0	0	..
10	30·085	56·1	53·7	2·4	52·0	4·1	71·0	0·00	N	0 to ½	..	..	..	..	0	0	0	..
12	30·078	54·5	51·8	2·7	..	..	45·0		NNE	..	..	..	..	..	0	0	0	..
14	30·065	52·0	51·4	0·6	..	..	——	7·400	NNE	..	..	..	..	..	0	0	0	..
16	30·056	51·3	50·1	1·2	49·0	2·3	66·5		NNE	..	..	..	..	..	0	0	0	..
18	30·045	51·6	50·6	1·0	..	..	62·2	..	NNE	..	..	..	..	..	0	0	0	..
20	30·038	57·0	54·4	2·6	..	..	..	..	N	..	..	..	..	..	0	0	0	..
22	30·029	58·2	54·4	3·8	51·0	7·2	..	..	N by E	..	NNE	2·04	..	..	0	0	0	..
July 3. 0	30·022	61·6	57·5	4·1	..	..	..	..	N	..	..	..	..	..	0	0	0	..

RAIN.

June 30d. 12h. The amount collected during the month of June in the rain-gauge No. 4 was 1in·50, and that collected by the Rev. G. Fisher in a rain-gauge of the same construction at Greenwich Hospital Schools during the same period was 1in·54.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
9	..	Cirro-stratus and fleecy clouds cover the greater part of the sky: there are a few breaks in the S., and some cumuli	L
8	..	Cirro-stratus, detached cumuli, and large masses of white scud are floating about the sky. [towards the S. horizon.	L
10	..	Overcast: cirro-stratus and scud.	T D
9	..	Cumuli, cirro-stratus, and scud: there are some clear breaks about the zenith.	
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	
10	..	,, ,,	T D
10	Transit	,, ,,	L
10	..	,, ,, a few drops of fine rain are falling.	
10	..	,, ,,	
10	..	,, ,,	L
5	..	Cumuli and masses of scud are scattered all around the horizon.	T D
2	..	A few small patches of cumuli are scattered over the sky.	G H
3	..	Detached cumuli are scattered in various directions.	G H
2	..	There are a few cumuli towards the N.: cirri and light clouds are floating about the sky.	L
0	..	There are a few light clouds, but to no numerical amount.	L
2	..	There are detached portions of cirro-cumuli principally in the N.	T D
10	..	Overcast: cirro-stratus and scud.	L
10	..	,, ,,	G H
10	Transit	,, cirro-cumuli and detached masses of scud.	
10	..	,, cirro-cumuli and scud.	
10	..	,, ,,	
10	..	,, cirro-stratus and scud.	G H
10	..	,, ,,	T D
8	..	Cumulo-stratus, cirro-stratus, and scud, much broken, in the N., N.W., and N. N.W.	T D
9	..	With the exception of a break S. of the zenith, the sky is covered with cumulo-stratus, cirro-stratus, and scud.	G H
2	..	There are a few detached patches of cumuli.	
0	..	Cloudless.	
0	..	,,	
10	..	Overcast: cirro-stratus and scud: the clouds have gradually increased since $8^h.\ 30^m$.	G H
10	..	,, ,,	T D
10	..	,, ,,	
10	Transit	,, ,,	
10	..	,, ,,	
10	..	,, ,,	T D
10	..	,, ,,	L
10	..	Overcast: cirro-stratus and scud.	G H
10	..	,, ,,	G H
10	..	,, ,, [the day at $4^h.\ 50^m$.	T D
8	..	Cumulo-stratus, cirro-stratus, and broken scud in every direction: the clouds became broken for the first time during	
9	..	With the exception of a break of considerable extent in the S. S. W., every portion of the sky is covered with cirro-	
10	..	Overcast: cirro-stratus and scud. [stratus and scud.	T D
10	..	,, ,,	L
10	Perigee	,, ,,	
10	Transit	,, ,, a very fine drizzling rain is falling.	
10	..	,, ,,	
10	..	,, ,,	L
10	..	,, ,,	G H
10	..	Overcast: cirro-stratus and scud.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	RAIN GAUGES. Stand of No. 1. (Osler's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
July 3. 2	30·000	69·2	62·5	6·7	..	..	..	..	N	..	..	..	Pos.	15	25	10	..	20. 0
4	29·965	70·8	62·3	8·5	55·0	15·8	73·6	..	N	..	..	..	Pos.	15	..	15	20	12. 0
6	29·928	69·5	62·7	6·8	..	..	52·9	2·46	N by E	..	..	..	Pos.	10	..	8	10	..
8	29·930	61·8	58·8	3·0	..	..			E	..	..	..	Pos.	7	10	..	..	..
10	29·938	56·3	55·2	1·1	54·0	2·3	91·5	0·00	Calm	..	..	..	..	..	0	0	0	..
12	29·930	54·0	53·4	0·6	..	..	44·6		E by S	..	..	..	..	..	0	0	0	..
14	..	..	..	..	..	..		7·400	E by S	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	66·2		E by S	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	62·8	..	E by S	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SE	..	..	..	..	..	..	..	..	..
22	29·910	65·0	58·0	7·0	..	..	..	..	S by E	..	E	1·50	..	..	0	0	0	..
July 4. 0	..	..	..	..	..	..	..	..	S by E	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	S by E	..	..	..	..	..	..	..	..	..
h m																		
2. 45	29·868	74·5	64·5	10·0	..	..	77·1	..	S by E	..	..	..	Pos.	20	..	10	15	7. 0
d h							46·9											
4. 4	..	..	..	..	..	..		2·46	S by E	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	96·0		SE	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	39·0	0·00	SSE	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..			SSW	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	67·0	7·400	S	..	..	..	..	..	..	..	..	..
14	29·812	51·8	51·7	0·1	..	..	63·5	..	S	..	..	..	..	..	0	0	0	..
16	29·815	49·7	49·7	0·0	49·5	0·2		..	SW	..	..	..	..	..	0	0	0	..
18	29·820	49·0	48·9	0·1	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
20	29·818	60·3	57·3	3·0	..	..	..	..	SSW	..	..	..	Pos.	30	..	10	20	10. 0
22	29·821	69·2	62·5	6·7	58·0	11·2	..	..	SW	..	S	1·00	Pos.	25	..	12	15	15. 0
July 5. 0	29·819	77·2	63·5	13·7	..	..	..	..	WSW	..	..	..	Pos.	30	..	20	25	16. 0
2	29·800	80·5	65·3	15·2	..	..	..	..	WNW	..	..	..	Pos.	30	..	20	25	6. 0
4	29·787	82·2	67·2	15·0	56·0	26·2	83·9	..	N by W	..	..	..	Pos.	25	..	10	20	..
6	29·767	77·5	67·6	9·9	..	..	44·5		N	..	..	..	Pos.	10	15	..	..	..
8	29·767	70·0	62·7	7·3	..	..		2·46	S	..	..	..	Pos.	2	2	..	..	..
10	29·781	64·2	61·0	3·2	58·5	5·7	100·5		S	..	..	..	..	..	0	0	0	..
12	29·788	57·6	57·0	0·6	..	..	47·0	0·00	SSW	..	..	..	..	..	0	0	0	..
14	29·781	56·8	56·6	0·2	..	..			SSW	..	..	..	..	..	0	0	0	..
16	29·776	55·6	55·5	0·1	55·0	0·6	68·0	7·400	S	..	..	..	..	..	0	0	0	..
18	29·787	55·0	54·8	0·2	..	..	64·2	..	SSW	..	..	..	..	..	0	0	0	..
20	29·792	64·8	60·5	4·3	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
22	29·781	72·8	64·2	8·6	58·0	14·8	..	..	SW	..	SSW	2·05	..	..	..	..	..	..
July 6. 0	29·774	78·2	65·9	12·3	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..
2	29·754	82·8	68·3	14·5	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..
4	29·728	84·0	68·6	15·4	60·0	24·0		..	SW	..	..	..	..	..	..	..	..	..
6	29·708	79·3	69·2	10·1	..	..	86·2		SSW	..	..	..	..	..	..	..	..	..
8	29·702	75·0	66·6	8·4	..	..	59·8	2·49	SSW	..	..	..	..	..	0	0	0	..
10	29·715	68·0	64·5	3·5	63·0	5·0			S by W	..	..	..	..	..	0	0	0	..
12	29·689	63·2	62·0	1·2	..	..	106·4	0·20	S by W	..	..	..	..	..	0	0	0	..
14	29·673	60·0	59·0	1·0	..	..	52·0		SSE	..	..	..	..	..	0	0	0	..
								7·620										
16	29·565	60·2	58·8	1·4	58·0	2·2	70·0	..			..	..	..	..	0	0	0	..
18	29·649	60·0	58·5	1·5	..	..	65·0	..			..	..	..	..	0	0	0	..
20	29·640	67·8	64·2	3·6	..	..	..	..			..	..	..	..	0	0	0	..
22	29·635	71·3	67·3	4·0	65·0	6·3	..	..			SSW	1·90	Pos.	30	..	10	20	..

DRY THERMOMETER.

July 4d. The increase in the reading between 18h and 20h was 11°·3.

OSLER'S ANEMOMETER.

July 6d. 13h. 25m. A sudden gust recording a pressure of 3½ lbs.

July 6d. 22h. The direction-pencil was found off the rack-work, and it had been so since 15h. 30m.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
4	..	There are a few patches of cumuli and scud in different parts of the sky.	G H
2	..	Loose scud and a few light clouds are scattered about the sky.	L
3	..	Detached cumuli, fleecy clouds, and scud are scattered about the sky.	
0	..	Cloudless.	
0	..	,,	L
10	..	The sky has become suddenly overcast with thin cloud of various densities: a few of the principal stars are dimly seen.	G H
..	..		
..	..		
..	Transit In Equator		
..	..		
4	..	Masses of cumuli are scattered all around the horizon: a very fine morning.	T D
..	..		
..	..		
2	..	A few light cirri are scattered here and there.	T D
..	..		
..	..		
..	..		
..	..		
..	..		
0	..	Cloudless, but very hazy to the S.W.	G H
0	..	,,	
0	Transit	Cloudless: a few lines of cirri about the horizon, but to no numerical extent.	
1	3rd Qr.	Thin cirri and haze generally cover the sky.	G H
3	..	A bank of cirro-stratus in the E. N. E. horizon; a thin haze also prevails.	T D
0	..	Cloudless; hazy.	
0	..	,, ,,	T D
6	..	Fleecy clouds and haze.	G H
10	..	Cirro-cumuli, fleecy clouds, and several masses of dark scud: the clouds are moving from the N.	
2	..	Cirri, cirro-cumuli, and scud towards the W. and N.W.; clear elsewhere.	
0	..	Cloudless: there are a few lines of cirri about the sky, but of no numerical amount.	
2	..	A bank of cirro-stratus near the N. horizon: light clouds are scattered here and there.	G H
3	..	Light cirri and haze.	T D
3	..	Thin cirro-stratus in the horizon, extending from the E. to W. S.W.: very hazy.	
0	..	Cloudless: very hazy.	
0	Transit	,,	T D
0	..	,,	L
0	..	Cloudless.	
2	..	There are fleecy clouds towards the horizon in the N. and S. parts of the sky.	L
1	..	Fleecy clouds are scattered around the zenith.	T D
1/2	..	There is a small bank of cumulo-stratus cloud in the S. S.W horizon.	
0	..	Cloudless.	
0	..	,, several flashes of sheet lightning have been seen since 9^h in the S., S. S.W., and S.W. parts of the sky.	T D
0	..	,, flashes of sheet lightning are occasionally visible.	L
10	..	Overcast: cirro-stratus and scud: rain has been falling since 13^h: thunder has been heard and lightning seen in all directions, but mostly from the N. E. to S. E.; none of the electrical instruments were affected.	
10	..	Overcast: the rain ceased soon after the last observation, but lightning is still visible behind clouds in the N.	
10	..	,, cirro-stratus and scud.	
10	Transit	,, thin cirro-stratus, above which the blue sky is visible in many places.	L
10	..	,, cirro-stratus and scud.	G H

ELECTRICITY.

July $5^d.\ 22^h$. The electrical apparatus was lowered that the pole might be repaired.

July $6^d.\ 8^h$. Previously to this time the apparatus was raised and set in action.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. — of Free Therm. — of Rad. Therm. — of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). — Reading of No. 2. — Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
July 7. 0	29·677	71·5	64·5	7·0	..	..	..	..	SW	½ to 1	..	..	Pos.	30	..	20	25	4. 0
2	29·688	69·1	63·3	5·8	..	..	..	..	WSW	..	..	..	Pos.	30	..	10	20	..
4	29·709	66·8	61·8	5·0	58·0	8·8	75·3	..	SW	..	..	..	Pos.	20	..	15	20	10. 0
6	29·698	66·5	60·5	6·0	..	..	53·5	2·54	SW	..	..	..	Pos.	20	..	15	20	15. 0
8	29·727	64·3	59·9	4·4	..	..	—		SW	..	..	..	Pos.	15	..	10	15	10. 0
10	29·749	59·7	57·7	2·0	56·0	3·7	84·4	0·10	SSW	..	..	..	Pos.	10	..	8	10	10. 0
12	29·746	57·4	56·1	1·3	..	..	45·5		SSW	..	..	..	Pos.	30	..	10	20	..
14	29·734	55·5	54·9	0·6	..	..	—	7·745	SSW	..	..	..	Pos.	15	25	..	..	..
16	29·725	55·0	54·4	0·6	54·0	1·0	70·5		W by N	..	..	..	Pos.	30	..	10	20	15. 0
18	29·727	56·5	55·8	0·7	..	..	66·0	..	W by N	..	..	..	Pos.	5	5	..	..	..
20	29·741	60·5	58·8	1·7	..	..	..	..	W by N	..	..	..	Pos.	40	..	40	60	15. 0
22	29·759	60·6	59·5	1·1	59·0	1·6	..	..	S by E	..	SW	3·00	Pos.	40	..	40	60	22. 0
July 8. 0	29·765	62·5	60·0	2·5	..	..	..	..	SSE	..	..	..	Pos.	25	..	20	30	4. 0
2	29·751	67·2	61·0	6·2	..	..	..	..	S	..	..	..	Pos.	30	..	20	25	10. 0
4	29·747	72·2	63·8	8·4	58·0	14·2	..	..	SSW	0 to ½	..	..	Pos.	25	..	15	30	..
6	29·754	68·8	60·5	8·3	..	..	73·3	..	SSW	0 to ½	..	..	..	..	..	..	..	..
8	29·774	65·5	60·0	5·5	..	..	53·1	2·54	SSW	..	..	..	..	..	0	0	0	..
10	29·799	60·0	56·7	3·3	..	..	—		S by W	..	..	..	Pos.	20	..	10	20	..
12	29·820	56·3	55·0	1·3	..	..	86·0	0·00	S by W	..	..	..	..	..	0	0	0	..
14	29·845	55·0	54·2	0·8	..	..	45·0		SSW	..	..	..	..	..	0	0	0	..
16	29·852	55·0	54·3	0·7	54·0	1·0	—	7·785	SSW	..	..	..	..	..	0	0	0	..
							70·5	..										
18	29·859	55·0	54·4	0·6	..	..	66·0	..	S by W	..	..	..	..	..	0	0	0	..
20	29·890	60·0	57·1	2·9	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
22	29·908	66·5	59·2	7·3	53·0	13·5	..	..	WSW	..	SSW	4·20	Pos.	7	..	5	7	..
July 9. 0	30·023	68·0	59·0	9·0	..	..	..	..	SW	..	..	..	Pos.	10	..	8	10	..
2	29·918	75·3	61·8	13·5	..	..	..	..	SW	0 to ½	..	..	Pos.	30	25	..	..	..
4	29·931	71·3	59·5	11·8	53·0	18·3	76·3	..	SW	½ to 1½	..	..	Pos.	10	20	5	7	11. 0
6	29·951	67·7	58·5	9·2	..	..	59·1	2·54	SW	½ to 1	..	..	Pos.	15	25	7	10	13. 0
8	29·972	63·5	56·7	6·8	..	..	—		SW	..	..	..	Pos.	6	10	..	..	..
10	29·985	61·0	55·3	5·7	52·0	9·0	94·0	0·00	SSW	..	..	..	Pos.	35	..	20	30	5. 0
12	29·989	59·7	56·7	3·0	..	..	51·0		SSW	..	..	..	Pos.	10	..	8	10	17. 0
14	29·979	60·3	59·5	0·8	..	..	—	7·790	S by W	..	..	..	Pos.	15	..	10	15	10. 0
16	29·976	60·0	59·5	0·5	59·0	1·0	70·5		S by W	..	..	..	Pos.	5	10	..	..	..
18	29·985	59·5	59·2	0·3	..	..	66·0	..	SSW	..	..	..	Pos.	7	10	..	..	..
20	30·002	64·2	61·7	2·5	..	..	..	..	SW	0 to ½	..	..	Pos.	10	..	8	10	7. 0
22	30·023	68·0	63·8	4·2	62·0	6·0	..	..	SW	..	SW	5·39	Pos.	15	20	8	..	..
July 10. 0	30·023	74·0	67·1	6·9	..	..	..	..	SW	..	..	..	Pos.	10	12	5	..	..
2	30·019	76·7	69 6	7·1	..	..	..	..	SW	..	..	..	Pos.	10	12	5	..	..
4	30·014	75·2	68·8	6·4	64·5	10·7	78·3	..	SW	½ constant	..	..	Pos.	5	7	..	4	..
6	30·012	74·8	67·9	6·9	..	..	59·8	..	SW	½ constant	..	..	Pos.	10	..	8	10	..
8	30·017	70·5	66·3	4·2	..	..	—	2·54	SW	..	..	..	Pos.	25	..	20	25	15. 0
10	30·021	67·2	64·5	2·7	62·5	4·7	90·2		SW	..	..	..	Pos.	15	..	12	15	8. 0
								0·00										
12	30·024	63·0	61·9	1·1	..	..	53·2		SSW	..	..	..	Pos.	15	20	8	..	..
14	..	..	..	..	..	..	—	7·795	WSW	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	70·8	..	SW	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	66·2	..	WSW	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..
22	30·044	73·0	66·8	6·2	..	..	..	..	WSW	..	SW	4·23	Pos.	10	..	8	10	..

BAROMETER.

July 9d. 0h. The reading seems to have increased 0in·115 since the previous observation, and to have decreased 0in·105 at the following observation, but it is probable that the reading at 0h may be in error, and that it should be 29in·923.

DEW POINT THERMOMETER.

July 8d. 10h. The observation was inadvertently omitted.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast: cirro-stratus and scud.	T D
10	..	,, ,,	G H
10	..	,, ,, a few drops of rain are falling occasionally.	L
7	..	The sky is clear in the S. and W.; cirro-stratus and scud elsewhere.	
0	..	Cloudless. [clear towards the N. and W.	
7	..	The sky S. of the zenith is covered with a very thin cirro-stratus: cirri and light clouds are scattered about the sky:	L
0	..	Cloudless.	G H
9	..	Nearly overcast with cirro-stratus of various densities: the clouds have come up within the last half hour.	
10	..	Overcast with thin cirro-stratus and scud.	
10	..	,,	
10	..	Overcast: cirro-stratus and detached portions of scud: rain has just commenced falling.	G H
10	Transit	,, cirro-stratus: rain has fallen heavily on several occasions since the last observation.	T D
10	..	Overcast: cirro-stratus and scud: rain began to fall at $22^h.\ 50^m$, and has continued to the present time.	
10	..	Cirro-stratus, cumulo-stratus, and scud: the rain ceased at $0^h.\ 50^m$.	T D
3	..	Rocky cumuli towards the N., with a few detached cumuli towards the horizon.	G H
3	..	There are a few cirri about the zenith, with cirro-strati and detached masses of cumuli towards the horizon.	
5	..	Cirri, a few patches of cumuli, cirro-strati, and haze principally towards the W. and S.W.	
2	..	The sky is nearly coverd with a thin stratus of no numerical amount; there are also a few cirri and light fleecy clouds.	G H
0	..	Cloudless: hazy in the horizon.	T D
4	..	There are cirro-strati and masses of dark scud all around the horizon.	
0	..	Cloudless.	
9	..	The whole of the N. portion of the sky is covered with cirro-stratus, extending from the horizon to the zenith: detached cirri, scud, and fleecy clouds are scattered in every direction, except in the E., where a small portion	
10	..	Cirro-stratus and scud. [of the sky is clear.	T D
7	Transit	Detached cumuli, fleecy clouds, and large masses of scud. [amount.	L
10	..	Cumuli around the horizon: fleecy clouds and cirro-stratus elsewhere: there are a few small breaks, but to no numerical	
4	..	Detached cumuli and large masses of scud.	L
8	..	Cumuli, cumulo-strati, and masses of scud. [measurement.	T D
10	..	The sky is covered with cirro-stratus: part of the arc of a solar halo was visible at $6^h.\ 45^m$, but it was too faint for	
10	..	Overcast: cirro-stratus.	
10	..	Cirro-stratus, scud, and fleecy clouds: a few drops of rain fell at $8^h.\ 25^m$.	T D
10	..	Overcast: cirro-stratus and scud.	L
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	L
10	Transit	,, ,,	G H
8	..	Cirro-stratus, fleecy clouds, and scud: a break towards the W.	
10	..	Overcast: cirro-stratus and scud.	G H
10	..	,, ,,	L
8	Greatest declination N.	Cirro-stratus, fleecy clouds, and scud: breaks mostly S. of the zenith.	
10	..	Overcast: cirro-stratus, fleecy clouds, and scud.	
0	..	There are a few light clouds towards the N., but to no numerical extent: the clouds have gradually cleared off within the last three-quarters of an hour.	L
0	..	Cloudless.	G H
..	..		
..	..		
..	..		
..	..		
10	..	Overcast: cirro-stratus and scud.	G H

ELECTRICITY.

July $7^d.\ 20^h$. There was a spark at the distance of $0^{in}.01$.
July $8^d.\ 6^h$. The instruments were unconnected with the conducting wire.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
July 11. 0	..	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	83·9	..	WSW	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	61·3	2·54	WSW	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	———	———	SW	..	..	..	..	..	..	..	..	..
h m 11. 30	30·034	66·5	61·9	4·6	..	..	101·0 54·0	0·00	SW	..	..	..	Pos.	7	10	..	..	..
h 12	..	..	..	..	..	..	———	———	WSW	..	..	..	..	..	..	..	..	..
14	30·038	63·4	60·6	2·8	..	..	70·2	7·795	SW	..	..	..	..	..	0	0	0	..
16	30·037	62·6	60·3	2·3	58·5	4·1	66·8	..	WSW	..	..	..	Pos.	15	20	8	..	..
18	30·041	61·7	60·0	1·7	..	..	..	..	WSW	..	..	..	Pos.	2	2	..	..	..
20	30·053	69·2	64·8	4·4	..	..	..	..	WSW	..	..	..	Pos.	6	8	..	..	..
22	30·054	77·8	68·8	9·0	65·0	12·8	..	..	WSW	..	WSW	2·53	Pos.	7	10	..	..	..
July 12. 0	30·066	83·2	70·6	12·6	..	..	..	..	SW	..	..	..	Pos.	10	..	10	12	..
2	30·065	84·6	71·1	13·5	..	..	..	..	WSW	..	..	..	Pos.	10	20	5	7	..
4	30·048	86·0	70·1	15·9	63·3	22·7	89·4	..	WSW	..	..	..	Pos.	10	20	10	12	..
6	30·038	82·6	69·6	13·0	..	..	60·5	2·54	W	..	..	..	Pos.	15	20	8	..	..
8	30·057	75·4	67·0	8·4	..	..	———	———	Calm	..	..	..	Pos.	30	..	10	20	..
10	30·064	68·8	63·0	5·8	62·0	6·8	108·5	0·00	Calm	..	..	..	Pos.	40	..	50	70	..
12	30·070	64·5	62·7	1·8	..	..	51·5	———	Calm	..	..	..	Pos.	30	..	25	30	17. 0
14	30·072	62·3	61·3	1·0	..	..	———	7·795	Calm	..	..	..	Pos.	10	..	8	10	..
16	30·070	61·7	60·8	0·9	60·0	1·7	72·0	..	S by W	..	..	..	Pos.	15	..	20	15	..
18	30·079	61·4	60·9	0·5	..	..	67·8	..	S by W	..	..	..	Pos.	10	..	12	15	..
20	30·089	70·8	66·1	4·7	..	..	..	..	SSW	..	..	..	Pos.	30	..	30	35	8. 0
22	30·087	74·5	68·4	6·1	..	..	..	..	SW	..	WSW	1·76	Pos.	10	15	6	..	..
July 13. 0	30·086	79·6	70·8	8·8	..	..	..	..	Calm	..	..	..	Pos.	8	15	..	..	..
2	30·079	84·0	68·3	15·7	..	..	..	..	Calm	..	..	..	Pos.	8	15	..	..	..
4	30·067	83·8	69·9	13·9	61·0	22·8	85·4	..	Calm	..	..	..	Pos.	7	10	..	..	..
6	30·052	82·3	70·4	11·9	..	..	58·5	2·54	Calm	..	..	..	Pos.	7	10	..	..	..
8	30·060	76·6	69·6	7·0	..	..	———	———	Calm	..	..	..	Pos.	10	..	8	10	..
10	30·069	70·8	66·9	3·9	65·0	5·8	98·4	0·00	Calm	..	..	..	Pos.	10	..	8	10	..
12	30·081	65·2	64·1	1·1	..	..	50·0	———	Calm	..	..	..	Pos.	3	7	..	..	..
14	30·079	61·5	61·5	0·0	..	..	———	7·795	Calm	..	..	..	..	..	0	0	0	..
16	30·071	59·6	59·5	0·1	60·0	−0·4	73·0	..	Calm	..	..	..	..	..	0	0	0	..
18	30·073	59·5	59·5	0·0	..	..	68·5	..	Calm	..	..	..	..	..	0	0	0	..
20	30·086	67·5	65·1	2·4	..	..	..	..	Calm	..	..	..	Pos.	5	10	..	..	..
22	30·081	76·4	70·8	5·6	69·0	7·4	..	..	Calm	..	W	0·16	Pos.	40	..	40	60	15. 0
July 14. 0	30·070	83·4	70·8	12·6	..	..	..	..	Calm	..	..	..	Pos.	30	..	15	30	..
2	30·046	85·1	71·1	14·0	..	..	..	..	Calm	..	..	..	Pos.	40	..	30	40	..
4	30·025	84·2	72·1	12·1	64·0	20·2	88·0	..	Calm	..	..	..	Pos.	30	..	25	35	2. 30
6	30·013	82·6	71·8	10·8	..	..	60·5	2·54	Calm	..	..	..	Pos.	30	..	20	25	3. 0
8	30·019	77·5	70·6	6·9	..	..	———	———	Calm	..	..	..	Pos.	40	..	30	40	7. 0
10	30·027	70·0	67·0	3·0	64·0	6·0	96·0	0·00	Calm	..	..	..	Pos.	40	..	40	50	6. 0
12	30·030	66·5	65·1	1·4	..	..	54·5	———	Calm	..	..	..	..	..	0	0	0	..
14	30·021	63·5	63·0	0·5	..	..	———	7·795	Calm	..	..	..	..	..	0	0	0	..
16	30·013	62·0	61·9	0·1	61·0	1·0	74·0	..	Calm	..	..	..	..	..	0	0	0	..
18	30·020	62·0	62·0	0·0	..	..	69·0	..	Calm	..	..	..	..	..	0	0	0	..
20	30·029	66·0	64·9	1·1	..	..	..	..	Calm	..	..	..	..	..	0	0	0	..
22	30·022	73·8	68·6	5·2	66·0	7·8	..	..	Calm	..	NNW	0·15	Pos.	5	7	..	..	..

DEW POINT THERMOMETER.

July 12d. 22h. The observation was inadvertently omitted.

July 13d. 16h. The reading was higher than that of the Dry Thermometer.

ELECTRICITY.

July 14d. 10h. There was a spark at the distance of 0in·02.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
..	Transit		
..	..		
..	..		
..	..		
..	..		
..	..		
0	..	Cloudless: the sky was generally overcast with thin cirro-stratus till about $7^h.\ 30^m$, and was cloudless afterwards.	G H
..	..		
0	..	Cloudless, but very hazy.	
2	..	There are a few cirri scattered over the sky: hazy.	
3	..	Cirri and haze, principally towards the S.: since the last observation there have been many very fine specimens of the different kinds of cirrus, particularly one of the cymoid character which extended from the N.W. to S. E.	
2	..	Small fragments of different kinds of cirrus are scattered over the sky, with haze.	G H
1	..	A few detached cumuli and light clouds are scattered about the sky.	L
2	Transit. New.	A few detached cumuli and light clouds are scattered about the sky.	L
8	..	Cumuli, cirro-strati, and scud are scattered in every direction.	T D
5	..	Cumuli are scattered over the sky: cirro-stratus in the N. E. horizon.	
3	..	A few small detached cumuli are scattered near the horizon all round.	T D
0	..	Cloudless, but hazy, particularly near the horizon.	G H
0	..	Cloudless, but very hazy.	G H
1	..	Cloudless in the horizon: hazy in the N.	L
0	..	Cloudless.	
2	..	Cloudy around the horizon: hazy.	
2	..	,, hazy, particularly in the N.	
0	..	Cloudless: hazy.	L
2	..	There are a few detached cumuli, with much haze.	G H
4	..	Cirro-cumuli and much haze.	
4	Transit	A few cumuli: hazy.	G H
8	..	Cumuli, cirro-stratus, and much haze.	L
4	..	,,	
0	..	Cloudless, but very hazy, particularly in the N.	
2	..	Cirro-stratus around the horizon: hazy.	L
4	..	Cirro-stratus around the horizon, chiefly in the N.	T D
0	..	Cloudless: very hazy.	
10	..	The sky is covered with thin cirro-stratus: hazy.	
0	..	A dense haze prevails and obscures the sky.	
0	..	Cloudless: very hazy.	T D
0	..	,, ,,	G H
10	..	Overcast with thin cirro-stratus and haze.	G H
10	Transit	Overcast: a thin cirro-stratus covers the sky: hazy.	G
8	..	The greater portion of the sky is obscured by cumulo-stratus and haze.	T D
9	..	Cumulo-stratus, scud, and haze.	
7	..	Cumuli, cumulo-strati, scud, and haze.	
0	..	Cloudless: hazy.	T D
0	..	,, very hazy.	G H
0	..	,, ,, a few light clouds towards the N. E., but to no numerical amount.	
10	..	Overcast: dense haze.	
10	..	,, dense haze and fog.	
10	..	,, cirro-stratus and scud: the fog has gradually cleared off since the last observation.	G H
10	..	,, ,,	L

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.	..	in.		°	°	div.	div.	m s
July 15. 0	30·016	79·8	69·8	10·0	..	..	..	..	NE	..	..	..	Pos.	25	..	20	25	..
2	29·997	84·2	71·1	13·1	..	..	..	..	NE	..	..	..	Pos.	10	..	8	10	..
4	29·983	82·6	70·1	12·5	62·5	20·1	86·6	..	NE	..	..	..	Pos.	10	15	6	0	..
6	29·962	74·6	65·5	9·1	..	..	57·9	2·54	E by S	..	..	..	Pos.	10	15	6	0	..
8	29·959	69·0	63·8	5·2	..	..			Calm	..	..	..	Pos.	40	40	12	10	..
10	29·984	62·7	61·2	1·5	60·0	2·7	103·0	0·00	Calm	..	..	..	Pos.	20	20	7	0	..
12	29·966	58·5	58·2	0·3	..	..	50·0		Calm	..	..	..	..	..	..	0	0	0	..
14	29·956	59·2	58·5	0·7	..	..		7·795	Calm	..	..	..	..	..	..	0	0	0	..
16	29·939	60·0	59·1	0·9	58·0	2·0	74·5		Calm	..	..	..	..	..	..	0	0	0	..
18	29·937	60·2	59·3	0·9	..	..	19·2	..	Calm	..	..	..	..	..	..	0	0	0	..
20	29·940	65·7	61·9	3·8	..	..	..	..	E	..	..	..	..	..	..	0	0	0	..
22	29·937	74·1	66·0	8·1	61·3	12·8	..	..	NNE	..	N	1·60	Pos.	15	..	12	15	12. 0
July 16. 0	29·915	81·5	69·5	12·0	..	..	..	..	N by E	..	..	..	Pos.	15	..	10	15	..
2	29·892	81·5	69·8	11·7	..	..	..	..	N by E	..	..	..	Pos.	10	12	5	7	13. 0
4	29·877	83·0	70·3	12·7	62·0	21·0	85·7	..	E	..	..	..	Pos.	10	..	8	10	7. 0
6	29·860	75·2	65·9	9·3	..	..	58·5	2·62	SE	..	..	..	Pos.	7	10	..	..	..
8	29·861	67·2	60·2	7·0	..	..			E by S	..	..	..	Pos.	7	10	..	..	..
10	29·873	63·3	60·7	2·6	58·0	5·3	103·3	0·02	E by S	..	..	..	Pos.	10	..	8	10	..
12	29·877	61·5	59·5	2·0	..	..	52·5		E by S	..	..	..	..	..	..	..	..	..
14	29·862	59·6	58·4	1·2	..	..		7·835	NE	..	..	..	..	..	..	..	..	..
16	29·859	59·5	58·2	1·3	58·0	1·5	75·0		N	..	..	..	Neg.	40	..	40	50	3. 0
18	29·857	59·5	58·9	0·6	..	..	70·0	..	N by W	..	..	..	..	..	..	0	0	0	..
20	29·868	61·0	59·5	1·5	..	..	..	..	N	..	..	..	..	..	..	0	0	0	..
22	29·873	61·0	59·1	1·9	57·0	4·0	..	..	N by W	0 to ½	NNE	2·61	..	..	..	0	0	0	..
July 17. 0	29·867	60·2	59·7	0·5	..	..	..	..	ENE	0 to 1	..	..	..	..	..	..	..	..	..
2	29·841	64·2	62·5	1·7	..	..	..	..	NE	..	..	..	Pos.	15	20	8	..	..
4	29·830	68·4	64·7	3·7	63·0	5·4	70·3	..	NNE	..	..	..	Pos.	25	..	20	30	7. 0
6	29·831	68·6	65·4	3·2	..	..	57·8	2·62	N	..	..	..	Pos.	20	..	15	20	10. 0
8	29·845	64·8	62·5	2·3	..	..			N	..	..	..	Pos.	20	..	12	15	11. 0
10	29·874	63·0	61·1	1·9	59·5	3·5	74·0	0·00	N	..	..	..	Pos.	15	..	12	15	13. 0
12	29·873	62·4	60·1	2·3	..	..	55·4		N by E	..	..	..	..	..	..	0	0	0	..
14	..	..	..	..	..	..		7·835	N	..	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	73·8		N	..	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	69·2	..	N	..	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	N	..	..	..	..	..	..	..	..	..	..
22	29·924	66·3	61·3	5·0	..	..	..	..	N	..	NNE	3·28	Pos.	2	2	..	..	..	..
July 18. 0	..	..	..	..	..	..	..	..	N	..	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	NNE	..	..	..	..	..	..	..	..	..	..
h m 2. 20	29·924	69·5	61·9	7·6	..	..	..	..	NNE	..	..	..	Pos.	30	30	8	10	..
h 4	..	..	..	..	..	..	73·8	..	ESE	..	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	49·0	2·83	E	..	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..			E	..	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	88·5	0·02	ENE	..	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	42·2		ENE	..	..	..	..	..	..	..	..	..	..
14	29·875	51·0	50·1	0·9	..	..		8·205	ENE	..	..	..	..	..	..	0	0	0	..
16	29·855	50·5	50·3	0·2	50·0	0·5	73·0		ENE	..	..	..	..	..	..	0	0	0	..
							68·5												..
18	29·850	52·5	51·8	0·7	..	..	..	..	NE	..	..	..	Pos.	2	2	..	..	..	..
20	29·830	60·0	58·1	1·9	..	..	..	..	NE	..	..	..	..	..	..	0	0	0	..
22	29·821	63·3	59·3	4·0	56·0	7·3	..	..	NE	..	ENE	2·42	Pos.	10	..	8	10	..

ELECTRICITY.

July 16d. 16h. There was a spark at the distance of 0in·02.

July 17d. 0h. See extra observations.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
3	..	Cumuli, scud, and haze.	L
1	..	A few light clouds are scattered about the sky: hazy.	
1	Transit	A few light clouds, with haze, near the horizon.	
0	..	Cloudless.	L
8	..	Thin clouds are scattered over the sky; there are some small portions of blue sky.	G
2	..	A bank of clouds near the horizon; otherwise cloudless.	G
4	..	Cloudy around the horizon; clear elsewhere, but the stars shine dimly.	L
10	..	Overcast: thin cirro-stratus.	
10	..	,, ,,	
10	..	,, ,,	
0	..	Cloudless.	L
0	..	,, hazy.	T D
0	..	Cloudless.	
5	..	Cirro-stratus, cumulo-stratus, and haze.	T D
0	Transit	There are a few cumuli towards the N., but to no numerical extent.	L
0	..	Cloudless.	
2	..	Cirro-stratus towards the horizon in the N. and W.: there are a few cirri about the zenith.	
2	..	Cloudy around the horizon.	L
4	..	Cirro-stratus near the horizon, but more particularly in the S. and S. S. E. portions.	T D
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,, distant thunder heard in the S.W.: rain was falling from $15^h.\ 10^m$ to $15^h.\ 50^m$.	
10	..	Cumulo-stratus, cirro-stratus, and scud: thunder has been frequently heard.	
10	..	Overcast: cirro-stratus and scud: thunder has been heard at intervals, since 18^h, in the N., N. N.W., and N.W.	T D
10	..	,, ,, distant thunder heard occasionally in the W.	G H
10	..	Overcast: cirro-stratus and scud: rain is falling heavily; it commenced at about 23^h: there have been many peals of	
10	..	,, ,, the rain ceased at about $1^h.\ 10^m$. [thunder since the last observation.	G H
10	Transit	,, ,,	T D
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	T D
10	In Equator	,, ,, very dark.	G H
..	..		
..	..		
..	..		
..	..		
10	Apogee	,, cirro-cumuli and scud: a few breaks appear occasionally.	
..	..		
..	..		
10	..	Overcast: cirro-cumuli: the sky continued overcast during the greater part of the day; towards evening the clouds cleared away considerably.	
..	..		
..	..		
..	Transit		
..	..		
.	..		
2	..	A few light clouds towards the S.W.: frequent flashes of sheet lightning have been seen in the S.W.	
6	..	Cirri, cirro-strati, and scud cover the greater portion of the sky; clear towards the E.: a few flashes of sheet lightning were seen shortly after the last observation.	
8	..	Cirro-strati, and thin scud in every direction; the N. part of the sky is most free from cloud.	
9	..	Cirri, cirro-cumuli, cirro-strati, and scud.	G H
10	..	Overcast: cirro-stratus and scud.	L

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
July 19. 0	29·819	68·8	61·5	7·3	..	..	..	..	NE	..	..	..	Pos.	15	..	10	12	..
2	29·813	65·0	57·3	7·7	..	..	..	..	NE	..	..	..	Pos.	10	..	8	10	..
4	29·784	65·5	59·6	5·9	54·5	11·0	69·9	..	NNE	..	..	..	Pos.	10	15	..	..	..
6	29·777	65·6	58·7	6·9	..	..	54·3	2·83	NNE	..	..	..	Pos.	10	15	..	..	..
8	29·761	62·8	54·8	8·0	..	..			N by E	..	..	..	Pos.	10	15	..	..	..
10	29·753	61·0	55·2	5·8	51·0	10·0	78·8	0·00	N by E	..	..	..	Pos.	40	..	40	60	..
12	29·744	58·3	55·7	2·6	..	..	45·7		N by E	..	..	..	Pos.	10	..	8	10	..
14	29·729	56·7	54·8	1·9	..	..		8·220	N by E	..	..	..	Pos.	10	..	8	10	..
16	29·717	55·2	53·6	1·6	52·0	3·2	72·0		N by E	..	..	..	Pos.	30	..	25	30	15. 0
18	29·719	57·0	55·2	1·8	..	..	67·8	..	N by E	..	..	..	Pos.	20	..	15	20	10. 0
20	29·744	63·0	58·2	4·8	..	..	..	..	N by E	..	..	..	Pos.	10	..	10	10	10. 0
22	29·752	67·2	60·5	6·7	56·0	11·2	..	..	NNW	..	NNE	1·28	Pos.	35	..	50	60	6. 0
July 20. 0	29·759	71·0	62·1	8·9	..	..	..	..	N by W	..	..	..	Pos.	40	..	60	70	5. 0
2	29·760	73·5	62·5	11·0	..	..	..	..	N by W	..	..	..	Pos.	40	..	60	70	13. 0
4	29·754	74·3	63·7	10·6	57·0	17·3	..	..	N by W	..	..	..	Pos.	40	..	45	60	8. 0
6	29·747	70·5	62·1	8·4	..	..	77·0	..	N	..	..	..	Pos.	40	..	35	40	6. 0
8	29·745	65·8	60·0	5·8	..	..	58·7	2·83	N	..	..	..	Pos.	30	..	25	30	7. 0
10	29·759	64·0	60·5	3·5	58·0	6·0			SSW	..	..	..	Pos.	25	..	20	25	12. 0
12	29·749	61·0	59·5	1·5	..	..	94·4	0·00	S by W	..	..	..	Pos.	15	20	5	7	7. 0
14	29·732	60·0	59·0	1·0	..	..	54·0		S by W	..	..	..	Pos.	3	7	..	..	..
16	29·719	59·5	58·5	1·0	58·0	1·5		8·220	WSW	..	..	..	Pos.	5	10	..	..	..
18	29·732	59·5	58·5	1·0	..	..	71·8		S	..	..	..	..	..	0	0	0	..
19	29·742	61·0	59·0	2·0	..	..	67·2	..	S	..	..	..	..	..	..	..	..	..
20	29·744	61·7	59·5	2·2	..	..	..	..	S	..	..	..	Pos.	25	..	20	30	5. 0
22	29·754	64·5	60·7	3·8	59·5	5·0	..	..	SSW	..	WSW	0·92	Pos.	30	..	10	20	..
23	29·762	64·2	60·1	4·1	..	..	..	..	WSW	..	..		..	..	0	0	0	..
July 21. 0	29·765	67·0	62·0	5·0	..	..	..	..	WSW	..	..	..	Pos.	8	10	..	..	..
1	29·763	70·5	64·5	6·0	..	..	..	..	WSW	..	..	..	Pos.	5	5	..	..	..
2	29·771	74·0	66·4	7·6	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
3	29·771	72·2	65·3	6·9	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
4	29·776	74·0	65·6	8·4	59·0	15·0	..	..	WSW	..	..	..	Pos.	6	8	..	..	..
5	29·778	76·0	65·8	10·2	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..
6	29·780	73·7	63·7	10·0	..	..	..	..	WSW	..	..	..	Pos.	6	8	..	..	..
7	29·791	72·5	61·8	10·7	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..
8	29·812	69·0	60·5	8·5	..	..	75·1	..	SW	..	..	..	Pos.	10	..	5	7	..
9	29·846	65·5	62·5	3·0	..	..	58·9	2·83	SW	..	..	..	Pos.	..	20	10	..	..
10	29·866	64 5	61·6	2·9	59·0	5·5			SSW	..	..	..	Pos.	10	20	10	10	..
11	29·864	61·7	60·5	1·2	..	..	90·0	0·00	SSW	..	..	..	..	..	..	..	..	..
12	29·874	60·9	59·7	1·2	..	..	54·0		S by W	..	..	..	Pos.	10	10	7	..	..
13	29·863	60·5	59·4	1·1	..	..		8·220	S by W	..	..	..	..	..	..	..	..	..
14	29·857	60·0	59·1	0·9	..	..	71·5	..	S by W	..	..	..	..	..	0	0	0	..
15	29·870	59·3	59·0	0·3	..	..	67·8	..	S by W	..	..	..	..	..	..	..	..	..
16	29·866	60·0	59·1	0·9	58·0	2·0	..	..	S by W	..	..	..	..	..	0	0	0	..
17	29·870	59·7	58·9	0·8	..	..	..	..	S by W	..	..	..	..	..	..	..	..	..
18	29·877	60·3	58·8	1·5	..	..	..	..	S by W	..	..	..	..	..	0	0	0	..
19	29·895	62·5	60·0	2·5	..	..	..	..	SSW	0 to 1	..	..	..	..	..	..	..	..
20	29·900	63·5	60·5	3·0	..	..	..	..	SSW	0 to 1	..	..	..	..	0	0	0	..
22	29·918	64·8	60·5	4·3	58·5	6·3	..	..	SW	0 to 1	WSW	4·20	..	..	0	0	0	..
23	29·918	65·6	61·6	4·0	..	..	..	..	SW		..		..	..	..	..	..	..
July 22. 0	29·913	67·0	61·5	5·5	..	..	..	..	SSW	0 to 1	..	..	..	..	0	0	0	..

MAXIMUM FREE THERMOMETER.

July 21d. 22h. The reading was lower that of the Dry Thermometer at 5h.

ELECTRICITY.

July 19d. 10h and July 20d. 4h. There were sparks at the distances of 0in·02 and 0in·01 respectively.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast: cirro-stratus and scud: there have been a few drops of rain since the last observation.	L
10	..	,, ,, there was a shower of rain at $1^h.\ 10^m$.	L
10	..	,, ,,	G H
10	Transit	,, ,, a thin rain was falling a few minutes since.	
$9\frac{1}{2}$	..	Cirrus, cirro-stratus, and scud: there is a small break in the clouds towards the S.W.	
10	..	Overcast: cirro-stratus and detached masses of wild looking scud.	G H
10	..	,, cirro-stratus and scud.	L
5	..	Clear in and around the zenith; cloudy elsewhere.	
7	..	Clear in the E.; cirro-stratus and scud elsewhere.	
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	L
10	..	The sky is covered with thin cirro-stratus: at $22^h.\ 40^m$ a solar halo was visible, but it was too faint for measurement.	T D
10	..	The whole of the sky is covered with cirro-stratus, with patches of scud towards the S. and S.S.W.	
10	1st Qr.	Overcast: cumulo-stratus, cirro-stratus, and scud: the clouds are thin, the Sun being visible through them.	T D
10	..	,, ,,	L
10	Transit	,, cirro-stratus and scud: a very faint solar halo has been visible occasionally since the last observation.	
10	..	,, ,,	
10	..	,, ,,	L
10	..	Cirro-stratus and scud: a few stars are faintly visible in the zenith.	T D
10	..	Overcast: cirro-stratus and scud.	
10	..	,, cirro-stratus.	
10	..	,, cirro-stratus and scud.	
10	..	,, ,,	
10	..	,, ,,	T D
10	..	,, ,,	G H
10	..	,, ,,	
10	..	Overcast: cirro-stratus of different densities and scud.	
10	..	,, cirro-stratus and scud.	
10	..	Overcast with very thin cirro-stratus, through which blue sky is visible.	
10	..	,, ,,	
10	..	,, ,,	
5	..	Cumuli are scattered all over the sky, except near the zenith: the horizon is hazy.	
2	..	A few detached patches of cumuli near the horizon: hazy.	
3	..	There are a few small cumuli, some comoid cirri, and scud scattered over the sky.	G H
2	Transit	Cirri and light clouds are scattered about the sky.	L
1	..	A few clouds near the W. horizon; otherwise cloudless.	G
2	..	There are a few small clouds near the horizon in the N. and W.; otherwise cloudless.	
7	..	Considerable quantities of scud have collected in different parts of the sky: the stars shine very brightly between the	
3	..	The zenith and the parts around it for 60° are free from cloud; the horizon is misty. [masses: there is no upper cloud.	G
10	..	Overcast with dark clouds of various densities: a few of the principal stars near the zenith are visible.	G H
10	..	,, ,,	G H
0	..	Cloudless.	L
5	..	Cloudy, principally towards the N. and around the horizon; clear elsewhere.	
2	..	Cloudy around the horizon.	
10	..	Overcast: cirro-stratus and scud.	
10	..	Cirro-stratus and scud of various densities.	L
10	..	Overcast: cirro-stratus and scud.	T D
10	..	,, a thin rain is falling.	G
10	..	,, ,,	G
10	..	Overcast: cirro-stratus and scud: the rain has ceased.	G H

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
July 22. 1	29·926	69·9	63·5	6·4	..	..	..	..	SSW	0 to ½	..	..	..	..	..	..	..	..
2	29·920	70·6	64·0	6·6	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
3	29·943	68·5	62·5	6·0	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
4	29·954	68·5	62·4	6·1	57·5	11·0	..	..	SW	..	..	..	Pos.	15	20	8	..	..
5	29·952	70·0	61·7	8·3	..	..	74·3	..	WSW	..	..	..	..	..	..	..	..	..
6	29·962	70·3	58·5	11·8	..	..	48·8	2·83	WSW	..	..	..	Pos.	10	..	10	15	7. 0
7	29·993	68·7	58·0	10·7	..	..	——	——	WSW	..	..	..	..	..	..	..	..	..
8	29·999	66·1	57·9	8·2	..	..	90·0	0·00	WSW	..	..	..	Pos.	40	40	10	10	..
9	30·031	62·2	56·8	5·4	..	..	41·0	——	WSW	..	..	..	..	..	..	..	..	..
10	30·046	60·7	56·2	4·5	53·0	7·7	——	8·220	WSW	..	..	..	Pos.	25	..	20	25	..
12	30·069	56·5	54·0	2·5	..	..	70·8	..	WSW	..	..	..	Pos.	40	..	20	40	..
14	30·081	52·7	51·4	1·3	..	..	67·2	..	SSW	..	..	..	Pos.	30	..	10	20	..
16	30·078	50·6	49·9	0·7	49·0	1·6	..	..	SW	..	..	..	Pos.	30	..	15	30	..
18	30·098	50·5	49·9	0·6	..	..	..	..	SW	..	..	..	Pos.	40	..	30	50	5. 0
20	30·113	58·0	54·2	3·8	..	..	..	..	SW	..	..	..	Pos.	40	..	50	70	15. 0
22	30·122	66·3	57·3	9·0	50·0	16·3	..	..	W by N	..	WSW	3·50	Pos.	30	..	25	30	..
July 23. 0	30·116	67·8	56·7	11·1	..	..	..	..	WNW	..	..	..	Pos.	20	..	15	20	..
2	30·110	70·0	58·2	11·8	..	..	..	..	N	..	..	..	Pos.	10	..	8	10	..
4	30·092	71·4	58·5	12·9	50·0	21·4	73·1	..	N	..	..	..	Pos.	30	..	10	20	..
6	30·092	66·7	57·1	9·6	..	..	45·4	2·83	N	..	..	..	Pos.	30	..	10	20	..
8	30·087	64·4	57·0	7·4	..	..	——	——	Calm	..	..	..	Pos.	6	8	0	0	..
10	30·084	58·0	53·9	4·1	50·0	8·0	87·0	0·00	Calm	..	..	..	Pos.	40	..	60	80	..
12	30·081	54·8	52·9	1·9	..	..	38·7	——	Calm	..	..	..	Pos.	40	..	35	40	..
14	30·058	50·0	48·9	1·1	..	..	——	8·220	Calm	..	..	..	Pos.	25	..	25	30	10. 0
16	30·036	48·3	47·6	0·7	47·0	1·3	70·5	..	Calm	..	..	..	Pos.	20	..	20	25	..
18	30·041	47·5	46·9	0·6	..	..	67·0	..	Calm	..	..	..	Pos.	20	..	15	20	15. 0
20	30·037	57·8	54·4	3·4	..	..	..	..	Calm	..	..	..	Pos.	40	..	35	40	..
22	30·012	68·4	60·5	7·9	55·0	13·4	..	..	Calm	..	NNW	1·25	Pos.	40	..	50	60	..
July 24. 0	29·994	74·0	61·5	12·5	..	..	..	..	Calm	..	..	..	Pos.	30	..	40	50	7. 0
2	29·968	76·5	62·7	13·8	..	..	..	..	N by E	..	..	..	Pos.	25	..	20	25	10. 0
4	29·941	72·8	60·7	12·1	53·0	19·8	78·7	..	N by E	..	..	..	Pos.	30	..	25	30	..
6	29 903	70·5	61·1	9·4	..	..	52·3	2·83	N by E	..	..	..	Pos.	15	..	15	20	..
8	29·893	65·8	58·2	7·6	..	..	——	——	N by E	..	..	..	Pos.	10	..	8	10	..
10	29·900	62·0	55·8	6·2	51·0	11·0	96·2	0·00	E by S	..	..	..	Pos.	20	..	18	20	..
12	29·881	57·6	52·8	4·8	..	.	45·3	——	E by S	..	..	..	Pos.	10	..	12	15	8. 0
14	..	..	..	..	..	..	——	8·220	E by S	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	70·5	..	E by S	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	66·5	..	ENE	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	ENE	..	..	..	..	..	..	..	..	..
22	29·751	64·6	58·3	6·3	..	..	..	..	NNE	..	NNE	0·75	..	..	0	0	0	..
July 25. 0	29·807	67·5	58·1	9·4	..	..	..	..	ENE	0 to ½	..	..	..	..	0	0	0	..
2	..	..	..	..	..	..	69·5	..	ENE	0 to ½	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	48·2	2·83	NE	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	——	——	N	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	84·0	0·00	N	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	42·0	——	N	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	——	8·220	N	..	..	..	..	..	..	..	..	..
14	29·798	52·0	51·4	0·6	..	..	70·0	..	N	..	..	..	..	..	0	0	0	..
16	29·786	50·0	49·9	0·1	50·0	0·0	65·8	..	N by W	..	..	..	..	..	0	0	0	..

DRY THERMOMETER.

July 23d. The increase in the reading between 18h and 22h was considerable.

ELECTRICITY.

July 22d. 12h and 20h. There were sparks at the distance of 0in·01 at both times.

July 23d. 10h. There was a spark at the distance of 0in·02.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
9	..	Cirro-stratus and scud in every direction except the N.W., where a small portion of blue sky is visible.	T D
10	..	Cirro-stratus and scud.	
10	..	Overcast: cirro-stratus and scud: a few drops of rain have fallen since the last observation.	T D
9	..	Cirro-cumuli and scud: a few small breaks towards the N.W.	G H
7	..	Cumulo-stratus, cirro-stratus, and scud: clear portions of blue sky in and around the zenith.	T D
3	..	Detached cumuli are scattered around the horizon; every other part of the sky is clear.	
1	..	Nearly cloudless, there being only a few cumuli near the horizon in the N.	
1	Transit	,, ,,	T D
3	..	Cloudy around the horizon, and in the N.	L
2	..	Cloudy around the horizon; clear elsewhere.	L
0	..	Cloudless; but hazy about the Moon's place.	G H
0	..	Cloudless.	
0	..	Cloudless, but hazy.	
0	..	Thin cirri towards the horizon in the S. and S.W.; elsewhere cloudless, but hazy.	
2	..	Cirri towards the horizon in the S. and S.W., with slight haze in every direction.	G H
8	..	Cumulo-strati, detached cumuli, loose scud, and haze.	L
7	..	Cumulo-strati, detached cumuli, loose scud, and haze.	
9	..	Cumulo-strati, cirro-stratus, and loose masses of scud.	L
4	..	There are a few detached cumuli and some fleecy clouds in different directions: hazy.	G H
3	..	Detached cumuli near the horizon: hazy.	
7	..	Cirro-cumuli and scud are scattered over the sky.	
0	Transit	Cloudless: hazy about the horizon.	G H
0	..	,, hazy.	L
0	..	,, ,,	
0	..	,, very hazy.	
2	..	Light clouds in the N. and S., near the horizon: hazy.	
1	..	There are a few clouds towards the S. horizon: hazy	L
0	..	Cloudless: hazy.	T D
		[increased in amount.	
7	..	Cumulo-stratus, cirro-stratus, and scud: the clouds began to gather at $23^h.\ 30^m$, and since that time they have gradually	
8	..	With the exception of a break S.W. of the zenith, of some extent, through which the Sun is visible, the sky is covered with cumulo-stratus and scud.	T D
		[no numerical amount.	
10	..	Cirro-strati, cumulo-strati, and fleecy clouds nearly cover the sky: there are a few small breaks about the zenith, but to	L
10	..	Overcast: cirro-stratus and scud: the upper arc of a faint halo has been visible for the last quarter of an hour; the	
10	..	Overcast: cirro-stratus and scud. [clouds are very thin in some places: at $6^h.\ 10^m$ the halo disappeared.	
10	Transit	,, ,,	L
10	..	,, cirro-stratus: the Moon's place is faintly visible: at $11^h.\ 10^m$ a perfect lunar halo was seen, whose radius	T D
..	..	[was estimated to be 23°.	
..	..		
..	Greatest declination N.		
..	..		
10	..	Overcast: cirro-stratus and scud: the Sun's place is visible.	
10	..	Overcast: cirro-stratus and scud: the Sun's place is visible.	
..	..		
..	..		
..	..		
..	..		
..	Transit		
..	..		
0	..	Cloudless: hazy.	
5	..	Cirro-stratus all around the horizon: a thin cirro-stratus obscures the sky to a considerable extent: very hazy.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
July 25. 18	29·798	51·0	50·2	0·8	..	..	..	..	N	..	..	..	..	..	0	0	..	..
20	29·810	58·0	54·6	3·4	..	..	..	..	N	0 to ½	..	..	..	..	0	0	..	..
22	29·801	67·0	57·5	9·5	51·0	16·0	..	..	N	0 to ½	N	3·60	Pos.	6	8	..	..	..
July 26. 0	29·815	67·5	57·5	10·0	..	..	..	..	N	0 to 1½	..	..	Pos.	8	10	..	..	..
2	29·825	73·0	61·0	12·0	..	..	..	..	N	0 to ½	..	..	Pos.	30	..	10	20	..
4	29·831	74·1	61·5	12·6	54·0	20·1	..	..	N	..	..	..	Pos.	3	7	..	..	..
6	29·832	70·3	60·0	10·3	..	..	75·7	..	N	..	..	..	Pos.	40	..	40	50	5. 0
8	29·858	65·0	58·0	7·0	..	..	47·0	2·83	N	..	..	..	Pos.	40	..	50	60	3. 0
10	29·901	59·0	54·4	4·6	51·5	7·5	—	—	N	..	..	..	Pos.	30	..	30	40	10. 0
							92·6	0·00										
12	29·914	54·0	51·1	2·9	..	..	40·0	—	N	..	..	..	Pos.	3	3	..	..	..
14	29·920	51·7	50·8	0·9	..	..	—	8·220	N	..	..	..	Pos.	2	2	..	..	..
							69·5											
16	29·931	49·1	48·3	0·8	48·0	1·1	65·8	..	N	..	..	..	..	..	0	0	0	..
18	29·942	50·2	49·9	0·3	..	..	..	..	N by W	..	..	..	..	..	0	0	0	..
20	29·959	57·7	55·0	2·7	..	..	..	..	N by W	..	..	..	Pos.	10	15	..	..	..
22	29·981	68·8	61·2	7·6	55·0	13·8	..	..	N by W	..	NNW	2·35	Pos.	40	..	40	50	6. 0
July 27. 0	29·953	75·0	62·5	12·5	..	..	..	..	N by W	..	..	..	Pos.	25	..	30	40	10. 0
2	29·953	78·6	64·0	14·6	..	..	..	..	NNW	..	..	..	Pos.	20	..	20	30	13. 0
4	29·948	77·0	64·1	12·9	53·0	24·0	80·4	..	NNW	..	..	..	Pos.	10	15	0	0	..
6	29·944	73·5	63·3	10·2	..	..	52·5	2·83	NNW	..	..	..	Pos.	10	15	0	0	..
8	29·948	68·4	61·6	6·8	..	..	—	—	NNW	..	..	..	Pos.	30	..	10	20	..
10	29·954	65·0	59·9	5·1	55·5	9·5	99·6	0·00	NNW	..	..	..	Pos.	40	..	30	50	..
12	29·963	62·6	58·2	4·4	..	..	46·0	—	NNW	..	..	..	Pos.	20	..	15	20	12. 0
14	29·951	55·6	54·5	1·1	..	..	—	8·220	SW	..	..	..	Pos.	10	..	8	10	..
16	29·942	54·6	53·6	1·0	52·5	2·1	69·2	—	SW	..	..	..	Pos.	30	..	25	30	15. 0
18	29·947	54·0	52·7	1·3	..	..	66·0	..	SW	..	..	..	Pos.	20	..	15	20	..
20	29·942	62·4	57·7	4·7	..	..	..	..	SW	..	..	..	Pos.	10	..	8	10	..
22	29·942	68·8	61·0	7·8	52·5	16·3	..	..	WSW	..	SW	3·05	Pos.	20	..	20	30	..
July 28. 0	29·932	73·0	62·5	10·5	..	..	..	..	W	..	..	..	Pos.	10	..	10	15	..
2	29·929	75·0	63·1	11·9	..	..	..	..	W	..	..	..	Pos.	15	..	12	15	..
4	29·912	74·0	63·3	10·7	57·0	17·0	..	..	W	½ to 1	..	..	Pos.	10	..	8	10	..
6	29·909	69·2	60·5	8·7	..	..	77·3	..	W	½ to 1	..	..	Pos.	10	..	8	10	..
8	29·912	67·0	59·7	7·3	..	..	60·3	2·83	WSW	..	..	..	Pos.	10	..	8	10	..
10	29·925	65·5	60·0	5·5	56·0	9·5	—	—	WSW	..	..	..	Pos.	30	..	30	40	11. 0
12	29·927	62·3	59·0	3·3	..	..	93·0	0·00	WSW	..	..	..	Pos.	40	40	12	10	8. 0
							53·0											
14	29·919	63·0	59·0	4·0	..	..	—	8·220	SW	..	..	..	Pos.	10	10	2	0	..
16	29·907	61·5	58·5	3·0	56·5	5·0	69·5	..	WSW	..	..	..	Pos.	10	15	3	0	..
18	29·927	61·8	57·7	4·1	..	..	66·0	..	SW	..	..	..	Pos.	10	10	0	0	..
20	29·938	63·9	57·0	6·9	..	..	..	..	WSW	..	..	..	Pos.	10	15	5	0	..
22	29·953	69·0	59·8	9·2	52·0	17·0	..	..	NW	..	WSW	3·40	Pos.	35	..	40	40	11. 0
July 29. 0	29·955	76·0	62·5	13·5	..	..	81·4	..	WNW	..	..	..	Pos.	7	12	4	3	..
2	29·947	78·7	66·1	12·6	..	..	57·5	2·83	NW	..	..	..	Pos.	3	7	0	0	..
4	29·940	81·7	68·1	13·6	59·0	22·7	—	—	N	..	..	..	Pos.	10	..	8	10	..
6	29·927	78·2	67·6	10·6	..	..	96·2	0·00	N	..	..	..	Pos.	10	20	10	0	..
8	29·933	71·8	64·7	7·1	..	..	50·0	—	NNE	..	..	..	Pos.	10	20	10	0	..
10	29·935	66·0	61·5	4·5	59·0	7·0	69·8	8·220	SSE	..	..	..	Pos.	10	10	2	2	..
12	29·935	63·3	60·0	3·3	..	..	66·0	..	SSE	..	..	..	..	0	0	0	0	..

DRY THERMOMETER.

July 26d. The increase in the reading between 20h and 22h was 11°·1.

ELECTRICITY.

July 26d. 8h. There was a spark at the distance of 0in·03.

July 27d. 10h. There was a spark at the distance of 0in·01.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
0	..	A few portions of light scud occasionally pass over, but to no numerical amount.	T D
0	..	Cloudless.	T D
2	..	There are a few cumuli near the horizon: cirrus is prevalent. [about the zenith, and N. of it.	G H
6	..	Cirri, with masses of cumuli and scud near the horizon, more particularly the S. and W. portions: the sky is clear	
8	..	A small quantity of cirrus about the zenith; cumuli, fleecy clouds, and scud in every other part of the sky.	G H
7	..	Cumuli, cumulo-stratus, cirro-stratus, and scud.	T D
4	..	Cirro-stratus and light clouds are scattered in every direction, more especially in the W. and S.W.	
3	..	Thin cirro-stratus near the W. horizon: light clouds are scattered here and there, chiefly cirri.	
5	..	Cirro-stratus, scud, and lines of cirri: the S. E. portion of the sky is mostly free from cloud: there are several small breaks in every direction, except in the N., where a dense cirro-stratus prevails.	T D
10	Transit	Overcast, with a thin stratus, through which the Moon and principal stars are visible.	G H
7	..	About the zenith and N. of it the stratus cloud has cleared off, but in other parts of the sky it continues the same: shortly after the last observation the upper part of a lunar halo was observed, but it was too faint and indistinct	
0	..	Cloudless: hazy in the horizon. [for measurement.	
0	..	Cloudless, but very hazy.	
0	..	,,	G H
2	..	Detached cumuli, scud, and haze.	T D
2	..	Detached cumuli are scattered in the horizon, principally in the E. and S. S. E.	
6	..	Cirro-stratus, cumulo-stratus, and scud: clear in the zenith.	T D
5	..	Detached masses of cumuli in every direction.	G H
1	..	There are a few detached cumuli with much haze towards the W. and S.W. parts of the horizon.	
3	..	Cirri, cirro-strati, scud, and haze principally towards the W. parts of the horizon: the clearest part of the sky is near	
0	Full	Cloudless, but very hazy in every direction. [the zenith.	G H
4	Transit	Cirro-stratus around the horizon, and lines of cirri principally N. of the zenith: hazy.	L
2	..	Cloudy around the horizon: hazy.	
1	..	,, ,,	
9	..	Thin cirro-stratus, fleecy clouds, and scud cover the greater part of the sky.	
10	..	Thin cirro-stratus, fleecy clouds, and scud cover the sky: there are a few small breaks, but to no numerical amount.	L
9	..	Thin cirro-stratus, fleecy clouds, and scud cover the sky, except a small portion E. of the zenith.	T D
10	..	The sky is covered with a thin cirro-stratus, through which the Sun is visible. [are seen.	
8	..	Thin clouds of the cirro-stratus character prevail in every direction, except in the zenith, where portions of blue sky	T D
10	..	Overcast: cirro-stratus, fleecy clouds, and scud.	L
10	..	,, ,,	
10	..	,, ,,	L
10	..	,, cirro-stratus and scud: the clouds in the N. horizon are a bright red, as if from the reflection of a fire.	T D
7	..	The greater part of the sky is covered by a thin cirro-stratus; the Moon is frequently covered by it, but not sufficiently to obscure her, though at such times the sky is wholly covered by clouds. [is overcast with cirro-stratus.	G
10	Transit	The sky has been principally covered by cloud since 12^h: the Moon has been visible occasionally: at present the sky	
9	..	The sky continued overcast till $15^h.\ 30^m$, and since that time the Moon has frequently been visible, and the clouds are	
8	..	The sky is nearly covered by small round-shaped clouds. [forming into small round shapes.	
9	..	The sky is very nearly covered by a white cloud of no particular modification, through which the Sun shines faintly.	G
7	..	Cirro-stratus and fleecy clouds all around; the zenith is the only part clear.	T D
0	..	Cloudless.	
0	..	,,	T D
0	..	,, hazy.	L
10	..	The whole sky is covered by cirro-stratus cloud, but in some places it is very thin.	L
8	..	There are a few small portions of blue sky, but the greater part is cloudy: near the zenith are cirri: the horizon near	G
0	..	Since 8^h the clouds gradually dispersed, and at present the sky is cloudless. [the S.W. is clear.	G
0	..	A few light clouds in the S., but to no numerical amount.	T D

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	RAIN GAUGES. Stand of No. 1. (Osler's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
July 29. 14	29·924	61·4	59·5	1·9	..	..	..	..	S by W	..	..	..	Pos.	5	10	0	0	..
16	29·909	60·1	58·7	1·4	58·0	2·1	..	..	SSW	..	..	..	..	0	0	0	0	..
18	29·912	60·4	59·0	1·4	..	..	..	..	S by W	..	..	..	..	0	0	0	0	..
20	29·910	66·0	61·5	4·5	..	..	..	..	S by W	..	..	..	Pos.	8	12	3	4	..
22	29·909	70·2	63·0	7·2	58·0	12·2	..	..	WSW	..	SW	1·49	Pos.	40	..	30	50	10. 0
July 30. 0	29·893	74·2	62·0	12·2	..	..	..	..	SW	..	..	..	Pos.	40	..	20	40	15. 0
2	29·884	73·5	64·0	9·5	..	..	..	..	WSW	..	..	..	Pos.	40	..	60	80	18. 0
4	29·867	76·0	63·6	12·4	57·0	19·0	78·3	..	WSW	..	..	..	Pos.	35	..	40	50	7. 0
6	29·850	74·0	64·0	10·0	..	..	53·1	2·83	WSW	..	..	..	Pos.	40	..	50	60	5. 0
8	29·864	67·9	61·5	6·4	..	..			W by S	..	..	..	Pos.	40	..	50	70	7. 0
10	29·875	63·5	58·5	5·0	55·5	8·0	96·4	0·00	SW	..	..	..	Pos.	20	..	20	30	11. 0
12	29·883	60·6	59·0	1·6	..	..	48·0		SW	..	..	..	Pos.	15	20	0	0	..
14	29·893	58·0	57·1	0·9	..	..		8·220	WSW	..	..	..	Pos.	2	2	0	0	..
16	29·891	55·3	54·9	0·4	55·0	0·3	70·2		WSW	..	..	..	..	..	0	0	0	..
18	29·917	54·0	53·8	0·2	..	..	66·5	..	WSW	..	..	..	Pos.	2	2	0	0	..
20	29·931	60·0	57·9	2·1	..	..	..	..	WSW	..	..	..	Pos.	2	2	0	0	..
22	29·950	69·0	62·0	7·0	..	..	..	..	W	..	WSW	2·33	Pos.	25	..	20	30	..
July 31. 0	29·945	73·2	62·5	10·7	..	..	..	..	WSW	..	..	..	Pos.	15	..	12	15	..
2	29·934	80·0	65·9	14·1	..	..	..	..	WSW	..	..	..	Pos.	10	..	10	12	..
4	29·924	81·1	66·1	15·0	54·0	27·1	82·2	..	WSW	..	..	..	Pos.	6	8	..	..	..
6	29·906	75·0	63·9	11·1	..	..	53·1	2·83	WSW	..	..	..	Pos.	30	..	10	20	..
8	29·904	70·2	62·0	8·2	..	..			W by S	..	..	..	Pos.	40	..	30	50	..
10	29·919	66·0	60·0	6·0	55·0	11·0	100·4	0·00	WSW	..	..	..	Pos.	20	..	8	10	..
12	29·930	61·4	58·8	2·6	..	..	46·0		WSW	..	..	..	Pos.	10	..	8	10	..
14	..	..	..	..	..	..		8·220	SW	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	70·5		SW	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	67·0	..	SSW	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SSW	..	..	..	..	..	..	..	..	..
22	29·929	76·3	64·9	11·4	..	..	..	..	SW	..	SW	1·15	Pos.	25	..	25	30	..
Aug. 1. 0	29·903	81·5	67·9	13·6	..	..	..	..	SW	..	..	..	Pos.	40	..	40	45	..
2	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	87·7	..	SSW	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	51·3	2·83	SSW	..	..	..	..	..	..	..	..	..
9	29·828	69·1	61·6	7·5	..	..			SSW	..	..	..	Pos.	25	..	25	30	..
10	..	..	..	..	..	..	108·0	0·00	SSW	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	42·5		SSW	..	..	..	..	..	..	..	..	..
14	29·791	58·0	54·7	3·3	..	..		8·220	SSW	..	..	..	Pos.	20	..	15	20	..
16	29·749	52·5	51·4	1·1	50·5	2·0	71·8		SSW	..	..	..	..	..	0	0	0	..
18	29·736	57·0	55·5	1·5	..	..	67·5	..	SW	..	..	..	..	..	0	0	0	..
20	29·746	67·0	61·0	6·0	..	..	..	..	SW	..	..	..	Pos.	10	..	8	10	..
22	29·745	74·2	64·2	10·0	55·0	19·2	..	..	WSW	..	SSW	0·60	Pos.	40	..	60	80	14. 0
Aug. 2. 0	29·735	80·0	66·6	13·4	..	..	84·8	..	WSW	..	..	..	Pos.	40	..	80	100	20. 0
2	29·703	83·3	66·6	16·7	..	..	50·3	2·83	WSW	..	..	..	Pos.	40	..	80	100	17. 0
4	29·686	84·4	67·3	17·1	56·5	27·9			WNW	..	..	..	Pos.	25	..	25	30	10. 0
6	29·689	76·6	66·1	10·5	..	..	103·4	0·00	NW	0 to ½	NW	2·05	Pos.	20	..	15	20	..
8	29·733	66·8	61·8	5·0	..	..	40·0		NNW	½ to 1	..	..	Pos.	20	..	18	20	..
10	29·779	63·0	59·8	3·2	57·0	6·0	72·0	8·220	N	1 to 1½	..	..	Pos.	10	..	8	10	..
12	29·800	58·6	56·0	2·6	..	..	67·5	..	N	1½ to 2	..	..	..	..	0	0	0	..

DRY THERMOMETER.

August 1d. The increase in the reading between 18h and 20h was 10°.

DEW POINT THERMOMETER.

July 30d. 22h. The observation was inadvertently omitted.

MAXIMUM FREE THERMOMETER.

July 29d. 22h. The reading was lower than that of the Dry Thermometer at 4h.

OSLER'S ANEMOMETER.

August 2d. 7h. 10m. A sudden gust of wind took place, recording a pressure of 3 lbs.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
0	Transit	Cloudless.	T D
0	..	,, [fourths covered.	
5	..	Thin cirro-stratus and fleecy clouds chiefly in the N.: since the last observation the sky has been occasionally three-	
4	..	Thin cirro-stratus and fleecy clouds in the S., extending to the W. S.W: lines of cirri here and there.	
10	Perigee	Overcast: cirro-stratus and thin scud.	
10	..	Overcast: cirro-stratus and thin scud: a few drops of rain fell about an hour since.	T D
8	..	Cirro-strati, cirro-cumuli, and scud: a large break W. of the zenith.	G H
9	..	Cirro-stratus and scud, with small breaks in every direction.	T D
9	..	Cirro-stratus, cumulo-status, fleecy clouds, and scud.	
3	..	Cirri and light clouds here and there.	
4	..	Thin cirro-stratus and haze in the horizon; light clouds and vapour in several directions.	T D
0	..	Cloudless, but hazy towards the N. and N.W.	G H
0	..	,,	
0	Transit	,, there are a few light clouds scattered about the sky, but to no numerical extent: hazy.	
2	..	A bank of cloud towards the N. and N.W. horizon, with a few light clouds scattered over the sky.	
0	..	Cloudless, but very hazy.	G H
0	..	Cloudless: hazy.	T D
0	In Equator.	There are a few light clouds scattered about the sky, but to no numerical amount.	
3	..	Cirro-stratus near the horizon in the W. and N.W: there are small portions of white scud near the zenith.	T D
4	..	There are a few fleecy clouds in different directions: hazy.	
2	..	Cirri, cirro-cumuli, and haze in different directions.	
1	..	A few cirri are scattered over the sky.	
0	..	Cloudless, but hazy around the horizon.	
2	..	There are lines of cirri scattered in various directions.	
..	..		
..	Transit		
..	..		
..	..		
0	..	Cloudless.	
0	..	Cloudless.	
..	..		
..	..		
..	..		
..	..		
1	..	It is cloudy near the horizon: there are a few lines of cirri about the horizon; clear elsewhere.	G H
..	..		
..	..		
1	..	There are a few light clouds.	L
5	..	There are very thin cirro-strati scattered in different directions: the sky is clear mostly in and S. of the zenith.	
2	Transit	There are some very beautiful cirro-cumuli and light clouds scattered about the zenith: at $16^h.30^m$ part of a very fine	
0	..	Cloudless. [lunar halo was visible; its radius by measurement was 23°; it lasted but a short time.	L
0	..	,,	G H
0	..	Cloudless.	G H
0	..	,,	T D
0	..	There are a few light clouds scattered over the sky, but to no numerical extent.	L
9	..	The sky is nearly covered with cirro-stratus and dark scud, which came up within the last half hour.	
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	L
10	..	Overcast with dense cirro-stratus.	T D

ELECTRICITY.

July $30^d.2^h$, 6^h, and 8^h. There were sparks at the distances of $0^{in}.02$, $0^{in}.02$, and $0^{in}.03$ respectively.

August $1^d.22^h$, and August $2^d.0^h$ and 2^h. There were sparks at the distance of $0^{in}.03$ at each time.

RAIN.

July $31^d.12^h$. The amount collected during the month of July in the rain-gauge No. 4 was $0^{in}.67$, and that collected by the Rev. G. Fisher in a rain-gauge of the same construction at Greenwich Hospital Schools during the same period was $0^{in}.63$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	Max. and Min. as read at 22h. of Rad. Therm.	Max. and Min. as read at 22h. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's).	RAIN GAUGES. Reading of No. 2.	RAIN GAUGES. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in lbs. per square foot.	WIND. From Whewell's Anemometer. Direction.	WIND. From Whewell's Anemometer. Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Single Gold Leaf of Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Double Gold Leaf.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 1.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 2.	ELECTRICAL INSTRUMENTS. Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°			in.				from lbs. to lbs.		in.		°	°	div.	div.	m s
Aug. 2. 14	29·806	57·5	55·7	1·8	..	..	..			..			N	..	..	..	..	..	0	0	0	..
16	29·813	53·4	51·9	1·5	51·0	2·4	..			..			NNW	..	..	..	..	..	0	0	0	..
18	29·847	51·5	49·4	2·1	..	..	..			..			NNW	..	..	..	Pos.	12	..	12	15	..
20	29·870	57·5	53·1	4·4	..	..	..			..			N	..	..	..	Pos.	25	..	20	30	7. 0
22	29·901	66·5	56·8	9·7	47·0	19·5	..			..			N	..	N	0·65	Pos.	20	25	..	..	..
Aug. 3. 0	29·902	70·0	58·7	11·3	..	..	..			..			N	..	..	..	Pos.	30	..	6	10	..
2	29·892	69·6	57·7	11·9	..	..	..			..			N	..	..	..	Pos.	30	..	6	10	..
4	29·877	69·5	58·5	11·0	51·0	18·5	74·4	42·3		..	2·83		W by N	..	..	..	Pos.	20	..	10	12	..
6	29·864	69·5	57·4	12·1	..	..							WNW	..	..	..	Pos.	25	..	20	30	..
8	29·877	63·5	54·4	9·1	..	..							Calm	..	..	..	Pos.	15	..	12	15	..
10	29·885	57·0	50·9	6·1	47·0	10·0	90·5	31·5			0·00		Calm	..	..	..	Pos.	35	..	30	40	6. 0
12	29·896	53·2	48·8	4·4	..	..							Calm	..	..	..	Pos.	40	..	30	50	..
14	29·887	47·4	46·1	1·3	..	..							Calm	..	..	..	Pos.	2	2	..	..	..
16	29·853	43·9	42·8	1·1	41·5	2·4	72·2				8·220		Calm	..	..	..	..	..	0	0	0	..
18	29·847	44·6	42·9	1·7	..	..	67·5			..			Calm	..	..	..	..	..	0	0	0	..
20	29·832	56·9	53·3	3·6	..	..	..			..			Calm	..	..	..	Pos.	4	6	..	..	..
22	29·808	67·7	58·0	9·7	51·0	16·7	..			..			SW	..	N	1·10	Pos.	10	..	8	10	..
Aug. 4. 0	29·788	71·2	59·7	11·5	..	..	..			..			SW	..	..	..	Pos.	10	..	8	10	..
2	29·735	73·4	59·8	13·6	..	..	..			..			SW	0 to ½	..	..	Pos.	5	7	..	..	..
4	29·711	72·6	59·3	13·3	49·0	23·6	76·9	54·1		..	2·83		SSW	½ to 1	..	..	Pos.	4	6	..	..	..
6	29·682	69·0	56·5	12·5	..	..							SSW	..	..	..	Pos.	15	20	..	..	..
8	29·657	64·2	54·4	9·8	..	..							SSW	..	..	..	Pos.	30	..	6	10	..
10	29·633	60·5	53·4	7·1	47·0	13·5	92·8	49·5			0·00		SSW	..	..	..	Pos.	30	..	10	20	..
12	29·619	59·2	55·1	4·1	..	..							SSW	..	..	..	Pos.	10	..	8	10	..
14	29·579	55·8	53·7	2·1	..	..							SSW	..	..	..	Pos.	7	10	..	..	..
16	29·531	56·0	54·2	1·8	53·0	3·0	71·8				8·220		SSW	..	..	..	..	..	0	0	0	..
18	29·519	55·8	54·7	1·1	..	..	67·0			..			SSW	..	..	..	..	..	0	0	0	..
20	29·526	61·7	59·7	2·0	..	..	..			..			SW	..	..	..	Pos.	7	10	..	..	..
22	29·514	66·4	62·1	4·3	58·0	8·4	..			..			SW	..	SSW	4·45	Pos.	5	7	..	..	..
Aug. 5. 0	29·495	70·5	62·9	7·6	..	..	..			..			WSW	..	..	..	Pos.	3	5	..	..	..
2	29·485	68·0	61·5	6·5	..	..	..			..			WSW	..	..	..	Pos.	7	12	..	..	..
4	29·451	70·2	62·5	7·7	58·0	12·2	72·4	55·3		..	3·41		WSW	..	..	..	Pos.	7	10	..	..	..
6	29·435	59·3	58·0	1·3	..	..							WSW	..	..	..	Neg.	..	..	..	..	..
8	29·414	60·7	59·7	1·0	..	..							SW	..	..	..	Pos.	20	..	15	20	..
10	29·383	60·0	58·3	1·7	57·0	3·0	81·3	52·0			0·98		SSW	..	..	..	Pos.	5	7	..	..	..
12	29·354	58·6	58·1	0·5	..	..							SSW	..	..	..	Pos.	25	..	20	30	3. 0
14	29·337	57·6	57·5	0·1	..	..							W by N	..	..	..	Pos.	20	..	12	15	..
16	29·303	56·5	56·5	0·0	57·0	−0·5	71·0				9·065		W	..	..	..	Pos.	15	..	10	12	..
18	29·323	56·7	56·5	0·2	..	..	67·2			..			NW	..	..	..	Pos.	5	12	..	..	..
20	29·359	56·3	55·5	0·8	..	..	..			..			NNW	..	..	..	Pos.	25	..	20	30	5. 0
22	29·394	59·2	57·5	1·7	56·5	2·7	..			..			NNW	..	WSW	2·47	Pos.	25	..	6	10	..
Aug. 6. 0	29·422	64·5	60·0	4·5	..	..	70·9	50·3		..	3·41		N by W	½ constant	..	..	Pos.	30	..	10	20	..
2	29·451	68·2	60·5	7·7	..	..							WNW	½ constant	..	..	Pos.	40	..	20	40	..
4	29·484	67·5	60·5	7·0	56·0	11·5							NW	½ constant	..	..	Pos.	15	..	12	15	..
6	29·501	66·5	60·5	6·0	..	..	83·8	44·0			0·00		NW	..	..	..	Pos.	20	..	12	15	..
8	29·547	63·5	59·0	4·5	..	..					9·065		NW	..	..	..	Pos.	15	..	10	12	..
10	29·594	60·5	57·5	3·0	55·0	5·5	70·5	65·0		..			NNW	..	..	..	Pos.	25	..	20	30	8. 0

DRY THERMOMETER.
August 3d. The increase in the reading between 18h and 22h was 23°·1.

DEW POINT THERMOMETER.
August 5d. 16h. The reading was higher than that of the Dry Thermometer.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast with dense cirro-stratus.	T D
5	..	Cirro-stratus around the horizon: the zenith is free from clouds: the clouds broke suddenly before this observation.	
0	Transit	Cloudless.	
0	..	There are a few light clouds in the S., but to no numerical extent.	T D
8	..	The sky is nearly covered with different kinds of cirri.	G H
7	..	Cirri, cirro-strati, and cirro-cumuli are scattered over the sky; there is also much haze towards the S. and S.W.	
5	3rd Qr.	Cirro-cumuli are scattered over the sky: hazy towards the S. and S.W.	G H
4	..	Detached masses of cumuli are scattered over the sky, principally in the N. and S.W.	T D
3	..	Detached portions of cumuli are scattered here and there.	
0	..	Cloudless.	
0	..	,,	T D
0	..	There are a few light clouds towards the E., but to no numerical extent.	G H
0	..	Cloudless: since the last observation several meteors have been seen in different parts of the sky, principally towards	
0	..	,, [the N.W.	
0	..	Cloudless, but hazy.	
0	Transit	Cloudless: the sky is covered with a thin haze, approaching in places to cirro-stratus.	G H
3	..	Detached cumuli and fleecy clouds are scattered about the sky.	L
7	..	Detached cumuli, cirro-stratus, and large masses of white scud.	L
5	..	,, ,,	G H
8	..	Cirri are scattered over the sky, with cirro-strati principally about the horizon.	
7	..	Cirri with several large patches of cirro-strati in different directions.	
10	..	Overcast: cirro-stratus.	
10	..	,, cirro-stratus and scud.	G H
10	..	,, ,,	L
10	..	,, ,, a few drops of rain are now falling: at about $12^h.\ 50^m$ a slight shower of rain fell.	
10	..	,, ,,	
10	..	,, ,,	
10	Transit	,, ,,	L
10	..	,, ,,	T D
10	..	Overcast: cirro-stratus and scud.	
9	..	Cumulo-stratus: cirro-stratus and scud: there is a portion of clear blue sky N. E. of the zenith.	T D
10	..	Overcast: cirro-stratus and scud.	L
10	..	,, ,, rain is falling heavily: rain has been falling in torrents since the last observation.	
10	..	,, ,, the rain ceased at about $6^h.\ 20^m$.	
10	..	,, ,,	L
10	..	,, ,, rain is falling; it commenced at about $10^h.\ 25^m$.	T D
10	..	,, ,, rain is falling steadily.	
10	..	,, cirro-stratus: rain is falling slightly.	
10	..	,, ,, no rain is falling at present; it ceased ten minutes previously to this observation.	
10	..	Cirro-stratus and scud. [to alter the notation.	T D
10	..	Overcast: cirro-stratus and scud: there are two or three small breaks towards the N.W., but not sufficiently large	L
10	..	Overcast: cirro-stratus and scud: about one hour since there were several large breaks in the clouds. [of the zenith.	G H
7	..	Cirro-cumuli and scud: the clouds began to break at about one hour since: the clearest part of the sky is near and S.	G H
10	..	Cirro-stratus and scud: a few small breaks near the zenith, but to no numerical extent.	T D
9	..	Cirro-stratus and scud all around: in the zenith the clouds, which are of the cumulo-stratus character, are slightly broken, and portions of blue sky are seen.	
8	..	With the exception of a large clear break N. E. of the zenith, the sky is covered with cirro-stratus and scud: the appearance of the sky is very variable, at times nearly $\frac{3}{4}$ being clear, and at others being nearly wholly obscured.	
5	..	From $8^h.\ 10^m$ to $9^h.\ 25^m$ the sky was overcast, and since that time the amount of cloud has been variable.	T D

Day and Hour, Göttingen Astronomical Reckoning.	Barometer corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Aug. 6. 12	29·612	58·8	55·7	3·1	..	..	..	..	NW	..	..	..	Pos.	30	..	10	20	..
14	29·626	54·0	52·8	1·2	..	..	..	..	WSW	..	..	..	Pos.	10	15	..	..	..
16	29·636	52·4	51·9	0·5	51·5	0·9	..	..	SW	..	..	..	Pos.	10	15	..	..	..
18	29·651	51·4	50·8	0·6	..	..	..	..	SW	..	..	..	Pos.	30	40	..	..	..
20	29·664	56·0	54·0	2·0	..	..	..	..	WSW	..	..	..	Pos.	40	..	20	40	..
22	29·660	65·0	60·5	4·5	57·0	8·0	..	..	WSW	½ constant	WSW	4·67	Pos.	20	..	20	25	..
Aug. 7. 0	29·656	66·6	61·5	5·1	..	..	..	..	SW	..	..	..	Pos.	25	..	15	20	..
2	29·634	72·0	62·8	9·2	..	..	..	..	SW	0 to 1	..	..	Pos.	25	..	25	30	..
4	29·607	71·1	62·7	8·4	56·5	14·6	75·1	..	SW	0 to ½	..	..	Pos.	15	20	..	..	..
6	29·602	66·0	61·6	4·4	..	..	51·6	..	SW	½ to 2½	..	..	Pos.	10	15	..	..	..
8	29·584	61·9	60·5	1·4	..	..		3·41	SW	0 to ½	..	..	..	..	0	0	0	..
10	29·592	60·3	59·5	0·8	58·5	1·8	93·0		WSW	..	..	..	..	..	0	0	0	..
12	29·604	57·7	55·7	2·0	..	..	44·5	0·00	WSW	..	..	..	..	..	0	0	0	..
14	..	..	..	..	..	..		9·095	WSW	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	70·0	..	WSW	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	65·5	..	WSW	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..
22	29·607	65·5	59·0	6·5	..	..	..	..	WSW	..	SW	6·27	..	..	0	0	0	..
Aug. 8. 0	..	..	..	..	..	..	..	..	SW	0 to ½	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
h m 2. 10	29·581	67·9	59·0	8·9	..	..	..	..	SW	..	..	..	Neg.	15	20	..	..	..
h 4	..	..	..	..	..	..	72·7	..	SW	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	49·4	3·52	SW	..	..	..	..	..	..	..	..	..
h m 7. 30	29·580	60·7	56·7	4·0	..	..	89·2	0·12	SW	0 to ½	..	..	Pos.	15	20	..	..	..
h 8	..	..	..	..	..	..	43·3		SW	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..		9·275	SW	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	69·2		SW	..	..	..	..	..	..	..	..	..
14	29·598	52·3	51·2	1·1	..	..	65·0	..	SW	..	..	..	..	..	0	0	0	..
16	29·605	51·2	50·7	0·5	50·0	1·2	..	..	SW	..	..	..	..	..	0	0	0	..
18	29·613	51·8	51·1	0·7	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
20	29·629	56·3	53·7	2·6	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
22	29·634	57·2	54·4	2·8	52·0	5·2	..	..	WSW	0 to ½	SW	5·50	Pos.	7	12	..	..	..
Aug. 9. 0	29·656	58·8	53·9	4·9	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
2	29·665	64·5	57·7	6·8	..	..	..	..	SW	0 to ½	..	..	..	..	0	0	0	..
4	29·669	66·7	58·5	8·2	53·0	13·7	66·4	..	SW	0 to 1	..	..	..	..	0	0	0	..
6	29·687	60·5	55·1	5·4	..	..	47·8	3·52	SW	0 to ½	..	..	..	..	0	0	0	..
8	29·711	58·3	53·7	4·6	..	..			SW	..	..	..	Pos.	20	30	7	0	..
10	29·740	56·6	52·6	4·0	49·5	7·1	80·5	0·01	SW	..	..	..	Pos.	4	6	..	..	..
12	29·754	51·9	49·9	2·0	..	..	40·5		SSW	..	..	..	Pos.	5	10	..	..	..
14	29·763	49·5	48·4	1·1	..	..		9·290	SSW	..	..	..	Pos.	4	7	..	..	..
16	29·765	49·4	47·9	1·5	47·0	2·4	68·0		S by W	..	..	..	..	..	0	0	0	..
18	29·766	50·0	48·1	1·9	..	..	64·0	..	S	..	..	..	..	..	0	0	0	..
20	29·769	53·0	51·4	1·6	..	..	..	..	S	..	..	..	..	..	0	0	0	..
22	29·770	58·1	56·7	1·4	55·5	2·6	..	..	S	..	SSW	3·00	..	..	0	0	0	..
Aug. 10. 0	29·761	63·5	59·5	4·0	..	..	..	..	SSW	½ constant	..	..	..	..	0	0	0	..
2	29·772	62·2	58·8	3·4	..	..	..	..	SSW	½ constant	..	..	Pos.	2	2	..	..	..

MAXIMUM FREE THERMOMETER.
August 9d. 22h. The reading was lower than that of the Dry Thermometer at 4h.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
0	Greatest declination N.	Cloudless, but very hazy, particularly around the horizon.	G H
0	..	Cloudless. [observed about one hour since to pass from the zenith southwards.	
½	..	There are a few light clouds of the cirrus character towards the S.; cloudless elsewhere: two faint meteors were	
6	..	Cirri are scattered over the sky: hazy.	
3	..	Cirro-stratus in the horizon, extending about 30° upwards, in the N.W. part of the sky.	
8	Transit	Cirro-stratus, fleecy clouds, and a few detached cumuli cover most of the sky: a few breaks towards the N.	G H
9	..	Cirro-stratus and scud, the former much broken in the S.	T D
10	..	Overcast: cirro-stratus, cumulo-strati, and scud: there are a few small breaks, but to no numerical extent.	L
9	..	Cirro-stratus, cumuli, and scud: there are a few small breaks towards the S. and S. E.	G H
10	..	Overcast: cirro-stratus and scud: a few drops of rain have commenced falling.	
10	..	,, ,, a light rain has fallen occasionally since the last observation.	
4	..	A few patches of scud are scattered near the horizon; cloudless elsewhere: a shower of rain fell at about 9^h, which lasted fifteen minutes, and after this the clouds began to break.	G H
7	..	Cirro-stratus and dark scud: there are a few small breaks, principally about the zenith.	L
..	..		
..	..		
..	..		
..	..		
6	Transit	Cirri, cirro-strati, cumuli, and a few small patches of scud are scattered over the sky.	
..	..		
.	..		
9	..	Detached masses of cumuli and scud nearly cover the sky.	
..	..		
..	..		
2	..	Cirri and cumuli about the horizon: between $2^h.30^m$ and $3^h.10^m$ thunder was heard: at about $3^h.15^m$ a flash of lightning was seen in the N.W., which was followed in three seconds by thunder.	
..	..		
..	..		
..	..		
2	..	Cirro-stratus in the N.W. horizon: there are a few light clouds scattered about the sky.	
5	..	Fleecy clouds and cirro-stratus are scattered about the sky.	
9	..	Fleecy clouds and cirro-stratus cover the greater part of the sky: there are a few small breaks here and there.	
10	..	Overcast: cirro-stratus, fleecy clouds, and scud.	
10	..	,, ,,	L
10	Transit	Overcast: cirro-stratus, fleecy clouds, and broken masses of scud.	T D
10	..	Cirro-stratus and scud lightly broken in the W.	T D
8	..	Cirro-stratus, detached cumuli, and large masses of scud cover the greater part of the sky: small breaks in various direc-	L
10	..	Cirro-stratus and fleecy clouds cover the sky: there is a break in the S., but to no numerical extent. [tions.	L
9¾	..	Cirro-stratus: a small portion of the sky surrounding the zenith is clear.	G
10	..	Overcast: cirro-stratus and scud.	G H
3	..	Cirro-stratus around the horizon, at a low elevation.	T D
2	..	Several portions of cirro-stratus in the S. and S. S.W. parts of the sky.	
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	
10	..	,, ,, rain commenced falling at $19^h.45^m$.	T D
10	..	,, ,, a light rain is falling.	G H
10	Transit	Overcast: cirro-stratus and scud: the rain ceased within half an hour after the last observation.	
10	..	,, cirro-stratus and detached masses of scud: during the last half-hour a light rain has fallen.	G H

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Aug. 10. 4	29·765	60·9	58·9	2·0	55·0	5·9	..	..	SSW	0 to 1½	..	..	..	..	0	0	0	..
6	29·754	61·0	59·4	1·6	..	..	..	..	SSW	½ constant	..	..	..	..	0	0	0	..
8	29·771	60·0	59·5	0·5	..	..	65·9	..	SSW	0 to ½	..	..	Pos.	10	20	..	..	..
10	29·789	59·7	59·5	0·2	59·5	0·2	53·3	3·52	SSW	..	..	..	Pos.	7	12	..	..	..
12	29·829	59·0	58·7	0·3	..	..	83·0	0·27	SW	..	..	..	..	..	0	0	0	..
14	29·858	56·5	56·5	0·0	..	..	47·5		SW	..	..	..	..	..	0	0	0	..
16	29·876	54·9	53·5	1·4	53·5	1·4	67·0	9·315	SW	..	..	..	..	..	0	0	0	..
18	29·910	54·0	53·7	0·3	..	..	63·5	..	SW	..	..	..	..	..	0	0	0	..
20	29·950	59·2	56·2	3·0	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
22	29·966	66·3	60·0	6·3	55·0	11·3	..	..	WSW	..	SSW	3·60	Pos.	10	..	8	10	..
Aug. 11. 0	29·976	70·0	61·8	8·2	..	..	..	..	WSW	..	..	..	Pos.	10	..	10	12	..
2	29·978	74·2	64·7	9·5	..	..	..	..	SW	..	..	..	Pos.	7	10	..	..	..
4	29·975	74·7	65·0	9·7	57·0	17·7	..	..	SW	..	..	..	Pos.	15	20	..	..	..
6	29·987	69·9	61·8	8·1	..	..	76·9	..	SW	..	..	..	Pos.	20	30	8	..	..
8	29·988	66·0	61·8	4·2	..	..	63·3	3·52	SSW	..	..	..	..	..	0	0	0	..
10	29·999	64·5	62·0	2·5	62·0	2·5	97·3	0·00	SSW	..	..	..	..	..	0	0	0	..
12	30·004	64·3	63·2	1·1	..	..	48·0		SW	..	..	..	..	..	0	0	0	..
14	30·001	64·6	63·7	0·9	..	..	64·2	9·315	SSW	..	..	..	..	..	0	0	0	..
16	29·989	65·0	64·3	0·7	64·0	1·0	63·2	..	SSW	..	..	..	..	..	0	0	0	..
18	29·991	65·2	64·5	0·7	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
20	30·001	69·2	67·2	2·0	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
22	30·001	75·0	70·2	4·8	68·0	7·0	..	..	SW	..	SSW	5·40	..	..	0	0	0	..
Aug. 12. 0	29·983	78·0	71·1	6·9	..	..	..	..	SW	0 to ½	..	..	..	..	0	0	0	..
2	29·974	82·0	73·2	8·8	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
4	29·967	77·6	70·9	6·7	66·0	11·6	82·6	..	SW	..	..	..	..	..	0	0	0	..
6	29·951	77·0	70·6	6·4	..	..	59·8	3·52	SW	..	SW	2·90	..	..	0	0	0	..
8	29·959	72·5	68·4	4·1	..	..	..		WSW	..	..	..	..	..	0	0	0	..
10	29·973	64·8	63·8	1·0	63·0	1·8	98·8	0·00	SW	..	..	..	..	..	0	0	0	..
12	29·986	62·0	60·5	1·5	..	..	53·0		WSW	..	..	..	..	..	0	0	0	..
14	29·993	61·4	61·4	0·0	..	..	..	9·315	W	..	..	..	..	..	0	0	0	..
16	29·998	62·0	61·8	0·2	62·0	0·0	65·0		W	..	..	..	..	..	0	0	0	..
18	30·021	62·8	62·5	0·3	..	..	64·5	..	W	..	..	..	..	..	0	0	0	..
20	30·056	63·5	61·0	2·5	..	..	..	..	NNE	..	..	..	..	..	0	0	0	..
22	30·077	69·4	62·5	6·9	56·5	12·9	..	..	N by E	..	N	0·12	Pos.	6	8	..	..	..
Aug. 13. 0	30·089	73·3	65·0	8·3	..	..	..	..	N by E	..	..	..	Pos.	30	..	10	20	..
2	30·088	80·3	68·8	11·5	..	..	..	..	N	..	..	..	Pos.	30	..	10	20	..
4	30·082	80·7	69·6	11·1	63·0	17·7	82·2	..	SE	..	..	..	Pos.	15	..	7	12	..
6	30·109	69·0	62·5	6·5	..	..	48·8	3·52	ESE	..	..	..	Pos.	20	..	10	15	..
8	30·143	65·0	60·5	4·5	..	..	..		E	..	..	..	Pos.	10	..	7	10	..
10	30·170	59·4	57·2	2·2	55·0	4·4	100·5	0·00	E by N	..	..	..	Pos.	20	..	12	20	..
12	30·182	54·9	52·5	2·4	..	..	40·5		E by N	..	..	..	..	..	0	0	0	..
14	30·189	51·2	50·6	0·6	..	..	..	9·315	E by N	..	..	..	..	..	0	0	0	..
16	30·189	50·5	50·5	0·0	50·5	0·0	65·5		E by N	..	..	..	..	..	0	0	0	..
18	30·192	50·5	50·5	0·0	..	..	64·8	..	E by N	..	..	..	..	..	0	0	0	..
20	30·194	59·7	57·3	2·4	..	..	..	..	NE	..	..	..	..	..	0	0	0	..
22	30·199	66·0	60·7	5·3	56·0	10·0	..	..	NE	0 to ½	ENE	2·00	..	..	0	0	0	..

DRY THERMOMETER.

August 13d. The decrease in the reading between 4h and 6h was 11°·7.

MAXIMUM FREE THERMOMETER.

August 10d. 22h. The reading was lower than that of the Dry Thermometer at the same time.

METEORS.

August 10d. 12h. 16m. 0s. A faint meteor passing from Polaris through Ursa Major.
12h. 17m. 0s. A faint meteor passing towards the S. E.
12h. 19m. 0s. A very faint meteor near Ursa Major.
12h. 30m. 0s. A very faint meteor observed through the haze passing towards the N.W.

METEORS—*continued.*

August 10d. 12h. 30m. 30s. A very faint meteor observed through the haze passing towards the N.W.
12h. 31m. 0s. A very faint meteor observed through the haze passing towards the N.
12h. 32m. 0s. A very faint meteor observed through the haze passing towards the N.W.
12h. 46m. 0s. A faint meteor passing across the sky midway between the zenith and horizon.
13h. 2m. 0. Two meteors passing from the zenith towards the S.W. horizon.

Amount of Clouds, 0—1	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast: cirro-stratus and scud: rain has fallen frequently since the last observation.	T D
10	..	,, ,,	
10	..	,, ,, a misty rain has been falling frequently since 6^h.	
10	..	,, cirro-stratus and quickly moving scud: occasionally a few stars are visible, but they become instantly obscured again by the scud: a misty rain is falling.	T D
8	..	Stratus of different densities: about 15 minutes since the sky was nearly cloudless: three meteors have been seen, two	G H
0	New	Cloudless: hazy. [of which left trains of light which lasted for a few seconds; they were towards the E. and S.	
7	..	There are light clouds in different parts of the sky with much haze: the amount of cloud has been constantly changing since the last observation. [deposition of moisture since 14^h.	
7	..	Cirri and light clouds are in every direction, with a bank of cirro-stratus and scud along the S. horizon: a great	
8	..	Cirro-strati, fleecy clouds, and scud are scattered about the sky: there is a large clear space N.W. of the zenith.	G H
3	..	Cirro-stratus, detached cumuli, and fleecy clouds are scattered about the horizon.	L
10	..	Cirro-stratus and fleecy clouds cover the sky: there are a few small breaks, but to no numerical extent.	
4	Transit	Cirro-stratus and fleecy clouds are scattered about the sky.	L
1	..	A bank of cirro-stratus in the W. and N.W. horizon; cloudless elsewhere.	G H
9	..	Cirro-stratus, fleecy clouds, and scud: there are two small breaks towards the S. E. and S.W. parts of the horizon.	
3	..	Cirri and cirro-strati principally around the horizon; hazy elsewhere.	
8	..	The sky is overcast, with the exception of a clear space towards the N.W. and N. horizon: in the S.W. a flash of sheet lightning was observed just before this observation.	G H
10	..	The quantity of cloud is variable in amount, at present the sky is overcast, at other times it is not more than half	L
10	..	Overcast: cirro-stratus and scud. [covered by cloud.	
10	..	,, ,,	
10	..	,, ,,	
10	..	Fleecy clouds, cirro-stratus, and scud: there are a few small breaks, but to no numerical extent.	L
6	..	Cumuli, cumulo-strati, and scud in large detached portions all around.	T D
8	..	Cumuli and cumulo-strati in every direction.	
8	Transit	Cumuli, cirro-strati, and scud in every direction.	T D
10	..	Overcast: detached cumuli, cirro-stratus, and scud.	L
9	..	Detached cumuli, cirro-stratus, and scud cover the greater part of the sky: it is clear in and about the zenith.	
6	..	Fleecy clouds, cirro-stratus, and scud.	
1	..	A bank of cirro-stratus along the N. horizon: there are a few light clouds about the sky.	L
2	..	Cirro-stratus in the N. horizon, also in the W. S.W.: a few small meteors have been seen.	T D
10	..	Overcast: cirro-stratus.	
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	T D
8	..	Nearly overcast with cirro-cumuli: a few small breaks in various directions.	G H
4	..	Fleecy clouds towards the S. and S. E., and around the horizon.	
5	Transit	Cirro-strati and fleecy clouds are scattered about the sky.	G H
6	..	Cumulo-strati, cumuli, and scud: the zenith is the only part of the sky that is free from cloud.	T D
7	..	Cirro-stratus, scud, and light clouds: portions of blue sky in every direction.	
10	..	Cirro-stratus and scud.	
0	..	Cloudless.	T D
1	..	A patch of dark cloud towards the W., with a few lines of strati near the N. horizon.	G H
0	..	Cloudless.	
0	..	,, hazy in the N. horizon: there is a slight deposition of moisture: at $16^h.\ 5^m$ a rather bright meteor was	
4	..	Light cirri and haze are scattered over the sky. [observed to pass from Polaris nearly to α Lyræ.	
0	In Equator	Cloudless, but hazy around the horizon.	G H
7	..	Detached cumuli, fleecy clouds, and scud.	L

METEORS—*continued.*

August $10^d.\ 13^h.\ 44^m.\ 0^s$. A meteor observed through the haze very near the horizon in the S.S.W.

$13^h.\ 50^m.\ 0^s$. Two very faint meteors across the zenith passing N. and S.

$14^h.\ 15^m.\ 0^s$. Two very faint meteors from the zenith to Saturn.

During the night of August 12 a careful watch was kept for meteors, and the following were observed:—

August $12^d.\ 8^h.\ 50^m.\ 0^s$. A very faint meteor passing from the zenith to 10° North of it; time of duration 1 second.

$8^h.\ 53^m.\ 0^s$. A very faint meteor passing from Arcturus to W. horizon; time of duration 2 seconds.

METEORS—*concluded.*

August $12^d.\ 9^h.\ 13^m.\ 15^s$. A rather bright meteor passing from a little S. of α Lyra to midway between the zenith and W. horizon, leaving a faint train; time of duration 4 seconds.

$9^h.\ 36^m.\ 0^s$. A faint meteor passing through Ursa Major from E. to W.

$9^h.\ 54^m.\ 0^s$. A faint meteor passing from E. to W. along the N. horizon; time of duration 1 second.

$10^h.\ 15^m.\ 0^s$. A rather bright meteor appeared midway between the zenith and E. horizon, and moved 20° towards the S.; time of duration 3 seconds.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	RAIN GAUGES. Stand of No. 1. (Osler's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Aug. 14. 0	30·181	74·4	65·2	9·2	..	..	..	..	NE	0 to ½	..	..	..	..	0	0	0	..
2	30·173	75·7	65·8	9·9	..	..	..	..	NE	0 to ½	..	..	..	..	0	0	0	..
4	30·157	74·4	64·5	9·9	52·0	22·4	78·2	..	NE	0 to ½	..	..	Pos.	12	15	6	..	..
6	30·138	69·0	62·2	6·8	..	..	52·2	3·52	ENE	..	..	..	Pos.	15	20	8	..	..
8	30·149	61·9	58·5	3·4	..	..			ENE	..	..	..	..	..	0	0	0	..
10	30·167	57·2	55·1	2·1	53·0	4·2	94·7	0·00	ENE	..	..	..	..	..	0	0	0	..
12	30·164	57·0	55·5	1·5	..	..	45·0		ENE	..	..	..	..	..	0	0	0	..
14	..	..	..	..	..	..		9·315	NE	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	65·2		NE	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	65·0	..	NE	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	NE	..	..	..	..	..	..	..	..	..
22	30·106	66·8	63·0	3·8	..	..	..	..	NE	..	NE	1·82	..	..	0	0	0	..
Aug. 15. 0	..	..	..	..	..	..	..	..	N by E	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	NNE	..	..	..	..	..	..	..	..	..
h m																		
3. 15	30·066	75·5	67·1	8·4	..	..	80·8	..	NNE	..	..	..	..	..	0	0	0	..
h																		
4	..	..	..	..	..	..	57·1	3·76	NNE	0 to 1	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..			NE	0 to 1	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	96·0	0·50	NE	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	49·0		NNE	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..		9·840	NNE	..	..	..	..	..	..	..	..	..
14	30·029	59·5	58·7	0·8	..	..	65·2		NNE	..	..	..	..	..	0	0	0	..
16	30·002	58·3	58·0	0·3	58·0	0·3	64·8	..	N by E	..	..	..	Neg.	..	..	70	80	0. 30
18	29·993	57·6	57·5	0·1	..	..	..	..	N by E	..	..	..	Neg.	40	..	40	50	..
20	29·961	59·2	57·9	1·3	..	..	..	..	N by E	0 to 2½	..	..	Neg.	10	..	10	15	..
22	29·958	61·0	60·3	0·7	60·0	1·0	..	..	N	..	NNE	3·66	..	..	0	0	0	..
Aug. 16. 0	29·941	64·5	63·2	1·3	..	..	..	..	N	..	..	..	Pos.	5	12	..	..	..
2	29·926	68·0	66·1	1·9	..	..	..	..	N	..	..	..	Pos.	20	..	12	15	..
4	29·919	69·7	67·3	2·4	65·0	4·7	71·8	..	N	..	..	..	Pos.	10	..	8	10	..
6	29·917	65·0	64·3	0·7	..	..	61·1	3·76	N	..	..	..	Pos.	7	10	..	..	..
8	29·919	63·5	63·3	0·2	..	..			N	..	..	..	Pos.	7	10	..	..	..
10	29·920	62·7	62·7	0·0	62·7	0·0	78·8	0·00	N	..	..	..	Pos.	7	10	..	..	..
12	29·925	61·5	61·5	0·0	..	..	57·0		N	..	..	..	Neg.	40	..	80	100	Instantly
14	29·903	61·5	61·5	0·0	..	..		9·895	N	..	..	..	Pos.	25	..	20	30	..
16	29·895	61·3	61·5	−0·2	61·0	0·3	65·0		N	..	..	..	Pos.	15	..	10	15	..
18	29·908	62·0	62·0	0·0	..	..	65·0	..	N	..	..	..	Pos.	12	20	5	7	..
20	29·929	62·0	61·8	0·2	..	..	..	..	N	..	..	..	Pos.	5	10	..	..	..
22	29·932	64·6	63·1	1·5	61·0	3·6	..	..	N	..	N	2·73	Pos.	40	..	30	50	..
Aug. 17. 0	29·931	68·0	65·5	2·5	..	..	..	..	Calm	..	..	..	Pos.	5	3	..	..	..
2	29·932	69·4	66 6	2·8	..	..	..	..	Calm	..	..	..	Pos.	40	..	40	60	..
4	29·924	71·3	67·8	3·5	66·0	5·3	71·5	..	Calm	..	..	..	Pos.	40	..	30	40	3. 0
6	29·924	68·5	66·6	1·9	..	..	61·9	3·76	Calm	..	..	..	Pos.	40	..	30	40	4. 0
8	29·936	65·8	65·0	0·8	..	..			Calm	..	..	..	Pos.	15	..	10	15	..
10	29·950	65·0	64·2	0·8	63·0	2·0	78·5	0·00	Calm	..	..	..	Pos.	12	..	7	12	..
12	29·944	64·5	63·8	0·7	..	..	59·0		Calm	..	..	..	Pos.	15	20	8	..	..
14	29·943	63·8	63·3	0·5	..	..		9·900	Calm	..	..	..	..	..	0	0	0	..
16	29·941	63·0	62·6	0·4	62·0	1·0	65·0		Calm	..	..	..	..	..	0	0	0	..
18	29·944	62·4	62·2	0·2	..	..	65·0	..	Calm	..	..	..	..	..	0	0	0	..
20	29·958	62·4	62·0	0·4	..	..	..	..	Calm	..	..	..	..	..	0	0	0	..
22	29·982	62·3	62·1	0·2	62·0	0·3	..	..	Calm	..	N	1·25	..	..	0	0	0	..

DRY THERMOMETER.

August 16d. 16h. The reading was lower than that of the Wet Thermometer.

ELECTRICITY.

August 15d. 16h. There was a spark at the distance of 0in·01.

August 16d. 12h and 22h, and 17d. 2h. There were sparks at the distances of 0in·05, 0in·02, and 0in·01 respectively.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
9	..	Detached cumuli, cirro-stratus, and fleecy clouds cover the greater part of the sky.	L
2	..	Detached cumuli and light clouds are scattered about the sky.	L
1	Transit	Cirri are scattered about the sky: cirro-strati around the horizon with much haze.	G H
3	..	Cirri, cirro-strati, and haze spread over the sky, particularly towards the N.W. horizon.	
1	..	Reticulated cirri with haze towards the N.W.; cloudless elsewhere.	
0	..	There are a few light clouds towards the N.W., but to no numerical amount.	G H
10	..	Overcast: cirro-stratus.	L
..	..		
..	Apogee		
..	..		
..	..		
10	..	,, ,,	
..	..	Cirro-stratus and scud.	
..	..		
10	..	,, the Sun's place is visible.	
..	Transit		
..	..		
..	..		
..	..		
..	..		
10	..	Overcast: cirro-stratus: a few drops of rain are falling: lightning has been occasionally visible in the S.E. and S.	L
10	..	,, ,, rain is falling heavily.	G
10	..	,, ,, rain is falling.	G
10	..	,, cirro-stratus and scud: a few drops of rain are falling.	L
10	..	,, ,, no rain is falling: very gloomy.	T D
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	T D
10	Transit	,, ,,	L
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,, frequent flashes of lightning are seen in all directions.	L
10	..	,, ,, rain is falling in torrents; it commenced at $11^h.\ 50^m$: flashes of lightning have been	T D
10	..	,, cirro-stratus: a distant clap of thunder was heard at $12^h.\ 35^m$. [visible in the E. and S.E. since $10^h.\ 10^m$.	
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	T D
10	..	,, ,,	G H
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	G H
10	..	,, ,,	T D
10	Transit	,, cirro-stratus.	
10	..	,, ,,	
10	..	,, ,,	T D
10	..	,, very dark.	G H
10	..	,, ,,	
10	..	,,	
10	..	,, cirro-stratus.	
10	..	,, cirro-stratus and scud: a fine rain has just commenced falling.	G H
10	..	,, ,, a fine drizzling rain is falling: hazy.	L

HENLEY'S ELECTROMETER.

August $16^d.\ 12^h$. The reading was 5°.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Aug. 18. 0	29·994	65·7	63·8	1·9	..	..	..	..	Calm	..	..	..	..	..	..	0	0	..
2	29·982	70·0	67·1	2·9	..	..	..	..	Calm	..	..	..	..	..	..	0	0	..
4	29·964	67·3	65·6	1·7	64·5	2·8	72·9	..	N	..	..	..	Pos.	2	2	..	..	..
6	29·966	69·7	67·6	2·1	..	..	62·0	3·76	N	..	..	..	Pos.	30	..	10	20	..
8	29·991	66·4	65·0	1·4	..	..			N	..	..	..	Pos.	6	10	5	..	..
10	30·009	65·0	64·1	0·9	63·0	2·0	83·0	0·00	N	..	..	..	..	..	0	0	..	..
12	29·999	64·2	63·8	0·4	..	..	59·4		N	..	..	..	..	..	0	0	..	..
14	29·998	63·0	63·0	0·0	..	..		9·900	N	..	..	..	..	..	0	0	..	..
16	30·045	62·5	62·5	0·0	62·0	0·5	65·0		N	..	..	..	..	..	0	0	..	..
18	30·093	62·3	62·2	0·1	..	..	65·0	..	N by E	..	..	..	..	..	0	0	..	..
20	29·999	64·3	63·3	1·0	..	..	..	..	N by E	..	..	..	..	..	0	0	..	..
22	30·002	69·2	65·6	3·6	61·0	8·2	..	..	N by E	..	N	2·02	Pos.	15	..	12	15	..
Aug. 19. 0	29·996	69·8	66·6	3·2	..	..	..	..	N	..	..	..	..	..	0	0	0	..
2	29·981	65·6	64·5	1·1	..	..	..	..	N	..	..	..	..	..	0	0	0	..
4	29·962	65·8	64·7	1·1	64·0	1·8	72·9	..	NNE	..	..	..	Pos.	20	..	20	25	2. 0
6	29·950	65·2	63·5	1·7	..	..	57·3	3·76	NNE	..	..	..	..	..	0	0	0	..
8	29·943	62·7	61·7	1·0	..	..			NNE	..	..	..	Pos.	10	..	8	10	..
10	29·945	62·0	61·3	0·7	61·0	1·0	84·5	0·00	NE	..	..	..	Pos.	20	..	15	20	..
12	29·925	61·0	60·0	1·0	..	..	53·0		ENE	..	..	..	..	..	0	0	0	..
14	29·897	58·1	57·5	0·6	..	..		9·930	ENE	..	..	..	..	..	0	0	0	..
16	29·882	58·0	57·5	0·5	57·0	1·0	65·2		ENE	..	..	..	..	..	0	0	0	..
18	29·869	58·0	57·7	0·3	..	..	65·2	..	ENE	..	..	..	Pos.	5	10	..	..	..
20	29·855	60·5	59·8	0·7	..	..	..	..	ENE	..	..	..	..	..	0	0	0	..
22	29·868	63·5	62·0	1·5	60·0	3·5	..	..	NE	..	NNE	2·45	..	..	0	0	0	..
Aug. 20. 0	29·855	63·7	62·0	1·7	..	..	..	..	NE	..	..	..	Pos.	4	6	..	..	..
2	29·835	65·2	63·5	1·7	..	..	..	..	NE	..	..	..	..	..	0	0	0	..
4	29·791	68·4	65·6	2·8	64·0	4·4	..	..	NNE	..	..	..	..	..	0	0	0	..
6	29·774	68·3	64·9	3·4	..	..	71·1	..	Calm	..	..	..	Pos.	40	..	40	50	3. 0
8	29·788	62·0	61·6	0·4	..	..	50·5	3·76	Calm	..	..	..	Pos.	40	..	50	70	6. 0
10	29·788	59·9	60·0	−0·1	60·0	−0·1			Calm	..	..	..	Pos.	40	..	70	90	3. 0
12	29·781	57·0	57·0	0·0	..	..	81·5	0·00	Calm	..	..	..	Pos.	40	..	60	80	10. 0
14	29·777	55·7	55·5	0·2	..	..	45·0		N	..	..	..	..	..	0	0	0	..
16	29·779	52·8	52·8	0·0	53·0	−0·2		9·935	N	..	..	..	..	..	0	0	0	..
18	29·791	54·0	53·4	0·6	..	..	65·0		N	..	..	..	..	..	0	0	0	..
19	29·794	54·7	54·5	0·2	..	..	65·0	..	N	..	..	..	..	..	0	0	0	..
20	29·795	57·6	57·2	0·4	..	..	..	..	N	..	..	..	..	..	0	0	0	..
22	29·808	68·5	64·0	4·5	58·5	10·0	..	..	N	..	NE	0·30	..	..	0	0	0	..
23	29·795	71·9	66·1	5·8	..	..	..	..	N	..	..		..	..	..	..	..	..
Aug. 21. 0	29·791	72·5	66·1	6·4	..	..	..	..	N	..	..	..	..	..	0	0	0	..
1	29·772	74·0	67·8	6·2	..	..	..	..	N	..	..	..	..	..	0	0	0	..
2	29·769	75·2	68·3	6·9	..	..	79·4	..	N	..	..	..	..	..	0	0	0	..
3	29·752	77·8	69·8	8·0	..	..	56·4	3·76	W	..	..	..	..	..	..	..	..	..
4	29·735	78·2	69·8	8·4	64·0	14·2			WSW	..	..	..	..	..	0	0	0	..
5	29·711	76·2	68·1	8·1	..	..	96·2	0·00	WSW	..	..	..	..	..	..	..	..	..
6	29·691	74·1	67·1	7·0	..	..	50·0		WSW	..	..	..	Pos.	15	20	8	..	..
7	29·682	72·2	67·1	5·1	..	..		10·035	SW	..	..	..	..	..	..	..	..	..
8	29·679	68·0	64·1	3·9	..	..	65·5		SSW	..	..	..	..	..	0	0	0	..
9	29·675	64·7	61·9	2 8	..	..	65·2	..	SSW	..	..	..	..	..	..	..	..	..
10	29·666	62·7	60·5	2·2	59·5	3·2	..	..	SSW	..	..	..	..	..	0	0	0	..
11	29·652	61·5	59·6	1·9	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..

DRY THERMOMETER.

August 20d. 10h. The reading was lower than that of the Wet Thermometer.

August 20d. The increase of the reading between 20h and 22h was 10°·9.

DEW POINT THERMOMETER.

August 20d. 10h and 16h. The readings were higher than those of the Dry Thermometer.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast: cirro-stratus: gloomy: the air is exceedingly calm.	L
10	..	,, ,, there are occasional breaks about the Sun's place: hazy.	L
10	..	,, cirro-stratus and scud: a few drops of rain occasionally fall.	G H
10	Transit	,, ,, ,,	
10	..	,, ,,	
10	..	,, ,, a light rain has fallen occasionally since the last observation.	G H
10	..	,, cirro-stratus.	L
10	..	,, ,, a few drops of very fine rain are falling.	
10	..	,, ,,	
10	1st Qr.	,, ,,	
10	..	,, ,,	L
8	..	Cumulo-stratus, cirro-stratus, and scud: the clouds became broken at about 21^h.	T D
10	..	Overcast: cirro-stratus and scud.	
10	..	,, cirro-stratus: rain is falling; it commenced at about $1^h.45^m$.	T D
10	..	,, cirro-stratus and scud: fine rain is falling.	L
10	Transit	,, ,,	
7	..	Clear in and about the zenith: cirro-stratus, scud, and a few cirri elsewhere.	
10	..	Overcast: cirro-stratus and scud.	L
10	..	,, ,, a few stars are occasionally faintly seen through the clouds.	T D
10	..	,, cirro-stratus.	
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	T D
10	..	,, cirro-stratus and scud.	G H
10	..	Overcast: cirro-stratus and scud.	L
10	..	,, cirro-stratus.	L
10	..	Cirro-stratus and scud: the Sun's place is visible.	T D
0	..	A few light clouds are scattered in the S., but to no numerical amount: the clouds became broken immediately after	
0	Transit	Cloudless. [the last observation, and gradually cleared off, leaving the sky free from cloud.	
0	..	,,	T D
0	..	,,	G H
0	..	,,	
0	..	Cloudless, but very hazy.	
1	..	A few light cirri are scattered about the sky with much haze.	
1	..	,,	
0	..	Cloudless, but very hazy, particularly towards the S. and S.W.	G H
0	..	Cloudless.	L
0	..	,,	
0	..	Cloudless.	
0	..	,,	
0	..	,,	
3	..	Cumuli towards the E. and S.: hazy.	
3	Greatest declination S.	,, ,,	L
2	..	There are a few cumuli near the horizon all around: the sky is of a fine clear blue.	G H
4	..	There are a few cirri towards the E. with cumuli and haze generally towards the horizon.	
2	..	There are a few cumuli with much haze around the horizon.	
1	Transit	There are a few small patches of scud towards the W. with much haze.	
0	..	Cloudless.	
0	..	,,	
0	..	,,	

ELECTRICITY.

August $20^d.10^h$ and 12^h. There were sparks at the distances of $0^{in}.02$ and $0^{in}.01$ respectively.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Aug. 21. 12	29·645	60·7	59·2	1·5	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
14	..	..	..	..	..	..	..	..	SSW	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SW	½ constant	..	..	..	..	..	..	..	..
22	29·546	65·0	62·5	2·5	..	..	..	..	SW	..	SW	4·00	..	..	0	0	0	..
23	29·537	63·5	63·0	0·5	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
Aug. 22. 0	..	..	..	..	..	..	..	..	W by S	0 to ½	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	W by S	..	..	..	..	..	..	..	..	..
h m 2. 30	29·552	64·6	60·6	4·0	..	..	..	..	WSW	..	..	..	Pos.	20	30	10	..	..
h 4	..	..	..	..	..	..	68·4	..	WSW	0 to ½	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	46·8	3·78	W by S	..	..	..	..	..	..	..	..	..
h m 7. 30	29·584	59·5	54·9	4·6	..	..	80·3	0·02	WSW	..	..	..	Pos.	40	..	80	100	..
h 8	..	..	..	..	..	..	38·0		WSW	..	SW	2·70	..	..	..	..	..	..
10	..	..	..	..	..	..		10·070	W	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	64·8		WNW	..	..	..	..	..	..	..	..	..
14	29·656	53·2	50·4	2·8	..	..	64·0	..	NW	..	..	..	Pos.	10	10	..	..	..
16	29·678	50·5	48·9	1·6	47·5	3·0	..	..	NNW	..	..	..	Pos.	10	7	..	..	..
18	29·716	48·0	47·4	0·6	..	..	..	..	NNW	..	..	..	Pos.	10	5	..	..	..
20	29·739	51·8	50·0	1·8	..	..	..	..	N	½ constant	..	..	Pos.	7	5	..	..	..
22	29·793	53·6	50·9	2·7	47·5	6·1	..	..	N	½ constant	NNE	1·05	..	..	0	0	0	..
Aug. 23. 0	29·814	59·5	55·0	4·5	..	..	..	..	N	½ to 2	..	..	..	..	0	0	0	..
2	29·843	61·0	56·4	4·6	..	..	..	..	N	0 to 2½	..	..	..	..	0	0	0	..
4	29·855	60·0	54·9	5·1	49·0	11·0	..	..	N	0 to 1½	..	..	..	..	0	0	0	..
6	29·861	59·0	53·6	5·4	..	..	62·1	..	N	½ to 3	..	..	Pos.	40	50	..	10	..
8	29·892	55·5	51·9	3·6	..	..	48·9	3·78	N	0 to 1	..	..	Pos.	40	50	..	7	..
10	29·923	53·8	50·4	3·4	47·3	6·5	75·0	0·00	N	0 to 2½	..	..	..	..	0	0	0	..
12	29·932	51·8	49·6	2·2	..	..	41·5		N	0 to 1½	..	..	Pos.	15	20	8	..	..
14	29·933	50·5	48·4	2·1	..	..	63·8	10·073	N	½ constant	..	..	Pos.	10	20	8	..	..
16	29·926	50·0	48·3	1·7	46·5	3·5	62·8	..	N	0 to 1	..	..	Pos.	15	20	8	..	..
18	29·942	50·2	48·4	1·8	..	..	..	..	N	0 to 1½	..	..	..	..	0	0	0	..
20	29·956	51·3	48·9	2·4	..	..	..	..	N	0 to 1	..	..	Pos.	10	15	5	..	..
22	29·964	55·5	52·4	3·1	49·0	6·5	..	..	N	0 to 1½	N	5·50	..	..	0	0	0	..
Aug. 24. 0	29·965	64·0	58·2	5·8	..	..	..	..	N	½ to 1½	..	..	Pos.	5	12	..	..	..
2	29·905	63·0	57·0	6·0	..	..	..	..	NE	½ to 1	..	..	..	..	0	0	0	..
4	29·977	63·5	57·5	6·0	49·5	14·0	65·0	..	NNE	..	..	..	Pos.	15	25	10	..	..
6	29·975	60·8	55·8	5·0	..	..	50·6	3·78	NNE	..	..	..	Pos.	40	..	20	40	15. 0
8	29·994	57·7	53·7	4 0	..	..			NE	..	..	..	Pos.	40	..	40	60	..
10	29·997	55·1	52·1	3·0	50·0	5·1	79·8	0·00	NE	..	NE	1·50	Pos.	40	..	15	30	..
12	30·007	53·8	50·7	3·1	..	..	44·8		N by E	..	..	..	Pos.	5	10	..	..	..
14	29·992	53·2	50·9	2·3	..	..		10·073	N	..	..	..	Pos.	20	..	10	15	..
16	29·977	53·0	50·9	2·1	49·0	4·0	62·0		N	..	..	..	Pos.	20	..	10	15	..
18	29·976	52·0	50·0	2·0	..	..	61·5	..	N by W	..	..	..	Pos.	3	5	..	..	..
20	29·972	53·0	50·7	2·3	..	..	..	..	N	..	..	..	Pos.	12	..	7	10	..
22	29·981	62·7	57·2	5·5	53·0	9·7	..	..	N	..	NNE	1·10	Pos.	40	..	20	25	35. 0

ELECTRICITY.

August 22d. 7h. 30m. There was a spark at the distance of 0in·02.

August 24d. 8h. There was a spark at the distance of 0in·01.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
0	..	Cloudless.	G H
..	..		
..	..		
..	..		
..	..		
10	..	Overcast: cirro-stratus and scud: a light rain has just commenced falling.	
10	..	,, ,, a squall of fine rain has just ceased.	
..	..		
..	..		
10	..	Overcast: cirro-stratus with detached masses of scud: heavy rain fell between $23^h.\ 30^m$ and $0^h.\ 30^m$.	
..	..		
..	..		
10	..	,, cirro-stratus with small portions of scud.	G H
..	..		
..	Transit	The sky has been generally cloudy throughout the day; the Moon and a few stars have been visible occasionally: at	G
..	..	about $12^h.\ 35^m$ there was a considerable break near the S.W. horizon, and the Moon shone brightly for an hour.	
9	..	A star is visible here and there, otherwise the sky is overcast.	
9	..	The sky has been cloudless for an hour since the last observation, and then suddenly became overcast.	
8	..	The sky has been chiefly clear: since 16^h a large quantity of scud has passed from the N.N.E.; at times when the quantity was small, that part of the sky near the zenith was partially covered with some fine specimens of cirri.	
10	..	The sky is wholly covered by scud: it has been clear and cloudy alternately since 18^h.	G
10	..	Overcast: cirro-stratus and scud.	G H
9	..	Cirro-stratus, cumuli, and scud: there are a few small breaks towards the S.W. and W.	E H
9	..	,, there is a small break towards the S.W.: there has been a slight shower of rain since	G H
9	..	Cirro-stratus, cumuli, and patches of blue sky towards the S.W. [the last observation.	E H
8	..	There are a few breaks in the clouds, otherwise the sky is covered with white cirro-stratus.	G
9	..	A large quantity of scud has passed from the N.N.E.: there are a few small portions of blue sky visible here and there: the wind is blowing at times in gusts to 1.	
8	Transit	Large dark clouds of a very stormy appearance: the place of the Moon is visible: that part of the sky below the Moon is covered by clouds moving from the S.; the motion of the clouds elsewhere is from the N.	G
10	..	Overcast: cirro-stratus with detached masses of scud.	G H
10	..	,, ,, [zenith, and 20° around it.	
7	..	Light scud and haze principally about the horizon, and in different directions: the clearest part of the sky is in the	
10	..	Overcast with cirro-stratus of various densities and with scud.	
8	..	Cirro-stratus and scud: there is a large space of clear blue sky towards the N.W. horizon.	G H
10	..	,,	T D
10	..	Cirro-stratus and scud: a few small breaks have occurred since 22^h.	T D
10	..	,,	E H
10	..	Overcast with cirro-stratus of various densities and with scud.	G H
7	..	Cirro-stratus and scud: there is a large space of clear blue sky extending along the horizon from W. to N.	
7	..	Cirro-cumuli with heavy scud around the horizon: the clearest part of the sky is from the zenith towards the N.W.	
9	..	Cirro-cumuli and scud: a large space of clear sky towards the N.W. horizon.	G H
10	Transit	Cirro-stratus and scud.	T D
10	..	,,	
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	
10	..	,, ,,	T D
4	..	Thin white clouds are scattered over the S. portion of the sky: the greater part of the N. is free from clouds.	G

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	Max. and Min. as read at 22h. of Rad. Therm.	Max. and Min. as read at 22h. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's).	RAIN GAUGES. Reading of No. 2.	RAIN GAUGES. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in lbs. per square foot.	WIND. From Whewell's Anemometer. Direction.	WIND. From Whewell's Anemometer. Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Single Gold Leaf of Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Double Gold Leaf.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 1.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 2.	ELECTRICAL INSTRUMENTS. Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°			in.				from lbs. to lbs.		in.		°	°	div.	div.	m s
Aug. 25. 0	29·972	72·7	63·7	9·0	..	..	..			..			N	..	..	..	Pos.	40	..	20	25	..
2	29·952	70·6	61·6	9·0	..	..	..			..			N	..	..	..	Pos.	40	..	20	25	33. 0
4	29·935	70·5	61·5	9·0	55·0	15·5	74·5			..			N	..	..	..	Pos.	40	..	80	100	5. 0
6	29·935	64·3	59·7	4·6	..	..	56·2			3·78			ESE	..	..	..	Pos.	40	..	70	90	8. 0
8	29·952	60·8	58·0	2·8	..	..							ESE	..	..	..	Pos.	40	..	40	50	6. 0
10	29·971	59·3	57·0	2·3	55·0	4·3	94·8			0·00			ESE	..	..	..	Pos.	30	..	20	30	7. 0
12	29·974	58·6	56·7	1·9	..	..	50·6						ESE	..	..	..	Pos.	20	..	18	20	15. 0
14	29·967	57·7	56·2	1·5	..	..				10·073			ESE	..	..	..	Pos.	10	..	8	10	..
16	29·981	57·0	55·7	1·3	55·0	2·0	62·5						ESE	..	..	..	..	..	0	0	0	..
18	30·000	56·4	55·2	1·2	..	..	61·8			..			ESE	..	..	..	..	..	0	0	0	..
20	30·018	59·7	56·9	2·8	..	..	..			..			E by N	..	..	..	..	..	0	0	0	..
22	30·038	62·0	58·0	4·0	55·0	7·0	..			..			ENE	..	NNE	0·80	..	..	0	0	0	..
Aug. 26. 0	30·050	70·5	64·0	6·5	..	..	..			..			N	..	..	..	Pos.	15	..	12	15	..
2	30·048	71·0	64·0	7·0	..	..	..			..			N by W	..	..	..	Pos.	30	..	15	20	6. 0
4	30·042	72·0	65·2	6·8	61·0	11·0	..			..			N	..	..	..	Pos.	7	10	..	..	..
6	30·040	66·8	61·7	5·1	..	..	..			..			N by W	..	..	..	Pos.	7	10	..	..	..
8	30·080	61·5	58·1	3·4	..	..	73·5			..			N	..	..	..	Pos.	7	10	..	..	..
10	30·107	56·0	54·6	1·4	53·0	3·0	47·3			3·78			N	..	..	..	Pos.	10	..	8	10	..
12	30·110	53·0	52·4	0·6	..	..							NNW	..	..	..	Pos.	10	8	..	..	..
14	30·109	50·9	50·6	0·3	..	..	90·0			0·00			NNW	..	..	..	Pos.	5	5	..	..	..
16	30·109	50·0	49·7	0·3	49·7	0·3	..						NNW	..	..	..	Pos.	5	5	..	..	..
18	30·127	48·8	48·7	0·1	..	..	62·2			10·073			NNW	..	..	..	..	..	0	0	0	..
							61·8															
20	30·142	55·0	53·3	1·7	..	..	..			..			NNW	..	..	..	..	..	0	0	0	..
22	30·152	65·5	60·9	4·6	56·0	9·5	..			..			NNW	..	NNW	0·90	..	..	0	0	0	..
Aug. 27. 0	30·145	73·2	65·3	7·9	..	..	..			..			N by W	..	..	..	..	..	0	0	0	..
2	30·141	76·0	67·5	8·5	..	..	..			..			N by W	..	..	..	Pos.	7	12	..	..	..
4	30·143	76·0	67·1	8·9	60·5	16·5	..			..			N by W	..	..	..	..	..	0	0	0	..
6	30·143	72·5	66·1	6·4	..	..	..			..			N by W	..	..	..	..	..	0	0	0	..
8	30·159	67·0	62·6	4·4	..	..	..			..			W	..	..	..	..	..	0	0	0	..
10	30·159	61·6	58·6	3·0	56·7	4·9	..			..			W	..	..	..	..	..	0	0	0	..
11	30·174	59·4	57·7	1·7	..	..	..			..			SW	..	..	..	..	..	0	0	0	..
12	30·177	58·2	56·6	1·6	..	..	80·4			..			W by S	..	..	..	..	..	0	0	0	..
13	30·173	56·8	55·5	1·3	..	..	52·5			3·78			W by S	..	..	..	..	..	0	0	0	..
14	30·176	55·4	54·3	1·1	..	..							WSW	..	..	..	..	..	0	0	0	..
15	30·176	53·7	53·0	0·7	..	..	98·3			0·00			SW	..	..	..	..	..	0	0	0	..
16	30·172	53·5	53·0	0·5	53·0	0·5	..			..			SW	..	..	..	..	..	0	0	0	..
							62·5			10·075												
							61·8			..												
17	30·165	54·2	53·9	0·3	..	..				..			SW	..	..	..	..	..	0	0	0	..
18	30·173	54·2	53·9	0·3	..	..	..			..			SW	..	..	..	..	..	0	0	0	..
19	30·201	54·0	53·9	0·1	..	..	..			..			SW	..	..	..	..	..	0	0	0	..
20	30·207	57·6	56·5	1·1	..	..	..			..			WSW	..	..	..	..	..	0	0	0	..
21	30·209	61·5	58·8	2·7	..	..	..			..			WSW	..	..	..	..	..	0	0	0	..
22	30·181	63·0	59·7	3·3	56·5	6·5	..			..			WSW	..	WSW	0·95	..	..	0	0	0	..
23	30·159	70·0	63·5	6·5	..	..	..			..			WSW	..	..		Pos.	40	..	10	10	..
Aug. 28. 0	30·159	71·7	64·3	7·4	..	..	..			..			W by S	..	..	..	Pos.	15	..	10	12	..
1	30·151	74·5	66·1	8·4	..	..	..			..			W by S	..	..	..	..	..	..	..	..	..

DRY THERMOMETER.
August 26d. The increase of the reading between 20h and 22h was 10°·5.

MINIMUM RADIATION THERMOMETER.
August 26d. The instrument was accidentally broken.

ELECTRICITY.
August 25d. 4h and 6h. There were sparks at the distances of 0in·02 and 0in·03 respectively.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
5	..	There are some fine white cumuli scattered about the sky; near the zenith there are also some cirri: a fine blue sky.	G
3	..	Cumuli are scattered about the sky.	G
4	..	There are detached cumuli in various directions.	T D
7	..	Cumuli, cumulo-strati, cirro-stratus, and scud. [prevail in every direction.	
9	..	With the exception of a small portion of the sky E. of the zenith that is free from cloud, cumulo-stratus and scud	
10	..	Cirro-stratus and scud.	T D
10	Transit	Overcast: cirro-stratus and scud.	L
10	..	,, ,,	
10	..	,, ,,	
10	Full	,, ,,	
10	..	,, ,,	
10	..	,, ,,	L
5	..	Detached cumuli and cumulo-strati are scattered in every direction. [sky here and there.	T D
8	..	Heavy masses of cumuli all around the horizon, cumulo-stratus and cirro-stratus in the zenith, with portions of blue	T D
2	..	Cumuli towards the N. and S. horizon: a few light clouds are scattered about the sky.	L
1	..	There are a few light clouds scattered about the sky.	
8	..	Cirro-stratus, fleecy clouds, and scud: there are a few breaks in the clouds at and near the zenith.	
1	..	Lines of thin clouds are scattered about the sky.	L
4	..	Linear clouds are spread over the sky; their direction is from E. to W.	G
8	Transit	The whole of the northern and the greater part of the southern hemisphere are covered with white clouds.	
10	..	The appearance of the sky has been very variable: since 14^h it has been at times nearly cloudless, and at other times overcast; it is at present wholly covered by a thin white cloud, which obscures everything except the Moon.	
3	..	The appearance of the sky continued variable till $17^h.\ 30^m$, since which time it has been mostly clear; at present there are a few clouds scattered over the sky.	
7	..	The sky has been cloudless for some time since 18^h; at present and within the last quarter of an hour the greater part of it has been covered with small white clouds, close together, and of sufficient density to prevent any shadow from the Sun.	G
8	..	The greater portion of the sky is covered with small white clouds and portions of cirro-stratus: the only clear portion [is in the E. N. E.	T D
6	Perigee	Thin cirro-stratus, heavy looking cumuli, and haze: it is clear in and around the zenith.	
3	..	Thin cirro-stratus, fleecy clouds, and haze.	T D
5	..	Cirro-stratus and haze.	E H
6	..	Fleecy clouds and haze.	
10	..	Overcast.	E H
3	In Equator	There are a few light clouds scattered about different parts of the sky.	G
1	..	Cloudless, with the exception of a few clouds near the horizon. [ception of a few small breaks: there is no upper cloud.	
9	..	Within the last half-hour a large quantity of cloud has collected, and at present it covers the whole of the sky, with the ex-	G
1/2	..	A few fleecy clouds towards the S. E. horizon.	L
0	Transit	Cloudless. [elsewhere.	
3	..	A bank of fleecy clouds extending from the N. N. E. to S. S.W., crossing the zenith and covering the Moon; clear	L
5	..	At $15^h.\ 5^m$ a double corona was visible, beautifully coloured, the inner one being white, yellow, and red, and the outer one yellow and red: at $15^h.\ 12^m$ the corona disappeared: cumulo-stratus, light cirri, and fleecy clouds: the whole of the eastern portion of the sky is free from cloud; clear breaks are shewn in several other directions.	T D
10	..	Cirro-stratus, fleecy clouds, and scud. [kind of cloud scattered around the zenith.	
6	..	Closely packed fleecy clouds prevail in the E. S. E. and S.W. portions of the sky, with detached fragments of the same	T D
0	..	Cloudless: a slight haze.	G
0	..	,, hazy.	
10	..	Overcast: hazy; the Sun's place just visible. [visible.	
10	..	,, cirro-stratus and thick haze: there is a halo around the Sun, whose radius is 20°: the Sun's place is just	
0	..	Cloudless: hazy.	G
0	..	Cloudless: hazy.	L
0	..	,, ,,	T D

CORONA, LUNAR LIGHT, AND HALO.

August $26^d.\ 12^h$. There is a coloured corona around the Moon, and there is also a coloured lunar light, a part of which is of the form of a double cone, whose base is the vertical diameter of the Moon, the apex of each cone being at the distance of 5° on either side of the Moon; the remaining part of the light consists of two cones upon the same base as the other parts, inclined to the former, and making an angle of 30° with the horizon, the apex of each of these being at the distance of 5° from the Moon. There is also a halo, whose radius by measurement was found to be $22\frac{1}{2}°$.—G.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. — of Free Therm. — of Rad. Therm. — of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Aug. 28. 2	30·140	75·5	67·1	8·4	..	..	..	..	W	..	..	..	Pos.	20	..	12	15	..
3	30·170	76·5	67·6	8·9	..	..	..	..	W	..	..	..	..	..	..	..	..	..
4	30·134	75·5	67·0	8·5	61·5	14·0	..	..	W	..	..	..	..	..	..	..	..	..
5	30·108	73·0	67·3	5·7	..	..	80 4	..	W	..	..	..	..	..	..	..	..	..
6	30·095	72·4	66·9	5·5	..	..	52·5	..	W	..	..	..	Pos.	30	20	3	..	..
7	30·188	71·0	65·7	5·3	..	..	———	3·84	W	..	..	..	..	..	..	..	..	..
8	30·090	68·0	64·5	3·5	..	..	98·5	———	SW	..	..	..	Pos.	20	..	15	15	..
9	30·084	66·2	63·5	2·7	..	..	..	0·10	SSW	..	..	..	..	..	..	..	..	..
10	30·082	64·0	62·2	1·8	61·0	3·0	———	———	SSW	..	..	..	Pos.	15	..	10	12	..
12	30·062	64·0	62·9	1·1	..	..	63·0	10·095	SW	..	..	..	Pos.	20	..	12	15	7. 0
14	..	..	..	..	..	..	62·0	..	WSW	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..		..	NNW	½ constant	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	N	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	N by W	..	..	..	..	..	..	..	..	..
22	30·020	59·0	57·0	2·0	..	..	..	..	WNW	..	SW	1·10	..	..	0	0	0	..
Aug. 29. 0	..	..	..	..	..	..	..	..	N	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	N	..	..	..	..	..	..	..	..	..
4	29·962	72·0	63·7	8·3	..	..	73·9	..	N	..	..	..	Pos.	35	..	20	30	..
6	..	..	..	..	..	..	46·5	3·84	N	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	———	———	N	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	89·7	0·00	N	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	———	N	..	N	0·95	..	..	..	..	..	..
14	29·964	48·5	47·8	0·7	..	..	———	10·095	N	..	..	..	..	..	0	0	0	..
16	29·960	50·0	50·0	0·0	50·5	–0·5	63·2	———	N	..	..	..	..	..	0	0	0	..
18	29·954	48·5	48·4	0·1	..	..	62·5	..	N by W	..	..	..	..	..	0	0	0	..
20	29·956	51·0	50·3	0·7	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
22	29·952	57·7	54·4	3·3	52·0	5·7	..	..	WSW	..	WSW	0·64	Pos.	5	..	2	..	..
Aug. 30. 0	29·925	64·0	56·6	7·4	..	..	..	..	NW	..	..	..	Pos.	30	20	10	..	..
2	29·903	62·2	56·5	5·7	..	..	..	..	WNW	..	..	..	..	..	0	0	0	..
4	29·874	66·0	58·7	7·3	54·0	12·0	67·2	..	W	..	..	..	Pos.	12	..	7	10	..
6	29·849	62·6	57·3	5·3	..	..	55·3	3·84	W	½ constant	..	..	Pos.	20	..	20	30	11. 0
8	29·855	59·7	56·0	3·7	..	..	———	———	W by S	..	..	..	Pos.	10	..	8	20	..
10	29·849	58·8	55·4	3·4	53·0	5·8	81·7	0·00	W by S	..	..	..	Pos.	40	50	20	30	20. 0
12	29·832	57·3	54·7	2·6	..	..	47·0	———	W by S	..	..	..	Pos.	20	..	15	20	10. 0
14	29·807	56·6	54·9	1·7	..	..	———	10·095	W by S	..	..	..	Pos.	25	..	25	30	..
16	29·802	56·0	54·9	1·1	54·0	2·0	62·8		W by S	..	..	..	Pos.	10	..	8	10	..
18	29·810	56·2	54·8	1·4	..	..	62·5	..	W	..	..	..	Pos.	10	..	8	10	..
20	29·831	57·0	55·2	1·8	..	..	..	..	W	..	..	..	Pos.	20	..	25	25	7. 0
22	29·848	58·9	55·5	3·4	53·0	5·9	..	..	NW	..	WSW	2·64	..	..	0	0	0	..
Aug. 31. 0	29·873	61·5	57·1	4·4	..	..	67·2	..	NW	..	..	..	Pos.	7	12	..	..	..
2	29·879	60·7	56·5	4·2	..	..	45·9	3·84	WNW	..	..	..	Pos.	3	5	..	..	..
4	29·889	62·7	57·9	4·8	54·0	8·7	———	———	W	..	..	..	Pos.	10	..	8	10	..
6	29·895	61·0	56·5	4·5	..	..	74·9	0·00	WNW	..	..	..	Pos.	7	10	..	..	..
8	29 909	54·7	52·4	2·3	..	..	40·5	———	WNW	..	..	..	Pos.	10	..	10	12	..
10	29·911	50·5	49·6	0·9	48·5	2·0	———	10·095	NW	..	..	..	Pos.	20	..	15	20	8. 0
12	29·900	49·2	48·6	0·6	..	..	62·5		W by S	..	..	..	Pos.	5	8	..	..	..
							62·2											
14	29·889	49·1	48·4	0·7	..	..		..	SW	..	..	..	Pos.	5	5	..	..	..

ELECTRICITY.

Aug. 28d. 4h. The observation was omitted.

RAIN.

August 31d. 12h. The amount collected during the month of August in the rain-gauge No. 4 was 1in.95, and that collected by the Rev. G. Fisher in a rain-gauge of the same construction at Greenwich Hospital Schools during the same period was 2in.06.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
4	..	Cumulo-stratus, light fleecy clouds, and haze.	T D
3	..	Fleecy clouds and haze.	T D
8	..	Cirro-stratus and thick haze cover three-fourths of the sky.	E H
10	..	Overcast: cirro-stratus and scud.	G
10	..	The sky is wholly covered by a thin cirro-stratus cloud: the Sun is visible.	
10	..	Cirro-stratus, fleecy clouds, and scud cover the sky: there are a few small breaks, but to no numerical amount.	
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	G
6	..	Cumulo-stratus, cirro-stratus, and broken scud, shewing large portions of clear sky; a few of the stars are visible.	T D
10	..	Cumulo-stratus, cirro-stratus, and scud.	
..	..		
..	Transit		
..	..		
..	..		
9	..	Cirro-stratus, fleecy clouds, and scud: a shower of rain fell at about 21^h.	
..	..		
..	..		
4	..	Detached masses of cumuli and scud are scattered in every direction.	
..	..		
..	..		
..	..		
..	..		
0	..	Cloudless.	
10	Transit	Cirro-stratus and scud: the Moon is occasionally visible: the clouds came up suddenly at $15^h.45^m$.	
9	..	Cirro-stratus and fleecy clouds: a small portion of the sky is clear in the E.	
9	..	,,	T D
7	..	There are some detached cumuli scattered about the sky.	L
3	..	Detached cumuli are scattered about the sky.	G
10	..	Detached masses of cumuli and scud cover the sky: there are a few small breaks, but to no numerical amount.	L
8	..	Cirro-stratus, scud, and fleecy clouds.	T D
9	..	The sky, with the exception of a small portion in the S. S.W., is covered with cirro-stratus and fleecy clouds.	T D
10	..	Overcast: cirro-stratus and scud.	L
10	..	,, a very dark night.	G
10	..	,, ,,	L
10	..	,, ,,	
10	Transit	,, cirro-stratus and scud.	
10	..	,, ,, a slight rain is falling.	
10	..	,, ,,	L
10	..	,, ,,	T D
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	T D
8	..	Detached cumuli, fleecy clouds, and scud: there are some small breaks in every direction.	L
5	..	The sky N. of the zenith is nearly covered with cirro-stratus and fleecy clouds; cirro-stratus also towards the S. horizon.	
2		Cirro-stratus around the horizon, particularly about the N.W.: hazy.	
0	..	Cloudless: hazy.	L
0		Till $11^h.55^m$ the sky was cloudless: there is at present a small quantity of cloud: at $11^h.30^m$ the reading of the thermometer at Dartmouth-terrace, Lewisham, was $45°\cdot5$.	G
8	..	At $12^h.5^m$ a great many lines of cloud, running N. and S., had formed about the Moon, and shortly afterwards they were crossed by other lines, whose direction was E. and W.: at $12^h.20^m$ these clouds formed, with small round clouds touching each other, a kind of network, covering the whole of the eastern hemisphere, and the whole of the sky became obscured; since that time the appearance of the sky has been variable.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. / of Rad. Therm. / of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). / Reading of No. 2. / Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of: Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Aug. 31. 16	29·861	48·4	47·8	0·6	47·0	1·4	..	..	SW	..	..	..	Pos.	5	5	..	..	..
18	29·817	47·2	46·5	0·7	..	..	..	..	SW	..	..	..	Pos.	5	5	..	..	..
20	29·796	51·2	49·3	1·9	..	..	..	..	SW	..	..	..	Pos.	10	10	2	..	..
22	29·764	61·5	57·6	3·9	53·5	8·0	..	..	SW	1 to 2	WSW	2·02	..	..	0	0	0	..
Sep. 1. 0	29·721	64·8	59·5	5·3	..	..	..	..	WSW	1 to 2½	..	..	..	..	0	0	0	..
2	29·688	66·4	60·5	5·9	..	..	..	..	WSW	1 to 3	..	..	..	..	0	0	0	..
4	29·705	63·5	59·1	4·4	54·5	9·0	..	..	WSW	0 to 1	..	..	..	..	0	0	0	..
6	29·607	61·3	59·7	1·6	..	..	69·0	..	SW	½ to 1	..	..	Pos.	10	10	..	..	..
8	29·599	60·1	55·7	4·4	..	..	47·1	3·84	W	½ to 1	..	..	Pos.	10	10	..	..	..
							81·8											
10	29·609	55·0	50·9	4·1	48·5	6·5	40·0	0·00	W	½ constant	..	..	Pos.	10	10	..	..	..
12	29·596	51·2	48·4	2·8	..	..		10·100	W by S	..	..	..	Pos.	10	15	5	..	..
14	29·602	50·3	47·8	2·5	..	..	62·0		W by S	..	..	..	Pos.	2	2	..	..	..
16	29·603	48·3	46·6	1·7	45·0	3·3	61·2	..	W by S	..	..	..	..	..	0	0	0	..
18	29·610	48·5	46·9	1·6	..	..	..	..	W by S	..	..	..	..	..	0	0	0	..
20	29·636	52·5	49·8	2·7	..	..	..	..	W by S	constant	..	..	..	..	0	0	0	..
22	29·662	56·0	51·9	4·1	48·0	8·0	..	..	WNW	1 to 3½	WSW	5·50	..	..	0	0	0	..
Sep. 2. 0	29·690	58·7	53·9	4·8	..	..	..	..	WNW	2 to 3½	..	..	..	..	0	0	0	..
2	29·716	58·8	53·9	4·9	..	..	..	..	WNW	1 to 2	..	..	Neg.	40	..	30	40	4. 0
4	29·753	59·7	54·2	5·5	47·0	12·7	62·8	..	NNW	0 to 1	..	..	Pos.	8	10	4	..	..
6	29·787	57·7	53·3	4·4	..	..	41·7		N	..	..	..	Pos.	2	2	..	..	..
8	29·816	55·2	51·0	4·2	..	..		3·87	NW	..	..	..	Pos.	2	2	..	..	..
10	29·852	52·4	48·9	3·5	44·5	7·9	74·5		WNW	..	..	..	Pos.	5	5	..	..	..
12	29·862	48·0	45·9	2·1	..	..	34·0	0·00	W	..	..	..	..	..	0	0	0	..
14	29·862	45·5	44·2	1·3	..	..			WSW	..	..	..	..	..	0	0	0	..
16	29·863	43·0	42·3	0·7	42·0	1·0	61·0	10·135	WSW	..	..	..	..	..	0	0	0	..
18	29·861	43·0	42·0	1·0	..	..	60·0	..	WSW	..	..	..	..	..	0	0	0	..
20	29·857	47·0	45·4	1·6	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
22	29·846	50·8	49·0	1·8	47·0	3·8	..	..	WSW	..	W	4·40	Pos.	10	10	8	10	..
Sep. 3. 0	29·807	54·3	50·9	3·4	..	..	..	..	SW	..	..	..	Pos.	10	..	8	10	..
2	29·745	56·5	53·4	3·1	..	..	..	..	SW	½ constant	..	..	Pos.	10	15	5	..	..
4	29·662	53·0	52·4	0·6	52·0	1·0		..	SSW	..	..	..	Pos.	12	..	7	10	..
6	29·607	58·0	57·0	1·0	..	..	60·4	..	WSW	..	..	..	..	..	0	0	0	..
8	29·592	59·5	57·7	1·8	..	..	43·7	3·87	WSW	½ constant	..	..	..	..	0	0	0	..
10	29·594	56·0	53·4	2·6	52·0	4·0			WSW	..	..	..	..	..	0	0	0	..
12	29·593	53·3	51·6	1·7	..	..	70·0	0·05	W by S	..	..	..	..	..	0	0	0	..
							35·5											
14	29·623	49·2	47·9	1·3	..	..		10·175	N	..	..	..	..	..	0	0	0	..
16	29·654	46·0	45·4	0·6	45·0	1·0	59·8	..	N	..	N	4·30	..	..	0	0	0	..
18	29·680	44·2	43·8	0·4	..	..	59·5	..	N	..	..	..	..	..	0	0	0	..
20	29·709	48·0	45·7	2·3	..	..	..	..	N	..	..	..	..	..	0	0	0	..
22	29·726	54·6	50·3	4·3	43·0	11·6	..	..	N	..	SW	0·50	..	..	0	0	0	..
Sep. 4. 0	29·747	56·2	50·7	5·5	..	..	..	..	W by N	0 to ½	..	..	..	..	0	0	0	..
2	29·738	59·2	53·1	6·1	..	..	..	..	NW	½ constant	..	..	..	..	0	0	0	..
4	29·740	56·3	51·7	4·6	48·0	8·3	..	..	W	½ to 1	..	..	..	..	0	0	0	..
6	29·739	56·8	51·8	5·0	..	..	..	..	W	..	..	..	..	..	0	0	0	..
8	29·755	49·6	46·7	2·9	..	..	..	..	W by N	..	..	..	..	..	0	0	0	..
10	29·765	49·2	46·4	2·8	44·0	5·2	..	..	WNW	..	..	..	..	..	0	0	0	..

DRY THERMOMETER.

August 31d. The increase of the reading between 20h and 22h was 10° ·3.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
2	..	The sky has been principally cloudless since 14^h: at present there are some white clouds, both to the N. and to the S.:	G
0	Transit	Cloudless, with the exception of a few clouds to no numerical extent. [a great deposition of moisture.	
3	..	Cumulo-strati, cirri, and scud are scattered about the sky.	G
3	..	A few cirri are scattered over the sky: a bank of cirro-stratus in the W. horizon, with a few patches of scud.	G H
5	..	Cirri, cirro-strati, and scud are scattered over the sky.	
10	..	Overcast: cirro-stratus and scud: the amount of cloud has been variable during the morning.	G H
10	..	,, ,, [blowing in gusts to 2: a small quantity of rain fell about one hour since.	E H
3	..	The greater part of the sky is of a fine deep blue colour: there are a few white clouds scattered about: the wind is	G
10	..	The sky is covered by cirro-stratus and scud, the latter moving rapidly from the N.W.: since 6^h there have been some very dark stormy-looking clouds, particularly to the N.: the direction of the wind has been variable since 6^h, having been N.W. and then S.; it is now W.	
5	3rd Qr.	The greater part of the sky was covered by clouds till $9^h.30^m$; at this time they suddenly dispersed, and the sky	G
0	..	Cloudless. [became cloudless: at present there are clouds both to the N. and to the S.: hazy.	G H
0	..	,,	
0	..	,, about half an hour since the southern half of the sky became suddenly overcast with thin fleecy clouds,	
8	Transit	Cirro-stratus and scud: a break towards the N. horizon. [which quickly disappeared.	
10	..	Overcast: cirro-stratus and scud.	G H
8	..	Cirro-stratus and scud: a portion of clear sky in the W.	T D
9	..	Cirro-stratus and scud.	
10	..	Overcast: cirro-stratus and scud: a heavy shower of rain is falling.	T D
7	..	Light fleecy clouds are scattered about the zenith, with large masses of cumuli and scud, principally towards the S.W.	G H
3	..	A bank of cirro-stratus and fleecy clouds towards the S. and N.W. parts of the horizon; cloudless elsewhere.	
7	..	Thin cirro-stratus, with wild-looking scud, towards the W.: hazy: at about $6^h.45^m$ there was a slight squall of wind	
0	..	Cloudless. [and rain, which lasted ten minutes.	G H
0	..	,,	T D
0	..	,, hazy.	
5	..	Thin cirro-stratus in the S. and S. S.W.: hazy.	
3	Greatest Declination N.	There are cirro-strati and light fleecy clouds in the E. and S. E.	
7	Transit	Cirro-strati, scud, and light fleecy clouds are scattered in every direction.	T D
10	..	Overcast: cirro-stratus and scud: a few drops of rain are falling.	L
10	..	Overcast: cirro-stratus and scud.	L
10	..	,, ,,	G H
10	..	,, cirro-stratus: a thick misty rain is falling.	T D
10	..	,, ,, no rain is falling at present.	
10	..	,, cirro-stratus and scud. [within 20° of the zenith; the clouds became broken at $8^h.40^m$.	
6	..	Cirro-stratus all around the horizon, more especially in the N. and N. E., in which direction the clouds extend to	T D
6	..	Clear in and around the zenith; cirro-stratus and scud elsewhere: the amount of cloud is continually varying from	L
..	..	2 to 10; the clouds are low and thin in many places.	
10	..	Overcast: cirro-stratus: rain was falling for a short time at about $12^h.40^m$.	
2	..	A few light clouds are scattered about the sky; it was quite overcast ten minutes since.	
0	..	Cloudless.	
0	Transit	,,	L
8	..	Fleecy clouds in different parts of the sky, with cirro-stratus towards the S.W. horizon.	G H
7	..	Cirro-stratus, cumuli, and haze; clear principally about the zenith and towards the N.W.	G H
9	..	Cirro-stratus, cumuli, cumulo-stratus, and scud: some fine rocky cumuli near the Sun's place.	T D
10	..	Overcast: cirro-stratus and scud.	L
4	..	Cirro-stratus, fleecy clouds, and loose scud are scattered about the sky.	
2	..	Cirro-stratus along the W. horizon.	
2	..	Cirro-stratus towards the S.; clear elsewhere.	L

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	RAIN GAUGES. Stand of No. 1, (Osler's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Sep. 4. 12	29·767	44·6	43·3	1·3	..	..	62·6	..	W by S	..	..	..	..	..	0	0	0	..
14	..	..	..	..	..	..	38·6	3·87	WSW	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	77·0		SW	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	31·8	0·05	WSW	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..			WSW	..	..	..	..	..	..	..	..	..
22	..	..	..	..	..	..	59·0	10·175	..	..	WSW	2·90	..	..	..	..	..	..
h m 22. 30	29·751	57·5	52·1	5·4	..	..	58·5	..	WSW	..	..		..	..	0	0	0	..
d h Sep. 5. 0	..	..	..	..	..	..	..	..	W by S	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	W by S	..	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..		..	W	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	66·0	..	WSW	..	..	..	..	..	..	..	..	..
8	29·718	47·0	44·8	2·2	..	..	41·1	3·87	WNW	..	..	..	..	..	0	0	0	..
10	..	..	..	..	..	..			W	..	..	..	..	..	..	..	..	..
11	29·721	44·2	43·1	1·1	..	..	83·8	0·00	W	..	..	..	..	..	0	0	0	..
12	..	..	..	..	..	..	33·8		W	..	..	..	..	..	..	..	..	..
14	29·717	42·6	41·8	0·8	..	..		10·175	W by S	..	..	..	..	..	0	0	0	..
16	29·715	41·8	40·9	0·9	39·5	2·3	58·0	..	W by S	..	..	..	..	..	0	0	0	..
18	29·716	44·0	42·7	1·3	..	..	57·2	..	WSW	..	..	..	..	..	0	0	0	..
20	29·729	46·5	44·9	1·6	..	..		..	WSW	..	..	..	..	..	0	0	0	..
22	29·746	52·3	49·4	2·9	45·0	7·3	..	..	NW	..	WSW	4·20	..	..	0	0	0	..
Sep. 6. 0	29·749	59·0	52·9	6·1	..	..	..	..	NW	..	..	..	Pos.	12	..	10	12	..
2	29·758	59·1	53·4	5·7	..	..	..	..	WNW	..	..	..	Pos.	25	..	15	20	..
4	29·768	60·0	53·9	6·1	48·3	11·7	68·8	..	NW	..	..	..	Pos.	20	..	15	20	..
6	29·773	56·3	52·4	3·9	..	..	38·9	3·87	W	..	..	..	Neg.	40	..	..	300	Instantly
8	29·810	53·3	50·4	2·9	..	..			WNW	..	..	..	Pos.	15	20	5	..	..
10	29·826	51·0	48·8	2·2	46·0	5·0	77·5	0·00	WNW	..	..	..	Pos.	40	..	30	50	..
12	29·841	49·6	47·0	2·6	..	..	32·0		W by N	..	..	..	Pos.	40	..	40	50	6. 0
14	29·844	45·0	44·3	0·7	..	..		10·180	WSW	..	..	..	Pos.	25	..	20	30	7. 0
16	29·845	40·0	39·7	0·3	40·0	0·0	57·5		WSW	..	..	..	Pos.	25	..	12	15	..
18	29·853	39·0	38·7	0·3	..	..	56·8	..	SW	..	..	..	..	..	0	0	0	..
20	29·871	43·5	42·3	1·2	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
22	29·878	56·3	52·2	4·1	49·0	7·3	..	..	W by S	..	W	1·10	..	..	0	0	0	..
Sep. 7. 0	29·864	63·6	57·1	6·5	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
2	29·836	65·2	58·1	7·1	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
4	29·808	59·3	54·9	4·4	52·0	7·3	67·0	..	SW	..	..	..	..	..	0	0	0	..
6	29·795	59·5	55·8	3·7	..	..	52·9	3·90	SW	..	..	..	..	..	0	0	0	..
8	29·798	55·4	53·4	2·0	..	..			SW	..	..	..	..	..	0	0	0	..
10	29·771	54·5	52·9	1·6	51·0	3·5	84·8	0·05	S by W	..	..	..	..	..	0	0	0	..
12	29·731	54·7	54·6	0·1	..	..	50·0		S by W	..	..	..	..	..	0	0	0	..
14	29·710	55·2	55·0	0·2	..	..		10·255	SW	..	..	..	..	..	0	0	0	..
16	29·690	55·7	55·7	0·0	55·5	0·2	57·2		SW	..	..	..	..	..	0	0	0	..
18	29·684	55·4	55·1	0·3	..	..	56·8	..	SSW	..	..	..	..	..	0	0	0	..
20	29·701	58·2	57·8	0·4	..	..	..	..	S by W	..	..	..	..	..	0	0	0	..
22	29·708	58·5	57·7	0·8	56·5	2·0	..	..	W by S	..	SW	3·40	..	..	0	0	0	..
Sep. 8. 0	29·719	58·5	57·7	0·8	..	..	..	..	NNW	..	..	..	Pos.	..	..	..	..	..
2	29·743	62·3	60·7	1·6	..	..	..	..	NNW	..	..	..	Pos.	20	25	5	..	..
4	29·758	63·8	60·9	2·9	58·0	5·8	..	..	NW	..	..	..	Pos.	10	..	8	10	..

DRY THERMOMETER.

September 6d. The increase of the reading between 20h and 22h was 12° ·8.

ELECTRICITY.

September 6d. 6h. There were sparks at the distance of 0in·04, one in a second.

September 8d. 0h. There were sparks at the distance of 0in·05, one in a second.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
0	..	Cloudless: a bright meteor was observed just before this observation to pass across the zenith, leaving a train of light	G H
..	..	which lasted three seconds: several faint flashes of lightning have been observed during the evening, principally	
..	..	in the S.	
..	..		
..	..		
..	Transit		
5	..	A few detached cumuli are scattered about, also some fleecy clouds and loose scud.	T D
..	..		
..	..		
..	..		
..	..		
5	..	A thick fog near the horizon: the zenith is clear: the air is exceedingly cold.	
..	..		
2	..	Cloudy towards the S. horizon; clear elsewhere.	T D
..	..		
1	..	Strati towards the S.W. and W. parts of the horizon; cloudless elsewhere.	G H
6	..	Thick haze towards the S. and W., and generally around the horizon.	
9	..	Cirro-stratus and haze: clear towards the S.W. horizon.	
4	..	Cirro-strati and haze in different parts of the sky, more particularly in the W. horizon.	G H
8	Transit	Cumuli, cumulo-strati, and cirro-stratus in every direction.	T D
5	..	Cumuli and cumulo-strati all around the horizon, with a few detached portions scattered near the zenith.	
9	..	Cumuli, cumulo-strati, and scud.	T D
9	..	,,	E H
10	..	Overcast: cirro-stratus and large masses of scud: a squall of rain has just passed over, lasting only ten minutes.	G H
8	..	Cirro-stratus and scud: there are a few breaks towards the W. and N.W.; another squall of rain occurred immediately	
8	..	Cirro-stratus and haze: at about $9^h.\ 25^m$ a very faint flash of sheet lightning was observed. [after the last observation.	G H
10	..	Cirro-stratus and scud: a few of the larger stars are occasionally seen through the clouds: flashes of lightning have	T D
5	..	Cirro-stratus and haze all around the horizon. [been seen in the E. since 11^h.	
4	..	Cirro-stratus and haze in the horizon, principally S.	
0	..	Cloudless.	
0	..	,,	T D
0	Transit	,,	L
8	..	Detached cumuli, fleecy clouds, and scud are scattered about the sky.	
6	..	Cumuli, fleecy clouds, and scud: the sky E. of the zenith is generally clear.	L
10	..	Overcast: cirro-stratus and scud.	T D
10	..	,, ,,	
10	..	,, ,, rain is falling; it commenced at about $7^h.\ 40^m$.	
10	..	,, ,, a thin rain is falling.	T D
10	..	,, rain is falling.	L
10	..	,, ,,	
10	..	,, cirro-stratus.	
7	..	Cirro-stratus, scud, and fleecy clouds: there are breaks in the clouds in various directions.	L
7	..	Overcast: cirro-stratus and scud: a very thick gloom prevails, particularly towards the W.	G H
10	Transit	,, cirro-stratus and light electrical-looking scud, particularly towards the S.W.: rain fell between $10^h.\ 30^m$	
		and $10^h.\ 50^m$: several peals of thunder have been heard since the last observation towards the N. E.: at present	
		[there is a slight thunder-storm.	
10	..	Cirro-stratus and scud: a small break towards the N.: rain commenced falling immediately after the last observation,	
$9\frac{1}{2}$	..	Overcast: cirro-stratus and scud: the clouds are thin in many places. [and continued till $1^h.\ 30^m$.	G H
10	..	,, ,, rain has been falling at intervals since the last observation.	L

HENLEY'S ELECTROMETER.

September $6^d.\ 6^h$. The reading was 3°.

September $8^d.\ 0^h$. The reading was 12°.

GALVANOMETER.

September $6^d.\ 6^h$ and $8^d.\ 0^h$. There was a current of 2° towards B.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Sep. 8. 6	29·780	61·6	60·5	1·1	..	..	64·3	..	N by E	..	..	..	Pos.	15	..	15	20	..
8	29·814	58·4	56·7	1·7	..	..	43·5	..	N	..	..	..	Pos.	10	..	10	12	..
10	29·855	56·3	53·7	2·6	52·0	4·3	3·95		N	..	..	..	Pos.	10	..	8	10	..
12	29·879	53·4	51·1	2·3	..	..	70·0		NNW	..	..	..	..	..	0	0	0	..
14	29·895	49·0	48·0	1·0	..	..	37·0	0·10	NNW	..	..	..	..	..	0	0	0	..
16	29·901	45·9	45·7	0·2	45·5	0·4	57·2		W by S	..	..	..	..	..	0	0	0	..
18	29·926	44·3	44·1	0·2	..	..	56·8	10·340	WSW	..	..	..	..	..	0	0	0	..
20	29·945	45·5	44·8	0·7	..	..		..	WSW	..	..	..	..	..	0	0	0	..
22	29·960	56·2	53·4	2·8	51·0	5·2		..	WSW	..	WSW	1·60	..	..	0	0	0	..
Sep. 9. 0	29·964	63·3	58·6	4·7	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
2	29·956	68·2	62·5	5·7	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
4	29·952	68·0	62·5	5·5	55·5	12·5		..	WSW	..	..	..	Pos.	30	..	10	20	..
6	29·950	65·6	60·7	4·9	..	..	70·4	..	WSW	..	..	..	Pos.	40	..	25	30	..
8	29·975	60·1	57·5	2·6	..	..	50·8	3·95	WSW	..	..	..	..	..	0	0	0	..
10	29·993	56·2	55·5	0·7	54·0	2·2	86·0		SW	..	..	..	..	..	0	0	0	..
12	29·996	54·0	53·3	0·7	..	..	45·0	0·00	WSW	..	..	..	..	..	0	0	0	..
14	29·992	54·0	52·9	1·1	..	..	57·5	10·340	WSW	..	..	..	..	..	0	0	0	..
16	29·982	52·6	51·4	1·2	51·0	1·6	57·0	..	WSW	..	..	..	..	..	0	0	0	..
18	29·987	51·7	50·9	0·8	..	..		..	WSW	..	..	..	..	..	0	0	0	..
20	30·012	55·0	52·9	2·1	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
22	30·009	61·4	57·7	3·7	55·0	6·4	..	..	WSW	..	W	3·70	..	..	0	0	0	..
Sep. 10. 0	30·001	65·2	60·7	4·5	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
2	29·988	70·7	65·0	5·7	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
4	29·962	69·5	63·1	6·4	60·0	9·5	71·0	..	WSW	..	..	..	..	..	0	0	0	..
6	29·946	67·0	61·0	6·0	..	..	50·3	3·95	SW	..	..	..	Pos.	20	..	12	15	..
8	29·973	59·0	56·3	2·7	..	..			S by W	..	..	..	Pos.	25	..	15	20	..
10	29·977	55·0	53·4	1·6	53·0	2·0	88·5		SSW	..	..	..	Pos.	15	..	12	10	..
12	29·970	52·8	52·1	0·7	..	..	43·0	0·00	SW	..	..	..	..	..	0	0	0	..
14	29·975	53·0	52·4	0·6	..	..			WSW	..	..	..	..	..	0	0	0	..
16	29·975	54·4	53·9	0·5	53·0	1·4	57·8	10·340	W	..	..	..	..	..	0	0	0	..
18	29·983	54·8	54·2	0·6	..	..	57·0	..	W by S	..	..	..	..	..	0	0	0	..
20	30·010	56·0	53·6	2·4	..	..	..	..	NW	..	..	..	..	..	0	0	0	..
22	30·015	61·4	56·5	4·9	53·0	8·4	..	..	N by W	..	SSW	1·78	Pos.	30	..	20	25	6. 0
Sep. 11. 0	29·998	65·0	58·6	6·4	..	..	..	..	N	..	..	..	Pos.	30	..	20	25	..
2	29·967	69·0	61·2	7·8	..	..	..	..	N	..	..	..	Pos.	40	..	30	40	..
4	29·939	69·5	62·2	7·3	57·0	12·5	..	..	N	..	..	..	Pos.	30	..	25	30	10. 0
6	29·915	64·2	58·2	6·0	..	..	72·5	..	WSW	..	..	..	Pos.	15	..	15	20	..
8	29·903	57·8	53·8	4·0	..	..	49·9	3·95	SSW	..	..	..	Pos.	10	..	8	10	..
10	29·878	56·2	54·4	1·8	53·0	3·2			WSW	..	..	..	Pos.	10	..	8	10	..
12	29·872	53·7	51·3	2·4	..	..	85·3	0·00	WSW	..	..	..	Pos.	5	20	5	..	..
14	..	..	..	..	..	..	..		SW	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..		10·340	WSW	½ constant	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	58·0		WSW	1 constant	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	57·2	..	SW	1 to 2	..	..	..	..	..	..	..	..
22	..	..	..	..	..	..	..	..	WSW	0 to 1	WSW	3·22	..	..	..	..	..	..
h m																		
22. 30	29·781	65·2	61·7	3·5	..	..	..	..	SW	1 to 1½	..	..	Pos.	10	..	8	10	..
d h																		
Sep. 12. 0	..	..	..	..	..	..	..	..	WSW	1 to 2	..	..	..	..	..	..	..	..

DRY THERMOMETER.
September 8d. The increase in the reading between 20h and 22h was 10°·7.

MINIMUM RADIATION THERMOMETER.
September 11d. The instrument was not exposed to the sky.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast: cirro-stratus and scud.	L
10	..	,, ,,	
2	..	The sky has become nearly cloudless within the last quarter of an hour, before which time it was overcast.	L
7	..	Cirro-strati, light scud, and haze in every direction.	G H
0	..	Cloudless, but very hazy.	
0	..	Cloudless, but very hazy, particularly towards the S. and S.W.	
2	..	There are a few strati towards the horizon: hazy.	
8	..	Thin cirri, through which blue sky is visible, with much haze in every direction.	G H
10	..	A very thin cirro-stratus covers the sky.	L
10	Transit	A very thin cirro-stratus covers the sky.	
6	..	Thin cirro-stratus, linear clouds, and scud.	L
10	New	Overcast with thin cirri, strati, cirro-strati, and haze, through which blue sky is visible.	G H
9	..	Thin cirri, cirro-strati, and haze in every direction, through which blue sky is visible.	
5	..	Cirro-stratus towards the horizon: hazy. [minutes since.	
0	..	Cloudless: the amount of cloud has varied considerably since the last observation; it became clear at about fifteen	G H
2	..	Cirro-stratus in the W. and N.W.; every other part of the sky is now clear, although since 10^h the amount of cloud has been variable, at times amounting to 6, and then becoming again clear.	T D
5	..	Cirro-stratus in the S. and S.W., and also around the horizon: the quantity of cloud is very variable: at 13^h the sky	
0	..	Cloudless: hazy. [was quite overcast.	
4	..	Cirro-stratus and fleecy clouds.	
9	..	Detached cumuli and scud, with portions of blue sky between them.	T D
9	..	Cirro-stratus and fleecy clouds cover the greater part of the sky: there are a few small breaks about the zenith: [ten minutes since the sky was nearly cloudless.	L
10	..	Cirro-stratus, fleecy clouds, and scud cover the sky: there are a few small breaks, but to no numerical extent.	
2	Transit In Equator	Fleecy clouds and scud are scattered about the sky.	L
4	..	Detached cumuli and scud are scattered over the sky.	T D
3	..	Detached portions of cumuli principally in the N. and N.W.	
1	..	A bank of cirro-stratus near the N. horizon, and a few light cirri here and there.	
0	..	Cloudless: hazy in the horizon.	T D
0	..	,,	L
0	..	,,	
10	..	Overcast: cirro-stratus.	
10	..	,, ,,	
10	..	,, ,,	L
1	..	Thin cirro-stratus in the S.W. at a very low elevation, every other portion of the sky being clear.	T D
0	..	Cloudless.	
0	Transit Apogee	,,	T D
0	..	,,	L
4	..	Cirro-stratus towards the N. horizon: fleecy clouds, scud, and a few cirri are scattered about the sky.	
9	..	Cirro-stratus and linear clouds cover the greater part of the sky, through which the large stars are visible.	
6	..	Mostly clear in and to the E. of the zenith; cirro-stratus elsewhere.	L
4	..	The zenith and the parts around it for 30° are generally clear: within 30° of the horizon the sky is covered by cirro- [stratus, and the remaining zone of 30° is partially clear.	G
..	..		
..	..		
..	..		
..	..		
..	..		
8	..	Cirro-stratus and masses of scud cover the greater part of the sky; clear towards the N.	
..	..		

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	of Rad. Therm.	of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's).	Reading of No. 2.	Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°			in.				from lbs. to lbs.		in.		°	°	div.	div.	m s
Sep. 12. 2	..	..	..	..	..	..	..			..			WSW	1 to 1½	..	..	..	..	..	..	..	..
4	29·751	64·8	62·0	2·8	..	..	68·4			..			SW	½ constant	..	..	..	0	0	0	..
6	..	..	..	..	..	..	58·4			..			SW	½ constant	..	..	..	..	..	..	..
8	29·725	60·6	59·3	1·3	..	..				3·95			SW	½ constant	..	..	..	0	0	0	..
10	..	..	..	..	..	..	81·0						SW	½ constant	..	..	..	..	..	..	..
12	..	..	..	..	..	..	54·0			0·00			SSW	..	..	..	..	..	..	..	..
14	29·701	60·0	59·0	1·0	..	..							SW	..	..	..	..	0	0	0	..
16	29·677	59·8	58·7	1·1	58·0	1·8	58·0			10·340			SSW	..	..	..	..	0	0	0	..
18	29·651	58·9	58·3	0·6	..	..	57·2			..			SSW	..	..	..	..	0	0	0	..
20	29·660	60·0	58·7	1·3	..	..				..			SSW	½ constant	..	..	Pos.	10	10	..	..
22	29·658	61·3	59·8	1·5	58·0	3·3	..			..			SSW	½ constant	SW	6·00	Pos.	10	..	8	10	..
Sep. 13. 0	29·643	64·0	62·0	2·0	..	..	..			..			WSW	..	..	..	..	..	0	0	0	..
2	29·656	57·2	56·9	0·3	..	..	..			..			WSW	0 to ½	..	..	..	..	0	0	0	..
4	29·669	57·2	57·0	0·2	56·0	1·2	67·3			..			N by E	..	..	..	..	..	0	0	0	..
6	29·671	55·8	55·7	0·1	..	..	44·4						N by E	..	..	..	..	..	0	0	0	..
8	29·687	54·0	53·9	0·1	..	..				4·18			N by E	..	..	..	..	..	0	0	0	..
10	29·687	54·5	54·4	0·1	54·5	0·0	74·4						W	..	..	..	..	..	0	0	0	..
12	29·698	51·7	51·4	0·3	..	..	40·0			0·15			W	..	..	..	..	..	0	0	0	..
14	29·698	49·3	49·1	0·2	..	..							NNW	..	..	..	..	..	0	0	0	..
16	29·702	48·0	47·9	0·1	47·5	0·5	58·2			10·580			NNW	..	..	..	..	..	0	0	0	..
18	29·717	46·4	46·4	0·0	..	..	58·0			..			WSW	..	..	..	..	..	0	0	0	..
20	29·745	46·8	46·2	0·6	..	..	..			..			WSW	..	..	..	..	..	0	0	0	..
22	29·765	54·9	52·4	2·5	48·0	6·9	..			..			WSW	..	WSW	2·10	Pos.	25	..	15	20	..
Sep. 14. 0	29·766	59·9	55·5	4·4	..	..	..			..			W by S	0 to ½	..	..	Pos.	20	..	12	15	..
2	29·768	62·3	57·1	5·2	..	..	..			..			W	0 to ½	..	..	..	..	0	0	0	..
4	29·762	59·0	54·4	4·6	51·0	8·0	64·1			..			W by S	..	..	..	..	..	0	0	0	..
6	29·774	57·0	53·4	3·6	..	..	43·5						W	..	..	..	..	..	0	0	0	..
8	29·792	50·2	48·2	2·0	..	..				4·18			W by S	..	..	..	..	..	0	0	0	..
10	29·797	49·7	47·6	2·1	45·0	4·7	80·7						WSW	..	..	..	..	..	0	0	0	..
12	29·783	46·0	44·8	1·2	..	..	37·6			0·00			WSW	..	..	..	..	..	0	0	0	..
14	29·763	46·0	45·2	0·8	..	..							SW	..	..	..	..	..	0	0	0	..
16	29·764	45·6	44·9	0·7	44·0	1·6	58·0			10·685			W by S	..	..	..	..	..	0	0	0	..
18	29·767	44·0	43·3	0·7	..	..	57·5			..			W by S	..	..	..	..	..	0	0	0	..
20	29·777	46·9	45·9	1·0	..	..	..			..			W by S	..	..	..	..	..	0	0	0	..
22	29·772	54·3	52·1	2·2	50·0	4·3	..			..			W	½ constant	WSW	2·60	..	..	0	0	0	..
Sep. 15. 0	29·766	58·7	55·1	3·6	..	..	..			..			W by S	½ constant	..	..	..	..	0	0	0	..
2	29·754	60·7	56·7	4·0	..	..	..			..			W by S	½ to 1	..	..	Pos.	7	..	5	..	..
4	29·735	60·0	56·1	3·9	50·0	10·0	64·2			..			W by S	..	..	..	Pos.	15	..	10	12	..
6	29·708	58·0	54·4	3·6	..	..	52·5						W by S	..	..	..	Pos.	30	..	20	25	6. 0
8	29·696	54·5	51·4	3·1	..	..				4·23			SW	..	..	..	Pos.	30	..	20	25	7. 0
10	29·642	54·5	52·8	1·7	50·0	4·5	79·0						SSW	..	..	..	Pos.	35	..	20	30	6. 0
12	29·566	53·4	52·9	0·5	..	..	49·0			0·13			SSW	1 to 2	..	..	..	..	0	0	0	..
14	29·457	54·8	54·4	0·4	..	..							SW	2 to 4	..	..	..	..	0	0	0	..
16	29·365	57·5	56·9	0 6	56·0	1·5	57·8			10·845			WSW	1½ to 5	..	..	..	..	0	0	0	..
18	29·312	58·5	57·9	0·6	..	..	57·5			..			WSW	1½ to 4	..	..	..	..	0	0	0	..
20	29·289	60·5	57·8	2·7	..	..	..			..			W by S	1 to 3	..	..	..	..	0	0	0	..
22	29·282	62·0	58·7	3·3	56·0	6·0	..			..			W	2 to 5	WSW	7·17	..	..	0	0	0	..
Sep. 16. 0	29·270	62·7	59·4	3·3	..	..	..			..			WSW	3 to 9	..	..	..	..	0	0	0	..

BAROMETER.

September 15d. 14h. The reading had decreased 0in·109 since the previous observation.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
..	Transit		
10	..	Overcast: cirro-stratus.	G
..	..		
10	..	,, ,, the sky has been generally cloudy throughout the day.	
..	..		
..	..		
10	..	The night has been generally cloudy: at present the sky is overcast and very black: the night is very dark.	
10	..	Cirro-stratus: very dark.	
10	..	,, ,,	
10	..	Cirro-stratus and scud passing from W.	G
10	..	Overcast: cirro-stratus and scud.	L
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,, rain has just begun to fall.	L
10	Transit	,, ,, rain still continues to fall.	E H
10	..	,, nimbus and fog: a steady rain is falling.	G
10	..	,, rain has been falling heavily since 6^h.	
10	..	,, rain is falling steadily.	G
10	..	,, ,,	L
10	..	,, ,,	
10	..	,, cirro-stratus.	
0	..	Cloudless.	
0	..	,,	L
0	..	,,	T D
7	..	Cumuli, cumulo-strati, and scud.	
8	..	,,	T D
8	Transit	,,	L
8	..	Cumuli, cumulo-strati, cirro-strati, and scud; a few drops of rain fell about 5 minutes before this observation.	
0	..	Cloudless: the greater part of the sky was covered with cloud till after 7^h: rain was falling occasionally before 7^h.	
0	..	,, flashes of sheet lightning are occasionally visible.	L
0	..	,,	T D
5	..	Detached portions of cirro-stratus and scud are scattered over the sky, obscuring the stars in some directions, though in	
5	..	In every respect the same as the preceding observation. [others they are shining brightly.	
0	..	Cloudless.	
6	..	Cirri, scud, and fleecy clouds are scattered in all directions.	T D
10	..	Overcast: cirro-stratus and fleecy clouds.	L
10	..	Overcast: cirro-stratus, fleecy clouds, and scud.	
9	..	,, cirro-stratus, fleecy clouds, and scud cover the greater part of the sky: clear towards the E. horizon.	L
8	Transit	Cumuli, cumulo-strati, and scud.	T D
8	..	The greater portion of the sky is covered with thin cirro-stratus, and some detached fragments of scud.	
10	..	Overcast: cirro-stratus and scud.	
10	..	,, cirro-stratus: very dark.	T D
10	..	,, ,, rain is falling: the wind is blowing in gusts to 1 and 2.	G
10	..	,, ,, a very rough night.	
10	..	,, ,, gust of wind to 2 and 2+.	
10	..	,, ,, a large quantity of scud is passing from the S. W.: gusts of wind to 2. [nearly cloudless.	
2	..	At $18^h.\ 50^m$ some breaks appeared in the clouds in the E., which have gradually increased, till at present the sky is	G
7	..	Light cirri, fleecy clouds, and scud in every direction: the wind is blowing in gusts to 1 and 2.	T D
8	..	Cumuli, cumulo-strati, and masses of dark scud all around: there is a portion of blue sky in the E.: the wind is blowing in gusts to 2 and $2\frac{1}{2}$.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Sep. 16. 2	29·259	62·6	59·0	3·6	..	..	..	..	WSW	3 to 12	..	..	..	..	0	0	0	..
4	29·263	61·0	57·7	3·3	56·0	5·0	..	..	SW	2 to 10½	..	..	..	..	0	0	0	..
6	29·303	56·2	54·6	1·6	..	..	66·8 / 48·1 / 4·25	..	WSW	1 to 5	..	..	Pos.	40	40	10	10	..
7	29·300	..	..	..	..	..			WSW	1 to 3	..	..	..	..	..	..	..	..
8	29·312	56·5	53·9	2·6	..	..	77·8 / 42·4 / 0·05		WSW	1 to 5½	..	..	Pos.	10	10	..	..	..
10	29·360	55·2	52·6	2·6	51·0	4·2			WSW	1½ to 8	..	..	Pos.	5	5	..	..	..
12	29·392	53·7	51·2	2·5	..	..			WSW	½ to 4	..	..	..	..	0	0	0	..
14	29·416	53·0	50·6	2·4	..	..	57·8 / 56·5 / 10·870		WSW	1 to 3	..	..	..	..	0	0	0	..
16	29·422	50·6	48·4	2·2	47·0	3·6		..	WSW	1 to 1½	..	..	..	..	0	0	0	..
18	29·432	49·2	47·9	1·3	..	..	..	..	SW	½ to 1	..	..	..	..	0	0	0	..
20	29·440	52·5	50·8	1·7	..	..	..	..	SW	½ to 1	..	..	..	..	0	0	0	..
22	29·436	54·6	52·9	1·7	49·0	5·6	..	..	SW	1½ to 2	SW	10·55	..	..	0	0	0	..
Sep. 17. 0	29·412	55·0	53·9	1·1	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
2	29·297	53·0	52·9	0·1	..	..	..	..	S by W	..	..	..	..	..	0	0	0	..
4	29·162	60·5	60·1	0·4	59·0	1·5	..	..	SW	0 to 4	..	..	..	..	0	0	0	..
6	29·193	55·0	54·6	0·4	..	..	61·1 / 44·9 / 4·38	..	WNW	..	..	..	..	..	0	0	0	..
8	29·261	52·8	52·4	0·4	..	..			W by S	..	..	..	..	..	0	0	0	..
10	29·275	51·7	50·9	0·8	50·0	1·7			W by S	0 to ½	..	..	..	..	0	0	0	..
12	29·288	49·0	48·7	0·3	..	..	61·6 / 38·5 / 0·10		WSW	0 to ½	..	..	..	..	0	0	0	..
14	29·275	47·4	47·0	0·4	..	..			SW	½ constant	..	..	..	..	0	0	0	..
16	29·260	50·0	48·9	1·1	48·0	2·0			WSW	1 to 3½	..	..	..	..	0	0	0	..
18	29·288	50·5	49·2	1·3	..	..	56·5 / 56·0 / 10·920	..	WSW	½ constant	..	..	..	..	0	0	0	..
20	29·318	47·0	45·9	1·1	..	..		..	WSW	½ constant	..	..	..	..	0	0	0	..
22	29·360	52·6	50·9	1·7	47·0	5·6	..	..	WSW	1 to 2	SW	6·05	..	..	0	0	0	..
Sep. 18. 0	29·400	56·0	53·1	2·9	..	..	..	..	W by S	1½ to 3	..	..	Pos.	40	..	20	40	..
2	29·445	56·2	53·4	2·8	..	..	..	..	W by S	1½ to 2½	..	..	Pos.	15	20	5	..	..
4	29·498	52·5	50·4	2·1	49·0	3·5	..	..	W by S	½ to 1	..	..	..	..	0	0	0	..
6	29·540	49·0	47·8	1·2	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
8	29·578	47·3	45·8	1·5	..	..	58·9 / 39·2 / 4·40 / 74·5 / 32·0 / 0·01		WSW	..	..	..	..	..	0	0	0	..
10	29·624	44·7	43·3	1·4	42·0	2·7			WSW	..	..	..	..	..	0	0	0	..
12	29·680	43·0	42·1	0·9	..	..			SW	..	..	..	..	..	0	0	0	..
14	..	..	..	..	..	..	55·8 / 55·0 / 10·955	..	SW	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..		..	SW	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..
22	29·864	52·0	49·6	2·4	..	..	..	..	WSW	..	WSW	5·15	..	..	0	0	0	..
Sep. 19. 0	..	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..
2	29·856	58·2	54·4	3·8	..	..	..	..	WSW	½ constant	..	..	Pos.	20	..	8	10	..
4	29·844	57·8	54·4	3·4	..	..	..	..	SW	½ constant	..	..	Pos.	20	20	10	10	..
h m 5. 40	29·817	54·8	51·9	2·9	..	..	..	..	SSW	½ constant	..	..	Pos.	20	..	8	10	..
h 6	..	..	..	..	..	..	..	..	S by W	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	S by W	..	..	..	..	..	..	..	..	..

OSLER'S ANEMOMETER.

September 17d. 4h. 20m and 5h. 30m. There were gusts recording a pressure of 4½ lbs. at each time.

September 18d. 5h. 10m. There was a sudden gust recording a pressure of 5 lbs.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
9	..	Cirro-stratus and dark scud cover nearly the whole of the sky: at $1^h.50^m$ one-third only of the sky was covered: the wind is blowing in gusts to $2\frac{1}{2}$, and occasionally to 3.	T D
10	..	Cirro-stratus and scud: the wind is blowing in gusts to $2\frac{1}{2}$, and occasionally to 3+.	E H
10	Transit	The gale of wind continues; the gusts are to 2, and prolonged occasionally to $2\frac{1}{2}$ and 3: the sky at present is wholly covered with loose scud, but its appearance is constantly changing: at $5^h.40^m$ a heavy shower of rain fell, and	G
..	..	since that time rain has fallen in squalls.	
10	..	A low bank of clouds near the W. horizon: the Moon and stars are shining brightly; the clouds cleared away at about 7^h.	
0	..	Cloudless: the gale continues, but the gusts are less frequent and of less strength, not exceeding 2: the wind is more	G
0	..	,, [uniform.	L
8	..	Cirro-stratus covers the greater part of the sky.	
2	..	A few light clouds are scattered about the sky.	
10	..	Lines of clouds soon formed after the last observation: the sky is now overcast.	
10	..	Overcast: cirro-stratus.	L
10	..	,, ,,.	T D
10	..	Overcast: cirro-stratus and scud: rain is falling; it commenced at 23^h.	T D
10	..	,, ,, rain is still falling.	G H
10	..	Cirro-stratus and scud passing quickly from the W.: rain is falling slightly: the wind is blowing in gusts.	L
10	Transit	Overcast: cirro-stratus and scud: rain has been falling occasionally since the last observation.	
10	1st Qr.	,, ,,	
10	..	,, ,,	L
3	..	Thin cirro-stratus in the S. and S. W. horizon: every other part of the sky is clear. [of scud are coming up.	T D
5	Greatest declination S.	Dark cirro-stratus all around; in the N. it extends to within 20° of the zenith, and in the S. and W. heavy masses	
8	..	The sky became overcast soon after the last observation, with the exception of breaks N. and N. E. of the zenith: the sky is covered with cirro-stratus and masses of dark scud: the wind has risen considerably since 14^h, blowing in	
10	..	Overcast: cirro-stratus and scud. [gusts to $1\frac{1}{2}$ and 2.	
0	..	Cloudless.	T D
10	..	Overcast with very thin cirro-stratus and scud.	G H
8	..	Cumuli, fleecy clouds, and scud: there are some breaks towards the N. W.	
8	..	,, there are some breaks towards the W.	G H
9	..	Cirro-stratus, cumulo-stratus, and scud: a heavy shower of rain fell between $3^h.35^m$ and $3^h.50^m$.	T D
6	..	Cumuli and dark cirro-stratus in the S. and S.W.; fragments of light clouds are scattered here and there: at $5^h.10^m$ the wind suddenly rose, blowing in gusts to 3, accompanied with a violent squall of hail and rain, and continued till $5^h.17^m$ with unabated violence: the direction of the wind had been S. S.W, and suddenly veered round to N.N.W., when the storm commenced, and it went round to the W. when the squall had ceased. (No hail fell at Lewisham.—G.)	T D
0	Transit	Cloudless.	L
0	..	,,	L
0	..	,,	G H
..	..		
..	..		
..	..		
..	..		
6	..	Very thin cirro-strati are scattered over the sky.	
..	..		
10	..	Thin cirro-strati and small patches of scud: hazy.	
9	..	,, ,,	
9	..	Cirro-strati: at present there is a heavy bank of scud towards the W.: hazy.	
..	..		
..	Transit		

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Sep. 19. 10	..	..	..	..	..	..	61·3	..	S by W	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	48·9	4·78	S by W	..	..	..	..	..	..	..	..	..
14	29·540	51·2	50·7	0·5	..	..	77·5		S	½ constant	..	..	Pos.	8	10	..	..	..
16	29·469	54·9	54·8	0·1	54·5	0·4	45·0	0·40	SSW	½ to 1	..	..	..	..	0	0	0	..
18	29·497	55·6	54·9	0·7	..	..	32		WSW	1 to 3	..	..	..	..	0	0	0	..
20	29·607	52·0	51·3	0·7	..	..	55·2	11·440	WSW	½ constant	..	..	Pos.	3	3	..	..	..
22	29·647	57·2	54·7	2·5	52·0	5·2	55·0	..	WSW	1 to 2	SW	6·20	Pos.	20	..	12	15	..
Sep. 20. 0	29·673	58·0	55·1	2·9	..	..	..	..	W by S	½ to 1	..	..	Pos.	10	..	8	10	..
2	29·673	62·8	59·3	3·5	..	..	..	..	W by S	½ to 1	..	..	Pos.	10	..	8	10	..
4	29·697	60·0	57·5	2·5	55·5	4·5	..	..	W by S	½ to 1½	..	..	Neg.	..	..	40	60	2. 0
6	29·736	54·5	53·9	0·6	..	..	64·8	..	W	..	..	..	Neg.	40	..	10	20	..
8	29·794	53·6	51·6	2·0	..	..	41·5	4·84	WNW	..	..	..	Pos.	40	..	30	50	..
10	29·850	50·9	47·9	3·0	45·0	5·9	23		NW	..	..	..	Pos.	40	..	80	100	15. 0
12	29·898	49·0	46·4	2·6	..	..	78·8	0·10	NW	..	..	..	Pos.	15	..	15	20	..
14	29·908	45·7	44·3	1·4	..	..	33·5		WSW	..	..	..	Pos.	10	..	8	10	..
16	29·934	43·7	43·0	0·7	42·0	1·7	45	11·550	SW	..	..	..	..	..	0	0	0	..
18	29·954	43·2	42·3	0·9	..	..	54·8		SW	..	..	..	..	..	0	0	0	..
20	29·988	43·6	42·7	0·9	..	..	54·8	..	S by W	..	..	..	..	..	0	0	0	..
21	30·004	46·0	44·9	1·1	..	..	..	..	SSW	..	..	..	..	..	..	..	..	..
22	30·010	52·6	49·9	2·7	46·0	6·6	..	..	SW	..	WSW	3·50	Pos.	30	..	30	40	6. 0
23	30·006	55·5	52·4	3·1	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
Sep. 21. 0	29·993	56·8	53·3	3·5	..	..	..	..	SW	..	..	..	Pos.	30	..	20	25	8. 0
1	29·985	57·8	54·2	3·6	..	..	..	..	SSW	..	..	..	..	..	..	..	..	..
2	29·992	55·0	52·9	2·1	..	..	..	..	SSW	0 to ½	..	..	Pos.	20	..	12	15	..
3	29·982	55·0	53·9	1·1	..	..	..	..	SSW	..	..	..	..	..	..	..	..	..
4	29·955	53·5	53·4	0·1	53·0	0·5	..	..	SSW	..	..	..	..	..	0	0	0	..
5	29·940	54·5	54·3	0·2	..	..	..	..	SSW	..	..	..	..	..	..	..	..	..
6	29·909	55·0	54·9	0·1	..	..	..	..	S by W	..	..	..	..	..	0	0	0	..
7	29·907	51·7	51·6	0·1	..	..	..	..	SSW	..	..	..	..	..	..	..	..	..
8	29·909	57·8	57·8	0·0	..	..	61·0	..	SW	½ constant	..	..	..	..	0	0	0	..
9	29·909	58·3	58·3	0·0	..	..	52·2	4·84	WSW	..	..	..	..	..	..	..	..	..
10	29·913	58·7	58·2	0·5	58·0	0·7	41		W by S	..	..	..	..	..	0	0	0	..
11	29·907	58·8	58·5	0·3	..	..	64·1	0·08	W by S	0 to ½	..	..	..	..	..	..	..	..
12	29·903	58·0	57·5	0·5	..	..	51·0		W by S	0 to ½	..	..	..	..	0	0	0	..
13	29·900	58·0	57·3	0·7	..	..	13	11·670	W by S	0 to ½	..	..	..	..	..	..	..	..
14	29·906	57·3	56·7	0·6	..	..	54·8	..	W by S	0 to ½	..	..	..	..	0	0	0	..
15	29·898	56·2	55·3	0·9	..	..	54·8	..	WSW	..	..	..	..	..	..	..	..	..
16	29·885	56·2	55·5	0·7	55·5	0·7	..	..	SW	..	..	..	..	..	0	0	0	..
17	29·898	57·2	56·0	1·2	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
18	29·904	58·0	56·9	1·1	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
19	29·908	58·3	57·0	1·3	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..
20	29·908	58·8	57·4	1·4	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
22	29·931	61·5	59·0	2·5	56·5	5·0	..	..	WSW	½ to 1	WSW	6·20	..	..	0	0	0	..
23	29·938	63·5	60·8	2·7	..	..	..	..	WSW	1 to 1½	..	..	..	..	0	0	0	..
Sep. 22. 0	29·940	66·2	60·1	6·1	..	..	..	..	WSW	½ to 1	..	..	..	..	0	0	0	..
1	29·941	67·3	60·9	6·4	..	..	..	..	WSW	½ to 1	..	..	..	..	0	0	0	..
2	29·944	66·3	60·5	5·8	..	..	..	..	WSW	0 to ½	..	..	..	..	0	0	0	..
3	29·944	66·5	60·5	6·0	..	..	..	..	WSW	0 to ½	..	..	..	..	0	0	0	..
4	29·944	67·4	61·1	6·3	57·5	9·9	..	..	W by S	0 to ½	..	..	..	..	0	0	0	..
5	29·951	66·4	60·0	6·4	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..

BAROMETER.

September 19d. 20h. The reading had increased 0in·110 since the previous observation.

MAXIMUM FREE THERMOMETER.

September 21d. 22h. The reading was lower than that of the Dry Thermometer at this time.

ELECTRICITY.

September 20d. 4h and 10h. There were sparks at the distance of 0in·02 at each time.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
..	..		
..	..		
10	..	Overcast: rain is falling heavily, which commenced about 9^h: occasional heavy squalls of wind and rain.	G H
10	..	,, rain has not fallen so heavily during the last hour as at the last observation.	
10	..	,, cirro-stratus and scud: the rain ceased shortly after the last observation.	
6	..	Cirro-cumuli, fleecy clouds, and scud are scattered about the sky.	G H
3	..	A few cumuli, fleecy clouds, and loose scud are scattered about the sky.	T D
9	..	Cirro-stratus, fleecy clouds, and scud.	L
3	..	Loose scud and fleecy clouds are scattered about the sky.	L
10	..	Overcast: cirro-stratus and scud: a fine rain has commenced falling.	G H
10	..	,, ,, the rain ceased in ten minutes after the last observation: there has been another	
10	..	,, ,, [squall of rain within the last hour.	
10	Transit	,, ,,	G H
10	..	Thin cirro-stratus covers the sky: a nearly perfect halo is visible around the Moon, measuring 23°+: it is very faint.	L
3	..	Cloudy in the N.: the amount of cloud is constantly varying, at times the sky is overcast and at other times cloudless.	
6	..	Thin cirro-stratus principally N. of the zenith.	
8	..	Thin cirro-stratus covers the greater part of the sky.	
10	..	Overcast: thin cirro-stratus.	L
10	..	,, ,, the arc of a faint halo is visible.	T D
10	..	The sky is covered with cirro-stratus and scud.	
10	..	,, the Sun has been occasionally visible since 22^h.	
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	
10	..	,, ,, a few drops of rain are falling.	
10	..	,, ,, ,,	T D
10	..	,, ,, ,,	L
10	..	,, ,, a thick rain is falling.	
10	..	,, ,, ,,	
10	..	,, ,, drizzling rain is falling.	
10	..	,, ,, drizzling rain is falling very fast.	
10	..	,, ,, ,,	L
10	Transit	,, ,, a drizzling rain is falling.	G
10	..	,, ,, ,,	G
10	..	,, ,,	T D
10	..	,, ,,	
6	..	There are some cirro-strati and detached portions of scud scattered over the sky.	
3	..	Thin cirro-stratus in the E. and S. E.	
4	..	Dark clouds of the cirro-stratus character extend along the S. and S.W.: hazy.	
10	..	Overcast: cirro-stratus: very dark.	
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	T D
9	..	Cirro-strati with a few patches of scud: there are some breaks towards the W.	G H
9	..	,, ,,	
9	..	Cirro-strati with a few patches of scud: there are some breaks towards the W.	
8	..	,, there are some breaks in different directions.	
9	..	,, there is a small break towards the W.	G H
9	..	,, ,,	E H
6	..	Cirro-strati: clear around the zenith and towards the W.	
6	..	,, ,,	E H

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Sep. 22. 6	29·947	63·4	57·9	5·5	..	..	..	..	W by S	..	..	..	..	..	0	0	0	..
7	29·947	60·6	56·5	4·1	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
8	29·951	56·8	53·9	2·9	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
9	29·958	54·5	52·6	1·9	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
10	29·963	55·7	52·9	2·8	50·5	5·2	..	..	SSW	..	..	..	Pos.	..	5	..	..	..
11	29·969	54·7	52·4	2·3	..	..	68·2	..	SW	..	..	..	..	..	..	..	..	..
12	29·955	55·9	53·4	2·5	..	..	53·2	4·84	SW	..	..	..	..	..	0	0	0	..
13	29·951	56·2	53·3	2·9	..	..	76·8	0·00	SSW	..	..	..	..	..	..	..	..	..
14	29·951	54·6	53·5	1·1	..	..	45·4		SSW	..	..	..	..	..	0	0	0	..
15	29·951	54·2	53·0	1·2	..	..		11·670	SSW	..	..	..	..	..	..	..	..	..
16	29·944	55·0	53·2	1·8	51·0	4·0	55·2		SSW	..	..	..	..	..	0	0	0	..
17	29·933	55·2	53·4	1·8	..	..	55·2	..	SSW	..	..	..	..	..	..	..	..	..
18	29·920	55·7	53·4	2·3	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
19	29·903	56·5	54·4	2·1	..	..	..	..	SSW	..	..	..	..	..	..	..	..	..
20	29·901	58·0	57·0	1·0	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
21	29·898	60·5	57·5	3·0	..	..	..	..	SSW	0 to ½	..	..	..	..	..	..	..	..
22	29·885	63·0	58·3	4·7	58·0	5·0	..	..	SSW	½ to 1	SW	4·10	..	..	0	0	0	..
23	29·884	63·5	57·9	5·6	..	..	..	..	SSW	½ to 1	..		..	..	..	..	..	..
Sep. 23. 0	29·849	62·6	57·8	4·8	..	..	..	..	SSW	½ constant	..	..	..	..	0	0	0	..
1	29·848	62·5	57·9	4·6	..	..	..	..	SSW	½ to 1	..	..	..	..	..	..	..	..
2	29·839	64·5	58·8	5·7	..	..	..	..	SSW	0 to ½	..	..	..	..	0	0	0	..
3	29·839	64·5	59·1	5·4	..	..	..	..	SW	½ to 3	..	..	..	..	..	..	..	..
4	29·841	63·7	58·3	5·4	57·0	6·7	..	..	SSW	½ to 1	..	..	..	..	0	0	0	..
5	29·852	62·0	58·7	3·3	..	..	66·4	..	SW	..	..	..	..	..	..	..	..	..
6	29·853	61·5	58·7	2·8	..	..	51·2	4·84	SW	..	..	..	..	..	0	0	0	..
7	29·857	60·3	58·0	2·3	..	..		0·00	SW	..	..	..	..	..	..	..	..	..
8	29·877	60·0	58·0	2·0	..	..	77·5		SW	..	..	..	..	..	0	0	0	..
9	29·885	58·6	57·3	1·3	..	..	47·5		SW	..	..	..	..	..	..	..	..	..
10	29·898	57·7	56·2	1·5	55·0	2·7		11·670	WSW	..	..	..	..	..	0	0	0	..
12	29·917	54·6	53·4	1·2	..	..	56·0	..	WSW	..	..	..	..	..	0	0	0	..
14	29·945	53·8	52·6	1·2	..	..	55·5	..	WSW	..	..	..	..	..	0	0	0	..
16	29·968	53·2	52·7	0·5	52·0	1·2	..	..	WSW	..	..	..	..	..	0	0	0	..
18	30·001	52·5	52·3	0·2	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
20	30·026	52·6	52·4	0·2	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
22	30·048	54·8	54·0	0·8	53·0	1·8	..	..	SW	..	SW	5·43	..	..	0	0	0	..
Sep. 24. 0	30·060	59·2	53·6	5·6	..	..	..	..	W by N	..	..	..	..	..	0	0	0	..
2	30·061	62·0	54·9	7·1	..	..	..	..	W by N	..	..	..	..	..	0	0	0	..
4	30·066	60·5	53·1	7·4	47·0	13·5	..	..	WNW	..	..	..	..	..	0	0	0	..
6	30·073	58·7	52·9	5·8	..	..	62·7	..	WNW	..	..	..	..	..	0	0	0	..
8	30·094	54·6	51·4	3·2	..	..	42·7	4·84	WNW	..	..	..	..	..	0	0	0	..
10	30·094	49·0	47·4	1·6	..	..		0·00	WNW	..	..	..	..	..	0	0	0	..
12	30·061	46·5	45·9	0·6	..	..	71·8		S by E	..	..	..	..	..	0	0	0	..
14	30·057	46·5	46·1	0·4	..	..	38·0		SW	..	..	..	..	..	0	0	0	..
16	30·036	45·2	44·5	0·7	44·0	1·2		11·670	SW	..	..	..	..	..	0	0	0	..
18	30·011	44·0	43·1	0·9	..	..	56·2	..	SSW	..	..	..	..	..	0	0	0	..
20	30·002	48·5	46·6	1·9	..	..	55·5	..	SW	..	..	..	..	..	0	0	0	..
22	29·957	53·8	50·4	3·4	48·0	5·8	..	..	WSW	..	SW	1·42	..	..	0	0	0	..

DEW POINT THERMOMETER.

September 24d. 10h. The observation was inadvertently omitted.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
0	..	Cloudless.	G H
0	..	,,	
0	..	,,	
0	..	There is a low bank of cloud, extending along the horizon from the N.W. to S.W., but to no numerical extent.	G
10	..	Overcast: the bank of cloud alluded to in the last observation at 9^h. 30^m had extended to the Moon; and it now covers the sky, the Moon herself being hidden. [exhibiting a fine series of colours, the red outermost.	
7	Transit	The sky is covered by a white cloud, moving quickly from the W.: occasionally a corona is formed around the Moon,	
8	..	At times, since 11^h, the sky has been wholly covered by cloud of sufficient density to obscure everything; at present the clouds are of less density, and broken in many places: there is no upper cloud.	G
1	..	A small amount of cirro-strati along the W, horizon; cloudless elsewhere.	G H
8	..	Fleecy clouds and scud: there are some breaks towards the S. and W.	G H
10	..	Overcast: cirro-cumuli and scud.	L
10	..	,, cirro-stratus.	
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	L
10	..	,, cirro-stratus and scud.	T D
7	..	Cumulo-stratus, cirro-stratus, and scud: the clouds became broken soon after 20^h.	T D
7	..	Cumulo-strati, cirro-strati, and scud: the Sun is occasionally obscured by passing clouds.	E H
6	..	Cirro-cumuli and scud.	E H
10	..	Overcast: cirro-stratus and scud.	G H
10	..	,, ,,	G H
9	..	Cirro-cumuli, fleecy clouds, and scud.	T D
8	..	,,	E H
10	..	Overcast: cirro-stratus and dark scud.	
10	..	,, ,,	E H
10	..	,, ,,	G
7	..	Cirro-stratus and dark scud: clear N. of the zenith.	T D
10	..	Overcast: cirro-stratus and dark scud.	T D
9	..	Thin cirro-stratus and lines of cloud.	L
9	..	Thin cirro-stratus covers the greater part of the sky: there is a very faint lunar halo visible.	L
5	Transit	Thin strati and haze are scattered over the sky: part of a lunar halo is visible, but it is too indistinct for measurement.	G H
10	..	Overcast with very thin cirro-stratus: the lunar halo is still visible.	
10	..	Overcast: cirro-stratus.	
10	..	,, cirro-stratus and scud.	G H
10	In Equator	,, ,,	G
10	..	,, ,, the Sun is occasionally visible through the clouds.	L
10	..	Overcast: cirro-stratus and scud: a dark morning.	
4	..	Cirro-strati and haze.	
10	Full	Overcast: cirro-stratus and large masses of scud.	L
10	..	,, cirro-stratus and scud.	G
10	..	,, cirro-cumuli and large detached masses of scud.	G H
5	Perigee	The sky is covered by haze and a small quantity of cirro-strati: at about thirty minutes since a beautiful corona was observed around the Moon, of concentric coloured rings, the red being outermost: at about 9^h an aurora was	G
0	Transit	Cloudless. [visible: bright streamers passed the zenith from the N.N.W.	G
0	..	,, hazy.	L
2	..	Some thin cirro-stratus towards the N., and a few lines of cloud are scattered about the sky.	
2	..	Cirro-stratus and fleecy clouds towards the N.	L
8	..	Cirro-stratus, fleecy clouds, and scud.	T D
10	..	Cirro-stratus, fleecy clouds, and scud in every direction.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	Max. and Min. as read at 22h. of Rad. Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's).	RAIN GAUGES. Reading of No. 2.	RAIN GAUGES. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	From Osler's Anemometer. Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	From Whewell's Anemometer. Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Readings of Double Gold Leaf.	Readings of Straws of Volta 1.	Readings of Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°		in.				from lbs. to lbs.		in.		°	°	div.	div.	m s
Sep. 25. 0	29·907	63·0	56·5	6·5	..	..	..		..			WSW	1 to 2½	..	..	..	..	0	0	0	..
2	29·874	62·6	57·5	5·1	..	..	..		..			WSW	1 to 3	..	..	..	..	0	0	0	..
4	29·825	63·0	59·0	4·0	58·0	5·0	64·3		..			WSW	½ constant	..	..	..	..	0	0	0	..
6	29·813	62·2	59·9	2·3	..	..	51·2		4·84			W by S	½ constant	..	..	..	..	0	0	0	..
8	29·823	59·0	57·9	1·1	..	..						WSW	..	..	..	..	..	0	0	0	..
10	29·866	57·5	53·6	3·9	52·0	5·5	79·6		0·00			NW	0 to ½	..	..	..	..	0	0	0	..
12	29·892	56·5	52·9	3·6	..	..	47·0					NW	..	..	..	..	..	0	0	0	..
14	..	..	..	..	..	..			11·670			W by N	..	..	..	..	..	0	0	0	..
16	..	..	..	..	..	..	56·0					WNW	..	..	..	..	..	0	0	0	..
18	..	..	..	..	..	..	55·5		..			N	..	..	..	..	..	0	0	0	..
20	..	..	..	..	..	..	..		..			N	..	..	..	..	..	0	0	0	..
22	30·042	53·9	49·3	4·6	..	..	..		..			N	..	WSW	4·88	..	..	0	0	0	..
Sep. 26. 0	..	..	..	..	..	..	..		..			N by E	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..		..			N by E	..	..	..	..	..	..	..	..	..
3	30·068	60·0	51·4	8·6	..	..	63·0		..			N by E	..	..	..	Pos.	30	..	20	25	..
4	..	..	..	..	..	..	37·1		..			N by E	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..			4·84			N by E	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	81·5					Calm	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	27·5		0·00			Calm	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..						Calm	..	..	..	..	..	..	..	..	..
14	30·120	39·0	38·7	0·3	..	..	56·0		11·670			Calm	..	..	..	..	..	0	0	0	..
16	30·120	39·6	38·7	0·9	38·0	1·6	55·2		..			Calm	..	..	..	..	..	0	0	0	..
18	30·129	38·0	37·7	0·3	..	..			..			Calm	..	..	..	..	..	0	0	0	..
20	30·139	40·7	39·4	1·3	..	..	..		..			Calm	..	..	..	..	..	0	0	0	..
22	30·171	52·3	46·9	5·4	42·0	10·3	..		..			Calm	..	NNE	0·80	..	..	0	0	0	..
Sep. 27. 0	30·179	57·0	48·9	8·1	..	..	..		..			N	..	..	..	..	..	0	0	0	..
2	30·163	59·8	50·4	9·4	..	..	..		..			N	..	..	..	Pos.	40	..	15	30	..
4	30·150	57·0	48·4	8·6	43·0	14·0	61·3		..			N by E	..	..	..	Pos.	40	..	25	30	8. 0
6	30·149	50·0	44·9	5·1	..	..	33·1		4·84			N by E	..	..	..	Pos.	15	..	12	10	..
8	30·170	45·8	41·8	4·0	..	..						N by E	..	..	..	Pos.	30	..	20	25	..
10	30·177	43·0	41·3	1·7	40·0	3·0	81·6		0·00			N by E	..	..	..	Pos.	12	..	5	10	..
12	30·194	39·6	38·4	1·2	..	..	26·8					N by E	..	..	..	..	..	0	0	0	..
14	30·198	38·4	37·7	0·7	..	..			11·670			N by E	..	..	..	..	..	0	0	0	..
16	30·190	36·3	35·9	0·4	35·0	1·3	55·5					N by E	..	..	..	..	..	0	0	0	..
18	30·179	33·5	33·1	0·4	..	..	54·8		..			N by E	..	..	..	..	..	0	0	0	..
20	30·196	39·0	38·2	0·8	..	..	..		..			N by E	..	..	..	..	..	0	0	0	..
22	30·206	51·3	47·1	4·2	42·0	9·3	..		..			N by E	..	NNE	0·30	..	..	0	0	0	..
Sep. 28. 0	30·205	58·5	51·1	7·4	..	..	..		..			NE	..	..	..	..	..	0	0	0	..
2	30·208	56·7	50·0	6·7	..	..	..		..			NE	..	..	..	..	..	0	0	0	..
4	30·194	56·2	50·2	6·0	44·5	11·7	59·7		..			NE	..	..	..	..	..	0	0	0	..
6	30·191	53·9	48·4	5·5	..	..	42·5		4·84			E	..	..	..	..	..	0	0	0	..
8	30·201	52·3	48·4	3·9	..	..						E	..	..	..	..	..	0	0	0	..
10	30·220	52·0	47·6	4·4	43·0	9·0	70·0		0·00			E	..	..	..	..	..	0	0	0	..
12	30·226	50·7	46·1	4·6	..	..	33·8					ESE	..	..	..	..	..	0	0	0	..
14	30·220	47·7	45·1	2·6	..	..			11·670			ESE	..	..	..	..	..	0	0	0	..
16	30·216	45·0	44·1	0·9	43·0	2·0	54·8					ESE	..	..	..	..	..	0	0	0	..
18	30·211	43·5	43·0	0·5	..	..	54·8		..			ESE	..	..	..	..	..	0	0	0	..
20	30·239	50·2	48·4	1·8	..	..	..		..			ESE	..	..	..	..	..	0	0	0	..
22	30·247	55·0	49·9	5·1	44·0	11·0	..		..			ESE	..	NE	2·08	..	..	0	0	0	..

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
4	..	Detached cumulo-strati and portions of scud.	T D
10	..	Overcast: cirro-stratus and scud.	T D
10	..	,, ,,	G H
1	..	Cirro-stratus and some light clouds towards the N.	L
1	..	Cirro-stratus towards the N. horizon.	
3	..	The sky is about one-third covered by cirro-stratus and fleecy clouds.	L
10	..	Overcast: cirro-stratus and scud.	T D
..	Transit		
..	..		
..	..		
..	..		
10	..	Cirro-stratus and scud.	
..	..		
..	..		
3	..	Detached portions of cumuli in the S.: since 23^h the sky has been generally clear.	
..	..		
..	..		
..	..		
..	..		
..	..		
0	Transit	Cloudless: foggy.	
0	..	,, ,,	
8	..	Cirro-stratus and portions of light scud: hoar frost.	
0	..	Cloudless.	T D
0	..	,,	G H
4	..	A few detached cumuli are scattered about the sky.	
3	..	,,	G H
3	..	,,	T D
0	..	Cloudless.	
0	..	,,	
0	..	,,	T D
0	..	,,	G H
0	..	,,	
0	Transit	,,	
2	..	A heavy bank of cloud towards the S.E.; elsewhere cloudless, but misty.	
10	..	Overcast with cirro-cumuli.	G H
10	..	Overcast: cirro-stratus and fleecy clouds.	L
10	..	Overcast: cirro-stratus and fleecy clouds.	
10	..	,, cirro-stratus and scud.	L
10	..	,, ,,	G H
10	..	,, ,,	
10	..	,, cirro-stratus.	
10	..	,, between $7^h.\ 30^m$ and 10^h several flashes of lightning were seen in the N.N.E.	G H
9	..	The sky is nearly covered with cirro-stratus and fleecy clouds.	L
10	..	Overcast: cirro-stratus and fleecy clouds.	
0	Transit	Cloudless.	
3	..	There are fleecy clouds and cirro-stratus towards the N.	
9	..	Fleecy clouds are scattered over the greater part of the sky.	L
10	..	Overcast: cirro-stratus and scud.	T D

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Sep. 29. 0	30·241	59·0	52·4	6·6	..	..	..	..	E	..	..	..	..	..	0	0	0	..
2	30·228	60·5	52·7	7·8	..	..	..	..	E	0 to ½	..	..	..	..	0	0	0	..
4	30·202	57·3	51·0	6·3	46·0	11·3	63·4	..	E	½ to 1½	..	..	..	..	0	0	0	..
6	30·195	53·5	49·0	4·5	..	..	48·2	4·84	E by N	0 to ½	..	..	..	..	0	0	0	..
8	30·199	52·8	48·4	4·4	..	..	——		E	..	..	..	..	..	0	0	0	..
10	30·193	52·8	49·4	3·4	45·5	7·3	78·0	0·00	ENE	..	..	..	..	..	0	0	0	..
12	30·186	53·2	48·9	4·3	..	..	40·8		E	..	..	..	..	..	0	0	0	..
14	30·172	52·1	47·9	4·2	..	..	——		E	..	..	..	..	..	0	0	0	..
16	30·155	50·5	48·1	2·4	45·5	5·0	54·8	11·670	E	..	..	..	..	..	0	0	0	..
18	30·142	50·3	47·9	2·4	..	..	54·8		E	..	..	..	..	..	0	0	0	..
20	30·147	50·4	47·6	2·8	..	..	..	..	ENE	..	..	..	..	..	0	0	0	..
22	30·142	55·6	48·6	7·0	41·0	14·6	..	..	ENE	0 to ½	E	2·30	..	..	0	0	0	..
Sep. 30. 0	30·123	58·6	51·9	6·7	..	..	..	..	ENE	..	..	..	..	..	0	0	0	..
2	30·091	58·2	50·8	7·4	..	..	..	..	NE	0 to ½	..	..	..	..	0	0	0	..
4	30·086	57·8	50·4	7·4	43·0	14·8	65·3	..	ENE	0 to ½	..	..	..	..	0	0	0	..
6	30·065	53·7	49·9	3·8	..	..	49·0	4·84	ESE	..	..	..	..	..	0	0	0	..
8	30·055	52·5	49·9	2·6	..	..	——		NE	..	..	..	..	..	0	0	0	..
10	30·036	51·2	48·4	2·8	45·8	5·4	82·5	0·00	NE	..	..	..	..	..	0	0	0	..
12	30·019	50·7	48·3	2·4	..	..	43·5		NE	..	..	..	..	..	0	0	0	..
14	29·992	50·5	47·7	2·8	..	..	——		N	..	..	..	..	..	0	0	0	..
16	29·976	50·5	48·9	1·6	47·0	3·5	54·8	11·670	N	..	..	..	..	..	0	0	0	..
18	29·945	51·5	50·1	1·4	..	..	54·8		N	..	..	..	..	..	0	0	0	..
20	29·942	52·2	51·0	1·2	..	..	..	..	N	..	..	..	..	..	0	0	0	..
22	29·937	56·6	54·4	2·2	53·5	3·1	..	..	N	..	NNE	2·70	..	..	0	0	0	..
Oct. 1. 0	29·920	65·8	59·8	6·0	..	..	..	..	NNE	..	..	..	..	..	0	0	0	..
2	29·919	62·1	56·5	5·6	..	..	..	..	NE	..	..	..	..	..	0	0	0	..
4	29·908	60·0	57·0	3·0	53·0	7·0	68·6	..	NNE	..	..	..	..	..	0	0	0	..
6	29·910	57·5	54·4	3·1	..	..	52·8	4·84	NNE	..	..	..	..	..	0	0	0	..
8	29·925	54·0	52·7	1·3	..	..	——		N	..	..	..	..	..	0	0	0	..
10	29·918	54·0	52·9	1·1	53·0	1·0	82·8	0·00	N by E	..	..	..	..	..	0	0	0	..
12	29·926	52·5	50·6	1·9	..	..	49·0		N by E	..	..	..	..	..	0	0	0	..
14	29·912	52·6	51·4	1·2	..	..	——		N by E	..	..	..	..	..	0	0	0	..
16	29·912	53·1	51·2	1·9	49·0	4·1	54·8	11·670	NNE	..	..	..	..	..	0	0	0	..
18	29·912	53·0	50·9	2·1	..	..	54·8		N by E	..	..	..	..	..	0	0	0	..
20	29·928	53·6	51·4	2·2	..	..	..	..	N by E	..	..	..	..	..	0	0	0	..
22	29·953	55·2	51·9	3·3	49·0	6·2	..	..	N by E	..	NNE	3·30	..	..	0	0	0	..
Oct. 2. 0	29·964	57·0	53·1	3·9	..	..	..	..	N by E	..	..	..	..	..	0	0	0	..
2	29·958	58·7	53·7	5·0	..	..	..	..	N by E	..	..	..	..	..	0	0	0	..
4	29·977	56·3	52·6	3·7	49·5	6·8	59·7	..	N	..	..	..	..	..	0	0	0	..
6	29·979	54·0	51·2	2·8	..	..	45·0	4·84	N by E	..	..	..	..	..	0	0	0	..
8	30·000	51·5	49·9	1·6	..	..	——		N by E	..	..	..	..	..	0	0	0	..
10	30·024	50·6	48·9	1·7	47·5	3·1	65·5	0·00	N by E	..	..	..	..	..	0	0	0	..
12	30·024	49·5	48·2	1·3	..	..	39·5		N by E	..	..	..	..	..	0	0	0	..
14	..	..	..	..	..	..	——		N by E	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	54·3	11·670	Calm	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	54·3		Calm	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	N	..	..	..	..	..	..	..	..	..
22	..	..	..	..	..	..	..	..	..	..	NNE	2·80	..	..	..	..	..	..
h m 22. 30	30·046	55·7	51·4	4·3	..	..	..	..	N by E	..	..		..	..	0	0	0	..

MINIMUM FREE THERMOMETER.

October 1d. 22h. The readings were higher than those of the Dry Thermometer at 12h and 14h.

RAIN.

September 30d. 12h. The amount collected during the month of September in the rain-gauge No. 4 was 1in·56, and that collected by the Rev. G. Fisher in a rain-gauge of the same construction at Greenwich Hospital Schools during the same period was 1in·61.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Cirro-stratus and scud. [other direction, but in small quantities.	T D
4	..	The whole of the E. and N. E. portion of the sky is clear; detached cumuli and cirro-strati are scattered in every	
5	..	Cirro-stratus and fleecy clouds: the sky is clear N. of the zenith.	
5	..	Cirro-stratus around the horizon: detached fragments of cirri and scud are scattered in every direction.	T D
10	..	Overcast: cirro-stratus and scud. [London lights; it is probably auroral.	L
10	..	,, ,, the sky is very red towards the N. N.W., but higher than the reflexion of the	L
10	..	Overcast, but the clouds are not of uniform density.	G
10	..	,,	
10	..	The cloud is more variable, and is passing with great rapidity from the E.: there is no upper cloud.	
10	Transit	Overcast, but since the last observation the Moon has occasionally been visible. [time.	
10	..	Overcast: the clouds are more uniform; but since the last observation the Moon has been shining brightly for a short	G
10	..	The sky is covered by cirro-stratus, cumulo-stratus, and scud.	T D
8	..	Cirro-stratus and scud: there are a few breaks W. and N.W. of the zenith. [last observation.	
5	Greatest Declination N.	Cumuli, cumulo-strati, cirro-stratus, and scud: the whole of the N. portion of the sky became clear shortly after the	T D
7	..	Cumuli, cirro-stratus, and scud.	E H
10	..	,,	G
10	..	,, very dark: a few drops of rain fell at $6^h.\ 20^m$: the clouds are very high.	
10	..	The sky is wholly covered with very black clouds: a few of the larger stars have been visible since about 10^h.	G
10	..	Overcast with cirro-stratus: very dark: shortly before this observation a few drops of rain fell.	T D
10	..	Cirro-stratus, cumulo-stratus, and scud: the Moon is visible through the clouds.	
10	..	Overcast: cirro-stratus and scud.	
10	Transit	,, ,,	
10	3rd Qr.	,, cirro-stratus.	T D
10	..	,, ,,	G H
8	..	Cumuli, cirro-stratus, and scud.	L
10	..	Cirro-strati, cumulo-strati, and scud.	G H
10	..	Overcast: cirro-stratus and scud: a slight shower of rain has just fallen.	T D
10	..	,, ,,	
10	..	,, ,, a thin rain has fallen at intervals since 6^h.	
10	..	,, cirro-stratus.	T D
10	..	,, cirro-stratus of different densities and scud: the places of a few of the principal stars are visible.	G H
10	..	,,	
10	..	,,	
10	..	,, cirro-stratus and scud.	
10	Transit	,, ,,	G H
10	..	,, cirro-stratus.	L
10	..	Overcast: cirro-stratus.	L
10	..	,, cirro-stratus and scud.	T D
10	..	,, ,,	G H
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	G H
10	..	,, cirro-stratus.	L
..	..		
..	..		
..	..		
..	Transit		
..	..		
10	..	,, cirro-stratus and fleecy clouds.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Oct. 3. 0	..	..	..	..	..	..	..	..	N by E	..	..	..	..	..	..	..	..	..
1	30·039	61·6	54·9	6·7	..	..	..	..	Calm	..	..	..	..	..	0	0	0	..
2	30·035	62·2	55·0	7·2	..	..	64·2	..	Calm	..	..	..	..	..	0	0	0	..
4	..	..	..	..	..	..	48·4	..	E by S	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..		4·84	ESE	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	79·3		ESE	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	43·5	0·00	ESE	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..			ESE	..	..	..	..	..	..	..	..	..
14	29·982	52·0	50·6	1·4	..	..	54·5	11·670	ESE	..	..	..	..	..	0	0	0	..
16	29·964	51·5	50·2	1·3	49·0	2·5	54·5	..	ESE	..	..	..	..	..	0	0	0	..
18	29·943	50·2	49·6	0·6	..	..		..	E by S	..	..	..	..	..	0	0	0	..
20	29·943	53·2	51·7	1·5	..	..	..	..	E by S	..	..	..	..	..	0	0	0	..
22	29·939	54·7	52·9	1·8	51·0	3·7	..	..	E by N	..	E	0·98	..	..	0	0	0	..
Oct. 4. 0	29·908	58·6	53·9	4·7	..	..	..	..	E by S	..	..	..	..	..	0	0	0	..
2	29·863	59·0	53·4	5·6	..	..	..	..	ENE	..	..	..	..	..	0	0	0	..
4	29·840	57·8	53·2	4·6	49·0	8·8	63·4	..	NE	..	..	..	..	..	0	0	0	..
6	29·812	53·3	50·2	3·1	..	..	43·8		ENE	..	..	..	..	..	0	0	0	..
8	29·803	49·0	47·6	1·4	..	..		4·84	ENE	..	..	..	..	..	0	0	0	..
10	29·777	47·8	47·2	0·6	46·0	1·8	62·2		ENE	..	..	..	..	..	0	0	0	..
12	29·751	46·5	46·4	0·1	..	..	43·8	0·00	ENE	..	..	..	..	..	0	0	0	..
14	29·725	46·5	46·4	0·1	..	..			ENE	..	..	..	..	..	0	0	0	..
16	29·696	46·0	45·9	0·1	46·0	0·0	54·2	11·670	ENE	..	..	..	..	..	0	0	0	..
18	29·670	45·8	45·6	0·2	..	..	54·2	..	ENE	..	..	..	..	..	0	0	0	..
20	29·661	48·5	47·9	0·6	..	..	..	..	ENE	..	..	..	..	..	0	0	0	..
22	29·639	52·3	50·4	1·9	48·5	3·8	..	..	NNE	..	ENE	1·12	..	..	0	0	0	..
Oct. 5. 0	29·611	57·0	53·4	3·6	..	..	..	..	N by E	..	..	..	..	..	0	0	0	..
2	29·570	58·5	53·1	5·4	..	..	..	..	N by E	..	..	..	..	..	0	0	0	..
4	29·526	57·3	52·4	4·9	47·5	9·8	62·2	..	N by E	..	..	..	..	..	0	0	0	..
6	29·534	55·0	51·3	3·7	..	..	36·0		N by E	..	..	..	..	..	0	0	0	..
8	29·530	50·5	48·9	1·6	..	..		4·84	N by E	..	..	..	..	..	0	0	0	..
10	29·533	47·5	47·0	0·5	47·5	0·0	74·8		N by E	..	..	..	..	..	0	0	0	..
12	29·523	46·0	45·9	0·1	..	..	32·0	0·00	NNE	..	..	..	..	..	0	0	0	..
14	29·521	44·6	44·6	0·0	..	..			NNE	..	..	..	..	..	0	0	0	..
16	29·515	42·7	42·7	0·0	42·5	0·2	54·2	11·675	NNE	..	..	..	..	..	0	0	0	..
18	29·511	38·2	38·2	0·0	..	..	53·8	..	NNE	..	..	..	..	..	0	0	0	..
20	29·516	38·0	37·7	0·3	..	..	..	..	NNE	..	..	..	..	..	0	0	0	..
22	29·526	51·5	49·4	2·1	47·0	4·5	..	..	NE	..	NE	1·00	..	..	0	0	0	..
Oct. 6. 0	29·514	58·4	53·2	5·2	..	..	..	..	NE	..	..	..	..	..	0	0	0	..
2	29·474	62·5	53·9	8·6	..	..	..	..	S by E	..	..	..	..	..	0	0	0	..
4	29·457	60·5	55·7	4·8	53·0	7·5	..	..	S by E	..	..	..	..	..	0	0	0	..
6	29·461	57·6	54·0	3·6	..	..	66·4	..	S by E	..	..	..	..	..	0	0	0	..
8	29·459	55·6	53·2	2·4	..	..	49·0		SSE	..	..	..	Neg.	40	..	30	30	5. 0
10	29·450	55·5	54·9	0·6	54·5	1·0		5·06	S by W	..	..	..	Neg.	40	..	50	70	..
12	29·484	55·7	54·6	1·1	..	..	78·2	0·23	S	0 to ½	..	..	..	0	0	0	..	
14	29·417	55·6	54·6	1·0	..	..	45·2		S	..	..	..	..	0	0	0	..	
16	29·393	55·8	54·7	1·1	54·0	1·8		11·925	S	0 to ½	..	..	..	0	0	0	..	
18	29·360	56·0	55·1	0·9	..	..	54·0	..	S	..	..	..	..	0	0	0	..	
20	29·395	57·8	56·5	1·3	..	..	54·0	..	S	..	..	..	..	0	0	0	..	
22	29·403	60·7	58·0	2·7	58·0	2·7	..	..	S	..	S	4·10	..	..	0	0	0	..

DRY THERMOMETER.

October 5d. The increase in the reading between 20h and 22h was 13°·5.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
..	..		
10	..	Overcast: cirro-stratus and fleecy clouds, through which the Sun is visible.	L
10	..	Overcast with clouds of various densities, through which the sky is occasionally visible, but in very small portions.	
..	..		
..	..		
..	..		
..	..		
..	..		
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	
10	..	,, ,,	
10	Transit	,, ,,	L
10	..	,, ,, the Sun's place is occasionally visible.	T D
10	..	Overcast: cirro-stratus and scud: the Sun's place is occasionally visible.	
7	..	Cirro-stratus, scud, and fleecy clouds.	T D
10	..	Overcast: thin cirro-stratus, scud, and fleecy clouds.	L
10	..	,, ,,	
8	..	Clear about the zenith; cirro-stratus and fleecy clouds elsewhere.	
10	..	Overcast: cirro-stratus and scud.	L
10	..	The sky is covered with cirro-stratus; in the zenith it is of a thin character, the stars being visible through it.	T D
10	..	Overcast: cirro-stratus.	
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	T D
10	Transit	,, cirro-stratus and scud.	L
7	..	Cumuli and scud are scattered over the sky.	G H
10	..	Overcast: cirro-stratus and scud.	
2	..	Fleecy clouds and a few light cirri, with much haze, are scattered over the sky.	
10	..	Cirro-stratus, fleecy clouds, and scud.	T D
7	..	Cirro-stratus of various densities prevails in many directions, but less E. of the zenith than elsewhere.	
7	..	Cirro-stratus around the horizon: the portion of the sky which is free from cloud is much obscured by haze.	T D
0	..	Cloudless, but very hazy around the horizon.	G H
0	..	,,	
0	..	,, dew is forming rapidly.	
0	..	Cloudless with thick fog: there is a great deposition of moisture.	
0	..	Cloudless: the fog still continues, but is not so dense as at the last observation.	G H
3	Transit	Thin cirro-stratus towards the N.: there are some lines of cloud scattered about the sky: a thin fog.	L
6	..	The sky E. of the zenith is mostly clear; cirro-stratus and fleecy clouds elsewhere.	
10	..	The sky is covered with thin cirro-stratus and fleecy clouds. [slight shower of rain fell about twenty minutes since.	L
5	..	Cirri, cirro-strati, cumuli, and scud in different parts of the sky, the clearest part being towards the S. and S.W.: a	G H
9	..	Cirro-stratus and scud: there are a few small breaks towards the S.	G H
10	..	The sky is wholly covered by black clouds: within the last half-hour there have been several vivid flashes of lightning seen in the E., S. E., and S. S. E., and a few drops of rain have fallen.	G
10	..	A very heavy rain has been falling during the last hour; a steady rain is still falling, but less heavily than it has been.	G
8	..	The larger stars W. of the zenith towards the S. are visible, and through a thin cloud; cirro-stratus elsewhere.	L
8	..	A few stars visible about the zenith, and towards the S.W. the amount of cloud is continually changing.	
8	..	Cirro-stratus covers the greater part of the sky; there are a few breaks here and there.	
10	..	,, ,,	
9	..	Cirro-stratus and fleecy clouds.	L
7	..	Cirro-stratus, cumulo-stratus, fleecy clouds, and scud: a few drops of rain fell shortly before this observation.	T D

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	Max. and Min. as read at 22h. of Rad. Therm.	Max. and Min. as read at 22h. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's).	RAIN GAUGES. Reading of No. 2.	RAIN GAUGES. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in lbs. per square foot.	WIND. From Whewell's Anemometer. Direction.	WIND. From Whewell's Anemometer. Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Single Gold Leaf of Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Double Gold Leaf.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 1.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°			in.				from lbs. to lbs.		in.		°	°	div.	div.	m s
Oct. 7. 0	29·397	62·0	58·2	3·8	..	..	..			..			S	..	..	..	..	..	0	0	0	..
2	29·364	65·0	60·0	5·0	..	..	..			..			S	0 to ½	..	..	..	..	0	0	0	..
4	29·399	51·7	51·2	0·5	51·0	0·7	66·0			..			W by S	..	..	..	Neg.	10	..	8	10	1. 0
6	29·445	50·0	49·6	0·4	..	..	43·8			5·13			WSW	..	..	..	..	..	0	0	0	..
8	29·483	47·4	47·4	0·0	..	..	———						S by W	..	..	..	..	..	0	0	0	..
10	29·511	46·2	45·6	0·6	45·0	1·2	71·0			0·00			S by W	..	..	..	..	..	0	0	0	..
12	29·536	45·0	44·3	0·7	..	..	40·0						S by W	..	..	..	..	..	0	0	0	..
14	29·553	46·3	45·4	0·9	..	..	———			12·130			SSW	..	..	..	..	..	0	0	0	..
16	29·570	46·7	46·1	0·6	45·0	1·7	54·2						WSW	..	..	..	..	..	0	0	0	..
18	29·613	45·5	44·8	0·7	..	..	53·8			..			WSW	..	..	..	..	..	0	0	0	..
20	29·636	46·7	45·9	0·8	..	..	..			..			WSW	..	..	..	..	..	0	0	0	..
22	29·675	54·0	51·0	3·0	51·2	2·8	..			..			SW	..	WSW	4·60	..	..	0	0	0	..
Oct. 8. 0	29·709	60·0	53·0	7·0	..	..	..			..			W by S	..	..	..	Pos.	10	..	8	10	..
2	29·711	59·6	52·5	7·1	..	..	..			..			W by S	..	..	..	..	..	0	0	0	..
4	29·709	59·5	52·4	7·1	47·0	12·5	64·6			..			W by S	½ to 1	..	..	Pos.	30	..	20	25	..
6	29·739	53·5	50·4	3·1	..	..	52·2			5·16			WSW	..	..	..	Pos.	20	..	12	15	..
8	29·753	53·4	50·9	2·5	..	..	———						WSW	..	..	..	..	..	0	0	0	..
10	29·764	53·0	51·4	1·6	50·0	3·0	76·6			0·03			WSW	..	..	..	..	..	0	0	0	..
12	29·778	51·6	50·9	0·7	..	..	45·0						WSW	..	..	..	..	..	0	0	0	..
14	29·774	53·3	52·0	1·3	..	..	———			12·160			WSW	..	..	..	..	..	0	0	0	..
16	29·758	53·0	51·8	1·2	51·0	2·0	53·8						WSW	..	..	..	..	..	0	0	0	..
18	29·763	53·6	52·4	1·2	..	..	53·8			..			WSW	..	..	..	..	..	0	0	0	..
20	29·767	54·1	53·0	1·1	..	..	..			..			SW	..	..	..	..	..	0	0	0	..
22	29·798	54·6	53·9	0·7	53·0	1·6	..			..			WSW	..	SW	3·80	..	..	0	0	0	..
Oct. 9. 0	29·809	57·0	55·9	1·1	..	..	..			..			SSW	..	..	..	..	..	0	0	0	..
2	29·800	60·7	57·0	3·7	..	..	..			..			SW	..	..	..	..	..	0	0	0	..
4	29·791	60·5	56·3	4·2	53·0	7·5	62·7			..			SSW	..	..	..	..	..	0	0	0	..
6	29·793	56·9	55·0	1·9	..	..	54·7			5·26			S by W	..	..	..	..	..	0	0	0	..
8	29·797	56·1	54·4	1·7	..	..	———						S by W	..	..	..	..	..	0	0	0	..
10	29·783	55·1	54·3	0·8	53·5	1·6	66·6			0·18			S by W	..	..	..	Pos.	2	2	..	..	..
12	29·781	54·5	53·8	0·7	..	..	51·0						S	..	..	..	..	..	0	0	0	..
14	..	..	..	..	..	..	———			12·380			S by E	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	54·0						S	0 to ½	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	54·0			..			S by E	0 to ½	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..			..			S	0 to ½	..	..	..	..	..	..	..	..
22	29·724	58·0	57·1	0·9	..	..	..			..			S by W	..	S	3·69	..	..	0	0	0	..
Oct. 10. 0	..	..	..	..	..	..	..			..			S by W	0 to ½	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..			..			S by W	..	..	..	..	..	..	..	..	..
h m 2. 30	29·725	61·5	59·1	2·4	..	..	..			..			SW	..	..	..	..	..	0	0	0	..
h 4	..	..	..	..	..	..	62·6			..			S by W	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	52·3			5·26			S	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	———						S	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	66·0			0·00			S	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	46·0						S	..	..	..	..	..	..	..	..	..
14	29·753	57·3	54·7	2·6	..	..	———			12·395			S	..	..	..	..	..	0	0	0	..
16	29·749	55·0	53·4	1·6	52·0	3·0	54·2						S	..	..	..	..	..	0	0	0	..
18	29·741	53·5	52·4	1·1	..	..	54·2			..			S	..	..	..	..	..	0	0	0	..
20	29·758	55·2	53·7	1·5	..	..	..			..			S	..	..	..	..	..	0	0	0	..
22	29·768	57·2	55·7	1·5	54·5	2·7	..			..			S	..	S	3·18	..	..	0	0	0	..

MINIMUM FREE THERMOMETER.

October 8d. 22h and 9d. 22h. The readings were higher than those of the Dry Thermometer at 12h.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	Transit	Cirro-stratus and scud: a few drops of rain are falling.	T D
10	..	,,	T D
10	..	Overcast: cirro-stratus: rain is falling heavily.	L
2	..	Cirro-stratus in the horizon, towards the N. and E.: a few light clouds are scattered here and there.	
0	In Equator	Cloudless: several flashes of sheet lightning have been seen in the N. E.	
0	..	,,	L
0	..	,,	T D
0	..	,,	
0	..	,,	
0	..	,,	
0	..	,,	T D
4	..	Fleecy clouds and scud.	E H
3	Transit	There are a few white fleecy clouds here and there.	
4	..	Cirro-stratus and scud towards the S. and S.W.	E H
9	..	Cirro-stratus, cumulo-stratus, and scud: the clouds in the N. are very dark. [slightly at intervals.	T D
2	Apogee	A bank of cirro-stratus in the S.W. and S. S.W.; otherwise the sky is cloudless: since 4^h rain has been falling	
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	T D
10	..	,,	E H
10	..	,, the clouds began to break about half an hour since, but at the present time the sky is overcast.	
10	..	,, a few stars are occasionally visible.	
10	..	,, cirro-stratus and scud: there are a few breaks, but to no numerical extent.	
10	..	,, there was a slight rain about twenty minutes previous to this observation, but it has ceased.	E H
10	New	,, cirro-stratus: rain is falling.	T D
10	Transit	Overcast: cirro-stratus and scud: a slight rain is falling.	G H
10	..	,, ,, ,,	L
10	..	,, ,,	L
10	..	,, ,,	E H
10	..	,,	E H
10	..	,, ,, a light rain is falling; it commenced about half an hour since.	G H
10	..	,, ,, a light rain is falling.	
..	..		
..	..		
..	..		
..	..		
10	..	,, ,,	
..	..		
..	Transit		
10	..	Overcast: cirro-stratus and scud: rain has fallen occasionally during the morning; at present the clouds are much broken.	G H
..	..		
..	..		
..	..		
..	..		
..	..		
10	..	,, cirro-stratus.	L
10	..	,, ,,	
5	..	The sky S. of the zenith is clear.	
8	..	Cirro-stratus and fleecy clouds.	L
7	..	Cirro-cumuli, cirro-strati, and scud: there are some breaks towards the N.: rain has fallen occasionally since 20^h.	G H

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	Max. and Min. as read at 22h. of Rad. Therm.	Max. and Min. as read at 22h. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's).	RAIN GAUGES. Reading of No. 2.	RAIN GAUGES. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	From Osler's Anemometer. Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	From Whewell's Anemometer. Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Readings of Double Gold Leaf.	Readings of Straws of Volta 1.	Readings of Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°			in.				from lbs. to lbs.		in.		°	°	div.	div.	m s
Oct. 11. 0	29·760	60·7	58·4	2·3	..	..	..			..			S by W	..	..	..	..	..	0	0	0	..
2	29·748	63·5	60·7	2·8	..	..	..			..			S	..	..	..	Pos.	8	10	5	..	..
4	29·745	64·5	59·0	5·5	54·0	10·5	67·1			..			S	..	..	..	Pos.	10	..	15	12	15. 0
6	29·748	60·3	56·9	3·4	..	..	49·3			..			S	..	..	..	Pos.	10	..	8	10	12. 0
8	29·763	56·5	55·2	1·3	..	..				5·26			S	..	..	..	Pos.	8	..	7	8	10. 0
10	29·761	56·2	54·6	1·6	53·0	3·2	75·0						S	..	..	..	Pos.	6	10	..	..	..
12	29·750	54·5	53·8	0·7	..	..	44·0			0·00			S	..	..	..	..	..	0	0	0	..
14	29·747	52·4	52·4	0·0	..	..							S	..	..	..	Pos.	2	2	..	..	..
16	29·732	52·3	52·1	0·2	52·0	0·3	54·2			12·415			S	..	..	..	Pos.	10	15	5	..	..
18	29·738	50·5	50·5	0·0	..	..	54·2			..			S	..	..	..	..	..	0	0	0	..
20	29·744	51·2	51·2	0·0	..	..	..			..			S	..	..	..	Pos.	40	80	10	20	8. 0
22	29·746	59·0	57·5	1·5	..	..	..			..			S	..	S	0·62	Pos.	15	..	7	10	..
Oct. 12. 0	29·748	66·5	62·0	4·5	..	..	..			..			S by E	..	..	..	Pos.	40	..	50	70	5. 0
2	29·735	73·0	65·1	7·9	..	..	..			..			S by E	..	..	..	Pos.	40	..	50	60	7. 0
4	29·728	69·2	64·7	4·5	62·0	7·2	74·4			..			S by E	..	..	..	Pos.	40	..	30	50	5. 0
6	29·732	62·5	60·2	2·3	..	..	53·9						S by E	..	..	..	Pos.	40	..	50	60	9. 0
8	29·741	58·6	56·8	1·8	..	..				5·26			S by E	..	..	..	Pos.	2	2	..	..	..
10	29·754	56·4	55·9	0·5	54·5	1·9	91·2						SSE	..	..	..	..	..	0	0	0	..
12	29·741	55·5	55·5	0·0	..	..	51·0			0·00			SSE	..	..	..	..	..	0	0	0	..
14	29·742	54·0	54·0	0·0	..	..							E by S	..	..	..	..	..	0	0	0	..
16	29·743	54·0	53·9	0·1	54·5	−0·5	54·5			12·415			E	..	..	..	..	..	0	0	0	..
18	29·742	53·6	53·6	0·0	..	..	54·5			..			NE	..	..	..	..	..	0	0	0	..
20	29·752	54·0	53·9	0·1	..	..	..			..			NE	..	..	..	..	..	0	0	0	..
22	29·782	55·9	55·9	0·0	55·5	0·4	..			..			NE	..	ENE	0·68	..	..	0	0	0	..
Oct. 13. 0	29·790	60·5	58·3	2·2	..	..	..			..			ENE	..	..	..	..	..	0	0	0	..
2	29·788	62·7	58·7	4·0	..	..	..			..			ENE	..	..	..	..	..	0	0	0	..
4	29·789	63·0	58·5	4·5	55·0	8·0	65·2			..			E by N	..	..	..	..	..	0	0	0	..
6	29·792	57·2	54·2	3·0	..	..	48·9						E by N	..	..	..	..	..	0	0	0	..
8	29·805	55·0	53·4	1·6	..	..				5·26			E by N	..	..	..	..	..	0	0	0	..
10	29·816	52·5	51·6	0·9	51·0	1·5	76·0						ENE	..	..	..	..	..	0	0	0	..
12	29·815	51·0	50·2	0·8	..	..	45·0			0·00			ENE	..	..	..	..	..	0	0	0	..
14	29·807	49·8	48·7	1·1	..	..							ENE	..	..	..	..	..	0	0	0	..
16	29·795	51·0	48·9	2·1	47·0	4·0	55·5			12·420			ENE	..	..	..	..	..	0	0	0	..
18	29·772	51·7	50·4	1·3	..	..	55·0			..			NE	..	..	..	..	..	0	0	0	..
20	29·754	52·2	51·6	0·6	..	..	..			..			NE	..	..	..	..	..	0	0	0	..
22	29·754	52·0	51·4	0 6	50·5	1·5	..			..			NE	..	NE	2·72	..	..	0	0	0	..
Oct. 14. 0	29·729	52·7	51·6	1·1	..	..	..			..			NE	..	..	..	..	..	0	0	0	..
2	29·696	54·0	50·9	3·1	..	..	..			..			E by N	½ to 1	..	..	..	..	0	0	0	..
4	29·665	52·6	49·1	3·5	46·2	6·4				..			ENE	1 to 1½	..	..	..	..	0	0	0	..
6	29·651	51·0	48·1	2·9	..	..	55·8			..			E	0 to ½	..	..	..	..	0	0	0	..
8	29·649	50·0	47·4	2·6	..	..	47·3			5·26			E by N	..	..	..	..	..	0	0	0	..
10	29·638	49·6	47·4	2·2	45·5	4·1	60·5						E	..	..	..	..	..	0	0	0	..
12	29·590	50·4	47·6	2·8	..	..	42·0			0·00			ENE	0 to ½	..	..	..	..	0	0	0	..
14	29·576	50·6	48·7	1·9	..	..							E by N	½ to 1	..	..	..	..	0	0	0	..
16	29·558	51·0	48·9	2·1	48·0	3·0	54·8			12·420			E by N	1½ to 3½	..	..	..	..	0	0	0	..
18	29·570	50·7	48·6	2·1	..	..	54·5			..			E	½ to 1	..	..	..	..	0	0	0	..
20	29·580	49·5	47·9	1·6	..	..	..			..			ENE	0 to ½	..	..	..	..	0	0	0	..
22	29·625	50·2	48·4	1·8	46·5	3·7	..			..			ESE	..	E	4·27	..	..	0	0	0	..

DEW POINT THERMOMETER.

October 11d. 22h. The observation was inadvertently omitted.

October 12d. 16h. The reading was higher than that of the Dry Thermometer.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
9	..	Cirro-stratus and scud: there are breaks towards the S. E.: rain has fallen at intervals since the last observation.	G H
8	Transit	Cirro-stratus, fleecy clouds, and scud.	G H
8	..	Cirro-stratus and fleecy clouds.	L
9	..	Cirro-stratus, fleecy clouds, and scud.	
5	..	Cirro-stratus, fleecy clouds, and scud are scattered about the sky.	
2	..	Cloudy around the horizon.	L
0	..	Cloudless: hazy towards the S. E.	G H
1	..	A light hazy kind of cloud towards the S. and about the W. horizon.	
8	..	A thin stratus cloud is spread over the greater part of the sky, through which the principal stars are visible; the clearest part is towards the W. and N.W.: two faint meteors were observed in the N.W. about one hour since.	
3	..	Strati and haze around the horizon and towards the S. E.	
5	..	Cirri, cirro-strati, a few light thin clouds, and scud are scattered about the sky, principally towards the horizon.	G H
10	..	Cirro-stratus, scud, and fleecy clouds.	T D
5	..	Cirri, fleecy clouds, and portions of light scud.	
2	Transit	Light cirri and fleecy clouds, chiefly in the S. E. [over the rest of the sky.	T D
7	..	Cirro-cumuli from the zenith towards the W. and N.W. parts of the horizon, also cirro-strati and haze are scattered	G H
7	..	The whole of the S. portion of the sky is covered with cirro-stratus; with large detached portions of the same cloud	T D
10	..	Overcast: the places of the principal stars alone being visible. [and fragments of scud in other directions.	G H
10	..	,, the places of a few of the principal stars are occasionally visible.	T D
10	..	,, cirro-stratus and scud.	
10	..	,, ,, foggy.	
10	..	,, ,, ,,	
10	..	,, a dense fog.	
10	..	,, ,,	T D
10	..	,, cirro-stratus: foggy.	G H
10	..	Overcast: cirro-stratus and scud.	
8	..	Cirro-cumuli and scud: a large break towards the N.	G H
2	Transit	There are a few light cirri and fleecy clouds in the E. and S. E.	T D
3	..	Cirro-stratus in the S. horizon: light fleecy clouds here and there. [stratus.	
9	..	With the exception of a few small breaks in the zenith, where a few stars are visible, the sky is covered with cirro-	T D
10	..	Overcast.	G H
10	..	,, a few stars have been occasionally visible since 10^h.	G
10	..	,,	
10	..	,,	
10	..	,,	
10	..	,, a very thin rain has begun to fall.	G
10	..	,, cirro-stratus and scud: a very fine rain is falling.	G H
10	..	Overcast: cirro-stratus and scud: a very fine rain is falling occasionally.	
10	..	,, ,,	G H
10	Transit	Cirro-stratus passing quickly from the E. N. E.: there are a few small breaks, but to no numerical extent.	G
10	..	Overcast: cirro-stratus and scud moving quickly from the E.: the clouds have been broken occasionally, and large portions of blue sky have been visible since 4^h.	
10	..	Overcast: cirro-stratus and scud: a star has been occasionally visible since 6^h: lightning in the N. E.	
10	..	The night is very dark; the sky is wholly covered by cloud, which is very high and thin: stars are occasionally visible	G
10	..	Overcast. [through the clouds.	G H
10	..	,,	
10	..	,,	
10	..	,, cirro-stratus and scud.	
5	Greatest declination S.	Light cirri about the zenith, with cirro-strati and heavy scud towards the horizon generally.	G H
10	..	Overcast: cirro-stratus.	T D

MINIMUM FREE THERMOMETER.

October $12^d.22^h$. The reading was higher than that of the Dry Thermometer at 18^h.

ELECTRICITY.

October $12^d.\ 0^h$. There was a spark at the distance of $0^{in}.02$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Oct. 15. 0	29·637	53·0	50·8	2·2	..	..	..	..	E by N	..	..	..	..	..	0	0	0	..
2	29·637	54·5	51·9	2·6	..	..	..	..	ENE	..	..	..	Pos.	15	..	10	12	..
4	29·675	54·4	51·5	2·9	49·0	5·4	57·2	..	E	..	..	..	Pos.	8	6	3	..	..
6	29·703	51·9	50·1	1·8	..	..	43·8	5·26	E	..	..	..	Pos.	15	20	10	..	..
8	29·741	51·5	51·4	0·1	..	..	———		E by N	..	..	..	Pos.	30	..	10	20	..
10	29·771	50·0	49·2	0·8	48·0	2·0	62·5	0·00	E by N	..	..	..	Pos.	30	..	8	15	..
12	29·792	47·0	46·9	0·1	..	..	39·0		E by N	..	..	..	Pos.	15	..	10	12	..
14	29·810	46·0	45·9	0·1	..	..	———	12·420	E by N	..	..	..	Pos.	30	..	20	25	11. 0
16	29·811	45·6	45·4	0·2	45·0	0·6	54·0		E by N	..	..	..	Pos.	12	..	7	10	..
18	29·812	45·5	45·2	0·3	..	..	54·0	..	E by N	..	..	..	..	..	0	0	0	..
20	29·833	46·0	45·4	0·6	..	..	..	..	E by N	..	..	..	..	..	0	0	0	..
22	29·863	51·2	51·0	0·2	49·0	2·2	..	..	E by N	..	E	1·00	..	..	0	0	0	..
Oct. 16. 0	29·865	61·0	58·1	2·9	..	..	..	..	NE	..	..	..	..	..	0	0	0	..
2	29·865	64·0	59·1	4·9	..	..	..	..	ENE	..	..	..	..	..	0	0	0	..
4	29·830	60·0	57·5	2·5	56·0	4·0	64·8	..	E by N	..	..	..	Pos.	25	..	15	20	..
6	29·851	55·4	54·2	1·2	..	..	49·8	5·26	E	..	..	..	..	..	0	0	0	..
8	29·858	55·0	54·4	0·6	..	..	———		Calm	..	..	..	..	..	0	0	0	..
10	29·858	53·5	53·4	0·1	53·5	0·0	77·8	0·00	Calm	..	..	..	..	..	0	0	0	..
12	29·881	54·0	53·9	0·1	..	..	49·0		Calm	..	..	..	..	..	0	0	0	..
14	..	..	..	..	..	..	———	12·430	Calm	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	54·0		Calm	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	54·0	..	Calm	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	N by E	..	..	..	..	..	..	..	..	..
22	29·896	53·2	53·0	0·2	..	..	..	..	N	..	E	1·10	..	..	0	0	0	..
Oct. 17. 0	..	..	..	..	..	..	..	..	NNE	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	NNE	..	..	..	..	..	..	..	..	..
h m																		
3. 35	29·905	58·7	57·0	1·7	..	..	———	..	NNE	..	..	..	..	..	0	0	0	..
h																		
4	..	..	..	..	..	..	63·5		NNE	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	48·0	5·26	NNE	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	———		ESE	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	75·9	0·00	Calm	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	46·0		Calm	..	..	..	..	..	..	..	..	..
14	29·697	49·5	49·4	0·1	..	..	———	12·435	Calm	..	..	..	..	..	0	0	0	..
16	29·632	49·7	49·7	0·0	48·8	0·9	54·0		Calm	..	..	..	..	..	0	0	0	..
18	29·621	51·0	50·6	0·4	..	..	54·0	..	Calm	..	..	..	..	..	0	0	0	..
20	29·604	54·0	53·7	0·3	..	..	..	..	S by E	..	..	..	..	..	0	0	0	..
22	29·577	59·0	57·8	1·2	57·0	2·0	..	..	SW	..	SW	0·45	..	..	0	0	0	..
Oct. 18. 0	29·566	59·8	58·4	1·4	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
2	29·560	60·5	57·5	3·0	..	..	..	..	W by S	..	..	..	..	..	0	0	0	..
4	29·546	60·6	57·5	3·1	55·0	5·6	64·2	..	WSW	..	..	..	..	..	0	0	0	..
6	29·534	56·6	55·8	0·8	..	..	53·8	5·36	SW	..	..	..	..	..	0	0	0	..
8	29·524	56·5	55·7	0·8	..	..	———		SW	..	..	..	..	..	0	0	0	..
10	29·508	56·4	56·0	0·4	54·8	1·6	69·0	0·23	SSW	..	..	..	..	..	0	0	0	..
12	29·477	56·5	56·0	0·5	..	..	48·5		SW	..	..	..	..	..	0	0	0	..
14	29·460	56·6	56·1	0·5	..	..	———	12·675	WSW	..	..	..	..	..	0	0	0	..
16	29·420	55·6	54·7	0·9	54·0	1·6	54·4		WSW	..	..	..	..	..	0	0	0	..
18	29·401	53·7	53·1	0·6	..	..	54·4	..	SSW	..	..	..	..	..	0	0	0	..
20	29·379	55·5	54·0	1·5	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
22	29·359	60·5	57·3	3·2	55·0	5·5	..	..	SW	..	SW	3·15	..	..	0	0	0	..

MINIMUM FREE THERMOMETER.

October 18d. 22h. The reading was higher than that of the Dry Thermometer at 18h.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast: cirro-stratus: a slight shower of rain has just fallen.	T D
10	..	,, cirro-stratus and scud.	T D
10	..	,, ,,	G H
10	Transit	,, ,,	
10	..	,, ,,	
2	..	A bank of cloud towards the S.W.; cloudless elsewhere but very hazy.	G H
5	..	Cirro-stratus all around the horizon, especially in the S.	T D
10	..	Overcast: cirro-stratus.	
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	T D
10	..	,, ,, foggy.	G H
7	..	Cirri, cirro-cumuli, and scud: clear from the zenith towards the N.W.	G H
4	..	Cirri and fleecy clouds.	E H
8	..	The greater portion of the sky is covered with a thin stratus cloud.	T D
10	Transit	Overcast: thin cirro-stratus.	
10	..	,, ,,	
10	..	,, ,,	T D
10	..	,, ,,	E H
..	..		
..	..		
..	..		
..	1st Qr.		
10	..	,, a dense fog.	T D
..	..		
..	..		
0	..	Cloudless, but very hazy.	T D
..	..		
..	..		
..	Transit		
..	..		
..	..		
10	..	Overcast: foggy.	E H
10	..	,, ,,	
10	..	,, the sky has been covered with clouds during the night.	
6	..	Cumuli, fleecy clouds, and scud.	E H
10	..	Cirro-stratus and scud: the clouds appear to be breaking towards the S.	G H
10	..	Overcast: cirro-stratus and scud: rain has commenced falling.	G H
10	..	Cirro-stratus, cumulo-stratus, and scud: the rain ceased at about $1^h.\ 10^m$.	T D
9	..	Cirro-stratus and scud. [about ten minutes since.	T D
9	..	Cirro-stratus and large masses of scud: there are breaks in the clouds towards the N.W.: heavy rain ceased falling	G H
4	Transit	White loose clouds in the N. and E. parts of the sky; the remainder of the sky is clear: some rain has fallen since the	G
9	..	There are large dark clouds scattered over the sky: the Moon is occasionally visible. [last observation.	
7	..	Light fleecy clouds and haze are scattered about the sky, with a large mass of dark scud towards the W: the sky continues very wild.	G
0	..	Cloudless: thin haze towards the W. and N.W.: there has been a shower of heavy rain which ceased falling about	G H
0	..	,, [ten minutes since.	
0	..	,, [part is towards the N.W.	
9	..	The sky is nearly covered with a thin fleecy cloud, broken in every direction, and a few patches of scud: the clearest	G H
9	..	Cirro-stratus, light cirri, fleecy clouds, and scud: there are some clear breaks in the E.	T D

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Oct. 19. 0	29·304	65·0	59·5	5·5	..	..	..	..	S by W	..	..	..	..	..	0	0	0	..
2	29·278	64·0	59·0	5·0	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
4	29·267	62·6	58·5	4·1	55·5	7·1	65·6	..	SW	..	..	..	..	..	0	0	0	..
6	29·280	58·3	56·5	1·8	..	..	44·5	5·36	SSW	..	..	..	..	..	0	0	0	..
8	29·289	55·5	54·4	1·1	..	..			SSW	..	..	..	..	..	0	0	0	..
10	29·314	55·1	53·9	1·2	53·0	2·1	74·0	0·05	SW	..	..	..	..	..	0	0	0	..
12	29·324	52·0	50·5	1·5	..	..	40·5		SW	0 to 2	..	..	..	..	0	0	0	..
14	29·409	50·4	48·9	1·5	..	..		12·745	W by N	..	..	..	..	..	0	0	0	..
16	29·439	50·0	49·4	0·6	49·0	1·0	54·5		W by S	..	..	..	..	..	0	0	0	..
18	29·484	49·0	48·4	0·6	..	..	54·5	..	W by S	..	..	..	..	..	0	0	0	..
20	29·537	46·0	45·4	0·6	..	..	..	..	W by S	..	..	..	..	..	0	0	0	..
22	29·616	47·7	45·6	2·1	44·0	3·7	..	..	WSW	..	WSW	4·30	..	..	0	0	0	..
Oct. 20. 0	29·650	55·2	50·1	5·1	..	..	..	..	WSW	..	..	..	Pos.	10	12	8	..	..
2	29·668	57·0	49·4	7·6	..	..	..	..	SW	0 to ½	..	..	Pos.	12	15	10	..	..
4	29·690	54·6	48·8	5·8	44·0	10·6	..	..	WSW	..	..	..	Pos.	30	..	20	25	..
6	29·708	51·0	46·9	4·1	..	..	..	..	S by W	..	..	..	Pos.	35	..	30	40	8. 0
8	29·732	48·2	45·4	2·8	..	..	..	..	S by W	..	..	..	Pos.	30	..	30	40	11. 0
10	29·747	48·9	46·9	2·0	44·0	4·9	..	..	S by W	..	..	..	..	..	0	0	0	..
11	29·744	49·2	47·6	1·6	..	..	58·5	..										
12	29·741	49·4	47·9	1·5	..	..	46·0	5·51	S by W	..	..	..	..	..	0	0	0	..
13	29·722	51·2	49·1	2·1	..	..			S by W	..	..	..	..	..	0	0	0	..
14	29·695	51·3	49·4	1·9	..	..	70·1	0·20	SSW	..	..	..	..	..	0	0	0	..
15	29·680	52·2	50·2	2·0	..	..	40·0		SSW	..	..	..	..	..	0	0	0	..
16	29·673	53·0	51·4	1·6	49·5	3·5		12·950	SSW	0 to 1	..	..	..	..	0	0	0	..
17	29·673	53·8	51·9	1·9	..	..	54·2		SSW	0 to 1	..	..	..	..	0	0	0	..
18	29·665	54·5	52·4	2·1	..	..	54·0	..	SSW	..	..	..	..	..	..	..	..	..
19	29·642	53·0	52·6	0·4	..	..	..	..	SSW	0 to ½	..	..	..	..	0	0	0	..
20	29·635	53·0	52·5	0·5	..	..	..	..	SW	0 to ½	..	..	..	..	..	..	..	..
21	29·662	53·0	52·2	0·8	..	..	..	..	SW	0 to ½	..	..	..	..	0	0	0	..
22	29·684	53·9	51·7	2·2	49·5	4·4	..	..	SW	½ to 1	..	..	..	..	..	..	..	..
23	29·704	55·2	52·6	2·6	..	..	..	..	WSW	0 to ½	SSW	5·45	Pos.	2	2	..	..	..
Oct. 21. 0	29·720	57·5	51·9	5·6	..	..	..	..	WSW	1 to 2½	..	..	..	..	..	..	..	..
1	29·732	58·0	51·7	6·3	..	..	..	..	WSW	0 to 2	..	..	..	..	0	0	0	..
2	29·757	57·1	51·0	6·1	..	..	..	..	SW	1 to 2½	..	..	..	..	..	..	..	..
3	29·782	59·8	49·9	9·9	..	..	..	..	WSW	0 to ½	..	..	Pos.	30	60	20	30	..
4	29·802	54·9	49·0	5·9	42·0	12·9	..	..	WSW	0 to ½	..	..	..	..	..	..	..	..
5	29·817	51·6	47·4	4·2	..	..	59·5	..	SW	0 to 2	..	..	Pos.	40	140	90	110	10. 0
6	29·850	50·0	46·9	3·1	..	..	41·0	..	WSW	½ to 1	..	..	..	..	..	..	..	..
7	29·867	49·0	45·0	4·9	..	..		5·51	WSW	..	..	..	Pos.	40	120	80	110	6. 30
8	29·899	46·5	43·9	2·6	..	..	71·7		WSW	..	..	..	..	..	..	..	..	..
9	29·933	44·5	43·3	1·2	..	..	35·0	0·00	WSW	..	..	..	Pos.	20	..	40	60	..
10	29·940	44·5	42·8	1·7	40·5	4·0			SW	..	..	..	..	..	..	..	..	..
12	29·971	43·5	42·8	0·7	..	..	53·8	12·955	SSW	..	..	..	Pos.	10	30	7	..	..
13	29·975	44·3	43·3	1·0	..	..	53·5	..	SSW	..	..	..	..	..	0	0	0	..
14	29·982	43·5	42·9	0·6	..	..		..	SSW	..	..	..	..	..	..	..	..	..
15	29·991	44·0	42·6	1·4	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
16	30·000	42·5	42·3	0·2	42·0	0·5	..	..	SW	..	..	..	..	..	..	..	..	..
17	30·000	42·0	41·9	0·1	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
18	29·995	42·5	41·8	0·7	..	..	..	..	SSW	..	..	..	..	..	..	..	..	..
19	30·005	43·0	41·8	1·2	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
									SW	..	..	..	..	..	..	..	..	..

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
3	..	Light cirri are scattered around the horizon; a fine blue sky elsewhere.	T D
8	..	Cirro-stratus, cumulo-stratus, and scud: the Sun is obscured by passing clouds.	T D
6	..	Cirro-cumuli, fleecy clouds, and scud are scattered about: clear towards the S.E.	G H
1	..	There is a low bank of scud around the horizon; cloudless elsewhere, but hazy.	
0	Transit	Cloudless.	
8	..	The sky is nearly covered with a thin stratus, the clearest parts being towards the E. and S.E.	G H
10	..	Cirro-stratus and scud: the Moon is visible through the clouds.	T D
10	..	Overcast: cirro-stratus: rain is falling slightly, but it has fallen heavily at intervals during the last hour.	
10	..	,, ,,	
10	..	,, ,,	
5	..	Cirro-stratus: light cirri and masses of scud.	T D
3	..	Cirri and haze principally towards the S.E.	G H
0	..	Cloudless, but very hazy in the horizon.	
3	..	There are a few patches of cumuli scattered around the horizon.	G H
3	..	Detached cumuli chiefly in the W.	T D
0	..	Cloudless. [minutes previous to this observation.	
3	..	Cirro-stratus and scud near the horizon in the W.N.W., N.W., and W.: the sky has been cloudless since 6^h till ten	T D
1	Transit	There are a few clouds near the N. and S. horizon: a perfect lunar halo was observed, whose radius by careful measurement was $22\frac{1}{2}°$. [the S. is covered by them: the upper part of the halo is still visible.	G
7	..	A great part of the sky in the N. is covered by white clouds in lines moving E. and W.; also part of the sky towards	
7	..	The greater part of the sky is covered by white linear clouds: the halo is still visible. [visible.	G
9	..	The greater part of the sky is covered by thin stratus clouds, through which the Moon is dimly seen: the halo is not	T D
5	..	Thin cirro-stratus in every direction, with small breaks, through which the stars are visible: the amount of cloud is less	
5	..	In every respect the same as at the last observation. [and of a thinner character than at the last observation.	T D
8	..	Cirro-stratus: the clouds are more dense than at the last observation.	E H
10	..	Overcast.	
10	..	,, rain has just commenced falling.	E H
10	..	,, cirro-stratus and scud: heavy rain still falling.	G H
10	..	Cirro-stratus, fleecy clouds, and large masses of scud: the rain has ceased.	G H
9	..	Cirro-stratus and scud: a few breaks N. of the zenith.	G
10	..	The sky is covered by cirro-stratus and scud, the latter moving quickly from the W.	
5	..	Cumuli near the horizon: scud passing from the W.: the zenith and the parts around it are clear.	G
7	..	Cirro-stratus, cumulo-stratus, and masses of scud: a large portion of the sky in and near the zenith is clear: the	T D
8	..	Cumuli, cumulo-strati, and scud. [amount of cloud varies considerably.	
6	..	,,	
4	..	Detached cumuli are scattered over the sky, principally around the horizon.	
6	..	Detached cumuli and scud are scattered over the sky: clear in the zenith and N. of it.	
3	..	Cumuli and fragments of scud here and there.	
0	..	Cloudless.	T D
5	..	Cirro-stratus: hazy towards the S.	E H
5	In Equator.	,, hazy towards the S. and S.E.	
0	..	Cloudless.	
0	Transit	,,	E H
0	..	,,	G H
0	..	,,	
0	..	,,	
0	..	,,	
0	..	,,	
0	..	,,	
0	..	Cloudless, but very hazy.	
0	..	,,	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Oct. 21. 20	29·998	43·0	41·7	1·3	..	..	..	..	S by W	..	..	..	..	..	0	0	0	..
22	30·018	51·0	48·0	3·0	46·0	5·0	..	..	SSW	..	SW	4·45	..	..	0	0	0	..
23	30·015	55·5	51·4	4·1	..	..	..	..	SW	..	..		..	..	..	..	..	..
Oct. 22. 0	30·007	57·0	52·4	4·6	..	..	..	..	SW	0 to ½	..	..	..	..	0	0	0	..
1	29·958	58·5	52·9	5·6	..	..	..	..	SW	½ to 1½	..	..	..	..	..	..	..	..
2	29·954	57·2	52·2	5·0	..	..	..	..	SW	0 to 1	..	..	..	..	0	0	0	..
3	29·946	57·2	52·4	4·8	..	..	..	..	SW	0 to ½	..	..	..	..	..	..	..	..
4	29·919	55·8	52·4	3·4	49·0	6·8	..	..	SSW	0 to 2½	..	..	..	..	0	0	0	..
5	29·919	54·0	51·4	2·6	..	..	..	..	SSW	0 to ½	..	..	..	..	..	..	..	..
6	29·899	54·0	50·8	3·2	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
7	..	..	..	..	..	..		..	SSW	..	..	..	..	..	..	..	..	..
8	29·879	51·3	49·4	1·9	..	..	58·6	..	S by W	..	..	..	..	..	0	0	0	..
9	29·857	50·3	48·8	1·5	..	..	48·5	5·52	S by W	..	..	..	..	..	..	..	..	..
10	29·832	50·0	48·5	1·5	47·5	2·5	69·0		S by W	..	..	..	..	..	0	0	0	..
11	29·823	49·7	48·4	1·3	..	..	43·8	0·02	SSW	1 to 2	..	..	..	..	..	..	..	..
12	29·801	51·5	48·6	2·9	..	..	53·0	12·990	SSW	0 to 1½	..	..	..	..	0	0	0	..
13	29·762	52·7	50·1	2·6	..	..	53·0		SSW	2 to 2½	..	..	..	..	0	0	0	..
14	29·750	53·4	50·9	2·5	..	..		..	S by W	0 to 1½	..	..	..	..	0	0	0	..
15	29·726	54·5	52·4	2·1	..	..	..	..	S by W	½ to 2	..	..	..	..	..	..	..	..
16	29·703	55·0	53·1	1·9	51·5	3·5	..	..	S by W	0 to 2	..	..	..	..	0	0	0	..
17	29·678	55·2	54·0	1·2	..	..	..	..	S by W	0 to 2½	..	..	..	..	..	..	..	..
18	29·654	55·5	54·4	1·1	..	..	..	..	S by W	½ to 1½	..	..	..	..	0	0	0	..
20	29·629	57·0	55·5	1·5	..	..	..	..	SW	½ to 4	..	..	..	..	0	0	0	..
22	29·609	58·0	56·1	1·9	54·0	4·0	..	..	SW	½ to 3	SSW	7·80	..	..	0	0	0	..
23	29·600	59·5	57·0	2·5	..	..	..	..	SW	2 to 4	..		..	..	..	..	..	..
Oct. 23. 0	29·564	59·5	56·7	2·8	..	..	..	..	SW	2 to 5½	..	..	..	..	0	0	0	..
1	29·542	57·8	55·9	1·9	..	..	..	..	SSW	2 to 7	..	..	..	..	..	..	..	..
2	29·514	57·0	56·5	0·5	..	..	..	..	SSW	1 to 3	..	..	..	..	0	0	0	..
3	29·486	57·5	56·0	1·5	..	..	..	..	SSW	2 to 4	..	..	..	..	..	..	..	..
4	29·453	56·5	55·9	0·6	55·0	1·5	63·0	..	SSW	1 to 6	..	..	..	..	0	0	0	..
5	29·410	57·0	56·0	1·0	..	..	39·8	..	SSW	2 to 4	..	..	..	..	..	..	..	..
6	29·384	56·5	55·3	1·2	..	..		5·63	SSW	2 to 4½	..	..	..	..	0	0	0	..
7	29·335	57·3	55·2	2·1	..	..	63·1		SSW	2 to 3	..	..	..	..	..	..	..	..
8	29·258	55·5	55·0	0·5	..	..	35·5	0·25	SSW	2 to 4½	SSW	5·00	..	..	0	0	0	..
10	29·313	49·0	48·6	0·4	..	..			NNW	1 to 2½	..	..	..	..	0	0	0	..
12	29·386	47·5	46·4	1·1	..	..	52·8	13·375	W by N	0 to ½	..	..	..	..	0	0	0	..
14	..	..	..	..	..	..	52·5	..	W by S	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
22	29·630	48·8	45·9	2·9	..	..	..	..	SSW	½ to 1	SW	2·20	..	..	0	0	0	..
Oct. 24. 0	29·599	53·5	49·4	4·1	..	..	54·2	..	SW	0 to 1	..	..	Pos.	10	10	..	..	..
2	29·584	51·5	47·9	3·6	..	..	38·5	5·65	SW	0 to ½	..	..	..	..	0	0	0	..
4	29·553	47·4	46·4	1·0	..	..			SW	..	..	..	..	..	0	0	0	..
7	29·586	44·0	43·5	0·5	..	..	61·5	0·02	SW	..	..	..	..	..	0	0	0	..
8	..	..	..	..	..	..	34·0		SW	0 to ½	..	..	..	..	0	0	0	..
10	..	..	..	..	..	..	52·0	13·410	SW	..	SW	5·00	..	..	0	0	0	..
12	..	..	..	..	..	..	51·2	..	SW	..	..	..	..	..	..	..	..	..

DEW POINT THERMOMETER.
October 23d. 10h. The observation was inadvertently omitted.

MAXIMUM FREE THERMOMETER.
October 21d. 22h. The reading was lower than that of the Dry Thermometer at 3h.

OSLER'S ANEMOMETER.
October 23d. 2h. 30m and 9h. 10m. There was a pressure of 8 lb. recorded at each time.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
0	..	Cloudless, but very hazy.	G H
0	..	Cloudless.	T D
2	..	Some light cirri around the Sun, and in the N. E.	
4	..	Cirro-stratus in the N. horizon, light portions of cirri around the zenith, and fragments of flying scud in the W. S.W.	
6	..	Cirro-stratus and scud all around the horizon; the zenith is nearly clear.	
10	..	Cirro-stratus and scud: the clouds came up rapidly since $1^h.\ 50^m$, and quickly covered the sky.	
10	..	,,	T D
10	..	Cirro-stratus and scud in large masses: the clouds appear thin around the horizon.	G H
9	..	Cirro-strati near the horizon, with cirro-cumuli and scud scattered over the sky.	
7	..	Cirro-cumuli and light scud; a large space clear towards the S.W.; there is also a heavy bank of cloud towards the	
..	..	N.W. horizon.	
7	..	Tho sky is nearly covered with thin cirro-strati; the only part clear is towards the E.	
0	..	Cloudless, with the exception of a few lines of strati towards the W. of no numerical amount.	
1	..	Thin strati and haze towards the N.W. part of the zenith; cloudless elsewhere.	G H
3	..	There are clouds near the horizon all around, and a few detached clouds here and there moving quickly: the wind	G
		is blowing in gusts to $1\frac{1}{2}$ and 2. [formed around the Moon as the clouds pass.	
8	Transit	The sky is covered with a thin cirro-stratus cloud except near the place of Jupiter in the E.: a coloured corona is	
10	..	The sky is wholly covered by a thin cirro-stratus cloud: there is a halo around the Moon, whose radius is $22\frac{1}{2}°$, and	
10	..	Overcast: cirro-stratus. [whose outer edge passes within a degree of Mars.	
10	..	,, ,, the wind is blowing in gusts to 2.	
10	..	,, ,, ,,	
10	..	,, ,, the wind is blowing in gusts to 2 and $2\frac{1}{2}+$.	
10	..	,, ,, the wind is blowing in gusts: a very bleak night.	G
10	Perigee	,, cirro-stratus and scud: the wind is blowing in gusts to 1: rain commenced falling at about $19^h.\ 10^m$.	E H
10	..	,, cirro-stratus and quickly moving scud.	T D
10	..	,, cirro-stratus and scud.	G H
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	
10	..	,, ,, a thick rain is falling.	
10	..	,, ,, ,,	G H
10	..	,, ,,	G
10	..	,, ,, ,, a gale of wind: the wind is blowing in gusts to 2.	G
10	..	,, ,, squalls of wind and rain.	T D
10	..	,, ,, in every respect the same as at 6^h.	
10	..	,, rain is falling heavily, with violent squalls of wind.	T D
10	..	,, the night is stormy, with squalls of wind and rain: the place of the Moon has been seen for a short time	G
		since the last observation: the scud was at a low elevation, and passed very rapidly.	
10	Transit Full	Overcast: cirro-stratus and heavy masses of dark scud.	E H
..	..		
..	..		
..	..		
..	..		
10	..	,, cirro-stratus: early in the morning the wind lulled, but it has again begun to blow strongly.	G
9	..	The Sun is shining faintly: there are some ill-formed cumuli here and there: the greater part of the sky is overcast.	
10	..	Overcast: cirro-stratus.	
10	..	,, ,,	
2	..	Cloudless about the zenith, but hazy.	
..	..	Cloudless.	G
..	..		
..	..		

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Oct. 24. 14	29·731	40·9	39·6	1·3	..	..	..	..	SW	0 to ½	..	..	..	..	0	0	0	..
16	29·731	41·5	39·8	1·7	38·7	2·8	..	..	SW	0 to ½	..	..	..	..	0	0	0	..
18	29·757	41·0	39·8	1·2	..	..	..	..	SW	0 to ½	..	..	..	..	0	0	0	..
20	29·804	39·4	38·8	0·6	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
22	29·877	46·4	43·7	2·7	41·0	5·4	..	..	SW	..	NW	0·60	..	..	0	0	0	..
Oct. 25. 0	29·918	50·5	45·4	5·1	..	..	..	..	WNW	0 to 2	..	..	..	..	..	..	..	..
2	29·952	50·5	45·4	5·1	..	..	..	..	NW	1 to 2	..	..	..	..	..	..	..	..
4	29·980	50·4	45·4	5·0	41·5	8·9	51·7	..	WNW	..	..	..	..	..	..	..	..	..
6	30·049	46·5	43·3	3·2	..	..	33·0	..	W	..	..	..	..	..	..	..	..	..
8	30·110	43·0	40·9	2·1	..	..		5·65	WSW	..	..	..	Pos.	40	..	20	40	..
10	30·142	40·5	38·2	2·3	37·0	3·5	56·0		SW	..	..	..	Pos.	25	..	..	..	..
12	30·181	39·0	37·9	1·1	..	..	27·0	0·00	SW	..	..	..	..	..	0	0	0	..
14	30·197	38·0	37·2	0·8	..	..			SW	..	..	..	..	..	0	0	0	..
16	30·212	36·0	35·2	0·8	35·0	1·0	51·2	13·410	SW	..	..	..	..	..	0	0	0	..
							50·2	..										
18	30·227	36·5	35·7	0·8	..	..		..	SSW	..	..	..	..	..	0	0	0	..
20	30·272	35·2	34·6	0·6	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
22	30·286	46·0	43·3	2·7	38·5	7·5	..	..	SSW	..	NW	1·65	Pos.	40	..	..	180	15. 0
Oct. 26. 0	30·294	52·2	46·9	5·3	..	..	..	..	SSW	..	..	..	Pos.	30	45	10	20	..
2	30·275	53·0	48·4	4·6	..	..	..	..	SSW	..	..	..	Pos.	40	..	20	40	..
4	30·261	53·4	49·4	4·0	45·0	8·4	54·0	..	SSW	..	..	..	Pos.	40	..	30	50	10. 0
6	30·274	51·5	48·8	2·7	..	..	43·3	..	S by W	..	..	..	..	..	0	0	0	..
8	30·269	48·5	46·0	2·5	..	..		5·65	SSW	..	..	..	..	..	0	0	0	..
10	30·272	44·5	43·8	0·7	43·0	1·5	58·4		S	..	..	..	..	..	0	0	0	..
12	30·262	46·4	45·3	1·1	..	..	36·0	0·00	SSE	..	..	..	..	..	0	0	0	..
14	30·265	47·0	44·9	2·1	..	..			SSE	..	..	..	..	..	0	0	0	..
								13·410										
16	30·253	47·7	45·9	1·8	44·0	3·7	51·8	..	SSE	..	..	..	..	..	0	0	0	..
18	30·252	47·4	46·0	1·4	..	..	49·8	..	SSE	..	..	..	..	..	0	0	0	..
20	30·264	49·0	47·5	1·5	..	..	..	..	SSE	..	..	..	..	..	0	0	0	..
22	30·262	52·0	50·0	2·0	47·0	5·0	..	..	S	..	S	1·05	..	..	0	0	0	..
Oct. 27. 0	30·250	54·8	51·0	3·8	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
2	30·262	51·0	49·4	1·6	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
4	30·236	51·5	48·9	2·6	46·5	5·0	55·7	..	SSW	..	..	..	..	..	0	0	0	..
6	30·251	50·6	48·5	2·1	..	..	48·0	5·72	SSW	..	..	..	..	..	0	0	0	..
8	30·249	50·6	48·3	2·3	..	..			S by W	..	..	..	..	..	0	0	0	..
10	30·246	50·0	48·3	1·7	46·5	3·5	58·0	0·25	S	..	..	..	..	..	0	0	0	..
12	30·261	49·2	48·6	0·6	..	..	45·5		SSW	..	..	..	..	..	0	0	0	..
14	30·240	49·2	48·6	0·6	..	..		13·670	SSW	..	..	..	..	..	0	0	0	..
16	30·214	49·8	49·6	0·2	49·0	0·8	50·2	..	SSW	..	..	..	..	..	0	0	0	..
18	30·216	50·3	49·8	0·5	..	..	49·0	..	S by W	..	..	..	..	..	0	0	0	..
20	30·225	50·5	50·2	0·3	..	..	..	..	S	..	..	..	..	..	0	0	0	..
22	30·237	52·4	51·9	0·5	50·0	2·4	..	..	SSW	..	SSW	3·40	..	..	0	0	0	..
Oct. 28. 0	30·226	56·0	54·1	1·9	..	..	56·7		SW	..	..	..	..	..	0	0	0	..
2	30·210	56·0	53·9	2·1	..	..	49·9	5·72	SW	..	..	..	..	..	0	0	0	..
4	30·203	55·1	53·6	1·5	50·5	4·6	63·5		SSW	..	..	..	..	..	0	0	0	..
6	30·199	54·0	53·3	0·7	..	..	45·0	0·00	S by W	..	..	..	..	..	0	0	0	..
8	30·191	53·2	52·9	0·3	..	..			SSW	..	..	..	..	..	0	0	0	..
10	30·185	53·5	53·2	0·3	53·0	0·5	51·2	13·670	SSW	..	..	..	..	..	0	0	0	..
							49·5											

DRY THERMOMETER.
October 25d. The increase in the reading between 20h and 22h was 10°·8.

ELECTRICITY.
October 25d. 22h. There was a spark at the distance of 0in 03.

HENLEY'S ELECTROMETER.
October 25d. 22h. The reading was 2°.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
0	Transit	Cloudless: a few patches of cumuli and scud, but to no numerical amount.	E H
10	..	Overcast: cirro-stratus and scud. [are shining brightly.	
6	..	Thin cirro-stratus: the sky has become much clearer since the last observation: the Moon and the stars in the zenith	E H
0	..	Cloudless.	T D
0	..	Cloudless, with the exception of a few lines of cirro-strati in the S.W. [in every other direction.	G H
5	..	Cumuli and large masses of scud are coming up rapidly from the N. and N.W.; detached cirro-stratus is scattered	T D
9	..	Cumuli, cumulo-strati, cirro-strati, and scud: some small portions of clear sky are visible N.N.E. of the zenith.	T D
9	..	Cumulo-stratus and haze: there are a few small breaks in the zenith.	E H
8	..	Cirro-stratus and haze.	E H
0	..	Cloudless: very hazy.	G H
5	..	Cirro-stratus and haze.	E H
3	..	Thin cirro-stratus in the S. S.W. and S.: a lunar halo, whose radius is 23°, is now visible. [is now very distinct.	T D
4	Transit	Thin cirro-stratus all around the horizon in the E., S. E., and S., through which the larger stars are visible: the halo	
5	..	Cirro-stratus, fragments of scud, and haze: the halo disappeared at $15^h.\ 10^m$: the sky has been very hazy throughout the night. [and is at present surrounded by a corona.	
9	..	Cumulo-stratus: cirro-stratus, with a few small breaks around the zenith: the Moon is visible through the clouds,	T D
4	..	Thin cirri and cirro-strati scattered over the sky: there is also a low bank of cirro-stratus in the N.W.	G H
7	..	The sky is nearly covered with cirro-cumuli, the clearest part being towards the E.: there is a very thick fog in the [N.W. and N. horizon.	
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	G H
10	..	,, ,,	T D
10	..	,, cirro-stratus: the clouds in the W. are tinged with a deep red colour. [about $7^h.\ 10^m$.	
1	..	A bank of cirro-stratus low down in the S. is the only cloud visible: the clouds began to disappear suddenly at	
0	..	Cloudless.	T D
1	..	There are a few light hazy clouds, like reticulated cirri, towards the E. and S. E.	G H
9	..	The sky is nearly covered with a thick woolly kind of cloud, the only clear part being towards the S. E.: at about $1^h.\ 30^m$ a beautifully coloured corona was observed around the Moon: the sky is clear about the zenith and	
3	Transit	towards the S. E.: in the N.W. there is a bank of thick cloud.	
9	..	Cirro-cumuli: a small break towards the E., and another in the W.	G H
10	..	Overcast: cirro-stratus.	T D
10	..	,, ,,	
10	..	Overcast: cirro-stratus.	
10	..	,, ,, rain is falling; it commenced at $0^h.\ 30^m$.	T D
10	..	,, cirro-stratus and scud: a few drops of rain are falling occasionally.	G H
10	..	,, ,,	
10	..	,,	
10	Greatest declination N.	,, rain is falling.	G H
10	..	,, ,,	G
10	..	,, a steady rain has been falling since 12^h.	
10	Transit	,, a steady rain has been falling since 14^h.	
10	..	,,	
10	..	,, a light rain has been falling since 18^h.	G
10	..	,, ,,	T D
10	..	Overcast: cirro-stratus: the rain has ceased.	
10	..	,, ,,	T D
10	..	,, ,,	G
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,, a very thin rain is falling.	G

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Oct. 28. 12	30·151	52·4	52·0	0·4	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
14	30·140	52·5	51·9	0·6	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
16	30·116	52·4	51·9	0·5	51·5	0·9	..	..	SSW	..	..	..	..	..	0	0	0	..
18	30·098	52·5	51·4	1·1	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
20	30·118	50·6	50·3	0·3	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
22	30·117	55·2	53·2	2·0	50·5	4·7	..	..	SW	..	SW	1·70	..	..	0	0	0	..
Oct. 29. 0	30·097	60·6	56·7	3·9	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
2	30·071	60·6	56·0	4·6	..	..	..	..	WSW	..	..	..	Pos.	2	2	..	..	..
4	30·059	59·0	55·5	3·5	53·0	6·0	64·0	..	SW	..	..	..	Pos.	10	20	10	12	..
6	30·079	56·5	54·0	2·5	..	..	42·7	5·72	WSW	..	..	..	Pos.	20	30	12	15	..
8	30·088	55·5	53·9	1·6	..	..	——		SW	..	..	..	..	..	0	0	0	..
10	30·117	55·0	53·9	1·1	53·0	2·0	75·8	0·00	WSW	..	..	..	..	..	0	0	0	..
12	30·125	54·5	52·9	1·6	..	..	37·0		WNW	..	..	..	Pos.	2	2	..	..	..
14	30·141	50·5	49·9	0·6	..	..	——	13·670	WNW	..	..	..	..	..	0	0	0	..
16	30·158	48·7	46·0	2·7	43·0	5·7	52·0		WNW	..	..	..	..	..	0	0	0	..
18	30·168	44·0	43·7	0·3	..	..	50·0	..	WNW	..	..	..	..	..	0	0	0	..
20	30·180	44·0	43·7	0·3	..	..	..	..	WNW	..	..	..	..	..	0	0	0	..
22	30·180	48·3	46·8	1·5	45·0	3·3	..	..	WNW	..	WSW	1·60	..	..	0	0	0	..
Oct. 30. 0	30·169	53·6	49·4	4·2	..	..	..	..	SE	..	..	..	..	..	0	0	0	..
2	30·148	55·0	49·9	5·1	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
4	30·104	55·9	53·7	2·2	49·5	6·4	57·7	..	SSW	..	..	..	Pos.	2	2	..	..	..
6	30·064	54·0	53·0	1·0	..	..	45·0	..	S	..	..	..	..	..	0	0	0	..
							——	5·72										
8	30·056	54·0	51·2	2·8	..	..	63·2		SSW	..	..	..	..	..	0	0	0	..
10	30·021	54·1	52·6	1·5	50·5	3·6	45·0	0·00	SSW	..	..	..	..	..	0	0	0	..
12	30·014	55·5	53·3	2·2	50·8	4·7	——		SW	3 to 3½	..	..	..	..	0	0	0	..
14	..	..	..	..	..	..	50·5	13·670	SW	1 to 2	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	50·2	..	SW	0 to 1	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..		..	SW	½ to 1	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SW	½ to 2	..	..	..	..	..	..	..	..
22	29·999	57·1	55·6	1·5	..	..	..	..	SW	½ to 1	SW	5·15	..	..	0	0	0	..
Oct. 31. 0	..	..	..	..	..	..	..	..	SW	0 to 1½	..	..	..	..	..	..	..	..
2	30·026	60·0	57·0	3·0	..	..	..	..	SW	0 to ½	..	..	..	..	0	0	0	..
4	..	..	..	..	..	..	61·2	..	WSW	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	52·6		SW	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	——	5·72	SW	0 to ½	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	62·0		SW	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	51·0	0·00	SSW	..	..	..	..	..	..	..	..	..
14	30·157	55·6	54·9	0·7	..	..	——		SSW	..	..	..	..	..	0	0	0	..
16	30·154	55·0	54·2	0·8	54·0	1·0	50·8	13·670	SW	..	..	..	..	..	0	0	0	..
18	30·166	53·5	52·7	0·8	..	..	50·8	..	SSW	..	..	..	..	..	0	0	0	..
20	30·185	53·7	52·9	0·8	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
22	30·198	56·5	54·6	1·9	53·0	3·5	..	..	SSW	..	SSW	4·11	..	..	0	0	0	..
Nov. 1. 0	30·200	61·5	57·6	3·9	..	..	63·5		SSW	..	..	..	..	..	0	0	0	..
2	30·188	62·0	59·0	3·0	..	..	48·5	5·72	SSW	..	..	..	..	..	0	0	0	..
4	30·194	60·5	57·1	3·4	55·0	5·5	——		SSW	..	..	..	..	..	0	0	0	..
6	30·184	54·6	53·5	1·1	..	..	..	0·00	S by W	..	..	..	..	..	0	0	0	..
8	30·180	53·2	52·6	0·6	..	..	44·0		S	..	..	..	..	..	0	0	0	..
10	30·171	53·7	52·6	1·1	49·8	3·9	——	13·675	S	..	..	..	..	..	0	0	0	..
							51·2											
							51·2											

MAXIMUM RADIATION THERMOMETER.

November 1d. The instrument was accidentally broken.

RAIN.

October 31d. 12h. The amount collected during the month of October in the rain-gauge No. 4 was 2in·00, and that collected by the Rev. G. Fisher in a rain-gauge of the same construction at Greenwich Hospital Schools during the same period was 1in·82.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Cirro-stratus and scud: the Moon and a few stars are occasionally visible.	T D
10	..	Overcast with dense cirro-stratus.	
10	..	,,	
10	Transit	,,	T D
5	..	Cirri, cirro-cumuli, and a few small cumuli and scud are scattered over the sky; there is also a dense cloud towards	G H
9	..	Thin cirro-stratus and scud: there are a few small breaks in various parts of the sky. [the S. E.	
7	..	Fleecy clouds are scattered over the sky, with large masses of light scud around the horizon.	
3	..	A few small fragments of fleecy clouds are scattered about the sky, with a bank of cirro-stratus in the N.W.	G H
9	..	Cirro-cumuli and fleecy clouds.	T D
10	..	Overcast: cirro-stratus.	
10	..	,, ,,	
10	..	,, ,,	T D
10	..	,, [at present a large and very faint halo round the Moon: a thin rain fell at about $12^h.\ 30^m$ for a short time.	G H
3	..	There is a thick bank of cloud around the horizon, as well as a very thick haze in other parts of the sky; there is also	
10	..	The sky is covered with a stratus cloud of various densities, through which the Moon and a few of the principal stars	
10	Transit	Thin fleecy clouds and haze. [are visible.	G H
6	..	The greater portion of the sky is covered with a thin film of cirro-stratus.	T D
10	..	Cirro-stratus.	
10	..	The sky is covered with cirro-stratus and scud: there are a few small breaks near the zenith, but to no numerical amount.	T D
10	..	,, there are a few small breaks in the S.W., but to no numerical amount.	E H
10	..	The sky is covered with thin cirro-strati, fleecy clouds, and scud, with very small breaks in every direction.	G H
9	..	Thin cirro-stratus and scud, much broken in the W. and N.: about half an hour since the clouds were beautifully tinged with red; they still continue slightly so.	
10	..	Overcast: very dark: the wind is blowing occasionally in fitful gusts: the clouds have become gradually denser since	
10	3rd Qr.	,, ,, no change since the last observation. [the last observation.	G H
10	..	,, ,, the wind is blowing in gusts to I.	E H
..	..		
..	..		
..	Transit		
..	..		
10	..	,, cirro-stratus and scud.	E H
..	..		
10	..	Overcast: cirro-stratus and scud: there have been a few small breaks in the clouds during the morning.	G H
..	..		
..	..		
..	..		
..	..		
..	..		
10	..	,,	E H
10	..	,,	
10	..	,,	
10	Transit	,, it has been gloomy throughout the night, the Moon being visible only for a few minutes at a time.	E H
8	..	Cirro-stratus and scud.	T D
3	..	There are some detached cumuli and cumulo-strati in the E. and S. E.	
4	..	Detached cumuli are scattered here and there.	T D
0	..	Cloudless.	E H
5	..	Stratus and haze are scattered over the sky.	
2	..	Hazy towards the S.W.; it is clear elsewhere.	
4	..	Cirro-stratus and patches of dark scud towards the S. S.W.	E H

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	Max. and Min. as read at 22h. of Rad. Therm.	Max. and Min. as read at 22h. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's).	RAIN GAUGES. Reading of No. 2.	RAIN GAUGES. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in lbs. per square foot.	WIND. From Whewell's Anemometer. Direction.	WIND. From Whewell's Anemometer. Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Single Gold Leaf of Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Double Gold Leaf.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 1.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 2.	ELECTRICAL INSTRUMENTS. Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°			in.				from lbs. to lbs.		in.		°	°	div.	div.	m s
Nov. 1. 12	30·168	51·7	51·0	0·7	..	..	..			..			S by E	..	..	..	Pos.	20	25	10	15	..
14	30·173	51·0	50·8	0·2	..	..	..			..			S by E	..	..	..	..	..	0	0	0	..
16	30·164	51·0	50·8	0·2	51·0	0·0	..			..			S	..	..	..	..	..	0	0	0	..
18	30·177	49·0	48·9	0·1	..	..	..			..			S by W	..	..	..	..	..	0	0	0	..
20	30·190	50·0	49·9	0·1	..	..	..			..			S by W	..	..	..	..	..	0	0	0	..
22	30·231	54·0	53·4	0·6	53·0	1·0	..			..			S	..	WSW	4·60	..	..	0	0	0	..
Nov. 2. 0	30·241	54·6	53·1	1·5	..	..	..			..			Calm	..	..	..	Pos.	3	3	..	..	..
2	30·222	59·5	57·2	2·3	..	..	..			..			Calm	..	..	..	Pos.	6	8	..	..	..
4	30·227	53·0	52·9	0·1	54·0	−1·0	63·0			..			Calm	..	..	..	Pos.	15	20	10	12	..
6	30·242	47·4	47·4	0·0	..	..	43·2			5·72			Calm	..	..	..	Pos.	10	12	5	7	..
8	30·255	45·9	45·9	0.0	..	..	———						Calm	..	..	..	Pos.	10	12	5	7	..
10	30·253	45·5	45·4	0·1	45·0	0·5	..			0·00			Calm	..	..	..	..	..	0	0	0	..
12	30·257	44·9	44·8	0·1	..	..	39·3						Calm	..	..	..	Pos.	3	3	..	..	..
14	30·243	44·0	43·8	0·2	..	..	———			13·695			Calm	..	..	..	..	..	0	0	0	..
16	30·217	46·2	45·2	1·0	44·0	2·2	51·5						Calm	..	..	..	..	..	0	0	0	..
18	30·212	47·0	46·9	0·1	..	..	51·2			..			Calm	..	..	..	..	..	0	0	0	..
20	30·212	47·0	47·1	−0·1	..	..	..			..			Calm	..	..	..	..	..	0	0	0	..
22	30·217	48·5	48·4	0·1	..	..	..			..			Calm	..	N	0·02	..	..	0	0	0	..
Nov. 3. 0	30·206	47·6	47·4	0·2	..	..	..			..			Calm	..	..	..	..	..	0	0	0	..
2	30·190	48·0	47·4	0·6	..	..	..			..			Calm	..	..	..	..	..	0	0	0	..
4	30·167	47·3	46·9	0·4	46·5	0·8	48·1			..			Calm	..	..	..	Pos.	1	1	..	..	..
6	30·169	46·7	46·7	0·0	..	..	42·8			5·72			Calm	..	..	..	..	..	0	0	0	..
8	30·175	46·5	46·5	0·0	..	..	———						Calm	..	..	..	..	..	0	0	0	..
10	30·178	46·0	45·9	0·1	46·5	−0·5	..			0·00			Calm	..	..	..	..	..	0	0	0	..
12	30·162	45·5	45·4	0·1	..	..	42·0						Calm	..	..	..	..	..	0	0	0	..
14	30·144	45·2	44·9	0·3	..	..	———			13·705			Calm	..	..	..	..	..	0	0	0	..
16	30·134	44·5	44·3	0·2	44·0	0·5	51·0						Calm	..	..	..	..	..	0	0	0	..
18	30·126	44·0	43·8	0·2	..	..	51·0			..			Calm	..	..	..	..	..	0	0	0	..
20	30·126	43·8	43·6	0·2	..	..	..			..			Calm	..	..	..	..	..	0	0	0	..
22	30·138	45·0	44·8	0·2	44·0	1·0	..			..			Calm	..	ENE	0·03	..	..	0	0	0	..
Nov. 4. 0	30·123	47·5	47·4	0·1	..	..	..			..			Calm	..	..	..	..	..	0	0	0	..
2	30·087	48·6	48·0	0·6	..	..	..			..			Calm	..	..	..	..	..	0	0	0	..
4	30·070	48·7	48·1	0·6	47·0	1·7	49·8			..			Calm	..	..	..	..	..	0	0	0	..
6	30·059	48·0	47·6	0·4	..	..	43·5			5·72			Calm	..	..	..	..	..	0	0	0	..
8	30·050	46·8	46·7	0·1	..	..	———						Calm	..	..	..	..	..	0	0	0	..
10	30·034	47·4	47·4	0·0	47·0	0·4	..			0·00			Calm	..	..	..	..	..	0	0	0	..
12	30·023	46·8	46·8	0·0	..	..	42·0						Calm	..	..	..	..	..	0	0	0	..
14	29·986	44·5	44·3	0·2	..	..	———			13·710			Calm	..	..	..	..	..	0	0	0	..
16	29·969	44·5	44·3	0·2	44·0	0·5	51·0						Calm	..	..	..	..	..	0	0	0	..
18	29·959	44·0	43·8	0·2	..	..	51·0			..			Calm	..	..	..	..	..	0	0	0	..
20	29·936	46·7	46·4	0·3	..	..	..			..			Calm	..	..	..	..	..	0	0	0	..
22	29·909	47·6	46·9	0·7	46·0	1·6	..			..			S by E	..	SE	0·35	..	..	0	0	0	..
Nov. 5. 0	29·888	49·3	48·1	1·2	..	..	55·5			..			SSE	..	..	..	..	..	0	0	0	..
2	29·859	54·0	51·5	2·5	..	..	46·5			5·72			S by E	..	..	..	..	..	0	0	0	..
4	29·837	53·0	51·1	1·9	50·0	3·0	———						S by E	..	..	..	..	..	0	0	0	..
6	29·834	55·0	53·4	1·6	..	..	..			0·00			S	..	..	..	..	..	0	0	0	..
8	29·864	54·8	53·4	1·4	..	..	45·0						S by W	..	..	..	..	..	0	0	0	..
10	29·894	52·7	51·8	0·9	..	..	———			13·710			S by W	..	..	..	..	..	0	0	0	..
12	29·905	52·0	51·4	0·6	..	..	51·0			..			S	..	..	..	..	..	0	0	0	..
							51·0															

DRY THERMOMETER.
November 2d. 20h. The reading was lower than that of the Wet Thermometer.

DEW POINT THERMOMETER.
November 2d. 4h. The reading was higher than that of the Dry Thermometer.
November 2d. 22h and 5d. 10h. The observations were inadvertently omitted.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
3	..	Cirro-stratus in the S. and S. S. E.: in the N. the sky has a very bright appearance, most probably arising from [auroral light.	T D
0	..	Cloudless: the aurora is still faintly visible.	
0	..	,,	
0	..	,,	
0	Transit	,, foggy.	T D
0	..	,,	G H
0	..	Cloudless: very foggy: the fog came up from the N.W. about half an hour after the last observation.	
0	..	,, ,,	G H
10	..	,, a dense fog.	T D
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	
10	..	,, a great deposition of moisture.	T D
10	..	,, ,,	G H
10	..	A dense fog: ,,	
10	..	Overcast: the fog is less dense: a great deposition of moisture.	
10	..	,, the fog is very dense: ,,	G H
10	Transit	,, a thin fog: a great deposition of moisture.	T D
10	..	Overcast: a thin fog prevails: a great deposition of moisture.	
10	..	,, cirro-stratus.	T D
10	..	,, cirro-stratus and scud: very misty and damp.	G H
10	..	,, ,, ,, no change since 4^h.	
10	..	,, ,, ,, ,,	
10	..	,, ,, ,, ,,	G H
10	..	,, cirro-stratus and thin mist.	L
10	In Equator	,, ,,	
10	..	,, ,,	
10	..	,, cirro-stratus: very damp.	
10	..	,, ,,	L
10	Transit	,, ,,	T D
10	..	Overcast: cirro-stratus: a thick misty rain is now falling.	
10	..	,, ,, everything is saturated with moisture.	T D
10	..	,, ,, misty.	L
10	..	,, ,, ,,	
10	..	,, ,, a thin fog.	
10	..	,, ,, ,,	L
10	Apogee	,, ,, ,,	T D
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	
10	..	,, cirro-stratus and scud.	T D
10	Transit	,, ,,	G H
10	..	Overcast: cirro-stratus and scud.	
5	..	Cirro-cumuli and scud: the sky is clear about the zenith and towards the E. and N.E.	G H
9	..	Cirro-stratus, fleecy clouds, and scud: a portion of the sky is clear E. of the zenith.	T D
10	..	Overcast: cirro-stratus and scud.	T D
0	..	Cloudless.	G H
0	..	,, there have been several flashes of lightning in the N.E. within the last half-hour.	G
10	..	The sky is covered with a thin stratus cloud, the places of Mars and Jupiter being dimly visible.	G H

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Nov. 5. 14	29·915	51·8	51·4	0·4	..	..	..	..	S	..	..	..	..	..	0	0	0	..
16	29·915	50·9	50·9	0·0	51·0	−0·1	..	..	S by E	..	..	..	..	..	0	0	0	..
18	29·913	51·4	51·4	0·0	..	..	..	..	S by E	..	..	..	..	..	0	0	0	..
20	29·918	51·5	51·5	0·0	..	..	..	..	S by E	..	..	..	..	..	0	0	0	..
22	29·930	53·4	53·0	0·4	52·0	1·4	..	..	S	..	S	3·78	..	..	0	0	0	..
Nov. 6. 0	29·915	56·3	54·6	1·7	..	..	..	..	S by W	..	..	..	..	..	0	0	0	..
2	29·877	55·8	54·7	1·1	..	..	..	..	Calm	..	..	..	..	..	0	0	0	..
4	29·846	54·8	54·2	0·6	53·0	1·8	56·8	..	Calm	..	..	..	..	..	0	0	0	..
6	29·831	54·4	53·9	0·5	..	..	51·8	5·91	Calm	..	..	..	..	..	0	0	0	..
8	29·812	54·0	53·7	0·3	..	..	—		Calm	..	..	..	..	..	0	0	0	..
10	29·803	54·5	53·9	0·6	53·0	1·5	..	0·25	S by W	..	..	..	..	..	0	0	0	..
12	29·795	54·2	53·7	0·5	..	..	47·5		SSW	..	..	..	..	..	0	0	0	..
14	..	..	..	..	..	..	—	14·060	SW	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	51·0		SSW	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	51·0	..	S by W	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SSW	..	..	..	..	..	..	..	..	..
22	29·802	56·0	54·9	1·1	..	..	..	..	SSW	..	SW	1·95	..	..	0	0	0	..
Nov. 7. 0	29·784	58·6	56·0	2·6	..	..	..	..	SSW	½ to 2	..	..	..	..	0	0	0	..
2	29·771	59·0	56·3	2·7	..	..	..	..	SSW	½ to 2	..	..	..	..	0	0	0	..
4	..	..	..	..	..	..	60·2	..	S by W	½ to 1	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	53·9	5·91	S	½ to 2	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	—		S	½ to 1	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	0·25	S	1 to 2½	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	49·0		S by W	1 to 3	..	..	..	..	..	..	..	..
14	29·621	57·0	55·5	1·5	..	..	—	14·060	S by W	1 to 3	..	..	..	..	0	0	0	..
16	29·570	56·5	54·7	1·8	53·0	3·5	51·0		S by W	½ to 2	..	..	..	..	0	0	0	..
18	29·546	55·7	54·1	1·6	..	..	51·0	..	S	½ to 1	..	..	..	..	0	0	0	..
20	29·525	56·0	54·4	1·6	..	..	..	..	S	½ constant	..	..	..	..	0	0	0	..
22	29·499	59·3	56·0	3·3	54·0	5·3	..	..	S	0 to 1½	SSW	7·67	..	..	0	0	0	..
Nov. 8. 0	29·462	62·5	58·5	4·0	..	..	..	..	S by W	½ to 2	..	..	..	..	0	0	0	..
2	29·408	60·2	57·7	2·5	..	..	..	..	S	1 to 3	..	..	..	..	0	0	0	..
4	29·404	58·0	56·2	1·8	54·0	4·0	67·3	..	S by W	1 to 2	..	..	..	..	0	0	0	..
6	29·398	57·5	56·2	1·3	..	..	42·5	5·91	S by W	..	..	..	..	..	0	0	0	..
8	29·420	56·0	54·4	1·6	..	..	—		SW	..	..	..	..	..	0	0	0	..
10	29·493	53·5	52·4	1·1	51·0	2·5	..	0·00	SSW	..	..	..	..	..	0	0	0	..
12	29·464	52·8	51·9	0·9	..	..	36·0		SSW	..	..	..	..	..	0	0	0	..
14	29·514	50·5	49·9	0·6	..	..	—	14·080	WSW	..	..	..	..	..	0	0	0	..
16	29·539	47·5	46·2	1·3	43·0	4·5	51·0		WSW	..	..	..	..	..	0	0	0	..
18	29·596	46·0	44·9	1·1	..	..	51·0	..	WSW	..	..	..	..	..	0	0	0	..
20	29·668	44·0	43·3	0·7	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
22	29·752	45·1	44·1	1·0	42·5	2·6	..	..	SSW	..	SSW	5·80	..	..	0	0	0	..
Nov. 9. 0	29·820	52·5	48·9	3·6	..	..	53·9	..	WSW	..	..	..	..	..	0	0	0	..
2	29·862	53·2	49·3	3·9	..	..	35·3	5·91	WSW	..	..	..	Pos.	15	20	8	10	..
4	29·927	52·5	48·8	3·7	45·0	7·5	—		Calm	..	..	..	Pos.	20	30	12	15	..
6	29·981	46·9	45·4	1·5	..	..	..	0·00	Calm	..	..	..	..	..	0	0	0	..
8	30·033	43·0	42·3	0·7	..	..	29·2		Calm	..	..	..	..	..	0	0	0	..
10	30·068	41·4	40·8	0·6	41·0	0·4	—	14·080	Calm	..	..	..	..	..	0	0	0	..
12	30·113	40·8	40·1	0·7	..	..	51·8		S	..	..	..	..	..	0	0	0	..
14	30·135	39·5	39·2	0·3	..	..	51·2	..	SSW	..	..	..	..	..	0	0	0	..

DEW POINT THERMOMETER.

November 5d. 16h. The reading was higher than that of the Dry Thermometer.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
7	..	There is a heavy bank of cloud around the horizon to the height of about 40°; very hazy elsewhere.	G H
5	..	Very thick and hazy in every direction, more particularly towards the S. [moisture.	
10	..	Overcast with stratus of different densities, through which the principal stars are visible: there is a deposition of	
10	..	Overcast: cirro-stratus and scud: very misty.	G H
10	..	,, cirro-stratus.	L
10	Transit	Overcast: cirro-stratus.	
10	..	,, ,, a fine rain is falling.	L
10	..	,, ,, the rain has ceased.	G H
10	..	,, cirro-stratus and scud: rain fell for about half an hour soon after the last observation.	
10	..	,, rain is falling.	
10	..	,, ,,	G H
10	..	,, cirro-stratus: a few drops of rain are falling.	L
..	..		
..	..		
..	..		
..	..		
10	..	,, cirro-stratus and scud: a squall of rain has just ceased.	G H
9	Transit	Cirro-strati, cumuli, and scud are scattered in every direction.	
9	..	,,	G H
..	..		
..	..		
..	..		
..	..		
..	..		
10	..	Overcast: cirro-stratus.	L
6	New	The sky is clear in and about the zenith.	
6	..	,,	
2	..	There are a few light clouds towards the W. and S.	L
3	..	There are a few light clouds in every direction, with a low bank of cloud in the N.W.	G H
8	Transit	Cumuli and scud: there are small breaks in every direction.	
2	..	A few light cumuli are scattered around the horizon: the amount of cloud has been variable during the morning.	G H
10	..	Overcast: cirro-stratus and scud: a few drops of rain are falling occasionally.	L
10	..	,, ,, ,,	
10	..	,, ,, ,,	
10	..	,, ,, ,,	L
10	..	,, ,, ,, a few stars are dimly seen.	T D
7	..	Cirro-stratus all around, particularly in the S. and S.W.: the stars appear very dim and watery.	
5	..	Cirro-stratus around the horizon, with masses of dark scud scattered around the zenith.	
5	..	,, ,, no change since 16^h.	
4	..	Light cirri and fragments of scud are scattered in every direction.	T D
3	..	There are a few light clouds towards the S.E.; cloudless elsewhere.	G H
0	..	Cloudless, but hazy around the horizon.	
8	Transit	The sky is nearly covered with thin cirro-stratus and haze, the clearest part being towards the N.W.	G H
7	..	Nearly the whole of the sky is covered with cumulo-stratus and cirro-stratus, which came up suddenly at $3^h.\ 10^m$.	T D
6	..	Cirro-stratus and haze around the horizon; light clouds and vapour in the zenith.	
7	..	Cirro-stratus and haze: the stars shine dimly.	
5	..	Cirro-stratus and haze, chiefly in the S. and S.W. horizon.	T D
0	..	Cloudless.	G H
0	..	,,	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Nov. 9. 16	30·151	40·5	39·6	0·9	38·0	2·5	..	..	S by W	..	..	..	..	..	0	0	0	..
18	30·162	37·7	37·4	0·3	..	..	..	..	S by W	..	..	..	..	..	0	0	0	..
20	30·181	37·5	37·4	0·1	..	..	..	..	S by W	..	..	..	..	..	0	0	0	..
22	30·208	47·5	44·9	2·6	41·0	6·5	..	..	S by W	..	SSW	0·45	..	..	0	0	0	..
Nov. 10. 0	30·205	55·5	51·6	3·9	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
2	30·181	56·5	52·4	4·1	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
4	30·171	54·3	50·9	3·4	44·5	9·8	..	..	SSW	..	..	..	..	..	0	0	0	..
6	30·169	48·5	47·0	1·5	..	..	56·7	..	SSW	..	..	..	..	..	0	0	0	..
8	30·170	47·1	46·4	0·7	..	..	42·7	5·91	SSW	..	..	..	..	..	0	0	0	..
10	30·174	45·7	44·8	0·9	44·0	1·7	——		SSW	..	..	..	..	..	0	0	0	..
12	30·173	44·0	43·5	0·5	..	..	..	0·00	SSW	..	..	..	..	..	0	0	0	..
14	30·169	45·2	41·7	0·5	..	..	35·5		SSW	..	..	..	..	..	0	0	0	..
16	30·145	44·7	44·1	0·6	43·7	1·0	——	14·080	SSW	..	..	..	..	..	0	0	0	..
							50·2											
							50·2	..										
18	30·133	48·7	48·2	0·5	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
20	30·134	49·5	48·7	0·8	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
22	30·134	52·0	50·6	1·4	49·0	3·0	..	..	SSW	..	SSW	3·65	..	..	0	0	0	..
Nov. 11. 0	30·129	53·8	51·7	2·1	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
2	30·098	54·6	52·7	1·9	..	..	..	..	..	..	..	..	..	..	0	0	0	..
4	30·072	54·0	52·6	1·4	51·0	3·0	54·7	..	..	..	..	..	..	..	0	0	0	..
6	30·063	53·3	52·1	1·2	..	..	50·6	5·91	..	..	..	..	..	..	0	0	0	..
8	30·049	53·4	52·2	1·2	..	..	——		..	..	..	..	..	..	0	0	0	..
10	30·011	53·5	52·6	0·9	51·2	2·3	..	0·06	..	..	..	..	..	..	0	0	0	..
12	29·993	54·8	53·6	1·2	..	..	48·8		..	..	..	..	..	..	0	0	0	..
14	29·955	55·0	54·4	0·6	..	..	——	14·160	..	..	..	..	..	..	0	0	0	..
16	29·924	55·0	54·8	0·2	54·5	0·5	50·2		..	..	..	..	..	..	0	0	0	..
18	29·894	55·0	54·9	0·1	..	..	50·2	..	..	..	..	..	..	..	0	0	0	..
20	29·886	55·5	55·2	0·3	..	..	..	..	..	..	..	..	..	..	0	0	0	..
22	29·920	52·5	51·0	1·5	49·0	3·5	..	..	..	..	SW	3·30	..	..	0	0	0	..
Nov. 12. 0	29·954	49·0	47·4	1·6	..	..	..	..	..	..	..	..	..	..	0	0	0	..
2	29·934	50·0	46·4	3·6	..	..	..	..	..	..	..	..	..	..	0	0	0	..
4	29·947	48·8	46·2	2·6	43·0	5·8	..	..	..	..	..	..	..	..	0	0	0	..
6	29·953	46·7	46·6	0·1	..	..	51·5	..	..	..	..	..	..	..	0	0	0	..
8	29·976	46·4	45·7	0·7	..	..	37·2	5·91	..	..	..	..	..	..	0	0	0	..
10	30·023	45·2	44·1	1·1	43·0	2·2	——		..	..	..	..	..	..	0	0	0	..
12	30·041	44·0	42·3	1·7	..	..	..	0·00	..	..	..	..	..	..	0	0	0	..
14	30·061	44·0	42·3	1·7	..	..	30·2		..	..	..	..	..	..	0	0	0	..
16	30·079	43·0	40·8	2·2	39·0	4·0	——	14·160	..	..	..	..	..	..	0	0	0	..
18	30·112	41·5	39·7	1·8	..	..	50·0		..	..	..	..	..	..	0	0	0	..
							49·8	..										
20	30·129	39·0	38·2	0·8	..	..	..	..	..	..	..	..	..	..	0	0	0	..
22	30·141	41·8	40·0	1·8	38·0	3·8	..	..	..	..	W	4·95	..	..	0	0	0	..
Nov. 13. 0	30·146	48·3	44·6	3·7	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
2	30·134	52·0	47·9	4·1	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
4	30·126	51·5	48·4	3·1	45·0	6·5	..	..	SW	..	..	..	..	..	0	0	0	..
6	30·135	50·0	48·4	1·6	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
8	30·133	49·6	48·9	0·7	..	..	..	..	S by W	..	..	..	..	..	0	0	0	..

DRY THERMOMETER.

November 9d. The increase in the reading between 20h and 22h was 10°·0.

MAXIMUM FREE THERMOMETER.

November 11d. 22h. The reading was lower than that of the Dry Thermometer at 12h.

OSLER'S ANEMOMETER.

November 11d. 0h. The clock was sent to Mr. Bennett to be cleaned.

November 13d. 0h·9m. The clock was returned, and the instrument started.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
0	..	Cloudless.	G H
0	..	,,	
0	..	Cloudless, but hazy.	G H
0	..	Cloudless.	T D
2	..	There are a few light cirri and detached cumuli seattered in the N.	T D
2	Transit	,,	L
1	..	There is a low bank of cirro-stratus in the N.W.; cloudless, but hazy elsewhere.	G H
3	..	There are cirro-strati and light clouds extending from the zenith towards the W. and N.W.	
0	..	Cloudless, with the exception of a few light clouds towards the N.W., but to no numerical extent.	G H
0	..	Cloudless.	L
0	..	,, a very fine night: not a meteor has been seen.	G
0	..	A few clouds have collected in the N. and E., but to no numerical extent: no meteor has been seen: the temperature has increased a degree since 12^h, and the sky is misty.	
6	..	The sky is more than half covered by a dark cloud, and the wind has increased in strength: two meteors have been seen, situated in the N. and E.	
10	..	Since 16^h the sky has been covered by cloud, except that at times a few stars have been visible near the zenith; at	
9	..	The clouds are somewhat broken, and they are thin everywhere. [present it is overcast.	G
10	..	Overcast: cirro-stratus and scud.	L
10	..	Overcast: cirro-stratus and scud.	
10	Greatest declination S.	,, cirro-stratus.	L
10	Transit	,, ,,	G
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,, not a meteor has been seen.	G
10	..	,, ,,	L
10	..	,, ,, a few drops of rain have been falling.	
10	..	,, ,, rain is falling slightly.	
10	..	,, ,, ,,	
10	..	,, ,, the rain ceased soon after the last observation.	L
10	..	,, cirro-stratus and scud.	T D
10	..	Overcast: cirro-stratus and scud.	
9	..	,, cirro-stratus, cumulo-stratus, and scud: the Sun has been frequently visible since 0^h.	T D
10	Transit	,, cirro-stratus and scud: the wind is blowing in gusts to $\frac{1}{2}$.	L
10	..	,, rain is falling: the wind is blowing in gusts to $\frac{1}{2}$.	
10	..	,, the rain ceased soon after the last observation: the wind is blowing in gusts to $\frac{3}{4}$.	
10	..	,, the wind is blowing in gusts to $1\frac{1}{2}$.	L
10	..	,, cirro-stratus: the wind is blowing in gusts to 1 and $1\frac{1}{2}$.	T D
10	..	,, ,, the wind is blowing in gusts to $1\frac{1}{2}$.	
7	..	Cirro-stratus and haze all around: the wind has become somewhat lulled.	
6	..	Cirro-stratus, scud, and haze: the appearance of the sky is very variable; at times large portions are clear, and then overcast: rain has been falling in squalls since 16^h.	
3	..	Thin cirro-stratus and fragments of scud are scattered about the sky: very hazy.	T D
3	..	Cirro-stratus and fleecy clouds mostly N. of the zenith.	L
0	..	Cloudless.	
8	..	Cirro-stratus and fleecy clouds cover the greater part of the sky: small breaks E. of the zenith.	L
6	Transit	Cirro-stratus, fleecy clouds, and scud have come up suddenly from the W., and are rapidly extending: the sky has been cloudless for some time since the previous observation.	T D
10	..	Cirro-stratus and scud: the sky became covered at 5^h.	
10	..	Overcast: cirro-stratus: very dark.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind	ELECTRICAL INSTRUMENTS. Sign of Electricity as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Nov. 13. 10	30·144	50·6	49·9	0·7	49·0	1·6	53·0	..	SSW	..	..	..	..	..	0	0	0	..
12	30·140	51·3	50·6	0·7	..	..	40·5	5·91	SW	..	..	..	..	..	0	0	0	..
14	..	..	..	..	..	..	——		W by S	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	0·00	W	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	35·0		WSW	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	——		WSW	..	..	..	..	..	..	..	..	..
22	30·165	48·9	47·4	1·5	..	..	49·8	14·160	SSW	..	W	1·25	..	..	0	0	0	..
h m							49·5											
23. 50	30·182	52·3	49·9	2·4	..	..		..	WSW	..	..		..	..	0	0	0	..
d h																		
Nov. 14. 0	..	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
h m																		
3. 10	30·154	54·0	49·4	4·6	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
h																		
4	..	..	..	..	..	..	55·1	..	WSW	..	..	..	..	..	..	..	..	..
5	30·122	52·2	50·4	1·8	..	..	47·8	5·91	WSW	..	..	..	..	..	0	0	0	..
6	..	..	..	..	..	..	——		SW	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	0·00	WSW	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	45·5		WSW	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	——		W by S	..	..	..	..	..	..	..	..	..
14	30·124	53·0	52·8	0·2	..	..	49·5	14·160	WSW	..	..	..	..	..	0	0	0	..
16	30·119	53·4	53·2	0·2	52·5	0·9	49·5	..	WSW	..	..	..	..	..	0	0	0	..
18	30·094	53·8	53·6	0·2	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
20	30·106	54·2	54·2	0·0	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
22	30·124	55·0	53·4	1·6	52·0	3·0	..	..	W by S	..	WSW	4·10	..	..	0	0	0	..
Nov. 15. 0	30·121	56·5	54·2	2·3	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
2	30·108	57·8	54·9	2·9	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
4	30·103	57·5	54·6	2·9	52·0	5·5	57·5	..	WSW	..	..	..	..	..	0	0	0	..
6	30·107	55·8	53·4	2·4	..	..	49·3	5·91	WSW	½ constant	..	..	..	..	0	0	0	..
8	30·113	52·0	51·0	1·0	..	..	——		SW	..	..	..	..	..	0	0	0	..
10	30·126	51·1	50·5	0·6	50·0	1·1	..	0·00	SW	..	..	..	..	..	0	0	0	..
12	30·110	51·0	50·4	0·6	..	..	44·0		SW	..	..	..	..	..	0	0	0	..
14	30·110	50·4	49·7	0·7	..	..	——	14·160	WSW	½ to 1	..	..	..	..	0	0	0	..
16	30·098	50·0	49·2	0·8	48·0	2·0	49·5		WSW	½ to 1	..	..	..	..	0	0	0	..
18	30·074	51·2	50·4	0·8	..	..	49·5	..	WSW	½ to 1	..	..	..	..	0	0	0	..
20	30·074	51·7	50·7	1·0	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
22	30·082	53·0	51·4	1·6	50·0	3·0	..	..	WSW	½ constant	WSW	5·50	..	..	0	0	0	..
Nov. 16. 0	30·060	52·5	52·4	0·1	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
2	30·062	49·0	48·2	0·8	..	..	..	..	N by W	..	..	..	..	..	..	..	..	..
4	30·045	49·0	46·9	2·1	45·0	4·0	52·2	..	NNW	..	..	..	..	..	0	0	0	..
6	30·060	46·6	42·7	3·9	..	..	35·8	5·95	NW	0 to ½	..	..	..	..	0	0	0	..
8	30·075	44·8	41·5	3·3	..	..	——		NW	0 to ½	WSW	3·00	..	..	0	0	0	..
10	30·068	42·0	39·9	2·1	37·0	5·0	..	0·12	W	..	..	..	..	..	0	0	0	..
12	30·060	41·3	39·2	2·1	..	..	30·0		W	..	..	..	..	..	0	0	0	..
14	30·025	38·0	37·2	0·8	..	..	——	14·205	W by S	..	..	..	..	..	0	0	0	..
16	29·994	38·0	37·0	1·0	36·0	2·0	49·5		W by S	..	..	..	..	..	0	0	0	..
18	29·958	38·0	36·7	1·3	..	..	49·0	..	WSW	..	..	..	..	..	0	0	0	..
20	29·949	40·4	38·6	1·8	..	..	..	..	W	0 to 1	..	..	..	..	0	0	0	..
22	29·967	40·7	38·3	2·4	35·0	5·7	..	..	NW	0 to 2	NW	1·22	..	..	0	0	0	..
Nov. 17. 0	29·984	42·4	38·2	4·2	..	..	..	..	NNW	0 to 2	..	..	..	..	0	0	0	..

MAXIMUM FREE THERMOMETER.
November 15d and 16d at 22h. The readings were lower than those of the Dry Thermometer at 2h and 0h respectively.

MINIMUM FREE THERMOMETER.
November 14d. 22h. The reading as recorded was 37°·8, which is evidently wrong; it was altered to 47°·8, which value has been used in subsequent calculations.

ELECTRICITY.
November 16d. 2h. The apparatus was under repair.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast: cirro-stratus: very dark.	T D
10	..	,, ,, ,, misty.	
..	..		
..	..		
..	..		
..	..		
10	..	Overcast: cirro-stratus.	
10	..	The sky is covered with cirro-stratus, but is less dense than at 22^h, the Sun's place being visible.	
..	..		
..	..		
10	..	Overcast: cirro-stratus.	
..	..		
10	..	,, ,,	T D
..	Transit		
..	..		
..	..		
..	..		
10	..	,, cirro-stratus and scud: a very light rain is falling.	G H
10	..	,, ,, ,,	
10	..	,, ,, ,,	
10	..	,, ,, ,, very misty: a light rain has fallen occasionally since 20^h.	G H
10	..	,, ,,	L
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	L
9	..	Cirro-cumuli and scud: a small break towards the N.W., near the zenith.	G H
7	Transit 1st Quarter	Thin cirro-strati with large masses of dark scud are scattered about the sky, principally towards the W. horizon.	
2	..	Very thin cirro-strati towards the S. and S.W.; cloudless elsewhere.	
2	..	Thin cirro-strati towards the S.W. and W.	
0	..	Cloudless.	
2	..	Cirro-stratus towards the N. horizon, and in various directions: the stars are not so bright as they were an hour since.	G H
10	..	Overcast: cirro-stratus and scud: a few stars are visible in the S.	L
10	..	,, ,, ,,	
10	..	,, ,, ,,	L
10	..	,, cirro-stratus: rain is falling.	T D
10	..	Overcast: cirro-stratus: the rain has continued since 22^h.	
10	..	,, cirro-stratus and scud.	T D
10	..	,, cirro-stratus.	L
10	..	,, cirro-stratus and scud: the Moon is visible through the clouds. [visible.	
7	Transit	Thin cirro-stratus covers the greater part of the sky: small breaks here and there: the arc of a faint lunar halo is	
3	..	Cloudy around the horizon, more particularly towards the N.	L
4	..	Cirro-stratus and fleecy clouds, principally W. and S.W. of the zenith.	T D
2	..	Thin cirro-stratus and haze in the S. S. E. horizon; otherwise the sky is clear.	
5	..	Cirro-stratus and scud with breaks through which the stars are visible.	
8	..	Cirro-stratus and scud.	
8	..	,, three-fourths of the sky have been covered since the last observation.	
4	..	Cumuli and scud, principally towards the W. and N.W.	T D
0	..	Cloudless.	G H

OSLER'S ANEMOMETER.

November $17^d.\ 8^h.\ 15^m$. There was a pressure of $4\frac{1}{2}$ lbs. recorded.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	Max. and Min. as read at 22h. of Rad. Therm.	Max. and Min. as read at 22h. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's).	RAIN GAUGES. Reading of No. 2.	RAIN GAUGES. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in lbs. per square foot.	WIND. From Whewell's Anemometer. Direction.	WIND. From Whewell's Anemometer. Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Single Gold Leaf of Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Double Gold Leaf.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 1.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 2.	ELECTRICAL INSTRUMENTS. Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°			in.				from lbs. to lbs.		in.		°	°	div.	div.	m s
Nov. 17. 2	29·983	42·7	37·7	5·0	..	..	..			..			NNW	½ to 2	..	..	Pos.	1	..	..	..	..
4	29·986	41·0	37·2	3·8	32·0	9·0	..			..			NNW	1 to 3	..	..	..	..	0	0	0	..
6	30·022	39·0	37·4	1·6	..	..	43·3			..			N by W	1 to 2	..	..	..	..	0	0	0	..
8	30·073	38·0	36·7	1·3	..	..	31·0			5·95			N by W	1 to 2	..	..	..	..	0	0	0	..
10	30·114	38·0	36·2	1·8	34·0	4·0	——						N by W	½ constant	..	..	..	..	0	0	0	..
12	30·142	36·4	35·2	1·2	..	..	..			0·00			N by W	1 to 2	..	..	..	..	0	0	0	..
14	30·170	36·0	34·6	1·4	..	..	24·5						N by W	½ constant	..	..	..	..	0	0	0	..
16	30·185	34·7	32·6	2·1	31·0	3·7	——			14·210			N by W	1 to 1½	..	..	..	..	0	0	0	..
18	30·192	33·0	31·9	1·1	..	..	48·2						N by W	½ constant	..	..	..	..	0	0	0	..
20	30·211	32·8	31·4	1·4	..	..	47·5			..			N by W	½ constant	..	..	..	..	0	0	0	..
22	30·227	35·8	34·1	1·7	31·0	4·8	..			..			N by W	½ constant	N	6·65	..	..	0	0	0	..
Nov. 18. 0	30·240	40·0	37·5	2·5	..	..	..			..			N by W	0 to 2	..	..	..	..	0	0	0	..
2	30·233	41·9	39·0	2·9	..	..	..			..			N by W	½ constant	..	..	..	..	0	0	0	..
4	30·247	40·2	37·7	2·5	32·5	7·7	43·4			..			N by W	..	..	..	..	..	0	0	0	..
6	30·261	36·5	34·8	1·7	..	..	24·8			5·95			Calm	..	..	..	..	..	0	0	0	..
8	30·276	34·1	32·6	1·5	..	..	——						Calm	..	..	..	..	..	0	0	0	..
10	30·286	32·5	31·4	1·1	28·0	4·5	..			0·00			Calm	..	..	..	..	..	0	0	0	..
12	30·282	31·2	30·3	0·9	..	..	19·4						Calm	..	..	..	..	..	0	0	0	..
14	30·289	28·3	27·4	0·9	..	..	——			14·210			Calm	..	..	..	..	..	0	0	0	..
16	30·261	27·4	26·7	0·7	23·0	4·4	47·0						WSW	..	..	..	..	..	0	0	0	..
18	30·266	26·7	26·3	0·4	..	..	45·5			..			SW	..	..	..	..	..	0	0	0	..
20	30·277	27·7	26·8	0·9	..	..	..			..			WSW	..	..	..	..	..	0	0	0	..
22	30·279	30·0	28·6	1·4	24·0	6·0	..			..			WSW	..	NNW	1·43	..	..	0	0	0	..
Nov. 19. 0	30·264	33·5	31·6	1·9	..	..	..			..			SSW	..	..	..	..	..	0	0	0	..
2	30·235	37·6	35·7	1·9	..	..	..			..			SSW	..	..	..	..	..	0	0	0	..
4	30·228	38·8	36·8	2·0	34·0	4·8	38·0			..			SSW	..	..	..	..	..	0	0	0	..
6	30·212	36·2	34·7	1·5	..	..	24·5			5·95			SW	..	..	..	..	..	0	0	0	..
8	30·207	34·4	33·3	1·1	..	..	——						WSW	..	..	..	..	..	0	0	0	..
10	30·196	33·2	32·8	0·4	32·0	1·2	..			0·00			W by S	..	..	..	..	..	0	0	0	..
12	30·191	31·5	30·9	0·6	..	..	19·0						WSW	..	..	..	..	..	0	0	0	..
14	30·158	31·0	30·6	0·4	..	..	——			14·210			W by N	..	..	..	..	..	0	0	0	..
16	30·130	28·0	27·6	0·4	26·5	1·5	45·8						W by N	..	..	..	..	..	0	0	0	..
18	30·125	27·5	27·1	0·4	..	..	44·2			..			W by N	..	..	..	..	..	0	0	0	..
20	30·114	27·0	26·6	0·4	..	..	..			..			WSW	..	..	..	..	..	0	0	0	..
22	30·114	31·0	30·6	0·4	28·5	2·5	..			..			SW	..	WNW	0·50	..	..	0	0	0	..
Nov. 20. 0	30·071	33·4	32·5	0·9	..	..	..			..			WSW	..	..	..	..	..	0	0	0	..
2	30·023	35·6	34·8	0·8	..	..	..			..			WSW	..	..	..	..	..	0	0	0	..
4	29·997	36·6	36·1	0·5	36·0	0·6	41·8			..			WSW	..	..	..	..	..	0	0	0	..
6	29·966	40·4	39·6	0·8	..	..	29·0			5·95			Calm	..	..	..	..	..	0	0	0	..
8	29·949	40·8	39·8	1·0	..	..	——						Calm	..	..	..	..	..	0	0	0	..
10	29·924	40·5	39·7	0·8	39·0	1·5	..			0·00			Calm	..	..	..	..	..	0	0	0	..
12	29·892	40·0	39·3	0·7	..	..	29·0						Calm	..	..	..	..	..	0	0	0	..
14	..	..	..	..	..	..	——			14·220			Calm	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	45·0						Calm	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	43·0			..			Calm	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..			..			Calm	..	..	..	..	..	..	..	..	..
22	29·718	40·0	39·5	0·5	..	..	..			..			Calm	..	NNW	0·32	..	..	..	..	..	..
Nov. 21. 0	..	..	..	..	..	..	..			..			WNW	..	..	..	..	..	..	..	..	..

MAXIMUM FREE THERMOMETER.

November 19d. 22h. The reading was lower than that of the Dry Thermometer at 4h.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
0	..	Cloudless, but hazy.	G H
7	..	Cumulo-stratus, cirro-stratus, and scud.	T D
10	..	Cirro-stratus: squalls of wind and rain. [wind: the Moon is occasionally visible through the clouds.	
9	Transit	Cirro-stratus and masses of quickly-moving scud: a very wild and stormy night: frequent squalls of heavy rain and	
10	..	Cirro-stratus and scud; the sky is entirely obscured; it has been very variable since 8^h, at one time nearly clear, at others covered by dense clouds: rain has fallen occasionally.	T D
1	..	There is at present only a low bank of cirro-stratus and scud along the S. horizon, but the amount of cloud is not the	G H
10	..	Overcast: cirro-stratus and scud. [same for ten minutes together.	
3	..	A few patches of scud towards the S. E.; cloudless elsewhere.	
0	In Equator	Cloudless.	
0	..	,, thick haze around the horizon.	G H
0	..	,,	L
0	..	Cloudless.	
1	..	There are a few cumuli in the W.	L
0	..	Cloudless, but hazy.	G H
0	..	,,	
0	..	,,	
0	Transit	,,	G H
3	..	Cirro-stratus around the horizon, particularly towards the N. and E.: a few light clouds are scattered about the	L
0	..	Cloudless: hazy. [sky: hazy.	
0	..	,, ,,	
0	..	,, ,,	
0	..	,, ,,	L
3	..	There are some light cirri in the W. and S.W.: hazy in the horizon.	T D
8	..	[the W. and N. at about $23^h.\ 10^m$. Cirro-stratus and haze obscure the whole of the sky, except a portion in the E.: the clouds came up suddenly from	
9	..	Cirro-stratus and haze.	T D
7	..	,,	L
10	..	Cirro-stratus and haze cover the greater part of the sky: the Moon is visible through the clouds.	
5	..	Cirro-stratus and haze: very few stars are visible.	
1	Transit	Cloudy towards the N. horizon: foggy.	L
0	..	Cloudless, but very hazy.	T D
0	..	,,	
10	..	A dense fog, but no absolute cloud prevails.	
10	..	A dense fog: hoar frost.	
10	..	,, ,,	T D
10	..	,, ,,	G H
10	..	Overcast: a dense fog: a great deposition of moisture.	
10	..	,, ,, ,,	G H
10	..	A dense fog still prevails.	T D
10	Perigee	Overcast: cirro-stratus: the fog has become less dense.	
10	..	,, ,, the fog has nearly disappeared.	
10	..	,, ,, the Moon's place is visible.	
10	Transit	,, ,,	T D
..	..		
..	..		
..	..		
..	..		
10	..	,, cirro-stratus and scud, with damp falling.	G H
..	..		

Day and Hour, Göttingen Astronomical Reckoning.	Barometer corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	RAIN GAUGES. Stand of No. 1. (Osler's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Nov. 21. 2	..	..	..	..	..	..	..	..	SSE	..	..	..	..	..	..	..	..	..
h m 2. 20	29·598	42·2	41·8	0·4	..	..	..	..	SSE	..	..	..	..	..	0	0	0	..
h 4	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	~~38·8~~	..	S	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	38·0	5·95	S by E	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	———		S by E	0 to ½	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	0·00	S by E	0 to ½	..	..	..	..	.	..	..	..
14	29·334	41·2	39·8	1·4	..	..	33·2		S by E	..	..	..	..	..	0	0	0	..
16	29·333	41·2	40·0	1·2	38·0	3·2	———	14·230	SW	..	..	..	..	..	0	0	0	..
18	29·352	41·0	40·4	0·6	..	..	44·5		S by E	..	..	..	..	..	0	0	0	..
19	29·385	41·5	40·9	0·6	..	..	42·0	..	S by E	..	..	..	..	..	0	0	0	..
20	29·406	41·5	41·1	0·4	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
22	29·476	44·0	43·0	1·0	41·0	3·0	..	..	W by S	..	S	2·68	..	..	0	0	0	..
23	29·498	45·8	43·3	2·5	..	..	..	..	W by S	..	..		..	..	0	0	0	..
Nov. 22. 0	29·510	46·7	43·5	3·2	..	..	..	..	W by S	..	..	..	..	..	0	0	0	..
1	29·533	47·7	43·1	4·6	..	..	..	..	W by S	..	..	..	..	..	..	..	..	..
2	29·538	48·5	43·8	4·7	..	..	..	..	W by S	..	..	..	..	..	0	0	0	..
3	..	..	..	..	..	..	..	..	W by S	..	..	..	..	..	..	..	..	..
4	29·563	46·0	41·5	4·5	36·0	10·0	..	..	WSW	..	..	..	..	..	0	0	0	..
5	29·563	43·0	40·2	2·8	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
6	29·593	42·5	39·7	2·8	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
7	29·589	43·8	40·4	3·4	..	..	..	..	SSW	..	..	..	..	..	..	..	..	..
8	29·577	44·9	41·8	3·1	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
9	29·545	46·2	44·3	1·9	..	..	..	5·95	SSW	..	..	..	..	..	..	..	..	..
10	29·535	48·6	46·9	1·7	45·0	3·6	———		SSW	0 to 2	..	..	..	..	0	0	0	..
11	29·502	49·8	48·8	1·0	..	..	..	0·00	SSW	1 to 4½	..	..	..	..	..	..	..	..
12	29·489	50·2	49·4	0·8	..	..	34·0		SSW	1 to 4½	..	..	..	..	0	0	0	..
13	29·495	52·8	51·9	0·9	..	..	———	14·235	SSW	1 to 4	..	..	..	..	..	..	..	..
14	29·469	54·0	52·0	2·0	..	..	44·5		SSW	0 to 3½	..	..	..	..	0	0	0	..
15	..	..	..	..	..	..	42·0	..	SW	0 to 1½	..	..	..	..	..	..	..	..
16	29·460	56·2	54·1	2·1	52·0	4·2	..	..	SSW	0 to 5	..	..	..	..	0	0	0	..
17	29·453	55·8	53·6	2·2	..	..	..	..	SSW	½ to 4	..	..	..	..	..	..	..	..
18	29·444	55·8	53·2	2·6	..	..	..	..	SSW	½ to 3	..	..	..	..	0	0	0	..
19	29·445	56·0	53·4	2·6	..	..	..	..	SSW	½ to 4	..	..	..	..	..	..	..	..
20	29·455	56·2	53·7	2·5	..	..	..	..	SSW	½ to 2	..	..	..	..	0	0	0	..
21	29·453	56·2	53·9	2·3	..	..	..	..	SW	0 to 3	..	..	..	..	..	..	..	..
22	29·455	56·5	53·9	2·6	52·0	4·5	..	..	SW	½ to 4	SSW	8·05	..	..	0	0	0	..
23	29·496	47·8	47·4	0·4	..	..	..	..	N by W	..	..		..	..	..	..	..	..
Nov. 23. 0	29·504	46·7	46·4	0·3	..	..	..	..	N by W	..	..	..	..	..	0	0	0	..
1	29·513	46·5	45·9	0·6	..	..	..	..	NNW	..	..	..	..	..	..	..	..	..
2	29·521	47·6	46·3	1·3	..	..	~~48·8~~	..	NNW	..	..	..	..	..	0	0	0	..
3	29·552	47·0	45·7	1·3	..	..	37 8		W by S	..	..	..	..	..	..	..	..	..
4	29·603	46·5	45·6	0·9	44·0	2·5	———	6·01	WSW	..	..	..	..	..	0	0	0	..
5	29·642	44·8	44·0	0·8	..	..	..	0·15	SW	..	..	..	..	..	..	..	..	..
6	29·669	44·4	43·6	0·8	..	..	32·0		SW	..	..	..	..	..	0	0	0	..
8	29·735	43·2	42·1	1·1	..	..	———	14·490	SW	..	..	..	..	..	0	0	0	..
10	29·788	42·6	41·5	1·1	40·0	2·6	44·8		SW	..	..	..	..	..	0	0	0	..
12	29·832	41·0	40·0	1·0	..	..	42·8	..	SW	..	..	..	..	..	0	0	0	..
14	29·859	40·0	39·2	0·8	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
16	29·894	39·0	38·2	0·8	37·5	1·5	..	..	S by W	..	..	..	..	..	0	0	0	..

MAXIMUM AND MINIMUM FREE THERMOMETERS.

November 22d. The index of each instrument had been displaced, the thermometer-stand having been shaken by the wind.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
..	..		
10	..	Overcast: cirro-stratus and scud: misty: a slight rain is falling.	G H
..	..		
..	..		
..	..		
..	..		
..	..		
10	..	,, ,,	
10	..	,, ,, a fine rain has just commenced falling.	
10	..	,, ,, the rain has ceased.	
10	..	,, ,,	
10	..	,, ,,	G H
9	Transit Full	Thin cirro-stratus covers the greater part of the sky: clear in the zenith.	L
8	..	Thin cirro-stratus, fleecy clouds, and scud.	
8	..	Thin cirro-stratus, fleecy clouds, and scud.	
2	..	Loose scud floating about the sky.	L
4	..	Loose scud and cirri scattered in every direction.	T D
4	..		
1	..	A bank of cirro-stratus and scud towards the N. horizon, with a few light cirri scattered over the remainder of the sky.	G H
7	..	Cirro-strati and scud are scattered over the sky.	
9	..	Cirro-strati and scud: a few small breaks towards the S. E. horizon.	
10	..	Overcast: cirro-stratus and scud.	
10	..	,, ,,	
10	..	,, ,, a few drops of rain fell about thirty minutes since.	
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,, the wind is blowing in gusts.	G H
10	Transit	,, ,, ,,	L
10	..	,, ,, ,,	
..	..		
10	..	,, ,, the wind is blowing in strong gusts.	
10	..	,, ,, ,,	
10	..	,, ,, ,, the clouds are very thin in some places; the Moon is	
10	..	,, ,, ,, [visible, and there is a faint halo around her.	
10	..	,, ,, ,,	
10	..	,, ,, ,,	L
10	..	,, cirro-stratus and quickly-moving scud.	T D
10	..	,, cirro-stratus and scud: rain began falling heavily at $22^h.\ 30^m$, and has continued until the present time.	
10	..	Overcast: cirro-stratus and scud: rain is falling.	
10	..	,, ,, the rain has nearly ceased.	
10	..	,, ,, a few portions of blue sky are visible, in and near the zenith, through the clouds.	T D
6	..	Cirro-stratus, scud, and fleecy clouds.	L
4	..	Cirro-stratus, scud, and light clouds are scattered about the sky.	
2	..	Cirro-stratus and fleecy clouds towards the S.	
0	..	Cloudless.	
0	..	,,	
0	..	,,	L
0	..	,,	T D
4	Transit	Thin cirri here and there, chiefly near the Moon.	
8	..	The greater portion of the sky is covered with thin cirro-stratus, the Moon and the larger stars being visible through it: a lunar halo of $22\frac{1}{2}°$ radius is now visible.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	Max. and Min. as read at 22h. of Rad. Therm.	Max. and Min. as read at 22h. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's).	RAIN GAUGES. Reading of No. 2.	RAIN GAUGES. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in lbs. per square foot.	WIND. From Whewell's Anemometer. Direction.	WIND. From Whewell's Anemometer. Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Single Gold Leaf of Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Double Gold Leaf.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 1.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°			in.				from lbs. to lbs.		in.		°	°	div.	div.	m s
Nov. 23. 18	29·899	40·0	39·1	0·9	..	..	..			..			S by W	..	..	..	..	..	0	0	0	..
20	29·914	41·5	40·3	1·2	..	..	..			..			S by W	..	..	..	..	..	0	0	0	..
22	29·958	45·0	43·0	2·0	39·0	6·0	..			..			S by W	..	SSW	4·40	..	..	0	0	0	..
Nov. 24. 0	29·956	52·4	48·9	3·5	..	..	..			..			SSW	½ constant	..	..	..	..	0	0	0	..
2	29·942	53·2	48·6	4·6	..	..	..			..			SSW	½ constant	..	..	Pos.	3	5	..	..	..
4	29·944	51·3	48·4	2·9	46·0	5·3	53·8			..			S by W	..	..	..	..	..	0	0	0	..
6	29·965	47·6	46·1	1·5	..	..	43·5			6·01			S by W	..	..	..	..	..	0	0	0	..
8	29·983	47·0	45·8	1·2	..	..							S by W	..	..	..	..	..	0	0	0	..
10	29·996	46·9	45·9	1·0	45·0	1·9	..			0·00			S by W	..	..	..	..	..	0	0	0	..
12	30·009	49·0	48·0	1·0	..	..	38·0						S by W	..	..	..	..	..	0	0	0	..
14	30·009	49·4	48·4	1·0	..	..				14·490			S by W	..	..	..	..	..	0	0	0	..
16	29·999	48·5	47·8	0·7	47·0	1·5	44·2						S by W	..	..	..	..	..	0	0	0	..
18	29·984	48·5	47·4	1·1	..	..	42·8			..			S by W	..	..	..	..	..	0	0	0	..
20	29·980	48·5	47·0	1·5	..	..	..			..			S by W	0 to ½	..	..	..	..	0	0	0	..
22	29·980	49·3	47·6	1·7	46·0	3·3	..			..			S by W	0 to ½	S	6·18	..	..	0	0	0	..
Nov. 25. 0	29·960	50·0	47·7	2·3	..	..	..			..			SSW	0 to 3	..	..	..	..	0	0	0	..
2	29·930	50·0	48·9	1·1	..	..	..			..			SSW	0 to 1	..	..	..	..	0	0	0	..
4	29·901	50·0	48·9	1·1	47·5	2·5	..			..			SSW	0 to 1	..	..	..	..	0	0	0	..
6	29·876	50·1	48·5	1·6	..	..	51·5			..			SSW	0 to ½	..	..	..	..	0	0	0	..
8	29·874	50·0	48·8	1·2	..	..	43·1			6·01			SW	..	..	..	..	..	0	0	0	..
10	29·837	51·0	49·0	2·0	47·0	4·0	..			0·05			SSW	0 to 1½	..	..	..	..	0	0	0	..
12	29·805	51·2	49·6	1·6	..	..	40·5						SSW	0 to 1½	..	..	..	..	0	0	0	..
14	29·756	49·0	47·7	1·3	..	..				14·550			SSW	0 to 2	..	..	..	..	0	0	0	..
16	29·712	47·5	46·4	1·1	45·0	2·5	44·0			..			SSW	0 to 2	..	..	..	..	0	0	0	..
18	29·730	46·8	45·7	1·1	..	..	43·2			..			NW	0 to 3½	..	..	..	..	0	0	0	..
20	29·773	44·0	43·5	0·5	..	..	..			..			N by W	..	..	..	..	..	0	0	0	..
22	29·778	44·6	44·3	0·3	44·0	0·6	..			..			N by W	..	SSW	6·80	..	..	0	0	0	..
Nov. 26. 0	29·766	44·5	44·0	0·5	..	..	..			..			NNW	..	..	..	Neg.	30	..	12	20	..
2	29·725	44·5	43·8	0·7	..	..	..			..			NE	..	..	..	..	..	0	0	0	..
4	29·686	42·8	42·1	0·7	41·5	1·3	..			..			E by S	..	..	..	..	..	0	0	0	..
6	29·619	42·2	42·0	0·2	..	..	..			..			E by S	..	..	..	..	..	0	0	0	..
8	29·532	41·5	41·3	0·2	..	..	..			..			E	..	..	..	..	..	0	0	0	..
10	29·415	41·3	41·3	0·0	41·0	0·3	44·6			..			NNE	..	..	..	..	..	0	0	0	..
11	29·381	41·0	40·9	0·1	..	..	39·0			..			N by E	..	..	..	..	..	0	0	0	..
12	29·349	40·6	40·5	0·1	..	..				6·31			N by E	..	..	..	..	..	0	0	0	..
13	29·320	40·4	40·3	0·1	..	..	..			..			N by E	..	..	..	..	..	0	0	0	..
14	29·298	40·5	40·0	0·5	..	..	37·0			0·40			N by E	..	..	..	..	..	0	0	0	..
15	29·280	40·5	39·9	0·6	..	..				..			N by E	..	..	..	..	..	0	0	0	..
16	29·248	40·5	40·1	0·4	39·6	0·9	44·5			15·240			N by E	..	..	..	..	..	0	0	0	..
17	29·233	40·5	40·3	0·2	..	..	44·0			..			N by E	..	..	..	..	..	0	0	0	..
18	29·219	40·5	40·3	0·2	..	..				..			N by E	..	..	..	..	..	0	0	0	..
19	29·209	40·7	40·7	0·0	..	..	..			..			N by E	..	..	..	..	..	0	0	0	..
20	29·174	41·0	41·0	0·0	..	..	..			..			NNE	..	..	..	..	..	0	0	0	..
21	29·159	41·7	41·5	0·2	..	..	..			..			ENE	..	..	..	..	..	0	0	0	..
22	29·149	42·5	42·5	0·0	42·0	0·5	..			..			E by N	..	..	..	..	..	0	0	0	..
23	29·126	44·0	43·9	0·1	..	..	..			..			E by N	..	E	0·45	..	..	0	0	0	..
Nov. 27. 0	29·110	45·5	45·4	0·1	..	..	..			..			E by N	..	..	..	..	..	0	0	0	..
1	29·091	46·6	46·6	0·0	..	..	..			..			E by N	..	..	..	..	..	..	..	..	..

BAROMETER.

November 26d. 10h. The reading had decreased 0in·117 since the previous observation.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
		[very bright.	
9	..	The appearance of the sky is the same as at 16^h: the halo has been visible ever since the last observation, and is now	T D
9	..	Cirro-stratus, scud, and haze: the clouds are very thin in many places, the sky being visible above them.	G H
7	Greatest declination N.	Cirri, cirro-strati, and haze are scattered over the sky.	
		[sky.	
6	..	The eastern half of the sky is covered with cymoid-cirri, and there are also a few very light clouds in other parts of the	
2	..	There are a few small patches of cumuli scattered about the horizon.	G H
3	..	There are detached portions of cumuli and cirri scattered about the horizon.	T D
0	..	Cloudless.	
0	..	,,	
2	..	A bank of cirro-stratus low in the S. S.W. horizon, and a few cirri about the Moon.	T D
10	..	The sky is covered by thin cirro-strati and haze: there is visible, at present, part of a large but faint lunar halo.	G H
10	Transit	Overcast with thin cirro-strati, light clouds, and haze, with occasionally a few patches of scud.	
10	..	Overcast with thin cirro-strati: there is at present a large but faint lunar halo.	
10	..	Overcast with thin cirro-strati rather more dense than at the last observation.	
9	..	Cirro-stratus and scud: there are a few small breaks near the S.E. horizon.	G H
10	..	Thin cirro-stratus covers the sky.	L
10	..	Thin cirro-stratus covers the sky.	
10	..	Overcast: cirro-stratus and scud.	L
10	..	,, ,,	G H
10	..	,, ,,	
10	..	,, ,,	
8	..	Cirro-stratus and large masses of scud: a large clear space extending from the zenith towards the W. and N.W. parts of the horizon: the wind is blowing in gusts: the amount of cloud is continually varying.	G H
10	..	Overcast: cirro-stratus and scud.	L
10	..	,, ,,	
10	Transit	,, ,, a few drops of rain are falling.	
10	..	,, ,, ,,	
10	..	,, ,, ,,	L
10	..	,, cirro-stratus: a steady rain is falling.	T D
10	..	Overcast: cirro-stratus: a steady rain is falling.	
10	..	,, ,, ,,	T D
10	..	,, ,, ,,	L
10	..	,, cirro-stratus and scud: a steady rain is falling.	
10	..	,, ,, ,,	
10	..	,, ,, rain is falling heavily.	
10	..	,, cirro-stratus: rain is falling heavily.	
10	..	,, ,, ,,	
10	..	,, ,, ,,	L
10	..	,, ,, the rain has ceased.	T D
10	..	,, ,,	
10	Transit	,, ,,	T D
10	..	,, cirro-stratus and scud: a fine rain has just commenced falling.	G H
10	..	,, ,, a fine rain is still falling.	
10	..	,, ,, ,,	
10	..	,, ,, rain is falling.	
10	..	,, ,, fine rain is falling.	G H
10	..	,, ,, a few drops of fine rain are falling.	L
10	..	,, cirro-stratus: rain is falling heavily.	L
10	..	Overcast: cirro-stratus: rain is falling heavily.	T D
10	..	,, ,, ,,	G H

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Nov. 27. 2	29·070	47·2	47·1	0·1	..	..	..	..	E by N	..	..	..	..	..	0	0	0	..
3	29·063	47·2	46·1	0·1	..	..	..	..	E by N	..	..	..	..	..	..	..	..	..
4	29·060	49·0	48·4	0·6	48·0	1·0	..	..	E by N	..	..	..	..	..	0	0	0	..
5	29·051	49·9	49·0	0·9	..	..	..	..	E by N	..	..	..	..	..	..	..	..	..
6	29·055	49·5	48·9	0·6	..	..	..	..	E by N	..	..	..	..	..	0	0	0	..
7	29·055	49·2	48·7	0·5	..	..	49·3	..	E by N	..	..	..	..	..	..	..	..	..
8	29·044	49·4	48·9	0·5	..	..	41·5	6·35	E by N	..	..	..	..	..	0	0	0	..
9	29·041	49·5	48·9	0·6	..	..	..	0·12	E	..	..	..	..	..	..	..	..	..
10	29·049	48·9	48·4	0·5	48·0	0·9	39·8		E	..	..	..	..	..	0	0	0	..
12	29·053	48·0	47·9	0·1	..	..	..	15·380	S by E	..	..	..	..	..	0	0	0	..
14	..	..	..	..	..	..	44·2		S by W	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	44·0	..	S by W	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..		..	S by W	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	S by W	..	..	..	..	..	..	..	..	..
22	..	..	..	..	..	..	..	..	S by W	..	SSW	1·50	..	..	..	..	..	..
h m																		
22. 30	28·856	48·0	46·6	1·4	..	..	..	..	S by W	..	..		..	..	0	0	0	..
23. 30	28·847	48·2	47·1	1·1	..	..	..	..	S by E	..	..	..	..	..	0	0	0	..
d h																		
Nov. 28. 0	..	..	..	..	..	..	..	..	S by E	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	S by E	..	..	..	..	..	..	..	..	..
h m																		
3. 30	28·817	49·0	47·2	1·8	..	..	49·6	..	S	0 to ½	..	..	..	..	0	0	0	..
4. 0	28·820	..	..	..	..	..	35·6	..	S	0 to ½	..	..	..	..	..	..	..	..
h								6·35										
6	..	..	..	..	..	..	..		WSW	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	0·00	WSW	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	32·0		WSW	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..		15·430	WSW	..	..	..	..	..	..	..	..	..
14	29·058	40·5	39·7	0·8	..	..	44·2		WSW	..	..	..	..	..	0	0	0	..
16	29·082	39·5	38·7	0·8	38·0	1·5	43·8	..	WSW	..	..	..	..	..	0	0	0	..
18	29·131	38·5	37·7	0·8	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
20	29·187	37·5	36·7	0·8	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
22	29·262	38·4	37·6	0·8	37·0	1·4	..	..	WSW	..	WSW	4·20	..	..	0	0	0	..
Nov. 29. 0	29·305	42·7	40·3	2·4	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
2	29·373	46·2	43·0	3·2	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
4	29·419	45·0	41·9	3·1	38·0	7·0	52·7	..	WSW	..	..	..	..	..	0	0	0	..
6	29·497	40·9	38·8	2·1	..	..	35·6	6·35	WSW	..	..	..	..	..	0	0	0	..
8	29·548	39·5	37·7	1·8	..	..	..		SW	..	..	..	..	..	0	0	0	..
10	29·596	38·5	36·7	1·8	33·5	5·0	..	0·00	SW	..	..	..	..	..	0	0	0	..
12	29·594	42·0	41·8	0·2	..	..	31·5		SW	..	..	..	..	..	0	0	0	..
14	29·596	42·5	41·1	1·4	..	..	..	15·445	S by W	..	..	..	..	..	0	0	0	..
16	29·598	45·7	44·1	1·6	41·0	4·7	44·0		S by W	..	..	..	..	..	0	0	0	..
18	29·602	47·0	46·9	0·1	..	..	44·0	..	S by W	½ constant	..	..	..	..	0	0	0	..
20	29·622	49·5	48·9	0·6	..	..	..	..	SSW	0 to 1	..	..	..	..	0	0	0	..
22	29·641	53·3	52·1	1·2	51·0	2·3	..	..	SW	0 to 1	SW	5·50	..	..	0	0	0	..
Nov. 30. 0	29·671	54·7	53·1	1 6	..	..	56·0		SW	0 to 2	..	..	..	..	0	0	0	..
2	29·667	55·7	53·8	1 9	..	..	40·5	6·35	SW	0 to 1½	..	..	..	..	0	0	0	..
4	29·670	55·5	53·9	1·6	51·0	4·5	..		SW	0 to 2½	..	..	..	..	0	0	0	..
6	29·666	55·0	53·9	1·1	..	..	34·1	0·00	SW	0 to 2	..	..	..	..	0	0	0	..
8	29·686	55·0	54·2	0·8	..	..	..		SW	0 to 1	..	..	..	..	0	0	0	..
10	29·690	55·5	53·9	1·6	51·5	4·0	44·2	15·445	SSW	0 to ½	..	..	..	..	0	0	0	..
							44·0											

MAXIMUM FREE THERMOMETER.

November 27d. 22h. The reading was lower than those of the Dry Thermometer at 5h, 6h, 8h, and 9h.

November 29d. 22h. The reading was lower than that of the Dry Thermometer at 22h.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast: cirro-stratus and scud: rain is falling heavily.	G H
10	..	,, ,, ,,	
10	..	,, ,, ,,	G H
10	..	,, ,, the rain has nearly ceased.	L
10	..	,, ,, rain is falling.	
10	..	,, ,, the rain has ceased.	L
10	..	,, ,, fine rain is falling.	G H
10	..	,, ,, no rain falling.	
10	..	,, ,,	G H
10	..	,, ,,	T D
..	..		
..	..		
..	Transit		
..	..		
10	..	,, ,,	L
..	..		
10	..	,, ,, rain has just commenced falling.	
..	..		
..	..		
10	..	Overcast: cirro-stratus and scud: slight rain has been falling generally since the last observation.	L
..	..		
..	..		
..	..		
..	..		
..	..		
10	..	,, cirro-stratus.	T D
8	..	Cirro-stratus and scud: the Moon and also a few stars are visible here and there.	
8	Transit	In every respect the same as at 16^h.	
5	..	Cirro-stratus, fleecy clouds, and fragments of scud.	T D
0	..	There are a few light clouds, but to no numerical extent.	L
7	..	Cirro-stratus and fleecy clouds.	B
4	..	Cirro-stratus, fleecy clouds, and loose scud.	B
2	..	Detached cumuli and haze.	T D
0	3rd Qr.	Cloudless.	
0	..	,, hazy.	
0	..	,,	T D
0	..	,,	B
6	..	Cirro-stratus and dark scud. [commenced falling slightly.	
10	..	Overcast: cirro-stratus: the clouds began to collect rapidly soon after the last observation: at about $16^h.\ 25^m$ rain	
10	..	,, ,, light rain is falling.	
10	Transit	,, ,, ,,	B
10	..	,, cirro-stratus and scud: a few drops of fine rain are falling.	L
10	..	Overcast: cirro-stratus and scud: a few drops of fine rain are falling.	
10	..	,, ,, the rain mentioned in the last observation lasted only a few minutes.	L
10	..	,, ,,	B
10	..	,, ,,	
10	..	,, ,, a few of the larger stars have been occasionally visible since the last observation.	
10	..	,, ,,	B

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Nov. 30. 12	29·719	55·0	53·9	1·1	..	..	..	..	SW	0 to 1½	..	..	..	..	0	0	0	..
14	29·839	52·4	50·8	1·6	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
16	29·880	50·3	49·1	1·2	48·0	2·3	..	..	NW	..	..	..	..	..	0	0	0	..
18	29·919	48·0	46·1	1·9	..	..	..	..	NNW	..	..	..	..	..	0	0	0	..
20	30·046	43·0	41·9	1·1	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
22	30·164	43·5	41·8	1·7	..	..	..	..	WSW	..	SW	6·50	..	..	0	0	0	..
Dec. 1. 0	30·164	40·7	40·7	0·0	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
2	30·170	49·7	45·9	3·8	..	..	..	..	WSW	..	..	..	..	..	0	0	0	..
4	30·188	47·3	43·8	3·5	40·0	7·3	49·5	..	SW	..	..	..	..	..	0	0	0	..
6	30·224	44·4	41·5	2·9	..	..	35·9	6·35	SW	..	..	..	..	..	0	0	0	..
8	30·229	42·5	40·7	1·8	..	..	——		SSW	..	..	..	..	..	0	0	0	..
10	30·237	42·0	40·0	2·0	37·5	4·5	..	0·00	SSW	..	..	..	..	..	0	0	0	..
12	30·237	40·0	38·2	1·8	..	..	28·0		SSW	..	..	..	..	..	0	0	0	..
14	30·236	38·0	36·2	1·8	..	..	——	15·490	SSW	..	..	..	..	..	0	0	0	..
16	30·229	39·5	38·2	1·3	36·0	3·5	44·2		SSW	..	..	..	..	..	0	0	0	..
18	30·189	41·5	40·3	1·2	..	..	44·2	..	SSW	..	..	..	..	..	0	0	0	..
20	30·177	43·5	42·3	1·2	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
22	30·172	45·3	44·1	1·2	43·0	2·3	..	..	SSW	..	SW	4·50	..	..	..	..	..	..
Dec. 2. 0	30·150	49·0	47·2	1·8	..	..	..	..	SW	0 to 1	..	..	..	..	..	..	..	..
2	30·116	51·5	51·4	0·1	..	..	..	..	SSW	0 to 1	..	..	..	..	0	0	0	..
4	30·121	52·0	50·9	1·1	50·0	2·0	54·2	..	SW	0 to ½	..	..	..	..	0	0	0	..
6	30·104	52·5	51·9	0·6	..	..	43·5	6·35	SSW	0 to ½	..	..	..	..	0	0	0	..
8	30·091	53·0	52·4	0·6	..	..	——		SSW	0 to 1	..	..	..	..	0	0	0	..
10	30·088	54·0	53·4	0·6	53·0	1·0	..	0·00	SW	..	..	..	..	..	0	0	0	..
12	30·074	54·5	54·6	−0·1	..	..	38·5		SSW	..	..	..	..	..	0	0	0	..
14	30·061	54·8	54·9	−0·1	..	..	——	15·490	SW	0 to ½	..	..	..	..	0	0	0	..
16	30·041	54·8	53·9	0·9	50·5	4·3	44·8		SSW	..	..	..	..	..	0	0	0	..
18	30·021	55·5	54·7	0·8	..	..	44·2	..	SW	0 to ½	..	..	..	..	0	0	0	..
20	30·031	54·5	53·4	1·1	..	..	..	..	SW	..	..	..	..	..	0	0	0	..
22	30·021	54·2	53·4	0·8	52·0	2·2	..	..	SW	..	SW	7·20	..	..	0	0	0	..
Dec. 3. 0	29·950	57·2	55·1	2·1	..	..	..	..	SW	0 to ½	..	..	..	..	0	0	0	..
2	29·957	57·0	55·2	1·8	..	..	..	..	SW	1 to 2	..	..	..	..	0	0	0	..
4	29·955	55·5	55·6	−0·1	..	..	56·2	..	SSW	0 to ½	..	..	..	..	0	0	0	..
6	29·899	54·8	54·4	0·4	..	..	40·7	6·52	SW	½ to 1	..	..	..	..	0	0	0	..
8	29·889	55·2	54·1	1·1	..	..	——		SW	..	..	..	..	..	0	0	0	..
10	29·883	46·8	46·4	0·4	..	..	..	0·20	Calm	..	..	..	..	..	0	0	0	..
12	29·885	46·0	45·9	0·1	..	..	36·5		Calm	..	..	..	..	..	0	0	0	..
14	29·875	46·0	45·8	0·2	..	..	——	15·645	Calm	..	..	..	..	..	0	0	0	..
16	29·858	45·4	45·0	0·4	44·5	0·9	45·0		WNW	..	..	..	..	..	0	0	0	..
18	29·842	44·0	43·5	0·5	..	..	45·0	..	WSW	..	..	..	..	..	0	0	0	..
20	29·842	42·5	41·9	0·6	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
22	29·857	44·0	43·1	0·9	43·5	0·5	..	..	SW	..	SW	3·85	Pos.	5	10	5	..	..
Dec. 4. 0	29·806	49·2	46·9	2·3	..	..	51·0	..	SW	½ constant	..	..	Pos.	5	10	5	..	..
2	29·761	50·0	47·4	2·6	..	..	41·8	6·67	SW	0 to 1	..	..	Pos.	5	10	5	..	..
4	29·698	49·5	46·9	2·6	44·6	4·9	——		SSW	..	..	..	..	..	0	0	0	..
6	29·636	48·2	46·2	2·0	..	..	..	0·40	SSW	0 to 1	..	..	..	..	0	0	0	..
8	29·535	48·7	47·9	0·8	..	..	38·0		SSW	4½ to 5½	..	..	..	..	0	0	0	..
10	29·452	49·0	47·6	1·4	46·0	3·0	45·2	15·980	SSW	1 to 4	..	..	..	..	0	0	0	..
12	29·376	49·4	47·9	1·5	..	..	45·2	..	SW	2½ to 4½	..	..	Pos.	2	3	..	..	..

DRY THERMOMETER.

December 2d. 12h and 14h, and 3d. 4h. The readings were lower than those of the Wet Thermometer.

DEW POINT THERMOMETER.

November 30d. 22h. The observation was inadvertently omitted.

December 3d. 4h and 10h. These two observations were inadvertently omitted.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast: cirro-stratus and scud: a few drops of very fine rain are falling.	L
10	..	,, ,, rain is falling.	
10	..	,, ,, rain is falling slightly.	
9	..	Cirro-stratus and fleecy clouds.	
1	Transit	Cloudless, with the exception of a few clouds in the N. and S. horizon.	L
0	In Equator.	Cloudless.	G
0	..	Cloudless.	T D
2	..	There are some light portions of cirri scattered in several directions: hazy.	T D
0	..	Cloudless: hazy towards the N.	L
1	..	Cloudy towards the N.; clear elsewhere.	
1	..	,,	
3	..	Light clouds are scattered about the sky.	L
5	..	Cirro-stratus in the S. and W.: hazy.	T D
2	..	Cirro-stratus around the horizon; clear elsewhere. [$15^h.\ 30^m$ from the W. S.W and S.	
9	..	A few stars are visible in the S. S.W.; every other portion of the sky is covered with cirro-stratus, which came up at	
9	..	Cirro-stratus and portions of scud in every direction.	
10	Transit	Overcast: cirro-stratus.	T D
0	..	Cloudless: ten minutes since the sky was more than half covered with cirro-stratus and fleecy clouds.	L
4	..	Cirro-stratus, light fleecy clouds, and scud.	B
10	Apogee	Overcast: cirro-stratus and scud.	B
10	..	,, ,,	T D
10	..	,, ,, a misty rain has fallen at intervals since 4^h.	
10	..	,, ,, ,,	
10	..	,, ,, ,,	T D
10	..	,, ,,	B
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	B
10	Transit	,, ,,	L
10	..	Overcast: cirro-stratus, fleecy clouds, and scud.	
10	..	,, ,,	L
10	..	,, a light rain is falling.	B
10	..	,, ,,	
10	..	,, cirro-stratus: occasional showers of rain.	
10	..	,, ,, ,,	B
10	..	,, ,, rain is falling.	L
10	..	,, ,, slight rain is falling.	
10	..	,, ,, the rain has ceased.	
5	..	Light clouds are scattered about the sky: cirro-stratus around the horizon.	
0	..	Cloudless: about twenty minutes after the last observation the sky became free from cloud.	L
1	Transit	Cloudless, with the exception of a few cirro-stratus clouds in the N.W. and S.W. horizon.	B
4	..	Light fleecy clouds and scud are scattered about the sky.	G H
$9\frac{3}{4}$	..	The sky is nearly overcast with thin cirro-stratus and scud moving from the W.	G
9	..	Cirro-stratus and fleecy clouds.	T D
10	..	Overcast: cirro-stratus and scud.	L
10	..	,, ,,	
10	..	,, ,, rain has fallen since the last observation.	L
10	..	,, ,, the wind is blowing in gusts to 2: occasional drops of rain have been falling.	G

MAXIMUM FREE THERMOMETER.

December $1^d.\ 22^h$. The reading was lower than that of the Dry Thermometer at 2^h.

December $2^d.\ 22^h$. The reading was lower than those of the Dry Thermometer at 12^h, 14^h, 16^h, 18^h, and 20^h.

December $3^d.\ 22^h$. The reading was lower than those of the Dry Thermometer at 0^h and 2^h.

ELECTRICITY.

December $1^d.\ 22^h$ and $2^d.\ 0^h$. The apparatus had been lowered.

RAIN.

November $30^d.\ 12^h$. The amount collected during the month of November in the rain-gauge No. 4 was $2^{in}.00$, and that collected by the Rev. G. Fisher in a rain-gauge of the same construction at Greenwich Hospital Schools during the same period was $1^{in}.69$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind	ELECTRICAL INSTRUMENTS. Sign of Electricity as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Dec. 4. 14	..	..	..	..	..	..	..	..	SW	4 to 7	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SW	4 to 8½	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	WSW	2 to 6	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	WSW	½ to 5	..	..	..	..	..	..	..	..
22	29·205	47·0	44·3	2·7	..	..	..	..	WSW	1½ to 2	SW	9·35	Pos.	5	5	2	..	..
23	29·225	46·0	43·3	2·7	..	..	..	..	WSW	1 to 2½	..		..	..	..	..	..	..
Dec. 5. 0	29·231	..	..	..	..	..	..	..	WSW	1 to 3	..	..	Pos.	5	5	2	..	..
2	..	..	..	..	..	..	..	..	W by S	1½ to 4	..	..	..	..	..	..	..	..
4	29·331	44·0	40·0	4·0	..	..	..	..	W by S	0 to 1	SW	3·10	Pos.	15	15	8	..	..
6	..	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	53·0	..	SSW	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	37·2		SSW	..	SSW	0·90	Pos.	15	15	8	..	..
13	29·310	42·5	39·4	3·1	..	..	———	6·80	SSW	..	..	..	..	..	..	0	0	..
14	29·289	41·7	39·7	2·0	..	..	..	0·32	S by W	..	..	..	..	..	..	0	0	..
16	29·156	44·0	42·2	1·8	40·5	3·5	31·5		S by W	..	..	..	..	..	..	..	..	..
17	29·056	..	..	..	..	..	———	16·160	S by W	..	..	..	..	..	..	0	0	..
18	28·983	47·5	46·9	0·6	..	..	45·0		S by W	1 to 2	..	..	..	..	..	0	0	..
20	28·843	53·0	51·6	1·4	..	..	45·0	..	SSW	2½ to 4	..	..	..	..	..	..	..	..
22	28·678	53·0	52·1	0·9	51·0	2·0	..	..	SSW	3 to 4	SW	4·30	..	..	..	..	..	..
h m																		
22. 40	28·649	..	..	..	..	..	..	..	SW	1½ to 7	..	..	..	..	..	..	..	..
23. 0	28·648	..	..	..	..	..	..	..	SW	3 to 4½	..	..	..	..	..	..	..	..
23. 12	28·651	..	..	..	..	..	..	..	SW	2 to 4	..	..	..	..	..	..	..	..
d h																		
Dec. 6. 0	28·611	50·0	47·9	2·1	..	..	..	..	SW	1½ to 4	..	..	..	..	..	..	..	..
h m																		
0. 30	28·594	..	..	..	..	..	..	..	SW	1½ to 3½	..	..	..	..	..	..	..	..
1. 0	28·590	..	..	..	..	..	..	..	WSW	1½ to 4½	..	..	..	..	..	..	..	..
1. 30	28·590	..	..	..	..	..	..	..	WSW	2 to 4	..	..	..	..	..	..	..	..
2. 0	28·603	51·3	48·0	3·3	..	..	..	..	WSW	3 to 5	..	..	..	..	..	..	..	..
2. 50	28·606	..	..	..	..	..	..	..	WSW	2 to 5	..	..	..	..	..	..	..	..
3. 10	28·582	..	..	..	..	..	..	..	WSW	2½ to 5	..	..	..	..	..	..	..	..
4. 0	28·581	50·3	46·4	3·9	43·0	7·3	..	..	WSW	3 to 5	..	..	..	..	..	..	..	..
5. 30	28·561	..	..	..	..	..	..	..	SW	1½ to 6	..	..	..	..	..	..	..	..
6. 0	28·563	45·1	41·1	4·0	..	..	..	..	SW	1½ to 5	..	..	..	..	..	..	..	..
6. 15	28·562	..	..	..	..	..	..	..	SW	2 to 4½	..	..	..	..	..	..	..	..
7. 0	28·538	..	..	..	..	..	..	..	SW	3 to 5	..	..	..	..	..	..	..	..
7. 30	28·529	..	..	..	..	..	..	..	SW	3½ to 7	..	..	..	..	..	..	..	..
7. 45	28·525	..	..	..	..	..	..	..	SW	3 to 4	..	..	..	..	..	..	..	..
8. 0	28·530	43·5	41·1	2·4	..	..	..	..	SW	3 to 8	..	..	..	..	..	..	..	..
8. 30	28·519	..	..	..	..	..	..	..	SW	3½ to 4	..	..	..	..	..	..	..	..
9. 0	28·510	..	..	..	..	..	..	..	SW	1½ to 4½	..	..	..	..	..	..	..	..
9. 30	28·492	..	..	..	..	..	..	..	SW	3 to 5½	..	..	..	..	..	..	..	..
10. 0	28·473	43·5	40·9	2·6	38·5	5·0	..	..	SW	3½ to 5	..	..	..	..	..	..	..	..
12. 0	28·409	44·0	41·8	2·2	..	..	..	..	SW	4 to 12	..	..	..	..	..	..	..	..
12. 30	28·393	..	..	..	..	..	..	..	SW	5 to 7	SW	9·50	..	..	..	..	..	..
12. 45	28·398	..	..	..	..	..	..	..	SW	3½ to 7	..	..	..	..	..	..	..	..
13. 0	28·398	..	..	..	..	..	..	..	SW	4 to 6	..	..	..	..	..	..	..	..
13. 15	28·396	..	..	..	..	..	..	..	SW	4 to 5	..	..	..	..	..	..	..	..
13. 30	28·392	..	..	..	..	..	..	..	WSW	2 to 4½	..	..	..	..	..	..	..	..
13. 45	28·389	..	..	..	..	..	..	..	WSW	3 to 4½	..	..	..	..	..	..	..	..

MAXIMUM AND MINIMUM FREE THERMOMETERS.
December 6d. The instruments were out of order.

OSLER'S ANEMOMETER.
December 6d. 11h. 5m. There were gusts recording pressures varying from 7lbs. to 13lbs.

ELECTRICITY.
December 5d. 22h. The apparatus was under repair.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
..	..		
..	..		
..	..		
..	..		
6	..	The sky is partially covered with broken clouds, which are moving rapidly from the W.: a gale of wind has been	G
..	Transit	[blowing all night from the S. S.W., and heavy rain has fallen.	
4	..	The greater part of the sky is cloudless: there are some large white clouds passing from the W.	
..	..		
0	..	Cloudless.	
..	..		
..	..	The sky continued nearly cloudless till 11^h, and to this time the temperature of the air continued to decline, being $37°$ at its lowest value: after 11^h the sky became partially covered by cloud, and from 12^h to $13^h.\ 30^m$ it was	
..	..	wholly covered, and the temperature of the air increased to its reading at 14^h.	
0	..		
..	..		
2	..	At present three-fourths of the sky are free from cloud; that portion only near the horizon being covered by cirro-	
10	..	Overcast: cirro-stratus: the sky became overcast soon after 14^h. [stratus.	
..	..		
10	..	,, ,, a few drops of rain have fallen: the wind has increased in strength.	
10	..	,, ,, the wind is blowing in gusts to 2.	G
10	..	,, cirro-stratus and scud: very squally: rain is falling.	L
..	..		
..	..		
..	..		
10	Transit	Overcast.	E H
..	..		
..	..		
..	..		
8	..	Cirro-stratus and scud: there are some clear breaks towards the W: the wind is blowing in gusts to $1\frac{1}{2}$ and 2.	E H
..	..		
..	..		
9	..	,, the wind is blowing in gusts to 2 and $2\frac{1}{2}$.	G
..	..		
1	..	The appearance of the sky has been variable since 4^h, at present it is nearly cloudless: the wind is blowing in gusts to	
..	..	[2 and $2\frac{1}{2}$.	
..	..		
..	..		
..	..		
0	..	Cloudless: several flashes of lightning have been seen in the S. and S.E.	
..	..		
..	..		
..	..		
0	..	,, several flashes of lightning have been seen in the E., S., and S.W.: the wind is blowing in gusts to 2.	G
10	..	Overcast: several flashes of lightning have been seen in the S.: the wind is blowing in gusts to 4 and 5.	E H
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm.	Max. and Min. as read at 22h. of Rad. Therm.	Max. and Min. as read at 22h. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's).	RAIN GAUGES. Reading of No. 2.	RAIN GAUGES. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in lbs. per square foot.	WIND. From Whewell's Anemometer. Direction.	WIND. From Whewell's Anemometer. Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Single Gold Leaf of Dry Pile Apparatus.	ELECTRICAL INSTRUMENTS. Readings of Double Gold Leaf.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 1.	ELECTRICAL INSTRUMENTS. Readings of Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h m	in.	°	°	°	°	°	°			in.				from lbs. to lbs.		in.		°	°	div.	div.	m s
Dec. 6. 14. 0	28·390	43·0	41·3	1·7	..	..	..			..		..	WSW	3 to 6½	..	..	..	..	..	..	..	..
14. 15	28·386	..	..	..	..	..	..			..		..	WSW	2½ to 5	..	..	..	..	..	..	..	..
14. 30	28·380	..	..	..	..	..	..			..		..	WSW	3 to 5	..	..	..	..	..	..	..	..
14. 45	28·382	..	..	..	..	..	..			..		..	WSW	3 to 4½	..	..	..	..	..	..	..	..
15. 0	28·382	..	..	..	..	..	..			..		..	WSW	3 to 4½	..	..	..	..	..	..	..	..
15. 15	28·383	..	..	..	..	..	..			..		..	WSW	2½ to 3½	..	..	..	..	..	..	..	..
15. 30	28·381	..	..	..	..	..	..			..		..	WSW	2½ to 4	..	..	..	..	..	..	..	..
15. 45	28·382	..	..	..	..	..	..			..		6·80	WSW	3 to 4½	..	..	..	..	..	..	..	..
16. 0	28·383	44·0	42·3	1·7	39·0	5·0	..			..		0·06	WSW	3 to 6	..	..	..	..	..	..	..	..
16. 30	28·385	..	..	..	..	..	37·5			..			WSW	3 to 4½	..	..	..	..	..	..	..	..
16. 45	28·389	..	..	..	..	..	..			..		16·305	WSW	3 to 4	..	..	..	..	..	..	..	..
17. 0	28·405	..	..	..	..	..	44·8			..			W by S	3½ to 4	..	..	..	..	..	..	..	..
17. 15	28·409	..	..	..	..	..	44·0			..			W by S	2½ to 4	..	..	..	..	..	..	..	..
17. 30	28·410	..	..	..	..	..	..			..			W by S	1½ to 4½	..	..	..	..	..	..	..	..
17. 45	28·415	..	..	..	..	..	..			..			W by S	1½ to 2	..	..	..	..	..	..	..	..
h																						
18	28·435	44·1	42·3	1·8	..	..	..			..			W	1½ to 2½	..	..	..	..	..	..	..	..
20	28·505	41·5	40·3	1·2	..	..	..			..			W	1½ to 3½	..	..	..	..	..	..	..	..
22	28·562	41·8	40·5	1·3	38·0	3·8	..			..			W by N	1 to 2	W	1·70	..	..	..	..	..	..
Dec. 7. 0	28·660	42·8	40·5	2·3	..	..	..			..			WNW	2 to 4	..	..	..	..	0	0	0	..
2	28·756	42·7	39·5	3·2	..	..	..			..			WNW	2½ to 5	..	..	..	..	0	0	0	..
4	28·841	41·6	38·8	2·8	35·5	6·1	~~59·5~~			..			WNW	2½ to 5	..	..	..	..	0	0	0	..
6	28·907	40·5	35·9	4·6	..	..	32·8						WNW	2½ to 5½	..	..	..	..	0	0	0	..
8	28·995	39·5	36·3	3·2	..	..				6·80			WNW	1½ to 3½	..	..	..	..	0	0	0	..
10	29·059	39·3	35·7	3·6	30·5	8·8	..						WNW	½ to 1	..	..	..	..	0	0	0	..
12	29·178	38·2	34·4	3·8	..	..	27·0			0·00			W by N	1 to 1½	..	..	..	..	0	0	0	..
14	29·188	37·6	35·6	2·0	..	..							W by N	½ to 1½	..	..	..	..	0	0	0	..
16	29·295	36·0	34·1	1·9	31·0	5·0	43·8			16·305			W	..	..	..	..	..	0	0	0	..
18	29·311	34·5	32·7	1·8	..	..	42·5			..			W	..	..	..	..	..	0	0	0	..
20	29·408	35·0	33·8	1·2	..	..	..			..			W	½ constant	..	..	..	..	0	0	0	..
22	29·469	35·5	34·5	1·0	29·0	6·5	..			..			W by S	..	WNW	5·20	..	..	..	..	..	..
Dec. 8. 0	29·506	39·5	37·2	2·3	..	..	..			..			WSW	..	..	..	Pos.	40	60	30	35	13. 0
2	29·535	41·4	38·2	3·2	..	..	..			..			WSW	..	..	..	Pos.	40	90	40	50	20. 0
4	29·586	39·0	36·7	2·3	33·0	6·0	51·2			..			SW	..	..	..	Pos.	15	..	15	20	7. 0
6	29·614	36·0	33·9	2·1	..	..	35·5						SSW	..	..	..	Pos.	10	..	8	10	7. 0
8	29·634	35·3	33·6	1·7	..	..				6·86			S by W	..	W	5·60	Pos.	3	5	0	0	..
10	29·629	35·8	34·3	1·5	32·0	3·8	..						S	..	..	..	..	..	0	0	0	..
12	29·602	38·0	37·2	0·8	..	..	28·0			0·02			S by E	..	..	..	Pos.	10	..	12	20	12. 0
14	29·554	41·6	40·8	0·8	..	..							S	..	..	..	Pos.	3	7	5	5	10. 0
16	29·496	45·5	43·8	1·7	41·0	4·5	42·5			16·380			S by W	2⅓ to 4	..	..	Neg.	3	10	2	4	5. 0
18	29·451	47·6	46·8	0·8	..	..	41·2			..			S by W	2½ to 4	..	..	Neg.	30	..	20	30	4. 0
20	29·426	49·8	49·0	0·8	..	..	..			..			S by W	3 to 5	..	..	Pos.	15	30	12	15	7. 0
22	29·474	52·6	51·5	1·1	51·0	1·6	..			..			SSW	1 to 2	SSW	0·90	..	..	0	0	0	..
Dec. 9. 0	29·502	55·5	53·9	1·6	..	..	56·5			..			SW	½ to 3	..	..	..	..	0	0	0	..
2	29·515	56·1	53·9	2·2	..	..	51·0						SW	1 to 3	..	..	..	..	0	0	0	..
4	29·541	55·0	52·9	2·1	51·0	4·0				6·86			SW	1 to 2½	..	..	..	..	0	0	0	..
6	29·570	54·5	52·6	1·9	..	..	..						SW	1 to 2	..	..	..	..	0	0	0	..
8	29·588	54·6	53·0	1·6	..	..	48·0			0·00			SW	1 to 2	..	..	..	..	0	0	0	..
10	29·608	54·2	53·1	1·1	..	..							SSW	½ to 3	..	..	..	..	0	0	0	..
12	29·622	53·5	52·4	1·1	..	..	42·8			16·380			SSW	½ to 1½	..	..	..	..	0	0	0	..
							41·2			..												

DEW POINT THERMOMETER.
December 9d. 10h. The observation was inadvertently omitted.

OSLER'S ANEMOMETER.
December 7d. 1h. 5m and 1h. 20m. There were gusts recording pressures of 7 lbs. and 8 lbs. respectively.

MAXIMUM FREE THERMOMETER.
December 8d. 22h. The reading was lower than that of the Dry Thermometer at the same time.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast: the wind is blowing in gusts to 3 and 4: no lightning has been seen since the last observation.	E H
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
10	..	,, the wind is blowing in gusts to 2 and 3: a few drops of rain are falling.	
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
10	..	,, ,, the rain has ceased.	
10	..	,, cirro-stratus and scud: rain has again commenced falling: the wind is blowing in gusts to 1 and 1½.	E H
10	..	,, ,, squally: the wind is blowing in gusts to 3.	L
10	Transit	Overcast: cirro-stratus and scud: the wind is blowing in gusts to 3.	
10	..	,, ,, the wind is blowing in gusts to 3½.	L
9½	..	Cirro-stratus and scud: there is a small break towards the W.: the wind is blowing in gusts to 3.	E H
10	..	Overcast: cirro-stratus and scud.	E H
10	..	,, ,, the wind is blowing with less violence than at the last observation.	G H
10	New	,, ,, no change since the last observation.	G H
6	..	Thin cirro-stratus and scud: the quantity of cloud is continually varying: the wind is blowing in gusts to 2½.	L
1	..	Nearly cloudless.	
0	..	Cloudless.	
0	..	,,	
3	..	Cirro-stratus around the horizon: a few light clouds are scattered about the sky.	L
0	..	Cloudless: hazy.	T D
0	..	Cloudless: hazy.	
5	Transit	Cumuli in every direction in detached portions: hazy in the horizon.	T D
3	..	Cirro-stratus around the horizon: light clouds are scattered about the sky.	L
2	..	,, ,,	
6	..	,, clear in and around the zenith.	
10	Greatest declination S.	Overcast: cirro-stratus and scud.	L
10	..	,, ,,	T D
10	..	,, ,, a few drops of rain are falling.	
10	..	,, ,, rain is falling heavily.	
10	..	,, ,, ,, the wind is blowing in gusts to 3.	
10	..	,, ,, the rain has ceased: ,,	T D
10	..	,, ,,	E H
5	..	Cirro-stratus and scud towards the N. and N.W.: clear around the zenith.	
7	Transit	Cirro-stratus and scud.	E H
9	..	Cirro-stratus and masses of quickly moving scud in every direction.	T D
10	..	Overcast: cirro-stratus and dark scud: the wind is blowing in gusts to 3½.	
10	..	,, ,, a few stars are occasionally visible.	
7	..	,, cirro-stratus: a few stars have been dimly seen.	T D
10	..	,, ,, a few minutes before this observation the zenith was free from cloud, and the stars were shining brightly.	E H

ELECTRICITY.

December 6d. 22h. After this observation the apparatus was raised.

December 7d. 22h. The apparatus had been lowered.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Dec. 9. 14	29·635	53·0	52·1	0·9	..	..	..	..	SSW	0 to 1	..	..	..	..	0	0	0	..
16	29·642	52·5	51·7	0·8	51·0	1·5	..	..	SSW	½ to 1½	..	..	..	..	0	0	0	..
18	29·653	52·5	51·6	0·9	..	..	..	..	SSW	1 to 2	..	..	..	..	0	0	0	..
20	29·679	53·0	52·0	1·0	..	..	..	..	SSW	0 to 1	..	..	..	..	0	0	0	..
22	29·689	53·7	52·7	1·0	51·5	2·2	..	..	SSW	0 to 2½	SW	8·80	Neg.	5	..	..	..	..
Dec. 10. 0	29·701	54·3	53·4	0·9	..	..	..	..	SSW	0 to 2	..	..	..	..	0	0	0	..
2	29·695	54·0	53·4	0·6	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
4	29·700	54·2	52·9	1·3	51·0	3·2	54·0	..	SSW	..	..	..	..	..	0	0	0	..
6	29·702	54·0	52·4	1·6	..	..	50·5	6·86	SSW	0 to 1½	..	..	..	..	0	0	0	..
8	29·698	54·2	52·4	1·8	..	..	..		SSW	0 to 1	..	..	..	..	0	0	0	..
10	29·700	52·1	50·9	1·2	50·0	2·1	..	0·05	SSW	0 to 2½	..	..	..	..	0	0	0	..
12	29·674	52·0	50·2	1·8	..	..	46·5		SSW	0 to 1½	..	..	..	..	0	0	0	..
14	29·663	52·3	50·4	1·9	..	..	..	16·385	SSW	½ to 2	..	..	..	..	0	0	0	..
16	29·635	52·0	50·6	1·4	49·0	3·0	44·0		SSW	½ to 1½	..	..	..	..	0	0	0	..
18	29·615	51·6	50·3	1·3	..	..	42·8	..	SSW	½ to 1½	..	..	..	..	0	0	0	..
20	29·632	51·5	50·1	1·4	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
22	29·656	51·0	50·4	0·6	49·0	2·0	..	..	SW	..	SSW	7·65	Pos.	5	5	..	..	..
Dec. 11. 0	29·680	50·5	47·9	2·6	..	..	..	..	SW	..	..	..	Pos.	30	30	12	10	9. 0
2	29·671	51·3	49·2	2·1	..	..	..	..	SSW	..	..	..	Pos.	30	30	10	10	..
4	29·689	49·5	47·6	1·9	46·0	3·5	51·5	..	WSW	..	..	..	Pos.	15	..	10	10	10. 0
6	29·720	47·0	44·3	2·7	..	..	38·8	6·86	SW	..	..	..	Pos.	8	..	8	10	10. 0
8	29·733	43·0	40·3	2·7	..	..	..		SSW	..	..	..	Pos.	10	..	10	12	8. 0
10	..	..	..	..	..	..	..	0·00	S by W	..	..	..	..	..	..	..	..	..
12	29·776	41·1	38·9	2·2	..	..	32·0		Calm	..	..	..	Pos.	20	20	8	10	More than 30m.
14	..	..	..	..	..	..	..	16·385	Calm	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	44·5		Calm	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	43·8	..	Calm	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..
22	29·851	47·0	45·8	1·2	..	..	..	..	Calm	..	SW	1·75	Pos.	5	5	..	..	..
Dec. 12. 0	29·872	48·0	46·9	1·1	..	..	..	..	S	..	..	..	Pos.	5	5	..	..	..
2	..	..	..	..	..	..	..	..	S by W	..	..	..	..	..	..	..	..	..
4	29·838	49·5	48·2	1·3	..	..	51·6	..	S by W	..	..	..	Pos.	5	5	..	..	..
6	..	..	..	..	..	..	40·8	6·86	S	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..		S	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	0·00	S	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	35·1		S	..	..	..	..	..	..	..	..	..
14	29·895	43·5	42·3	1·2	..	..	..	16·385	S by E	..	..	..	Pos.	25	35	15	20	4. 0
16	29·899	44·6	43·6	1·0	43·0	1·6	44·5		S by E	..	..	..	Pos.	10	25	10	12	13. 0
18	29·899	45·4	43·9	1·5	..	..	44·0	..	S	..	..	..	Pos.	8	15	5	7	12. 0
20	29·900	45·8	44·3	1·5	..	..	..	..	S by E	..	..	..	..	..	0	0	0	..
22	29·922	47·5	46·4	1·1	44·5	3·0	..	..	S by E	..	S	5·75	..	..	0	0	0	..
Dec. 13. 0	29·923	51·3	49·5	1·8	..	..	52·6	..	S by E	..	..	..	..	..	0	0	0	..
2	29·908	52·0	50·4	1·6	..	..	41·5	6·86	S by E	..	..	..	Pos.	7	10	5	..	..
4	29·907	47·0	45·9	1·1	45·0	2·0	..		S	..	..	..	..	..	0	0	0	..
6	29·919	43·2	42·9	0·3	..	..	..	0·00	S by E	..	..	..	Pos.	5	7	..	..	..
8	29·926	43·1	42·5	0·6	..	..	34·5		S by E	..	..	..	..	..	0	0	0	..
10	29·929	43·7	42·2	1·5	42·5	1·2	..	16·385	S by E	..	..	..	Pos.	10	20	7	..	..
12	29·929	44·5	44·1	0·4	..	..	44·0		S by E	..	..	..	..	..	0	0	0	..
14	29·934	44·0	42·8	1·2	..	..	44·0	..	S	..	..	..	..	..	0	0	0	..

DRY AND WET THERMOMETERS.

December 11d. 10h. The observations were omitted through inadvertence.

MAXIMUM FREE THERMOMETER.

December 10d. 22h. The reading was lower than those of the Dry Thermometer at 0h, 4h, and 8h.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast: cirro-stratus: a slight rain has commenced falling.	E H
10	..	,, ,, the rain ceased shortly after the last observation: the wind is blowing in occasional gusts to 1.	
10	..	,, ,, a few stars are visible in the zenith, but they appear very dim.	
10	..	,, a slight rain has just commenced falling.	E H
10	..	,, a few drops of fine rain are falling.	L
10	..	Overcast: a few drops of fine rain are falling.	
10	Transit	,, ,,	L
10	..	,, ,,	E H
10	..	,, there was a slight shower of rain shortly after the last observation.	
10	..	,, the wind is blowing in gusts to $\frac{1}{2}$.	
9	..	Overcast, with the exception of a portion of the zenith, where a few stars are visible: occasional gusts of wind to 2.	
2	..	Cloudy around the horizon, the amount of cloud is continually varying.	E H
10	..	Overcast: cirro-stratus and scud.	L
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	L
10	..	,, ,, slight rain is falling.	G
9	..	Cirro-stratus and scud.	E H
8	..	,, since 0^h the greater portion of the sky has been nearly cloudless.	E H
10	Transit	,,	L
9	..	,, a few small breaks in various directions.	
0	..	The sky became cloudless soon after the last observation and remains so still.	L
..	..		
0	..	Cloudless: several meteors have been seen passing from Polaris to a point below γ Ursæ Majoris.	G
..	..		
..	..		
..	..		
..	..		
0	..	Cloudless.	
9	..	Cumuli and scud, the latter passing from the S.W.	
..	..		
8	Transit	The sky has been generally cloudless since 0^h; at present the greater part of the sky is covered with broken clouds.	G
..	..		
..	..		
..	..		
..	..		
0	..	Cloudless.	T D
9	..	Cirro-stratus and scud cover the sky, with the exception of a small break in the zenith.	
10	..	Overcast: cirro-stratus.	T D
9	..	Cirro-stratus and scud: a break towards the E. and S.E.	E H
6	..	There are light clouds about the zenith, cumulo-stratus and scud elsewhere.	
1	..	Cloudless, with the exception of a few clouds of undefined character towards the N.	
0	..	Cloudless.	
0	..	,, hazy.	E H
10	Transit	Overcast: cirro-stratus and scud.	L
10	..	Overcast with thin cirro-stratus, through which occasionally a star is seen.	L
10	..	Overcast with thin cirro-stratus: misty.	G
10	..	Overcast.	E H
8	..	Cirro-stratus: there is a break at present in the zenith through which the stars are visible.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Dec. 13. 16	29·926	44·2	43·3	0·9	42·8	1·4	..	..	S	..	..	..	..	..	0	0	0	..
18	29·931	44·0	43·1	0·9	..	..	..	..	S	..	..	..	..	..	0	0	0	..
20	29·937	44·5	43·5	1·0	..	..	..	..	S	..	..	..	..	..	0	0	0	..
22	29·949	44·2	43·4	0·8	42·5	1·7	..	..	S	..	S	1·12	Pos.	5	5	..	..	..
Dec. 14. 0	29·950	46·5	45·8	0·7	..	..	..	..	S by E	..	..	..	Pos.	5	10	..	..	..
2	29·934	50·5	47·6	2·9	..	..	..	..	S	..	..	..	Pos.	10	20	10	..	..
4	29·938	46·8	46·0	0·8	45·5	1·3	50·2	..	S	..	..	..	..	..	0	0	0	..
6	29·955	43·5	43·1	0·4	..	..	37·7	6·86	S	..	..	..	..	..	0	0	0	..
8	29·963	43·5	42·7	0·8	..	..	——	——	S	..	..	..	..	..	0	0	0	..
10	29·961	43·2	42·5	0·7	42·0	1·2	..	0·00	S by E	..	..	..	..	..	0	0	0	..
12	29·950	42·3	41·8	0·5	..	..	35·0	——	S by E	..	..	..	..	..	0	0	0	..
14	29·934	42·0	41·5	0·5	..	..	——	16·385	S by E	..	..	..	..	..	0	0	0	..
16	29·901	41·0	40·6	0·4	40·0	1·0	44·0		S by E	..	..	..	..	..	0	0	0	..
18	29·898	41·4	40·9	0·5	..	..	44·8	..	S by E	..	..	..	..	..	0	0	0	..
20	29·900	44·0	43·5	0·5	..	..	..	..	S by E	..	..	..	..	..	0	0	0	..
22	29·920	46·6	45·0	1·6	43·5	3·1	..	..	S by E	..	SSE	3·18	..	..	0	0	0	..
Dec. 15. 0	29·910	50·5	48·9	1·6	..	..	..	..	S by E	0 to ½	..	..	..	..	0	0	0	..
2	29·875	51·8	49·3	2·5	..	..	..	..	S by E	0 to 1	..	..	Pos.	5	5	0	..	..
4	29·869	49·7	47·7	2·0	46·0	3·7	51·0	..	S by E	..	..	..	..	..	0	0	0	..
6	29·874	50·0	48·1	1·9	..	..	~~42·3~~	6·86	S	..	..	..	..	..	0	0	0	..
8	29·879	50·0	48·7	1·3	..	..	——	——	S by W	..	..	..	..	..	0	0	0	..
10	29·875	49·6	48·4	1·2	47·6	2·0	..	0·00	S	0 to 1½	..	..	..	..	0	0	0	..
12	29·869	49·8	48·6	1·2	..	..	43·2	——	S by W	½ constant	..	..	..	..	0	0	0	..
14	29·838	49·2	47·9	1·3	..	..	——	16·385	S	..	..	..	..	..	0	0	0	..
16	29·828	49·3	48·1	1·2	47·0	2·3	44·8		S by W	..	..	..	..	..	0	0	0	..
18	29·786	49·0	47·6	1·4	..	..	44·5	..	S by W	0 to 1	..	..	..	..	0	0	0	..
20	29·781	49·4	47·8	1·6	..	..	..	..	S by W	..	..	..	..	..	0	0	0	..
22	29·794	49·7	48·2	1·5	46·8	2·9	..	..	S	0 to 1	S	5·90	..	..	0	0	0	..
Dec. 16. 0	29·784	51·2	49·8	1·4	..	..	..	..	S by W	0 to ½	..	..	..	..	0	0	0	..
2	29·752	53·0	50·4	2·6	..	..	..	..	S	0 to 1½	..	..	..	..	0	0	0	..
4	29·732	51·4	48·8	2·6	46·0	5·4	52·8	..	S by W	0 to ½	..	..	Pos.	..	5	..	..	..
6	29·726	49·2	47·4	1·8	..	..	46·7	6·86	S by W	½ to 1½	..	..	Pos.	..	5	..	..	..
8	29·716	48·5	47·1	1·4	..	..	——	——	S by W	½ to 1½	..	..	Pos.	5	5	..	..	..
10	29·704	48·2	46·6	1·6	45·0	3·2	..	0·00	S by W	½ to 1½	..	..	Pos.	10	10	5	..	..
12	29·712	49·0	47·6	1·4	..	..	42·5	——	S by W	0 to ½	..	..	..	..	0	0	0	..
14	29·708	49·0	48·4	0·6	..	..	——	16·390	S by W	..	..	..	..	..	0	0	0	..
16	29·698	49·8	49·4	0·4	49·5	0·3	44·8		S by W	..	..	..	..	..	0	0	0	..
18	29·689	51·0	49·9	1·1	..	..	44·5	..	SSW	..	..	..	..	..	0	0	0	..
20	29·679	49·5	48·0	1·5	..	..	..	..	SSW	..	..	..	..	..	0	0	0	..
22	29·679	50·0	48·3	1·7	46·5	3·5	..	..	SSW	..	S	4·70	Pos.	5	5	..	..	..
Dec. 17. 0	29·668	52·3	51·5	0·8	..	..	54·2	..	S	0 to 1½	..	..	Pos.	15	15	5	..	..
2	29·606	52·3	51·5	0·8	..	..	49·3	..	S	0 to 2½	..	..	Pos.	5	5	..	..	..
4	29·607	54·5	52·1	2·4	50·0	4·5	——	6·86	S	0 to 2	..	..	Pos.	5	5	..	..	..
6	29·603	53·8	50·4	3·4	..	..	..	——	S	½ to 2	..	..	Pos.	8	10	8	10	..
8	29·583	52·6	50·0	2·6	..	..	42·5	0·00	S	½ to 3	..	..	..	..	0	0	0	..
10	29·594	51·2	49·4	1·8	48·0	3·2	——	——	S	½ to 3½	..	..	..	..	0	0	0	..
12	29·567	52·0	49·9	2·1	..	..	45·5	16·400	S	0 to 2½	..	..	..	..	0	0	0	..
14	29·687	52·5	49·4	3·1	..	..	45·0	..	S	0 to 2½	..	..	..	..	0	0	0	..
16	29·477	52·0	49·9	2·1	47·5	4·5		..	S	0 to 1½	..	..	..	..	0	0	0	..

MAXIMUM FREE THERMOMETER.

December 14d and 15d. The readings were lower than those of the Dry Thermometer at 2h on each day.

December 16d. 22h. The reading was lower than that of the Dry Thermometer at 2h.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
9	..	Cirro-stratus.	E H
10	..	Overcast: cirro-stratus.	
10	..	,, cirro-stratus and scud.	E H
10	..	,, thin cirro-stratus.	G
10	..	The sky is covered with a thin and high cirro-stratus; scud has also been constantly passing.	
0	..	Cloudless.	G
0	..	,,	E H
4	Transit	Cirro-stratus: hazy.	
0	..	Cloudless.	
0	..	,,	E H
0	..	,,	L
0	..	,,	
0	1st Qr.	,,	
0	..	,,	
0	..	,,	L
0	..	,, there has been a great deposition of moisture throughout the night.	E H
0	..	Cloudless.	E H
4	In Equator	There are some strati towards the S., some cirri about the zenith, and some small ill-defined cumuli in other directions.	G
7	..	Cirro-stratus, fleecy clouds, and scud: small breaks are prevalent.	L
10	..	Overcast: cirro-stratus and scud.	
10	Transit	,, ,,	L
10	..	,, ,, very slight rain is falling.	E H
10	..	,, ,,	G
10	..	,, ,,	
10	..	,, cirro-stratus: the clouds are thin, the stars being visible through them.	
9	..	A thin cirro-stratus covers nearly the whole of the sky, through which the larger stars are visible.	
10	..	Overcast.	G
10	..	,, cirro-stratus and scud.	E H
9	..	Cirro-stratus: there are a few small breaks in the S. and S.W.	
6	..	,, white fleecy scud in the N. and N.E.	
6	..	The zenith and the parts for some distance around it are covered with cirro-cumuli: stratus in the horizon.	E H
6	..	Cirro-stratus and scud: about the place of the Moon a large portion of the sky is cloudless.	G
5	Transit	The sky is about one-half covered with white clouds of no particular modification.	
5	..	The sky is about one-half covered with white clouds: the appearance of the sky is very variable.	G
10	..	Overcast: the wind is blowing in gusts to $\frac{1}{5}$.	E H
10	..	,, a slight rain has commenced falling.	
10	..	,, the rain has ceased.	
10	..	,,	
6	..	Cumulo-strati in the N., with heavy masses of dark scud in the E.S.E.	E H
10	..	A thin film of cloud covers the sky.	G
10	..	Overcast: immediately after the last observation a thin rain began to fall and continued until this observation.	
10	..	Overcast with a uniform cirro-stratus.	G
10	..	Overcast: cirro-stratus.	E H
10	..	,, ,,	
10	Transit	,, ,, slight rain is falling: the wind is blowing in gusts.	
10	..	,, ,, the rain continues: ,,	
10	..	,, ,, ,, ,,	
10	..	,, ,, the rain has ceased.	
10	..	,, ,, a fine rain is falling.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. / of Rad. Therm. / of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). / Reading of No. 2. / Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of: Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Dec. 17. 18	29·447	53·8	51·9	1·9	..	..	..	..	S	..	..	..	..	..	0	0	0	..
20	29·358	53·5	51·9	1·6	..	..	..	..	S	0 to 1½	..	..	..	..	0	0	0	..
22	29·390	49·0	47·4	1·6	45·5	3·5	..	..	S by E	0 to ½	S	9·45	Pos.	2	2	..	..	..
Dec. 18. 0	29·353	48·0	47·1	0·9	..	..	..	..	S by E	1 to 3	..	..	Neg.	2	2	..	..	..
2	29·294	48·5	47·3	1·2	..	..	..	..	S	½ to 1½	..	..	..	..	0	0	0	..
4	29·271	48·0	46·8	1·2	45·0	3·0	48·3	..	S by E	..	S	0·50	..	..	0	0	0	..
6	29·247	47·3	46·7	0·6	..	..	34·7	6·98	S by E	..	..	..	..	..	0	0	0	..
8	29·224	47·5	47·2	0·3	..	..	———		S by E	..	..	..	Neg.	5	15	5	..	..
10	29·269	42·2	41·3	0·9	40·8	1·4	..	0·20	W by S	..	..	..	..	..	0	0	0	..
12	29·304	40·1	39·6	0·5	..	..	29·0		WSW	..	..	..	..	..	0	0	0	..
14	..	..	..	..	..	..	———	16·470	S by W	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	45·8		S by W	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	45·5	..	S	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	S	..	..	..	..	..	..	..	..	..
22	29·306	40·7	40·3	0·4	..	..	..	..	S by E	..	SW	3·00	..	..	0	0	0	..
Dec. 19. 0	..	..	..	..	..	..	..	..	SSE	..	..	..	..	..	..	..	..	..
2	29·314	48·0	46·1	1·9	..	..	..	..	S by W	..	..	..	Pos.	10	15	..	..	..
4	..	..	..	..	..	..	48·1	..	SSE	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	36·1		SE	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	———	6·98	E by S	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..		ESE	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	29·5	0·00	E by S	..	..	..	..	..	..	..	..	..
14	29·448	41·5	40·3	1·2	..	..	———		ESE	..	..	..	..	..	0	0	0	..
16	29·479	37·5	37·2	0·3	36·0	1·5	45·2	16·470	SSE	..	..	..	Pos.	20	30	15	..	..
18	29·508	38·5	38·2	0·3	..	..	45·0		SSE	..	..	..	Pos.	15	20	10	..	..
20	29·547	40·0	39·1	0·9	..	..	..	..	E by N	..	..	..	Pos.	7	10	5	..	..
22	29·558	39·0	38·2	0·8	37·5	1·5	..	..	NE	..	ESE	1·70	..	..	0	0	0	..
Dec. 20. 0	29·571	39·5	38·0	1·5	..	..	..	..	NE	..	..	..	..	..	0	0	0	..
2	29·595	39·5	38·0	1·5	..	..	..	..	N by E	..	..	..	..	..	0	0	0	..
4	29·591	38·0	36·2	1·8	32·0	6·0	40·6	..	NE	..	..	..	Pos.	6	15	8	..	..
6	29·592	37·5	36·2	1·3	..	..	31·4		ENE	..	..	..	Pos.	10	15	10	..	..
8	29·590	36·0	35·8	0·2	..	..	———	6·98	ENE	..	..	..	Pos.	30	45	20	30	..
10	29·578	35·4	34·6	0·8	33·5	1·9	..		ENE	..	..	..	Pos.	40	..	35	50	15. 0
12	29·575	34·5	33·1	1·4	..	..	28·3	0·00	Calm	..	..	..	Pos.	10	..	10	20	..
14	29·564	33·5	31·7	1·8	..	..	———		Calm	..	..	..	Pos.	30	..	20	30	Instantly
16	29·554	32·2	30·6	1·6	28·0	4·2	45·0	16·470	Calm	..	..	..	Pos.	40	..	35	45	15. 0
18	29·529	32·0	29·8	2·2	..	..	43·0		Calm	..	..	..	Pos.	35	..	20	30	..
20	29·531	31·8	29·6	2·2	..	..	..	..	Calm	..	..	..	..	..	0	0	0	..
22	29·456	32·2	30·1	2·1	26·0	6·2	..	..	Calm	..	N	1·55	Pos.	40	..	30	40	..
Dec. 21. 0	29·498	33·2	31·1	2·1	..	..	..	..	N	..	..	..	Pos.	40	..	40	50	..
2	29·474	34·0	32·1	1·9	..	..	37·6	..	N	..	..	..	Pos.	40	..	30	40	15. 0
4	29·476	33·5	31·9	1·6	29·5	4·0	~~25·0~~	·98	N	..	..	..	Pos.	40	..	50	70	..
6	29·485	32·8	31·6	1·2	..	..	———		N by E	..	..	..	Pos.	40	..	40	60	..
8	29·490	32·2	31·1	1·1	..	..	..	0·00	N by E	..	..	..	Pos.	40	..	20	30	..
10	29·501	32·0	31·1	0·9	29·5	2·5	20·5		N by E	..	..	..	Pos.	40	..	15	20	10. 0
12	29·494	33·0	31·8	1·2	..	..	———	16·470	N by E	..	..	..	Pos.	10	..	10	12	15. 0
14	29·507	33·0	31·8	1·2	..	..	43·5		N by E	..	..	..	Pos.	7	10	5	..	..
16	29·523	32·8	31·5	1·3	29·0	3·8	40·8	..	N by E	..	..	..	Pos.	5	..	..	..	..
18	29·562	33·7	32·1	1·6	..	..	..	..	N by E	..	..	..	..	..	0	0	0	..

MAXIMUM FREE THERMOMETER.

December 17d. 22h. The reading was lower than that of the Dry Thermometer at 4h.

December 18d. 22h. The reading was lower than that of the Dry Thermometer at 2h.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast: cirro-stratus.	E H
10	..	,, ,, since the last observation the wind has increased in strength.	E H
10	..	,, ,, slight rain is falling.	G H
10	..	Overcast: cirro-stratus and scud: heavy rain is falling in squalls, with gusts of wind.	
10	Perigee	,, ,, rain is falling, but not so heavily as at the last observation.	
10	..	,, ,, a few drops of rain are falling occasionally.	G H
10	..	,, ,, ,,	L
10	..	,, ,, ,,	G
10	Transit	,, ,, the rain has ceased.	E H
8	..	Cirro-stratus: the clouds are partially dispersed: a large clear space towards the S. near the place of the Moon.	E H
..	..		
..	..		
..	..		
..	..		
4	..	There are a few light cirri and scud scattered over the sky, particularly towards the W. and S.W.	G H
..	..		
9	..	Broken masses of cumuli and light scud nearly cover the sky.	
..	..		
..	..		
..	..		
..	Transit		
..	..		
10	..	Overcast: cirro-stratus and scud.	
10	..	A thin stratus covers the sky.	
10	..	Overcast: cirro-stratus and scud: a slight deposition of moisture.	G H
10	..	,, ,,	E H
10	..	,, ,,	
10	..	Overcast: cirro-stratus and scud.	L
10	..	,, ,,	E H
10	..	,, ,,	G H
10	..	,, ,,	
10	..	,, ,, a fine rain commenced falling about ten minutes since.	
10	..	,, ,, the rain ceased shortly after the last observation.	G H
10	Transit	,, ,,	E H
10	..	,, ,,	
10	..	,, cirro-stratus.	
10	..	,, ,,	E H
10	..	,, ,,	L
10	..	,, cirro-stratus and scud: the air is calm.	
10	..	Overcast: cirro-stratus and scud.	G H
10	..	,, ,,	L
10	..	,, ,,	E H
10	..	,, ,,	
10	Greatest declination N.	,, ,,	
10	Full	,, ,,	E H
10	Transit	,, ,,	L
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Dec. 21. 20	29·594	34·0	32·3	1·7	..	..	..	..	NNE	..	..	..	..	..	0	0	0	..
22	29·641	34·0	32·3	1·7	30·0	4·0	..	..	E by N	..	ENE	0·25	Pos.	40	..	40	60	..
Dec. 22. 0	29·674	34·5	32·7	1·8	..	..	..	..	ENE	..	..	..	Pos.	40	..	30	50	17. 0
2	29·708	35·0	33·3	1·7	..	..	..	..	ENE	..	..	..	Pos.	40	..	25	40	8. 0
4	29·748	34·2	32·8	1·4	30·5	3·7	..	..	NNE	..	..	..	Pos.	20	..	20	25	10. 0
6	29·782	33·5	32·3	1·2	..	..	..	..	NNE	..	..	..	Pos.	30	..	30	40	15. 0
8	29·820	33·3	32·1	1·2	..	..	..	..	NNE	..	..	..	Pos.	20	..	20	25	8. 0
10	29·847	33·0	31·8	1·2	29·5	3·5	34·8	..	NNE	..	..	..	Pos.	40	..	20	28	8. 0
11	29·845	33·0	31·7	1·3	..	..	31·8	..	NNE	..	..	..	..	..	..	..	..	..
12	29·859	32·7	31·4	1·3	..	..		6·98	NNE	..	..	..	Pos.	40	..	25	30	8. 0
13	29·857	32·9	31·6	1·3	..	..	..		NNE	..	..	..	..	..	..	..	..	..
14	29·860	32·6	31·4	1·2	..	..	29·2	0·00	NNE	..	..	..	Pos.	40	..	40	60	..
15	29·854	32·5	31·6	0·9	..	..			N by E	..	..	..	..	..	..	..	..	..
16	29·857	32·0	31·2	0·8	30·0	2·0	43·0	16·470	N by E	..	..	..	Pos.	40	..	20	35	..
17	29·852	32·0	31·1	0·9	..	..	39·0	..	N by E	..	..	..	..	..	..	..	..	..
18	29·850	32·0	31·1	0·9	..	..		..	N by E	..	..	..	Pos.	40	..	30	50	10. 0
19	29·826	32·2	31·4	0·8	..	..	..	..	N by E	..	..	..	..	..	..	..	..	..
20	29·822	32·3	31·8	0·5	..	..	..	..	N	..	..	..	Pos.	30	..	25	30	10. 0
21	29·822	32·5	31·8	0·7	..	..	..	..	N	..	..	..	..	..	..	..	..	..
22	29·816	32·9	32·2	0·7	30·5	2·4	..	..	N	..	NNE	0·10	Pos.	40	..	22	30	6. 0
23	29·810	34·0	33·1	0·9	..	..	..	..	NNE	..	..	..	..	..	..	..	..	..
Dec. 23. 0	29·787	34·9	33·5	1·4	..	..	..	..	NNE	..	..	..	Pos.	40	..	40	60	10. 0
1	29·750	35·5	33·9	1·6	..	..	..	..	NNE	..	..	..	..	..	..	..	..	..
2	29·746	37·0	35·4	1·6	..	..	..	..	NNE	..	..	..	..	..	0	0	0	..
3	29·720	36·4	34·8	1·6	..	..	..	..	NNE	..	..	..	..	..	..	..	..	..
4	29·694	35·4	34·6	0·8	34·0	1·4	37·8	..	NNE	..	..	..	Pos.	40	..	22	30	5. 30
5	29·672	35·0	34·1	0·9	..	..	32·2	..	NNE	..	..	..	..	..	..	..	..	..
6	29·648	35·5	34·6	0·9	..	..		6·98	ENE	..	..	..	Pos.	40	..	30	50	..
7	29·638	36·5	35·8	0·7	..	..	..		SSE	..	..	..	..	..	..	..	..	..
8	29·624	36·5	35·2	1·3	..	..	27·0	0·00	SSE	..	..	..	Pos.	20	..	5	15	..
9	29·597	37·6	35·6	2·0	..	..			SSE	..	..	..	..	..	..	..	..	..
10	29·583	38·0	35·9	2·1	33·0	5·0	41·0	16·480	SSE	..	..	..	Pos.	10	..	10	15	10. 0
12	29·565	37·5	36·2	1·3	..	..	38·0	..	SE	..	..	..	Pos.	20	..	7	10	30. 0
14	29·579	37·2	36·5	0·7	..	..		..	E by N	..	..	..	Pos.	30	..	8	10	...
16	29·598	37·3	36·3	1·0	35·0	2·3	..	..	E by N	..	..	..	Pos.	40	..	22	30	5. 0
18	29·641	37·8	37·0	0·8	..	..	..	..	ENE	..	..	..	Pos.	30	..	8	10	30. 0
20	29·688	37·5	37·0	0·5	..	..	..	..	ENE	..	..	..	Pos.	40	..	22	30	5. 0
22	29·749	38·2	37·5	0·7	35·5	2·7	..	..	ENE	..	ESE	1·20	Pos.	40	75	22	30	5. 0
Dec. 24. 0	29·781	39·0	38·2	0·8	..	..	..	..	ENE	..	..	..	Pos.	40	75	22	30	5. 0
2	29·792	39·8	38·5	1·3	..	..	..	..	ENE	..	..	..	Pos.	40	..	20	40	20. 0
4	29·808	38·5	37·4	1·1	36·0	2·5	40·1	..	NE	..	..	..	..	..	0	0	0	..
6	29·842	37·8	37·0	0·8	..	..	35·5		N	..	..	..	Neg.	30	40	12	20	..
8	29·887	37·1	35·7	1·4	..	..		6·98	NE	0 to ½	..	..	Pos.	15	20	5	0	..
10	29·916	36·2	35·5	0·7	..	..	..		ENE	..	..	..	Pos.	20	15	5	..	30. 0
12	29·942	36·6	35·2	1·4	..	..	33·0	0·01	ENE	..	..	..	Pos.	15	20	10	..	..
14	..	..	..	..	..	..			NNE	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	40·0	16·485	N by E	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	37·2		N by E	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	NNE	..	..	..	..	..	..	..	..	..
22	29·951	38·8	37·9	0·9	..	..	..	..	N by E	..	N	1·10	Pos.	10	..	8	10	..

DEW POINT THERMOMETER.
December 24d. 10h. The observation was inadvertently omitted.

MAXIMUM FREE THERMOMETER.
December 23d. 22h. The reading was lower than those of the Dry Thermometer at 10h and 22h.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	..	Overcast: cirro-stratus and scud.	L
10	..	,, cirro-stratus.	E H
10	..	Overcast: cirro-stratus.	G H
10	..	,, ,,	G H
10	..	,, cirro-stratus and scud.	L
10	..	,, ,,	
10	..	,, ,,	L
10	..	,, ,,	G
10	..	,, ,,	
10	..	,, ,, the clouds in the N. are tinged with red.	
10	..	,, ,, ,,	G
10	Transit	,, ,, ,,	G H
10	..	,, cirro-stratus.	E H
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	E H
10	..	,, ,,	L
10	..	,, ,,	
10	..	,, cirro-stratus and scud.	L
10	..	,, ,,	G
10	..	,, ,,	G
10	..	Overcast.	G H
10	..	,, cirro-stratus and fleecy clouds.	G H
10	..	,, ,,	E H
10	..	Overcast with clouds of various densities.	G
10	..	,,	
10	..	Overcast: cirro-stratus.	G
10	..	,, cirro-stratus and scud,	G H
10	..	,, cirro-stratus.	G H
10	..	,, ,, there is a small break E. of the zenith, but to no numerical extent.	E H
10	..	,, ,,	E H
10	..	,, ,, fleecy clouds and scud.	L
10	..	,, ,, a slight rain is falling.	G
10	Transit	,, ,, ,,	
10	..	,, ,,	
10	..	,, ,,	
10	..	,, ,,	G
10	..	,, ,,	G H
10	..	Overcast: cirro-stratus.	
10	..	,, ,,	
10	..	,, ,, a fine rain commenced falling shortly after the last observation.	
10	..	,, ,, the rain continues.	G H
10	..	,, ,, the rain has ceased.	G
10	..	,, ,, a fine rain is falling.	G
10	..	,, cirro-stratus and scud: a fine rain is falling.	G H
..	..		
..	Transit		
..	..		
..	..		
10	..	,, ,, ,,	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div.	m s
Dec. 25. 0	..	..	..	..	..	..	..	..	NNE	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	NNE	..	..	..	..	..	..	..	..	..
4	30·041	39·7	39·3	0·4	..	..	39·6	..	NE	..	NE	1·62	Pos.	5	5	..	..	..
6	..	..	..	..	..	..	34·9	6·98	NE	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	——		NE	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	0·00	NE	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	33·0		ENE	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	——	16·490	ENE	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	39·0		NNE	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	37·0	..	NE	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	NE	½ constant	..	..	..	..	..	..	..	..
22	30·067	36·0	35·6	0·4	..	..	..	..	N by E	..	NNE	0·18	Pos.	10	..	8	10	..
Dec. 26. 0	..	..	..	..	..	..	..	..	NE	..	..	..	..	..	..	..	..	..
2	30·045	36·8	35·9	0·9	..	..	..	..	NE	0 to ½	..	..	Pos.	8	..	8	10	..
4	..	..	..	..	..	..	36·4	..	ENE	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	30·9	6·98	ENE	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	——		ENE	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	0·00	ENE	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	28·0		ENE	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	——	16·490	ENE	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	38·0		NNE	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	35·5	..	NNE	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	NNE	..	..	..	..	..	..	..	..	..
22	30·133	34·2	33·1	1·1	31·0	3·2	..	..	NNE	..	NNE	1·15	Pos.	2	2	..	..	..
Dec. 27. 0	30·139	36·2	34·4	1·8	..	..	..	..	NNW	..	..	..	Pos.	15	..	15	20	..
2	30·117	36·2	34·3	1·9	..	..	..	..	NNW	..	..	..	Pos.	10	..	12	10	..
4	30·114	36·6	34·8	1·8	31·5	5·1	36·6	..	NNW	..	..	..	Pos.	40	..	20	30	10. 0
6	..	..	..	..	..	..	32·7	6·98	NNW	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	——		NNW	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	0·00	NNW	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	27·5		NNW	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	——	16·490	NW	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	37·2		NW	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	36·2	..	NNW	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	N by W	..	..	..	..	..	..	..	..	..
22	30·092	34·5	33·4	1·1	30·0	4·5	..	..	N by W	..	..	..	Pos.	10	15	8	..	..
Dec. 28. 0	30·081	36·0	35·2	0·8	..	..	..	..	NNW	..	..	..	Pos.	10	20	5	..	..
2	30·088	35·7	35·4	0·3	..	..	..	..	NNE	..	..	..	Neg.	40	..	12	20	..
4	30·092	35·6	34·1	1·5	31·0	4·6	35·8	..	Calm	..	..	..	Pos.	2	2	..	..	..
6	..	..	..	..	..	..	26·4	6·98	Calm	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	——		Calm	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	0·00	Calm	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	19·0		Calm	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	——	16·490	Calm	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	36·8		Calm	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	36·2	..	Calm	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..
22	29·972	30·8	29·4	1·4	26·0	4·8	..	..	Calm	..	..	..	Pos.	10	..	8	10	..
Dec. 29. 0	29·920	33·0	31·5	1·5	..	..	..	..	ESE	..	..	..	Pos.	40	..	12	15	More than 60. 0

MAXIMUM FREE THERMOMETER.
December 25d and 26d at 22h. The readings were lower than those of the Dry Thermometer at 4h and 2h respectively.

CROSLEY'S RAIN-GAUGE.
December 29d. The instrument was sent to the maker to be repaired.

WHEWELL'S ANEMOMETER.
December 27d. The instrument was sent to the maker to be repaired.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
..	..		G H
..	..		
10	..		
..	..	Overcast: cirro-stratus and scud.	
..	..		
..	..		
..	..		
..	..		
..	Transit		
..	..		
..	..		
10	..	,, ,, fine rain is falling.	
..	..		
10	..	Overcast: cirro-stratus and scud: the rain has ceased.	
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
..	Transit		
..	..		
..	..		
..	..	,, ,,	
10	..	Overcast: cirro-stratus and scud.	G H
10	..	,, ,,	G
10	..	,, ,, the night following was overcast, with the exception of a short time only, when the	
..	..	clouds were somewhat broken; and after this time some snow fell, being the first which has fallen this season.	
..	..		
..	..		
..	..		
..	..		
..	..		
..	Transit		
..	..		
10	..	,, ,, light snow is falling occasionally.	
10	..	Overcast: cirro-stratus.	
10	..	,, ,, the wind has suddenly changed to the E.: a shower of hail fell at $1^h.\ 50^m$.	
10	..	,, ,, till after 12^h the sky was overcast: at 16^h the clouds became broken; and between this time	
..	..	and 20^h the sky was generally free from cloud: at 21^h it was again overcast.	
..	In Equator		
..	..		
..	..		
..	..		
..	..		
..	Transit		G
..	..		E H
10	..	Overcast: cirro-stratus and scud.	
10	..	Overcast: cirro-stratus and scud.	G

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. as read at 22h. of Free Therm. of Rad. Therm. of Therm. in Water of the Thames.	RAIN GAUGES. Stand of No. 1. (Osler's). Reading of No. 2. Stand of No. 3. (Crosley's).	WIND. From Osler's Anemometer. Direction.	Pressure in lbs. per square foot.	From Whewell's Anemometer. Direction.	Descent of the pencil during the continuance of each Wind.	ELECTRICAL INSTRUMENTS. Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Straws of Volta 1.	Straws of Volta 2.	Interval of time in recovering the same degree of tension after discharge.
d h	in.	°	°	°	°	°	°	in.		from lbs. to lbs.		in.		°	°	div.	div	m s
Dec. 29. 2	29·864	34·7	32·9	1·8	..	..	..	..	SSE	..	..	..	Pos.	40	..	12	15	50. 0
4	29·827	35·0	33·2	1·8	31·0	4·0	37·8	..	SSE	..	..	..	Pos.	6	..	7	8	..
6	..	..	..	..	..	..	29·0	..	S by E	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..		7·01	S by E	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..		S by E	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	27·0	0·08	S	½ constant	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..			S by E	0 to ½	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	36·2	..	S by E	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	36·0	..	S by E	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..		..	S by E	..	..	..	..	..	..	..	..	..
22	29·628	37·7	37·4	0·3	37·0	0·7	..	..	S by E	..	..	..	Neg.	25	..	25	30	1. 0
Dec. 30. 0	29·659	38·2	37·7	0·5	..	..	..	..	S	..	..	..	Neg.	40	..	..	150	Instantly
2	29·668	38·4	38·2	0·2	..	..	..	..	S	..	..	..	Neg.	40	..	out of range	out of range	Instantly
4	29·694	37·3	37·2	0·1	37·0	0·3	~~38·1~~	..	E by N	..	..	..	Neg.	40	..	out of range	out of range	Instantly
6	..	..	..	..	..	..	32·8		N	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..		7·14	N	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..		N	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	31·0	0·20	N	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..			N	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	36·8	..	N	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	36·2	..	N by W	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	N by W	..	..	..	..	..	..	..	..	..
22	29·746	34·1	34·0	0·1	33·9	0·2	..	..	N by W	..	..	..	Pos.	5	..	..	..	..
Dec. 31. 0	29·746	35·0	34·7	0·3	..	..	..	..	Calm	..	..	..	Pos.	25	..	20	30	8. 0
2	29·715	35·8	35·4	0·4	..	..	..	..	Calm	..	..	..	Pos.	20	..	15	20	..
4	29·715	35·8	35·4	0·4	33·5	2·3	35·8	..	Calm	..	..	..	Pos.	30	..	20	30	..
6	..	..	..	..	..	..	30·7		Calm	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..		7·14	Calm	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..		Calm	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	25·0	0·00	Calm	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..			Calm	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	36·5	..	Calm	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	36·2	..	Calm	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..
22	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..

MAXIMUM FREE THERMOMETER.

December 30d. 22h. The reading was lower than that of the Wet Thermometer at 2h.

ELECTRICITY

December 30d. 0h, 2h, and 4h. There were sparks at the distances of 0in·02, 0in·03, and 0in·03 respectively.

Amount of Clouds, 0—10.	Phases of the Moon.	REMARKS.	Observer.
10	3rd Qr.	Overcast : cirro-stratus and scud.	L
10	..	,, ,,	
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
..	Transit		
10	Apogee	,, ,, rain is falling, it commenced at $20^h.40^m$.	
10	..	Overcast : cirro-stratus and scud : rain is falling.	
10	..	,, ,, ,,	
10	..	,, ,, ,,	L
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
..	Transit		
10	..	,, ,, fine rain is falling.	G H
10	..	Overcast : cirro-stratus and scud.	L
10	..	,, ,,	
10	..	,, ,,	L
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		
..	..		

HENLEY'S ELECTROMETER.

December $30^d.0^h$. The reading was 5°.

RAIN.

December $31^d.12^h$. The amount collected during the month of December in the rain-gauge No. 4 was $2^{in}.00$, and that collected by the Rev. G. Fisher in a rain-gauge of the same construction at the Royal Hospital Schools during the same period was $2^{in}.01$.

ROYAL OBSERVATORY, GREENWICH.

EXTRAORDINARY

METEOROLOGICAL OBSERVATIONS.

1847.

OBSERVATIONS WITH THE ACTINOMETER.

Day, 1847.	Greenwich Mean Solar Time of the Initial Reading.	Instrument exposed to the Sun's Rays or in the Shade.	Readings of the Graduated Scale. Initial A	Readings of the Graduated Scale. Terminal B	Change in One Minute. B−A.	Apparent Effect of the Sun's Radiation in Parts of the Scale.	Mean Result of each Group in Parts of the Scale.	Greenwich Mean Solar Time corresponding to the Mean of each Group.	Altitude of the Sun.	GENERAL REMARKS.	Observer.
	h m s		div.	div.	div.	div.	div.	h m s	°		
Jan. 13	21. 44. 0	Sun	51·5	61·2	+ 9·7						HB
	45. 30	Shade	61·7	63·0	+ 1·3	7·8					
	47. 0	Sun	63·7	72·1	+ 8·4	7·5	7·9	21. 47. 30	9	Hazy.	
	48. 30	Shade	72·7	73·2	+ 0·5	8·4					
	50. 0	Sun	20·2	29·6	+ 9·4						
Jan. 13	23. 2. 0	Sun	41·2	55·2	+14·0						
	3. 30	Shade	56·2	57·3	+ 1·1	12·2					
	5. 0	Sun	27·2	39·7	+12·5	11·7					
	6. 30	Shade	40·4	40·9	+ 0·5	11·7	11·9	23. 7. 0	15		
	8. 0	Sun	43·7	55·7	+12·0	11·8					
	9. 30	Shade	56·2	56·1	− 0·1	11·9					
	11. 0	Sun	56·9	68·4	+11·5						
Jan. 14	0. 16. 0	Sun	40·2	53·5	+13·3						
	17. 30	Shade	53·6	53·8	+ 0·2	12·6					
	19. 0	Sun	29·5	41·7	+12·2	11·9	11·7	0. 19. 30	17		
	20. 30	Shade	41·7	42·1	+ 0·4	10·5					
	22. 0	Sun	38·1	47·7	+ 9·6						
Jan. 14	0. 25. 0	Sun	20·9	37·0	+16·1						
	26. 30	Shade	38·3	40·0	+ 1·7	13·3					
	28. 0	Sun	41·4	55·2	+13·8	12·7					
	29. 30	Shade	56·1	56·6	+ 0·5	13·3	13·3	0. 30. 0	17		
	31. 0	Sun	60·4	74·2	+13·8	13·4					
	32. 30	Shade	74·7	74·9	+ 0·2	13·8					
	34. 0	Sun	24·1	38·2	+14·1						
Jan. 14	1. 54. 0	Sun	31·2	42·0	+10·8						
	55. 30	Shade	42·0	41·7	− 0·3	10·5					
	57. 0	Sun	45·1	54·7	+ 9·6	10·2					
	58. 30	Shade	54·6	53·7	− 0·9	10·2					
	2. 0. 0	Sun	54·9	63·9	+ 9·0	9·8	10·4	2. 0. 30	11	Very hazy.	
	1. 30	Shade	67·5	66·8	− 0·7	10·3					
	3. 0	Sun	43·1	53·2	+10·1	10·8					
	4. 30	Shade	54·0	53·2	− 0·8	10·8					
	6. 0	Sun	55·8	65·6	+ 9·8						
Jan. 25	23. 48. 0	Sun	19·0	40·2	+21·2					Cloudless.	
	49. 30	Shade	43·4	47·4	+ 4·0	16·2					
	51. 0	Sun	31·7	50·8	+19·1	15·4				Fleecy clouds over the Sun for five seconds.	
	52. 30	Shade	53·3	56·7	+ 3·4	15·3					
	54. 0	Sun	61·1	79·5	+18·4	15·6	16·0	23. 54. 30	29		
	55. 30	Shade	81·3	83·5	+ 2·2	16·5					
	57. 0	Sun	30·7	49·7	+19·0	16·8					
	58. 30	Shade	51·7	53·9	+ 2·2	15·9					
Jan. 26	0. 0. 0	Sun	58·5	75·6	+17·1					Cloudy for five seconds.	
Jan. 26	0. 30. 0	Sun	42·2	58·4	+16·2						
	31. 30	Shade	58·7	58·6	− 0·1	15·3				Sun obscured for five seconds.	
	33. 0	Sun	61·0	75·2	+14·2	14·2	14·5	0. 33. 30	29		
	34. 30	Shade	78·5	78·6	+ 0·1	13·9				Sun obscured for thirty seconds. [clouds.	
	36. 0	Sun	25·7	39·4	+13·7					Sun obscured for fifteen seconds: cirro-stratus and fleecy	

In every observation, whether in the Sun's rays or in the shade, the Terminal Reading was taken exactly one minute after the Initial Reading.
The "Apparent Effect of the Sun's Radiation" is found by comparing each change (whether in the Sun's rays or in the shade) with the mean of that which immediately precedes and that which immediately follows it.

OBSERVATIONS WITH THE ACTINOMETER.

Day, 1847.	Greenwich Mean Solar Time of the Initial Reading.	Instrument exposed to the Sun's Rays or in the Shade.	Readings of the Graduated Scale. Initial A	Readings of the Graduated Scale. Terminal B	Change in One Minute. B−A.	Apparent Effect of the Sun's Radiation in Parts of the Scale.	Mean Result of each Group in Parts of the Scale.	Greenwich Mean Solar Time corresponding to the Mean of each Group.	Altitude of the Sun.	GENERAL REMARKS.	Observer.
	h m s		div.	div.	div.	div.	div.	h m s	°		
Jan. 26	0. 38. 0	Sun	40·6	48·2	+ 7·6					Sun obscured for thirty seconds.	H B
	39. 30	Shade	48·8	48·7	− 0·1		7·6	0. 40. 0	28	Sun obscured for forty-five seconds.	
	41. 0	Sun	28·2	35·6	+ 7·4					Sun partially covered for fifteen seconds, and wholly covered for thirty seconds.	
Jan. 26	0. 46. 0	Sun	39·5	54·2	+14·7					Clear for forty seconds, and cloudy for twenty seconds.	
	47. 30	Shade	54·5	54·1	− 0·4		9·5	0. 48. 0	27	Sun obscured for thirty seconds.	
	49. 0	Sun	55·5	59·0	+ 3·5					Cloudy for fifty-five seconds.	H B
Mar. 18	22. 35. 0	Sun	41·0	69·8	+28·8						T D
	36. 30	Shade	72·0	76·7	+ 4·7	24·1					
	38. 0	Sun	6·0	34·8	+28·8	24·0					
	39. 30	Shade	37·9	42·8	+ 4·9	24·3					
	41. 0	Sun	45·0	74·6	+29·5	25·2					
	42. 30	Shade	77·2	80·9	+ 3·7	25·9	25·1	22. 43. 0	34	Strong wind.	
	43. 0	Sun	4·0	33·8	+29·8	26·2					
	44. 30	Shade	35·8	39·4	+ 3·6	25·9					
	46. 0	Sun	40·8	70·0	+29·2	25·6					
	47. 30	Shade	71·4	75·0	+ 3·6	25·1					
	49. 0	Sun	11·0	39·2	+28·2						
Mar. 18	23. 2. 0	Sun	23·8	52·8	+29·0						
	3. 30	Shade	53·0	52·7	− 0·3	29·7					
	5. 0	Sun	53·0	82·8	+29·8	29·7					
	6. 30	Shade	83·2	83·8	+ 0·6	29·2					
	8. 0	Sun	1·2	31·0	+29·8	28·8					
	9. 30	Shade	32·0	33·3	+ 1·3	29·3					
	11. 0	Sun	10·0	41·4	+31·4	30·3					
	12. 30	Shade	42·0	43·0	+ 1·0	29·2	29·3	23. 13. 0	36	Strong wind.	
	14. 0	Sun	43·8	72·9	+29·1	28·3					
	15. 30	Shade	74·0	74·7	+ 0·7	29·0					
	17. 0	Sun	15·0	45·3	+30·3	29·6					
	18. 30	Shade	22·0	22·7	+ 0·7	29·1					
	20. 0	Sun	23·0	52·3	+29·3	29·2					
	21. 30	Shade	51·5	50·9	− 0·6	29·9					
	23. 0	Sun	50·5	79·8	+29·3						
Mar. 18	23. 27. 0	Sun	10·0	39·3	+29·3						
	28. 30	Shade	38·7	37·8	− 0·9	30·5					
	30. 0	Sun	37·0	66·8	+29·8	30·6					
	31. 30	Shade	66·7	65·9	− 0·8	30·6	30·6	23. 32. 0	37	Strong wind.	
	33. 0	Sun	5·8	35·5	+29·7	30·6					
	34. 30	Shade	35·0	34·0	− 1·0	30·6					
	36. 0	Sun	33·5	63·0	+29·5						
Mar. 19	0. 8. 0	Sun	4·0	31·5	+27·5						
	9. 30	Shade	30·0	26·3	− 3·7	31·0					
	11. 0	Sun	24·9	51·9	+27·0	30·4	30·6	0. 11. 30	38	Strong wind.	
	12. 30	Shade	50·5	47·3	− 3·2	30·4					
	14. 0	Sun	46·0	73·4	+27·4						
Mar. 19	23. 29. 0	Sun	12·7	40·9	+28·2						
	30. 30	Shade	42·8	45·9	+ 3·1	25·2					
	32. 0	Sun	47·2	75·5	+28·3	25·1					
	33. 30	Shade	76·2	79·4	+ 3·2	25·3	25·3	23. 34. 0	37		

In every observation, whether in the Sun's rays or in the shade, the Terminal Reading was taken exactly one minute after the Initial Reading.
The "Apparent Effect of the Sun's Radiation" is found by comparing each change (whether in the Sun's rays or in the shade) with the mean of that which immediately precedes and that which immediately follows it.

OBSERVATIONS WITH THE ACTINOMETER.

Day, 1847.	Greenwich Mean Solar Time of the Initial Reading.	Instrument exposed to the Sun's Rays or in the Shade.	Readings of the Graduated Scale. Initial A	Readings of the Graduated Scale. Terminal B	Change in One Minute. B−A.	Apparent Effect of the Sun's Radiation in Parts of the Scale.	Mean Result of each Group in Parts of the Scale.	Greenwich Mean Solar Time corresponding to the Mean of each Group.	Altitude of the Sun.	GENERAL REMARKS.	Observer.
	h m s		div.	div.	div.	div.	div.	h m s	°		
Mar. 19	23. 35. 0	Sun	6·0	34·6	+28·6	25·4					TD
	36. 30	Shade	36·5	39·6	+ 3·1	25·5					
	38. 0	Sun	40·4	68·9	+28·5						
Mar. 19	23. 58. 0	Sun	12·0	37·5	+25·5					Cloudless: strong wind.	
	59. 30	Shade	37·7	38·0	+ 0·3	25·4					
Mar. 20	0. 1. 0	Sun	38·2	64·0	+25·8	25·4					
	2. 30	Shade	64·0	64·4	+ 0·4	25·1	25·2	0. 3. 0	38		
	4. 0	Sun	64·7	89·9	+25·2	24·8					
	5. 30	Shade	90·3	90·7	+ 0·4	25·1					
	7. 0	Sun	10·0	35·8	+25·8						
Mar. 20	1. 47. 0	Sun	14·8	35·5	+20·7					Cloudless: strong wind.	
	48. 30	Shade	35·0	34·5	− 0·5	21·0					
	50. 0	Sun	34·0	54·3	+20·3	20·9	21·0	1. 50. 30	34		
	51. 30	Shade	54·0	53·4	− 0·6	21·0					
	53. 0	Sun	53·0	73·5	+20·5						
Mar. 24	23. 18. 0	Sun	6·0	33·8	+27·8					Light cirri: clouds passing over the Sun.	
	19. 30	Shade	38·0	45·2	+ 7·2	20·6					
	21. 0	Sun	48·3	76·0	+27·7	20·6					
	22. 30	Shade	82·0	89·0	+ 7·0	20·8	20·6	23. 23. 0	38		
	24. 0	Sun	5·5	33·4	+ 7·9	20·5					
	25. 30	Shade	38·0	45·8	+ 7·8	20·4					
	27. 0	Sun	51·3	79·8	+28·5						
Mar. 25	0. 0. 0	Sun	6·1	33·0	+26·9					Thin cirri: clouds around the Sun.	
	1. 30	Shade	34·9	37·7	+ 2·8	23·3					
	3. 0	Sun	38·8	64·0	+25·2	22·9					
	4. 30	Shade	65·0	66·8	+ 1·8	23·5	23·5	0. 5. 0	39	Gentle currents of air.	
	6. 0	Sun	67·6	93·0	+25·4	23·6					
	7. 30	Shade	12·0	13·8	+ 1·8	24·3					
	9. 0	Sun	14·2	41·0	+26·8						
May 20	21. 44. 0	Sun	6·0	29·8	+23·8						
	45. 30	Shade	32·0	36·2	+ 4·2	19·7				Light cirri clouds passing over the Sun.	
	47. 0	Sun	38·0	61·9	+23·9	19·7					
	48. 30	Shade	64·0	68·2	+ 4·2	19·3	19·5	21. 49. 0	50		
	50. 0	Sun	2·8	26·0	+23·2	19·2					
	51. 30	Shade	28·4	32·2	+ 3·8	19·4					
	53. 0	Sun	34·0	57·4	+23·4						
May 20	23. 12. 0	Sun	14·0	37·8	+23·8					Cumuli around, and frequently passing over the Sun.	
	13. 30	Shade	39·0	41·3	+ 2·3	20·8					
	15. 0	Sun	42·0	64·3	+22·3	20·5					
	16. 30	Shade	66·8	68·0	+ 1·2	21·8	21·0	23. 17. 0	56		
	18. 0	Sun	10·3	33·7	+23·4	21·9					
	19. 30	Shade	35·0	37·0	+ 2·0	20·2					
	21. 0	Sun	38·3	59·4	+21·1					Sun obscured with cloud.	TD
May 21	0. 8. 0	Sun	15·0	45·0	+30·0						L
	9. 30	Shade	48·2	52·2	+ 4·0	23·5					
	11. 0	Sun	53·5	78·5	+25·0	22·0					
	12. 30	Shade	81·0	83·0	+ 2·0	19·8					

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OBSERVATIONS WITH THE ACTINOMETER.

Day, 1847.	Greenwich Mean Solar Time of the Initial Reading.	Instrument exposed to the Sun's Rays or in the Shade.	Readings of the Graduated Scale. Initial A	Readings of the Graduated Scale. Terminal B	Change in One Minute. B−A.	Apparent Effect of the Sun's Radiation in Parts of the Scale.	Mean Result of each Group in Parts of the Scale.	Greenwich Mean Solar Time corresponding to the Mean of each Group.	Altitude of the Sun.	GENERAL REMARKS.	Observer.
	h m s		div.	div.	div.	div.	div.	h m s	°		
May 21	0. 14. 0	Sun	25·0	43·5	+18·5	16·5				Sun obscured thirty seconds.	L
	15. 30	Shade	45·0	47·0	+ 2·0	20·0					
	17. 0	Sun	14·5	40·0	+25·5	23·9	24·2	0. 16. 45	58	Sun obscured twenty seconds.	
	18. 30	Shade	41·2	42·5	+ 1·3	28·4					
	20. 0	Sun	43·0	77·0	+34·0	32·7					
	21. 30	Shade	78·0	79·2	+ 1·2	29·1					
	23. 0	Sun	37·0	63·5	+26·5	26·3				Sun obscured seven seconds.	
	24. 30	Shade	64·2	65·0	+ 0·8						
May 22	22. 42. 0	Sun	17·5	51·0	+33·5					Sun covered with thin fleecy clouds a few seconds.	
	43. 30	Shade	55·5	61·8	+ 6·3	26·2					
	45. 0	Sun	65·5	97·0	+31·5	24·6				Thin fleecy clouds for twenty seconds.	
	46. 30	Shade	20·0	27·5	+ 7·5	26·8					
	48. 0	Sun	31·5	68·5	+37·0	29·4	27·4	22. 47. 0	54		
	49. 30	Shade	73·3	81·0	+ 7·7	29·0					
	51. 0	Sun	19·5	56·0	+36·5	28·7					
	52. 30	Shade	60·8	68·7	+ 7·9	29·9					
	54. 0	Sun	36·0	75·0	+39·0	31·6					
	55. 30	Shade	79·2	86·0	+ 6·8	34·2					
	57. 0	Sun	5·0	48·0	+43·0	35·7	32·3	22. 58. 15	56		
	22. 58. 30	Shade	50·5	58·3	+ 7·8	32·5					
	23. 0. 0	Sun	23·5	61·0	+37·5	30·7					
	1. 30	Shade	64·0	69·7	+ 5·7	31·8					
	3. 0	Sun	33·6	71·0	+37·4						
May 23	0. 53. 0	Sun	12·7	45·0	+32·3						
	54. 30	Shade	45·2	44·5	− 0·7	32·7					
	56. 0	Sun	44·4	76·0	+31·6	32·3	32·3	0. 56. 30	58		
	57. 30	Shade	75·6	74·9	− 0·7	32·0					
	59. 0	Sun	17·0	48·0	+31·0						
May 23	1. 46. 0	Sun	14·8	45·5	+30·7						
	47. 30	Shade	44·8	42·8	− 2·0	32·7					
	49. 0	Sun	41·8	72·5	+30·7	33·0	32·8	1. 49. 30	54		
	50. 30	Shade	71·8	69·3	− 2·5	32·8					
	52. 0	Sun	68·0	98·0	+30·0						G H
May 31	0. 51. 0	Sun	4·0	40·2	+36·2						
	52. 30	Shade	44·8	53·8	+ 9·0	28·5					
	54. 0	Sun	57·0	95·8	+38·8	30·0	30·0	0. 54. 30	60		
	55. 30	Shade	7·8	16·5	+ 8·7	31·5					
	57. 0	Sun	20·8	62·5	+41·7						
May 31	1. 39. 0	Sun	15·5	49·0	+33·5						L
	40. 30	Shade	50·2	52·1	+ 1·9	31·7					
	42. 0	Sun	15·8	49·5	+33·7	32·1					
	43. 30	Shade	50·9	52·2	+ 1·3	32·5					
	45. 0	Sun	53·2	87·0	+33·8	32·1	32·0	1. 45. 30	55		
	46. 30	Shade	88·2	90·2	+ 2·0	32·2					
	48. 0	Sun	14·0	48·6	+34·6	32·2					
	49. 30	Shade	50·0	52·8	+ 2·8	31·1					
	51. 0	Sun	28·0	61·2	+33·2					Sun covered with cloud five seconds.	

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OBSERVATIONS WITH THE ACTINOMETER.

Day, 1847.	Greenwich Mean Solar Time of the Initial Reading.	Instrument exposed to the Sun's Rays or in the Shade.	Readings of the Graduated Scale. Initial A	Readings of the Graduated Scale. Terminal B	Change in One Minute. B—A.	Apparent Effect of the Sun's Radiation in Parts of the Scale.	Mean Result of each Group in Parts of the Scale.	Greenwich Mean Solar Time corresponding to the Mean of each Group.	Altitude of the Sun.	GENERAL REMARKS.	Observer.
	h m s		div.	div.	div.	div.	div.	h m s	°		
May 31	22. 47. 0	Sun	48·0	84·0	+36·0						
	48. 30	Shade	88·4	96·0	+ 7·6	29·1					L
	50. 0	Sun	19·8	57·2	+37·4	29·4					
	51. 30	Shade	61·0	69·5	+ 8·5	28·7	29·4	22. 52. 0	58		
	53. 0	Sun	24·5	61·6	+37·1	29·5					
	54. 30	Shade	67·0	73·8	+ 6·8	30·5					
	56. 0	Sun	37·0	74·5	+37·5						
May 31	23. 14. 0	Sun	14·5	50·0	+35·5						
	15. 30	Shade	50·5	53·6	+ 3·1	32·3					
	17. 0	Sun	55·4	90·7	+35·3	32·0					
	18. 30	Shade	13·9	17·5	+ 3·6	31·8	32·0	23. 19. 0	59		
	20. 0	Sun	19·5	55·0	+35·5	31·9					
	21. 30	Shade	59·0	62·5	+ 3·5	32·2					
	23. 0	Sun	30·2	66·0	+35·8						
June 1	1. 54. 0	Sun	43·0	77·7	+34·7						
	55. 30	Shade	78·6	79·8	+ 1·2	34·2					
	57. 0	Sun	14·8	50·8	+36·0	34·2					
	58. 30	Shade	51·2	53·5	+ 2·3	33·3	33·5	1. 59. 0	53		
	2. 0. 0	Sun	22·8	58·0	+35·2	32·8					
	1. 30	Shade	59·8	62·4	+ 2·6	33·2					
	3. 0	Sun	20·6	57·0	+36·4						

In every observation, whether in the Sun's rays or in the shade, the Terminal Reading was taken exactly one minute after the Initial Reading.

The "Apparent Effect of the Sun's Radiation" is found by comparing each change (whether in the Sun's rays or in the shade) with the mean of that which immediately precedes and that which immediately follows it.

ROYAL OBSERVATORY, GREENWICH.

ELECTROMETER OBSERVATIONS.

1847.

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time, or Limits of Time, 1847.	Sign of Electricity, as shewn by Dry Pile Apparatus.	READINGS OF ELECTROMETERS.					Time of Recovery after Discharge.	Time of Maximum Tension.	RONALDS' SPARK-MEASURER.		
		Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Volta (1).	Volta (2).	Henley.			Time of Observation or Occurrence of Spark.	Opening of Spark-measurer, or Length of Spark.	Corresponding Frequency.
d h m s d h m s		°	° °	div. div.	div. div.	° °		h m	h m s	in.	sp. sec.
Mar. 7. 13. 45. 0 to 7. 13. 55. 0	..	..	..	out of range	200	2	..	13. 45 to 13. 50	13. 45. 0 13. 50. 0	0·03 0·03	1 in 3 2 in 3
Mar. 29. 5. 20. 0 to 29. 6. 0. 0	Neg.	40	out of range	0 to out of range	0 to out of range	0 to 40		5. 34 to 5. 46	5. 27. 30 5. 28. 0 5. 33. 0 5. 34. 0 5. 35. 0 5. 36. 0 5. 37. 0 5. 39. 0 5. 41. 0 5. 42. 0 5. 43. 0 5. 44. 0 5. 45. 0 5. 47. 0 5. 49. 0 5. 50. 0	0·10 0·07 0·11 0·14 .. 0·13 0·10 0·05 0·13 0·13 .. 0·12 0·12 0·02 0·10 ..	2 in 1 2 in 1 3 in 1 3 in 1 3 in 1 3 in 1 2 in 1 2 in 1 1 in 1 ..
7. 25. 0 to 7. 30. 0	Pos.	40	out of range	out of range	out of range	20	..	7. 28	7. 25. 0 7. 26. 0	0·10 0·10	1 in 1 1 in 1
7. 33. 0 to 7. 35. 0	Neg.	40	out of range	out of range	out of range	12 to 35	..	7. 33	7. 33. 0	0·11	1 in 1
7. 35. 30 to 7. 37. 0	Pos.	40	..	..	..	..	..	..	7. 35. 30 7. 37. 0	0·11 0·12	1 in 1 1 in 2
7. 38. 30 to 8. 10. 0	Neg. & Pos.	40	out of range	out of range	out of range	0 to 40	Instantly	7. 55	7. 38. 30 7. 42. 0 7. 43. 0 7. 45. 0 7. 49. 0 7. 51. 0 7. 55. 0 7. 58. 0	0·12 0·12 0·12 0·07 0·10 0·11 0·12 0·10	2 in 1 1 in 1 1 in 1 1 in 2 2 in 1 2 in 1 3 in 1 1 in 1
April 1. 6. 3. 0 to 1. 6. 28. 0	Neg.	40	out of range	out of range	out of range	40	Instantly	6. 22 to 6. 24	6. 3. 0 6. 22. 0 6. 24. 1	0·11 0·16 0·15	 A volley A spark
6. 28. 10 to 6. 28. 26. 0	Pos.	40	out of range	out of range	out of range	0 to 3	..	..	6. 28. 12 6. 28. 14 6. 28. 18 6. 28. 23	0·12 0·12 0·12 0·12	A spark A spark A spark A spark
6. 31. 25 to 6. 32. 0. 0	Neg.	40	out of range	out of range	out of range	..	..	..	6. 31. 25 6. 31. 40 6. 31. 51	0·10 0·10 0·10	A spark A spark A spark

ELECTROMETER OBSERVATIONS.

GALVANOMETER.		WIND.		REMARKS.	Observer.
The Head of the Needle towards A.	The Head of the Needle towards B.	From Osler's Anemometer. Direction.	From Osler's Anemometer. Pressure in lbs. per square foot.		
° °	° °		from lbs. to lbs.		
..	..	N	..	Rain falling: the gold leaf of the dry pile apparatus was suddenly cut off.	G H
..	..	NW			G H
3					
13					
5					
9					
4					
3					
3					
4					
..	2	NNE			
	2				
3	..	NNE			
..	7	NNE			
	5				
4	..	NNE	..	Heavy rain falling.	
	4				
	10				
	3				
3					
5					
..	13	..	..	The sparks were purple in colour.	G H
0	0				
25 Constant for some time	..	WSW	0 to 1½	From $6^h.\,24^m.\,1^s$ to $6^h.\,25^m.\,30^s$ there were no sparks: between $6^h.\,25^m.\,30^s$ and $25^m.\,40^s$ there were twenty sparks at the distance of $0^{in.}1$, then none for twenty seconds, then at the same distance there were four in twelve seconds, then twenty-five purple sparks in twenty-five seconds, then sixty in thirty seconds, then twenty in twenty seconds, and then the sparks ceased; during this time a black cloud was passing the zenith, from which some rain and hail fell: at $6^h.\,28^m$ the instruments were all at zero.	G
..	..	WSW	..	At $6^h.\,28^m.\,10^s$ there was a sudden exhibition of positive electricity.	
0 to 3	..	WSW			

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time, or Limits of Time, 1847.	Sign of Electricity, as shewn by Dry Pile Apparatus.	READINGS OF ELECTROMETERS.					Time of Recovery after Discharge.	Time of Maximum Tension.	RONALDS' SPARK-MEASURER.		
		Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Volta (1).	Volta (2).	Henley.			Time of Observation or Occurrence of Spark.	Opening of Spark-measurer, or Length of Spark.	Corresponding Frequency.
d h m s d h m s		°	° °	div. div.	div. div.	° °		h m	h m s	in.	sp. sec.
April 1. 6. 31. 15 to 1. 6. 32. 0	Neg.	40	out of range	out of range	out of range	..	..	..	6. 32. 1	0·10	A spark
April 25. 22. 30. 0 to 25. 22. 34. 10	Neg.	40	out of range	out of range	out of range	10 to 30	Instantly	22. 32	22. 30. 0	0·08	1 in 20
									..	0·10	1 in 40
									22. 31. 0	0·10	1 in 4
									22. 31. 30	0·10	1 in 2
									22. 32. 0	0·10	2 in 1
									22. 32. 5	0·12	1 in 1
									22. 33. 40	0·10	4 in 5
									22. 33. 50	0·10	1 in 1
									22. 34. 0	0·10	2 in 3
									22. 34. 10	0·10	1 in 2
22. 35. 0 to 22. 37. 0	Pos.	40	..	70	..	..	Instantly	..	..	..	..
22. 39. 0 to 22. 40. 0	Neg.	40	..	..	..	..	Instantly	..	..	0·09	1 in 2
April 28. 1. 30. 0 to 28. 1. 54. 0	Pos. & Neg.	..	..	..	..	..	..	..	1. 30. 0	0·13	Several
									1. 45. 0	0·13	1 in 1
									1. 46. 10	0·13	2 in 1
									..	0·25	None in 60
									1. 4. 8	0·15	None in 30
									1. 48. 30	0·10	None in 30
22. 28. 0 to 22. 29. 45	Pos.	..	..	..	..	..	..	..	22. 28. 0	0·11	3 in 1
									0. 29. 0	0·11	None
22. 30. 0 to 23. 54. 0	Neg.	..	..	..	..	..	Instantly	23. 43	23. 43. 0	0·12	1 in 1
									..	0·13	None in 60
									23. 45. 0	0·12	1 in 3
April 29. 0. 21. 0 to 29. 1. 15. 0	Pos. & Neg.	40	out of range	out of range	out of range	0 to 19	..	..	..	..	..
5. 15. 0 to 5. 30. 0	Pos. & Neg.	40	out of range	out of range	out of range	10 to 40	..	..	5. 15. 0	0·11	3 in 1
									5. 16. 0	0·10	3 in 1
									5. 17. 0	0·10	4 in 1
									5. 23. 0	0·07	1 in 1
May 3. 1. 30. 0	Neg.	40	out of range	out of range	out of range	50	Instantly	..	1. 30. 0	0·20	A stream of sparks

ELECTROMETER OBSERVATIONS.

GALVANOMETER.		WIND.		REMARKS.	Observer.
The Head of the Needle towards A.	The Head of the Needle towards B.	From Osler's Anemometer. Direction.	From Osler's Anemometer. Pressure in lbs. per square foot.		
o o	o o		from lbs. to lbs.		
0 to 3	..	WSW			G
..	..	SW	0 to 4	A very dark cloud passing: rain at first fell in large drops, and then ceased to fall.	G
..	..	SW	0 to $\frac{1}{4}$	Heavy rain falling: the electricity is positive, as shewn both by the dry-pile apparatus and by the test instrument.	
..	..	SW	..	Heavy rain falling: the electricity is negative, as shewn both by the dry-pile apparatus and by the test instrument.	
..	..	SW to WSW	1 to $4\frac{1}{2}$	During the morning of this day the quality of the electricity changed with every passing cloud: at $1^h.30^m$ there were many darks clouds; sparks at the distance of $0^{in}.13$ occurred in quick succession; and there was a slight galvanic current towards A. The morning was stormy, with occasional rain falling, and the wind was blowing in strong gusts.	
..	..	SW	$\frac{1}{2}$ to 2	Some rain falling in large drops. Hail falling.	
1	..	SW to WSW	0 to 3	The zenith is clear, and there are large cumuli near the horizon: the hail has ceased falling.	
..	..	WSW to SW	0 to $2\frac{1}{2}$	At $0^h.21^m$ there was a clap of thunder in the S.W.; from $0^h.23^m.40^s$ to $0^h.24^m.0^s$ there was a long roll of distant thunder in the S.W.; and at $0^h.27^m$ there was a clap of thunder heard in the S.S.W., which passed to W. and to N.W. by $0^h.27^m.15^s$; the sky at these places was very black: at $0^h.48^m$ a clap of thunder was heard in the S.E.: at $1^h.0^m$ the great darkness near the horizon had passed away, and at $1^h.15^m$ it again became dark.	G
..	3	SW	..	Heavy rain falling.	G H
30	..	From S to N, passing the W	0 to 5	During the morning of this day the electricity was generally positive and very strong; occasionally it was negative, but continued so for short times only: at $2^d.23^h.30^m$ the sky was covered with very dark clouds; the electricity was positive with Henley reading from 20° to 30°: at about 0^h rain began to fall, and continued falling for fourteen minutes; and during this time the electricity was positive, except for a moment, when it was negative, but instantly changed to positive again: at $0^h.25^m$ the rain ceased to fall, and the electricity changed to negative: there was no	G

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time, or Limits of Time, 1847.	Sign of Electricity, as shewn by Dry Pile Apparatus.	READINGS OF ELECTROMETERS.					Time of Recovery after Discharge.	Time of Maximum Tension.	RONALDS' SPARK-MEASURER.		
		Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Volta (1).	Volta (2).	Henley.			Time of Observation or Occurrence of Spark.	Opening of Spark-measurer, or Length of Spark.	Corresponding Frequency.
d h m s d h m s		°	° °	div. div.	div. div.	° °		h m	h m s	in.	sp. sec.
May 3. 1. 30. 0	Neg.	40	out of range	out of range	out of range	50	Instantly	..	1. 30. 0	0·20	A stream of sparks
22. 27. 0 to 3. 23. 1. 0	Neg.	40	out of range	out of range	out of range	25	Instantly	22. 29	22. 27. 0	0·15	1 in 1
									22. 29. 0	0·15	1 in 1
									22. 30. 0	0·16	None in 3m
									22. 33. 0	0·14	1 in 2
									22. 33. 30	0·14	3 in 3
									22. 33. 40	0·14	None in 30s
									23. 0. 0	0·14	Sparks abundant
									23. 1. 0	0·10	Sparks
May 28. 16. 30. 0 to 28. 16. 42. 0	Pos.	40	out of range	out of range	out of range	10	..	..	16. 32. 0	0·04	2 in 1
									16. 37. 0	0·05	1 in 1
June 8. 5. 34. 0 to 8. 5. 47. 0	Neg.	40	out of range	out of range	out of range	3 to 15	..	5. 42	5. 34. 0	0·02	2 in 1
									5. 35. 0	0·13	3 in 1
									5. 36. 0	0·13	3 in 1
									5. 38. 0	0·05	1 in 1
									5. 40. 0	0·05	1 in 1
									5. 40. 30	0·06	2 in 1
									5. 41. 0	0·07	A volley
									5. 42. 0	0·10	A volley
									5. 44. 0	0·07	A volley
									5. 45. 0	0·09	A volley
5. 49. 0 to 6. 20. 0	Pos.	40	out of range	out of range	out of range	0 to 20	..	5. 51 to 6. 1	5. 49. 0	0·10	1 in 1
									5 50. 0	0·10	A volley
									5. 51. 0	0·10	A volley
									5. 52. 0	0·12	A volley
									5. 53. 0	0·11	A volley
									5. 55. 0	0·09	3 in 1
									5. 58. 0	0·11	A volley
									6. 1. 0	0·11	3 in 1
									6. 2. 0	0·11	None
6. 4. 0 to 6. 12. 0	Neg.	40	out of range	out of range	out of range	0 to 16	..	6. 4	6. 4. 0	0·06	1 in 1
									6. 7. 0	0·26	2 in 1
									6. 10. 0	0·07	1 in 1
									6. 12. 0	0·07	None
June 14. 22. 35. 0 to 15. 3. 35. 0	Pos. & Neg.	40	out of range	out of range	out of range	0 to 32	..	2. 1	22. 35. 0	0·11	3 in 1
									22. 55. 0	0·10	2 in 1
									22. 57. 0	0·11	2 in 1
									0. 45. 0	0·09	3 in 1
									2. 1. 0	0·14	3 in 1
									3. 25. 0	0·05	1 in 1
									3. 26. 30	0·12	1 in 2
									3. 30. 0	0·03	2 in 1

ELECTROMETER OBSERVATIONS.

GALVANOMETER. The Head of the Needle towards A.	GALVANOMETER. The Head of the Needle towards B.	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in lbs. per square foot.	REMARKS.	Observer
° °	° °		from lbs. to lbs.		
30	..	from S. to N. passing the W.	0 to 5	current: Henley (after the cessation of the rain) continued to read from 15° to 25°: all the other instruments were out of range: after 1h the electricity again became positive: at 1h. 30m there was a violent squall of wind and rain.	G
..	..	ESE	..	Rain falling: at 22h. 35m the electricity changed from negative to positive suddenly, and at 22h. 37m again changed to negative; rain was falling continuously during this interval. During the whole of this morning, under all variations of weather, the electricity for the most part was negative: at times the sky was clear, and at other times rain was falling: the quality of the electricity was frequently tested by different methods.	G
..	..	W	0 to ½	Rain falling heavily: a loud clap of thunder following lightning at an interval of four seconds; and then another after an interval of five seconds: the rain ceased after 16h. 42m: the electricity was positive throughout.	T D
0 to 10	..	W by S to NNW	0 to 5	A heavy squall of wind and rain; two distant claps of thunder were heard.	G H
..	0 to 25	NNW to NW	0 to 3	Rain falling: a distant peal of thunder.	
0 to 4	..	NW to NNW	0 to ½	No rain falling.	G H
0 to 5	0 to 14	SSW to SW	0 to 8	During several squalls of wind and rain.	GH & L

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time, or Limits of Time, 1847.	Sign of Electricity, as shewn by Dry Pile Apparatus.	READINGS OF ELECTROMETERS.					Time of Recovery after Discharge.	Time of Maximum Tension.	RONALDS' SPARK-MEASURER.		
		Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Volta (1).	Volta (2).	Henley.			Time of Observation or Occurrence of Spark.	Opening of Spark-measurer, or Length of Spark.	Corresponding Frequency.
d h m s d h m s		°	° °	div. div.	div. div.	° °		h m	h m s	in.	sp. sec.
June 17. 23. 11. 0 to 17. 23. 50. 0	Pos. & Neg.	40	out of range	out of range	out of range	0 to 25	..	23. 30	23. 11. 29	0·10	1 in 1
									23. 35. 0	0·09	2 in 1
									23. 39. 0	0·07	1 in 1
									23. 45. 0	0·07	A spark occasionally
									23. 50. 0	0·07	3 in 1
18. 0. 30. 0 to 0. 51. 0	Pos.	40	out of range	out of range	out of range	18 to 30	..	0. 45	0. 40. 0	0·13	3 in 1
									0. 44. 0	0·13	1 in 1
									0. 45. 0	0·14	1 in 1
									0. 50. 0	0·14	1 in 1
									0. 51. 0	0·09	1 in 1
June 22. 23. 20. 0 to 23. 3. 31. 0	Neg.	40	out of range	out of range	out of range	2 to 40	Instantly	23. 46	23. 33. 0	0·09	2 in 3
									23. 35. 0	0·11	1 in 2
									0. 35. 0	0·15	
									3. 12. 0	0·13	1 in 1
									3. 19. 0	0·08	1 in 1
									3. 21. 0	0·05	1 in 1
									3. 30. 0	0·01	1 in 1
June 23. 20. 30. 0 to 23. 20. 42. 0	Neg. & Pos.	40	out of range	out of range	out of range	2 to 18	..	20. 32	20. 30. 0	0·09	2 in 1
									20. 32. 0	0·10	1 in 1
									20. 33. 0	0·06	2 in 1
									20. 37. 0	0·10	1 in 1
									20. 39. 0	0·10	1 in 2
									20. 41. 0	0·03	
July 16. 15. 25. 0 to 16. 16. 10. 0	Neg.	40	out of range	out of range	out of range	5 to 70	..	15. 44	15. 25. 12	0·02	4 in 1
									15. 30. 0	0·02	5 in 1
									15. 34. 0	0·01	3 in 1
									15. 40. 0	0·01	4 in 1
									15. 44. 13	0·01	6 in 1
									15. 49. 0	0·04	4 in 1
									15. 52. 0	0·02	3 in 1
16. 22. 0 to 23. 47. 0	Pos. & Neg.	40	out of range	out of range	out of range	5 to 20	..	22. 25	22. 24. 0	0·09	3 in 2
									22. 33. 0	0·10	
									23. 11. 40 to 23. 11. 55	0·10	1 in 2
									23. 17. 0	0·10	3 in 1
									23. 18. 0	0·11	9 in 5
									23. 20. 0	0·11	8 in 5

ELECTROMETER OBSERVATIONS.

GALVANOMETER.		WIND.		REMARKS.	Observer.
The Head of the Needle towards A.	The Head of the Needle towards B.	From Osler's Anemometer. Direction.	From Osler's Anemometer. Pressure in lbs. per square foot.		
° °	° °		from lbs. to lbs.		
0 to 3	0 to 2	W by S to W	0 to 2	Rain falling: at 23h. 34m thunder was heard in the S. E.: at 23h. 39m it was heard in the S. S. E.: at 23h. 43m, and again at 23h. 48m, it was heard in the S.	G & G H
..	..	..	..	Between 17d. 23h. 50m and 18d. 0h. 15m there was one spark in every second nearly.	G & G H
..	0 to 5	N by W to N	..	Rain falling.	G H
0 to 2	..	SSW to NW	0 to 1	Rain began to fall at 23h. 38m, and continued falling at intervals.	L
..	..	..	..	At 3h. 12m several peals of thunder in the N.W.	
..	..	..	..	At 3. 19 a loud clap in the N.	
..	..	..	..	At 3. 21 a loud clap in the N. N. E.	
..	..	..	..	At 3. 30 a loud clap in the N. N. E., and several peals in the N. E. afterwards.	L
0 to 7	0 to 3	SSW	0 to ½	Rain falling heavily.	L & G H
0 to 10	..	N to N by W	..	Frequent flashes of lightning followed by thunder, at intervals of eight seconds, ten seconds, twelve seconds, and twenty-three seconds or twenty-six seconds: rain falling heavily.	T D
0 to 4	0 to 2	NNW to E	0 to 2	From July 16d. 22h. 0m to 22h. 10m there was a distant rumbling of thunder, and between these times a great darkness came over the sky; the electricity was positive, and continually increasing in tension till 22h. 13m. 5s, when all the instruments, except Henley's electrometer, passed out of range, and rain began to fall: at 22h. 23m there was a galvanic current of 2° towards B: at 22h. 28m thunder was heard in the N. E.: at 22h. 33m. 36s a flash of lightning was seen; there was a rush of sparks, and the electricity changed from positive to negative: at 22h. 33m. 47s thunder was heard, and it was frequently heard between this time and 22h. 56m. 30s: at 23h. 0m the electricity changed to positive, the rain falling steadily: at 23h. 3m. 0s thunder was heard in the S. E., which increased in sound till 3m. 4s, was less loud at 3m. 6s, and was not audible at 3m. 7s: at 23h. 8m the electricity changed to negative; thunder continued to be heard till 23h. 9m. 53s: at 23h. 11m. 40s there was a galvanic current of 4° towards A, and Henley's electrometer read 20° negative: at 23h. 40m the sky became somewhat brighter: at 23h. 47m scud was moving at a low elevation from the E.: the sky was still dark in the E. and in the E. S. E.; the brightness of the sky increased against the wind: at 23h. 58m there was a gleam of sunshine,	G

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time, or Limits of Time, 1847.	Sign of Electricity, as shewn by Dry Pile Apparatus.	READINGS OF ELECTROMETERS.					Time of Recovery after Discharge.	Time of Maximum Tension.	RONALDS' SPARK-MEASURER.		
		Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Volta (1).	Volta (2).	Henley.			Time of Observation or Occurrence of Spark.	Opening of Spark measurer, or Length of Spark.	Corresponding Frequency.
d h m s d h m s		°	° °	div. div.	div. div.	° °		h m	h m s	in.	sp. sec.
July 16. 22. 0. 0 to 16. 23. 47. 0	Pos.	40	out of range	out of range	out of range	5 to 20	..	22. 25	23. 20. 0	0·11	8 in 5
Aug. 5. 3. 45. 0 to 5. 5. 40. 0	Neg.	40	out of range	100	120	5 to 20	from 10^s to 20^s	4. 16	4. 16. 0 4. 18. 0 4. 20. 0 5. 10. 0 5. 15. 0 5. 25. 0 5. 35. 0	0·09 0·04 0·02 0·09 0·06 0·03 0·03	..
Aug. 16. 11. 20. 0 to 16. 11. 40. 0	Neg.	40	out of range	90	120	5 to 10	..	4. 30	11. 20. 0 11. 27. 0 11. 30. 0 11. 35. 0	0·06 0·04 0·06 0·04	2 in 1 2 in 1 1 in 1
Sep. 6. 5. 27. 0 to 6. 5. 45. 0	Pos.	40	out of range	out of range	out of range	6 to 40	..	5. 48	5. 27. 0 5. 28. 0 5. 29. 0 5. 30. 0 5. 32. 0 5. 33. 0 5. 34. 0 5. 37. 0 5. 35. 0 5. 40. 0	0·12 0·13 0·13 0·13 0·13 0·10 0·05 0·04 0·05 0·04	3 in 1 3 in 1 3 in 1 3 in 1 3 in 1 1 in 1 1 in 2 1 in 1 1 in 3 1 in 2
Sep. 7. 22. 20. 0 to 7. 23. 30. 0	Neg.	40	out of range	50	70	0 to 12	Instantly	23. 26	23. 26. 0 to 23. 30. 0	0·06	1 in 2
Dec. 29. 22. 0. 0 to 30. 3. 0. 0	Neg.	40	out of range	200	out of range	0 to 12	Instantly	23. 10	22. 25. 0 23. 10. 0	0·03 0·03	1 in 4

ELECTROMETER OBSERVATIONS.

GALVANOMETER.		WIND.		REMARKS.	Observer.
The Head of the Needle towards A.	The Head of the Needle towards B.	From Osler's Anemometer. Direction.	From Osler's Anemometer. Pressure in lbs. per square foot.		
° °	° °		from lbs. to lbs.		
0 to 4	0 to 2	NNW to E	0 to 2	and shortly after this the rain ceased, and the electricity changed to positive. The depth of rain during the storm was $0^{in.}35$.	G
..	0 to 3	WSW	0 to 3	From $3^h.45^m$ to $4^h.17^m$ rain was falling very heavily; at $4^h.28^m$ it ceased to fall, but was falling heavily from $5^h.5^m$ to $5^h.38^m$. During these times rain to the depth of $0^{in.}59$ fell: at $4^h.5^m$ thunder was heard in the S. E.: there was no galvanic current till $5^h.10^m$, when there was one of 3° towards B.	L
..	..	Calm	..	Rain falling heavily.	T D
..	0 to 15	W by S to WSW	..	Rain falling.	G H
..	..	W by S to NNW	..	Sep. $7^d.22^h.20^s$, a clap of thunder was heard in the E., which passed round to the N: at $22^h.46^m.38^s$ thunder was heard faintly in the E., increased in sound till $46^m.46^s$, and was just audible at $46^m.52^s$: another clap was just heard at $22^h.50^m.2^s$, was most loud at $22^d.50^m.9^s$, and was not heard at $22^h.50^m.16^s$: another clap was just heard at $22^h.51^m.36^s$, was still faint at $22^h.53^m.6^s$, was loud at $22^h.53^m.13^s$, and was faintly heard at $22^h.53^m.19^s$: very distant thunder was occasionally heard after this time.	G & L
0 to 2	..	NW to ESE, then WSW	..	From $29^d.22^h$ to $30^d.3^h$ active electricity was exhibited; Henley's electrometer almost always read from 10° to 12°; sparks were abundant, and slight galvanic currents were shewn, the point of the needle moving towards A. The electricity was most active at the time when the wind changed its direction from the S. to the N. The ordinary instruments were out of range.	G

OBSERVATIONS OF AURORA BOREALIS IN THE YEAR 1847.

AURORA BOREALIS OF 1847, MARCH 19.

1. *Observations at Hyde Vale, Greenwich.*

1847, March 19.—Soon after 7^h the whole of the northern hemisphere was illuminated by a magnificent auroral arch, from the N. E. portion of which streamers occasionally darted and attained the altitude of 50°, and some went above the constellation Ursa Major. The colours at this time varied from white to orange, and the light was so considerable as to appear to diminish that of the Moon, then about three days old, and wanting two hours of her setting. Clouds then obscured the sky, which dispersed between 8^h and 9^h, and disclosed a brilliant band or zone of light about 3° in breadth, which extended from near the western horizon to the zenith. This band had a slow progressive motion towards the South, gradually making a less angle with the horizon, and passing in its course the constellation Orion.

Shortly after 9^h the sky became cloudy, and neither the stars nor the Aurora were visible.

At 11^h some streamers were seen, and after this time the sky was overcast.

The sky during the day had been free from cloud, and the wind had blown strongly from the S. The air was in a calm state during the continuance of the Aurora.

JOHN HENRY.

2. *Observations at Park-street, Greenwich.*

1847, March 19.—At $8^h.20^m$ Greenwich mean time, a strong auroral light was visible near the horizon in the N. and N. N. E., at an altitude of about 8°: it was particularly vivid in the N. N. E.

At $8^h.35^m$. the greater part of the sky became overcast, and remained so till about 9^h, when a splendid auroral arch became visible; its direction at this time was from α Orionis to a point between Castor and Pollux: when I first saw it, the arch was broken about α Orionis, to an extent of about 10°. Between $9^h.10^m$ and $9^h.20^m$ it passed from between γ and δ Orionis, exactly over α Orionis, between ξ and γ Geminorum, and finally through κ Geminorum; its termination was a little to the E. of the zenith. Between $9^h.20^m$ and $9^h.25^m$ the arch moved a little to the S., passing over the belt of Orion and Pollux. Shortly afterwards clouds came up from the W. and obscured every portion of it. Between $9^h.40^m$ and $10^h.0^m$ a strong diffused light was visible near the horizon in the W. and N.; and a peculiar slate-coloured cirro-stratus was prevalent between these times.

The breadth of the arch appeared to be about 3° at α Orionis, 2° at Pollux, and near the zenith it was much less. Its colour was of a silvery white.

At $10^h.30^m$ the auroral light was visible near the N. horizon only.

Between $10^h.50^m$ and $11^h.10^m$ there were several streamers on each side of the constellation Cassiopeia, whose direction was towards the Pole star.

HUGH BREEN.

3. *Observations at the Observatory at Cambridge.* (*From the Cambridge Chronicle, March* 27, 1847.)

1847, March 19.—At about half-past seven the beginning of an Aurora was visible in the N.W., which in a short time attained to great brilliancy. The usual arch was formed, extending from W. N.W. to N. N. E., from all points of which streamers rose in quick succession, particularly from the westerly half. The streamers were generally white, a few only being of a reddish colour. I remarked of some that rose from the N.W., that when they reached to an altitude of about 45°, they curved sensibly towards the South. Mr. Morgan informs me that he noticed a peculiarity in the arch which is rarely seen, viz., that near its vertex it appeared to consist of separate parallel bands. The luminous arch which later in the evening presented so striking an appearance, was probably a similar band formed much more southward than usual. The permanence of its character separates it from the class of streamers. It appears to have risen very suddenly at about $8^h.45^m$, and at first to have been situated to the North of our zenith, passing close to Capella and through part of the Great Bear. During the whole time it was visible it gradually shifted southward, descending eventually to the belt of Orion, and crossing the upper part of the constellation Leo Major to Arcturus. Westward from this star, near which it terminated in a kind of cusp, its breadth increased to a maximum near the meridian, and

AURORA BOREALIS OF 1847, MARCH 19—(*continued*).

then diminished somewhat towards the western horizon, so that it had the appearance of the head of a spear. The diminution of apparent breadth towards the West was probably only an effect of perspective. Its colour was perfectly white, and of remarkable brilliancy. Bright stars were visible through it. The following are pretty accurate observations of its positions with respect to stars at given times, by comparison of which with simultaneous observations made elsewhere, the height of the meteor may be calculated. The time mentioned is always true mean time at the Cambridge Observatory.

At $8^h.\ 50\frac{1}{2}^m$ the lower border passed a very little above γ Orionis, and about as much below Pollux: the upper border passed through Castor. Its axis passed also between the stars γ and μ, on the feet of the Twins, rather nearer to the former star than to the other. It terminated at a point between Arcturus and Mirach [β Andromedæ], distant from the former by about 4-10ths of the interval between the stars.

At $8^h.\ 57^m$ α and γ Orionis were equidistant from its axis on opposite sides.

At 9^h its upper border was a little below α Orionis and its lower border as much above δ Orionis.

At $9^h.\ 13^m$ its upper border was as much above δ Orionis as the lower border was below ϵ Orionis, and the lower border passed midway between ϵ and ζ Orionis. The above observations were made by Professor Miller, who has kindly favoured me with the use of them.

I did not happen to witness the phenomenon till about $9^h.\ 8^m$. At $9^h.\ 10\frac{1}{2}^m$ I took the following observation of its position. The lower border just covered δ Orionis, and passed a little above β Ursæ Minoris. Near the meridian two stars γ and δ of the Crab (called by the old astronomers *Asellus Borealis* and *Asellus Australis*) were one on the upper the other on the lower border. The breadth measured by the positions of these two stars was $3°.\ 20'$, which was nearly the maximum apparent breadth at this time: it terminated almost exactly at Arcturus. For the first few minutes that I saw it there was very little motion.

At $9^h.\ 12\frac{1}{2}^m$ the western portion suddenly faded; the next minute I remarked that the terminating point was to the S. E. of Arcturus; and, after the interval of another minute, that it passed entirely below the stars γ and δ of the Crab.

At $19^h.\ 15\frac{1}{2}^m$ it covered the belt of Orion, and immediately after, clouds gathering from all quarters, it had a broken appearance throughout. The general direction of the arch was all along nearly perpendicular to the magnetic meridian. This Aurora was succeeded by wind: the air previously had been still and remarkably free from clouds.

J. CHALLIS.

4. *Observations at Playford, near Ipswich.* (*Private Communication to the Astronomer Royal.*)

March $19^d.\ 8^h.\ 45^m$.—I have been called out to view a most beautiful appearance in the sky, which rose in the western horizon, and reached the zenith. The present streak is similar in some respects to the great stream of light which was visible about 16 or 18 years since, but less brilliant; it occupies the same portion of the sky. Darting from the horizon in the W. it is faint for some degrees; at the altitude of 15° nearly its full breadth and splendour are attained. Its average breadth I estimate to be about $3\frac{1}{2}°$. The beam of light beginning from the horizon in the W. is at first somewhat curved, and then seems to be tolerably straight to within 6° or 8° of Mars, and it reaches to within 30° of the eastern horizon. The arch remained in this position for 20 minutes, then the western portion became gradually less curved, and the central part moved towards Castor and Pollux and passed 3° to the S. of these stars: it then began to fade at the eastern extremity, and at 10^h it was less visible than the milky way. Notwithstanding the brightness of the light and its apparent denseness, the larger stars were visible through it.

5. *Observations at Playford, near Ipswich.* (*Private Communication.*)

1847, March 19.—At $8^h.\ 30^m$ on looking through a door, whose situation is due East, I saw a bright light springing up vertically from the eastern horizon, which crossed the zenith, and reached the western horizon. On watching this light it was observed to change its position: the part in the zenith moving towards the South, the western extremity moving to the W.S.W. part of the horizon in about ten minutes, whilst the eastern extremity remained almost motionless, though a suspicion existed that it had moved a very little towards the N. The center of the arch seemed to move much more to the S. than either of the extremities. At $8^h.\ 30^m$ the arch was of a uniform brightness; shortly after, the western portion increased considerably in brightness, and it remained visible much longer than the eastern portion. The arch was not of a uniform appearance, but seemed to consist of different parts, or bands one over the other, giving it the appearance of several shades running into each other.

AURORA BOREALIS OF 1847, MARCH 19—(*concluded*).

6. *Observations at Playford, near Ipswich.* (*Private Communication.*)

1847, March 19.—At 9^h an auroral arch was seen, situated for the most part between α Bootis and the constellation Corona Borealis; it passed a little to the S. of α Coronæ Borealis, between Castor and Pollux, a little to the N. of α Orionis, and continued to the horizon. At $9^h.30^m$ it had moved towards the S., and was less bright; it then increased in brightness, and finally disappeared.

AURORA BOREALIS OF 1847, SEPTEMBER 24.

Observations at the Royal Observatory, Greenwich.

1847, September 24, $9^h.39^m.30^s$, Göttingen Mean Solar Time.—Mr. Humphreys was on the watch for streamers of an Aurora, whilst Mr. Glaisher's eye was at the telescope of the theodolite, and at this time Mr. Humphreys announced the presence of a streamer. The declination magnet immediately moved rapidly towards the Astronomical meridian, the cross passing out of the field of the telescope, and both the horizontal and vertical force magnets moved so as to increase their readings.

At $9^h.46^m.30^s$ some streamers had been visible, but Mr. Glaisher had been engaged in reading the theodolite, &c.; at this time another streamer appeared, the declination still further decreased, the horizontal force increased, and the vertical force diminished.

At $9^h.51^m.4^s$ a blood red streamer was seen.

At $9^h.52^m.0^s$ a red streamer appeared in the W. and shot up in the prime vertical.

At $9^h.59^m.30^s$ a streamer suddenly appeared; the time noted is that of its first appearance, and the declination magnet moved rapidly so as to decrease the W. declination.

At $10^h.4^m.30^s$ a fine white streamer darted up from the W.N.W. and extended to 30° S. of the zenith. The W. declination decreased, and both the horizontal force and vertical force increased.

A rigorous watch was kept up till 12^h for streamers, one observer keeping his eye upon the magnets, but no more were seen.

AURORA BOREALIS OF 1847, OCTOBER 24.

1. *Observations at the Royal Observatory, Greenwich.*

1847, October 24.—At $7^h.11^m$, Göttingen Mean Time, there were several deep rose-coloured streamers extending from near the horizon to an altitude of 45°.

At $7^h.18^m$ the rose-coloured streamers have increased in brilliancy, and are more numerous, extending from the N.W. to the N.; in some places they have the appearance of sheets of flame.

At $7^h.28^m$ the streamers continue to the same extent, and as brilliant as at the last observation.

At $7^h.34^m$ the red streamers are less brilliant, but still continue in the N., N.N.W., and N.W.

At $7^h.43^m$ the streamers are less brilliant.

At $7^h.48^m$ the streamers have nearly faded away; they are faintly visible from the N. to the N.W.

At $7^h.50^m$ there is nothing visible.

At $7^h.56^m$ rose-coloured streamers have again burst forth from the same quarter.

At $8^h.2^m$ there is a very brilliant red light in the N.N.W. Rose-coloured streamers of the same beauty as at $7^h.28^m$ are visible.

At $8^h.9^m$ a faint white streamer extending from the N.W. to the zenith.

At $8^h.15^m$ both the coloured and white streamers are less brilliant, but continue as numerous as before.

At $10^h.16^m$ a brilliant rose-coloured streamer burst upwards from the N.E. horizon, as well as a white streamer from the N.W. There are rose-coloured streamers flashing in the N. and N.N.W.

At $10^h.19^m$ the Aurora is increasing in brilliancy, and the streamers are more numerous.

At $10^h.22^m$ both classes of streamers are extending from the N.W. to the N.E.

Between $10^h.37^m$ and $10^h.44^m$ there was a magnificent display: it consisted of an intense red column in the N.N.W. and another of the same form and colour in the N.E.; both these columns were about 5° in breadth at the base, and pointed towards the zenith. Between these two boundary portions there was a collection of silvery-white and rose-coloured columns, all rising vertically and pointing to the zenith; parts of their central portions were in constant motion, both upwards and downwards; the

AURORA BOREALIS OF 1847, OCTOBER 24—(*continued*).

lower portions of the columns seemed to approach to and recede from each other, except the deep crimson boundary portions, which remained unmoved and exceedingly brilliant. In addition, there were three beautiful portions like milk-white clouds, floating slowly from the N. N.W. towards the S. E. Each of these portions of the Aurora was like a living mass, having, apparently, a pulsation within itself: these appearances were still in progress when both Mr. Glaisher and Mr. Humphreys left to record the positions of the magnets, which were found to have moved from their usual positions to a most unusual extent. The horizontal force magnet had moved to such a position that the field of the telescope was black. Mr. Humphreys then moved the light along the scale till the divisions were visible. (See the section of Extraordinary Magnetical Observations.) The declination magnet had also changed its place considerably, but the change in the vertical force was small.

At $10^h.48^m$ the Aurora is diminished in splendour.

At $11^h.12^m$ the Aurora is scarcely visible.

At $12^h.20^m$ the Aurora has again burst forth with great splendour. There is a well-defined arch extending from the N.W. by the N. to the N. E.; the highest part of the arch is about 30° above the horizon. Both the red and white streamers in their flashing occasionally shot downwards, but mostly they shot upwards. At times the streamers all met at a point a little S. of the zenith. The Moon was shining so brightly that this last appearance was seldom seen, and never very clearly. Both the extremities of the arch were bounded by brilliant rose-coloured flames of light, over which occasionally a sheet of white flame would spread with great rapidity. This appearance with its full splendour continued about 20 minutes, after which it begun to fade.

The space between the extremities of the arch was composed of white streamers in the form of beautifully arranged drapery, which, as they flashed, had the appearance of being disturbed by the wind.

The above remarks were made in a very hurried manner, between the observations of the magnetic instruments, which necessarily occupied almost the entire time of the observers, so that the remarks are those made at momentary examinations of the heavens only.

The magnetical instruments had been much disturbed during the two preceding days.

2. *Observations at Dartmouth Terrace, Blackheath.*

1847, October 24.—The barometer-reading during the previous day had declined rapidly, and during this day it had increased as rapidly. The day had been for the most part overcast, and light rain had fallen occasionally; towards evening the sky became perfectly cloudless; the night was beautiful, and the Full Moon shone with unusual brilliancy.

At about $6^h.30^m$ p.m. a bright red streamer was seen to spring up from the N.W.

At $6^h.40^m$ another streamer was seen in the N.W., and at the same instant one sprung from the N.; both of which were of a beautiful red.

At $6^h.56^m$ a less brilliant streamer was seen in the N.W., and within three minutes after this time, several faint streamers were seen in the N., N. N.W. and N.W.

From 7^h to $7^h.12^m$ a few streamers were seen, and after this time no trace of the Aurora could be seen for some time.

Between $7^h.30^m$ and $9^h.40^m$ there were occasional streamers, both white and red, appearing between the N.W. and the E. N. E.

At $9^h.55^m$ a splendid column of red light appeared in the N.W., whose base was about 5° in breadth. This pyramid exhibited all the tints of the most brilliant sunset, and appeared to be composed of streamers whose colours shaded from the most intense crimson into the ruddiest and most brilliant orange, which orange parts again contrasted with the ruddy hue of the next portion, forming by means of contrast upon contrast an endless gradation of shade and colour,—a truly sublime and gorgeous appearance. About this time, the furnace glow which pervaded this appearance increased in intensity, and had all the appearance of the reflexion from an immense conflagration; in the mean time the orange colour entirely disappeared, and gave place to a uniform deep crimson, increasing, as before stated, in intensity, and apparently in denseness.

At $10^h.0^m$ the same appearance continued as above; but in addition to it, there was a collection of vertical columns of light from 2° to 3° in breadth; and from the E. N. E. there was a column similar in form and colour to the one in the N.W., with the exception of being less brilliant. These two red columns formed the East and West boundaries of the fan-like appearance of the whole mass, all the columns of which converged to a point a few degrees S. of the zenith.

The columnar appearances situated between the red columns were of the most silvery light, shaded with a most delicate and pure gray; they were perpetually glancing and shifting upwards and downwards; the lower parts of each column would suddenly glance into the place of the upper portion of the same column, whilst the upper portion would shoot higher towards the zenith, and then both would suddenly descend. This vibrating motion was simultaneous in all the columns, excepting the splendid red portions

AURORA BOREALIS OF 1847, OCTOBER 24—(*continued*).

at either termination, which remained immoveable, though it rather appeared that as the central silvery light fluctuated, now bright, now dim, these rosy extremities fluctuated in direct opposition, their rosy hue becoming fainter and inclining to a neutral tint in proportion to the increase of the silvery brightness. The whole variation of appearance somewhat resembled the reflexion cast upon a wall by a Gothic casement lighted from within by some fitful and inconstant light. Towards $10^h.\ 12^m$ a considerable diminution in the brilliancy of the light, fleecy, silvery columns took place; their regular and casement-like appearance disappeared by degrees and assumed more of the character of the extremities, although they still continued their fitful, glancing, and radiating motion. During these appearances two or three milk-white, cloud-like masses came up from the N.W. and slowly moved towards the S. E.; each of these masses seemed to have a kind of pulsation within itself.

At $10^h.\ 19^m$ little could be seen of the Aurora, excepting the red column in the N.W.; this still retained much brilliancy, though all else seemed merged into the sky, when at times, like the bursting of a firework, streamers would spring up from this column, white and brilliant, except at their upper portions, which were tinged with rose colour.

About this time, the Moon, which had been shining upon a cloudless sky, was suddenly surrounded with a splendid corona, exhibiting concentric circles, first of a neutral tint, next of violet, then of green, the outermost being red; the external boundary of the latter passed nearly midway between the Moon and the planet Mars; this appearance continued at its extreme brilliancy a short time only, but more dimly it continued for a long time.

From $10^h.\ 30^m$ to $11^h.\ 0^m$, with the exception of an occasional streamer, there was no appearance of the Aurora; and at times no Aurora at all was visible.

To $11^h.\ 14^m$ no arch-formation or bank of vapour had been seen; a bright arch however was supposed to have formed about this time, but, if so, it continued a short time only.

Shortly after $11^h.\ 15^m$ a faint stream or column of white light was seen in the N. N. E., and a splendid red patch of light, nearly in the E., was seen, which grew very bright, and the phenomenon at midnight exhibited an appearance as beautiful as any of those that had preceded it. An arch appeared extending from the N.W. to the S. E.; from this arch very bright and flickering pencils of light darted out, both upwards and downwards.

At $12^h.\ 30^m$ the streamers were frequent; the arch now extended from the N. by W. to the E. by N., and at every part of this arch an occasional streamer, with taper-like form, sprung up; and this appearance continued till after 13^h.

I did not observe any halo around the Moon at any time, and the Aurora, with the exception of the beautiful white clouds, was confined to the northern hemisphere.

Many of the preceding observations were made by an assistant at my residence, as my own attention was almost completely occupied by observations of the magnetical instruments; so much so, that I was obliged to neglect some of its finest appearances, but which I believe were pretty well observed as above described. The watch by which the times were taken was compared about midnight, so that the several times are Greenwich Mean Solar Times.

JAMES GLAISHER.

3. *Observations at Maidenstone Hill, Greenwich.*

1847, October 24.—The sky had been covered by cirro-stratus, some light rain had fallen in the afternoon, and towards evening the clouds cleared gradually away.

At $6^h.\ 25^m$, Greenwich Mean Time, there was a bright white auroral streamer visible in N.W., which soon disappeared, and a red streamer rose about W. N.W., followed by others at $6^h.\ 32^m$ in N. N.W. and N. N. E.

At $6^h.\ 34^m.\ 45^s$ several very red and bright streamers appeared in N. N.W.; a moment afterwards another appeared in N.W.: the sky became completely illuminated by red streamers from N. N. E. to W.N.W., reaching to an altitude of 30°, which gradually faded away.

At $6^h.\ 37^m.\ 45^s$ a red streamer shot up for 10^s as high as α Ursæ Majoris, and about this time there was a white auroral arch whose apex was about 10° in height, reaching from N.W. to N., or perhaps a little beyond these points.

At $6^h.\ 40^m.\ 5^s$ a red streamer was visible (the place unrecorded in the hurry), and at $6^h.\ 41^m.\ 40^s$ a part of a reddish arch appeared at the West extremity of the white arch, and continued visible for 30^s or 40^s.

At $6^h.\ 44^m.\ 25^s$ there was a bright red streamer at the West extremity of the white arch, and a few seconds afterwards a smaller one appeared close to it; they at first increased in brightness, but had nearly disappeared at $6^h.\ 46^m$.

At $6^h.\ 46^m.\ 30^s$ a broad red and bright streamer; the white arch was not visible.

At $6^h.\ 48^m.\ 40^s$ a faint streamer in N. N.W. which soon disappeared.

AURORA BOREALIS OF 1847, OCTOBER 24—(*continued*).

At $6^h.\ 49^m.\ 10^s$ a whitish and bright streamer in N.W. which disappeared at $6^h.\ 52^m$; the streamer which became visible at $6^h.\ 44^m.\ 25^s$ vanished soon after this.

At $6^h.\ 52^m.\ 45^s$ a high and bright red streamer rose in N.W. but soon disappeared. The increasing elevation of the Moon rendered the observations less satisfactory. A little redness in N.W. at about 7^h. Nothing was now seen till $7^h.\ 25^m.\ 30^s$, when a broad red and exceedingly bright streamer appeared in N. N.W. reaching nearly to Ursa Major; it became fainter and disappeared at $7^h.\ 29^m$ or $7^h.\ 30^m$.

At $7^h.\ 31^m.\ 45^s$ a bright red streamer in N.W. for about 1^m.

Between $7^h.\ 38^m$ and $7^h.\ 45^m$ three dull red streamers were seen in different parts. There now appeared to be some cessation, for nothing else was seen (though the sky was examined every 10 or 15 minutes) till $9^h.\ 24^m$ when a few white streamers were seen between N. and N.N.W. At $9^h.\ 26^m$ a beautiful broad red streamer rose in N.E., and continued visible with some variations in its brightness for 21 minutes, or till $9^h.\ 47^m$, and then faded, during the greater part of the time reaching very nearly as high as Capella; a smaller one was visible part of the time, a little nearer to the E.: on looking now to the West, there was a red streamer reaching, when first seen, above α Aquilæ; and from this time ($9^h.\ 50^m$) till $10^h.\ 10^m$ the changes of the Aurora were such that description becomes almost impossible; suddenly white streamers darted almost simultaneously from every point between the two last-mentioned red streamers, which with the white ones reached right up to the zenith, both white and red increasing in brilliancy, and all converging to the zenith; red streamers also rose from other points besides the E. and W.: they were in fact mingled, as if promiscuously, together.

At $9^h.\ 55^m.\ 10^s$ both white and red streamers began to flash or wave with great rapidity, and continued flashing (particularly in the zenith, where they were very bright) till $10^h.\ 0^m.\ 30^s$, flashing two or three times in a second, with occasional short cessations; the sky now presented an almost terrific appearance; from East to West, and up to the zenith, it was one continued blaze of white and red streamers intensely bright, more particularly the great red streamer in the W., which passed the zenith to the S., and some of the white ones in N.W. and W.N.W.; after this they decreased in brightness.

At $10^h.\ 2^m.\ 10^s$ a few streamers flashing again in the E.

At $10^h.\ 8^m$ flashing in the W. again.

At $10^h.\ 8^m.\ 55^s$ a very bright meteor shot in the direction from Polaris towards α Cygni, across the flashing streamers, which now began to fade.

At $10^h.\ 27^m$ white streamers still reached to the zenith, though not so vividly as before, till $10^h.\ 45^m$, when they subsided a little; a few clouds interrupted them, but not to any great extent; a few streamers were seen at different times afterwards.

At $12^h.\ 8^m$, from N.N.E. to W.N.W., a fine arch of streamers (white ones) was visible, with a red one in N.N.E. Streamers at times were visible till $13^h.\ 30^m$, the latest moment to which my observation extended; but it is likely that more may have been seen after that time.

The prominent features in this extraordinary Aurora, were the great quantity of red streamers, and their deep colour, the Moon being so bright; the convergence of all to a point in the zenith, and the flashing or waving motion of the streamers, both right and left, and also upwards; for a bright flash would sometimes suddenly burst out at the bottom, and then run all the way to the top. The edges of some of the streamers were also very well defined.

The watch by which these observations were taken was compared on the same night, and the times are nearly correct.

WILLIAM ELLIS.

4. *Observations at the Royal Naval School at Greenwich.* (*Private communication to Mr. Glaisher.*)

1847, October 24.—At $10^h.\ 0^m$ (when I first saw it) the Aurora consisted of a collection of light fleecy columns, nearly vertical, and approaching near to the zenith, and very faintly illumined. They were confined between the limits of N. and E.N.E. (true). No arch-formation, or bank of vapour, was then seen to the northward, but there was an extensive, confused, fleecy patch of light in the direction of N., which continued for a short time.

At $10^h.\ 30^m$ nearly as above, but the streamers are more to the westward, that is, between the limits of N.N.W. and N.N.E.

At $10^h.\ 45^m$ Aurora much diminished; some faint, low, and indistinct columns, apparently converging towards a point in the horizon, situated in the direction of N.N.E.; light fleecy clouds near the zenith; no arc or bank visible; wind in puffs.

At $10^h.\ 56^m$ a low dark bank, apparently of vapour, visible a little above the horizon towards the N., which was faintly illuminated at the upper edge, particularly about due North, where it appeared as an illumined patch of white light cloud; some faint streamers to the N.N.E. at the same time.

At $10^h.\ 58^m$ Aurora scarcely visible; the atmosphere apparently warmer to the feelings, but I did not observe the thermometer.

AURORA BOREALIS OF 1847, OCTOBER 24—(*continued*).

At 11^h. 0^m the patch of light in the direction of North again visible, with faint streamers as before.

At 11^h. 14^m suddenly a bright arch to the northward, which continued for a few seconds only, and no streamers from it.

At 11^h. 18^m a faint streamer or column of white light from the N. N. E. point of the horizon to the zenith, but it disappeared immediately.

At 11^h. 19^m a red patch of light about E. N. E.: altitude about 25°.

At 11^h. 20^m the red patch very splendid.

At 11^h. 23^m the red patch still bright, but proceeding apparently towards the S. E. direction: a bank of vapour to the N., increasing in altitude.

At 11^h. 25^m no streamers visible: the red patch of light before observed still going to the S. E., and appearing to extend itself downwards, to a point in the horizon situated in the direction of E. by N.

At 11^h. 30^m the red patch E. by N., very bright.

At 11^h. 32^m the bank of vapour to the northward, fringed on the upper edge with short and unequal streamers of light, the bank extending between the limits of N.W. by N. to N. N. E.

At 11^h. 40^m a splendid column of red light suddenly appeared from the horizon (from the N. N. E. point) and inclined obliquely towards the south-east. At the same instant another column appeared nearly parallel to it, but of white light, very bright, and which rose from the N. N.W. point of the horizon.

At 11^h. 42^m the Aurora very general in the northern half of the hemisphere; *i. e.* from N. W. to N. E.: a singularly wild, scattered, and stormy arrangement of fleecy cloud.

At 11^h. 44^m the red column of light last mentioned is now very beautiful; nearly in the previous position: the Aurora has now extended itself more round to the westward.

At 11^h. 45^m a faint red patch of light near the zenith, and the red column in the direction E. N. E. now nearly gone.

At 11^h. 48^m Aurora now extends itself round to the West, from which part of the horizon proceeds a red column nearly vertical, and extending to the zenith.

At 11^h. 55^m the appearance of the heavens extremely singular and beautiful. An irregular arch of white clouds, having the North point of the horizon apparently as a center: the upper portion of the arch was fringed with irregular short streamers, and at each extremity of the arch there was a brilliant column of red light, *i. e.* one at the eastern extremity of the arch bearing E. N. E., and the other at the western, bearing W. by S.; within the circle the sky quite clear.

At 12^h went within doors.

At 12^h. 5^m observed from my room, which looked only towards the eastward, a red vertical column rise suddenly from the N. E. point of the horizon towards the zenith.

N. B. The Aurora appeared at no time during my observations to extend itself to the southern portion of the visible hemisphere; with the exception of a part near the horizon towards the westward, at the latter end of the foregoing observations, when it extended itself round to W. S. W. No appearance of halo round the Moon at any time; nor did I observe the undulatory transmission of light common in auroral displays.

5. *Observations at the Observatory at Cambridge.* (*From the Cambridge Chronicle,* 1847, *October* 30.)

1847, October 24.—An Aurora was noticed as early as six o'clock in the evening: at ten o'clock it had attained great brilliancy, and between the hours of ten and eleven its peculiar phenomena were most distinctly displayed. In this interval streamers rose at all azimuths from W. by S. through N. to E. by N. The aggregate of these streamers formed a kind of canopy, which covered considerably more than half the celestial vault, the part toward the S. being free from auroral light. The streamers did not, as is usually the case, proceed from a luminous arch, but appeared to shoot up either from the horizon or from positions elevated a few degrees above the horizon. The beauty of the spectacle was much increased by large patches of a peculiar ruddy colour, more permament in their character than the streamers, and formed principally in the W. and N. E. quarters of the heavens. The streamers themselves were for the most part white, and were constantly varying in intensity, or shifting their positions horizontally, while rapid pulsations were propagated through them in vertical directions. The most remarkable feature of the phenomenon was the distinct convergence of all the streamers towards a single point of the heavens, situated a little to the E. of the meridian, and to the S. of the zenith. Around this point a corona, or star-like appearance, was formed, the rays of which diverged in all directions from the center, leaving a space about the center free from light, in which I noticed at one time the rapid formation and disappearance of part of a circular luminous ring. It was easy to fix on the central point. According to an estimate made conjointly by myself and a friend, at 10^h. 10^m Cambridge mean time, it preceded the bright star *Mirach*, [β Andromedæ] 10^m in

AURORA BOREALIS OF 1847, OCTOBER 24—(*continued*).

right ascension, and had greater north polar distance by 20°; consequently, by calculation, its azimuth was 18°. 41′ from S. towards E., and its altitude 69°. 51′. The azimuth appeared not to vary with the diurnal motion of the heavens. According to the above result, this singular point was situated in or very near a vertical circle passing through the magnetic pole. Some valuable inferences might be deduced if a similar phenomenon were witnessed elsewhere, and the time and position accurately noted. The Aurora was still faintly visible at one o'clock. Had it not occurred in bright moonlight, the splendour of this display would probably have equalled any ever observed in this latitude.

J. CHALLIS.

6. *Observations at the Observatory of Stone, near Aylesbury.* (*From the Bucks Herald*, 1847, *October* 30.)

1847, October 24, Stone mean time.—At $6^h.\ 30^m$ a well-defined auroral arch was first noticed at this time, and the following observations were taken during the evening.

At $6^h.\ 30^m$ auroral arch well defined. The depth of the arch was 10°, its vertex on the magnetic meridian 35° above the horizon, the upper edge extending from a little above Arcturus in the West to Capella in the East. The colour of the arch was a bright rosy red, and the portion below the arch was a yellowish white. The sky nearly cloudless.

At $6^h.\ 45^m$ the center of the arch suddenly disappeared, and a bright yellow spire of light shot up in its place a little to the West of the two pointers. It continued stationary for 35 seconds, and then vanished. A similar spire appeared in the extreme West of the arch, and afterwards seven spires between the western boundary, and the center of the arch appeared with great intensity till 7^h.

At $7^h.\ 0^m$ a small cloud appeared in the East below the arch, and as it passed in front of it, it was clearly illuminated with the auroral light. Larger portions of the center of the arch disappeared.

At $7^h.\ 15^m$ nothing remained but faint portions of the eastern and western extremities of the arch.

At $7^h.\ 35^m$ a strong West wind brought up large masses of cloud, and the whole sky was overcast. Thermometer, Dry Bulb, 40°·5; Wet Bulb 40°·5. Barometer $29^{in}.45$.

At $8^h.\ 25^m$ the clouds had passed away to the East, and the auroral light again appeared in the East, extending from Capella to the pointers, from which a few streamers darted to the zenith.

At $8^h.\ 30^m$ two well-defined auroral arches, the lower one of a bright yellowish white, situated with respect to the magnetic meridian, similarly to the first arch of the evening; above this arch an upper one was extended, of a bright rose red, and about 5° in width. Bright streamers rose from the western extremity of the arch, and shot up through α Lyræ to a point about 20° South of the zenith.

At $8^h.\ 36^m$ the vertex of the yellow arch has risen uniformly about 10° on the magnetic meridian, yellowish streamers extending from the eastern limit through Capella to Cassiopeia.

At $8^h.\ 37^m$ red streamers through α Lyræ, a few light fleecy clouds rising with the wind in the West.

At $8^h.\ 40^m$ clouds (cirro-strati) forming and rapidly increasing in the zenith, not illuminated with auroral light. A red auroral patch in magnetic West.

At $8^h.\ 42^m$ streamers extending from the West in a well-defined line to α Cygni, passing through the zenith to Cassiopeia.

At $8^h.\ 45^m$ the vertex of the auroral arch has risen 5°. Sky cloudless to the North.

At $8^h.\ 48^m$ waves of light moving horizontally from α Lyræ to α Aquilæ and Delphinus.

At $8^h.\ 50^m$ a bright white streamer in front of the auroral arch to the West of the Great Bear. Streamers darting throughout the whole length of the auroral arch. The lower edge of the arch entirely broken by the irregular terminations of the streamers, which scarcely rose above the upper edge of the arch. The streamers, which were stationary for several seconds, extended into the auroral atmosphere below the arch, and appeared to converge to a point in the magnetic meridian below the horizon.

At $8^h.\ 55^m$ a streamer from the horizon, from the magnetic West, through α Aquilæ to β Pegasi.

At $8^h.\ 57^m$ the auroral arch has risen to Polaris. Three distinct arches now appeared below the primary one, the colour was pale white, and the spaces between them bluish grey.

At $8^h.\ 58^m$ the lower arches disappear.

At $9^h.\ 5^m$ red streamers shooting again through α Aquilæ to θ Pegasi.

At $9^h.\ 7^m$ a bright yellowish white streamer or band, extending from the magnetic West, through α Aquilæ and β Pegasi, and passing a little to the North of Aldebaran, reached the magnetic East. Permanent for a few minutes.

At $9^h.\ 25^m$ a brilliant red mass of auroral cloud appeared in the magnetic East, extending about 20° along the horizon towards Castor, and rising to Capella, reached the zenith, and terminated in the West below α Aquilæ. Cloudless sky.

AURORA BOREALIS OF 1847, OCTOBER 24—(*continued*).

At $9^h.\ 30^m$ auroral arch from E. to W. through Pegasus.

At $9^h.\ 35^m$ streamers from the West slightly red, from the East bright red.

At $9^h.\ 36^m$ the red colour becoming more intense in the West.

At $9^h.\ 40^m$ waves of light extending from the horizon to Polaris, and moving westward.

At $9^h.\ 42^m$ the auroral cloud begins to disappear in the North.

At $9^h.\ 46^m$ auroral cloud of a bright yellow red to the West.

At $9^h.\ 47^m$ a fine red streamer through α Aquilæ.

At $9^h.\ 48^m$ auroral clouds very intense both in the West and East, Ursa Major shining brilliantly in a clear blue sky.

At $9^h.\ 49^m$ auroral arch forming rapidly in the North, of a most brilliant light yellow, with similar streamers in the N.W.

At $9^h.\ 50^m$ pulses passing rapidly from α Lyræ to α Aquilæ, which stars shone through an intensely red auroral mass. These pulses or undulations become more general, and the whole auroral hemisphere is assuming additional intensity.

At $9^h.\ 55^m$ it is scarcely possible to describe the extraordinary appearance of the Aurora at this moment. The undulations, which had been universal and of some continuance, moved on all sides towards δ Andromedæ, and the remarkable centering and curling of the extremities of the streamers in this point, gave the idea of an auroral pole in the magnetic meridian, about 20° South of the zenith, the opposite pole being the point to which the streamers converged below the horizon at $8^h.\ 50^m$. From this North auroral pole the most magnificent streamers were extended in all directions; at the magnetic East and West points their extremities were upon the horizon; in the direction of the magnetic meridian they were about 35° above the horizon, or 90° from the auroral pole, and on each side of the magnetic meridian their terminations not varying much from 90° from their pole, formed an auroral arch, whose direction was at right angles to the magnetic meridian, and appeared to indicate the plane of an auroral equator. It is impossible by any description to give an adequate idea of the gorgeous coruscations which flashed on all sides. The light of a Moon nearly full and fast approaching the meridian, seemed lost amid the vivid splendour which dazzled the eye, and the variety of prismatic colours which ever changed their place without losing their intensity, gave a brilliancy to the auroral waves and streamers which far surpassed the most extravagant fancies of even Turner's pencil.

At $10^h.\ 4^m$ the colours are fainter, though the undulations still continue towards the auroral pole.

At $10^h.\ 9^m$ brilliant streamers to the auroral pole from the West.

At $10^h.\ 11^m$ colour less intense throughout.

At $10^h.\ 14^m$ Thermometer, Wet Bulb 38°; Dry Bulb 38°.

At $10^h.\ 25^m$ streamers again in full play from the auroral arch to their pole.

At $10^h.\ 38^m$ auroral clouds occupy the North only, suddenly appearing and disappearing until $10^h.\ 50^m$.

At $10^h.\ 55^m$ auroral clouds formed in the North and West.

At $11^h.\ 0^m$ streamers stretching from the auroral arch to their pole.

At $11^h.\ 17^m$ a mass of rose-red auroral clouds to the East.

At $11^h.\ 30^m$ streamers to the pole from the East.

At $11^h.\ 38^m$ white streamers extending to the pole from the northern horizon; a red mass near Capella.

At $11^h.\ 40^m$ a mass of most beautiful white auroral clouds to the East.

At $11^h.\ 41^m$ a bright red streamer on the N.E.

At $11^h.\ 42^m$ a brilliant red streamer, with white in the center, in the N.E.; a red patch round the auroral pole, and strong undulations towards that quarter.

At $11^h.\ 46^m$ vanishing in the North.

At $11^h.\ 47^m$ fading in the East.

At $11^h.\ 50^m$ two red streamers in the West and East.

At $11^h.\ 55^m$ bright blue sky in the North, the East and West again indescribably beautiful during the gradual formation of the arch.

At $11^h.\ 58^m$ streamers, the base of which form an arch and repeat with but little diminution of intensity the phenomena of $9^h.\ 55^m$.

At $12^h.\ 0^m$ auroral light travelled along the horizon from West to East, till it joined the auroral cloud in the East.

At $12^h.\ 13^m$ Aurora almost ceased. No subsequent repetition of streamers.

J. B. READE.

AURORA BOREALIS OF 1847, OCTOBER 24—(*concluded*).

7. *Observations at Christ Church, Oxford.* (*Private communication to Mr. Glaisher.*)

1847, October 24.—The night was most lovely, and the full Moon was shining with unusual brilliancy. About 24 minutes to 10 P.M. I observed a small patch of red in the N.N.E. sky, which I immediately conceived was auroral, and I therefore hurried to a place where my view would be uninterrupted. In a minute or two a corresponding redness was seen in the W.N.W., and there two spots were quickly connected by a band of light, forming a faint arch across the northern sky. The light rapidly overspread the whole heavens, and the redness in the W.N.W. increased both in dimensions and in brilliancy until 15 minutes to 10, when it had assumed the appearance of an extensive cloud of a deep rose-colour. Meanwhile, bands of light, averaging 2° or 3° broad, irregular and variable, alternating with dark bands, and *diverging from a* NUCLEUS a little S. of the zenith, shot across the sky to the horizon in every direction, except that immediate part of it where the Moon seemed to intercept them. These radiations increased in brightness until 10 minutes to 10, and at this time the phenomenon was at its height, and presented a most sublime and gorgeous appearance. The divergent bands vibrating and flashing like lightning; *waves of light, 60° or 70° in breadth, flowing up* in rapid succession *from the horizon to the zenith,* and the vast and brilliant rose-coloured cloud moving slowly and majestically from the West towards the South, conbined to form a scene of splendour and magnificence never to be effaced from my mind. It was aptly compared by a spectator at this time to a *boundless tent* of light; and the radiations presented much the same appearance as that phenomenon popularly called "the Sun drawing water." The light was very bright along the northern horizon; and I remarked, that whenever it was peculiarly brilliant, it assumed a *pale green* colour, which was remarkably beautiful in the N. W. direction. The nucleus remained fixed in the same spot during the whole time, but varied considerably in appearance, and together with the variations, flickered like the shadow from an unsteady lamp, producing an undulatory appearance of the sky which was most astonishing. At 10^h it grew fainter, and the rose-coloured cloud seemed to melt away in the S. W. horizon; but it gradually brightened again and continued darting out radiations, though faintly, till 11^h; there being all the time a slight redness in the N.E. and S.W., which seemed to interchange—growing brighter in the N.E. when it faded in the S.W., and *vice versâ.* At 11^h it was very faint, but at 15 minutes to 12 the N.E. redness grew very bright, and the phenomenon, although now confined exclusively to the northern half of the sky, presented an appearance as beautiful as any of those that had preceded it. An arch of red light spanned the sky from N.E. to S.W., deepening as each limb neared the horizon; and within this arch a divergent pencil of very bright and flickering rays darted out from its highest point, and terminated abruptly about 30° from the northern horizon, seeming to be a last effort of the phenomenon to exhibit its earlier magnificence: this lasted 10 minutes; and at 20 minutes past 12 a very faint redness in the N.E. was all that was visible.

I have been assured that faint traces of it were seen so early as half-past 6 in the evening.

8. *Observations at Playford, near Ipswich.* (*Private communication to the Astronomer Royal.*)

1847, October 24.—At about 6^h a few streaks of light were observed in the North, which portion of the sky, to the altitude of 45°, was of a reddish colour. At this time there were no streamers, and but slight flickering. In less than an hour all had entirely disappeared. After this time I was within doors till 10^h, at which time a great extent of the western sky was vividly red, with occasional streamers, and much flickering. Light cloud passed over this portion, which had but little effect in lessening the brilliancy of the red portions. There was one considerable red streak, situated nearly North, and there was another, situated nearly N. E. by E. These red portions were in height about 48°, and they were several degrees in width at their bases. The space between these red streaks was filled or nearly so by very white streaks, which were frequently shifting and often streaming. All the streamers converged to the zenith, and very few of them reached the horizon. Its appearance was like that of a light, situated in the zenith, emitting rays which did not diminish in brilliancy as the distance increased. This appearance continued about 10 minutes. The Aurora was visible for an hour afterwards in great beauty: its appearance, however, was frequently changing. A small meteor was seen to pass from the S.W. and W. to the N. downwards.

9. *Observations at Hyde Vale, Greenwich.*

1847, October 24. The luminous waves of the Aurora progressed from the N. with the same rapidity that a low cirrus cloud would have done, and on passing the zenith the nimbus-form appearance was discernible, as of hail falling, and rendered conspicuous when the atmosphere is in a highly electrical state.

JOHN HENRY.

ROYAL OBSERVATORY, GREENWICH.

ABSTRACTS

OF THE

RESULTS

OF THE

MAGNETICAL OBSERVATIONS.

1847.

TABLE I.—Mean Westerly Declination as deduced from the Twelve Observations generally taken on every Civil Day, between January 1 and December 26 (except Sundays, March 24, Good Friday, and Christmas Day), at the Even Hours of Göttingen Mean Time.

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″
1	22. 45. 59	22. 45. 28	22. 51. 0	22. 47. 43	22. 47. 9	22. 43. 57	...	*S*	22. 62. 1	22. 61. 33	22. 56. 42	22. 56. 45
2	53. 53	45. 35	47. 29	Good Friday.	*S*	36. 23	22. 43. 13	22. 45. 16	62. 4	61. 58	53. 34	55. 0
3	*S*	45. 36	47. 48	45. 26	46. 40	...	44. 7	46. 28	60. 50	*S*	57. 39	51. 59
4	51. 0	46. 27	46. 6	*S*	46. 31	52. 31	*S*	45. 58	62. 2	61. 15	55. 58	53. 56
5	52. 6	45. 33	45. 37	47. 9	46. 11	46. 58	41. 47	44. 49	*S*	60. 52	56. 10	*S*
6	49. 5	46. 59	47. 33	46. 32	45. 56	*S*	42. 23	45. 1	57. 0	61. 8	55. 52	54. 45
7	50. 35	*S*	*S*	46. 19	45. 57	44. 14	43. 23	45. 51	60. 59	60. 14	*S*	55. 1
8	50. 54	45. 31	47. 39	48. 51	51. 11	47. 4	43. 53	*S*	61. 25	60. 25	51. 19	55. 34
9	50. 38	45. 51	49. 11	47. 33	*S*	46. 52	40. 22	46. 32	61. 42	59. 48	55. 4	60. 23
10	*S*	45. 50	47. 5	50. 47	47. 17	46. 41	43. 28	45. 50	60. 57	*S*	57. 38	55. 21
11	51. 32	45. 47	48. 19	*S*	45. 40	47. 13	*S*	52. 59	62. 58	59. 47	55. 34	52. 48
12	52. 7	46. 33	47. 26	46. 54	45. 10	45. 41	43. 40	59. 11	*S*	56. 45	54. 49	*S*
13	50. 52	45. 39	46. 21	46. 56	46. 46	*S*	44. 0	60. 31	64. 9	59. 5	55. 46	59. 34
14	50. 27	*S*	*S*	46. 44	46. 15	42. 22	49. 25	59. 51	61. 44	56. 58	*S*	55. 20
15	49. 58	44. 45	48. 4	46. 32	48. 5	40. 11	58. 46	*S*	61. 57	57. 46	54. 59	54. 51
16	50. 55	45. 42	46. 58	46. 18	*S*	38. 32	58. 17	60. 24	61. 52	58. 24	55. 15	55. 59
17	*S*	44. 12	47. 19	48. 10	45. 44	38. 16	57. 58	62. 21	61. 57	*S*	56. 22	56. 50
18	49. 40	45. 40	47. 51	*S*	46. 50	41. 5	*S*	60. 27	61. 15	55. 42	57. 59	55. 0
19	48. 47	45. 37	49. 52	47. 1	46. 58	38. 47	59. 43	61. 12	*S*	55. 49	56. 49	*S*
20	51. 6	45. 21	46. 45	49. 30	44. 56	*S*	58. 30	61. 54	60. 5	57. 21	55. 15	55. 25
21	49. 34	*S*	*S*	50. 36	45. 27	42. 59	59. 59	60. 50	61. 5	59. 43	*S*	56. 38
22	51. 5	46. 29	47. 39	48. 58	45. 17	42. 16	60. 34	*S*	62. 14	59. 12	53. 28	56. 15
23	49. 37	43. 58	48. 4	47. 15	*S*	40. 12	60. 17	61. 41	62. 9	56. 55	56. 8	57. 39
24	*S*	44. 39	Fast Day.	47. 57	45. 15	42. 16	57. 44	60. 49	63. 5	*S*	56. 21	56. 55
25	47. 16	46. 44	47. 43	*S*	44. 31	40. 17	*S*	64. 27	62. 12	63. 9	55. 25	Christ. Day.
26	43. 58	47. 3	46. 31	46. 51	46. 0	42. 58	51. 1	63. 19	*S*	58. 0	53. 8	
27	41. 11	48. 24	45. 54	48. 2	45. 18	*S*	45. 1	63. 28	59. 41	58. 19	55. 23	
28	35. 27	*S*	*S*	47. 24	45. 38	42. 2	44. 55	63. 18	60. 28	56. 12	*S*	
29	36. 5		47. 43	45. 27	46. 42	45. 39	45. 1	*S*	58. 3	55. 54	54. 36	
30	41. 52		47. 56	45. 47	*S*	39. 37	46. 12	61. 34	59. 17	55. 19	54. 11	
31	*S*		47. 23		45. 16		45. 1	61. 36		*S*		

The letter *S* denotes that the day was Sunday.

Till January 25, and on June 2, 4, and 30, a few observations only were taken daily. The mean westerly declinations on these days have been found by the application of the following numbers to the means of the observed declinations. In January, on the 1st, by $-0'.25''$; on the 2nd, by $+3'.23''$; on the 4th, 5th, 7th, 8th, 9th, and 18th, by $+2'.28''$; on the 7th, by $+1'.45''$; on the 11th, by $+1'.52''$; on the 12th, 13th, 14th, 15th, 16th, 19th, 20th, 21st, 22nd, and 23rd, by $+1'.33''$; on June 2, by $-2'.52''$; on June 4, by $+2'.1''$; and on June 30, by $-0'.31''$. These corrections have been deduced from the observations of the six preceding years.

The following table shews the frequency of differences of given amount on consecutive days:—

Amount of Difference.	Number of Instances.	Days of Occurrence.
Greater than 9′	1	July 14, 15.
7′ to 8′	2	June 1, 2; August 10, 11.
6′ to 7′	3	June 29, 30; July 26, 27; August 11, 12.
5′ to 6′	7	January 27, 28, 29, 30; May 7, 8; June 4, 5; July 13, 14; October 25, 26; December 9, 10.
4′ to 5′	3	November 2, 3; December 8, 9, 13, 14.
3′ to 4′	14	
2′ to 3′	33	

TABLE II.—Shewing the Range of Mean Daily Values, the Extreme Readings, and the Range of the Readings for the Westerly Declination in every Month.

1847, Month.	Days for the Mean Daily Values in the Month.		Monthly Range of Mean Daily Values.	Times of Extreme Readings in the Month, from Single Observations.		Extreme Readings in the Month.		Monthly Range of the Readings for the Declination.
	Greatest.	Least.		Greatest.	Least.	Greatest.	Least.	
	d	d	′ ″	d h m s	d h m s	° ′ ″	° ′ ″	° ′ ″
January	2	28	18.26	....	....	....	....	....
February ...	27	23	4.26	6. 2.10. 0	24. 8.15. 0	22.59.10	22.21.28	0.37.42
March	1	5	5.23	1. 8.20. 0	19. 8.54. 0	23.12.43	21.52.57	1.19.46
April	10	3	5.21	21. 4. 0. 0	3.10.23. 0	23. 8. 2	22.20.20	0.47.42
May.....	8	25	6.40	7.20. 3. 0	28.18.15. 0	23. 3.45	22.34.58	0.28.47
June.....	4	2	16. 8	24. 6.55. 0	14.12. 0. 0	23.21.17	22.30.53	0.50.24
July.....	22	9	20.12	15. 1.50. 0	9.15.15.30	23. 9.28	22.28. 6	0.41.22
August.....	25	5	19.38	28. 2.20. 0	4.18. 0. 0	23.16.52	22.30.31	0.46.21
September ..	13	6	7. 9	24. 5.25.15	24. 9.47.30	24.20.30	22. 9.38	2.10.52
October	25	30	7.50	23. 6. 0. 0	24. 7.26.10	23.58.21	22.12.14	1.46. 7
November ..	18	8	6.40	22.16.22.30	25. 8.21. 0	23.18.53	22.31. 9	0.47.44
December...	9	3	8.24	9. 1.50. 0	20. 4.34. 0	23.46. 9	22.13.30	1.32.39
Mean	..	..	10.31	..	..	..	..	1. 4.30

The yearly range of mean daily values was 29′.0″, being the difference between the mean daily values on January 28 and on August 25, when the westerly declination was smallest and largest respectively.

Comparing the least westerly declination in the year on March 19, at $8^h.54^m$, with the greatest on September 24, at $5^h.25^m.15^s$, the difference is found to be 2°.27′.33″, and it represents the extreme range of the declination magnet in the year 1847. This number is unusually large.

TABLE III.—Determination of the Mean Monthly Westerly Declination from the Means of the Two-hourly Observations.

1847, Month.	Mean Westerly Declination of the Magnet.	1847, Month.	Mean Westerly Declination of the Magnet.
	° ′ ″		° ′ ″
January	22.48.18	July	22.49.33
February	22.45.48	August.....	22.56.22
March	22.47.35	September	22.61.17
April	22.47.28	October	22.58.45
May.....	22.46.15	November	22.55.26
June.....	22.43. 0	December	22.55.48
Mean	22°.51′.18″		

TABLE IV.—Daily Range of the Declination on every Civil Day, from January 25 to December 24 (except Sundays, March 24, Good Friday, June 30, and July 1), as deduced from all the Two-hourly Observations taken on each day.

Days of the Month, 1847.	January.	February.	March.	April.	May	June.	July.	August.	September.	October.	November.	December.
d	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″
1	..	10.42	46.31	13.19	12.46	15.41	..	*S*	17.56	10.57	31.50	8.15
2	..	5. 9	10. 3	Good Friday.	*S*	12.26	14.44	12.21	17.47	11.16	28.17	7.21
3	..	8. 4	8.33	42.22	16.26	19.34	11. 5	14.53	14.39	*S*	10.40	15.24
4	..	4.48	21. 5	*S*	15.32	8. 9	*S*	14. 0	15.46	13. 8	10.19	12.12
5	..	3.49	19.54	15.26	12.50	10.55	7.49	28. 5	*S*	13. 8	10.38	*S*
6	..	23.52	8.57	15.24	15. 8	*S*	12. 0	15. 5	14.34	11.41	11.26	7.16
7	..	*S*	*S*	20.37	12.35	14.28	17.39	15.36	22.41	12.59	*S*	5.52
8	..	11.59	19.33	34.28	26.58	13.50	15.54	*S*	11.57	18.39	21.46	11.10
9	..	10.48	17.59	19.31	*S*	11.17	16.49	15.17	20. 5	19. 4	18.57	58.54
10	..	7.59	13.53	8.36	9.31	21.20	26.10	15.22	17.53	*S*	20.42	17.21
11	..	12.12	12.20	*S*	11.53	11.25	*S*	23.48	15.13	16.51	11.16	18.18
12	..	10.29	10. 4	10.50	11. 3	17.29	16.28	14.58	*S*	25.45	10.41	*S*
13	..	4.20	18.26	13.37	15.52	*S*	15. 2	14.48	31. 4	16.43	17.19	22.15
14	..	*S*	*S*	16.14	13.41	19.29	27.31	19.22	12.59	12.53	*S*	7.56
15	..	8. 4	13. 3	15. 8	22.39	10.28	17.47	*S*	10.37	12.50	6.29	8. 8
16	..	9.40	14.37	15.37	*S*	14.50	17.50	17.35	18.31	25.11	12.54	5.40
17	..	7.48	13.23	21.46	14.50	9.10	16.59	15.40	17.10	*S*	10.24	59.30
18	..	7.18	13.15	*S*	14.57	13.49	*S*	14.52	13.59	10.22	13.35	54.30
19	..	7.36	72.16	11.51	11.43	10.27	15.27	17.25	*S*	15.40	10.16	*S*
20	..	11. 5	43. 8	23.50	13.37	*S*	15. 0	16.53	16.11	13. 1	12.36	90.30
21	..	*S*	*S*	36.29	10.55	16.29	11.56	15.47	12.47	14. 1	*S*	18.30
22	..	20.24	8.28	16. 6	12.55	13.32	10.45	*S*	9.39	20.46	32.21	10.50
23	..	23.19	15. 4	8.34	*S*	11.27	12.15	13. 2	11.59	87.39	44.45	17.56
24	..	37. 8	Fast Day.	8.58	8.14	44.25	15.17	15.39	130.52	105.37	9.27	6.15
25	5.28	11.56	11.11	*S*	12.33	9.34	*S*	15. 9	40.20	74.26	37.27	
26	10.58	18. 9	13. 8	10.30	15.29	18.36	23.35	16. 2	*S*	10.43	24.32	
27	7.54	10.24	9.55	12.33	12.40	*S*	14.17	15.45	38.55	8.51	21.40	
28	7.18	*S*	*S*	12.10	14.38	10.57	10. 2	23.23	29.19	7.46	*S*	
29	19.25		10.46	17.42	23.34	31. 8	12.21	*S*	24. 7	16.28	10. 6	
30	21.33		13. 0	20.36	*S*		9.52	16.19	22.41	6.36	5.46	
31	*S*		1.29		13.36		13.10	16.43		*S*		

The letter *S* denotes that the day was Sunday.

In this table the range on Sunday, October 24, is included.

The greatest daily range during the period took place on the 24th of September, and those on March 19, October 24, and December 20, were large. The least daily range took place on the 31st of March.

TABLE V.—Diurnal Range of the Declination in each Month.

1847, Month.	Mean of all the Daily Ranges in each Month.	1847, Month.	Mean of all the Daily Ranges in each Month.
	′ ″		′ ″
January	...	July	15.17
February	11.58	August	16.41
March	18. 5	September	23.27
April	17.41	October	22.42
May	14.29	November	17.33
June	15.38	December	22. 6
Mean ..... 17′.47″			

The mean of the numbers from April to September is 17′.12″, and that for the remaining months is 18′.29″.

TABLE VI.—Mean Westerly Declination of the Magnet at every Even Hour of Göttingen Mean Time, deduced from all the Observations taken at that Hour in each Month.

1847, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″
14	22. 45. 49	22. 43. 30	22. 44. 49	22. 45. 4	22. 44. 44	22. 40. 57	22. 48. 9	22. 53. 44	22. 57. 49	22. 56. 56	22. 51. 43	22. 52. 59
16	46. 38	43. 48	45. 25	43. 38	44. 17	40. 29	46. 33	52. 48	58. 17	57. 3	52. 59	53. 31
18	48. 45	44. 1	45. 23	44. 36	41. 42	38. 28	44. 26	51. 22	58. 7	56. 28	52. 51	54. 47
20	49. 54	45. 2	45. 22	44. 12	41. 55	37. 50	44. 44	51. 6	57. 42	56. 14	53. 25	55. 49
22	50. 32	46. 43	46. 9	47. 6	45. 3	40. 12	48. 12	54. 48	59. 49	55. 46	54. 25	55. 19
0	51. 17	50. 19	51. 44	53. 25	51. 35	46. 24	54. 44	62. 23	67. 5	62. 34	59. 34	55. 59
2	51. 54	50. 58	55. 4	55. 46	53. 37	48. 46	57. 4	66. 10	69. 47	65. 40	62. 2	61. 31
4	48. 36	47. 58	52. 29	52. 14	50. 19	47. 50	54. 7	62. 21	66. 2	63. 45	59. 48	58. 51
6	48. 9	46. 7	48. 33	48. 49	46. 52	45. 11	51. 16	57. 20	62. 40	59. 25	57. 57	57. 00
8	48. 19	43. 3	46. 58	45. 28	45. 47	45. 46	49. 54	56. 4	60. 16	57. 22	55. 25	54. 52
10	45. 19	43. 38	45. 19	45. 8	45. 18	43. 44	48. 23	54. 46	58. 36	57. 38	52. 38	55. 2
12	43. 29	43. 47	43. 41	44. 12	44. 29	40. 20	47. 37	53. 32	59. 30	56. 12	52. 1	54. 7

From January 25 two-hourly observations were regularly taken; the mean of all the results from January 25 to January 31 is 22°. 40′. 58″. The mean of all the numbers for January in Table I. is 22°. 48′. 18″; the difference between these numbers is 7′. 20″, which has been applied additively to the mean of the observations at each hour, from January 25 to January 31, to deduce the westerly declination for the month at that hour: in this way the numbers in the above table were formed. In like manner partial observations were taken on June 2, 4, and 30; and the difference between the mean of all the observed values in the month and the adopted mean for the month, was found to be 6″, which number has been taken from the mean of the numbers at every hour of observation.

From the numbers in this table it appears that (as in former years) the westerly declination was, without exception, greater at 2^h than at any other hour. The time when the declination was least was different in the different months. In the months of June, September, October, and December, there were three extreme West positions and three extreme East positions; and in all the remaining months, there were two extreme West positions and two extreme East positions.

The next table is formed by taking the means of the numbers in Table VI., corresponding to the same hour for each month; the months from April to September being grouped together for summer, and the remaining months being grouped for winter.

TABLE VII.—Mean Westerly Declination at every Even Hour of Göttingen Mean Time, in the Summer, in the Winter, and for the Year.

1847, Hour, Göttingen Mean Time.	Mean Westerly Declination.		Mean Westerly Declination at each Even Hour for the Year.	Difference from the Mean of all the Even Hours for the Year.
	Summer.	Winter.		
h	° ′ ″	° ′ ″	° ′ ″	′ ″
14	22. 48. 25	22. 49. 18	22. 48. 51	— 2. 27
16	22. 47. 40	22. 49. 54	22. 48. 47	— 2. 31
18	22. 46. 27	22. 50. 23	22. 48. 25	— 2. 53
20	22. 46. 15	22. 50. 58	22. 48. 36	— 2. 42
22	22. 49. 12	22. 51. 29	22. 50. 20	— 0. 58
0	22. 55. 56	22. 55. 14	22. 55. 35	+ 4. 17
2	22. 58. 32	22. 57. 51	22. 58. 12	+ 6. 54
4	22. 55. 29	22. 55. 15	22. 55. 22	+ 4. 4
6	22. 52. 1	22. 52. 52	22. 52. 27	+ 1. 9
8	22. 50. 33	22. 51. 0	22. 50. 46	— 0. 32
10	22. 49. 19	22. 49. 56	22. 49. 37	— 1. 41
12	22. 48. 17	22. 48. 53	22. 48. 35	— 2. 43
Mean....	22. 50. 41	22. 51. 55	22. 51. 18	....

The greatest westerly declination occurred, both in the summer and in the winter, at 2^h; the least occurred in the summer at 20^h, and in the winter at 12^h. In summer there were two maxima and two minima, viz.:—

h

In summer the maximum at 2

A minimum at 12

A maximum at 14

The minimum at 20

In winter there was only one maximum and one minimum, viz.:—

The maximum at 2^h
The minimum at 12

The last column shews the mean for the year, and it exhibits a double maximum and minimum, viz.:—

The maximum at 2^h
A minimum at 12
A maximum at 14
The minimum at 18

TABLE VIII.—Excess of the Mean 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).

1847, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″
14	− 2.29	− 2.18	− 2.46	− 2.24	−1.31	−2. 3	−1.24	− 2.38	− 3.28	− 1.49	− 3.43	− 2.49
16	− 1.40	− 2. 0	− 2.10	− 3.50	−1.58	−2.31	−3. 0	− 3.34	− 3. 0	− 1.42	− 2.27	− 2.17
18	+ 0.27	− 1.47	− 2.12	− 2.52	−4.33	−4.32	−5. 7	− 5. 0	− 3.10	− 2.17	− 2.35	− 1. 1
20	+ 1.36	− 0.46	− 2.13	− 3.16	−4.20	−5.10	−4.49	− 5.16	− 3.45	− 2.31	− 2. 1	+ 0. 1
22	+ 2.14	+ 0.55	− 1.26	− 0.22	−1.12	−2.48	−1.21	− 1.34	− 1.28	− 2.59	− 1. 1	− 0.29
0	+ 2.59	+ 4.31	+ 4. 9	+ 5.57	+5.20	+3.24	+5.11	+ 6. 1	+ 5.48	+ 3.49	+ 4. 8	+ 0.11
2	+ 3.36	+ 5.10	+ 7.29	+ 8.18	+7.22	+5.46	+7.31	+ 9.48	+ 8.30	+ 6.55	+ 6.36	+ 5.43
4	+ 0.18	+ 2.10	+ 4.54	+ 4.46	+4. 4	+4.50	+4.34	+ 5.59	+ 4.45	+ 5. 0	+ 4.22	+ 3. 3
6	− 0. 9	+ 0.19	+ 0.58	+ 1.21	+0.37	+2.11	+1.43	+ 0.58	+ 1.23	+ 0.40	+ 2.31	+ 1.12
8	+ 0. 1	− 2. 5	− 0.37	− 2. 0	−0.28	+2.46	+0.21	− 0.18	− 1. 1	− 1.23	− 0. 1	− 0.56
10	− 2.59	− 2.10	− 2.16	− 2.20	−0.57	+0.44	−1.10	− 1.36	− 2.41	− 1. 7	− 2.48	− 0.46
12	− 4.49	− 2. 1	− 3.54	− 3.16	−1.46	−2.40	−1.56	− 2.50	− 1.47	− 2.33	− 3.25	− 1.41

This table shews that the magnet was in its mean position four times every day in the months of January and December, and twice every day in all the remaining months; and it also shews that its marked end was from four hours to eight hours longer to the East than it was to the West of the magnetic meridian represented by the mean of all the two-hourly observations.

By taking the means of the numbers in this table which correspond to the same hour (attention being paid to the signs), it will be found that they are identical with the numbers in the last column of Table VII.

TABLE IX.—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.

1847, Month.	$1^h.50^m$.	$2^h.0^m$.	$2^h.10^m$.
	° ′ ″	° ′ ″	° ′ ″
January	22.52. 7	22.51.54	22.51.45
February	22.50.58	22.50.58	22.50.56
March	22.55. 4	22.55. 4	22.54.57
April	22.55.55	22.55.46	22.55.46
May	22.53.39	22.53.37	22.53.39
June	22.48.46	22.48.46	22.48.41
July	22.57. 5	22.57. 4	22.56.27
August	23. 6. 8	23. 6.10	23. 6. 6
September	23. 9.53	23. 9.47	23. 9. 4
October	23. 6.50	23. 5.40	23. 6. 8
November	23. 1.53	23. 2. 2	23. 2. 7
December	23. 1.26	23. 1.31	23. 0.21
Mean	22.58.19	22.58.12	22.58. 0

TABLE X.—Mean Reading of the Horizontal Force Magnet, corrected for Temperature, expressed in parts of the whole Horizontal Force, as deduced from the Twelve Observations taken on every Civil Day, from January 25 to August 10, and from August 23 to December 24 (except Sundays, March 24, and Good Friday), at the Even Hours of Göttingen Mean Time.

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d												
1	..	0·024850	0·026062	0·026262	0·025325	0·024526	0·024946	*S*	0·141588	0·139131	0·141087	0·141312
2	..	0·025415	0·025056	Good Friday	*S*	0·023753	0·025086	0·023845	0·141518	0·139487	0·139485	0·141601
3	..	0·026222	0·025878	0·026323	0·026022	0·024179	0·024880	0·024477	0·141200	*S*	0·140125	0·139873
4	..	0·026426	0·026134	*S*	0·025868	0·024117	*S*	0·024452	0·141737	0·141323	0·140546	0·140442
5	..	0·026965	0·025831	0·026089	0·025387	0·024653	0·024281	0·022131	*S*	0·141348	0·140602	*S*
6	..	0·025086	0·026919	0·025588	0·025575	*S*	0·024734	0·023400	0·141610	0·140228	0·140957	0·142499
7	..	*S*	*S*	0·025228	0·025644	0·025435	0·024907	0·024632	0·141088	0·140871	*S*	0·142449
8	..	0·026715	0·027299	0·023756	0·022881	0·025152	0·024151	*S*	0·141653	0·140988	0·141113	0·142163
9	..	0·026313	0·026051	0·024835	*S*	0·025292	0·024405	0·024200	0·140837	0·140771	0·140878	0·141785
10	..	0·026617	0·026243	0·024648	0·025176	0·025426	0·021324	0·024061	0·140445	*S*	0·140104	0·141172
11	..	0·026797	0·026890	*S*	0·024947	0·024270	*S*	..	0·141140	0·141464	0·140530	0·141247
12	..	0·026660	0·026330	0·026770	0·024836	0·024531	0·024020	..	*S*	0·141028	0·140736	*S*
13	..	0·026559	0·026027	0·027002	0·024934	*S*	0·023850	..	0·141988	0·139143	0·141032	0·142218
14	..	*S*	*S*	0·025399	0·024980	0·024872	0·023946	..	0·141956	0·139998	*S*	0·142448
15	..	0·027498	0·025981	0·024860	0·025192	0·024865	0·023802	..	0·141121	0·140389	0·141604	0·143127
16	..	0·026620	0·024697	0·025334	*S*	0·025708	0·024404	..	0·142565	0·140175	0·141826	0·142789
17	..	0·025670	0·025287	0·024992	0·023690	0·026169	0·024688	..	0·141870	*S*	0·141976	0·141949
18	..	0·025647	0·025054	*S*	0·023847	0·026165	*S*	..	0·141887	0·141049	0·142243	0·139385
19	..	0·025521	0·022984	0·025324	0·024354	0·025239	0·024592	..	*S*	0·140253	0·141925	*S*
20	..	0·026075	0·022288	0·023904	0·024195	*S*	0·024237	..	0·141609	0·140404	0·141058	0·137695
21	..	*S*	*S*	0·023332	0·024180	0·025570	0·024639	..	0·142045	0·140361	*S*	0·136819
22	..	0·025708	0·024369	0·023708	0·024388	0·025786	0·024905	..	0·142126	0·140456	0·142256	0·139653
23	..	0·023778	0·024600	0·024752	*S*	0·025059	0·024548	0·137266	0·142171	0·137597	0·137458	0·140608
24	..	0·024847	Fast Day.	0·024861	0·023904	0·025593	0·024455	0·138950	0·143122	*S*	0·139717	0·141074
25	0·025350	0·024588	0·024115	*S*	0·024520	0·025719	*S*	0·140050	0·137155	0·135907	0·139181	
26	0·024504	0·024799	0·023913	0·026496	0·024496	0·025555	0·023489	0·140101	*S*	0·139285	0·138759	
27	0·023759	0·025220	0·024269	0·025891	0·024455	*S*	0·024260	0·141352	0·137976	0·140209	0·139813	
28	0·023306	*S*	*S*	0·025829	0·023804	0·025445	0·023799	0·141739	0·138547	0·140823	*S*	
29	0·023138		0·026069	0·025388	0·024089	0·025055	0·024248	*S*	0·137621	0·141642	0·142018	
30	0·023008		0·025895	0·024446	*S*	0·025058	0·024286	0·141362	0·137754	0·140518	0·141760	
31	*S*		0·025892		0·024658		0·024257	0·141263		*S*		

The letter *S* denotes that the day was Sunday.

Between January 16 and 23 a few observations only were taken daily, which have not been used in deducing the mean daily values of the horizontal force. From August 11 to August 22, both days inclusive, a new suspension-stirrup was in course of construction. After this time experiments were made with Mr. Brooke's photographic self-registering apparatus, and a new series commenced. The mean of the observed values on the eight days of observation at the beginning of August is 0·023900, and the mean of the observed values on the eight days of observation at the end of August is 0·140260; the difference between these numbers is 0·116360, which has been applied subtractively to the series of numbers beginning August 23, to make them approximately comparable with that preceding August 10; and in this way the next table was formed.

TABLE XI.—Mean Reading of the Horizontal Force Magnet, expressed in parts of the whole Horizontal Force, and reduced to the same Zero, by applying subtractively the Constant Number 0·116360 to all the Numbers in Table X. from August 23.

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d												
1	..	0·024850	0·026062	0·026262	0·025325	0·024526	0·024946	*S*	0·025228	0·022771	0·024727	0·024952
2	..	0·025415	0·025056	Good Friday	*S*	0·023753	0·025086	0·023845	0·025158	0·023127	0·023125	0·025241
3	..	0·026222	0·025878	0·026323	0·026022	0·024179	0·024880	0·024477	0·024840	*S*	0·023765	0·023513
4	..	0·026426	0·026134	*S*	0·025868	0·024117	*S*	0·024452	0·025377	0·024963	0·024186	0·024082
5	..	0·026965	0·025831	0·026089	0 025387	0·024653	0·024281	0·022131	*S*	0·024988	0·024242	*S*
6	..	0·025086	0·026919	0·025588	0·025575	*S*	0·024734	0·023400	0·025250	0·023868	0·024597	0·026139
7	..	*S*	*S*	0·025228	0·025644	0·025435	0·024907	0·024632	0·024728	0·024511	*S*	0·026089
8	..	0·026715	0·027299	0·023756	0·022881	0·025152	0·024151	*S*	0·025293	0·024628	0·024753	0·025803
9	..	0·026313	0·026051	0·024835	*S*	0·025292	0·024405	0·024200	0·024477	0·024411	0·024518	0·025425
10	..	0·026617	0·026243	0·024648	0·025176	0·025426	0·021324	0·024061	0·024085	*S*	0·023744	0·024812

TABLE XI.—*continued.*

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d												
11	..	0·026797	0·026890	*S*	0·024947	0·024270	*S*	..	0·024780	0·025104	0·024170	0·024887
12	..	0·026660	0·026330	0·026770	0·024836	0·024531	0·024020	..	*S*	0·024668	0·024376	*S*
13	..	0·026559	0·026027	0·027002	0·024934	*S*	0·023850	..	0·025628	0·022783	0·024672	0·025858
14	..	*S*	*S*	0·025399	0·024980	0·024872	0·023946	..	0·025596	0·023638	*S*	0·026088
15	..	0·027498	0·025981	0·024860	0·025192	0·024865	0·023802	*S*	0·024761	0·024029	0·025244	0·026767
16	..	0·026620	0·024697	0·025334	*S*	0·025708	0·024404	..	0·026205	0·023815	0·025466	0·026429
17	..	0·025670	0·025287	0·024992	0·023690	0·026169	0·024688	..	0·025510	*S*	0·025616	0·025589
18	..	0·025647	0·025054	*S*	0·023847	0·026165	*S*	..	0·025527	0·024689	0·025883	0·023025
19	..	0·025521	0·022984	0·025324	0·024354	0·025239	0·024592	..	*S*	0·023893	0·025565	*S*
20	..	0·026075	0·022288	0·023904	0·024195	*S*	0·024237	..	0·025249	0·024044	0·024698	0·021335
21	..	*S*	*S*	0·023332	0·024180	0·025570	0·024639	..	0·025685	0·024001	*S*	0·020459
22	..	0·025708	0·024369	0·023708	0·024388	0·025786	0·024905	*S*	0·025766	0·024096	0·025896	0·023293
23	..	0·023778	0·024600	0·024752	*S*	0·025059	0·024548	0·020906	0·025811	0·021237	0·021098	0·024248
24	..	0·024847	Fast Day.	0·024861	0·023904	0·025593	0·024455	0·022590	0·026762	*S*	0·023357	0·024714
25	0·025350	0·024588	0·024115	*S*	0·024520	0·025719	*S*	0·023690	0·020795	0·019547	0·022821	
26	0·024504	0·024799	0·023913	0·026496	0·024496	0·025555	0·023489	0·023741	*S*	0·022925	0·022399	
27	0·023759	0·025220	0·024269	0·025891	0·024455	*S*	0·024260	0·024992	0·021616	0·023849	0·023453	
28	0·023306	*S*	*S*	0·025829	0·023804	0·025445	0·023799	0·025379	0·022187	0·024463	*S*	
29	0·023138		0·026069	0·025388	0·024089	0·025055	0·024248	*S*	0·021261	0·025282	0·025658	
30	0·023008		0·025895	0·024446	*S*	0·025058	0·024286	0·025002	0·021394	0·024158	0·025400	
31	*S*		0·025892		0·024658		0·024257	0·024903		*S*		

The letter *S* denotes that the day was Sunday.

The following table shews the frequency of differences of given amounts on consecutive days:—

Amount of Difference.	Number of Instances.	Days of Occurrence.
Greater than 0·002	11	March 18, 19; May 7, 8; July 9, 10; Aug. 4, 5; Sep. 24, 25; Oct. 22, 23; 25, 26; Nov. 22, 23; 23, 24; Dec. 17, 18; 21, 22.
0·0015 to 0·0020	7	
0·0010 to 0·0015	19	
0·0009 to 0·0010	7	
0·0008 to 0·0009	13	
0·0005 to 0·0008	39	

TABLE XII.—Shewing the Range of Mean Daily Values, the Extreme Readings, and the Range of the Readings for the Horizontal Force, in every Month.

1847, Month.	Days for the Mean Daily Values in the Month.		Monthly Range of Mean Daily Values.	Times of Extreme Readings in the Month, from Single Observations.		Extreme Readings in the Month.		Monthly Range of the Readings for the Horizontal Force.
	Greatest	Least.		Greatest.	Least.	Greatest.	Least.	
				d h m s	d h m s			
February ...	15	23	0·003720	5. 4. 0. 0	22.14.32. 0	0·029516	0·021138	0·008378
March	8	20	0·005011	19. 4.17. 0	19.17. 9. 0	0·033072	0·003793	0·029279
April.....	13	21	0·003670	3.10.31. 0	7.16. 9. 0	0·030466	0·016868	0·013598
May	3	8	0·003141	3. 6. 0. 0	7.21.34. 0	0·027419	0·016366	0·011053
June.....	17	2	0·002416	10.12. 9.30	10.20. 0. 0	0·030245	0·021331	0·008914
July	2	10	0·003762	17.10. 0. 0	9.14.14.30	0·027337	0·004395	0·022942
August.....	28	23	0·004473	7.10. 0. 0	4.18. 0. 0	0·027478	0·016677	0·010801
September ..	24	25	0·005967	24. 5.10.45	26.23.40. 0	0·075236	0·011559	0·063677
October	29	25	0·005735	23. 6. 0. 0	24.10.44.10	0·029108	—0·058196	0·087304
November ..	22	23	0·004798	22. 6.45. 0	22.16.29. 3	0·029892	0·012626	0·017266
December...	15	21	0·006308	20. 4. 0. 0	19.16. 0. 0	0·034757	0·006436	0·028321
Mean	..	..	0·004455	....	....	....	....	0·027412

The yearly range of mean daily values was 0·007951, being the difference between the mean daily reading on February 15, when the marked end of the magnet was most drawn towards the North; and the mean daily reading on October 25, when the marked end was most drawn towards the South.

The marked end of the magnet was most drawn towards the South on October $24^d.10^h.44^m.10^s$, and was most drawn towards the North on September $24^d.5^h.10^m.45^s$; the difference between these numbers is 0·133432, and it represents the extreme range of the Horizontal Force in the year 1847. This number is unusually large.

TABLE XIII.—Mean Reading of the Horizontal Force Magnet, expressed in parts of the whole Horizontal Force in each Month, and corrected for Temperature, as deduced from the Mean of all the Two-hourly Observations in each Month.

1847, Month.	Mean for each Month, Corrected.	Month. 1847,	Mean for each Month, Corrected.
February	0·025857	August	0·023900
March	0·025389	September	0·024575
April	0·025241	October	0·023826
May	0·024667	November	0·024363
June	0·025123	December	0·024702
July	0·024264		
Mean	0·024718		

TABLE XIV.—Daily Range of the Horizontal Force on every Civil Day, from January 25 to August 10, and from August 23 to December 24 (except Sundays, March 24, and Good Friday), as deduced from all the Observations taken on each Day.

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d												
1	..	0·005226	0·010391	0·002823	0·003352	0·006316	0·004136	*S*	0·003234	0·003547	0·002317	0·002735
2	..	0·001822	0·003550	Good Friday	*S*	0·004092	0·003296	0·001374	0·003608	0·003643	0·005893	0·004569
3	..	0·002343	0·002559	0·009349	0·003613	0·002851	0·003683	0·001946	0·004623	*S*	0·003637	0·002869
4	..	0·002306	0·003644	*S*	0·003560	0·002767	*S*	0·003349	0·004020	0·002069	0·002796	0·001854
5	..	0·003831	0·003661	0·003851	0·003398	0·002793	0·003972	0·008988	*S*	0·002268	0·003141	*S*
6	..	0·004943	0·002504	0·004050	0·003576	*S*	0·004090	0·003874	0·003125	0·002893	0·003244	0·002703
7	..	*S*	*S*	0·007014	0·002290	0·001753	0·003655	0·004948	0·003920	0·003309	*S*	0·001497
8	..		0·004890	0·007875	0·010240	0·001936	0·003359	*S*	0·002681	0·002928	0·003808	0·003633
9	..	0·003587	0·003051	0·006030	*S*	0·003210	0·003834	0·003923	0·003329	0·003916	0·002900	0·001915
10	..	0·002154	0·002702	0·002866	0·003096	0·004410	0·021786	0·002244	0·003747	*S*	0·001692	0·002012
11	..	0·001316	0·002508	*S*	0·003329	0·008914	*S*	..	0·004119	0·003277	0·003849	0·002427
12	..	0·001883	0·002371	0·003799	0·002826	0·004175	0·006273	..	*S*	0·005458	0·004035	*S*
13	..	0·001701	0·001560	0·004884	0·003169	*S*	0·004970	..	0·006211	0·005562	0·003137	0·001517
14	..	0·001444	*S*	0·003456	0·003811	0·008249	0·004990	..	0·003797	0·004034	*S*	0·002375
15	..	*S*	0·002077	0·003487	0·004515	0·004573	0·004130	*S*	0·002991	0·003484	0·003232	0·001607
16	..	0·003051	0·002612	0·004609	*S*	0·003827	0·005111	..	0·004666	0·003751	0·002679	0·002033
17	..	0·004135	0·003080	0·004451	0·003333	0·005267	0·004511	..	0·005655	*S*	0·002774	0·009849
18	..	0·001885	0·002295	*S*	0·005162	0·004580	*S*	..	0·004341	0·003576	0·002390	0·006139
19	..	0·001546	0·015465	0·003218	0·003300	0·002635	0·004383	..	*S*	0·002394	0·004855	*S*
20	..	0·001539	0·022580	0·008636	0·005045	*S*	0·003161	..	0·004769	0·003470	0·007360	0·028321
21	..	0·001528	*S*	0·004848	0·004129	0·003283	0·002797	..	0·003332	0·003226	*S*	0·009628
22	..	*S*	0·003008	0·005765	0·003414	0·002376	0·004047	*S*	0·002674	0·003013	0·010924	0·002346
23	..	0·004218	0·004632	0·002083	*S*	0·002876	0·002601	0·003272	0·003436	0·047366	0·009781	0·005410
24	..	0·004111	Fast Day.	0·002319	0·002372	0·003378	0·002372	0·005423	0·003570	0·060690	0·002720	0·000744
25	0·003285	0·005863	0·003566	*S*	0·002288	0·003395	*S*	0·003341	0·009632	0·025888	0·006922	
26	0·002670	0·002714	0·002224	0·002363	0·001712	0·003012	0·003658	0·003492	*S*	0·004499	0·003551	
27	0·001908	0·003864	0·002800	0·002106	0·003798	*S*	0·002517	0·002526	0·014787	0·002672	0·009625	
28	0·001117	0·002604	*S*	0·002972	0·004415	0·002498	0·002710	0·004201	0·008238	0·003019	*S*	
29	0·003119	*S*	0·002484	0·004521	0·006745	0·001932	0·002820	*S*	0·008214	0·005532	0·001687	
30	0·005192		0·002696	0·004018	*S*	0·004018	0·002135	0·004046	0·006234	0·003950	0·001305	
31	*S*		0·002062		0·002528		0·003202	0·002903		*S*		

The letter *S* denotes that the day was Sunday.

In this table the range on Sunday, October 24, is included.

The greatest daily range during the period took place on the 24th of October, and those on March 20, July 10, and December 20 were large. The least daily range took place on the 24th of December.

TABLE XV.—Diurnal Ranges of the Horizontal Force Magnet in each Month, expressed in parts of the whole Horizontal Force, corrected for Temperature.

1847, Month.	Mean of all the Daily Ranges in the Month.	1847, Month.	Mean of all the Daily Ranges in the Month.
February	0·002901	August.....	0·003741
March	0·004422	September.....	0·004960
April	0·004456	October	0·008127
May	0·003808	November	0·004241
June.....	0·003812	December.....	0·004580
July	0·004378		
Mean ..... 0·004493			

The diurnal range in the six months ending September is 0·004193, and that of the remaining five months is 0·004854.

TABLE XVI.—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, as deduced from all the Observations taken at those Hours in each Month.

1847. Hour, Göttingen Mean Time.	January, from the 25th.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	0·023712	0·025441	0·025241	0·025229	0·024938	0·025244	0·023856	0·024246	0·141439	0·140577	0·140917	0·140072
16	0·024171	0·025677	0·025380	0·025576	0·024891	0·025114	0·024209	0·024151	0·141362	0·140728	0·140700	0·140997
18	0·024493	0·025932	0·025524	0·025439	0·024754	0·024964	0·024016	0·023463	0·141261	0·140816	0·141126	0·141182
20	0·024435	0·026287	0·025527	0·024880	0·023665	0·024071	0·023201	0·023182	0·140698	0·140074	0·141043	0·141578
22	0·024505	0·025635	0·024277	0·023321	0·022665	0·023523	0·022368	0·022321	0·139182	0·138168	0·140012	0·140779
0	0·024006	0·025294	0·024206	0·023581	0·023124	0·023707	0·022849	0·022406	0·138800	0·138771	0·139702	0·140936
2	0·024161	0·026148	0·025657	0·025006	0·024661	0·024859	0·024300	0·023528	0·141028	0·139333	0·140264	0·141226
4	0·023614	0·026227	0·026320	0·026288	0·025372	0·025781	0·025245	0·024285	0·140946	0·140796	0·140790	0·141644
6	0·023828	0·026163	0·026043	0·026256	0·025777	0·026299	0·025553	0·024630	0·142531	0·140945	0·141259	0·141477
8	0·023387	0·025948	0·025672	0·026174	0·025741	0·026342	0·025660	0·024996	0·141422	0·140744	0·141409	0·141532
10	0·023225	0·025611	0·025233	0·025888	0·025335	0·025871	0·025250	0·024930	0·141543	0·140639	0·140960	0·140791
12	0·021590	0·025937	0·025596	0·025249	0·025083	0·025695	0·024666	0·024666	0·141011	0·140650	0·140490	0·140512

The numbers in January in this table have been formed from the observations taken after the 25th day only. The numbers in August are composed of two different series, made under different circumstances, at the beginning and at the end of the month, and 0·116360 was applied subtractively to the latter to make them comparable with the former. (See the remarks following Table X.) The means of these two sets of values for the two portions of the month have been taken, and inserted in the above table.

The numbers in the table beginning with September require the subtractive correction of 0·116360 to be applied to them, which value has been applied in the formation of the following table:—

TABLE XVII.—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, as deduced from all the Observations taken at those Hours in each Month, and made approximately comparable with each other by applying the subtractive Constant 0·116360 to all the Numbers from August 23.

1847. Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	0·023712	0·025441	0·025241	0·025229	0·024938	0·025244	0·023856	0·024246	0·025079	0·024217	0·024557	0·023712
16	0·024171	0·025677	0·025380	0·025576	0·024891	0·025114	0·024209	0·024151	0·025002	0·024368	0·024340	0·024637
18	0·024493	0·025932	0·025524	0·025439	0·024754	0·024964	0·024016	0·023463	0·024901	0·024456	0·024766	0·024822
20	0·024435	0·026287	0·025527	0·024880	0·023665	0·024071	0·023201	0·023182	0·024338	0·023714	0·024683	0·025218
22	0·024505	0·025635	0·024277	0·023321	0·022665	0·023523	0·022368	0·022321	0·022822	0·021808	0·023652	0·024419
0	0·024006	0·025294	0·024206	0·023581	0·023124	0·023707	0·022849	0·022406	0·022440	0·022411	0·023342	0·024576
2	0·024161	0·026148	0·025657	0·025006	0·024661	0·024859	0·024300	0·023528	0·024668	0·022973	0·023904	0·024866
4	0·023614	0·026227	0·026320	0·026288	0·025372	0·025781	0·025245	0·024285	0·024586	0·024436	0·024430	0·025284
6	0·023828	0·026163	0·026043	0·026256	0·025777	0·026299	0·025553	0·024630	0·026171	0·024585	0·024899	0·025117
8	0·023387	0·025948	0·025672	0·026174	0·025741	0·026342	0·025660	0·024996	0·025062	0·024384	0·025049	0·025172
10	0·023225	0·025611	0·025233	0·025888	0·025335	0·025871	0·025250	0·024930	0·025183	0·024279	0·024600	0·024431
12	0·021590	0·025937	0·025596	0·025249	0·025083	0·025695	0·024666	0·024666	0·025651	0·024290	0·024130	0·024152

The diurnal movement has consisted of four maxima and four minima in January; of a triple maximum and minimum in February, March, October, November, and December; of a double maximum and minimum in April and July; and of a single maximum and minimum in May, June, August, and September.

The next table is formed by taking the mean of the numbers in the preceding Table, corresponding to the same hours for each month; those from April to September being grouped together for summer, and those for the other six months for winter.

TABLE XVIII.—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, for the Summer and Winter periods, and for the Year.

1847, Hour, Göttingen Mean Time.	Mean Reading of the Horizontal Force Magnet.		Mean Reading at each Even Hour for the Year.	Difference from the Mean of all the Even Hours for the Year.
	Summer.	Winter.		
h				
14	0·024765	0·024480	0·024623	−0·00010
16	0·024824	0·024762	0·024793	+0·00160
18	0·024590	0·024999	0·024795	+0·00162
20	0·023890	0·024811	0·024351	−0·00282
22	0·022837	0·024049	0·023443	−0·01190
0	0·022851	0·023973	0·023412	−0·01221
2	0·024504	0·024618	0·024561	−0·00072
4	0·025260	0·025052	0·025156	+0·00523
6	0·025781	0·025106	0·025444	+0·00811
8	0·025663	0·024935	0·025299	+0·00666
10	0·025410	0·024563	0·024987	+0·00354
12	0·025168	0·024283	0·024726	+0·00093
Mean....	0·024629	0·024636	0·024633	....

The maximum force occurs at 6^h, both in summer and winter. The minimum force occurs at 22^h in summer, and at 0^h in winter. There was a double maximum and minimum both in summer and winter: the times were,

In Summer.		In Winter.	
The maximum at	h 6	The maximum at	h 6
A minimum at	14	A minimum at	12
A maximum at	16	A maximum at	18
The minimum at	22	The minimum at	0

The fourth column shews the mean at each even hour for the year, and it indicates a double maximum and minimum: the times are,

The maximum at	h 6
A minimum at	14
A maximum at	18
The minimum at	0

The mean amount of the diurnal change in summer was 0·002944, and in winter it was 0·001133; so that the change in winter is less than one-half of that in the summer period.

TABLE XIX.—Excess of the Mean Reading of the Horizontal Force Magnet, expressed in parts of the whole Horizontal Force, corrected for Temperature, in every Month, at every Even Hour of Göttingen Mean 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 the Even Hours throughout the Month.

1847, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	−0·000049	−0·000417	−0·000149	−0·000012	+0·000271	+0·000121	−0·000409	+0·000346	+0·000504	+0·000391	+0·000194	−0·000989
16	+0·000410	−0·000181	−0·000010	+0·000335	+0·000224	−0·000009	−0·000056	+0·000251	+0·000427	+0·000542	−0·000023	−0·000064
18	+0·000732	+0·000074	+0·000134	+0·000198	+0·000087	−0·000159	−0·000249	−0·000437	+0·000326	+0·000630	+0·000403	+0·000121
20	+0·000674	+0·000429	+0·000137	−0·000361	−0·001002	−0·001052	−0·001064	−0·000718	−0·000237	−0·000112	+0·000320	+0·000517
22	+0·000744	−0·000223	−0·001113	−0·001920	−0·002002	−0·001600	−0·001897	−0·001579	−0·001753	−0·002018	−0·000711	−0·000282
0	+0·000245	−0·000564	−0·001184	−0·001660	−0·001543	−0·001416	−0·001416	−0·001494	−0·003135	−0·001415	−0·001021	−0·000125
2	+0·000400	+0·000290	+0·000267	−0·000235	−0·000006	−0·000264	+0·000035	−0·000372	+0·000093	−0·000853	−0·000459	+0·000165
4	−0·000147	+0·000369	+0·000930	+0·001047	+0·000705	+0·000658	+0·000980	+0·000385	+0·000011	+0·000610	+0·000067	+0·000583
6	+0·000067	+0·000305	+0·000653	+0·001015	+0·001110	+0·001176	+0·001288	+0·000730	+0·001596	+0·000759	+0·000536	+0·000416
8	−0·000374	+0·000090	+0·000282	+0·000933	+0·001074	+0·001219	+0·001399	+0·001096	+0·000487	+0·000558	+0·000686	+0·000471
10	−0·000536	−0·000247	−0·000157	+0·000647	+0·000668	+0·000748	+0·000985	+0·001030	+0·000608	+0·000483	+0·000237	−0·000270
12	−0·002171	+0·000079	+0·000206	+0·000008	+0·000416	+0·000572	+0·000401	+0·000766	+0·001076	+0·000464	−0·000233	−0·000549

By taking the mean of all the numbers at the same hour, without regard to sign, the following results are obtained, exhibiting the average departure from the mean of the month at each hour, the months from April to September being taken for summer, and the remaining months for winter.

At ^{h} 14	the mean departure from the mean of the month was,	in summer	0·000277,	in winter	0·000365
16	,,	,,	0·000217	,,	0·000205
18	,,	,,	0·000243	,,	0·000349
20	,,	,,	0·000739	,,	0·000365
22	,,	,,	0·001792	,,	0·000849
0	,,	,,	0·001777	,,	0·000759
2	,,	,,	0·000168	,,	0·000406
4	,,	,,	0·000631	,,	0·000451
6	,,	,,	0·001153	,,	0·000456
8	,,	,,	0·001035	,,	0·000410
10	,,	,,	0·000781	,,	0·000317
12	,,	,,	0·000540	,,	0·000617

TABLE XX.—Mean Reading of the Horizontal Force Magnet, corrected for 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, from February 1 to December 24 (except Sundays, March 24, and Good Friday).

1847, Month.	Mean Reading at		
	$1^{h}.52^{m}.30^{s}$.	$2^{h}.2^{m}.30^{s}$.	$2^{h}.12^{m}.30^{s}$.
February	0·026095	0·026148	0·026137
March	0·025492	0·025657	0·025683
April	0·024977	0·025006	0·024932
May	0·024529	0·024661	0·024798
June	0·024886	0·024860	0·024940
July	0·024303	0·024300	0·024386
August	0·022899	0·023528	0·021768
September	0·024495	0·024668	0·024937
October	0·023245	0·023358	0·023210
November	0·023820	0·023904	0·023988
December	0·029748	0·024866	0·025257
Mean	0·024954	0·024632	0·024549

Throughout the whole of the discussion of the Horizontal Force Magnet, with the exception of the above table, the observations have been referred, for brevity, to the even hours of Göttingen mean time; the true time of observation is in every case $2^{m}.30^{s}$ after the hour.

TABLE XXI.—Mean Reading of the Vertical Force Magnet, corrected for Temperature, expressed in parts of the whole Vertical Force, as deduced from the Twelve Observations on every Civil Day of the Year 1847, from February 1 to December 24 (except Sundays, March 24, and Good Friday), at every Even Hour of Göttingen Mean Time.

Days of the Month, 1847.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d											
1	0·056541	0·056792	0·055212	0·054189	0·052679	0·051980	*S*	0·051448	0·051509	0·050927	0·051012
2	0·056179	0·055537	Good Friday.	*S*	0·052418	0·051823	0·051028	0·051270	0·051471	0·050733	0·051538
3	0·056057	0·055161	0·055609	0·054240	0·052723	0·052093	0·051103	0·051387	*S*	0·051331	0·051161
4	0·055974	0·055586	*S*	0·054087	0·052625	*S*	0·051537	0·051234	0·051451	0·051495	0·051345
5	0·056133	0·055191	0·054949	0 053970	0·052529	0·051925	0·051241	*S*	0·051225	0·051418	*S*
6	0·055107	0·055232	0·054387	0·053576	*S*	0·051827	0·051505	0·051673	0·051111	0·051183	0·052026
7	*S*	*S*	0·054022	0·053380	0·053040	0·051442	0·051688	0·051213	0·050855	*S*	0·051440
8	0·057240	0·055733	0·053262	0·053517	0·052707	0·051814	*S*	0·051233	0·050939	0·051202	0·052316
9	0·056962	0·054659	0·054126	*S*	0·053437	0·051999	0·051510	0·051437	0·050726	0·051167	0·052100
10	0·057104	0·055948	0·054326	0·053589	0·053218	0·051253	0·051967	0·051030	*S*	0·051480	0·050822

TABLE XXI.—*continued.*

Days of the Month, 1847.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d											
11	0·056288	0·056576	*S*	0·053074	0·053043	*S*	0·051776	0·051100	0·050933	0·051343	0·050923
12	0·056784	0·055748	0·054222	0·053442	0·052580	0·051736	0·051446	*S*	0·050767	0·050999	*S*
13	0·056971	0·055103	0·053738	0·053525	*S*	0·051361	0·051118	0·051354	0·050783	0·051564	0·051332
14	*S*	*S*	0·054427	0·053303	0·052738	0·051616	0·051309	0·051388	0·051295	*S*	0·051077
15	0·054936	0·054793	0·054391	0·053524	0·052945	0·051565	*S*	0·051375	0·051222	0·051340	0·051326
16	0·054818	0·053857	0·054786	*S*	0·053064	0·051499	0·051533	0·051044	0·050999	0·051161	0·050818
17	0·054572	0·053465	0·054659	0·053851	0·052942	0·051421	0·051422	0·051503	*S*	0·051898	0·051979
18	0·054005	0·053458	*S*	0·053147	0·052630	*S*	0·051368	0·051408	0·051013	0·052121	0·051583
19	0·054190	0·054246	0·054760	0·053349	0·052727	0·051884	0·051268	*S*	0·050937	0·052421	*S*
20	0·054748	0·053387	0·055025	0·053377	*S*	0·051778	0·051264	0·051370	0·050988	0·053025	0·052884
21	*S*	*S*	0·054554	0·053344	0·052506	0·051643	0·051275	0·051319	0·050976	*S*	0·052713
22	0·054750	0·054388	0·054119	0·053124	0·052595	0·051826	*S*	0·051186	0·051130	0·052961	0·052996
23	0·053956	0·054010	0·054193	*S*	0·052723	0·051772	0·051333	0·051297	0·051945	0·051429	0·052431
24	0·055287	Fast Day.	0·053935	0·052459	0·052522	0·051728	0·051623	0·051924	*S*	0·051993	0·052323
25	0·054956	0·054459	*S*	0·052902	0·052338	*S*	0·051591	0·051867	0·052346	0·051722	
26	0·055030	0·054130	0·054081	0·053054	0·052131	0·051874	0·051033	*S*	0·052282	0·051412	
27	0·055433	0·053898	0·053946	0·052949	*S*	0·051575	0·050924	0·051942	0·051832	0·051602	
28	*S*	*S*	0·054108	0·052799	0·052145	0·051348	0·051255	0·052123	0·051519	*S*	
29		0·055114	0·053669	0·052347	0·051806	0·051442	*S*	0·051630	0·051454	0·052147	
30		0·055136	0·053847	*S*	0·051755	0·051197	0·051327	0·051297	0·051086	0·051844	
31		0·055401		0·052875		0·051346	0·051402		*S*		

The letter *S* denotes that the day was Sunday.

The following table shews the frequency of differences of given amounts on consecutive days:—

Amount of Difference.	Number of Instances.	Days of Occurrence.
Greater than 0·0015	1	November 22, 23.
0·0012 to 0·0015	4	February 23, 24; March 1, 2, 9, 10; December 9, 10.
0·0009 to 0·0012	4	
0·0007 to 0·0009	14	
0·0006 to 0·0007	5	
0·0005 to 0·0006	13	
0·0004 to 0·0005	17	
0·0003 to 0·0004	33	

TABLE XXII.—Shewing the Difference between the Greatest and Least Mean Daily Values, the Extreme Readings, and the Ranges of the Readings of the Vertical Force in every Month.

1847, Month.	The Mean Daily Reading in the Month.		Difference between the Greatest and Least Mean Daily Values.	Times of Extreme Readings in the Month, from Single Observations.		Extreme Readings in the Month.		Range of the Readings of the Vertical Force.
	Greatest.	Least.		Greatest.	Least.	Greatest.	Least.	
				d h m s	d h m s			
February ...	8	23	0·003284	8. 0. 0. 0	22. 16. 0. 0	0·057991	0·051601	0·006390
March	1	20	0·003405	1. 8. 34. 0	19. 17. 8. 0	0·059514	0·046266	0·013248
April.....	3	8	0·002347	20. 6. 0. 0	7. 16. 9. 0	0·056893	0·049624	0·007269
May.....	3	29	0·001893	8. 2. 0. 0	7. 20. 30. 0	0·055281	0·051375	0·003906
June.....	9	30	0·001682	10. 6. 0. 0	29. 14. 0. 0	0·054220	0·051274	0·002946
July.....	3	30	0·000896	6. 8. 0. 0	9. 14. 22. 30	0·052889	0·045126	0·007763
August.....	10	27	0·001043	18. 8. 0. 0	4. 18. 0. 0	0·053515	0·049082	0·004433
September ..	28	10	0·001093	24. 4. 36. 15	24. 10. 20. 30	0·063651	0·039626	0·024025
October	25	9	0·001620	24. 7. 22. 10	24. 12. 33. 0	0·059903	0·043137	0·016766
November ..	20	2	0·002292	22. 9. 30. 0	22. 16. 30. 30	0·057577	0·045058	0·012519
December...	22	16	0·002178	20. 8. 0. 0	19. 14. 0. 0	0·060450	0·044772	0·015678
Mean	..	..	0·001976	....	....	....	....	0·010449

The yearly range was 0·006514, being the difference between the mean daily reading on February 8, when the marked end of the magnet was most drawn downwards, and the mean daily reading on October 9, when it was the least drawn downwards.

The marked end of the magnet was most drawn downwards at September $24^d.4^h.36^m.15^s$, and was the least drawn downwards at September $24^d.10^h.20^m.30^s$; the difference between these numbers is 0·024025, and it represents the extreme range of the Vertical Force in the year 1847.

TABLE XXIII.—Mean Reading of the Vertical Force Magnet, corrected for Temperature, and expressed in parts of the whole Vertical Force, from the Mean of all the Two-hourly Observations in each Month.

1847, Month.	Mean for each Month.	1847, Month.	Mean for each Month.
February	0·055584	August	0·051379
March	0·054885	September	0·051425
April	0·054335	October	0·051261
May	0·053346	November	0·051612
June	0·052637	December	0·051721
July	0·051658		
Mean	0·052713		

TABLE XXIV.—Daily Range of the Vertical Force Magnet from February 1 to December 24 (except Sundays, March 24, and Good Friday) as deduced from all the Observations taken on that Day.

Days of the Month, 1847.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d											
1	0·001298	0·003432	0·001032	0·001230	0·001809	0·001248	*S*	0·000881	0·000478	0·001916	0·001080
2	0·000919	0·001247	Good Friday.	*S*	0·002390	0·000982	0·001785	0·000805	0·000590	0·002553	0·000926
3	0·000957	0·000733	0·002927	0·000745	0·001490	0·000764	0·001602	0·000796	*S*	0·000836	0·000961
4	0·000553	0·001559	*S*	0·001005	0·000948	*S*	0·000930	0·001225	0·000747	0·000536	0·001031
5	0·001110	0·000701	0·001767	0·000964	0·001086	0·001319	0·003314	*S*	0·000752	0·000679	*S*
6	0·001395	0·001054	0·000990	0·000685	*S*	0·001925	0·001502	0·000606	0·000356	0·000498	0·001106
7	*S*	*S*	0·001962	0·000970	0·001375	0·001048	0·001402	0·000928	0·000576	*S*	0·001079
8	0·001604	0·001724	0·005102	0·003906	0·001011	0·001118	*S*	0·000417	0·000694	0·000744	0·001480
9	0·001220	0·001857	0·001467	*S*	0·001324	0·001607	0·001572	0·000893	0·000621	0·001071	0·001690
10	0·000950	0·001174	0·000865	0·001119	0·001421	0·007546	0·000814	0·000706	*S*	0·000964	0·000705
11	0·001035	0·001121	*S*	0·000866	0·000858	*S*	0·000827	0·000762	0·000463	0·000925	0·001435
12	0·002085	0·001846	0·001563	0·000976	0·001914	0·002052	0·001257	*S*	0·000925	0·000793	*S*
13	0·000836	0·001250	5·001002	0·001003	*S*	0·001593	0·001007	0·001339	0·002568	0·000789	0·000748
14	*S*	*S*	0·000815	0·001085	0·002377	0·001488	0·001585	0·000997	0·001035	*S*	0·000428
15	0·001275	0·001815	0·000878	0·002300	0·001031	0·001318	*S*	0·001235	0·000813	0·000792	0·000960
16	0·001294	0·000928	0·001127	*S*	0·000684	0·001307	0·000894	0·000650	0·001532	0·001389	0·000377
17	0·001647	0·001484	0·002170	0·001792	0·000989	0·001068	0·000848	0·001484	*S*	0·000895	0·007974
18	0·000456	0·001177	*S*	0·001752	0·001056	*S*	0·002768	0·000471	0·001672	0·000951	0·002192
19	0·000550	0·005386	0·001707	0·001414	0·000692	0·001013	0·000514	*S*	0·001610	0·001692	*S*
20	0·001123	0·008364	0·003135	0·001690	*S*	0·001340	0·000944	0·000801	0·000887	0·001161	0·015678
21	*S*	*S*	0·003826	0·002044	0·000756	0·000995	0·001305	0·000971	0·000951	*S*	0·001175
22	0·001378	0·001444	0·002084	0·001590	0·000806	0·001296	*S*	0·000730	0·000655	0·005797	0·000973
23	0·003181	0·000942	0·001808	*S*	0·001456	0·001245	0·002036	0·001140	0·013103	0·007277	0·000890
24	0·001466	Fast Day.	0·001442	0·001035	0·000711	0·001189	0·000900	0·024025	0·016730	0·001427	0·000783
25	0·002103	0·001395	*S*	0·001211	0·000661	*S*	0·001990	0·003056	0·013599	0·002744	
26	0·001975	0·001046	0·000573	0·001664	0·000872	0·001459	0·001327	*S*	0·001623	0·002458	
27	0·000923	0·000795	0·001764	0·001551	*S*	0·001335	0·001969	0·008226	0·000615	0·001219	
28	*S*	*S*	0·001202	0·001837	0·001101	0·001470	0·002395	0·001693	0·000572	*S*	
29		0·000645	0·000932	0·002284	0·001153	0·001015	*S*	0·003405	0·000838	0·000894	
30		0·000657	0·002873	*S*	0·001129	0·001395	0·001296	0·003455	0·000659	0·001753	
31		0·001271		0·001690		0·001214	0·000466		*S*		

The letter *S* denotes that the day was Sunday.

In this table the range on Sunday, October 24, is included.

The greatest daily range during the period took place on the 24th of September; and those on October 24 and December 20 were large. The least daily range took place on the 6th of October.

TABLE XXV.—Diurnal Range of the Vertical Force Magnet in each Month, expressed in parts of the whole Vertical Force.

1847, Month.	Mean of all the Daily Ranges in each Month.	1847, Month.	Mean of all the Daily Ranges in each Month.
February	0·001306	August.....	0·001433
March	0·001733	September	0·002373
April	0·001801	October	0·002432
May	0·001477	November	0·001644
June.....	0·001196	December	0·002080
July	0·001531		
Mean ..... 0·001728			

The mean of the diurnal ranges in the months from April to September was 0·001635, and it was 0·001839 in the other months.

TABLE XXVI.—Mean Reading of the Vertical Force Magnet, corrected for Temperature, expressed in parts of the whole Vertical Force, at every Even Hour of Göttingen Mean Time, deduced from all the Observations taken at that Hour in each Month.

1847, Hour, Göttingen Mean Time.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h											
14	0·055258	0·054580	0·053869	0·052804	0·052267	0·051066	0·051043	0·050910	0·050942	0·051318	0·051195
16	0·055259	0·054649	0·053861	0·052947	0·052316	0·051151	0·050958	0·051054	0·051054	0·051157	0·051146
18	0·055464	0·054754	0·054197	0·053079	0·052494	0·051263	0·051072	0·051277	0·051147	0·051382	0·051307
20	0·055635	0·054925	0·054477	0·053331	0·052684	0·051466	0·051260	0·051395	0·051149	0·051585	0·051490
22	0·055819	0·055187	0·054659	0·053462	0·052752	0·051591	0·051331	0·051437	0·051253	0·051684	0·051705
0	0·055861	0·055215	0·054656	0·053539	0·052706	0·051762	0·051394	0·051512	0·051120	0·051712	0·051946
2	0·055986	0·055272	0·054807	0·053761	0·052868	0·052140	0·051701	0·052035	0·051541	0·051924	0·051986
4	0·055996	0·055268	0·054772	0·053839	0·052940	0·052165	0·051775	0·051876	0·051812	0·051996	0·052069
6	0·055684	0·055022	0·054595	0·053809	0·053031	0·052233	0·051826	0·051718	0·051607	0·051809	0·052349
8	0·055462	0·054838	0·054353	0·053470	0·052800	0·052036	0·051663	0·051622	0·051332	0·051717	0·052281
10	0·055334	0·054523	0·054019	0·053174	0·052513	0·051671	0·051380	0·051252	0·051188	0·051686	0·051643
12	0·055251	0·054385	0·053732	0·052936	0·052275	0·051358	0·051137	0·051013	0·050909	0·051378	0·051569

TABLE XXVII.—Excess of the Mean Reading of the Vertical Force Magnet, corrected for Temperature, and expressed in parts of the whole Vertical Force, in every Month, at every Even Hour of Göttingen Mean 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.

1847, Hour, Göttingen Mean Time.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h											
14	−0·000326	−0·000305	−0·000466	−0·000542	−0·000370	−0·000592	−0·000336	−0·000515	−0·000319	−0·000294	−0·000526
16	−0·000325	−0·000236	−0·000474	−0·000399	−0·000321	−0·000507	−0·000421	−0·000371	−0·000207	−0·000455	−0·000575
18	−0·000120	−0·000131	−0·000138	−0·000267	−0·000143	−0·000395	−0·000307	−0·000148	−0·000114	−0·000230	−0·000414
20	+0·000051	+0·000040	+0·000142	−0·000015	+0·000047	−0·000192	−0·000119	−0·000030	−0·000112	−0·000027	−0·000231
22	+0·000235	+0·000302	+0·000324	+0·000116	+0·000115	−0·000067	−0·000048	+0·000012	−0·000008	+0·000072	−0·000016
0	+0·000277	+0·000330	+0·000321	+0·000193	+0·000069	+0·000104	+0·000015	+0·000087	−0·000141	+0·000100	+0·000225
2	+0·000402	+0·000387	+0·000472	+0·000415	+0·000231	+0·000482	+0·000322	+0·000610	+0·000280	+0·000312	+0·000265
4	+0·000412	+0·000383	+0·000437	+0·000493	+0·000303	+0·000507	+0·000396	+0·000451	+0·000551	+0·000384	+0·000348
6	+0·000100	+0·000137	+0·000260	+0·000463	+0·000394	+0·000575	+0·000447	+0·000293	+0·000346	+0·000197	+0·000628
8	−0·000122	−0·000047	+0·000018	+0·000124	+0·000163	+0·000378	+0·000284	+0·000197	+0·000071	+0·000105	+0·000560
10	−0·000250	−0·000362	−0·000316	−0·000172	−0·000124	+0·000013	+0·000001	−0·000173	−0·000073	+0·000074	−0·000078
12	−0·000333	−0·000500	−0·000603	−0·000410	−0·000362	−0·000300	−0·000242	−0·000412	−0·000352	−0·000234	−0·000152

TABLE XXVIII.—Mean Reading of the Vertical Force Magnet, corrected for Temperature, and expressed in parts of the whole Vertical Force, as deduced from all the Triple Observations taken near 2^h, Göttingen Mean Time, on every Day in each Month.

1847, Month.	Mean Reading at		
	$1^h.47^m.30^s.$	$1^h.57^m.30^s.$	$2^h.7^m.30^s.$
February	0·056004	0·055986	0·055977
March	0·055269	0·055272	0·055240
April	0·054835	0·054807	0·054787
May	0·053780	0·053761	0·053733
June	0·052881	0·052868	0·052845
July	0·052142	0·052140	0·052118
August	0·051711	0·051701	0·051702
September	0·052164	0·052035	0·052016
October	0·051520	0·051541	0·051577
November	0·051962	0·051924	0·051941
December	0·051996	0·051986	0·052049
Mean	0·053115	0·053093	0·053090

Throughout the whole of this discussion of the Vertical Force Magnet, with the exception of the above table, the observations have been referred, for brevity, to the even hours of Göttingen mean time; the true time of observation is in every case $2^m.30^s$ before the hour.

The results of all the observations of dip, made at 21^h and at 3^h in every month, have been collected, and their means taken; and thus the following table is formed:—

TABLE XXIX.—Mean Monthly Magnetic Dip.

1847, Month.	21^h.		3^h.	
	By Needles marked A 1 and A 2.	Number of Observations.	By Needles marked A 1 and A 2.	Number of Observations.
	° ′		° ′	
January	69. 0·3	2	68. 59·3	1
February	69. 0·0	2	69. 0·0	4
March	68. 58·8	5	68. 59·8	2
April	69. 0·3	3	68. 59·8	2
May	69. 1·5	4	69. 1·5	3
June	69. 2·0	3	69. 0·5	2
July	69. 0·5	3	68. 57·8	4
August	68. 58·3	4	69. 0·0	3
September	68. 57·5	4	68. 59·5	4
October	69. 0·0	3	68. 57·5	3
November	68. 55·5	4	68. 57·5	3
December	68. 57·3	3	68. 49·8	1

By dividing the above numbers into quarterly periods, the next table is formed.

TABLE XXX.—Mean Quarterly Magnetic Dip.

1847, Months forming the Quarterly Period.	Mean Quarterly Dip at 21h		3h.	
	By Needles, marked A 1 and A 2.	Number of Observations.	By Needles, marked A 1 and A 2.	Number of Observations.
	° ′		° ′	
January, February, March	68. 59 ·7	9	68. 59 ·7	7
April, May, June.....	69. 1 ·3	10	69. 0 ·6	7
July, August, September	68. 58 ·8	11	68. 59 ·1	11
October, November, December.	68. 57 ·6	10	68. 54 ·9	7

The Mean Magnetic Dip for the year 1847, at 21^h, was $68^\circ\ 59'\cdot3$
„ „ 3, „ $68^\circ\ 58'\cdot6$

Abstract of the Observations of Deflexion.

TABLE XXXI.—Values of Absolute Measure of Horizontal Force from Observations of Deflexion of a Magnet.

Month and Day, 1847.	Apparent Value of a.	Apparent Value of b.	Mean Value of b.	Apparent Value of a'.	Apparent Value of b'.	Adopted Value of a, assuming the Mean Value of b as applicable to all.	Log. $\frac{1}{2}a = \log.\frac{m}{X}$.	Adopted Time of Vibration of Deflecting Magnet.	Log. $m\,X$.	Value of X.	Value of m.
March 3	+0·2184	−0·0004	−0·0009	+0·1083	+0·0073	+0·2188	9·03910	s 5·007	0·18938	3·7596	0·4114
April 24	+0·2164	+0·0015		+0·1065	+0·0101	+0·2185	9·03842	5·022	0·18678	3·7513	0·4098
July 13	+0·2152	−0·0012		+0·1061	+0·0089	+0·2149	9·03113	5·033	0·18488	3·7747	0·4055
Sep. 30	+0·2178	−0·0036		+0·1126	−0·0041	+0·2154	9·03230	5·026	0·18610	3·7749	0·4066

The observations of September 30 are reduced, omitting the second set of vibrations of the magnet, which appear to be less worthy of confidence than any other vibrations which have been observed.

TABLE XXXII.—Values of Absolute Measure of Horizontal Force, from Observations of Vibration of the Deflecting Magnet.

Month and Day, 1847.	Adopted Time of Vibration.	Log. $m\,X$.	Value of m interpolated from the Deflexion Observations.	Inferred Value of X.
March 25	s 5·016	0·18782	0·4107	3·7523
April 12	5·008	0·18922	0·4102	3·7690
19	4·995	0·19146	0·4100	3·7904
June 2	5·006	0·18956	0·4077	3·7951
30	5·021	0·18696	0·4063	3·7854
July 10	5·034	0·18472	0·4057	3·7715
29	5·016	0·18782	0.4057	3·7985
September 10	5·012	0·18854	0·4063	3·7992
November 19	5·000	0·19060	0·4071	3·8097
24	5·000	0·19060	0·4072	3·8089

The values of m for November 19 and 24 are found by interpolating between 0·4032 on 1847, September 30, and 0·4078, on 1848, January 18.

ROYAL OBSERVATORY, GREENWICH.

ABSTRACTS

OF THE

RESULTS

OF THE

METEOROLOGICAL OBSERVATIONS.

1847.

TABLE I.—Mean Reading of the Barometer as deduced from the Observations, generally Twelve in Number, taken on every Civil Day (except Sundays, March 24, Good Friday, and Christmas Day), at the Even Hours of Göttingen Mean Time.

Days of the Month, 1847.	January.	February.	March.	April.	May	June.	July.	August.	September.	October.	November.	December.
d	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1	30·236	29·556	30·209	29·240	29·657	30·345	30·157	*S*	29·721	29·935	30·179	30·108
2	29·840	29·686	30·361	Good Friday.	*S*	30·313	30·120	29·741	29·716	29·962	30·219	30·145
3	*S*	29·806	30·391	29·262	29·679	30·183	29·996	29·869	29·741	*S*	30·196	29·966
4	29·687	30·021	30 331	*S*	29·739	30·098	*S*	29·754	29·720	29·877	30·093	29·712
5	29·662	29·975	30·160	29·555	29·628	30·061	29·800	29·474	*S*	29·602	29·903	*S*
6	29·857	29·521	30·025	29·669	29·607	*S*	29·749	29·444	29·762	29·491	29·873	28·727
7	29·969	*S*	*S*	29·701	29·530	29·937	29·680	29·626	29·825	29·425	*S*	28·723
8	29·998	29·416	29·988	29·477	29·321	29·666	29·758	*S*	29·753	29·684	29·484	29·481
9	30·209	29·283	29·898	29·570	*S*	29·709	29·927	29·663	29·951	29·785	29·823	29·529
10	*S*	29·376	29·888	29·737	29·668	29·623	30·008	29·773	29·983	*S*	30·173	29·681
11	30·019	29·624	30·109	*S*	29·507	29·847	*S*	29·956	29·953	29·754	30·094	29·679
12	29·873	29·768	30·003	29·583	29·589	29·826	30·053	29·981	*S*	29·749	29·951	*S*
13	29·804	29·880	30·158	29·723	29·702	*S*	30·074	30·084	29·672	29·780	30·123	29·913
14	29·912	*S*	*S*	29·812	29·734	29·410	30·052	30·174	29·756	29·708	*S*	29·944
15	29·932	29·385	30·036	29·802	29·798	29·448	29·998	*S*	29·726	29·655	30·113	29·892
16	29·931	29·611	29·759	29·856	*S*	29·565	29·905	29·951	29·322	29·845	30·072	29·763
17	*S*	29·749	29·705	29·687	29·789	29·462	29·857	29·926	29·336	*S*	30·016	29·640
18	29·987	29·749	29·726	*S*	29·803	29·554	*S*	29·973	29·439	29·571	30·234	29·360
19	30·019	29·845	29·538	29·623	29·763	29·769	29·807	29·987	*S*	29·340	30·242	*S*
20	30·008	30·125	29·408	29·758	29·757	*S*	29·745	29·832	29·673	29·618	30·039	29·553
21	29·764	*S*	*S*	29·849	29·986	29·670	29·777	29·764	29·947	29·774	*S*	29·504
22	29·632	30·190	29·639	29·928	29·924	29·563	29·940	*S*	29·932	29·940	29·476	29·689
23	29·544	30·139	29·661	29·887	*S*	29·518	30·096	29·809	29·890	29·518	29·578	29·738
24	*S*	30·078	Fast Day.	29·852	29·748	29·481	29·972	29·962	30·041	*S*	29·943	29·769
25	29·235	30·016	29·887	*S*	30·012	29·574	*S*	29·966	29·922	29·936	29·928	Christ. Day.
26	29·243	29·995	29·883	29·696	30·082	29·913	29·831	30·040	*S*	30·258	29·653	*S*
27	29·189	29·985	29·835	29·547	29·926	*S*	29·950	30·142	30·155	30·254	29·127	30·122
28	29·015	*S*	*S*	29·523	29·793	30·140	29·931	30·139	30·201	30·208	*S*	30·084
29	29·239		29·584	29·424	29·802	30·138	29·935	*S*	30·215	30·102	29·338	29·892
30	29·388		29·547	29·568	*S*	30·121	29·890	29·906	30·103	30·117	29·652	29·658
31	*S*		29·370		30·339		29·920	29·863		*S*		29·727
Mean.	29·738	29·783	29·889	29·653	29·765	29·805	29·923	29·877	29·825	29·803	29·905	29·692
Range	1·221	0·907	1·021	0·688	1·018	0·935	0·477	0·730	0·893	0·918	1·115	1·422

The letter *S* denotes that the day was Sunday.

Till January 25, and from December 27, a few readings only were taken daily. The mean reading for the day has been found by the application of corrections to the mean of the observations, deduced from the five years' observations ending 1845, December 31. (See Philosophical Transactions, 1848, Part I.)

In the winter half year there were—

10	instances in which the difference between the mean readings on two consecutive days exceeded	in. 0·25,	and was less than	in. 0·30
6	,,	,,	0·30	,,	0·40
5	,,	,,	0·40	,,	0·50
1	,,	,,	0·50	,,	0·60
1	,,	,,	0·70	,,	0·80

In the summer half-year there were—

6	instances in which the difference between the mean readings on two consecutive days exceeded	0·25,	and was less than	0·30
1	,,	,,	0·30	,,	0·40
1	,,	,,	0·40		

From these numbers it appears, that the differences between the mean readings of the barometer on consecutive days are much larger and more numerous in the winter than in the summer.

The times at which the greatest differences between the mean readings of the barometer on two consecutive days took place in each month, with the amounts of the differences (estimated positive when the mean reading was greater on the second day), are as follows:—

In January,	between the	1st and 2nd,	the difference amounting to	in. — 0·396
February	,,	5th and 6th	,,	— 0·454
March,	,,	15th and 16th	,,	— 0·277

					in.
In April	between the	7th and	8th,	the difference amounting to	— 0·224
May	,,	24th and	25th	,,	+ 0·264
June	,,	25th and	26th	,,	+ 0·339
July	,,	8th and	9th	,,	+ 0·169
August	,,	4th and	5th	,,	— 0·280
September	,,	15th and	16th	,,	— 0·404
October	,,	22nd and	23rd	,,	— 0·422
November	,,	26th and	27th	,,	— 0·526
December	,,	7th and	8th	,,	+ 0·758

Between the mean readings on the 4th and 6th of December, the difference amounted to $0^{in.}985$.

The mean daily readings of the barometer were the highest and lowest in each month as follows:—

		in.				in.		
In January	the highest was	30·236	on the	1st day,	and the lowest was	29·015	on the	28th day.
February	,,	30·190	,,	22nd	,,	29·283	,,	9th
March	,,	30·391	,,	3rd	,,	29·370	,,	31st
April	,,	29·928	,,	22nd	,,	29·240	,,	1st
May	,,	30·339	,,	31st	,,	29·321	,,	8th
June	,,	30·345	,,	1st	,,	29·410	,,	14th
July	,,	30·157	,,	1st	,,	29·680	,,	7th
August	,,	30·174	,,	14th	,,	29·444	,,	6th
September	,,	30·215	,,	29th	,,	29·322	,,	16th
October	,,	30·258	,,	26th	,,	29·340	,,	19th
November	,,	30·242	,,	19th	,,	29·127	,,	27th
December	,,	30·145	,,	2nd	,,	28·723	,,	7th

The highest daily mean reading was in March, and the lowest was in December, and the difference between them is $1^{in.}668$, being the range of the mean daily readings for the year.

TABLE II.—Absolute Maxima and Minima of the Corrected Barometer Readings, obtained in the Two-hourly Observations, during the Year 1847.

Maxima.			Minima.			Maxima.			Minima.		
Time.		Reading.	Time.		Reading.	Time.		Reading.	Time.		Reading.
	d h m	in.		d h m	in.		d h m	in.		d h m	in.
January ..	0. 14. 0	30·302	January ..	3. 4. 0	29·567	April	15. 20. 0	29·909	April	12. 6. 0	29·551
	9. 8. 0	30·238		13. 2. 0	29·767		21. 22. 0	29·954		19. 4. 0	29·591
	18. 22. 0	30·053		24. 5. 0	29·175	May.....	4. 0. 0	29·760		28. 18. 0	29·360
	26. 2. 0	29·354		27. 18. 0	28·867		9. 14. 0	29·692	May.....	8. 2. 0	29·218
February	4. 12. 0	30·082	February	7. 4. 0	29·277		21. 0. 0	30·015		10. 20. 0	29·458
	7. 22. 0	29·552		8. 10. 0	29·217		25. 20. 0	30·121		23. 8. 30	29·663
	13. 4. 0	29·937		15. 4. 0	29·247	June.....	1. 0. 0	30·374		28. 19. 0	29·680
	17. 0. 0	29·815		18. 16. 0	29·525		11. 10. 0	29·897	June.....	8. 4. 0	29·573
	21. 21. 0	30·225		25. 18. 0	29·955		15. 18. 0	29·661		14. 14. 0	29·343
March ...	3. 12. 0	30·404	March ...	6. 22. 0	29·853		19. 12. 0	29·851		16. 8. 0	29·436
	7. 14. 0	30·021		9. 22. 0	29·821	July	1. 10. 0	30·173		24. 3. 0	29·458
	11. 0. 0	30·185		11. 18. 0	29·896		12. 20. 0	30·089	July.....	6. 16. 0	29·565
	13. 22. 0	30·261		19. 16. 0	29·357		22. 22. 0	30·122		19. 16. 0	29·717
	25. 9. 0	29·925	April	2. 3. 45	29·102		26. 22. 0	29·981		24. 22. 0	29·751
April	6. 10. 0	29·753		8. 6. 0	29·364	August...	13. 22. 0	30·199	August...	5. 16. 0	29·303
	10. 22. 0	29·820					27. 21. 0	30·209		21. 23. 0	29·537

TABLE II—*continued.*

Maxima.		Minima.		Maxima.		Minima.	
Time.	Reading.	Time.	Reading.	Time.	Reading.	Time.	Reading.
d h m	in.	d h m	in.	d h m	in.	d h m	in.
September 2. 16. 0	29·863	September 1. 12. 0	29·596	October .. 26. 0. 0	30·294	November 8. 6. 0	29·398
10. 22. 0	30·015	7. 18. 0	29·684	November 9. 22. 0	30·208	11. 20. 0	29·886
18. 22. 0	29·864	17. 4. 0	29·162	13. 23. 50	30·182	16. 20. 0	29·949
20. 22. 0	30·010	19. 16. 0	29·469	18. 14. 0	30·289	21. 16. 0	29·333
28. 22. 0	30·247	23. 3. 0	29·839	24. 12. 0	30·009	28. 3. 30	28·817
October .. 17. 3. 35	29·905	October .. 6. 18. 0	29·360	December 1. 12. 0	30·237	December 6. 14. 30	28·380
21. 22. 0	30·018	19. 4. 0	29·267	14. 8. 0	29·963	18. 8. 0	29·224
		23. 8. 0	29·258	27. 0. 0	30·139	29. 22. 0	29·628

TABLE III.—Daily Range of the Readings of the Barometer as deduced from all the Observations taken on every Civil Day of the Year 1847 in which Twelve Observations were made, at the Even Hours of Göttingen Mean Time.

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1	..	0·176	0·172	0·139	0·186	0·053	0·037	*S*	0·293	0·084	0·046	0·398
2	..	0·044	0·099	Good Friday	*S*	0·066	0·077	0·114	0·260	0·112	0·093	0·162
3	..	0·261	0·034	0·143	0·071	0·154	0·137	0·096	0·271	*S*	0·081	0·178
4	..	0·122	0·133	*S*	0·048	0·051	*S*	0·268	0·144	0·231	0·121	0·499
5	..	0·249	0·113	0·130	0·094	0·115	0·054	0·225	*S*	0·202	0·152	*S*
6	..	0·414	0·197	0·167	0·034	*S*	0·103	0·309	0·126	0·076	0·135	0·901
7	..	*S*	*S*	0·051	0·114	0·132	0·184	0·080	0·147	0·176	*S*	0·798
8	..	0·335	0·103	0·311	0·254	0·246	0·095	*S*	0·195	0·225	0·223	0·446
9	..	0·049	0·070	0·204	*S*	0·078	0·178	0·156	0·101	0·046	0·599	0·196
10	..	0·211	0·225	0·098	0·100	0·187	0·048	0·075	0·066	*S*	0·073	0·067
11	..	0·297	0·172	*S*	0·102	0·145	*S*	0·146	0·143	0·027	0·176	0·161
12	..	0·049	0·229	0·067	0·104	0·112	0·029	0·050	*S*	0·110	0·155	*S*
13	..	0·134	0·120	0·204	0·050	*S*	0·037	0·189	0·058	0·074	0·085	0·034
14	..	*S*	*S*	0·055	0·064	0·093	0·073	0·061	0·099	0·217	*S*	0·039
15	..	0·249	0·262	0·152	0·092	0·285	0·070	*S*	0·211	0·234	0·032	0·065
16	..	0·177	0·181	0·212	*S*	0·225	0·096	0·112	0·198	0·071	0·065	0·134
17	..	0·176	0·053	0·137	0·221	0·062	0·044	0·055	0·278	*S*	0·193	0·141
18	..	0·201	0·033	*S*	0·209	0·217	*S*	0·068	0·420	0·220	0·116	0·463
19	..	0·589	0·309	0·080	0·102	0·159	0·131	0·168	*S*	0·193	0·098	*S*
20	..	0·047	0·095	0·141	0·212	*S*	0·043	0·123	0·429	0·338	0·266	0·147
21	..	*S*	*S*	0·083	0·098	0·128	0·155	0·163	0·107	0·336	*S*	0·108
22	..	0·033	0·173	0·055	0·099	0·085	0·212	*S*	0·078	0·217	0·260	0·352
23	..	0·060	0·119	0·073	*S*	0·024	0·044	0·276	0·112	0·492	0·388	0·295
24	*S*	0·057	Fast Day.	0·052	0·095	0·040	0·177	0·102	0·149	*S*	0·150	0·363
25	0·095	0·059	0·064	*S*	0·293	0·194	*S*	0·057	0·244	0·450	0·204	Christ. Day.
26	0·247	0·091	0·063	0·196	0·080	0·366	0·128	0·143	*S*	0·097	0·429	*S*
27	0·240	0·048	0·214	0·119	0·154	*S*	0·061	0·068	0·074	0·029	0·254	
28	0·332	*S*	*S*	0·144	0·088	0·047	0·042	0·145	0·047	0·089	*S*	
29	0·107		0·107	0·128	0·395	0·024	0·048	*S*	0·061	0·081	0·538	
30	0·145		0·108	0·186	*S*	0·039	0·074	0·132	0·153	0·166	0·123	
31	*S*		0·156		0·096		0·059	0·109		*S*		

The letter *S* denotes that the day was Sunday.

From this table we collect the following particulars:—

On 109 days out of 285, the daily range of the readings of the barometer was less than 0·1 in.

102 " " greater than 0·1 and less than 0·2 in.

On 47 days out of 285, the daily range of the readings of the barometer was greater than	0·2	and less than	0·3
13	,,	,,	,,	0·3	,,	0·4
9	,,	,,	,,	0·4	,,	0·5
3	,,	,,	,,	0·5	,,	0·6
1	,,	,,	,,	0·7	,,	0·8
1	,,	,,	,,	0·9	,,	1·0

TABLE IV.—Diurnal Range of the Readings of the Barometer for each Month, for Quarterly Periods, and for the Year.

1847, Month.	Diurnal Range.	Diurnal Range for Spring.	Summer.	Autumn.	Winter.	the Year.
	in.	in.	in.	in.	in.	in.
December	0·239				0·205	
January	....					
February	0·172					
March	0·139	0·135				
April	0·133					
May	0·133					0·149
June	0·128					
July	0·090		0·117			
August	0·134					
September	0·172					
October	0·177			0·181		
November	0·194					

TABLE V.—Mean Reading of the Barometer, at every Even Hour of Göttingen Mean Time, deduced from all the Observations taken at that Hour in each Month.

1847, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	in.	in.	in.	in	in	in.	in.	in.	in.	in.	in	in.
14	29·692	29·762	29·903	29·653	29·754	29·803	29·924	29·868	29·824	29·808	29·897	29·700
16	29·678	29·760	29·892	29·642	29·754	29·797	29·914	29·864	29·815	29·797	29·887	29·684
18	29·677	29·765	29·891	29·641	29·759	29·805	29·923	29·874	29·817	29·797	29·887	29·675
20	29·708	29·783	29·904	29·649	29·769	29·813	29·931	29·881	29·833	29·802	29·897	29·683
22	29·737	29·798	29·903	29·657	29·777	29·813	29·935	29·890	29·840	29·817	29·914	29·696
0	29·765	29·803	29·907	29·653	29·773	29·808	29·936	29·887	29·834	29·813	29·916	29·697
2	29·774	29·789	29·889	29·649	29·767	29·800	29·924	29·876	29·823	29·799	29·902	29·689
4	29·772	29·780	29·874	29·638	29·756	29·794	29·915	29·868	29·811	29·791	29·902	29·693
6	29·772	29·779	29·872	29·644	29·755	29·793	29·905	29·867	29·808	29·797	29·907	29·696
8	29·770	29·784	29·879	29·662	29·763	29·802	29·913	29·879	29·824	29·802	29·915	29·697
10	29·760	29·791	29·878	29·676	29·777	39·816	29·928	29·884	29·835	29·808	29·918	29·692
12	29·752	29·798	28·871	29·675	29·774	29·817	29·929	29·885	29·837	29·810	29·914	29·696

Till January 25 only a few observations were taken daily; and from January 25 twelve observations were taken daily. The mean reading from January 25 was $29^{in}\cdot218$; the mean reading for the month was $29^{in}\cdot738$; the difference between these numbers is $0^{in}\cdot520$, which has been applied additively to the mean of the readings at every hour of observation, to deduce the values in January in the preceding table.

From this table it appears that the daily motion of the mercurial column of the barometer has consisted of four maxima and four minima in March; of a triple maximum and a triple minimum in December; of a double maximum and minimum in nine of the ten remaining months, the daily motion in the month of January having consisted of one maximum and one minimum only. The hour of the first maximum was 22^h in April, May, August, September, and October; 0^h in February, July, and November, 14^h in March and December; 2^h in January, and 20^h in June. The hour of the first maximum was 18^h in January, March, April, and December, 14^h in May, and 16^h in the remaining seven months.

The means of the numbers in the preceding table are taken for March, April, and May, and called Spring.
,, June, July, and August, ,, Summer.
,, September, October, and November ,, Autumn.
,, December, January, and February ,, Winter.

And thus the following table is formed:—

TABLE VI.—Mean Readings of the Barometer at every Even Hour of Göttingen Mean Time, for Quarterly Periods, and for the Year.

Hour of Observation.	Mean Reading of the Barometer for the Year.				Mean Reading at each Even Hour of Observation for the Year.	Difference of the Mean for each Hour from the Mean of all the Hours for the Year.
	Spring.	Summer.	Autumn.	Winter.		
h	in.	in.	in.	in.	in.	in.
14	29·770	29·865	29·843	29·718	29·799	−0·006
16	29·763	29·858	29·833	29·707	29·790	−0·015
18	29·764	29·867	29·830	29·706	29·792	−0·013
20	29·774	29·875	29·844	29·725	29·805	0·000
22	29·779	29·879	29·857	29·744	29·815	+0·010
0	29·778	29·877	29·854	29·755	29·816	+0·011
2	29·768	29·867	29·841	29·751	29·807	+0·002
4	29·756	29.859	29·835	29·748	29·800	−0·005
6	29·757	29.855	29·837	29·749	29·800	−0·005
8	29·768	29·865	29·847	29·750	29·808	+0·003
10	29·777	29·876	29·854	29·748	29·814	+0·009
12	29·773	29·877	29·854	29·749	29·813	+0·008
Mean	29·769	29·868	29·844	29·738	29·805	
Range	0·023	0·024	0·027	0·049	0·026	

From the numbers in this table it appears that a double maximum and a double minimum have taken place in each period of the year; a third maximum and a third minimum was indicated in the winter period, but the changes from 4^h to 12^h in this period were so small, that the mean readings may be considered as identical.

In Spring	the maxima	took place at	22h	and	10h;	that at	22h	was 0·002 in. higher than that at	10h.
,,	the minima	,,	4	,,	16;	,,	16	,, 0.007 ,,	4.
In Summer	the maxima	,,	22	,,	12;	,,	22	,, 0·002 ,,	12.
,,	the minima	,,	6	,,	16;	,,	16	,, 0·003 ,,	6.
In Autumn	the maxima	,,	22	,,	10 and 12;	,,	22	,, 0·003 ,,	10 and 12.
,,	the minima	,,	4	,,	18;	,,	4	,, 0·005 ,,	18.
In Winter	the maxima	,,	0	,,	8;	,,	0	h ,, 0·005 ,,	8.
,,	the minima	,,	4 and 10 and 18;			those at	4 and 10 were	0·042 ,,	8.

The numbers in the last column of the table exhibit a double maximum and a double minimum; the former occurring at 0^h and 10^h, and the latter occurring at 4^h and 6^h, and at 16^h.

The variation of the heights, from two hours to two hours, was different at the different periods of the year.

Between 14^h and 16^h a fall at all periods, of the same amount in spring and summer, and of equal amount nearly in autumn and winter; the value at the two former periods being about two-thirds of that in the two latter periods.

Between 16 and 18 a slight rise in spring, a considerable rise in summer, and a slight fall in autumn and winter.

Between 18 and 20 a rise at all periods; the smallest in summer, and the largest in winter: this large rise in winter is unusual.

Between 20 and 22 a rise at all periods; small in spring and summer, rather large in autumn, and largest in winter.

Between 22 and 0 a very slight fall in spring, a slight fall in summer and autumn, and a considerable rise in winter. The fact of so large a rise as that in this winter from 18^h to 0^h has not occurred in any quarterly period since the establishment of the Observatory in the year 1840; and it is also unusual for the rise to continue for so great a length of time without interruption.

Between 0 and 2 a fall at all periods; large in autumn, rather large in spring and summer, and smallest in winter.

Between 2 and 4 the fall continues at all periods; being largest in spring and smallest in winter.

Between 4 and 6 a slight fall in summer, and a very small rise in the other periods.

Between 6 and 8 a rise at all periods; rather large and of equal amounts in spring, summer, and autumn, and very slight in winter.

Between 8 and 10 the rise continues in spring, summer, and autumn, and of nearly equal amount; in winter a slight fall.

Between 10 and 12 a stationary reading in autumn, a very slight rise in winter, a considerable rise in summer, and a fall in spring.

Between 12 and 14 a fall at all periods; small in spring, large, and of the same amounts in summer and autumn, and very large in winter; in fact, the greatest change in the year.

An inspection of the above table will shew that at 20^h, at 2^h, and at 8^h, the mean reading of the barometer was very nearly the same as the mean reading for the year. Similar results have been obtained in all the preceding years; and, consequently, observations made at these hours may, by small corrections, be reduced to the mean of the two-hourly observations throughout the year.

The most probable corrections to reduce observations made at any one of these hours to the mean for the year, as found from the observations in the years 1841 to 1847, both inclusive, are as follows:—

If the observations be made at ^{h} 20 daily, the correction is — $^{in.}$ 0·001
" 2 " + 0·001
" 8 " — 0·002

TABLE VII.—Excess of the Mean Readings of the Barometer in every Month, at each Even Hour of Göttingen Mean Time, above the Mean of all for the Month.

1847, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
14	−0·046	−0·021	+0·014	0·000	−0·011	−0·002	+0·001	−0·009	−0·001	+0·005	−0·008	+0·008
16	−0·060	−0·023	+0·003	−0·011	−0·011	−0·008	−0·009	−0·013	−0·010	−0·006	−0·018	−0·008
18	−0·061	−0·018	+0·002	−0·012	−0·006	0·000	0·000	−0·003	−0·008	−0·006	−0·018	−0·017
20	−0·030	0·000	+0·015	−0·004	+0·004	+0·008	+0·008	+0·004	+0·008	−0·001	−0·008	−0·009
22	−0·001	+0·015	+0·014	+0·004	+0·012	+0·008	+0·012	+0·013	+0·015	+0·014	+0·009	+0·004
0	+0·027	+0·020	+0·018	0·000	+0·008	+0·003	+0·013	+0·010	+0·009	+0·010	+0·011	+0·005
2	+0·036	+0·006	0·000	−0·004	+0·002	−0·005	+0·001	−0·001	−0·002	−0·004	−0·003	−0·003
4	+0·034	−0·003	−0·015	−0·015	−0·009	−0·011	−0·008	−0·009	−0·014	−0·012	−0·003	+0·001
6	+0·034	−0·004	−0·017	−0·009	−0·010	−0·012	−0·018	−0·010	−0·017	−0·006	+0·002	+0·004
8	+0·032	+0·001	−0·010	+0·009	−0·002	−0·003	−0·010	+0·002	−0·001	−0·001	+0·010	+0·005
10	+0·022	+0·008	−0·011	+0·023	+0·012	+0·011	+0·005	+0·007	+0·010	+0·005	+0·013	0·000
12	+0·014	+0·015	−0·018	+0·022	+0·009	+0·012	+0·006	+0·008	+0·012	+0·007	+0·009	+0·004

The order of the signs in this table being different at different times of the year, indicates that the daily change of the pressure of the atmosphere is different at different times 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 nearest to the time of the meridian passage of the Moon to correspond to the 0^{h} of the Moon's hour-angle, and the five preceding and following observations to correspond to 2^{h}, 4^{h}, 6^{h}, 8^{h}, and 10^{h} of the Moon's East and West hour-angles respectively. The sixth observation following that at 0^{h} of hour-angle, is considered to correspond to 12^{h} of hour-angle, or to the time of the lower meridian passage of the Moon. The means of the numbers thus collected have been taken for every month, and are exhibited in the following table:—

TABLE VIII.—Monthly Means of the Corrected Barometer Readings, arranged by Hour-Angles of the Moon.

Lunation.		Mean Monthly Corrected Barometer Readings at the Times of Observation.											
		5th	4th	3rd	2nd	1st	Nearest to the Passage of the Moon.	1st	2nd	3rd	4th	5th	Nearest to the lower Passage of the Moon.
Commencing.	Ending.	Before the nearest to the Passage of the Moon.						After the nearest to the Passage of the Moon.					
1846. d h	1847. d h	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Dec. 17. 0	Jan. 13.22	29·740	29·739	29·739	29·754	29·766	29·781	29·788	29·789	29·802	29·800	29·883	29·844
1847.													
Jan. 16. 0	Feb. 12.22	29·498	29·507	29·515	29·518	29·523	29·524	29·527	29·523	29·522	29·522	29·520	29·519
Feb. 14. 0	Mar. 13.22	30·015	30·014	30·014	30·019	30·015	30·016	30·010	30·011	30·005	30·014	30·019	30·026
Mar. 16. 0	April 11.22	29·623	29·611	29·611	29·610	29·610	29·608	29·601	29·636	29·604	29·601	29·609	29·612
April 14. 0	May 11.22	29·674	29·674	29·678	29·669	29·665	29·669	29·666	29·671	29·664	29·664	29·669	29·666
May 14. 0	June 9.22	29·926	29·928	29·927	29·920	29·922	29·923	29·933	29·932	29·925	29·920	29·921	29·920
June 12. 0	July 9.22	29·764	29·764	29·768	29·767	29·766	29·770	29·780	29·777	29·783	29·782	29·780	29·768
July 12. 0	Aug. 7.22	29·869	29·870	29·870	29·867	29·858	29·860	29·859	29·857	29·857	29·856	29·851	29·848
Aug. 10. 0	Sep. 6.22	29·906	29·909	29·914	29·913	29·906	29·906	29·906	29·897	29·907	29·907	29·907	29·907
Sep. 9. 0	Oct. 5.22	29·836	29·839	29·840	29·838	29·836	29·848	29·851	29·853	29·842	29·838	29·831	29·822
Oct. 8. 0	Nov. 4.22	29·873	29·875	29·873	29·875	29·881	29·886	29·903	29·900	29·904	29·894	29·890	29·890
Nov. 7. 0	Dec. 4.22	29·881	29·882	29·886	29·886	29·884	29·888	29·869	29·872	29·870	29·873	29·873	29·870
	1848.												
Dec. 7. 0	Jan. 3.22	29·586	29·583	29·589	29·598	29·581	29·595	29·613	29·634	29·644	29·652	29·654	29·656

By taking the means of the numbers in each vertical column of this table the next table is formed.

TABLE IX.—Mean Reading of the Barometer at every Two Hours of the Moon's Hour-Angle.

Hour-Angle of the Moon.		Mean Reading of the Barometer.	Mean of the Readings corresponding to the Hour-Angles	
			10h to 2h East.	8h West to 8h East.
			2h to 10h West.	4h East to 4h West.
	h	in.	in.	in.
East	12	29·7960		29·7917
	10	29·7839		
	8	29·7842		
	6	29·7865	29·7855	
	4	29·7872		
	2	29·7856		
	0	29·7903		29·7904
West	2	29·7928		
	4	29·7963		
	6	29·7945	29·7956	
	8	29·7941		
	10	29·8005		

The general fact of a lunar tide is here imperfectly indicated, but the times of maxima and minima are not in accordance with those deduced from the observations of previous years.

The following table is based upon the mean daily results of Table I. The mean readings on all the days when the Moon's north declination was the greatest have been collected, and their means taken; then the mean readings on all the days next following them, and so on:

TABLE X.—Mean Daily Readings of the Barometer, arranged with reference to the Moon's Declination.

Days after the Moon's greatest North Declination.	Mean Reading of the Barometer.	Number of Obs.	Days after the Moon was in the Equator, the Moon going South.	Mean Reading of the Barometer.	Number of Obs.	Days after the Moon's greatest South Declination.	Mean Reading of the Barometer.	Number of Obs.	Days after the Moon was in the Equator, the Moon going North.	Mean Reading of the Barometer.	Number of Obs.
d	in.		d	in.		d	in.		d	in.	
0	29·7992	11	0	29·9304	13	0	29·7495	11	0	29·9009	11
1	29·7530	10	1	29·8733	12	1	29·8890	11	1	29·8567	12
2	29·7845	12	2	29·7952	13	2	29·8821	12	2	29·7225	11
3	29·7620	12	3	29·7417	9	3	29·8652	10	3	29·6767	11
4	29·8484	9	4	29·6693	12	4	29·8155	11	4	29·7440	10
5	29·7799	10	5	29·6774	12	5	29·9336	11	5	29·7587	11
6	29·8830	12	6	29·6883	12	6	(29·8848)	4	6	(29·5736)	5
7	(30·1210)	3	7	(29·7078)	5						

The mean of the numbers in each column respectively gives the mean reading of the barometer.

				in.
When the Moon's declination was	North,	and the Moon was going	South,	29·8014
,,	South	,,	South,	29·7679
,,	South	,,	North,	29·8558
,,	North	,,	North,	29·7766

The numbers in brackets have not been used, in consequence of the small number of observations on which they depend.

Combining the mean reading of the barometer, when the Moon was in the Equator, or at the extreme North and South declination, with the reading of the barometer on the three preceding and three following days, we find that

			in.
The mean reading of the barometer, when the Moon was	at or near her greatest North declination,	was	29·7540
,, ,,	in or near the Equator, and moving Southward,	,,	29·8360
,, ,,	at or near her greatest South declination,	,,	29·8030
,, ,,	in or near the Equator, and moving Northward,	,,	29·8244

From these numbers it seems that the mean reading of the barometer is the smallest when the Moon is about the place of her greatest North declination, which is exactly the reverse of the result deduced in the preceding year.

The following table is also based upon the mean daily results in Table I. The mean readings on all the days on which the Moon was in perigee have been collected, and their mean taken; then the mean readings on all the days next following them, and so on.

TABLE XI.—Mean Daily Readings of the Barometer, arranged with reference to the Moon's Parallax.

Days after Perigee.	Mean Reading of the Barometer.	Number of Observations.	Days after Apogee.	Mean Reading of the Barometer.	Number of Observations.
d	in.		d	in	
0	29·7876	13	0	29·8837	10
1	29·8404	9	1	29·8486	13
2	29·7375	10	2	29·8037	13
3	29·8058	13	3	29·7649	11
4	29·8442	13	4	29·6727	11
5	29·8583	8	5	29·6262	13
6	29·7829	12	6	29·7344	12
7	29·7013	12	7	29·6664	10
8	29·7258	8	8	29·8375	13
9	29·7931	10	9	29·8866	13
10	29·8193	13	10	29·8861	11
11	29·8502	13	11	29·9186	12
12	29·7172	5	12	29·8492	10
13	29·8942	5	13	30·0088	6
14	(29·9378)	5	14	(29·8376)	5
15	(29·9300)	2	15	(29·9397)	3

The variation of the distance of the Moon seems, as in former years, to have but little effect, the numbers varying from day to day without any particular order.

By taking the means of these numbers between the first and sixth days, both inclusive, and those between the eighth and thirteenth, both inclusive, both after perigee and apogee, we have for the mean height of the barometer:—

	in.
3½ days after the Moon was in Perigee	29·8115
10½ days after the Moon was in Perigee	29·8000
3½ days after the Moon was in Apogee	29·7418
10½ days after the Moon was in Apogee	29·8978

	in.
The mean of all between Perigee and Apogee was	29·7970
The mean of all between Apogee and Perigee was	29·8134

Combining the mean reading of the barometer when the Moon was at or near her mean distance, and at her greatest and least distances, with the readings of the barometer on the three preceding and the three following days, we find that

			in.
The mean reading of the barometer when the Moon was at or near Perigee		was	29·8497
,,	,,	at or near her mean distance and going from the Earth	29·7893
,,	,,	at or near Apogee	29·8232
,,	,,	at or near her mean distance and coming nearer to the Earth	29·7586

These numbers seem to indicate that when the Moon was at or near Perigee the mean reading of the barometer was the greatest.

In deducing these results, the numbers in brackets have not been used, in consequence of the small number of observations on which they depend.

The following table is formed in the same manner as the last two;—

TABLE XII.—Mean Daily Readings of the Barometer, with reference to the relative Positions of the Sun and Moon.

Days after New Moon.	Mean Readings of the Barometer.	Number of Observations.	Days after the Moon enters First Quarter.	Mean Readings of the Barometer.	Number of Observations.	Days after Full Moon	Mean Readings of the Barometer.	Number of Observations.	Days after the Moon enters Third Quarter.	Mean Readings of the Barometer.	Number of Observations.
d	in.		d	in.		d	in.		d	in.	
0	29·6632	10	0	29·8320	10	0	29·8367	11	0	29·7660	12
1	29·7917	11	1	29·7944	9	1	29·8686	12	1	29·7014	11
2	29·8340	11	2	29·7333	11	2	30·0194	9	2	29·7918	11
3	29·8345	10	3	29·7653	10	3	29·9220	12	3	29·8289	12
4	29·7172	11	4	29·8202	11	4	29·9713	11	4	29·7602	10
5	29·8227	10	5	29·7473	10	5	29·8522	10	5	29·8200	12
6	29·7793	8	6	29 7174	8	6	29·8883	10	6	29·7702	9
7	29·8128	6	7	(29·6740)	5	7	(29·9202)	4	7	29·6235	6

The mean of the numbers in each column gives for the mean reading of the barometer,

	in.
When the Moon was between new and first quarter	29·7819
,, first quarter and full	29·7728
,, full and third quarter.....	29·9084
,, third quarter and new	29·7578

By taking the mean of the mean readings on the day of each change, and on the three days preceding and following,

	in.
The mean reading of the barometer at or near new Moon,	was 29·7624
,, at or near first quarter,	was 29·7914
,, at or near full Moon,	was 29·8474
,, at or near third quarter,	was 29·8286

It would seem, therefore, that the mean pressure of the atmosphere was greatest when the Moon was about 14 days old.

The numbers in brackets have not been used in consequence of the small number of observations on which they depend.

Results of the Observations of the Thermometers.

TABLE XIII.—Mean Daily Temperature, as deduced from the Mean of the 12 Observations with the Dry Thermometer, taken on every Civil Day, with the omissions specified in the note (except Sundays, March 24, Good Friday, and Christmas Day) at the Even Hours of Göttingen Mean Time.

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	28·9	31·7	36·2	36·7	46·2	63·2	60·4	*S*	56·6	55·6	56·0	45·3
2	31·7	32·8	39·5	Good Friday.	*S*	62·8	57·9	68·5	53·8	53·8	50·5	47·9
3	*S*	32·6	37·9	36·6	43·7	63·3	59·4	61·6	51·7	*S*	46·7	53·9
4	38·4	33·7	36·5	*S*	45·8	62·9	*S*	60·9	51·2	52·8	46·4	47·2
5	42·7	34·6	39·6	47·2	48·7	57·9	65·8	61·9	*S*	50·9	49·8	*S*
6	39·2	43·0	37·4	46·6	49·8	*S*	69·6	61·3	51·3	51·7	53·6	47·2
7	39·7	*S*	*S*	49·9	54·1	55·8	64·6	61·2	53·0	54·4	*S*	41·6
8	36·0	24·6	41·6	51·4	52·2	52·3	61·7	*S*	58·1	52·5	57·1	37·0
9	33·0	23·9	36·6	46·6	*S*	53·1	63·2	57·2	56·4	55·8	46·9	51·7
10	*S*	27·1	30·2	45·8	57·9	52·8	67·8	57·2	59·5	*S*	46·2	53·3
11	29·3	29·8	27·8	*S*	55·2	54·9	*S*	64·5	59·6	57·9	51·5	49·2
12	31·6	23·3	37·8	53·9	55·4	57·3	73·3	71·1	*S*	58·9	50·3	*S*
13	35·7	24·8	39·9	44·4	55·4	*S*	72·8	66·8	57·9	56·1	46·9	46·0
14	34·0	*S*	*S*	41·6	56·2	57·5	72·8	62·3	52·5	51·4	*S*	44·8
15	32·9	46·0	44·5	40·5	56·3	54·4	69·9	*S*	53·1	51·2	54·3	47·2
16	30·5	42·0	50·2	37·8	*S*	53·7	69·4	62·5	58·4	53·1	48·5	49·8
17	*S*	48·3	51·2	37·5	57·5	57·3	62·7	65·3	53·1	*S*	39·4	51·5
18	28·3	49·3	48·4	*S*	58·0	54·8	*S*	65·2	49·7	55·8	35·7	48·5
19	30·8	44·9	49·1	44·5	56·6	57·7	60·4	64·5	*S*	57·9	32·1	*S*
20	29·8	43·5	49·6	46·1	57·1	*S*	65·0	61·9	55·0	50·6	34·3	38·1
21	33·1	*S*	*S*	48·8	58·0	58·6	65·7	65·0	52·0	51·6	*S*	32·7
22	33·9	45·2	45·4	44·7	63·1	56·9	64·0	*S*	60·3	49·9	44·7	33·6
23	35·9	39·7	45·3	43·7	*S*	54·6	60·9	54·8	59·2	55·0	49·2	34·7
24	*S*	33·5	Fast Day.	45·2	62·5	57·4	62·6	56·3	54·8	*S*	46·2	37·8
25	42·6	33·7	43·7	*S*	56·4	58·9	*S*	60·9	55·2	44·1	49·7	Christ. Day.
26	44·6	32·2	49·4	48·4	57·2	60·2	61·7	62·0	*S*	45·1	44·1	*S*
27	46·5	30·6	49·1	52·7	63·2	*S*	64·8	62·9	46·8	50·1	45·2	~~34·5~~
28	43·7	*S*	*S*	49·6	72·2	64·6	65·1	64·6	48·2	52·7	*S*	~~34·2~~
29	37·2		37·6	46·8	63·8	63·6	69·6	*S*	52·5	55·4	40·8	~~32·1~~
30	35·4		37·4	45·0	*S*	61·6	67·3	57·2	53·5	51·5	52·0	~~36·6~~
31	*S*		35·8		63·9		66·9	57·1		*S*		~~34·0~~
Mean	35·6	35·5	41·4	45·3	56·4	58·0	65·4	62·1	54·4	52·9	46·9	42·7
Range	18·2	26·0	23·4	17·3	28·5	14·3	15·4	16·3	13·5	14·8	25·0	21·8

The letter *S* denotes that the day was Sunday.

The mean of all is 49°·7.

Till January 23, and from December 27, a few readings only were taken daily. The mean temperatures for these days have been formed by the application of corrections to the mean of the readings deduced from the five years' observations ending December 31, 1848. (See "Philosophical Transactions," Part I. 1848.)

The numbers in this table shew that, from observations on 311 days (taken in general consecutively, six and six together, the excepted cases being marked in the table), there were 44 cases in which the difference of the mean temperatures between two consecutive days, exceeded 5°; of these there were

19	instances in which the differences exceeded	5°	and was less than	6°
13	,,	6	,,	7
2	,,	7	,,	8
3	,,	8	,,	9
3	,,	9	,,	10
2	,,	10	,,	11
1	,,	11	,,	12
1	,,	14	,,	15

In addition to these, the difference between February 6^d and 8^d was 18°·4; between February 13^d and 15^d was 21°·2; between March 27^d and 29^d was 11°·5; between April 3^d and 5^d was 10°·6; between August 21^d and 23^d was 10°·2; between October 23^d and 25^d was 10°·9; between November 20^d and 22^d was 10°·4; and between December 18^d and 20^d was 10°·4, Sunday intervening in all cases. If these cases be included, and each instance reckoned as two cases of difference of daily temperatures, amounting to 5°, the total number would be 60, which is much above the average number of such large differences.

The mean daily temperatures were the highest and lowest in each month, as follows:—

In January,	the highest was	46°·5	on the	27th day,	and the lowest was	28°·3	on the	18th day.
February	,,	49·3	,,	18th	,,	23·3	,,	12th
March	,,	51·2	,,	17th	,,	27·8	,,	11th
April	,,	53·9	,,	12th	,,	36·6	,,	3rd
May	,,	72·2	,,	28th	,,	43·7	,,	3rd
June	,,	64·6	,,	28th	,,	52·3	,,	8th
July	,,	73·3	,,	12th	,,	57·9	,,	2nd
August	,,	71·1	,,	12th	,,	54·8	,,	23rd
September	,,	60·3	,,	22nd	,,	46·8	,,	27th
October	,,	58·9	,,	12th	,,	44·1	,,	25th
November	,,	57·1	,,	8th	,,	32·1	,,	19th
December	,,	53·9	,,	3rd	,,	32·1	,,	29th

The highest daily temperature in the year was 73°·3 on July 12^d, and the lowest was 23°·3 on February 12^d; the difference between these numbers is 50°·0, being the yearly range of the mean daily temperature.

The highest and lowest readings of the thermometer in the simple two-hourly observations in each month were as follows:—

In February	the highest reading was	54°·0	at	d h 17. 2,	and the lowest was	12°·0	at	d h 11.18
March	,,	61·2	,,	17.4	,,	18·7	,,	10.20
April	,,	61·0	,,	12.2	,,	24·3	,,	16. 8
May	,,	85·3	,,	28.4	,,	37·0	,,	0.16
June	,,	79·0	,,	1.2	,,	43·0	,,	8.16
July	,,	86·0	,,	12.4	,,	47·5	,,	23.18
August	,,	84·4	,,	2.4	,,	43·9	,,	3.16
September	,,	70·7	,,	10.2	,,	33·5	,,	27.18
October	,,	73·0	,,	12.2	,,	35·2	,,	25.20
November	,,	62·5	,,	8.0	,,	26·7	,,	18.18
December	,,	56·1	,,	9.2	,,	31·8	,,	20.20

In January and after December 24 a few observations only were taken daily.

The highest and lowest readings, shewn by the self-registering maximum and minimum thermometers in each month, were as follows:—

In January	the highest reading was	52°·7	on the	24th day,	and the lowest was	23°·0	on the	10th day
February	,,	55·0	,,	17th and 18th	,,	10·2	,,	11
March	,,	64·2	,,	17th	,,	16·9	,,	10

In April the highest reading was		63·8	on the	12th	day, and the lowest was		27·0	on the	1st day
May	,,	86·2	,,	28th	,,		36·0	,,	2nd
June	,,	80·4	,,	2nd	,,		41·0	,,	8th
July	,,	89·0	,,	12th	,,		45·4	,,	23rd
August	,,	87·3	,,	1st	,,		42·0	,,	3rd
September	,,	72·5	,,	11th	,,		32·0	,,	27th
October	,,	73·2	,,	12th	,,		33·0	,,	25th
November	,,	66·3	,,	8th	,,		24·5	,,	19th
December	,,	59·5	,,	7th	,,		25·0	,,	21st

TABLE XIV.—Mean Temperature of each Month deduced from the Maximum and Minimum Self-Registering Thermometer.

1847, Month.	Mean of all the Maximum Readings in each Month.	Mean of all the Minimum Readings in each Month.	Mean Temperature deduced from Maximum and Minimum Thermometer.
	°	°	°
January	40·1	31·5	35·8
February	41·5	30·5	36·0
March	50·1	34·3	42·2
April	55·4	36·8	46·1
May	68·0	47·5	57·8
June	69·4	49·7	59·6
July	78·1	54·8	66·5
August	74·4	52·8	63·6
September	64·9	46·1	55·5
October	61·5	46·4	54·0
November	52·7	40·8	46·8
December	46·7	37·2	42·0

And the mean of all the monthly results is 50°·5.

TABLE XV.—Table exhibiting the Daily Range of the Dry Thermometer, as found from the 12 Observations taken on every Civil Day (Sundays, March 24, Good Friday, and Christmas Day, excepted), with the exceptions specified in the notes.

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	7·1	6·4	6·4	10·0	19·7	28·5	16·1	*S*	19·2	15·3	10·3	12·4
2	6·7	5·9	10·4	Good Friday	*S*	26·4	10·4	31·9	11·7	9·2	14·6	16·5
3	14·0	4·2	10·7	9·9	12·3	28·1	19·5	18·5	16·5	*S*	4·5	11·2
4	12·5	6·6	13·4	*S*	9·0	24·6	*S*	29·5	14·6	12·5	4·8	7·5
5	8·2	9·8	5·9	10·9	15·6	17·5	33·2	14·7	*S*	12·5	11·0	*S*
6	6·2	10·3	4·8	10·1	16·9	*S*	29·0	11·9	18·2	24·5	5·4	11·3
7	5·1	*S*	*S*	9·5	16·8	19·4	14·1	20·6	26·2	20·0	*S*	5·9
8	1·5	9·7	12·5	11·6	6·0	16·3	17·2	*S*	10·4	14·5	9·7	6·9
9	3·0	10·2	10·3	11·6	*S*	21·0	20·3	15·5	23·9	7·7	12·4	14·5
10	4·8	15·0	14·2	15·9	19·6	9·6	17·2	14·1	19·0	*S*	19·0	2·3
11	11·2	19·0	16·5	*S*	11·5	18·0	*S*	20·7	16·5	11·0	10·1	11·2
12	13·7	21·0	13·3	13·0	15·6	20·7	24·3	20·0	*S*	22·5	11·5	*S*
13	9·8	11·8	13·5	12·1	19·6	*S*	22·6	25·8	12·3	12·0	13·0	8·9
14	14·6	*S*	*S*	14·9	13·6	11·8	25·6	25·2	16·3	4·4	*S*	8·2
15	13·8	10·1	21·3	11·0	13·0	9·6	25·7	*S*	16·7	7·5	6·8	10·8
16	7·9	8·9	15·4	16·9	*S*	9·1	23·8	12·1	8·9	18·5	11·7	4·8
17	2·2	10·5	16·7	24·5	13·4	12·5	9·1	10·0	11·5	*S*	4·7	5·5

The letter *S* denotes that the day was Sunday.

TABLE XV.—*continued.*

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
18	4·3	4·8	20·0	*S*	18·3	7·8	*S*	7·7	13·2	10·9	10·7	13·7
19	5·3	10·1	17·1	14·3	13·7	15·7	18·3	8·8	*S*	13·0	12·1	*S*
20	8·3	10·5	11·0	19·0	14·0	*S*	19·1	11·4	13·8	11·0	13·8	7·0
21	9·2	*S*	*S*	19·1	20·0	9·3	14·5	25·4	15·5	14·0	*S*	2·2
22	3·7	2·1	25·1	19·8	21·4	14·0	14·1	*S*	11·7	14·7	9·2	2·3
23	11·1	11·7	15·0	23·4	*S*	17·3	20·9	13·0	9·9	12·0	15·5	6·0
24	19·9	10·3	Fast Day.	24·0	13·3	14·3	29·0	14·0	15·5	*S*	14·2	3·6
25	4·5	10·3	27·0	*S*	19·2	14·5	*S*	20·7	19·0	11·5	2·7	Christ. Day
26	10·3	10·4	19·7	15·5	25·5	19·1	24·1	19·0	*S*	18·2	8·4	1·5
27	4·3	4·7	19·6	13·2	31·9	*S*	29·5	27·2	21·8	7·8	9·0	5·7
28	11·0	*S*	*S*	12·2	31·1	18·5	21·0	22·0	25·0	6·8	*S*	3·1
29	11·6		11·3	14·1	20·0	21·7	20·2	*S*	17·0	10·0	8·7	11·4
30	10·5		12·7	17·4	*S*	18·2	15·9	17·5	8·3	11·9	13·2	9·1
31			16·2		30·2		27·1	13·5		*S*		3·0

The letter *S* denotes that the day was Sunday.

Till January 23, and from December 25, the daily ranges have been found, by taking the difference between the maximum and minimum temperature of every day, from the readings of the maximum and minimum thermometers.

The greatest and least daily ranges of the readings in each month, as deduced from the two-hourly observations, are as follows:—

		°				°		
In January the greatest was	19·9	on the	24th;	the least was	1·5	on the	8th
February	„	21·0	„	12th	„	2·1	„	22nd
March	„	27·0	„	25th	„	4·8	„	6th
April	„	24·5	„	17th	„	9·5	„	7th
May	„	31·9	„	27th	„	6·0	„	8th
June	„	28·5	„	1st	„	7·8	„	18th
July	„	33·2	„	5th	„	9·1	„	17th
August	„	31·9	„	2nd	„	7·7	„	18th
September	„	26·2	„	7th	„	8·3	„	30th
October	„	24·5	„	6th	„	4·4	„	14th
November	„	19·0	„	10th	„	2·7	„	25th
December	„	16·5	„	2nd	„	1·5	„	26th

TABLE XVI.—Diurnal Range of the Dry Thermometer in each Month, in Quarterly Periods, and for the Year.

1847, Month.	Diurnal Range.	Diurnal Range in Spring.	Summer.	Autumn.	Winter.	The Year.
	°	°	°	°	°	°
December	7·5					
January	8·5				8·6	
February	9·8					
March	14·6					
April	15·0	15·8				
May	17·7					14·0
June	17·1					
July	20·8		18·7			
August	18·1					
September	15·9					
October	12·8			13·0		
November	10·3					

TABLE XVII.—Mean Temperature at every Even Hour of Göttingen Mean Time, deduced from all the Observations taken with the Dry Thermometer at that Hour in each Month.

1847, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	35·9	33·7	37·5	40·6	49·8	51·7	57·1	55·9	49·6	49·8	45·3	41·7
16	35·4	33·1	37·0	39·9	48·9	50·9	56·1	54·8	48·7	49·6	45·0	41·7
18	34·4	32·9	36·0	39·7	49·5	51·9	56·3	54·7	48·2	49·1	44·7	42·1
20	32·9	32·9	36·5	42·7	54·6	56·5	62·2	58·4	50·4	49·6	44·9	42·3
22	34·0	34·6	41·7	47·4	59·2	60·9	67·8	63·8	56·4	53·7	47·0	42·7
0	37·6	37·8	46·8	51·1	62·8	64·7	71·9	68·5	60·1	58·2	49·2	44·2
2	38·6	39·5	48·5	52·0	64·2	65·5	74·9	70·3	61·4	59·1	50·5	45·5
4	38·3	39·3	48·2	51·5	63·8	65·3	75·3	70·7	60·4	57·6	49·4	44·2
6	35·9	37·1	45·3	49·0	61·2	62·8	72·6	67·1	57·9	54·4	47·5	42·8
8	34·4	35·7	41·4	45·3	57·3	58·7	67·7	63·0	54·9	52·4	46·6	42·3
10	35·0	35·0	39·7	42·8	53·6	54·6	63·1	60·0	53·1	51·1	46·2	41·5
12	34·9	34·0	38·9	41·3	51·8	52·7	59·7	58·1	51·1	50·4	45·9	41·3

Till January 25^{d} a few observations only were taken daily, and the mean of the readings from January 25 was 41°·7. The mean value for the month was 35°·6; the difference between these numbers is 6°·1, which has been applied subtractively to the mean of the readings at each hour, in deducing the values for January in the preceding table. A few observations only were taken after December 25^{d}. The mean of those taken before December 25^{d} have been used without correction.

From the numbers in this table it appears that the maximum temperature has happened in the months of July and August nearer to the observation at 4^{h}, and in the remaining months nearer to that at 2^{h}, than to any other observation-hours. The minimum temperature has happened at about that hour of observation which was the nearest to the time of sun rising, except in December, in which month it took place at 12^{h}. During the night hours in December the changes of temperature were small. In every month the temperature has passed uninterruptedly from one extreme to the other, except in the months of January and December, in which months a slight deviation from this law has taken place.

TABLE XVIII.—Mean Temperature at every Even Hour of Göttingen Mean Time, in Quarterly Periods, and for the Year.

Hour of Observation.	Mean Temperature.				Mean Temperature at every Even Hour for the Year.	Difference from the Mean of all the Hours.
	Spring.	Summer.	Autumn.	Winter.		
h	°	°	°	°	°	°
14	42·6	54·9	48·2	37·1	45·7	− 4·0
16	41·9	53·9	47·8	36·7	45·1	− 4·6
18	41·8	54·3	47·3	36·5	45·0	− 4·7
20	44·6	59·0	48·3	36·0	47·0	− 2·7
22	49·4	64·2	52·4	37·1	50·8	+ 1·1
0	53·6	68·4	55·8	39·9	54·4	+ 4·7
2	54·9	70·2	57·0	41·2	55·8	+ 6·1
4	54·5	70·4	55·8	40·6	55·3	+ 5·6
6	51·8	67·5	53·3	38·6	52·8	+ 3·1
8	48·0	63·1	51·3	37·5	50·0	+ 0·3
10	45·4	59·2	50·3	37·2	48·0	− 1·7
12	44·0	56·8	49·1	36·7	46·7	− 3·0
Mean	47·7	61·8	51·4	37·9	49·7	
Range	13·1	16·5	9·7	5·2	10·8	

From this table it appears that the maximum temperature has taken place at 2^{h}, excepting in summer, when it occurred at 4^{h}, and that the minimum temperature has taken place at 18^{h}, with the exception of summer, when it occurred at 16^{h}, and of winter when it occurred at 20^{h}.

TABLE XIX.—Excess of the Monthly Mean Temperature at each Even Hour, above the Mean Temperature for the Month.

1847, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	+0·3	−1·8	−3·9	−4·7	−6·6	−6·3	−8·3	−6·2	−4·8	−3·1	−1·6	−1·0
16	−0·2	−2·4	−4·4	−5·4	−7·5	−7·1	−9·3	−7·3	−5·7	−3·3	−1·9	−1·0
18	−1·2	−2·6	−5·4	−5·6	−6·9	−6·1	−9·1	−7·4	−6·2	−3·8	−2·2	−0·6
20	−2·7	−2·6	−4·9	−2·6	−1·8	−1·5	−3·2	−3·7	−4·0	−3·3	−2·0	−0·4
22	−1·6	−0·9	+0·3	+2·1	+2·8	+2·9	+2·4	+1·7	+2·0	+0·8	+0·1	0·0
0	+2·0	+2·3	+5·4	+5·8	+6·4	+6·7	+6·5	+6·4	+5·7	+5·3	+2·3	+1·5
2	+3·0	+4·0	+7·1	+6·7	+7·8	+7·5	+9·5	+8·2	+7·0	+6·2	+3·6	+2·8
4	+2·7	+3·8	+6·8	+6·2	+7·4	+7·3	+9·9	+8·6	+6·0	+4·7	+2·5	+1·5
6	+0·3	+1·6	+3·9	+3·7	+4·8	+4·8	+7·2	+5·0	+3·5	+1·5	+0·6	+0·1
8	−1·2	+0·2	0·0	0·0	+0·9	+0·7	+2·3	+0·9	+0·5	−0·5	−0·3	−0·4
10	−0·6	−0·5	−1·7	−2·5	−2·8	−3·4	−2·3	−2·1	−1·3	−1·8	−0·7	−1·2
12	−0·7	−1·5	−2·5	−4·0	−4·6	−5·3	−5·7	−4·0	−3·3	−2·5	−1·0	−1·4

Table XX.—Abstract of the Results of the Observations of Radiation.

1847, Month.	Monthly Mean of the: Observations of Highest Reading of the Thermometer whose Bulb is in the full Rays of the Sun.	Monthly Mean of the: Observations of Lowest Reading of the Thermometer whose Bulb is in the Focus of a Metallic Reflector exposed to the Sky.	1847, Month.	Monthly Mean of the: Observations of Highest Reading of the Thermometer whose Bulb is in the full Rays of the Sun	Monthly Mean of the: Observations of Lowest Reading of the Thermometer whose Bulb is in the Focus of a Metallic Reflector exposed to the Sky.
	°	°		°	°
January	....	25·9	July	93·0	47·8
February	49·1	24·4	August.....	89·0	46·5
March	64·7	26·6	September	77·6	39·8
April	70·0	29·6	October	69·6	42·4
May.....	86·3	39·7	December.....	....	32·6
June.....	85·7	41·2			

Results of the Observations of the Thermometers Sunk in the Ground.

TABLE XXI.—Mean Daily Reading of a Thermometer whose bulb is sunk to the depth of 25·6 feet (24 French feet) below the surface of the soil, from the Mean of the Observations taken on every Civil Day, generally 12 in number (except Sundays, March 24, Good Friday, and Christmas Day), at the Even Hours of Göttingen Mean Time.

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	52·35	51·60	50·67	49·71	49·00	48·70	48·81	*S*	50·23	51·05	51·58	51·82
2	52·34	51·58	50·65	Good Friday.	*S*	48·68	48·81	49·45	50·25	51·08	51·61	51·81
3	*S*	51·55	50·61	49·65	48·99	48·67	48·85	49·45	50·27	*S*	51·61	51·84
4	52·33	51·52	50·52	*S*	48·97	48·68	*S*	49·49	50·33	51·13	51·63	51·83
5	52·32	51·49	50·55	49·61	48·93	48·65	48·87	49·50	*S*	51·15	51·64	*S*
6	52·29	51·49	50·51	49·58	48·95	*S*	48·90	49·51	50·36	51·16	51·66	51·80
7	52·29	*S*	*S*	49·57	48·93	48·64	48·92	49·56	50·39	51·19	*S*	51·78
8	52·25	51·36	50·45	49·55	48·90	48·65	48·92	*S*	50·46	51·19	51·71	51·81
9	52·22	51·32	50·40	49·50	*S*	48·64	48·94	49·58	50·47	51·24	51·67	51·84
10	*S*	51·30	50·36	49·49	48·90	48·63	48·98	49·57	50·49	*S*	51·69	51·85
11	52·16	51·28	50·31	*S*	48·87	48·65	*S*	49·67	50·54	51·30	51·71	51·86
12	52·15	51·22	50·30	49·45	48·85	48·66	49·02	49·70	*S*	51·31	51·72	*S*
13	52·13	51·20	50·29	49·40	48·86	*S*	49·05	49·72	50·59	51·32	51·72	51·84
14	52·10	*S*	*S*	49·37	48·84	48·65	49·04	49·75	50·59	51·33	*S*	51·81
15	52·07	51·19	50·23	49·35	48·81	48·66	49·08	*S*	50·62	51·34	51·76	51·82

TABLE XXI.—*continued.*

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
16	52·05	51·11	50·24	49·31	*S*	48·65	49·09	49·83	50·65	51·36	51·75	51·81
17	*S*	51·08	50·19	49·29	48·81	48·66	49·08	49·83	50·68	*S*	51·72	51·82
18	51·99	51·05	50·15	*S*	48·79	48·67	*S*	49·87	50·69	51·38	51·73	51·73
19	51·97	51·01	50·11	49·26	48·85	48·68	49·13	49·89	*S*	51·43	51·72	*S*
20	51·95	50·98	50·08	49·24	48·78	*S*	49·46	49·90	50·77	51·43	51·72	51·85
21	51·93	*S*	*S*	49·22	48·76	48·69	49·18	49·95	50·79	51·44	*S*	51·77
22	51·90	50·92	50·02	49·20	48·75	48·71	49·19	*S*	50·83	51·46	51·76	51·75
23	51·88	50·87	49·99	49·18	*S*	48·70	49·22	49·97	50·86	51·47	51·79	51·74
24	*S*	50·83	Fast Day.	49·15	48·75	48·71	49·24	50·00	50·89	*S*	51·79	51·74
25	51·84	50·79	49·93	*S*	48·72	48·72	*S*	50·04	50·91	51·48	51·80	Christ. Day.
26	51·82	50·75	49·91	49·13	48·71	48·75	49·26	50·08	*S*	51·50	51·79	*S*
27	51·80	50·71	49·89	49·11	48·72	*S*	49·30	50·11	50·93	51·53	51·78	51·72
28	51·77	*S*	*S*	49·08	48·73	48·77	49·33	50·14	50·97	51·54	*S*	51·70
29	51·72		49·79	49·06	48·70	48·78	49·35	*S*	51·00	51·57	51·78	51·68
30	51·67		49·75	49·04	*S*	48·80	49·36	50·18	51·03	51·58	51·82	51·70
31	*S*		49·73		48·68		49·40	50·22		*S*		51 68
Mean.	52·05	51·18	50·19	49·34	48·83	48·69	49·09	49·81	50·64	51·34	51·72	51·79
Range.	0·05	0·04	0·05	0·05	0·05	0·04	0·06	0·07	0·06	0·06	0·05	0·05

The letter *S* denotes that the day was Sunday.

The mean of all the readings is 50°·39.

Till January 25, and from December 27, a less number of observations than 12 was taken daily.

TABLE XXII.—Mean Reading, at every Even Hour of Göttingen Mean Time, of the Thermometer whose bulb is sunk to the depth of 25·6 feet (24 French feet) below the surface of the soil, deduced from all the Observations taken at that Hour in each Month.

1847, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	52·06	51·19	50·22	49·34	48·83	48·67	49·07	49·79	50·62	51·32	51·71	51·79
16	52·05	51·18	50·22	49·34	48·83	48·67	49·07	49·78	50·61	51·32	51·71	51·78
18	52·05	51·17	50·21	49·33	48·81	48·67	49·07	49·78	50·62	51·33	51·71	51·73
20	52·06	51·17	50·21	49·33	48·82	48·68	49·07	49·79	50·61	51·33	51·70	51·78
22	52·05	51·17	50·22	49·33	48·83	48·69	49·08	49·80	50·63	51·34	51·72	51·80
0	52·05	51·18	50·22	49·35	48·83	48·70	49·10	49·81	50·65	51·35	51·72	51·80
2	52·05	51·18	50·23	49·35	48·84	48·70	49·10	49·82	50·66	51·36	51·73	51·79
4	52·05	51·18	50·23	49·35	48·84	48·70	49·11	49·83	50·66	51·37	51·73	51·79
6	52·05	51·18	50·23	49·34	48·84	48·70	49·11	49·83	50·65	51·36	51·72	51·79
8	52·04	51·17	50·22	49·34	48·83	48·69	49·11	49·82	50·65	51·35	51·72	51·79
10	52·03	51·16	50·20	49·33	48·83	48·69	49·10	49·81	50·65	51·35	51·72	51·78
12	52·04	51·15	50·19	49·33	48·81	48·68	49·10	49·81	50·65	51·34	51·72	51·79

TABLE XXIII.—Mean Daily Reading of a Thermometer whose bulb is sunk to the depth of 12·8 feet (12 French feet) below the surface of the soil, from the Mean of the Observations taken on every Civil Day, generally 12 in number (except Sundays, March 24, Good Friday, and Christmas Day), at the Even Hours of Göttingen Mean Time.

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	50·40	47·36	46·08	45·58	46·07	48·01	50·76	*S*	54·96	54·94	54·18	52·79
2	50·31	47·48	46·09	Good Friday	*S*	48·09	50·79	53·36	54·98	54·93	54·15	52·72
3	*S*	47·40	46·05	45·63	46·18	48·18	50·88	53·39	55·00	*S*	54·10	52·71
4	50·15	47·34	46·02	*S*	46·19	48·32	*S*	53·47	55·13	54·88	54·06	52·61
5	50·05	47·33	46·03	45·67	46·22	48·41	50·99	53·54	*S*	54·83	54·03	*S*

The letter *S* denotes that the day was Sunday.

TABLE XXIII.—*continued.*

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
6	49·92	47·28	46·01	45·68	46·29	*S*	51·08	53·58	55·08	54·81	54·02	52·42
7	49·84	*S*	*S*	45·72	46·35	48·62	51·14	53·67	55·12	54·81	*S*	52·30
8	49·70	47·10	45·95	45·72	46·34	48·75	51·17	*S*	55·20	54·72	53·96	52·20
9	49·57	47·06	45·89	45·72	*S*	48·87	51·25	53·80	55·19	54·75	53·84	52·18
10	*S*	47·03	45·89	45·77	46·47	48·97	51·36	53·86	55·22	*S*	53·83	52·15
11	49·41	46·99	45·85	*S*	46·48	49·15	*S*	54·00	55·24	54·73	53·82	52·11
12	49·27	46·89	45·82	45·77	46·50	49·26	51·55	54·10	*S*	54·70	53·77	*S*
13	49·19	46·96	45·82	45·72	46·59	*S*	51·64	54·13	55·21	54·64	53·70	51·93
14	49·10	*S*	*S*	45·75	46·59	49·48	51·90	54·19	55·19	54·58	*S*	51·88
15	49·00	46·74	45·77	45·78	46·63	49·58	51·80	*S*	55·16	54·58	53·70	51·87
16	48·92	46·45	45·72	45·74	*S*	49·69	51·88	54·30	55·17	54·55	53·63	51·79
17	*S*	46·43	45·74	45·78	46·78	49·81	51·92	54·35	55·16	*S*	53·52	51·72
18	48·75	46·37	45·70	*S*	46·81	49·90	*S*	54·39	55·11	54·53	53·49	51·69
19	48·66	46·34	45·67	45·82	46·85	49·98	52·10	54·45	*S*	54·53	53·43	*S*
20	48·57	46·30	45·63	45·83	46·95	*S*	52·21	54·48	55·15	54·45	53·37	51·54
21	48·52	*S*	*S*	45·86	46·99	50·15	52·29	54·57	55·11	54·44	*S*	51·44
22	48·42	46·23	45·62	45·89	47·08	50·23	52·39	*S*	55·16	54·42	53·36	51·40
23	48·30	46·10	45·58	45·89	*S*	50·27	52·48	54·57	55·14	54·41	53·35	51·35
24	*S*	46·10	Fast Day.	45·90	47·25	50·33	52·57	54·63	55·12	*S*	53·26	51·32
25	48·18	46·14	45·55	*S*	47·31	50·41	*S*	54·72	55·09	54·32	53·25	Christ. Day.
26	48·08	46·08	45·53	45·98	47·39	50·50	52·74	54·79	*S*	54·29	53·16	*S*
27	48·01	46·00	45·57	45·99	47·51	*S*	52·86	54·80	54·99	54·32	53·08	51·17
28	47·88	*S*	*S*	46·00	47·60	50·60	52·95	54·87	54·99	54·30	*S*	51·09
29	47·76		45·55	46·04	47·69	50·66	53·06	*S*	54·98	54·30	52·91	51·03
30	47·68		45·53	46·07	*S*	50·71	53·12	54·91	54·96	54·30	52·89	51·01
31	*S*		45·56		47·86		53·20	54·96		*S*		50·93
Mean	48·98	46·73	45·78	45·81	46·81	49·50	51·92	54·22	55·11	54·58	53·61	51·82
Diurnal Range.	0·12	0·09	0·09	0·10	0·11	0·14	0·15	0·16	0·13	0·10	0·08	0·09

The letter *S* denotes that the day was Sunday.

The mean of all is 50°·41.

A few observations only were taken till January 25, and after December 27, from which the values in the above table for these times have been deduced.

TABLE XXIV.—Mean Reading, at every Even Hour of Göttingen Mean Time, of the Thermometer whose bulb is sunk to the depth of 12·8 feet (12 French feet) below the surface of the soil, deduced from all the Observations taken at that Hour in each Month.

1847, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	49·03	46·77	45·77	45·79	46·77	49·43	51·85	54·17	55·08	54·57	53·63	51·84
16	49·02	46·72	45·77	45·80	46·77	49·43	51·85	54·16	55·06	54·57	53·62	51·84
18	49·01	46·75	45·77	45·80	46·77	49·44	51·85	54·17	55·06	54·57	53·61	51·83
20	49·00	46·67	45·78	45·81	46·78	49·46	51·87	54·18	55·08	54·57	53·60	51·83
22	48·99	46·75	45·77	45·81	46·80	49·49	51·91	54·21	55·11	54·57	53·61	51·82
0	48·98	46·75	45·79	45·82	46·81	49·51	51·93	54·24	55·14	54·60	53·63	51·82
2	48·99	46·75	45·78	45·83	46·83	49·53	51·96	54·27	55·16	54·61	53·63	51·83
4	48·97	46·75	45·80	45·82	46·84	49·54	51·98	54·29	55·15	54·61	53·61	51·82
6	48·97	46·72	45·78	45·82	46·83	49·54	51·98	54·29	55·14	54·60	53·60	51·81
8	48·95	46·74	45·77	45·83	46·83	49·54	51·97	54·26	55·12	54·58	53·59	51·80
10	48·92	46·72	45·77	45·82	46·83	49·52	51·96	54·24	55·11	54·57	53·58	51·78
12	48·94	46·72	45·76	45·80	46·83	49·53	51·94	54·23	55·09	54·55	53·59	51·76

TABLE XXV.—Mean Daily Reading of a Thermometer whose bulb is sunk to the depth of 6·4 feet (6 French feet) below the surface of the soil, from the Mean of the Observations taken on every Civil Day, generally 12 in number (except Sundays, March 24, Good Friday, and Christmas Day), at the Even Hours of Göttingen Mean Time.

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	45·25	43·37	43·21	44·56	46·40	52·36	54·61	*S*	58·86	56·18	54·02	50·59
2	45·12	43·38	43·13	Good Friday.	*S*	52·59	54·74	58·86	58·95	56·08	53·91	50·48
3	*S*	43·33	43·03	44·54	46·61	52·84	55·00	58·85	58·91	*S*	53·88	50·49
4	44·86	43·32	42·93	*S*	46·67	52·78	*S*	58·94	58·86	55·93	53·87	50·39
5	44·72	43·27	42·94	44·45	46·73	53·16	55·38	58·80	*S*	55·86	53·82	*S*
6	44·59	43·23	42·90	44·39	46·83	*S*	55·62	58·86	58·92	55·84	53·81	50·15
7	44·50	*S*	*S*	44·40	46·91	53·79	55·75	58·97	58·83	55·83	*S*	50·05
8	44·42	43·02	42·89	44·41	46·96	53·99	55·91	*S*	58·82	55·71	53·72	50·03
9	44·38	43·00	42·86	44·43	*S*	54·15	56·14	58·85	58·81	55·72	53·55	50·03
10	*S*	42·98	42·90	44·55	47·26	54·25	56·37	58·93	58·80	*S*	53·55	49·96
11	44·42	42·94	42·91	*S*	47·40	54·34	*S*	58·94	58·81	55·62	53·52	49·77
12	44·40	42·81	42·92	44·76	47·55	54·32	56·67	58·85	*S*	55·56	53·47	*S*
13	44·42	42·74	42·94	44·78	47·79	*S*	56·79	58·92	58·67	55·50	53·32	49·66
14	44·29	*S*	*S*	44·90	47·98	54·25	56·94	58·97	58·74	55·44	*S*	49·65
15	44·20	42·28	42·83	45·05	48·15	54·25	57·10	*S*	58·25	55·46	53·19	49·65
16	44·07	42·00	42·79	45·11	*S*	54·25	57·31	58·81	57·64	55·44	53·05	49·57
17	*S*	41·92	42·84	45·20	48·62	54·27	57·43	58·90	57·52	*S*	52·88	49·54
18	43·84	41·97	42·85	*S*	48·82	54·22	*S*	58·94	57·41	55·39	52·82	49·52
19	43·73	42·13	42·95	45·31	49·01	54·22	...	58·82	*S*	55·37	52·68	*S*
20	43·64	42·33	43·06	45·29	49·24	*S*	...	58·97	57·28	55·28	52·50	49·40
21	43·89	*S*	*S*	45·36	49·44	54·17	58·37	58·99	57·09	55·25	*S*	49·34
22	43·40	42·74	43·37	45·39	49·50	54·17	58·45	*S*	57·03	55·23	52·08	49·29
23	43·30	42·89	43·54	45·46	*S*	54·14	58·41	58·99	56·86	55·19	51·80	49·19
24	*S*	43·04	Fast Day.	45·53	50·06	54·15	58·33	58·99	56·73	*S*	51·48	49·05
25	43·10	43·20	43·86	*S*	50·32	54·10	*S*	58·96	56·63	54·92	51·33	Christ. Day.
26	43·05	43·25	43·99	45·77	50·64	54·23	58·55	58·84	*S*	54·80	51·13	*S*
27	43·07	43·29	44·15	45·95	50·96	*S*	58·61	58·92	56·43	54·72	50·99	48·50
28	43·09	*S*	*S*	46·03	51·29	54·34	58·33	58·89	56·40	54·52	*S*	48·33
29	43·11		44·32	46·17	51·48	54·39	58·52	*S*	56·38	54·36	50·70	48·12
30	43·22		44·43	46·29	*S*	54·48	58·74	58·90	56·26	54·18	50·71	48·01
31	*S*		44·53		52·05		58·89	58·83		*S*		47·80
Mean	43·98	42·85	43·27	45·12	48·64	53·94	57·08	58·91	57·83	55·36	52·76	49·48
Diurnal Range.	0·07	0·12	0·11	0·13	0·22	0·21	0·36	0·17	0·14	0·15	0·14	0·11

The letter *S* denotes that the day was Sunday.

The mean of all is 50°·77.

The values till January 25, and after December 27, are deduced from only a few readings daily.

TABLE XXVI.—Mean Reading, at every Even Hour of Göttingen Mean Time, of the Thermometer whose bulb is sunk to the depth of 6·4 feet (6 French feet) below the surface of the soil, deduced from all the Observations taken at that Hour in each Month.

1847, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	43·97	42·84	43·24	45·09	48·53	53·78	56·97	58·87	57·85	55·37	52·81	49·50
16	43·97	42·84	43·25	45·09	48·53	53·85	56·97	58·87	57·84	55·36	52·79	49·50
18	43·97	42·84	43·25	45·09	48·55	53·87	56·97	58·87	57·84	55·35	52·79	49·50
20	43·97	42·85	43·25	45·10	48·58	53·90	56·99	58·88	57·83	55·35	52·77	49·50
22	43·99	42·85	43·26	45·12	48·65	53·96	57·04	58·89	57·88	55·35	52·76	49·50
0	43·99	42·86	43·28	45·14	48·67	53·99	57·09	58·91	57·90	55·39	52·78	49·48
2	43·99	42·87	43·29	45·15	48·70	54·02	57·14	58·92	57·91	55·40	52·78	49·49
4	43·98	42·87	43·30	45·15	48·72	54·03	57·18	58·94	57·87	55·41	52·77	49·48
6	43·98	42·86	43·30	45·14	48·72	54·03	57·19	58·93	57·82	55·38	52·75	49·47
8	43·97	42·85	43·28	45·13	48·71	54·00	57·16	58·96	57·80	55·34	52·73	49·46
10	43·97	42·84	43·27	45·14	48·70	53·89	57·13	58·90	57·79	55·33	52·71	49·44
12	43·99	42·84	43·28	45·13	48·64	53·88	57·11	58·88	57·78	55·31	52·71	49·44

TABLE XXVII.—Mean Daily Reading of a Thermometer whose bulb is sunk to the depth of 3·2 feet (3 French feet) below the surface of the soil, from the Mean of the Observations taken on every Civil Day, generally 12 in number (except Sundays, March 24, Good Friday, and Christmas Day), at the Even Hours of Göttingen Mean Time.

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	39·62	40·12	39·59	42·94	46·78	57·49	58·55	*S*	61·12	55·53	52·74	47·73
2	39·46	39·88	39·47	Good Friday.	*S*	57·86	58·99	63·21	60·71	55·62	53·05	47·86
3	*S*	39·58	39·50	42·38	46·81	58·25	59·25	63·45	60·23	*S*	53·07	47·80
4	39·20	39·36	39·65	*S*	46·79	58·55	*S*	63·61	59·67	55·72	52·89	48·15
5	39·20	39·24	39·75	42·16	46·82	58·79	59·63	63·53	*S*	55·71	52·66	*S*
6	39·51	39·18	39·80	42·36	46·99	*S*	60·11	63·34	58·66	55·64	52·53	48·01
7	39·88	*S*	*S*	42·75	47·38	58·90	60·58	63·05	58·33	55·48	*S*	47·66
8	40·28	39·28	40·03	43·18	47·74	58·64	60·88	*S*	58·20	55·34	52·69	47·26
9	40·22	39·03	40·13	43·61	*S*	58·24	60·82	62·30	58·18	55·23	52·70	46·72
10	*S*	38·75	40·27	43·89	48·59	57·66	60·75	61·84	58·20	*S*	52·56	46·66
11	40·21	38·54	40·06	*S*	49·15	57·31	*S*	61·48	58·32	55·32	52·06	47·22
12	38·92	38·31	39·70	44·15	49·66	56·93	61·23	61·48	*S*	55·44	51·76	*S*
13	39·60	38·09	39·51	44·48	50·01	*S*	61·71	61·85	58·53	55·54	51·64	47·41
14	39·44	*S*	*S*	44·89	50·32	56·99	62·21	62·32	58·58	55·66	*S*	47·30
15	39·29	37·56	39·85	44·78	50·72	56·91	62·53	*S*	58·37	55·59	51·39	47·19
16	39·10	38·07	40·12	44·53	*S*	56·68	62·87	62·89	58·09	55·33	51·47	47·02
17	*S*	38·65	40·62	44·31	51·48	56·37	63·09	69·91	57·89	*S*	51·31	47·07
18	38·72	39·19	41·15	*S*	51·78	56·22	*S*	62·84	57·50	55·26	50·77	47·37
19	38·60	40·33	41·64	44·22	52·09	56·25	62·91	62·83	*S*	55·23	49·83	*S*
20	38·49	40·80	41·99	44·31	52·37	*S*	62·62	62·75	56·64	55·21	48·85	47·24
21	38·39	*S*	*S*	44·56	52·56	56·21	62·39	62·68	56·35	55·09	*S*	46·76
22	38·30	41·27	42·87	44·84	52·87	56·32	62·41	*S*	56·26	54·75	47·66	46·20
23	38·23	42·36	43·04	45·13	*S*	56·31	62·37	62·18	56·41	54·35	47·56	45·62
24	*S*	41·60	Fast Day.	45·34	54·33	56·29	62·25	61·77	56·59	*S*	47·72	45·10
25	38·74	41·24	43·29	*S*	55·07	56·31	*S*	61·37	56·64	53·67	47·80	Christ. Day.
26	39·22	40·76	43·30	46·04	55·27	56·48	62·11	61·24	*S*	53·02	47·89	*S*
27	39·70	40·38	43·60	46·35	55·46	*S*	62·08	61·37	56·38	52·45	47·95	44·40
28	40·21	*S*	*S*	45·58	55·89	56·98	62·11	61·53	56·13	52·14	*S*	44·05
29	40·56		44·12	46·81	56·44	57·46	62·29	*S*	55·75	52·22	47·89	43·72
30	40·55		43·85	46·84	*S*	57·96	62·51	61·61	55·57	52·45	47·91	43·38
31	*S*		43·41		57·17		62·79	61·45		*S*		43·13
Mean	39·35	39·65	41·17	44·46	51·17	57·24	61·56	62·34	57·82	54·73	50·63	46·46
Diurnal Range.	0·39	0·32	0·26	0·28	0·41	0·38	0·47	0·39	0·34	0·26	0·28	0·28

The letter *S* denotes that the day was Sunday.

The mean of all is 50° ·55.

The values till January 25, and after December 27, are deduced from only a few readings daily.

TABLE XXVIII.—Mean Reading at every Even Hour of Göttingen Mean Time of the Thermometer whose bulb is sunk to the depth of 3·2 feet (3 French feet) below the surface of the soil, deduced from all the Observations taken at that Hour in each Month.

1847, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	39·24	39·61	41·11	44·36	50·96	57·13	61·35	62·28	57·84	54·74	50·68	46·50
16	39·26	39·61	41·11	44·36	50·97	57·11	61·34	62·24	57·80	54·73	50·66	46·49
18	39·30	39·61	41·08	44·37	50·99	57·12	61·34	62·22	57·78	54·71	50·63	46·49
20	39·33	39·62	41·13	44·40	51·04	57·17	61·41	62·25	57·77	54·71	50·62	46·47
22	39·41	39·63	41·14	44·45	51·16	57·27	61·54	62·34	57·84	54·73	50·65	46·50
0	39·42	39·64	41·18	44·50	51·22	57·33	61·63	62·42	57·89	54·78	50·66	46·47
2	39·43	39·65	41·23	44·52	51·29	57·36	61·70	62·47	57·92	54·79	50·67	46·47
4	39·49	39·60	41·23	44·53	51·32	57·38	61·76	62·50	57·91	54·79	50·63	46·46
6	39·46	39·60	41·22	44·52	51·31	57·36	61·76	62·45	57·86	54·75	50·68	46·44
8	39·48	39·60	41·21	44·51	51·29	57·29	61·68	62·37	57·80	54·71	50·57	46·42
10	39·52	39·61	41·18	44·49	51·27	57·23	61·60	62·30	57·73	54·67	50·55	46·40
12	39·56	39·60	41·17	44·48	51·28	57·18	61·55	62·25	57·68	54·64	50·54	46·40

TABLE XXIX.—Mean Daily Reading of a Thermometer whose bulb is sunk to the depth of 1 inch below the surface of the soil, within the box which covers the tops of the deep sunk Thermometers, from the Mean of the Observations taken on every Civil Day, generally 12 in number (except Sundays, March 24, Good Friday, and Christmas Day), at the Even Hours of Göttingen Mean Time.

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	32·9	35·4	37·5	38·9	46·5	65·0	63·6	*S*	58·5	56·0	55·5	47·7
2	35·3	36·1	39·4	Good Friday.	*S*	64·4	61·7	68·1	56·8	56·8	53·2	47·0
3	*S*	35·7	39·8	39·0	46·3	64·7	63·1	65·1	54·6	*S*	50·5	53·0
4	38·0	36·4	38·1	*S*	47·9	65·5	*S*	63·0	55·0	55·9	49·7	48·0
5	41·4	36·4	40·7	45·6	49·8	61·9	65·9	63·4	*S*	54·1	50·5	*S*
6	40·3	41·8	39·2	45·9	50·8	*S*	68·8	63·7	54·0	52·7	53·2	46·3
7	41·3	*S*	*S*	48·4	52·9	58·8	67·8	63·2	54·4	55·8	*S*	43·4
8	40·3	31·4	41·2	50·3	52·7	56·9	64·1	*S*	58·8	53·0	56·3	40·8
9	38·0	31·2	39·9	47·1	*S*	55·8	64·1	59·7	57·9	55·7	50·9	48·1
10	*S*	32·1	35·9	46·7	56·2	55·4	67·4	59·8	60·4	*S*	47·8	50·9
11	33·4	34·2	32·9	*S*	56·2	56·5	*S*	64·1	60·4	57·2	50·4	49·2
12	34·7	30·2	37·3	51·3	55·3	58·9	71·7	69·6	*S*	58·1	51·5	*S*
13	36·4	31·3	39·2	47·3	55·4	*S*	72·1	68·3	60·4	58·0	47·9	46·7
14	35·0	*S*	*S*	44·3	56·2	59·4	71·9	65·9	56·8	53·8	*S*	45·6
15	34·5	43·7	43·1	43·1	56·9	56·4	71·4	*S*	55·0	53·5	53·6	46·1
16	33·8	41·8	46·3	41·9	*S*	55·1	70·8	64·8	58·0	54·1	51·0	48·9
17	*S*	45·6	48·4	41·6	57·6	58·3	67·0	65·9	55·0	*S*	44·2	49·2
18	33·0	48·1	47·5	*S*	57·8	57·0	*S*	66·5	52·6	54·7	41·0	47·0
19	34·2	45·1	47·4	44·8	57·6	58·4	63·4	66·1	*S*	57·4	37·5	*S*
20	33·9	43·4	48·7	46·6	57·4	*S*	66·0	64·8	55·2	53·3	37·6	42·2
21	35·8	*S*	*S*	48·3	58·1	59·8	66·9	65·2	53·0	52·4	*S*	38·2
22	36·2	45·3	45·8	47·3	60·6	58·8	65·8	*S*	58·7	50·9	44·4	38·0
23	36·7	42·9	46·7	46·6	*S*	56·2	63·7	59·6	58·8	54·0	48·4	38·1
24	*S*	37·4	Fast Day.	47·0	64·3	58·1	64·8	58·6	56·3	*S*	46·0	40·0
25	42·2	36·9	44·9	*S*	58·1	59·7	*S*	61·5	55·2	46·5	48·7	Christ. Day.
26	43·3	36·1	47·7	48·8	58·5	59·9	61·5	64·2	*S*	46·1	48·4	*S*
27	45·0	34·5	49·2	52·0	62·6	*S*	65·7	63·3	51·0	49·7	46·1	38·3
28	44·4	*S*	*S*	50·7	67·7	64·3	66·6	64·7	50·7	51·7	*S*	38·0
29	40·2		42·1	48·9	65·9	64·7	69·2	*S*	53·6	54·3	43·7	36·3
30	37·9		40·6	47·3	*S*	64·6	69·0	60·0	54·5	52·5	50·2	39·8
31	*S*		39·4		64·0		68·4	60·4		*S*		38·1
Mean	37·9	38·0	42·3	46·4	56·7	59·8	66·8	63·9	56·0	53·7	48·4	44·0
Diurnal Range.	4·1	4·4	7·0	6·9	9·4	8·1	10·1	9·7	7·4	5·9	5·0	4·5

The letter *S* denotes that the day was Sunday.

The mean of all is 51°·2.

The values till January 25, and after December 27, are deduced from only a few readings daily.

TABLE XXX.—Mean Reading, at every Even Hour of Göttingen Mean Time, of the Thermometer whose bulk is sunk to the depth of 1 inch below the surface of the soil, deduced from all the Observations taken at that Hour in each Month.

1847, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	37·8	37·6	40·8	44·8	54·5	57·7	64·2	61·8	54·7	52·5	47·9	43·5
16	37·8	37·3	40·4	44·2	53·6	56·8	63·2	60·9	53·7	52·1	47·6	43·4
18	37·3	37·0	39·9	43·7	53·0	56·0	62·1	60·5	53·0	51·8	47·5	43·5
20	37·0	36·9	39·4	43·7	53·4	56·6	62·7	60·3	52·8	52·0	47·4	43·3
22	36·8	36·9	40·2	45·3	54·8	58·3	64·5	62·0	54·1	52·3	47·5	43·9
0	37·4	37·5	42·2	46·6	57·4	60·6	66·6	64·1	56·3	54·0	48·4	44·3
2	38·5	39·1	44·3	48·5	59·1	62·2	69·0	65·9	58·0	55·6	49·4	44·8
4	39·2	40·1	45·4	49·5	60·7	63·5	70·6	67·6	59·4	56·4	50·0	45·1
6	38·9	39·6	45·5	49·3	60·7	63·9	72·0	68·0	59·3	56·0	49·3	44·3
8	38·1	38·8	44·3	48·2	59·5	62·5	70·9	67·1	58·1	54·9	48·8	44·1
10	37·7	38·1	42·9	47·0	57·8	60·7	68·7	65·0	57·0	54·0	48·4	43·5
12	37·8	37·8	41·9	45·7	55·[illegible]	58·7	66·5	63·2	55·7	53·4	48·2	43·3

TABLE XXXI.—Mean Daily Reading of a Thermometer within the case covering the deep sunk Thermometers whose bulb is placed on a level with the scales of the other Thermometers, taken on every Civil Day (except Sundays, March 24, Good Friday, and Christmas Day), at the Even Hours of Göttingen Mean Time.

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	30·0	32·8	36·4	38·4	45·7	66·3	63·1	*S*	56·8	55·9	57·1	45·5
2	33·5	33·7	39·3	Good Friday.	*S*	64·8	59·4	70·8	53·4	54·3	52·2	47·2
3	*S*	34·0	38·6	36·9	43·9	65·4	61·9	64·9	51·7	*S*	47·7	54·5
4	39·5	34·4	36·8	*S*	46·9	65·7	*S*	62·4	52·4	54·7	47·6	46·9
5	43·2	36·0	40·0	47·1	50·6	60·3	67·1	63·8	*S*	52·4	50·3	*S*
6	40·8	43·0	37·5	47·3	51·0	*S*	70·9	61·7	52·0	52·0	53·2	46·8
7	40·8	*S*	*S*	49·7	54·6	57·1	66·5	62·6	54·2	54·7	*S*	42·2
8	37·6	26·8	41·6	51·2	53·4	53·2	62·7	*S*	58·8	52·2	57·0	37·6
9	35·2	26·8	37·4	47·0	*S*	54·9	63·5	57·7	57·6	55·9	47·8	50·8
10	*S*	27·9	31·8	46·1	58·4	53·7	68·1	58·8	60·1	*S*	46·4	53·0
11	30·9	32·3	39·4	*S*	56·9	56·2	*S*	65·4	60·5	57·4	50·9	48·4
12	33·1	26·3	37·8	54·2	56·0	58·8	74·6	71·3	*S*	59·7	50·3	*S*
13	36·4	27·1	40·1	45·1	55·9	*S*	74·2	68·1	59·2	57·3	47·2	46·4
14	34·4	*S*	*S*	42·3	56·2	57·8	74·3	65·1	53·4	51·7	*S*	45·5
15	33·9	45·8	44·9	41·6	57·3	54·7	72·5	*S*	54·0	51·8	53·8	46·6
16	32·5	42·6	49·9	39·9	*S*	53·5	71·7	63·3	58·1	53·6	49·1	49·9
17	*S*	48·4	51·5	39·2	57·9	58·7	64·8	66·2	54·1	*S*	40·9	51·2
18	29·8	49·5	48·6	*S*	59·0	55·8	*S*	66·4	50·3	56·1	37·2	48·4
19	32·0	44·7	48·9	44·9	57·7	58·7	61·6	65·5	*S*	57·8	32·6	*S*
20	31·3	43·8	50·0	46·5	57·7	*S*	66·9	63·9	54·7	51·1	35·0	38·7
21	34·8	*S*	*S*	49·1	58·9	58·8	66·9	65·8	52·7	52·1	*S*	34·4
22	35·3	45·4	46·0	46·3	63·9	57·4	64·6	*S*	59·9	50·0	45·0	34·1
23	35·8	40·5	46·0	45·5	*S*	54·5	62·5	55·5	58·5	54·8	48·8	36·2
24	*S*	33·9	Fast Day.	46·8	63·3	57·6	64·9	56·7	55·4	*S*	46·6	38·3
25	42·9	34·4	44·2	*S*	58·3	59·3	*S*	63·4	55·3	45·1	49·4	Christ. Day.
26	44·7	32·9	49·1	48·5	60·8	60·8	63·0	64·2	*S*	44·8	45·0	*S*
27	46·0	30·9	49·5	52·9	64·9	*S*	66·5	63·2	48·6	49·6	45·2	35·5
28	44·1	*S*	*S*	49·8	73·3	65·8	66·6	65·3	48·7	52·3	*S*	36·3
29	38·7		40·1	47·3	65·0	65·2	70·9	*S*	53·2	55·3	41·0	32·4
30	36·4		38·4	46·1	*S*	64·8	68·9	58·1	55·3	51·7	51·3	38·5
31	*S*		36·9		65·3		68·5	58·4		*S*		35·8
Mean	36·4	36·4	42·0	46·0	57·4	59·2	66·9	63·4	55·0	53·2	47·3	42·9
Diurnal Range	6·9	8·4	14·3	13·6	17·1	16·9	19·9	17·1	15·3	11·4	9·4	7·4

The letter *S* denotes that the day was Sunday.

The mean of all is 50°·5.

The values till January 25, and after December 27, are deduced from only a few readings daily.

TABLE XXXII.—Mean Reading at every Even Hour of Göttingen Mean Time, of the Thermometer whose bulb is placed on a level with the scales of the other Thermometers, deduced from all the Observations taken at that Hour in each Month.

1847, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	36·6	34·8	38·1	42·1	51·8	53·6	60·2	58·3	50·9	50·6	46·0	41·8
16	36·3	34·3	37·4	41·2	51·0	52·5	58·7	57·1	50·5	50·1	45·5	41·9
18	35·4	34·2	36·5	40·9	50·7	52·4	58·2	56·2	48·8	49·8	45·1	42·1
20	34·0	34·1	36·5	42·1	53·5	55·2	60·9	57·8	49·6	49·6	45·2	43·0
22	34·8	34·4	40·4	46·2	58·0	60·1	66·5	62·5	54·1	52·0	46·4	42·3
0	36·7	37·4	45·1	49·8	61·6	64·0	70·6	67·2	58·2	56·3	48·8	44·1
2	38·8	40·2	48·8	51·8	64·0	65·6	74·9	70·1	61·5	58·7	51·0	45·2
4	39·4	40·7	49·1	52·7	65·7	67·6	77·0	72·6	62·3	58·7	50·4	44·9
6	37·8	38·4	47·2	50·4	63·4	65·4	75·9	70·0	60·0	56·0	48·3	43·5
8	36·0	36·8	43·8	47·2	59·1	61·5	71·0	65·8	56·7	53·5	47·2	42·7
10	35·4	35·8	41·0	44·5	56·3	57·8	66·3	62·7	54·4	52·2	46·6	41·7
12	35·9	35·2	39·6	42·9	53·9	54·7	62·9	60·6	52·4	51·5	46·6	41 3

Abstract of the Results of the Observations of the Thermometers placed 2 feet below the Surface of the Water of the Thame

Table XXXIII.—Mean Monthly Reading of the Thermometers immersed in the Thames.

1847, Month.	Monthly Mean of the Maximum Thermometer.	Monthly Mean of the Minimum Thermometer.	1847, Month.	Monthly Mean of the Maximum Thermometer.	Monthly Mean of the Minimum Thermometer.
	°	°		°	°
January	37·1	35·5	July	70·6	66·5
February	38·9	37·2	August.....	66·1	64·4
March	42·1	41·4	September	57·0	56·5
April	46·9	46·4	October	53·3	53·0
May.....	58·6	57·0	November	47·9	47·3
June.....	65·5	61·9	December.....	42·5	41·5

	Maximum.	Minimum.
Mean for the Year	52°·2	50°·7
Mean of both for the Year	51°·5	

The water on the average of the whole year was 2°·8 warmer than the air.

Abstract of the Results of the Observations of the Wet-Bulb Thermometer.

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, March 24, Good Friday, and Christmas Day), at the Even Hours of Göttingen Mean Time.

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	27·7	30·8	34·2	34·7	42·7	56·1	55·8	*S*	53·6	53·0	54·4	43·4
2	...	32·0	37·1	Good Friday.	*S*	55·6	53·9	60·9	50·3	51·2	50·0	46·9
3	*S*	32·1	35·6	34·1	41·3	55·8	56·1	54·4	49·9	*S*	46·5	53·1
4	37·3	32·1	34·9	*S*	43·4	56·9	*S*	53·4	48·1	50·6	46·1	45·8
5	41·7	33·6	38·1	43·0	45·9	51·4	59·5	58·8	*S*	49·0	48·9	*S*
6	39·2	42·1	35·3	42·3	46·4	*S*	63·1	58·1	48·2	49·3	53·1	45·0
7	39·7	*S*	*S*	46·1	49·9	49·1	61·0	57·9	50·3	52·9	*S*	39·0
8	35·5	24·1	39·2	48·2	50·5	48·8	58·4	*S*	56·9	49·5	55·2	35·2
9	32·2	23·4	33·5	40·5	*S*	47·4	57·2	53·5	53·9	54·2	45·3	50·3
10	*S*	26·3	28·7	41·2	53·4	49·6	64·2	55·6	56·5	*S*	44·6	52·1
11	28·3	29·0	25·3	*S*	52·6	48·9	*S*	60·0	55·9	55·7	50·1	47·3
12	30·6	22·5	34·6	51·0	52·0	51·1	65·7	67·4	*S*	57·0	49·1	*S*
13	35·5	24·0	36·6	41·7	51·9	*S*	66·5	62·1	57·2	54·7	45·0	44·9
14	32·9	*S*	*S*	38·3	52·5	55·3	67·1	58·0	50·3	49·4	*S*	43·8
15	32·2	44·3	39·0	36·3	52·4	51·0	65·0	*S*	50·9	49·5	53·0	45·9
16	30·8	40·5	42·9	34·2	*S*	51·7	63·4	61·7	56·2	52·0	46·9	48·1
17	*S*	46·1	43·2	33·8	52·7	53·2	60·9	64·1	52·0	*S*	37·2	49·9
18	28·4	47·9	40·2	*S*	54·7	53·0	*S*	64·1	48·2	54·8	34·0	47·2
19	30·8	41·6	41·2	39·4	52·9	54·0	56·0	63·2	*S*	55·6	31·0	*S*
20	29·4	41·3	45·7	42·4	52·5	*S*	59·4	60·8	53·2	47·8	33·7	37·1
21	32·4	*S*	*S*	43·9	52·7	55·7	61·3	61·5	50·9	48·8	*S*	31·0
22	34·1	44·3	42·6	41·0	56·5	52·1	59·4	*S*	57·1	47·6	42·6	32·2
23	35·8	38·5	42·5	39·9	*S*	51·2	54·8	51·6	56·4	53·7	47·7	33·6
24	*S*	30·4	Fast Day.	41·9	58·0	53·4	55·9	52·6	51·9	*S*	44·3	36·8
25	40·5	30·5	40·2	*S*	51·3	55·6	*S*	56·5	52·3	41·5	48·3	Christ. Day.
26	42·7	30·4	46·3	43·9	50·1	55·0	55·6	58·5	*S*	42·9	43·6	*S*
27	44·6	28·4	45·8	46·4	56·3	*S*	58·2	58·9	43·0	48·1	44·9	33·2
28	41·1	*S*	*S*	45·5	64·5	60·9	59·0	61·0	44·5	51·9	*S*	33·5
29	35·9		35·0	44·6	59·7	59·0	61·9	*S*	48·5	53·5	39·2	30·8
30	34·7		34·3	42·5	*S*	57·1	61·2	53·8	49·1	49·4	50·0	36·6
31	*S*		33·7		57·3		60·8	54·5		*S*		33·9
Mean	35·0	34·0	37·9	41·4	52·1	53·4	60·0	58·6	51·7	50·9	45·6	41·4

The letter *S* denotes that the day was Sunday.

The mean of all is 46°·8.

Till January 25, and from December 27, a few readings only were taken daily. The mean values for those days have been found by the application of corrections to the mean of the observations, deduced from the five years' observations ending December 31, 1848. (Philosophical Transactions, Part I., 1848.)

Taking the differences between the numbers in this table and those continued in Table XIII., 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,

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	1·2	0·9	2·0	2·0	3·5	7·1	4·6	*S*	3·0	2·6	1·6	1·9
2	...	0·8	2·4	Good Friday.	*S*	7·2	4·0	7·6	3·5	2·6	0·5	1·0
3	*S*	0·5	2·3	2·5	2·4	7·5	3·3	7·2	1·8	*S*	0·2	0·8
4	1·1	1·6	1·6	*S*	2·4	6·0	*S*	7·5	3·1	2·2	0·3	1·4
5	1·0	1·0	1·5	4·2	2·8	6·5	6·3	3·1	*S*	1·9	0·9	*S*
6	0·0	0·9	2·1	4·3	3·4	*S*	6·5	3·2	3·1	2·4	0·5	2·2
7	0·0	*S*	*S*	3·8	4·2	6·7	3·6	3·3	2·7	1·5	*S*	2·6
8	0·5	0·5	2·4	3·2	1·7	3·5	3·3	*S*	1·2	3·0	1·9	1·8
9	0·8	0·5	3·1	6·1	*S*	5·7	6·0	3·7	2·5	1·6	1·6	1·4
10	*S*	0·8	1·5	4·6	4·5	3·2	3·6	1·6	3·0	*S*	1·6	1·2
11	1·0	0·8	2·5	*S*	2·6	6·0	*S*	4·5	3·7	2·2	1·4	1·9
12	1·0	0·8	3·2	2·9	3·4	6·2	7·6	3·7	*S*	1·9	1·2	*S*
13	0·2	0·8	3·3	2·7	3·5	*S*	6·3	4·7	0·7	1·4	1·9	1·1
14	1·1	*S*	*S*	3·3	3·7	2·2	5·7	4·3	2·2	2·0	*S*	1·0
15	0·7	1·7	5·5	4·2	3·9	3·4	4·9	*S*	2·2	1·7	1·3	1·3
16	—0·3	1·5	7·3	3·6	*S*	2·0	6·0	0·8	2·2	1·1	1·6	1·7
17	*S*	2·2	8·0	3·7	4·8	4·1	1·8	1·2	1·1	*S*	2·2	1·6
18	—0·1	1·4	8·2	*S*	3·3	1·8	*S*	1·1	1·5	1·0	1·7	1·3
19	0·0	3·3	7·9	5·1	3·7	3·7	4·4	1·3	*S*	2·3	1·1	*S*
20	0·4	2·2	3·9	3·7	4·6	*S*	5·6	1·1	1·8	2·8	0·6	1·0
21	0·7	*S*	*S*	4·9	5·3	2·9	4·4	3·5	1·1	2·8	*S*	1·7
22	—0·2	0·9	2·8	3·7	6·6	4·8	4·6	*S*	3·2	2·3	2·1	1·4
23	0·1	1·2	2·8	3·8	*S*	3·4	6·1	3·2	2·8	1·3	1·5	1·1
24	*S*	3·1	Fast Day.	3·3	4·5	4·0	6·7	3·7	2·9	*S*	1·9	1·0
25	2·1	3·2	3·5	*S*	5·1	3·3	*S*	4·4	2·9	2·6	1·4	Christ. Day
26	1·9	1·8	3·1	4·5	7·1	5·2	6·1	3·5	*S*	2·2	0·5	*S*
27	1·9	2·2	3·3	6·3	6·9	*S*	6·6	4·0	3·8	2·0	0·3	1·3
28	2·6	*S*	*S*	4·1	7·7	3·7	6·1	3·6	3·7	0·8	*S*	0·7
29	1·3		2·6	2·2	4·1	4·6	7·7	*S*	4·0	1·9	1·6	1·3
30	0·7		3·1	2·5	*S*	4·5	6·1	3·4	4·4	2·1	2·0	0·0
31	*S*		2·1		6·6		6·1	2·6		*S*		0·1

The letter *S* denotes that the day was Sunday.

TABLE XXXVI.—Mean Monthly Temperature of Evaporation, as deduced from the Mean of the Twelve Observations of the Wet-bulb Thermometer, taken on every Civil Day (except Sundays, March 24, Good Friday, and Christmas Day), at the Even Hours of Göttingen Mean Time.

1847, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	35·1	32·7	35·6	38·9	48·2	50·2	55·9	54·8	48·5	48·7	44·4	40·6
16	35·3	32·2	35·4	38·6	47·3	49·5	55·1	54·0	47·9	48·6	44·1	40·6
18	34·4	32·1	34·5	38·5	48·0	50·0	55·2	53·9	47·4	48·3	44·0	41·0
20	32·3	32·0	34·9	40·4	51·6	52·9	58·9	56·4	48·9	48·7	44·2	41·2
22	33·6	33·3	38·3	43·0	54·0	54·9	61·7	59·6	53·1	51·8	45·7	41·6
0	35·8	35·7	41·0	44·6	55·6	56·8	62·9	62·2	55·4	54·3	47·2	42·7
2	37·1	37·0	41·7	44·8	56·4	57·2	64·4	63·1	56·4	54·4	48·1	43·6
4	36·9	36·7	41·7	44·3	55·8	57·2	64·6	63·4	55·9	53·8	47·4	42·5
6	34·9	35·2	40·3	43·1	54·8	55·9	63·5	61·7	54·7	52·0	46·2	41·2
8	34·4	34·2	38·0	41·4	52·8	54·1	61·2	59·6	52·4	50·8	45·2	41·0
10	34·8	33·4	37·0	40·1	50·9	51·7	59·3	57·8	50·9	50·0	45·2	40·2
12	34·7	32·9	36·7	39·4	49·8	50·7	57·6	56·4	49·3	49·4	45·1	40·0

Till January 25 a few observations only were taken daily, and the mean of the readings from January 25 was 39°·9. The mean value for the month deduced from the reduced daily readings was 35°·0; and the difference between this number and the preceding, viz., 4°·9, has been applied subtractively to the mean of the readings at each hour, in deducing the values for January in the preceding table. A few observations only were taken daily after December 25, and the numbers in the table are the means of the readings without correction taken between December 1 and December 25.

By taking the difference between the numbers contained in this table and those contained in Table XVII. 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.

1847, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	0·8	1·0	1·9	1·7	1·6	1·5	1·2	1·1	1·1	1·1	0·9	1·1
16	0·1	0·9	1·6	1·3	1·6	1·4	1·0	0·8	0·8	1·0	0·9	1·1
18	0·0	0·8	1·5	1·2	1·5	1·9	1·1	0·8	0·8	0·8	0·7	1·1
20	0·0	0·9	1·6	2·3	3·0	3·6	3·3	2·0	1·5	0·9	0·7	1·1
22	0·4	1·3	3·4	4·4	5·2	6·0	6·1	4·2	3·3	1·9	1·3	1·1
0	1·8	2·1	5·8	6·5	7·2	7·9	9·0	6·3	4·7	3·9	2·0	1·5
2	1·5	2·5	6·8	7·2	7·8	8·3	10·5	7·2	5·0	4·7	2·4	1·9
4	1·4	2·6	6·5	7·2	8·0	8·1	10·7	7·3	4·5	3·8	2·0	1·7
6	1·0	1·9	5·0	5·9	6·4	6·9	9·1	5·4	3·2	2·4	1·3	1·6
8	0·0	1·5	3·4	3·9	4·5	4·6	6·5	3·4	2·5	1·6	1·4	1·3
10	0·2	1·6	2·7	2·7	2·7	2·9	3·8	2·2	2·2	1·1	1·0	1·3
12	0·2	1·1	2·2	1·9	2·0	2·0	2·1	1·7	1·8	1·0	0·8	1·3

TABLE XXXVIII.—Mean Daily Temperature of the Dew-Point on every Civil Day (except Sundays, March 24, Good Friday, and Christmas Day), as deduced from the Air Temperature and the Evaporation Temperature.

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	22·1	28·1	31·0	31·5	39·1	51·3	52·2	*S*	51·1	50·7	53·0	41·1
2	...	30·4	33·9	Good Friday.	*S*	50·6	50·6	56·1	47·3	49·1	49·7	45·7
3	*S*	31·0	32·3	30·2	38·5	50·8	53·6	49·2	48·3	*S*	46·2	52·5
4	37·5	29·2	32·4	*S*	40·6	52·7	*S*	48·2	45·4	48·6	45·8	44·3
5	40·0	31·6	36·1	38·6	43·3	46·1	55·6	56·5	*S*	47·4	47·9	*S*
6	39·0	39·2	32·3	37·5	43·0	*S*	59·0	55·7	45·4	47·4	52·6	42·5
7	39·4	*S*	*S*	42·6	46·3	43·5	58·5	55·6	48·1	51·7	*S*	35·4
8	34·5	20·2	36·4	45·1	48·8	45·6	56·0	*S*	55·9	46·9	53·6	32·4
9	30·5	21·3	28·3	33·8	*S*	42·4	53·1	50·6	52·0	52·7	43·6	48·9
10	*S*	23·8	24·6	36·5	50·0	46·7	61·8	54·1	54·2	*S*	43·0	51·0
11	26·4	26·4	15·0	*S*	50·5	43·8	*S*	57·0	53·0	54·0	49·2	45·2
12	28·5	18·7	30·3	48·5	49·3	46·1	60·7	65·1	*S*	55·7	47·8	*S*
13	35·1	21·1	32·3	38·4	48·8	*S*	62·7	59·0	56·6	53·6	42·8	43·7
14	30·7	*S*	*S*	34·3	49·4	53·4	63·5	55·2	48·3	47·4	*S*	42·6
15	30·9	42·4	33·1	30·8	49·0	47·9	62·0	*S*	48·9	47·8	52·0	44·6
16	29·6	38·3	35·8	28·9	*S*	49·2	59·6	61·1	54·2	51·0	45·0	46·4
17	*S*	43·8	35·6	29·1	48·7	49·9	59·4	63·2	51·0	*S*	34·2	48·3
18	27·7	46·4	32·0	*S*	52·2	51·4	*S*	63·4	46·6	54·0	31·2	45·8
19	30·6	37·8	33·5	33·6	49·8	51·1	52·8	62·4	*S*	53·9	28·0	*S*
20	28·4	38·6	41·7	38·5	48·6	*S*	55·7	59·9	51·5	45·0	32·3	35·6
21	31·1	*S*	*S*	39·1	48·5	53·4	58·3	59·2	49·8	46·1	*S*	27·7
22	33·9	43·2	39·8	37·0	51·8	48·1	56·1	*S*	54·8	45·4	40·0	29·7
23	35·9	36·7	39·5	35·7	*S*	48·4	50·4	48·8	54·4	52·5	46·2	31·7
24	*S*	23·8	Fast Day.	36·3	54·6	50·1	51·5	49·5	49·5	*S*	42·3	35·3
25	38·0	23·9	36·6	*S*	47·3	53·0	*S*	53·2	50·1	38·5	46·8	Christ. Day.
26	40·4	25·6	43·4	39·4	44·4	51·0	51·4	56·1	*S*	40·5	43·0	*S*
27	42·5	21·8	42·9	41·4	51·4	*S*	53·9	56·3	39·3	46·1	44·7	30·9
28	37·8	*S*	*S*	41·7	59·6	58·6	54·8	58·7	41·0	51·2	*S*	32·4
29	34·0		31·4	42·3	56·7	55·8	56·6	*S*	44·8	51·8	37·2	28·0
30	33·5		30·1	39·9	*S*	53·9	57·2	51·1	45·3	47·4	49·7	36·5
31	*S*		30·5		53·0		56·3	52·4		*S*		33·5
Mean	33·5	31·0	33·5	37·2	48·6	49·8	56·4	56·1	49·5	49·1	44·1	39·7

The letter *S* denotes that the day was Sunday.

TABLE XXXIX.—True Difference between the Mean Daily Temperature of the Air, and the Mean Daily Temperature of the Deduced Dew-Point.

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	6·8	3·6	5·2	5·2	7·1	11·9	8·2	*S*	5·5	4·9	3·0	4·2
2	...	2·4	5·6	Good Friday.	*S*	12·2	7·3	12·4	6·5	4·7	0·8	2·2
3	*S*	1·6	5·6	6·4	5·2	12·5	5·8	12·4	3·4	*S*	0·5	1·4
4	0·9	4·5	4·1	*S*	5·2	10·2	*S*	12·7	5·8	4·2	0·6	2·9
5	2·7	3·0	3·5	8·6	5·4	11·8	10·2	5·4	*S*	3·5	1·9	*S*
6	0·2	3·8	5·1	9·1	6·8	*S*	10·6	5·6	5·9	4·3	1·0	4·7
7	0·3	*S*	*S*	7·3	7·8	12·3	6·1	5·6	4·9	2·7	*S*	6·2
8	1·5	4·4	5·2	6·3	3·4	6·7	5·7	*S*	2·2	5·6	3·5	4·6
9	2·5	2·6	8·3	12·8	*S*	10·7	10·1	6·6	4·4	3·1	3·3	2·8
10	*S*	3·3	5·6	9·3	7·9	6·1	6·0	3·1	5·3	*S*	3·2	2·3
11	2·9	3·4	12·8	*S*	4·7	11·1	*S*	7·5	6·6	3·9	2·3	4·0
12	3·1	4·6	7·5	5·4	6·1	11·2	12·6	6·0	*S*	3·2	2·5	*S*
13	0·6	3·4	7·6	6·0	6·6	*S*	10·1	7·8	1·3	2·5	4·1	2·3
14	3·3	*S*	*S*	7·3	6·8	4·1	9·3	7·1	4·2	4·0	*S*	2·2
15	2·0	3·6	11·4	9·7	7·3	6·5	7·9	*S*	4·2	3·4	2·3	2·6
16	0·9	3·7	14·4	8·8	*S*	4·5	9·8	1·4	4·2	2·1	3·5	3·4
17	*S*	4·5	15·6	8·4	8·8	7·4	3·3	2·1	2·1	*S*	5·2	3·2
18	0·6	2·9	16·4	*S*	5·8	3·4	*S*	1·8	3·1	1·8	4·5	2·7
19	0·2	7·1	15·6	10·9	6·8	6·6	7·6	2·1	*S*	4·0	4·1	*S*
20	1·4	4·9	7·9	7·6	8·5	*S*	9·3	2·0	3·5	5·6	2·0	2·5
21	2·0	*S*	*S*	9·7	9·5	5·2	7·4	5·8	2·2	5·5	*S*	5·0
22	0·0	2·0	5·6	7·7	11·3	8·8	7·9	*S*	5·5	4·5	4·7	3·9
23	0·0	3·0	5·8	8·0	*S*	6·2	10·5	6·0	4·8	2·5	3·0	3·0
24	*S*	9·7	Fast Day.	8·9	7·9	7·3	11·1	6·8	5·3	*S*	3·9	2·5
25	4·6	9·8	7·1	*S*	9·1	5·9	*S*	7·7	5·1	5·6	2·9	Christ. Day.
26	4·2	6·6	6·0	9·0	12·8	9·2	10·3	5·9	*S*	4·6	1·1	*S*
27	4·0	8·8	6·2	11·3	11·8	*S*	10·9	6·6	7·5	4·0	0·5	3·6
28	5·9	*S*	*S*	7·9	12·6	6·0	10·3	5·9	7·2	1·5	*S*	1·8
29	3·2		6·2	4·5	7·1	7·8	13·0	*S*	7·7	3·6	3·6	4·1
30	1·9		7·3	5·1	*S*	7·7	10·1	6·1	8·2	4·1	2·3	0·1
31	*S*		5·3		10·9		10·6	4·7		*S*		0·5

The letter *S* denotes that the day was Sunday.

TABLE XL.—Mean Temperature of the Deduced Dew-Point at every Even Hour of Göttingen Mean Time in each Month.

1847, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	33·4	29·9	32·7	36·6	46·5	48·7	54·9	53·8	47·4	47·6	43·4	39·1
16	34·5	30·1	32·8	36·7	45·7	48·1	54·2	53·3	47·0	47·5	42·9	39·3
18	33·8	30·0	31·9	36·5	46·3	48·4	54·2	53·2	46·6	47·3	43·0	39·6
20	32·7	29·7	32·6	37·5	48·9	49·7	56·4	54·8	47·6	47·8	43·1	39·8
22	32·1	30·8	33·5	38·2	49·9	50·3	57·5	56·5	50·2	50·1	44·1	40·2
0	33·0	32·4	34·7	38·1	50·1	51·1	57·2	58·1	51·7	51·2	45·0	41·1
2	34·7	33·3	34·5	37·8	50·6	51·4	57·8	58·4	52·5	50·6	45·7	41·5
4	34·8	32·8	34·6	37·5	49·8	51·4	58·0	58·8	52·4	50·6	45·4	40·6
6	32·8	31·6	34·9	37·0	49·8	50·6	57·8	57·9	52·0	49·9	44·8	39·2
8	33·4	30·7	33·2	37·1	49·2	49·9	56·8	57·0	50·1	49·3	44·3	39·3
10	33·5	30·2	32·9	36·6	48·3	49·1	56·3	56·0	48·9	48·9	44·0	38·7
12	33·5	30·0	33·5	37·0	47·9	48·8	55·9	55·0	47·4	48·4	44·1	38·3

TABLE XLI.—Mean Temperature of the Deduced Dew-Point, at every Even Hour of Göttingen Mean Time, in Quarterly Periods, and for the Year.

Hour of Observation.	Spring.	Summer.	Autumn.	Winter.	The Year.
h	°	°	°	°	°
14	38·6	52·5	46·1	34·1	42·8
16	38·4	51·9	45·8	34·6	42·7
18	38·2	51·9	45·6	34·5	42·6
20	39·7	53·6	46·2	34·1	43·4
22	40·5	54·8	48·1	34·4	44·5
0	41·0	55·5	49·3	35·5	45·3
2	41·0	55·9	49·6	36·5	45·8
4	40·6	56·1	49·5	36·1	45·6
6	40·6	55·4	48·9	34·5	44·9
8	39·8	54·6	47·9	34·5	44·2
10	39·3	53·8	47·3	34·1	43·6
12	39·5	53·2	46·6	33·9	43·3
Mean	39·8	54·1	47·6	34·7	44·1
Range	2·8	4·2	4·0	2·6	3·2

From this table it appears that in Spring the maximum took place at 0h and 2h, and the minimum at 18h
" " Summer " 4 " 16h and 18h
" " Autumn " 2 " 18h
" " Winter " 2 " 12h
" " for the Year " 2 " 18h

TABLE XLII.—True Difference between the Mean Temperature of the Air and the Mean Temperature of the Deduced Dew-Point, at every Even Hour of Göttingen Mean Time, in each Month.

1847, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	2·5	3·8	4·8	4·0	3·3	3·0	2·2	2·1	2·2	2·2	1·9	2·6
16	0·9	3·0	4·2	3·2	3·2	2·8	1·9	1·5	1·7	2·1	2·1	2·4
18	0·6	2·9	4·1	3·2	3·2	3·5	2·1	1·5	1·6	1·8	1·7	2·5
20	0·2	3·2	3·9	5·2	5·7	6·8	5·8	3·6	2·8	1·8	1·8	2·5
22	1·9	3·8	8·2	9·2	9·3	10·6	10·3	7·3	6·2	3·6	2·9	2·5
0	4·6	5·4	12·1	13·0	12·7	13·6	14·7	10·4	8·4	7·0	4·2	3·1
2	3·9	6·2	14·0	14·2	13·6	14·1	17·1	11·9	8·9	8·5	4·8	4·0
4	3·5	6·5	13·6	14·0	14·0	13·9	17·3	11·9	8·0	7·0	4·0	3·6
6	3·1	5·5	10·4	12·0	11·4	12·2	14·8	9·2	5·9	4·5	2·7	3·6
8	1·0	5·0	8·2	8·2	8·1	8·8	10·9	6·0	4·8	3·1	2·3	3·0
10	1·5	4·8	6·8	6·2	5·3	5·5	6·8	4·0	4·2	2·2	2·2	2·8
12	1·4	4·0	5·4	4·3	3·9	3·9	3·8	3·1	3·7	2·0	1·8	3·0

TABLE XLIII.—Mean Daily Elastic Force of Vapour on every Day in the Year, (except Sundays, March 24, Good Friday, and Christmas Day), measured in inches of mercury.

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1	0·140	0·173	0·192	0·196	0·256	0·390	0·402	*S*	0·388	0·382	0·414	0·275
2		0·188	0·213	Good Friday.	*S*	0·381	0·381	0·459	0·340	0·362	0·370	0·322
3	*S*	0·192	0·201	0·187	0·251	0·383	0·422	0·363	0·352	*S*	0·328	0·407
4	0·242	0·180	0·202	*S*	0·270	0·409	*S*	0·351	0·319	0·356	0·323	0·307
5	0·264	0·197	0·231	0·252	0·297	0·327	0·452	0·465	*S*	0·342	0·348	*S*
6	0·255	0·257	0·201	0·242	0·293	*S*	0·506	0·453	0·319	0·342	0·408	0·288
7	0·259	*S*	*S*	0·289	0·329	0·299	0·498	0·452	0·350	0·396	*S*	0·225
8	0·218	0·130	0·233	0·316	0·358	0·321	0·458	*S*	0·456	0·336	0·422	0·202
9	0·189	0·136	0·175	0·213	*S*	0·287	0·415	0·381	0·400	0·409	0·300	0·360
10	*S*	0·148	0·153	0·234	0·373	0·333	0·555	0·429	0·431	*S*	0·293	0·386
11	0·163	0·163	0·108	*S*	0·380	0·302	*S*	0·473	0·414	0·428	0·363	0·317

TABLE XLIII.—*continued.*

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
12	0·176	0·123	0·188	0·355	0·365	0·327	0·536	0·619	*S*	0·453	0·346	*S*
13	0·223	0·135	0·201	0·250	0·358	*S*	0·572	0·506	0·467	0·422	0·291	0·301
14	0·190	*S*	*S*	0·216	0·366	0·419	0·588	0·445	0·352	0·342	*S*	0·289
15	0·192	0·287	0·207	0·191	0·361	0·348	0·559	*S*	0·360	0·346	0·400	0·310
16	0·183	0·249	0·228	0·178	*S*	0·363	0·516	0·543	0·431	0·386	0·315	0·330
17	*S*	0·302	0·227	0·180	0·357	0·372	0·513	0·582	0·386	*S*	0·216	0·352
18	0·171	0·330	0·199	*S*	0·402	0·392	*S*	0·586	0·332	0·428	0·194	0·323
19	0·190	0·245	0·210	0·211	0·371	0·388	0·411	0·567	*S*	0·426	0·173	*S*
20	0·175	0·252	0·281	0·251	0·356	*S*	0·453	0·521	0·393	0·315	0·201	0·227
21	0·193	*S*	*S*	0·256	0·355	0·419	0·494	0·509	0·371	0·327	*S*	0·171
22	0·213	0·296	0·263	0·238	0·397	0·350	0·459	*S*	0·440	0·319	0·264	0·184
23	0·229	0·235	0·260	0·227	*S*	0·354	0·379	0·358	0·434	0·407	0·328	0·197
24	*S*	0·148	Fast Day.	0·232	0·437	0·375	0·393	0·367	0·367	*S*	0·286	0·224
25	0·246	0·149	0·235	*S*	0·340	0·414	*S*	0·416	0·375	0·251	0·335	Christ. Day.
26	0·268	0·158	0·298	0·259	0·308	0·386	0·392	0·459	*S*	0·269	0·293	*S*
27	0·288	0·138	0·292	0·278	0·392	*S*	0·426	0·462	0·258	0·327	0·311	0·192
28	0·245	*S*	*S*	0·281	0·516	0·499	0·440	0·501	0·274	0·389	*S*	0·202
29	0·214		0·195	0·286	0·469	0·455	0·467	*S*	0·312	0·397	0·240	0·173
30	0·210		0·186	0·263	*S*	0·426	0·476	0·388	0·318	0·342	0·370	0·234
31	*S*		0·189		0·414		0·462	0·405		*S*		0·210
Mean	0·213	0·200	0·214	0·243	0·360	0·374	0·468	0·472	0·371	0·365	0·313	0·269

The letter *S* denotes that the day was Sunday.

TABLE XLIV.—Mean Elastic Force of Vapour at every Even Hour of Göttingen Mean Time in each Month, estimated in inches of mercury.

1847, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
14	0·210	0·185	0·204	0·235	0·331	0·357	0·441	0·425	0·342	0·344	0·298	0·256
16	0·218	0·186	0·205	0·235	0·322	0·350	0·431	0·418	0·337	0·343	0·292	0·258
18	0·213	0·186	0·198	0·234	0·329	0·354	0·431	0·416	0·332	0·340	0·293	0·261
20	0·204	0·184	0·204	0·242	0·360	0·370	0·464	0·440	0·344	0·346	0·295	0·263
22	0·200	0·191	0·210	0·248	0·372	0·377	0·481	0·465	0·376	0·375	0·305	0·266
0	0·207	0·202	0·219	0·247	0·375	0·388	0·476	0·491	0·396	0·389	0·315	0·275
2	0·219	0·209	0·218	0·245	0·381	0·392	0·486	0·496	0·407	0·381	0·322	0·279
4	0·220	0·205	0·219	0·242	0·371	0·392	0·489	0·503	0·405	0·381	0·319	0·270
6	0·205	0·197	0·221	0·238	0·371	0·381	0·486	0·488	0·400	0·372	0·312	0·257
8	0·210	0·190	0·208	0·239	0·363	0·372	0·470	0·473	0·375	0·365	0·307	0·258
10	0·210	0·187	0·206	0·235	0·352	0·362	0·462	0·458	0·360	0·360	0·304	0·253
12	0·210	0·186	0·210	0·238	0·348	0·358	0·456	0·442	0·342	0·354	0·305	0·249

From these numbers the next table is formed; Spring, Summer, Autumn, and Winter being defined as before.

TABLE XLV.—Mean Elastic Force of Vapour at every Even Hour of Göttingen Mean Time, in Quarterly Periods, and for the Year; estimated in inches of mercury.

1847, Hour, Göttingen Mean Time.	Spring.	Summer.	Autumn.	Winter.	The Year.	Difference of the Mean for each Hour from the Mean of all the Hours for the Year.
h	in.	in.	in.	in.	in.	in.
14	0·257	0·408	0·328	0·217	0·302	− 0·015
16	0·254	0·400	0·324	0·221	0·300	− 0·017
18	0·254	0·400	0·322	0·220	0·299	− 0·018
20	0·269	0·425	0·328	0·217	0·310	− 0·007
22	0·277	0·441	0·352	0·219	0·322	+ 0·005
0	0·280	0·452	0·367	0·228	0·332	+ 0·015
2	0·281	0·458	0·370	0·236	0·336	+ 0·019
4	0·277	0·461	0·368	0·232	0·335	+ 0·018
6	0·277	0·452	0·361	0·220	0·327	+ 0·010
8	0·270	0·438	0·349	0·219	0·319	+ 0·002
10	0·264	0·427	0·341	0·217	0·312	− 0·005
12	0·265	0·419	0·334	0·215	0·308	− 0·009
Mean....	0·269	0·432	0·345	0·222	0·317	

		h
The maximum force took place in	Spring	at 2
,, ,,	Summer	,, 4
,, ,,	Autumn	,, 2
,, ,,	Winter	,, 2
,, for the whole	Year	,, 2

The mean elastic force of vapour at 8^h was very nearly the same as the mean elastic force for the whole year.

Abstracts of the Results derived from Osler's Anemometer.

In every month, the mean pressure of the wind and its direction (supposing the circumference divided into sixteen equal parts) at every hour were 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 these sixteen directions, with the pressures at the corresponding times. A second abstract was formed by taking the sums of the pressures of the wind in each direction in every hour, as inserted in the first abstract; and the number of hours during which the wind blew in that direction, at that hour in the month, was inserted opposite to the sum of the pressures.

Adding together the numbers in each month for every hour, the following table is formed:—

TABLE XLVI.—Sums of the Pressures of the Winds for different Directions in every Month, without Distinction of Hours; and Number of Hours during which the wind blew in each Direction with a recorded Pressure greater than $\frac{1}{4}$ lb. to the Square Foot; the Direction being referred to Sixteen Points of the Azimuthal Circle.

1847, Month.	N.		N.N.E.		N.E.		E.N.E.		E.		E.S.E.		S.E.		S.S.E.	
	Sums of Pressures.	Number of Hours.	Sums of Pressures.	Number of Hours.	Sums of Pressures.	Number of Hours.	Sums of Pressures.	Number of Hours.	Sums of Pressures.	Number of Hours.	Sums of Pressures.	Number of Hours.	Sums of Pressures.	Number of Hours.	Sums of Pressures.	Number of Hours.
	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h
January	2	5							4	6			$\frac{1}{2}$	1	$7\frac{1}{2}$	3
February ...	$3\frac{3}{4}$	6	$3\frac{1}{4}$	3	3	4	$5\frac{1}{2}$	4	$5\frac{3}{4}$	11	$2\frac{1}{2}$	2	$\frac{1}{2}$	1		
March	$31\frac{1}{4}$	23	$7\frac{3}{4}$	15	$2\frac{1}{4}$	5										
April	$38\frac{1}{4}$	21	3	2												
May							$\frac{1}{2}$	1	$\frac{1}{4}$	1					$4\frac{3}{4}$	3
June.....	$29\frac{1}{4}$	43	$1\frac{3}{4}$	4												
July	$14\frac{3}{4}$	21	$1\frac{1}{4}$	2												
August.....	$29\frac{3}{4}$	33	$4\frac{1}{4}$	9	$2\frac{1}{4}$	5	$1\frac{1}{4}$	2								
September..	$1\frac{1}{2}$	2			$\frac{1}{2}$	1	$\frac{1}{2}$	1	$4\frac{1}{2}$	6						
October							$\frac{1}{2}$	1	$1\frac{3}{4}$	7						
November ..	$22\frac{3}{4}$	21													2	2
December...					1	2	$\frac{1}{4}$	1							$2\frac{1}{4}$	3

TABLE XLVI.—*continued.*

1847, Month.	S.		S.S.W.		S.W.		W.S.W.		W.		W.N.W.		N.W.		N.N.W.	
	Sums of Pressures.	Number of Hours.	Sums of Pressures.	Number of Hours.	Sums of Pressures.	Number of Hours.	Sums of Pressures.	Number of Hours.	Sums of Pressures.	Number of Hours.	Sums of Pressures.	Number of Hours.	Sums of Pressures.	Number of Hours.	Sums of Pressures.	Number of Hours.
	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h
January	43	18	100¼	33	52¼	19	6	4			1	1	7½	3	½	1
February ...			16¼	10	136½	53	121	50	33½	10	3	3			1	2
March	48	33	31¼	21	5¾	7	5½	7							2½	2
April.....	14½	8	41	18	148½	51	85½	34	49¼	25	3½	6	2½	4	27	21
May.....	6¾	5	46	48	98¾	87	14¼	14	¾	2			½	1	3	2
June.....	1	2	63½	46	46½	28	3½	2			1	3	5¼	5	23¾	17
July.....			¾	2	6¼	11	5	6	2½	2						
August.....			7½	10	8½	21	2	3	½	1	¼	1	¼	1	3¾	6
September..	5½	3	6½	7	48¾	43	115¾	75	26½	16	5¾	4	2¼	3	2¼	1
October....			13	14	59	29	13½	8	3	3			1½	2	½	1
November ..	33	37	46	39	56½	30	3¼	6	1¼	3			1¾	2	26	15
December...	138¾	70	80¼	51	134¼	56	45¾	16	21⅓	8	43¾	12	10½	3		

The largest number contained in this table is that ranging with April, and under S.W.; the next in order of magnitude is that ranging with December, and under S.; and the next in December and February respectively, and both under S.W.

The first strong wind in the year, of some duration, was from January 24 to January 28, during which interval there were frequent pressures of 3 lbs. to 7 lbs., occasional pressures of 8 lbs. to 10 lbs., and once the pressure amounted to 12 lbs. [See pages (12), (14), and (16).] The direction of the wind was chiefly S.S.W. On February 6 the wind blew from the W.S.W. for a few hours, with pressures varying from 1 lb. to 4 lbs. From February 13 to February 19 the wind for the most part was blowing strongly, from the S.W., W.S.W., and S.S.W.; at times, however, the air was in gentle motion only, and during the evening hours of the 14th and the morning hours of the 15th there was a sensible calm; at most other times there were pressures from 2 lbs. to 4 lbs. and 5 lbs. On February 19 there were pressures of 12 lbs., and once the pressure amounted to 18 lbs.: this was the greatest recorded pressure during the year. [See pages (24) to (28).] On February 28 the wind blew strongly for a short time from the N.E., the greatest pressure was 3½ lbs. [See page (32).] On March 16 there was a rather strong wind from the S., which continued for a few hours. [See page (40).] On March 23 the wind blew from the S.S.W. for a few hours rather strongly. From April 3 to April 9 the wind was frequently blowing strongly; till April 6 it was chiefly from N.N.W. and S.W., and after the 6th it was mostly from the W.S.W. On the 8th and 9th the pressures amounted frequently to 4 lbs., 5 lbs., and 6 lbs., occasionally to 11 lbs. and 12 lbs., and once to 15 lbs. [See pages (50) to (54).] On April 14 and 15 a strong wind was blowing from the N. and N.N.W. [See page (56).] From April 26 to April 28 the wind was for the most part blowing strongly from the S.W. and W.S.W.; pressures from 3 lbs. to 5 lbs. were frequent, and there were occasionally pressures of 7 lbs. and 8 lbs. [See pages (62) and (64).] On May 8 the wind blew strongly for a few hours from S.S.W.; the maximum pressure was 8 lbs. [See page (70).] On May 16, 17, 19, and 20, there were frequent pressures from 2 lbs. to 4 lbs., mostly from the S.S.W. [See page (74).] On June 21 there were frequently pressures of 3 lbs.; the direction of the wind was from the S.S.W. [See page (94).] The next strong wind of any duration was from September 16 to 18, its direction being mostly W.S.W.; during this time the pressure frequently amounted to 4 lbs., occasionally to 8 lbs. and 10 lbs., and once to 12 lbs. [See pages (140) and (142).] On October 23 the wind was blowing strongly throughout the day, from the S. to the S.S.W., and pressures to 8 lbs. were recorded. [See page (162).] During the morning hours of November 23, the wind was blowing from the S.S.W., with pressures from 1 lb. to 5 lbs. [See page (178).] From November 3 to December 10, with the exception of December 1, the air was mostly in quick motion, particularly on December 5, 6, and 7, on which days pressures from 3 lbs. to 7 lbs. were frequent, and during the gale there were occasional pressures amounting to 13 lbs.; the direction varied from S. to S.W. From December 15 to December 17

there were pressures from 1 lb. to 3 lbs., the direction was chiefly S.; and after this time there was no strong wind to the end of the year. From the preceding remarks it will be seen, that, moderate gales happened between January 24 and 28, on February 19, between April 8 and 9, September 16 and 18, and December 5 and 7. No very heavy gale took place during the year. The strongest winds have all passed from directions included between the S. and W. As in all the preceding years, the E. S. E. and S. E. winds are insignificant in amount.

At all the hours in every month, when the wind was blowing without recording pressure, and which, consequently, are not included in the preceding table, the direction has been copied from the anemometer sheets, from which the number of hours of each wind not recording pressure in every month has been found, and thus the following table has been formed :—

TABLE XLVII.—Number of Hours in each Month during which the Wind blew in each Direction without recording Pressure, the Directions being referred to Sixteen Points of the Azimuthal Circle.

1847. Month.	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.	Number of Hours in each Month during which the Wind blew without recording Pressure.
	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h
January	6	2	10	16	22	19	11	10	45	17	13	12	1	..	..	3	187
February ...	50	2	18	2	25	2	..	..	7	31	84	52	34	3	3	6	319
March	71	48	21	4	2	2	..	1	42	45	44	36	36	7	..	8	367
April	39	34	15	3	2	5	1	1	64	55	79	35	43	8	15	27	426
May	5	4	10	7	8	8	..	25	87	98	98	35	4	8	5	7	409
June.....	71	22	9	5	10	1	..	1	41	93	64	43	31	15	12	30	449
July	95	17	17	6	8	9	6	4	24	43	85	76	13	2	8	3	416
August.....	59	9	6	4	1	3	1	..	3	32	96	54	36	11	17	6	338
September..	25	8	7	11	12	4	..	..	14	29	138	120	53	12	10	11	454
October	37	7	6	14	29	1	1	3	108	62	97	42	23	11	3	..	444
November ..	3	..	..	..	3	..	..	4	66	57	91	60	12	2	5	6	309
December...	20	15	11	5	1	2	..	6	105	28	52	14	11	..	10	8	288

By adding together all the quantities for each wind in Tables XLVI. and XLVII. we find that during the year

The	N.	wind blew	175	hours, recording a pressure of	173¼	lbs., and it blew	481 hours without recording any pressure.
	N.N.E.	,,	35	,,	21½	,,	168 ,,
	N.E.	,,	17	,,	9	,,	130 ,,
	E.N.E.	,,	10	,,	8½	,,	77 ,,
	E.	,,	31	,,	16¼	,,	123 ,,
	E.S.E.	,,	2	,,	2½	,,	56 ,,
	S.E.	,,	2	,,	1	,,	20 ,,
	S.S.E.	,,	11	,,	16½	,,	55 ,,
	S.	,,	176	,,	290½	,,	606 ,,
	S.S.W.	,,	299	,,	452¼	,,	590 ,,
	S.W.	,,	435	,,	801½	,,	941 ,,
	W.S.W.	,,	225	,,	421	,,	579 ,,
	W.	,,	70	,,	138¾	,,	297 ,,
	W.N.W.	,,	30	,,	58¼	,,	79 ,,
	N.W.	,,	24	,,	32	,,	88 ,,
	N.N.W.	,,	68	,,	90¼	,,	115 ,,

The sum of all the pressures is 2532$\frac{3}{4}$ lbs., and the number of hours during which air was in motion without recording pressure is 4406.

The S. W. wind has the greatest number opposite to it, and the next in order of magnitude are the S.S.W., W.S.W., S., and N.

Resolving the sum of the pressures for each direction of the wind into two component forces in the two cardinal directions between which it is included, according to the usual rule in mechanics (by multiplying each force by the cosine of the angle which its direction makes with the cardinal direction), the following results are obtained:—

TABLE XLVIII.—Total Pressures of the Wind during the Year resolved in the Directions of the Cardinal Points of the Compass.

Direction of Wind.	Whole recorded Pressure.	Resolved Parts in the Direction of			
		N.	E.	S.	W.
	lbs.	lbs.	lbs.	lbs.	lbs.
N.	173·3	173·3			
N.N.E.	21·3	19·7	8·2		
N.E.	9·0	6·4	6·4		
E.N.E.	8·5	3·3	7·9		
E.	16·3		16·3		
E.S.E.	2·5		2·3	1·0	
S.E.	1·0		0·7	0·7	
S.S.E.	16·5		6·3	15·3	
S.	290·5			290·5	
S.S.W.	452·3			417·9	173·1
S.W.	801·5			566·7	566·7
W.S.W.	421·0			161·1	389·0
W.	138·8				138·8
W.N.W.	58·3	22·3			53·9
N.W.	32·0	22·6			22·6
N.N.W.	90·3	83·4			34·6
	Sums...	331·0	48·1	1453·2	1378·7

TABLE XLIX.—Sums of the Pressures of the Wind at every Hour, Greenwich Mean Time (Astronomical Reckoning), independently of Direction, and Number of Hours of its Duration in each Month, when a Pressure of more than $\frac{1}{4}$ lb. was recorded by the Anemometer.

1847, Month.	13h		14h		15h		16h		17h		18h		19h		20h		21h	
	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours
	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h
January	4½	3	10½	3	9	3	11	3	8½	3	7½	3	11	4	14	4	11½	7
February	11½	7	13½	6	14½	5	11	5	20	6	19¼	5	16	6	14½	4	12	6
March	5¼	3	4¼	3	3	5	2¼	5	2¼	2	1¼	2					2¾	5
April	5	2	5½	2	6¼	5	7¾	5	9¾	7	9½	6	15¾	8	20	9	21½	8
May	4	4	3½	4	3	4	2½	5	1	3	4	5	5	5	6½	6	8¼	7
June	½	2	¾	2	¾	2	¾	2	¼	1	1	3	5	6	7½	6	8¾	6
July			1	2	1½	2	1	2	1	1	1¼	1	1	1	2	2	1½	2
August	¼	1	¼	1	½	1	¼	1	1	1	½	1	2	2	1¼	4	2	4
September	5	4	10	4	4¾	3	9½	6	7	5	10½	6	5¼	4	9½	6	15	10
October	2½	2	1½	1	1¼	3	½	1	2¾	4	1¾	3	2	2	2½	2	3¼	4
November	7¾	7	6½	6	6¼	5	7	8	6¾	6	7½	7	4¼	6	6½	6	8¼	8
December	21½	9	19¾	8	14½	5	17	7	20	8	17¼	8	16½	7	16¼	8	13½	8

TABLE LII.—*continued.*

1847, Month.	22h		23h		0h		1h		2h		3h		4h		5h		6h	
	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.
	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h
January ..	20	6	20¼	6	13	6	12¾	6	11½	4	11½	5	4¼	4	9½	4	4½	4
February .	12	5	14½	8	17¼	9	19¾	10	17½	12	18¼	10	14	8	10¾	6	13½	6
March ...	7¼	5	7½	7	10¾	10	7¼	9	8¼	10	9¾	9	17	10	10	7	8	5
April	25¾	10	26½	12	28	12	32¾	13	37	14	35¼	14	33¼	14	24¾	11	20¼	10
May.....	8¼	7	10¼	8	15¼	14	16½	16	16	14	15¾	13	13¼	11	13	9	6¾	9
June.....	10	7	14¾	10	20	14	19¼	12	23¾	15	15	14	13¾	11	12¾	10	11	8
July	1½	2	2	4	1¾	4	¾	2	2¾	4	3¼	4	2¾	3	2¾	4	2¼	3
August...	1¼	2	3¾	5	2½	7	5¼	8	6½	8	4½	9	8¼	10	4½	8	4¾	5
September	20¼	11	16½	12	15	12	16¼	14	11	11	12¾	13	14¾	11	3½	8	3¼	3
October ..	5	4	11	5	8½	5	7¾	6	6¼	3	3½	3	7	2	3¼	2	4	1
November	12½	9	9¾	7	13¾	9	7½	8	8¼	6	9¾	7	6½	6	9	6	7	6
December.	14¾	8	22¼	12	21½	12	25½	13	21	11	18¾	9	18¾	9	19½	10	22¼	10

	7h		8h		9h		10h		11h		12h		Whole Sum of Pressures.	Whole Number of Hours.
													lbs.	h
January ..	2½	2	2¼	3	1	1	3½	2	5½	2	7½	3	217	91
February .	11¾	6	13¾	6	13	6	10	6	10	7	14¾	7	343	162
March ...	4½	3	5½	2	8	3	4¾	2	3	3	1¾	3	134¼	113
April.....	10½	6	6¼	5	8½	5	7¼	4	6¾	4	9¼	4	413	190
May.....	7¾	6	3¼	3	2¾	2	3	3	3	3	3	3	175½	164
June.....	6	8	1	4	¾	2	1¼	2	¾	2	¼	1	175½	150
July	½	1											30½	44
August...	3½	4	2½	3	½	1	1¾	2	1½	2	1	2	60¼	92
September	4	3	2¼	2	7½	5	6¾	4	3	2	7	3	220¼	162
October ..	4½	2	5	1	½	1	3½	2	1½	3	3½	3	92¾	65
November	6¾	4	4½	5	4¼	5	8¾	6	12¼	6	11¼	6	192½	155
December.	20¾	10	25¾	11	22½	10	19¾	10	27¾	10	21¼	9	478¼	222

In January, the maximum sum of pressures occurred at 23^h, and it was $20\frac{1}{4}$ lbs.
February ,, ,, 17^h ,, 20
March ,, ,, 4^h ,, 17
April ,, ,, 2^h ,, 37
May ,, ,, 1^h ,, $16\frac{1}{2}$
June ,, ,, 2^h ,, $23\frac{3}{4}$
July ,, ,, 3^h ,, $3\frac{1}{4}$
August ,, ,, 4^h ,, $8\frac{1}{4}$
September ,, ,, 22^h ,, $20\frac{1}{4}$

In October, the maximum sum of pressures occurred at			23^h,	and it was	11 lbs.
November	,,	,,	0	,,	13¾
December	,,	,,	11	,,	27¾

Thus it appears, that at 2^h in April the sum of the pressures was greater than at any other hour in the year; and the two next in order of magnitude were at 11^h in December and at 2^h in June, respectively.

The ratio of the maximum pressure to the minimum pressure was in		January	20 to 1
,,	,,	February	2 to 1
,,	,,	March	14 to 1
,,	,,	April	7 to 1
,,	,,	May	16 to 1
,,	,,	June	95 to 1
,,	,,	July	7 to 1
,,	,,	August	33 to 1
,,	,,	September	9 to 1
,,	,,	October	22 to 1
,,	,,	November	3 to 1
,,	,,	December	2 to 1

The ratios which most nearly approach to equality are those of February, December, and November, and therefore the strength of the wind was more uniform throughout the whole of the day during those months than in any of the other months. The ratio of greatest inequality is that in June.

TABLE L.—Shewing for every Hour of Greenwich Mean Time the Number of Calm Hours in each Month, and also the Number of Hours during which the Wind was blowing without recording Pressure, independently of Direction.

1847, Month.	13^h		14^h		15^h		16^h		17^h		18^h		19^h		20^h		21^h	
	Calm Hours.	Hours of Wind not recording Pressure.	Calm Hours.	Hours of Wind not recording Pressure.	Calm Hours.	Hours of Wind not recording Pressure.	Calm Hours.	Hours of Wind not recording Pressure.	Calm Hours.	Hours of Wind not recording Pressure.	Calm Hours.	Hours of Wind not recording Pressure.	Calm Hours.	Hours of Wind not recording Pressure.	Calm Hours.	Hours of Wind not recording Pressure.	Calm Hours.	Hours of Wind not recording Pressure.
	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h
January ..	21	7	23	5	23	5	22	6	21	7	21	7	18	9	18	9	16	8
February .	10	10	8	13	9	13	6	16	8	13	7	15	7	14	7	16	7	14
March ...	11	17	12	16	13	13	14	12	13	16	15	14	13	18	11	20	9	17
April	5	23	4	24	5	20	6	19	6	17	6	18	6	16	3	18	2	19
May.....	6	21	8	19	11	16	11	15	11	17	10	16	12	14	10	15	6	18
June.....	8	19	5	22	7	20	8	19	9	19	6	20	3	20	3	20	1	22
July	14	17	12	17	13	16	14	15	13	17	15	14	16	13	11	17	9	19
August...	13	17	14	16	15	15	17	13	18	12	18	12	15	14	13	14	9	18
September	7	19	6	20	6	21	6	18	5	20	3	21	4	22	6	18	3	17
October ..	14	15	12	18	11	17	12	18	14	13	12	16	15	14	14	15	11	16
November	9	13	11	12	9	14	8	13	10	12	10	12	9	13	8	15	7	13
December.	11	11	11	12	9	17	8	16	8	15	8	15	7	17	8	15	9	14

TABLE L.—*continued.*

1847, Month.	22h		23h		0h		1h		2h		3h		4h		5h		6h	
	Calm Hours.	Hours of Wind not recording Pressure.	Calm Hours.	Hours of Wind not recording Pressure.	Calm Hours.	Hours of Wind not recording Pressure.	Calm Hours.	Hours of Wind not recording Pressure.	Calm Hours.	Hours of Wind not recording Pressure.	Calm Hours.	Hours of Wind not recording Pressure.	Calm Hours.	Hours of Wind not recording Pressure.	Calm Hours.	Hours of Wind not recording Pressure.	Calm Hours.	Hours of Wind not recording Pressure.
	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h
January ..	17	8	17	8	16	9	17	8	19	8	19	7	17	10	17	10	19	8
February .	3	20	6	14	3	16	3	15	4	12	5	13	8	11	7	14	10	11
March ...	7	19	6	18	5	16	5	17	5	16	6	16	5	16	7	17	14	12
April.....	2	18	2	16	2	16	4	13	3	13	4	12	3	13	6	13	5	15
May.....	1	23	3	20	2	15	2	13	2	15	1	17	3	17	6	16	6	16
June.....	1	22	1	19	..	16	..	18	1	14	..	16	3	16	3	17	5	17
July	11	18	11	16	7	20	7	22	9	18	11	16	10	18	10	17	9	19
August...	9	20	10	16	12	12	12	11	9	14	12	10	11	10	9	14	10	16
September	3	16	2	16	3	15	2	14	2	17	2	15	2	17	3	19	3	24
October ..	8	19	6	20	6	20	6	19	6	22	5	23	5	24	9	20	8	22
November	10	11	12	9	11	10	11	9	10	13	8	13	9	15	10	13	10	14
December.	9	14	9	10	9	10	9	9	9	11	8	14	8	14	8	13	9	12

	7h		8h		9h		10h		11h		12h		Whole Number of Calm Hours during the Month.	Whole Number of Hours during the Month at which the Wind was blowing without recording Pressure.
January ..	19	10	20	8	22	8	21	8	22	7	21	7	466	187
February .	8	13	9	12	9	12	10	11	10	10	9	11	173	319
March ...	17	11	17	12	15	13	16	13	16	12	12	16	264	367
April.....	6	18	6	19	5	20	5	21	3	23	4	22	103	426
May.....	9	16	10	18	10	19	12	16	10	18	9	19	171	409
June.....	7	15	7	19	10	18	9	19	10	18	4	24	111	449
July	9	21	12	19	12	19	15	16	15	16	15	16	280	416
August...	15	12	14	14	16	14	16	13	13	16	14	15	314	338
September	6	21	7	21	6	19	6	20	6	22	5	22	104	464
October ..	9	20	9	21	8	22	12	17	11	17	12	16	235	444
November	9	16	7	18	10	13	9	15	11	11	12	12	230	309
December.	11	10	13	7	13	8	12	9	14	7	14	8	234	288

By adding together the numbers for each month contained in this table and in Table XLIX, between 6^h and 19^h and between 20^h and 5^h, the next two tables are formed.

TABLE LI.—Sums of Pressures and Number of Hours during which the Instruments did or did not record Pressure, or during which there was Calm, or the Instrument was out of order, between 6^h and 19^h for each Month.

1847, Month.	Between what Hours.	Sum of Pressures.	Number of Hours of Wind		Number of Hours		Total Number of Hours in the Period.
			Recording Pressure.	Not recording Pressure.	Of Calm.	Instrument out of Order.	
	h h	lbs.	h	h	h	h	h
January	6 and 19	$88\frac{3}{4}$	39	102	293		434
February		$192\frac{1}{2}$	84	174	120	14	392
March		$53\frac{3}{4}$	41	195	198		434
April		$128\frac{1}{4}$	73	275	72		420
May		$52\frac{1}{2}$	59	240	135		434
June		30	45	269	98	8	420
July		$9\frac{1}{2}$	13	235	184	2	434
August		$20\frac{1}{4}$	27	199	208		434
September		$85\frac{3}{4}$	54	290	76		420
October		$34\frac{3}{4}$	29	246	159		434
November		$100\frac{3}{4}$	83	188	134	15	420
December		$286\frac{1}{2}$	122	164	148		434

The sum of all the pressures between 6^h and 19^h was $1083\frac{1}{4}$ lbs.; the number of hours of wind recording pressure was 669; the number of hours of wind not recording pressure was 2577; the number of hours of calm was 1825; and the number of hours during which the instrument was out of order was 39. The total number of hours in the period was 5110; the total number of hours of effective working of the instrument was 5071; and as wind with pressure was recorded at 669 hours the pressure was equal to or greater than $\frac{1}{4}$ lb. on the square foot for one hour out of $7^h.34^m$ during the period. The air was in motion for 3246 hours out of 5071, and therefore for one hour out of $1^h.34^m$; and as there were 1825 hours of calm out of 5071, the air was not in motion for one hour out of $2^h.47^m$.

TABLE LII.—Sums of Pressures, and Number of Hours during which the Instrument did or did not record Pressure, or during which there was calm, or the Instrument was out of order, between 20^h and 5^h for each Month.

1847, Month.	Between what Hours.	Sum of Pressures.	Number of Hours of Wind		Number of Hours		Total Number of Hours in the Period.
			Recording Pressure.	Not recording Pressure.	Of Calm.	Instrument out of Order.	
	h h	lbs.	h	h	h	h	h
January	20 and 5	$128\frac{1}{4}$	52	85	173		310
February		$150\frac{1}{2}$	78	145	53	4	280
March		$80\frac{1}{2}$	72	172	66		310
April		$284\frac{3}{4}$	117	151	31	1	300
May		123	105	169	36		310
June		$145\frac{1}{2}$	105	180	13	2	300
July		21	31	181	96	2	310
August		40	65	139	106		310
September		$134\frac{1}{2}$	108	164	28		300
October		58	36	198	76		310
November		$91\frac{3}{4}$	72	121	96	11	300
December		$191\frac{3}{4}$	100	124	86		310

The sum of all the pressures between 20^h and 5^h was $1449\frac{1}{2}$ lbs.; the number of hours of wind recording pressure was 941; the number of hours of wind not recording pressure was 1829; the number of hours of calm was 860; and the number of hours during which the instrument was out of order was 20. The total number of hours in the period was 3650; the total number of hours of effective working of the instrument was 3630; and as wind with pressure was recorded at 941 hours, the pressure was equal to or greater than $\frac{1}{4}$ lb. on the square foot for one hour out of $3^h.51^m$ during the period. The air was in motion for 2770 hours out of 3630, and therefore for one hour out of $1^h.18^m$; and as there were 860 hours of calm out of 3630, the air was not in motion during one hour out of $4^h.13^m$.

In each of the years 1841, 1842, and 1843, a marked difference was found between the sums of the pressures included between 6^h and 19^h and those between 20^h and 5^h: in the year 1844 this difference was found to be less strongly marked. In 1845 and 1846 the most decided

difference would be found between the sums of the pressures between 7^h and 20^h and those between 21^h and 6^h, though, for the sake of uniformity, the usual division of hours has been exhibited. In the year 1847 the most strongly marked difference is shewn between those included between 7^h and 19^h and those between 20^h and 6^h.

By taking the sums of all the quantities at each hour the next table is formed.

TABLE LIII.—Sums of Pressures and Number of Hours during which the Instrument did or did not record pressure, or during which there was calm, or the Instrument was out of order, at every Hour for the Year.

1847, Hour.	Sum of Pressures.	Number of Hours of Wind Recording Pressure.	Number of Hours of Wind Not recording Pressure.	Number of Hours Of Calm.	Number of Hours Instrument out of Order.	Total Number of Hours.
h	lbs.	h	h	h	h	h
13	67¾	44	189	129	3	365
14	77	42	194	126	3	365
15	65¼	43	187	131	4	365
16	70½	50	180	132	3	365
17	80¼	47	178	136	4	365
18	81¼	50	180	131	4	365
19	83¾	51	184	125	5	365
20	100¾	57	192	112	4	365
21	108¼	75	195	89	6	365
22	138⅓	76	208	81	0	365
23	159	96	182	85	2	365
0	167¼	114	175	76	0	365
1	171¼	117	168	78	2	365
2	169¾	112	173	79	1	365
3	158	110	172	81	2	365
4	153½	99	181	84	1	365
5	123¼	85	183	95	2	365
6	107½	70	186	108	1	365
7	83	55	183	125	2	365
8	72	45	188	131	1	365
9	69¼	41	185	136	3	365
10	70¼	43	178	143	1	365
11	75	44	177	141	3	365
12	80½	44	188	131	2	365

Therefore there has been a minimum pressure somewhat before sunrise, and a maximum pressure at about 1^h, from which time the sum of the pressures is less at each succeeding hour till 10^h; from this time there is an alternate increase and decrease till about the time of sunrise, after which the sum increases hour by hour.

The sum of all the pressures is 2532¾ lbs. The number of hours during which the wind was blowing while recording pressure was 1610; the number of hours during which it was blowing without recording pressure was 4406; and the number of hours that were calm was 2685, as shewn by Osler's Anemometer. This anemometer was out of order 59 hours during the year.

From the numbers in Table XLIX. the following table is immediately formed:—

TABLE LIV.—Mean Pressure of the Wind in every Month, at each Hour, independently of Direction, when the Wind blew so as to record a Pressure of more than ¼ lb on the Square Foot.

1847.	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.
January	1·5	3·5	3·0	3·7	2·8	2·5	2·8	3·5	1·6	3·3	3·4	2·2	2·1	2·9	2·3	1·1	2·3	1·1	1·0	0·8	1·0	1·8	2·8	2·5
February	1·6	2·2	2·9	2·2	3·3	3·9	2·7	3·6	2·0	2·4	1·8	1·9	2·0	1·5	1·8	1·8	1·8	2·3	2·0	2·3	2·2	1·7	1·4	2·1
March	1·7	1·4	0·6	0·5	1·1	0·6			0·6	1·5	1·1	1·1	0·8	0·8	1·1	1·7	1·4	1·6	1·5	2·6	2·7	2·4	1·0	0·6
April	2·5	2·8	1·3	1·6	1·4	1·6	2·0	2·2	2·7	2·6	2·2	2·3	2·5	2·6	2·5	2·4	2·3	2·0	1·8	1·3	1·7	1·8	1·7	2·3
May	1·0	0·9	0·8	0·5	0·3	0·8	1·0	1·0	1·2	1·2	1·3	1·1	1·0	1·1	1·2	1·2	1·4	0·8	1·3	1·1	1·4	1·0	1·0	1·0
June	0·3	0·4	0·4	0·4	0·2	0·3	0·8	1·3	1·5	1·4	1·5	1·4	1·6	1·6	1·0	1·3	1·3	1·4	0·8	0·3	0·4	0·6	0·4	0·2
July		0·5	0·8	0·5	1·0	1·2	1·0	1·0	0·8	0·8	0·5	0·4	0·4	0·7	0·8	0·9	0·7	0·7	0·5					
August	0·3	0·3	0·5	0·3	1·0	0·5	1·0	0·3	0·5	0·6	0·8	0·4	0·7	0·8	0·5	0·8	0·6	1·0	0·8	0·8	0·5	0·9	0·8	0·5
September	1·3	2·5	1·6	1·6	1·4	1·8	1·3	1·6	1·5	1·8	1·4	1·3	1·2	1·0	1·0	1·3	0·4	1·1	1·3	1·1	1·5	1·7	1·5	2·3
October	1·3	1·5	0·4	0·5	0·7	0·6	1·0	1·3	0·8	1·3	2·2	1·7	1·2	2·1	1·0	3·5	1·6	4·0	2·3	5·0	0·5	1·8	0·5	1·2
November	1·1	1·1	1·3	0·9	1·1	1·1	0·7	1·1	1·0	1·4	1·4	1·5	0·9	1·4	1·4	1·1	1·5	1·2	1·7	0·9	0·9	1·5	2·0	1·9
December	2·4	2·4	2·9	2·4	2·5	2·2	2·4	2·0	1·7	1·8	1·9	1·8	2·0	2·0	2·1	2·1	2·0	2·2	2·1	2·3	2·3	2·0	2·8	2·4

TABLE LV.—Sums of the Pressures of each Wind, at Every Hour of Greenwich Mean Time, and Number of Hours during which it blew with a recorded Pressure not less than $\frac{1}{4}$ lb on the Square Foot, in the Year 1847.

Direction of Wind.	13h		14h		15h		16h		17h		18h		19h		20h		21h	
	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.
	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h
N.	1½	3	2¾	6	4½	6	3¼	5	2¾	4	2½	4	3¾	5	4¼	7	4½	7
N.N.E.	½	2			½	1	1	2	¾	1					½	1		
N.E.											¾	1					½	2
E.N.E.																	½	1
E.					¼	1			¾	2	¼	1	½	1			1½	3
E.S.E.																		
S.E.																		
S.S.E.															4	1	1½	1
S.	8¼	6	11½	6	7½	5	11½	8	14	8	13½	9	14¼	9	9¾	7	10¼	8
S.S.W.	18	12	21¼	11	13¼	12	16½	11	17	10	16	10	19½	11	26¾	12	27¼	13
S.W.	23¼	12	21¾	9	23	11	22	12	20	12	23	14	22¾	13	29	16	31	22
W.S.W.	10½	5	14½	5	14½	6	9	8	19	7	18½	7	16¼	7	15½	6	14	7
W.	3	1	3½	2	2	1	6½	2	4	1	5½	2	2	2	6	3	7	3
W.N.W.	2	1	½	1									1¼	1	½	1	2	1
N.W.																	¾	1
N.N.W.	¾	2	1½	2			¾	2	2	2	1¼	2	3½	2	4½	3	7½	6

	22h		23h		0h		1h		2h		3h		4h		5h		6h	
N.	9	8	11¾	11	16	13	11	12	18½	13	11¼	13	12¼	9	7¾	8	10	7
N.N.E.	2	3	3¼	4	3	5	1¼	3	¾	2	1¾	3	1	2	½	1	½	1
N.E.			¼	1	¾	2	2½	3	1¼	2	¾	2	¾	1			½	1
E.N.E.	1½	1	1½	1	2	1	¼	1	1½	2	1	2	¼	1				
E.	1½	2	¾	1	1½	2	3	6	1	3	2¼	3	2¼	3	½	2		
E.S.E.			1	1	1½	1												
S.E.	½	1							½	1								
S.S.E.	3	2			3½	1					1¼	2	1	1	¼	1		
S.	10¼	8	18½	9	22	10	20¼	12	19¼	10	9¼	8	16¼	10	12¼	8	9	6
S.S.W.	24¼	9	30	16	22	18	19¼	17	20¾	16	23¼	18	14	12	17	14	15¼	15
S.W.	35½	19	47¾	27	44½	27	52¾	32	49	31	54½	30	60	31	43¾	25	39¼	21
W.S.W.	21¼	12	27¼	15	32½	19	38½	14	33	18	31	16	25¼	16	21	13	12¾	11
W.	19	6	7	3	5½	3	7	6	6¾	4	7¼	4	6¼	4	9½	8	7¾	3
W.N.W.			2½	1	6¼	4	3	4	4	1	7¾	2	5½	2	4¾	1	6	1
N.W.			1	1	1	2	5	2	3¼	3	1¾	4			¼	1	3½	2
N.N.W.	11	5	6½	5	5¼	6	7½	5	10¼	6	5	3	8¾	7	5¾	3	3	2

	7h		8h		9h		10h		11h		12h		Sums of the Pressures for the Year.	Sums of the Hours.
N.	7	7	8¾	9	5	4	3¾	4	7	6	4½	4	173¼	175
N.N.E.	1	1			1½	1	1½	2					21¼	35
N.E.	¾	1	¼	1									9	17
E.N.E.													8½	10
E.									¼	1			16¼	31
E.S.E.													2½	2
S.E.													1	2
S.S.E.							1½	1	½	1			16½	11
S.	8¾	5	8½	5	13	6	10¾	4	7	5	5⅓	4	290½	176
S.S.W.	11¼	11	9¼	9	10¾	7	15¼	9	18¼	11	26¼	15	452¼	299
S.W.	32	17	27¼	11	20¼	9	23	12	31¾	13	24¾	9	801½	435
W.S.W.	8½	6	6	5	8¾	6	7	5	4½	4	12	7	421	225
W.	4¼	3	4¼	2	4½	3	3	1	2½	1	4½	2	138¾	70
W.N.W.	3½	1	¼	1	1¾	2	2	2	3¼	2	1½	1	58¼	30
N.W.	2	1	7½	2	3½	2	2½	3					32	24
N.N.W.	3½	2			½	1					1½	2	90¼	68
													2532¾	1610

TABLE LVI.—Mean Pressure of each Wind for every Hour, Greenwich Mean Time, during the whole of the Year.

Direction of Wind.	13h	14h	15h	16h	17h	18h	19h	20h	21h	22h	23h	0h
	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.	Mean Pressure.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
N.	0·5	0·5	0·8	0·7	0·7	0·6	0·8	0·6	0·6	1·1	1·1	1·2
N.N.E.	0·3		0·5	0·5	0·8			0·5		0·7	0·8	0·6
N.E.						0·8			0·3		0·3	0·4
E.N.E.									0·5	1·5	1·5	2·0
E.			0·3		0·4	0·3	0·5		0·5	0·8	0·8	0·8
E.S.E.											1·0	1·5
S.E.										0·5		
S.S.E.								4·0	1·5	1·5		3·5
S.	1·4	1·9	1·5	1·4	1·8	1·5	1·6	1·4	1·3	1·3	2·1	2·2
S.S.W.	1·5	1·9	1·1	1·5	1·7	1·6	1·8	2·2	2·1	2·7	1·9	1·2
S.W.	1·9	2·4	2·1	1·8	1·7	1·6	1·8	1·8	1·4	1·9	1·8	1·6
W.S.W.	2·1	2·9	2·4	1·1	2·7	2·6	2·3	2·6	2·0	1·8	1·8	1·7
W.	3·0	1·8	2·0	3·3	4·0	2·8	1·0	2·0	2·3	3·2	2·3	1·8
W.N.W.	2·0	0·5					1·2	0·5	2·0		2·5	1·6
N.W.									0·8		1·0	0·5
N.N.W.	0·4	0·8		0·4	1·0	0·6	1·8	1·5	1·3	2·2	1·3	0·9

	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	12h
N.	0·9	1·4	0·9	1·4	1·0	1·4	1·0	1·0	1·3	1·0	1·2	1·1
N.N.E.	0·4	0·4	0·6	0·5	0·5	0·5	1·0		1·5	0·7		
N.E.	0·8	0·6	0·4	0·8		0·5	0·8	0·3				
E.N.E.	0·3	0·8	0·5	0·3								
E.	0·5	0·3	0·7	0·8	0·3						0·3	
E.S.E.												
S.E.		0·5										
S.S.E.			0·6	1·0	0·3					1·5	0·5	
S.	1·7	1·9	1·2	1·6	1·5	1·5	1·8	1·7	2·2	2·7	1·4	1·4
S.S.W.	1·1	1·3	1·3	1·2	1·2	1·0	1·0	1·3	1·5	1·7	1·7	1·8
S.W.	1·6	1·6	1·8	1·9	1·8	1·7	1·9	2·5	2·3	1·9	2·4	2·8
W.S.W.	2·8	1·8	1·9	1·6	1·6	1·1	1·4	1·2	1·5	1·4	1·1	1·7
W.	1·2	1·7	1·8	1·6	1·2	2·6	1·6	2·1	1·4	3·0	2·5	2·3
W.N.W.	0·8	4·0	3·9	2·8	4·8	6·0	3·5	0·3	0·9	1·0	1·6	1·5
N.W.	2·5	1·1	0·4		0·3	1·8	2·0	3·8	1·8	0·7		
N.N.W.	1·5	1·7	1·7	1·3	1·9	1·5	1·8		0·5			0·8

Abstracts of the Results of Whewell's Anemometer.

In every month the numbers of inches through which the pencil had descended, corresponding to each direction of the wind (supposing the circumference divided into sixteen equal parts), have been collected together, and their sums taken; and thus the following table has been formed:—

TABLE LVII.—Sums of the Descents of the Pencil of Whewell's Anemometer in Inches, for different Directions, in every Month, the Directions being referred to Sixteen Points of the Azimuthal Circle.

Period of Observation.	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.	Sums independently of Direction.
d h d h	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Jan. 0.22 to 30.22	1·44		2·32	3·68	13·76	6·42	1·62	6·71	12·69	2·15	31·56	3·40					85·75
Feb. 0.22 to 27.22	5·85	1·53	2·57		10·80	1·08	0·92		0·30	1·98	29·05	37·25	16·16			0·32	107·81
Mar. 0.22 to 30.22	1·65	16·55	2·40	0·58	2·12				5·40	27·39	15·11	3·42	4·19	4·83	2·18	5·60	91·42
April 0.22 to 27.22	6·49	6·73	1·68		0·26	0·50	0·33			10·87	7·24	30·07	7·73	4·83	2·23	6·72	85·68
June 15.22 to 30.22	7·40									23·70	11·10	9·97	0·68	5·30	0·15		58·30
July 1.22 to 31.22	15·07	9·96		2·42	1·50				1·00	8·15	17·16	18·64	0·16			3·75	77·81
Aug. 0.22 to 31.22	13·22	9·06	3·62	2·00						17·05	23·62	14·72			3·15	0·90	87·34
Sep. 1.22 to 30.22	4·30	1·10	2·08		2·30					1·78	43·65	51·04	9·20				115·45
Oct. 1.22 to 30.22		8·80	3·72	1·80	7·35				12·64	21·65	25·90	10·50			2·25		94·61
Nov. 0.22 to 30.22	6·67			0·03	0·45		0·35		12·64	42·43	10·75	21·40	6·20	0·50	1·22	1·75	104·39
Dec. 1.22 to 26.22	2·65	1·43	1·62	0·25		2·90		3·18	27·42	9·45	61·85		7·30	5·20			123·25

By taking the sums of the numbers in each column we find that—

From Jan. $0^d.\ 22^h$ to Dec. $26^d.\ 22^h$ the descent of the pencil with the N. wind was 64·74 inches.

" " N.N.E. " 55·16 "
" " N.E. " 20·01 "
" " E.N.E. " 10·76 "
" " E. " 38·54 "
" " E.S.E. " 10·90 "
" " S.E. " 3·22 "
" " S.S.E. " 9·89 "
" " S. " 72·09 "
" " S.S.W. " 166·60 "
" " S.W. " 276·99 "
" " W.S.W. " 200·41 "
" " W. " 51·62 "
" " W.N.W. " 20·66 "
" " N.W. " 11·18 "
" " N.N.W. " 19·04 "

And the whole descent was 1031·81 inches.

Resolving these numbers into the cardinal directions, as for Osler's Anemometer, we have—

TABLE LVIII.—Sums of the Descents of the Pencil of Whewell's Anemometer, resolved in the Directions of the Cardinal Points.

Direction of Wind.	Whole Descent of Pencil.	Resolved Parts in the Direction of			
		N.	E.	S.	W.
	in.	in.	in.	in.	in.
N.	64·7	64·7			
N.N.E.	55·2	51·0	21·1		
N.E.	20·0	14·2	14·2		
E.N.E.	10·8	4·1	9·9		
E.	38·5		38·5		
E.S.E.	10·9		10·1	4·2	
S.E.	3·2		2·3	2·3	
S.S.E.	9·9		3·8	9·1	
S.	72·1			72·1	
S.S.W.	166·6			153·9	63·8
S.W.	277·0			195·9	195·9
W.S.W.	200·4			76·7	185·2
W.	51·6				51·6
W.N.W.	20·7	7·9			19·1
N.W.	11·2	7·9			7·9
N.N.W.	19·0	17·6			7·3
	Sums...	167·4	99·9	514·2	530·8

By taking the sum of all the quantities for each day inserted in the ordinary observations, the following table is immediately formed:—

TABLE LIX.—Shewing the whole Descent of the Pencil in the Twenty-four Hours previous to reading the Instrument.

Day and Hour of Reading the Instrument, 1847.	January.	February.	March.	April.	June.	July.	August.	September.	October.	November.	December.
d h	in.	in.	in.	in.	in.	in.	in.	in.	in.	in	in.
0. 22	0·44	2·32	4·35	0·60		5·50	1·15	2·02	2·70	4·11	6·50
1. 22	2·36	1·53	1·55	2·25		4·37	0·60	5·50	3·30	4·60	4·50
2. 22	4·80	3·53	3·58	2·23		2·04	2·70	4·40	2·80	0·02	7·20
3. 22	3·40	1·47	0·58	3·35		1·50	1·10	4·80	0·98	0·03	3·85
4. 22	3·43	1·85	2·25	4·37		1·00	4·45	2·90	1·12	0·35	9·35
5. 22	1·62	4·25	2·85	4·45		2·05	2·47	4·20	1·00	3·78	8·30
6. 22	0·55	5·80	2·75	4·50		1·90	8·02	1·10	4·10	1·95	11·20
7. 22	2·40	1·98	2·92	4·97		3·00	6·27	3·40	4·60	7·67	5·20
8. 22	3·55	0·42	2·78	10·25		4·20	5·50	1·60	3·80	5·80	6·50
9. 22	2·33	3·05	2·05	5·53		5·39	3·00	3·70	3·69	0·45	8·80
10. 22	1·22	4·00	1·00	1·37		4·23	3·60	1·78	3·18	3·65	7·65
11. 22	1·10	0·72	5·40	2·10		2·53	5·40	3·22	0·62	3·30	1·75
12. 22	1·32	2·00	3·17	1·84		1·76	3·02	6·00	0·68	4·95	5·75
13. 22	0·29	5·90	3·42	2·46		0·16	2·00	2·10	2·72	1·25	1·12
14. 22	0·69	4·81	3·78	5·18		0·15	1·82	2·60	4·27	4·10	3·18
15. 22	0·98	6·99	5·20	4·56	6·20	1·60	3·66	7·17	1·00	5·50	5·90
16. 22	2·12	6·90	6·50	0·56	4·60	2·61	2·73	10·55	1·10	4·22	4·70
17. 22	1·20	9·65	4·69	0·33	0·80	3·28	1·25	6·05	0·45	6·65	9·45
18. 22	0·71	11·55	1·26	1·90	2·22	2·42	2·02	5·15	3·15	1·43	3·50
19. 22	0·09	6·65	6·15	0·10	1·38	1·28	2·45	6·20	4·30	0·50	1·70
20. 22	0·73	5·27	5·52	0·65	4·60	0·92	0·30	3·50	5·45	0·32	1·55
21. 22	0·17	2·95	1·58	0·30	5·00	4·20	4·00	6·20	4·45	2·68	0·25
22. 22	1·13	0·50	0·77	0·50	4·55	3·50	3·75	4·10	7·80	8·05	0·10
23. 22	4·94	4·50	5·23	0·26	5·00	1·25	5·50	5·43	7·20	4·40	1·20
24. 22	9·85	2·90	1·70	0·50	6·35	0.75	2·60	1·42	5·60	6·18	1·10
25. 22	5·70	1·42	1·80	3·90	5·30	3·60	0·80	4·88	1·65	6·80	1·80
26. 22	8·40	2·35	1·82	6·32	2·60	2·35	0·90	0·80	1·05	0·45	1·15
27. 22	10·55	2·55	0·20	10·35	2·30	3·05	0·95	0·30	3·40	1·50	
28. 22	6·98		3·85		3·00	3·40	1·10	2·08	1·70	4·20	
29. 22	1·35		2·18		4·40	1·49	1·59	2·30	1·60	5·50	
30. 22	1·35		0·54			2·33	2·64		5·15		

By taking the sums of the numbers in each column, we find that,

In January the sum of all the descents of the pencil was			85·75 inches.
February	,,	,,	107·81 ,,
March	,,	,,	91·42 ,,
April	,,	,,	85·68 ,,
June	,,	,,	58·30 ,,
July	,,	,,	77·81 ,,
August	,,	,,	87·34 ,,
September	,,	,,	115·45 ,,
October	,,	,,	94·61 ,,
November	,,	,,	104·39 ,,
December	,,	,,	123·25 ,,

And the sum of all the descents in the year was 1031·81 inches.

Abstract of the Changes of the Direction of the Wind, as derived from Osler's Anemometer.

By *direct* motion, in the following statements, is meant that the change of the direction of the wind was in the order N., E., S., W., N., &c.; by *retrograde*, is meant in the order N., W., S., E., N., &c.

TABLE LX.—Monthly Changes of the Wind, as derived from Osler's Anemometer, in the Year 1847.

		d	h	
1846.	Dec.	31.	12.	The direction of the wind was E.
1847.	Jan.	31.	12.	,, ,, N. W., which implies apparent direct motion 225°.

Therefore the whole excess of direct motion in the month of January was 225°.

		d	h	
1847.	Jan.	31.	12.	The direction of the wind was N. W.
	Feb.	28.	12.	,, ,, N. N. E., which implies apparent retrograde motion of 292½°.
	Feb.	1.	22.	The trace was shifted to the next set of lines upwards, which implies apparent retrograde motion 360°.
	Feb.	7.	22.	The trace was shifted to the next set of lines upwards, which implies apparent retrograde motion 360°.
	Feb.	8.	22.	The trace was shifted to the next set of lines upwards, which implies apparent retrograde motion 360°.
	Feb.	13.	22.	The trace was shifted to the next set of lines upwards, which implies apparent retrograde motion 360°.
	Feb.	14.	22.	The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
	Feb.	22.	22.	The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
	Feb.	25.	22.	The trace was shifted to the next set of lines upwards, which implies apparent retrograde motion 360°.
	Feb.	26.	22.	The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.

Therefore the whole excess of retrograde motion in the month of February was 1012½°.

		d	h	
1847.	Feb.	28.	12.	The direction of the wind was N. N. E.
	March	31.	12.	,, ,, S. W., which implies apparent direct motion 202½°.
	March	9.	22.	The trace was shifted to the next set of lines upwards, which implies apparent retrograde motion 360°.
	March	10.	22.	The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
	March	12,	22.	The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.

Therefore the whole excess of direct motion in the month of March was 562½°.

		d	h	
1847.	March	31.	12.	The direction of the wind was S. W.
	April	30.	12.	,, ,, S. W., which implies no apparent change.
	April	17.	22.	The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
	April	22.	22.	The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
	April	24.	22.	The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.

Therefore the whole excess of direct motion in the month of April was 1080°.

		d	h	
1847.	April	30.	12.	The direction of the Wind was S. W.
	May	31.	12.	,, ,, N., which implies apparent direct motion 135°.

		d	h	
1847.	May	5.	22.	The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
	May	10.	22.	The trace was shifted to the next set of lines upwards, which implies apparent retrograde motion 360°.

Therefore the whole excess of direct motion in the month of May was 135°.

		d	h	
1847.	May	31.	12.	The direction of the wind was N.
	June	30.	12.	,, ,, N. N. E., which implies apparent direct motion 22½°.
	June	4.	22.	The trace was shifted to the next set of lines upwards, which implies apparent retrograde motion 360°.
	June	9.	19.	The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
	June	19.	22.	The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.

Therefore the whole excess of direct motion in the month of June was 382½°.

		d	h	
1847.	June	30.	12.	The direction of the wind was N. N. E.
	July	31.	12.	,, ,, S. W., which implies apparent direct motion 202½°.
	July	3.	22.	The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
	July	5.	22.	The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
	July	6.	22.	The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
	July	29.	22.	The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.

Therefore the whole excess of direct motion in the month of July was 1642½°.

		d	h	
1847.	July	31.	12.	The direction of the wind was S. W.
	August	31.	12.	,, ,, S. S. W,, which implies apparent retrograde motion 22½°.

Therefore the whole excess of retrograde motion in the month of August was 22½°.

		d	h	
1847.	August	31.	12.	The direction of the wind was S. S. W.
	Sep.	30.	12.	,, ,, N. E., which implies apparent retrograde motion, 157½°.
	Sep.	28.	22.	The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.

Therefore the whole excess of direct motion in the month of September was 202½°.

		d	h	
1847.	Sep.	30.	12.	The direction of the wind was N. E.
	Oct.	31.	12.	,, ,, S. S. W., which implies apparent direct motion 157½°.
	Oct.	1.	22.	The trace was shifted to the next set of lines upwards, which implies apparent retrograde motion 360°.
	Oct.	6.	22.	The trace was shifted to the next set of lines downwards, which implies apparent direct motion, 360°.
	Oct.	16.	22.	The trace was shifted to the next set of lines upwards, which implies apparent retrograde motion 360°.
	Oct.	17.	22.	The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.

Therefore the whole excess of direct motion in the month of October was 157½°.

		d	h	
1847.	Oct.	31.	12.	The direction of the wind was S. S. W.
	Nov.	30.	12.	,, ,, S. W., which implies apparent direct motion 22½°.
	Nov.	3.	22.	The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
	Nov.	28.	22.	The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.

Therefore the whole excess of direct motion in the month of November was 742½°.

		d	h	
1847.	Nov.	30.	12.	The direction of the wind was S. W.
	Dec.	31.	12.	,, ,, N., which implies apparent direct motion 135°.
	Dec.	19.	22.	The trace was shifted to the next set of lines upwards, which implies apparent retrograde motion 360°.
	Dec.	29.	22.	The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
	Dec.	30.	22.	The trace was shifted to the next set of lines upwards, which implies apparent retrograde motion 360°.

Therefore the whole excess of retrograde motion in the month of December was 225°.

The whole excess of direct motion to the end of the year was 3870°.

Amount of Cloud in the Year 1847.

TABLE LXI.—Mean Amount of Cloud, as deduced from the Twelve Observations taken Daily at the Even Hours of Göttingen Mean Time, for every Day in the Year (except Sundays, March 24, Good Friday, and Christmas Day). (The number 10 denotes that the Sky was covered with Clouds.)

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d												
1		9·0	9·8	9·1	6·0	0·0	7·4	*S*	5·0	9·8	5·8	3·5
2		8·8	10·0	Good Friday.	*S*	0·6	9·8	3·9	5·2	10·0	1·7	7·8
3	*S*	10·0	6·6	9·0	8·4	3·8	6·6	3·5	7·3	*S*	10·0	10·0
4		9·1	10·0	*S*	8·3	6·3	*S*	5·0	4·5	9·6	10·0	7·4
5		9·2	10·0	7·6	7·5	9·2	2·0	10·0	*S*	7·8	7·8	*S*
6		6·8	10·0	8·7	6·2	*S*	0·8	8·3	7·3	5·1	9·3	6·7
7		*S*	*S*	8·0	8·3	7·3	7·8	6·4	6·1	6·2	*S*	9·6
8		6·5	9·2	7·4	9·7	8·0	6·8	*S*	8·5	4·3	7·3	3·3
9		5·8	8·4	5·7	*S*	6·8	7·7	8·0	5·2	10·0	4·8	9·0
10	*S*	4·3	6·9	4·1	7·7	10·0	8·0	9·2	3·9	*S*	0·7	9·2
11		7·3	2·8	*S*	8·3	3·7	*S*	5·8	4·5	6·8	8·8	7·2
12		5·6	6·5	9·5	5·0	3·8	2·3	7·5	*S*	6·5	9·9	*S*
13		7·3	8·8	10·0	6·4	*S*	2·7	6·8	10·0	8·7	6·9	6·3
14		*S*	*S*	7·2	5·1	9·3	5·3	3·1	4·3	10·0	*S*	5·1
15		7·8	0·2	7·8	7·8	4·6	4·1	*S*	7·6	8·5	7·5	4·3
16		6·7	1·0	5·9	*S*	9·2	3·6	10·0	7·2	9·3	8·0	8·0
17	*S*	4·8	0·2	5·2	7·6	8·9	10·0	10·0	8·6	*S*	5·3	9·7
18		10·0	0·0	*S*	9·8	9·0	*S*	10·0	5·3	8·7	1·4	9·8
19		4·8	0·9	6·7	6·8	6·2	8·7	9·6	*S*	4·5	3·6	*S*
20		8·8	8·4	5·0	4·7	*S*	9·3	6·7	8·4	4·6	9·2	10·0
21		*S*	*S*	7·0	3·1	8·3	7·4	0·8	9·0	5·6	*S*	10·0
22		10·0	5·6	4·8	4·5	5·8	6·7	*S*	6·8	3·9	8·4	10·0
23		8·6	4·6	2·8	*S*	6·6	3·3	9·0	9·0	10·0	6·2	10·0
24	*S*	1·8	Fast Day.	2·6	8·9	8·4	5·7	9·0	8·3	*S*	5·0	10·0
25	6·9	8·0	2·1	*S*	4·1	9·3	*S*	7·7	5·1	4·6	9·8	Christ. Day.
26	8·3	6·1	7·2	8·6	0·0	7·2	4·2	6·6	*S*	5·9	10·0	
27	7·6	8·4	5·8	7·1	1·4	*S*	2·5	6·5	1·5	9·3	10·0	
28	6·3	*S*	*S*	4·6	2·3	8·3	8·0	5·8	7·6	10·0	*S*	
29	5·6		6·6	7·2	6·8	9·5	5·1	*S*	7·2	8·6	3·7	
30	6·1		4·8	7·8	*S*	6·2	5·2	7·9	9·2	9·0	9·7	
31	*S*		5·0		1·9		1·2	7·1		*S*		

The letter *S* denotes that the day was Sunday.

Till January 25, and from December 25, a few observations only were taken daily.

TABLE LXII.—Mean Amount of Cloud at every Even Hour of Göttingen Mean Time, deduced from all the Observations taken at that Hour in each Month.

1847, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	7·0	6·5	5·8	5·8	5·8	6·3	4·9	6·2	5·5	7·0	6·8	7·8
16	7·7	6·8	5·0	6·9	5·7	8·0	5·6	7·4	5·2	7·8	6·4	8·9
18	5·6	7·9	5·5	6·9	5·4	6·4	6·6	7·5	6·0	7·8	7·7	8·7
20	7·0	8·0	5·4	5·1	4·9	6·1	5·9	7·1	6·5	7·0	7·3	8·0
22	7·4	7·6	5·0	7·5	6·5	7·0	6·3	7·7	7·4	8·0	6·9	7·5
0	7·1	7·8	6·7	7·4	6·9	7·5	6·6	7·4	8·1	8·0	7·0	7·2
2	7·5	7·7	7·0	7·9	7·3	7·6	6·9	7·0	7·4	8·2	7·0	7·6
4	8·8	7·6	6·7	8·3	5·9	7·2	6·4	7·0	8·3	8·2	7·0	7·7
6	6·1	8·2	5·8	7·6	6·1	6·4	5·5	7·5	7·1	7·5	7·0	8·2
8	7·2	6·8	5·6	6·4	5·6	5·5	4·5	7·3	7·0	7·3	6·2	7·7
10	6·2	7·0	5·2	5·6	6·3	6·6	4·0	6·0	5·6	7·1	6·4	7·8
12	7·3	6·0	6·3	5·7	5·9	6·5	4·5	6·7	5·2	7·3	6·6	8·1
Mean	7·1	7·3	5·8	6·8	6·0	6·8	5·6	7·1	6·6	7·6	6·9	7·9

Till January 25 the amount of cloud was noted three times a day only, viz., at 22^h, 0^h, and 2^h; and from January 25 twelve observations were taken daily. The mean amounts of cloud at 22^h, 0^h, and 2^h, from the six years' observations ending 1846, were greater than the true mean of the month of January by 0·3, 0·3, and 0·2, respectively; therefore, the means of all the observations taken at those hours were diminished by these

quantities, and the difference found between the mean of these values and the mean amount of cloud from January 25, viz. 0·5, was applied adding to the mean of the readings at every hour of observation excepting 22^h, 0^h, and 2^h, to deduce the values in January in the preceding table.

The next table is formed in the usual way, from the numbers in the above table.

TABLE LXIII.—Mean Amount of Cloud in Quarterly Periods, and for the Year.

1847, Hour, Göttingen Mean Time.	Mean Amount of Cloud in Spring.	Summer.	Autumn.	Winter.	The Year.
h					
14	7·1	5·8	6·4	6·9	6·6
16	7·8	7·0	6·5	7·6	7·2
18	7·4	6·8	7·2	7·2	7·2
20	7·7	6·4	6·9	7·5	7·1
22	7·5	7·0	7·4	7·6	7·4
0	7·4	7·0	7·7	7·2	7·3
2	7·6	7·3	7·5	8·1	7·6
4	8·0	6·5	7·8	7·9	7·6
6	7·5	6·0	7·2	7·3	7·2
8	7·2	5·2	6·8	7·1	6·7
10	7·0	5·6	6·4	6·8	6·2
12	7·1	5·6	6·4	7·0	6·5
Mean....	7·4	6·4	7·0	7·4	7·1

The greatest quantity of cloud in Spring was at 4^h, and the least quantity was at 10^h
" Summer " 2 " 8
" Autumn " 4 " 14^h, 10^h, and 12^h
" Winter " 2 " 10
" for the Year " 2 and 4^h " 10

The difference between the greatest and least amounts in Spring was 1·0
" " Summer " 2·1
" " Autumn " 1·4
" " Winter " 1·3
" " for the Year " 1·4

Records of the Rain Gauges.

TABLE LXIV.—Amount of Rain collected in each Month in the several Gauges.

1847, Month.	Monthly Amount of Rain collected in the Gauge: At Osler's Anemometer.	On the Roof of the Library.	Crosley's.	Cylinder partly sunk in the Ground.	Cylinder partly sunk in the Ground at the Royal Naval Hospital Schools.
	in.	in.	in.	in.	in.
January	0·41	0·72	1·165	1·38	1·19
February	0·20	1·26	1·420	1·39	1·45
March	0·25	0·34	0·685	0·77	0·62
April	0·31	0·68	0·920	0·99	0·91
May.....	0·63	1·10	1·585	1·40	1·28
June.....	0·64	1·01	1·625	1·50	1·54
July	0·37	0·54	0·820	0·67	0·63
August.....	1·01	2·00	1·875	1·95	2·06
September	1·00	1·22	1·575	1·56	1·61
October	0·88	1·46	2·000	2·00	1·82
November	0·63	1·15	1·775	2·00	1·69
December.....	0·79	1·54	1·045	2·00	2·01

TABLE LXV.—Quarterly Amounts of Rain.

1847.	At Osler's Anemometer.	On the Roof of the Library.	In Crosley's Gauge.	In Cylinder partly sunk in the Ground.	Cylinder partly sunk in the Ground at the Royal Naval Hospital Schools.
	in.	in.	in.	in.	in.
Spring.....	1·19	2·12	3·190	3·16	2·81
Summer.....	2·02	3·55	4·320	4·12	4·23
Autumn.....	2·51	3·83	5·350	5·56	5·12
Winter.....	1·40	3·52	3·630	4·77	4·65

The receiving surface of Osler's 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. 11 inches above the ground; and those of the cylindrical gauges are $5\frac{1}{2}$ inches above the ground. The proportions of the sums collected are—

TABLE LXVI.

1847.	Gauge of Osler's Anemometer.	Gauge on the Roof of the Library.	Crosley's Gauge.	Cylindrical Gauge.	Cylindrical Gauge at Royal Naval Hospital Schools.
Spring.....	38	67	101	100	89
Summer.....	49	86	105	100	103
Autumn.....	45	69	96	100	92
Winter.....	29	74	76	100	98

The sums of the amounts fallen at each gauge during the year are as follows :—

		ft. in.		in.
At Osler's Anemometer-gauge, whose receiving surface is		205. 6	above the mean level of the sea,	7·12
At the gauge above the Library,	,,	177. 2	,,	13·02
At Crosley's gauge,	,,	156. 6	,,	16·49
At the Cylindrical gauge,	,,	155. 3	,,	17·61
At the Cylindrical gauge in R. H. Schools	,,	35·0	,,	16·81

Abstracts of the Observations made with the Actinometer.

TABLE LXVII.

Month and Day, 1847.		Greenwich Astronomical Mean Time.	Altitude of the Sun.	Mean Radiation per Minute, in Parts of the Scale.	GENERAL REMARKS.
	d	h m s	°	div.	
January	13	21.47. 0	9	7·9	Hazy.
		23. 7. 0	15	11·9	
January	14	0.19.30	17	11·7	
		0.30. 0	17	13·3	
		2. 0.30	11	10·4	Very hazy.
January	25	23.54.30	29	16·0	
January	26	0.33.30	29	14·5	The Sun was obscured for 5 seconds in one shade observation, and for 15 seconds in another shade observation; and it was obscured for 30 seconds in one Sun observation.
		0.40. 0	28	7·6	The Sun was obscured rather more than one-half of the time of the Sun observation, and it was obscured during three-fourths of the time of the shade observation.
		0.48. 0	27	9·5	The Sun was generally obscured.
March	18	22.43. 0	34	25·1	A strong wind was blowing.
		23.13. 0	36	29·3	,,
		23.32. 0	37	30·6	,,
March	19	0.11.30	38	30·6	A strong wind was blowing.
		23.34. 0	37	25·3	
March	20	0. 3. 0	38	25·2	Cloudless: a strong wind.
		1.50.30	34	21·0	,, ,,
March	24	23.23. 0	38	20·6	Light cirri: clouds passing over the Sun.
March	25	0. 5. 0	39	23·5	Thin cirri: clouds around the Sun: gentle currents of air.
May	20	21.49. 0	50	19·5	Light cirri: clouds passing over the Sun.
		23.17. 0	56	21·0	Cumuli around the Sun, and frequently passing before him.
May	21	0.16.45	58	24·2	The Sun was obscured during the time of one Sun observation by 30 seconds, and during the time of another Sun observation by 20 seconds.
May	22	22.47. 0	54	27·4	
		22.58.15	56	32·3	
May	23	0.56.30	58	32·3	
		1.49.30	54	32·8	
May	31	0.54.30	60	30·0	
		1.45.30	55	32·0	
		22.52. 0	58	29·4	
		23.19. 0	59	32·0	
June	1	1.59. 0	53	33·5	

[The following tables were, by inadvertence, omitted in their proper place. They ought to have been placed in page (276) and following pages, in sequence to Table XLV.]

TABLE XLVI*.—Mean Weight, in Grains, of Vapour in a Cubic Foot of Air, for every Civil Day in the Year, except Sundays, January 2, March 24, Good Friday, and Christmas Day.

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.
1	1·72	2·12	2·28	2·32	2·88	4·33	4·52	*S*	4·36	4·31	4·67	3·16
2		2·25	2·47	GoodFriday.	*S*	4·24	4·28	5·19	3·82	4·06	4·19	3·71
3	*S*	2·28	2·35	2·21	2·87	4·24	4·72	4·04	4·00	*S*	3·76	4·58
4	2·66	2·16	2·38	*S*	3·10	4·56	*S*	3·86	3·58	4·03	3·73	3·52
5	3·13	2·36	2·68	2·83	3·34	3·65	5·02	5·22	*S*	3·83	4·01	*S*
6	3·01	3·16	2·35	2·75	3·33	*S*	5·72	5·06	3·58	3·83	4·64	3·31
7	3·06	*S*	*S*	3·25	3·68	3·32	5·56	5·02	3·91	4·45	*S*	2·62
8	2·59	1·61	2·67	3·57	4·09	3·62	5·12	*S*	5·14	3·77	4·75	2·39
9	2·26	1·58	2·09	2·38	*S*	3·19	4·61	4·26	4·47	4·65	3·50	4·10
10	*S*	1·69	1·77	2·59	4·15	3·77	6·28	4·86	4·66	*S*	3·34	4·41
11	1·81	1·93	1·21	*S*	4·25	3·35	*S*	5·27	4·64	4·80	4·07	3·63
12	2·08	1·41	2·16	3·98	4·06	3·63	6·10	6·92	*S*	5·04	3·96	*S*
13	2·63	1·55	2·32	2·89	4·04	*S*	6·41	5·67	5·26	4·76	3·35	3·45
14	2·29	*S*	*S*	2·47	4·11	4·73	6·59	4·92	3·99	3·89	*S*	3·35
15	2·23	3·30	2·29	2·18	4·07	3·92	6·42	*S*	4·07	3·95	4·49	3·54
16	2·11	2·91	2·54	2·09	*S*	4·21	5·83	6·07	4·88	4·38	3·62	3·77
17	*S*	3·44	2·51	2·04	4·01	4·16	5·78	6·51	4·38	*S*	2·50	4·02
18	1·99	3·77	2·19	*S*	4·49	4·42	*S*	6·50	3·87	4·84	2·31	3·70
19	2·26	2·80	2·30	2·37	4·16	4·33	4·57	6·29	*S*	4·77	2·11	*S*
20	2·03	2·89	3·18	2·83	4·00	*S*	5·06	5·85	4·45	3·58	2·42	2·66
21	2·29	*S*	*S*	2·86	3·96	4·72	5·53	5·67	4·23	3·71	*S*	2·03
22	2·53	3·41	2·96	2·68	4·44	3·92	5·14	*S*	4·90	3·62	3·06	2·19
23	2·67	2·76	2·95	2·56	*S*	3·96	4·21	4·04	4·83	4·60	3·64	2·35
24	*S*	1·85	Fast Day.	2·83	4·89	4·22	4·33	4·12	4·12	*S*	3·27	2·62
25	2·83	1·85	2·69	*S*	3·78	4·65	*S*	4·66	4·17	2·87	3·84	Christ. Day.
26	3·10	1·96	3·35	2·90	3·41	4·32	4·07	5·01	*S*	3·07	3·39	*S*
27	3·30	1·65	3·26	3·01	4·24	*S*	4·75	5·13	2·87	3·73	3·55	2·29
28	2·82	*S*	*S*	3·14	5·86	5·56	4·94	5·56	3·07	4·42	*S*	2·36
29	2·51		2·27	3·26	5·26	5·07	5·40	*S*	3·52	4·49	2·78	2·06
30	2·50		2·15	3·00	*S*	4·81	5·35	4·34	3·55	3·88	3·97	2·75
31	*S*		2·22		4·57		5·28	4·55		*S*		2·50

The letter *S* denotes that the day was Sunday.

The mean weight of vapour in a cubic foot of air was greater on August 12^{d} than on any other day in the year, being 6·92 grains; and it was less on March 11^{d} than on any other day, being 1·21 grains.

TABLE XLVII*.—Mean Weight, in Grains, of Vapour in a Cubic Foot of Air, at every Even Hour of Göttingen Mean Time in each Month.

1847, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.
14	2·51	2·29	2·41	2·77	3·80	4·07	4·98	4·82	3·91	3·95	3·43	2·98
16	2·65	2·23	2·43	2·75	3·67	3·99	4·87	4·72	3·87	3·84	3·39	2·98
18	2·53	2·23	2·37	2·76	3·77	3·98	4·87	4·72	3·81	3·92	3·41	3·01
20	2·45	2·23	2·28	2·79	4·07	4·17	5·21	4·94	3·89	3·97	3·43	3·04
22	2·44	2·19	2·46	2·81	4·15	4·23	5·46	5·23	4·24	4·24	3·52	3·10
0	2·44	2·40	2·46	2·79	4·24	4·39	5·44	5·56	4·44	4·35	3·60	3·13
2	2·59	2·45	2·45	2·74	4·32	4·42	5·55	5·66	4·57	4·27	3·75	3·19
4	2·58	2·41	2·47	2·70	4·22	4·46	5·55	5·71	4·54	4·29	3·63	3·10
6	2·53	2·38	2·49	2·66	4·18	4·31	5·54	5·52	4·51	4·19	3·58	2·98
8	2·53	2·35	2·43	2·70	4·06	4·24	5·33	5·32	4·23	4·14	3·45	2·98
10	2·57	2·27	2·43	2·71	4·01	4·10	5·22	5·14	4·07	4·10	3·50	2·91
12	2·55	2·29	2·46	2·76	3·95	4·07	5·14	4·99	3·90	4·04	3·52	2·89
Means	2·51	2·31	2·44	2·75	4·04	4·20	5·26	5·19	4·17	4·11	3·52	3·02

The numbers in the following table are found by taking the means of the numbers in March, April, and May, for Spring; June, July, and August, for Summer; September, October, and November, for Autumn; and January, February, and December, for Winter.

TABLE XLVIII*.—Mean Weight, in Grains, of Vapour in a Cubic Foot of Air, at every Even Hour of Göttingen Mean Time, in Quarterly Periods, and for the Year.

1847, Hour, Göttingen Mean Time.	Spring.	Summer.	Autumn.	Winter.	For the Year.
h	gr.	gr.	gr.	gr.	gr.
14	2·99	4·62	3·76	2·59	3·49
16	2·95	4·53	3·70	2·62	3·45
18	2·97	4·52	3·71	2·59	3·45
20	3·08	4·77	3·76	2·57	3·55
22	3·14	4·97	4·00	2·58	3·67
0	3·16	5·13	4·13	2·66	3·77
2	3·17	5·21	4·20	2·74	3·83
4	3·13	5·24	4·15	2·70	3·81
6	3·11	5·12	4·09	2·56	3·72
8	3·06	4·96	3·94	2·62	3·65
10	3·05	4·82	3·89	2·58	3·59
12	3·06	4·73	3·82	2·58	3·55
Means	3·07	4·90	3·93	2·62	3·63

TABLE XLIX*.—Mean Additional Weight of Vapour required for Complete Saturation of a Cubic Foot of Air, on every Civil Day of the Year, except Sundays, January 2, March 24, Good Friday, and Christmas Day.

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.
1	0·41	0·23	0·44	0·45	0·91	2·16	1·43	*S*	0·92	0·80	0·51	0·52
2		0·18	0·57	Good Friday	*S*	2·17	1·21	2·46	1·01	0·79	0·16	0·28
3	*S*	0·14	0·51	0·55	0·62	2·27	1·04	2·11	0·52	*S*	0·00	0·27
4	0·27	0·34	0·37	*S*	0·64	1·87	*S*	2·18	0·87	0·66	0·08	0·39
5	0·25	0·22	0·37	1·08	0·76	1·84	2·02	1·00	*S*	0·59	0·25	*S*
6	0·00	0·25	0·47	1·08	0·92	*S*	2·18	1·05	0·88	0·69	0·16	0·60
7	0·00	*S*	*S*	1·02	1·20	1·83	1·22	1·08	0·80	0·47	*S*	0·63
8	0·12	0·23	0·58	0·90	0·49	1·00	0·95	*S*	0·39	0·86	0·61	0·41
9	0·19	0·23	0·67	1·45	*S*	1·54	1·88	1·12	0·77	0·50	0·43	0·43
10	*S*	0·31	0·46	0·84	1·06	0·91	1·25	0·51	0·96	*S*	0·44	0·37
11	0·34	0·26	0·85	*S*	0·80	1·61	*S*	1·49	1·15	0·69	0·42	0·54
12	0·26	0·36	0·71	0·86	1·02	1·76	2·72	1·36	*S*	0·63	0·36	*S*
13	0·05	0·31	0·76	0 68	1·05	*S*	2·04	1·59	0·24	0·44	0·52	0·31
14	0·24	*S*	*S*	0·78	1·10	0·69	2·12	1·21	0·65	0·58	*S*	0·27
15	0·20	0·46	1·29	0·96	1·16	1·00	1·72	*S*	0·66	0·50	0·41	0·37
16	0·14	0·39	1·77	0·78	*S*	0·60	2·01	0·28	0·70	0·34	0·45	0·49
17	*S*	0·61	1·93	0·80	1·42	1·23	0·59	0·43	0·34	*S*	0·53	0·49
18	0·11	0·41	1·87	*S*	1·02	0·57	*S*	0·39	0·43	0·30	0·37	0·37
19	0 01	0·83	1·85	1·21	1·11	1·13	1·13	0·47	*S*	0·72	0·27	*S*
20	0·13	0·57	1·03	0·94	1·36	*S*	1·81	0·38	0·57	0·78	0·15	0·24
21	0·13	*S*	*S*	1·25	1·55	0·90	1·38	1·20	0·33	0·80	*S*	0·39
22	0·00	0·26	0·81	0·92	2·03	1·40	1·51	*S*	1·03	0·64	0·55	0·30
23	0·03	0·20	0·72	0·92	*S*	1·00	1·83	0·94	0·89	0·42	0·43	0·24
24	*S*	0·48	Fast Day.	0·84	1·46	1·21	2·04	1·11	0·88	*S*	0·51	0·25
25	0·53	0·65	0·86	*S*	1·42	1·02	*S*	1·41	0·88	0·66	0·40	Christ. Day.
26	0·49	0·43	0·84	1·16	1·94	1·59	1·83	1·14	*S*	0·58	0·14	*S*
27	0·52	0·61	0·89	1·66	2·17	*S*	2·07	1·30	0·98	0·57	0·11	0·29
28	0·67	*S*	*S*	1·08	2·69	1·46	1·95	1·22	0·98	0·24	*S*	0·15
29	0·30		0·58	0·60	1·27	1·50	2·51	*S*	1·12	0·60	0·39	0·32
30	0·16		0·69	0·64	*S*	1·42	1·98	1·04	1·24	0·61	0·59	0·00
31	*S*		0·47		1·68		2·00	0·81		*S*		0·03

The letter *S* denotes that the day was Sunday.

TABLE L*.—Mean Additional Weight of Vapour required for Complete Saturation of a Cubic Foot of Air, at every Even Hour of Göttingen Mean Time, in each Month.

1847, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.
14	0·19	0·22	0·43	0·54	0·46	0·45	0·38	0·34	0·31	0·31	0·25	0·28
16	0·02	0·23	0·37	0·33	0·46	0·41	0·32	0·26	0·23	0·32	0·25	0·28
18	0·00	0·21	0·34	0·30	0·44	0·56	0·36	0·25	0·23	0·24	0·20	0·30
20	0·00	0·21	0·37	0·59	0·89	1·09	1·08	0·62	0·70	0·25	0·20	0·29
22	0·09	0·38	0·80	1·13	1·57	1·81	1·96	1·38	1·00	0·57	0·36	0·28
0	0·41	0·47	1·40	1·65	2·17	2·42	3·04	2·17	1·45	1·19	0·57	0·37
2	0·36	0·59	1·63	1·81	2·37	2·53	3·31	2·42	1·55	1·44	0·68	0·51
4	0·34	0·61	1·56	1·79	2·39	2·47	3·85	2·47	1·41	1·15	0·56	0·44
6	0·23	0·43	1·18	1·48	1·91	2·10	3·13	1·79	0·98	0·73	0·20	0·41
8	0·00	0·33	0·81	0·97	1·33	1·39	2·08	1·13	0·77	0·50	0·38	0·35
10	0·05	0·35	0·63	0·68	0·79	0·86	1·25	0·73	0·66	0·34	0·28	0·33
12	0·07	0·24	0·52	0·46	0·59	0·61	0·69	0·54	0·54	0·30	0·23	0·33
Means	0·15	0·38	0·84	0·98	1·28	1·39	1·80	1·18	0·82	0·62	0·35	0·35

By taking the means of the numbers for the Quarterly Periods defined as before, the next table has been formed.

TABLE LI*.—Mean Additional Weight of Vapour required for Complete Saturation of a Cubic Foot of Air, at every Even Hour of Göttingen Mean Time, in Quarterly Periods, and for the Year.

1847, Hour, Göttingen Mean Time.	Spring.	Summer.	Autumn.	Winter.	For the Year.
h	gr.	gr.	gr.	gr.	gr.
14	0·48	0·39	0·29	0·23	0·35
16	0·39	0·33	0·27	0·18	0·29
18	0·36	0·39	0·22	0·17	0·29
20	0·62	0·93	0·38	0·17	0·52
22	1·17	1·72	0·64	0·25	0·94
0	1·74	2·54	1·07	0·42	1·44
2	1·94	2·75	1·22	0·49	1·60
4	1·91	2·93	1·04	0·46	1·59
6	1·52	2·34	0·64	0·36	1·21
8	1·04	1·53	0·55	0·23	0·84
10	0·70	0·95	0·43	0·24	0·58
12	0·52	0·61	0·36	0·21	0·43
Means	1·03	1·45	0·59	0·28	0·84

TABLE LII*.—Mean Degree of Humidity (Complete Saturation = 1) for every Civil Day in the Year, except Sundays, January 2, March 24, Good Friday, and Christmas Day.

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d												
1	0·810	0·905	0·838	0·838	0·763	0·666	0·762	*S*	0·816	0·843	0·854	0·862
2	...	0·925	0·813	Good Friday.	*S*	0·661	0·782	0·679	0·833	0·840	0·964	0·930
3	*S*	0·944	0·814	0·801	0·824	0·652	0·819	0·662	0·886	*S*	1·000	0·945
4	0·910	0·864	0·868	*S*	0·831	0·711	*S*	0·639	0·804	0·863	0·979	0·902

TABLE LII*—*continued.*

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d												
5	0·928	0·916	0·879	0·725	0·819	0·665	0·714	0·838	*S*	0·867	0·944	*S*
6	1·000	0·926	0·831	0·719	0·784	*S*	0·725	0·828	0·805	0·849	0·968	0·848
7	1·000	*S*	*S*	0·761	0·757	0·645	0·820	0·824	0·831	0·905	*S*	0·801
8	0·924	0·875	0·822	0·800	0·891	0·788	0·826	*S*	0·930	0·816	0·888	0·852
9	0·922	0·858	0·759	0·623	*S*	0·671	0·711	0·792	0·854	0·902	0·890	0·909
10	*S*	0·845	0·795	0·696	0·756	0·806	0·832	0·907	0·835	*S*	0·884	0·923
11	0·841	0·881	0·590	*S*	0·791	0·670	*S*	0·780	0·802	0·877	0·907	0·872
12	0·892	0·801	0·753	0·823	0·799	0·675	0·690	0·836	*S*	0·890	0·918	*S*
13	0·982	0·833	0·760	0·810	0·794	*S*	0·737	0·783	0·957	0·915	0·867	0·916
14	0·905	*S*	*S*	0·761	0·788	0·873	0·811	0·780	0·861	0·871	*S*	0·928
15	0·915	0·877	0·641	0·699	0·778	0·797	0·785	*S*	0·862	0·887	0·914	0·908
16	0·939	0·880	0·530	0·728	*S*	0·877	0·743	0·958	0·876	0·928	0·891	0·970
17	*S*	0·872	0·566	0·718	0·741	0·772	0·903	0·957	0·928	*S*	0·827	0·896
18	0·951	0·905	0·538	*S*	0·815	0·881	*S*	0·943	0·900	0·942	0·861	0·909
19	0·993	0·768	0·556	0·664	0·791	0·793	0·769	0·931	*S*	0·871	0·888	*S*
20	0·907	0·837	0·756	0·751	0·747	*S*	0·737	0·941	0·887	0·822	0·947	0·917
21	0·932	*S*	*S*	0·696	0·718	0·840	0·789	0·826	0·928	0·826	*S*	0·844
22	1·000	0·933	0·804	0·745	0·686	0·736	0·773	*S*	0·828	0·851	0·851	0·879
23	0·990	0·905	0·804	0·736	*S*	0·799	0·698	0·812	0·844	0·916	0·898	0·908
24	*S*	0·743	Fast Day.	0·766	0·772	0·772	0·681	0·789	0·829	*S*	0·864	0·916
25	0·840	0·741	0·754	*S*	0·721	0·821	*S*	0·773	0·825	0·812	0·907	Christ. Day.
26	0·864	0·823	0·799	0·715	0·636	0·731	0·700	0·817	*S*	0·840	0·963	*S*
27	0·865	0·729	0·785	0·669	0·675	*S*	0·696	0·800	0·746	0·867	0·972	0·889
28	0·810	*S*	*S*	0·744	0·686	0·820	0·720	0·820	0·757	0·949	*S*	0·941
29	0·884		0·796	0·847	0·797	0·772	0·674	*S*	0·761	0·884	0·879	0·867
30	0·941		0·759	0·821	*S*	0·770	0·728	0·807	0·741	0·865	0·871	1·000
31	*S*		0·828		0·690		0·725	0·849		*S*		0·988

The letter *S* denotes that the day was Sunday.

The days on which the degree of humidity was greater than on any other day in the year were January 6, 7, 22, and Dec. 30. The day on which it was least was March 16.

TABLE LIII*.—Mean Degree of Humidity (Complete Saturation = 1) at every Even Hour of Göttingen Mean Time in each Month.

1847, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	0·931	0·912	0·842	0·875	0·893	0·931	0·934	0·937	0·928	0·929	0·926	0·914
16	0·991	0·907	0·813	0·898	0·891	0·908	0·938	0·947	0·947	0·934	0·931	0·914
18	1·000	0·915	0·801	0·905	0·897	0·877	0·933	0·921	0·944	0·944	0·969	0·908
20	1·000	0·915	0·868	0·827	0·822	0·795	0·829	0·887	0·900	0·941	0·946	0·912
22	0·965	0·890	0·755	0·715	0·725	0·703	0·731	0·792	0·809	0·883	0·908	0·919
0	0·848	0·828	0·638	0·630	0·661	0·647	0·644	0·727	0·754	0·786	0·865	0·889
2	0·879	0·805	0·596	0·601	0·646	0·637	0·597	0·702	0·746	0·749	0·843	0·840
4	0·885	0·802	0·610	0·603	0·639	0·643	0·574	0·718	0·766	0·790	0·866	0·829
6	0·918	0·845	0·678	0·643	0·686	0·674	0·639	0·707	0·824	0·852	0·908	0·878
8	1·000	0·877	0·752	0·735	0·753	0·752	0·715	0·825	0·847	0·898	0·945	0·895
10	0·980	0·865	0·791	0·799	0·839	0·828	0·807	0·866	0·862	0·923	0·926	0·947
12	0·972	0·974	0·827	0·857	0·875	0·874	0·883	0·903	0·881	0·933	0·949	0·900
Means	0·947	0·878	0·748	0·757	0·777	0·772	0·760	0·828	0·851	0·880	0·915	0·895

By taking the means for the usual Quarterly Periods the next table is formed.

TABLE LIV*.—Mean Degree of Humidity (Complete Saturation = 1) at every Even Hour of Göttingen Mean Time, for Quarterly Periods, and for the Year.

1847, Hour, Göttingen Mean Time.	Spring.	Summer.	Autumn.	Winter.	For the Year.	Excess of the Mean at each Hour, for the Year, above the General Mean for the Year.
h						
14	0·870	0·934	0·928	0·919	0·913	+ 0·078
16	0·867	0·931	0·937	0·937	0·918	+ 0·083
18	0·868	0·910	0·952	0·941	0·918	+ 0·083
20	0·839	0·837	0·929	0·942	0·887	+ 0·052
22	0·732	0·742	0·867	0·925	0·816	— 0·019
0	0·643	0·673	0·802	0·855	0·743	— 0·092
2	0·614	0·645	0·779	0·841	0·720	— 0·115
4	0·617	0·645	0·807	0·839	0·727	— 0·108
6	0·669	0·673	0·861	0·880	0·771	— 0·064
8	0·747	0·764	0·897	0·924	0·833	— 0·002
10	0·810	0·834	0·904	0·931	0·870	+ 0·035
12	0·853	0·887	0·921	0·949	0·902	+ 0·067
Means...	0·761	0·790	0·882	0·907	0·835	

Thus it appears that the degree of humidity at 8^h is nearly identical with that for the year.

TABLE LV*.—Mean Weight, in Grains, of a Cubic Foot of Air, for every Civil Day of the Year, except Sundays, January 2, March 24, Good Friday, and Christmas Day.

Days of the Month, 1847.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.
1	570·2	553·5	560·7	542·1	538·9	532·2	531·8	*S*	528·0	535·3	536·8	548·0
2	...	554·8	559·5	Good Friday	*S*	532·3	534·0	515·9	532·0	535·6	543·7	540·4
3	*S*	557·2	562·1	537·5	542·0	529·4	529·6	525·7	533·9	*S*	547·7	535·2
4	548·2	563·5	551·4	*S*	540·8	528·2	*S*	524·6	534·2	535·1	546·2	538·6
5	542·7	552·7	555·6	536·0	535·4	533·2	519·8	517·8	*S*	531·2	538·9	*S*
6	550·4	540·7	555·8	538·7	534·6	*S*	514·6	517·9	534·9	529·4	533·8	538·9
7	551·8	*S*	*S*	535·4	527·7	533·4	518·3	521·4	534·0	525·1	*S*	545·2
8	556·9	559·8	548·5	529·2	525·7	532·1	523·2	*S*	526·8	532·1	541·5	546·1
9	564·4	555·4	554·5	537·1	*S*	532·3	524·7	526·6	532·4	529·9	540·9	529·9
10	*S*	556·1	562·1	541·7	528·2	530·7	520·6	528·1	529·3	*S*	548·1	530·8
11	565·5	557·5	569·3	*S*	526·0	533·6	*S*	523·5	528·9	527·1	540·3	535·6
12	559·8	568·2	555·1	528·6	527·2	529·6	516·0	516·3	*S*	525·8	539·1	*S*
13	553·5	568·4	555·5	542·2	529·3	*S*	516·5	523·2	525·4	529·4	546·4	543·5
14	557·6	*S*	*S*	546·9	528·8	521·4	515·9	529·8	533·3	533·7	*S*	545·6
15	559·3	533·9	548·0	548·0	529·9	525·7	518·2	*S*	532·1	532·9	533·9	541·9
16	562·2	542·8	536·8	552·3	*S*	528·5	517·4	525·1	518·9	534·0	543·7	536·3
17	*S*	538·1	534·5	549·5	528·5	523·1	524·0	521·5	524·8	*S*	553·3	532·3
18	565·9	536·9	538·1	*S*	528·1	526·9	*S*	522·5	530·5	526·1	561·8	530·6
19	564·1	543·9	550·8	540·4	528·9	527·8	525·3	523·4	*S*	519·8	557·3	*S*
20	563·5	550·1	530·6	541·0	528·4	*S*	519·5	523·9	530·9	533·0	559·7	546·8
21	556·0	*S*	*S*	539·6	531·8	525·0	519·2	519·6	537·2	534·7	*S*	551·5
22	551·4	549·5	539·5	545·6	524·9	525·4	523·8	*S*	527·5	539·6	537·1	554·0
23	548·6	555·2	539·9	545·0	*S*	526·8	530·5	531·8	527·9	526·2	537·5	553·7
24	*S*	561·5	Fast Day.	543·7	522·1	523·1	526·4	533·1	535·9	*S*	543·9	550·5
25	535·3	560·3	546·1	*S*	533·7	523·8	*S*	527·5	533·3	546·4	539·4	Christ. Day.
26	533·1	561·6	539·3	537·2	534·3	527·7	524·7	527·7	*S*	551·2	541·1	*S*
27	529·8	563·5	538·9	529·8	524·8	*S*	523·5	528·7	547·2	545·0	530·1	561·1
28	529·8	*S*	*S*	532·7	512·7	526·8	522·8	526·3	546·5	541·0	*S*	560·7
29	542·5		548·4	534·6	521·6	527·7	518·1	*S*	541·7	536·1	538·9	559·6
30	546·3		547·1	538·6	*S*	529·8	519·7	530·8	538·7	540·9	531·0	549·8
31	*S*		545·6		531·3		520·5	530·3		*S*		554·1

The letter *S* denotes that the day was Sunday.

The day in the year on which the mean weight of a cubic foot of air was the greatest was January 1, and the day on which it was the least was May 28: on these days the weights were respectively 570·2 grains and 512·7 grains; the difference between these numbers is 57·5 grains.

TABLE LVI*.—Mean Weight, in Grains, of a Cubic Foot of Air, at every Even Hour of Göttingen Mean Time, in each Month.

1847, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.
14	551·3	555·0	553·4	545·1	536·2	534·8	531·2	531·6	537·6	537·2	544·1	544·6
16	551·6	556·0	553·8	545·6	537·4	535·6	531·8	532·4	538·7	537·1	544·2	544·3
18	552·7	556·1	554·9	545·8	536·6	534·7	531·7	532·7	539·3	537·7	544·4	543·6
20	557·9	557·4	554·6	542·7	531·3	530·0	525·5	528·6	537·1	537·2	544·4	543·6
22	554·3	555·0	548·5	537·6	526·3	525·5	519·9	523·1	530·4	533·0	542·5	543·3
0	550·7	551·2	542·9	533·6	522·7	529·4	515·7	518·2	526·3	528·1	539·9	541·8
2	549·6	548·9	540·8	532·7	520·9	520·3	512·3	516·1	524·8	526·9	538·2	540·2
4	550·0	549·1	541·0	532·9	521·3	520·4	511·8	515·6	525·6	528·3	539·5	541·8
6	553·1	551·6	544·0	535·7	524·1	523·1	514·2	519·3	528·3	531·8	541·7	543·3
8	554·6	553·3	548·5	540·0	528·4	527·4	519·6	523·7	531·8	534·3	542·8	543·8
10	552·7	554·4	550·3	543·0	532·5	532·1	524·6	526·8	534·1	535·6	543·3	544·6
12	552·5	555·6	551·1	544·7	534·3	534·2	528·1	529·1	536·2	536·5	543·6	545·0
Means	552·6	553·6	548·7	540·0	529·3	529·0	522·2	524·8	532·5	533·6	542·4	543·3

By taking the means for the usual Quarterly Periods, the next table is formed :—

TABLE LVII*.—Mean Weight, in Grains, of a Cubic Foot of Air, at every Even Hour of Göttingen Mean Time, in Quarterly Periods, and for the Year.

1847, Hour, Gottingen Mean Time.	Spring.	Summer.	Autumn.	Winter.	For the Year.	Excess of the Mean at each Hour, for the Year, above the General Mean for the Year.
h	gr.	gr.	gr.	gr.	gr.	gr.
14	544·9	532·5	539·6	550·3	541·8	+ 4·1
16	545·6	533·3	540·0	550·6	542·4	+ 4·7
18	545·8	533·0	540·5	550·8	542·5	+ 4·8
20	542·9	528·0	539·6	553·0	540·9	+ 3·2
22	537·5	522·8	535·3	550·9	536·6	− 1·1
0	533·1	521·1	531·4	547·9	533·4	− 4·3
2	531·5	516·2	530·0	546·2	531·0	− 6·7
4	531·7	515·9	531·1	547·0	531·4	− 6·3
6	534·6	518·9	533·9	549·3	534·2	− 3·5
8	539·0	523·6	536·3	550·6	537·4	− 0·3
10	541·9	527·8	537·7	550·6	539·5	+ 1·8
12	543·4	530·5	538·8	551·0	540·9	+ 3·2
Means ..	539·3	525·3	536·2	549·8	537·7	

The even hours here shewn as those at which the mean weight of a cubic foot of air is the least are 2^h in Spring, Autumn, Winter, 4^h in Summer, and 2^h for the mean of the whole year: the hours at which it is the greatest are 18^h in Spring and Autumn, 16^h in Summer, 20^h in Winter, and 18^h for the mean of the whole year.

INDEX.

INDEX.

(The following Tables ought to have been inserted in sequence to Table XLV.)

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