F 5230

MAGNETICAL AND METEOROLOGICAL

OBSERVATIONS

MADE AT

THE ROYAL OBSERVATORY, GREENWICH,

IN THE YEAR

1845:

UNDER THE DIRECTION OF

GEORGE BIDDELL AIRY, ESQ. M.A.

ASTRONOMER ROYAL.

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ERRATA.

GREENWICH MAGNETICAL AND METEOROLOGICAL OBSERVATIONS FOR 1843.

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38 Table LX. Number ranging with 14^h and under February, *for* −0 ·000333, *read* −0 ·000169.

38 Remarks following Table LX. In the 15th line from the bottom, *for* 0 ·000214, *read* 0 ·000187.

39 Fifth line from the top, *for* 0 ·000249, *read* 0 ·000235.

40 Table LXIII. Number ranging with 14^h and under February, *for* −0 ·000096, *read* +0 ·000068.

Index. Table LIV. *For* Mean Temperature of the Dew-Point, *read* Mean Temperature of Evaporation.

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lvi Number ranging with 45° ·3, *for* 0 ·368, *read* 0 ·318.

[34] August 11^d. 16^h. 0^m, Horizontal Force Reading, *for* 0 ·033372, *read* 0 ·036412.

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50 In the 20th line from the bottom, *for* The mean height, as deduced from the observation, *read* The mean height, as deduced from the observation at 8^h.

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[100] February 24^d. 9^h. 29^m. 15^s, Reading for Vertical Force Magnetometer, *for* 0 ·042597, *read* 0 ·043597.

(15) January 23^d. 18^h, Remarks, *for* ceased at 17^h. 45^m, *read* ceased at 16^h. 45^m.

(16) January 28^d. 4^h, Direction of Wind from Osler's Anemometer, *for* W. by W., *read* W. by N.

(63) April 24^d. 8^h, Remarks, *for* Red-coloured, *read* Reticulated.

(78) May 23^d. 8^h, Wet Thermometer below Dry, *for* 0 ·6, *read* 0 ·4.

(101) Foot-note, *for* 1° ·87, *read* 1^{in}·87.

(148) September 26^d. 6^h, Barometer Corrected, *for* 20 ·729, *read* 29 ·729.

(176) Stand of Rain Gauge No. 3, *omit* all readings on this page.

41 Table XXII. Heading of third column, *for* Reflector, *read* Reflector.

GREENWICH MAGNETICAL AND METEOROLOGICAL OBSERVATIONS,

1845.

INTRODUCTION.

In consequence of a representation of the Board of Visitors of the Royal Observatory to the Lords Commissioners of the Admiralty, an additional space of ground on the south-east side of the existing boundary of the Observatory grounds was inclosed from Greenwich Park for the site of a Magnetic Observatory, in the summer of 1837. In the spring of 1838 the Magnetic Observatory was erected. Its nearest angle is about 230 feet from the nearest part of the Astronomical Observatory, and about 170 feet from the nearest outhouse. It is built of wood; iron is carefully excluded. Its form is that of a cross with four equal arms, nearly in the direction of the cardinal magnetic points: the length within the walls, from the extremity of one arm of the cross to the extremity of the opposite arm, is forty feet: the breadth of each arm is twelve feet. The height of the walls inside is ten feet, and the ceiling of the room is about two feet higher. The northern arm of the cross is separated from the central square by a partition, so as to form an ante-room. The meridional magnet (placed in its position in 1838) is mounted in the southern arm; the bifilar-magnet, for variations of horizontal force (erected at the end of 1840), is mounted in the eastern arm; and the balance-magnetometer, for variations of vertical force (erected in 1841), in the western arm. The mean-time clock is in the southern arm, near its union with the western arm; the standard barometer is near it, in the western arm; the sidereal-time clock is fixed to the wall which divides the central square from the ante-room, and is nearer to the balance-magnetometer than to the bifilar; the "check-clock," or "watchman's clock," is in the ante-room affixed to the dividing wall nearer to the bifilar-magnet than to the balance-magnet; the alarum clock is in the north-east corner of the ante-room; and the fire-grate 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 occasional repose at night, it is impossible to avoid introducing into it iron in small quantities. On the outside near the north-east corner of the ante-room, a pole 79 feet in height is fixed, for the support of the 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, is fixed the stand carrying the thermometers. (The position of this stand was altered in 1846.)

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

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

The theodolite with which the meridional magnet is observed is by Simms: the radius of its horizontal circle is 8·3 inches: it is divided to 5′, and read to 5″ by three verniers, carried by the revolving frame of the theodolite. The fixed frame stands upon three foot-screws, which rest in brass channels let into a stone pier, that is firmly fixed in the ground and unconnected with the floor. The revolving frame carries the Y's (with vertical adjustment at one end) for a telescope with transit axis: the length of the axis is ten inches and a half: the length of the telescope twenty-one inches: the aperture of the object-glass two inches. The Y's are not carried immediately by the T head which crosses the vertical axis of the revolving frame, but by pieces supported by the ends of that T head, and projecting horizontally from it: the use of this construction is to allow the telescope to be pointed sufficiently high to see δ Ursæ Minoris above the pole. The eye-piece of the telescope carries only one fixed horizontal wire, and one vertical wire moved by a micrometer-screw. The stone pier is fixed nearly in the line which divides the southern arm of the cross from the central square: in the roof of the building an opening is made (closed by shutters), in the direction of the Astronomical meridian 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 tripod wooden 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: this moveable upright piece carries at its top the pulleys for suspension of the magnet; and this construction is adopted in order to give an E. and W. movement to the point of suspension, by giving a motion to the lower end of the bar. The top of the upright piece carries a brass frame with two pulleys: one of these pulleys projects beyond the north side of the principal upright, and from it depends the suspension skein: the other pulley projects on the south side: the suspension skein being brought from the magnet up to the north pulley is 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 small brass frames, firmly fixed in their places by means of pinching-screws. One of these contains, between two plane glasses, a cross of delicate cobwebs: the other holds a lens, of thirteen inches focal length and nearly two inches aperture. This combination, therefore, serves as a collimator without a tube: the cross of cobwebs is seen very well with the theodolite-telescope, when the suspension bar of the magnet is so adjusted as to place the 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.

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.

1843, January 13. The theodolite was clamped, so that the transit axis was at right angles to the Astronomical meridian. The illuminated end of the axis of the telescope was first to the East: the level was applied, and its scale was read: the level was then reversed, and its scale was again read; 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 ten times, and the following are the results. Observers, Messrs. Glaisher and Hind.

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

		div.			div.
With Illuminated End of Axis	East	− 4·1	With Illuminated End of Axis	East	− 8·0
,,	West	− 1·8	,,	West	+ 1·2
,,	East	− 10·0	,,	East	− 9·1
,,	West	− 7·4	,,	West	− 3·8
,,	East	− 10·6	,,	East	− 8·3
,,	West	− 5·2	,,	West	− 3·5
,,	East	− 9·8	,,	East	− 10·8
,,	West	− 3·6	,,	West	− 7·6
,,	East	− 9·9	,,	East	− 13·3
,,	West	− 2·4	,,	West	− 2·9

		div.
Hence that end of the level which is placed on the illuminated end is too high	by 1st and 2nd sets......	1·15
,,	3rd and 4th sets......	1·30
,,	5th and 6th sets......	2·70
,,	7th and 8th sets......	3·10
,,	9th and 10th sets......	3·75
,,	11th and 12th sets......	4·60
,,	13th and 14th sets......	2·65
,,	15th and 16th sets......	2·40
,,	17th and 18th sets......	1·60
,,	19th and 20th sets......	5·20

The mean of these numbers is $2^{div.}85$, which appears to be the quantity by which that end of the level which was placed on the illuminated end was too high. The angles of the level forks and those of the Y's are nearly 90°; therefore we may conclude that, when the level indicates the axis to be horizontal, the axis at the illuminated end is really too low by $1^{div.}43$. And this quantity 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. 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.

By the mean of seven results of observations made on January 1, of the year 1842, between $92^{rev.}$ and $115^{rev.}$, and of six similar results obtained on January 3 of the same year, it appeared that the value of one revolution was very accurately 1′.34″·271, and the value used in 1841, viz., 1′.34″·07, was so nearly equal to this that it did not appear necessary to construct new tables. The same value, viz., 1′.34″·07, has been used, without fresh trial, during the year 1845.

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

1844, December 28. 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. Observers, Messrs. Glaisher and Dunkin.

Position of Micrometer Head.	Micrometer Reading.	Position of Micrometer Head.	Micrometer Reading.
	r		r
E	100·020	W	100·615
W	100·472	E	100·121
E	100·162	W	100·622
W	100·600	E	100·150
E	100·078	W	100·628
W	100·550	E	100·145
E	100·093	W	100·597
W	100·568	E	100·150
E	100·130	W	100·620
W	100·598	E	100·164
E	100·133	W	100·598

Position of Micrometer Head.	Micrometer Reading.	Position of Micrometer Head.	Micrometer Reading.
	r		r
E	100·152	E	100·170
W	100·598	W	100·620
E	100·145	E	100·163
W	100·616	W	100·620
E	100·171	E	100·163
W	100·560	W	100·572
E	100·158	E	100·160
W	100·582	W	100·597
E	100·170	E	100·151
W	100·560	W	100·570

The mean of these readings is $100^{r}\cdot 365$, and this reading is used as the reading for the line of collimation throughout the year 1845.

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

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

Day, 1840.	Clock Removed or in its place.	Mean Micrometer Reading of the Theodolite.	Mean of Micrometer Readings, the one preceding and the other following that for Clock in its place.	Excess of Reading with Clock away above Reading with Clock in its place.	Mean.
		r	r	r	r
Dec. 2	Removed	99·627			
	In its place	99·454	99·637	+ 0·183	
	Removed	99·647			
	In its place	99·477	99·582	+ 0·105	
	Removed	99·517			
	In its place	99·539	99·592	+ 0·053	
	Removed	99·668			
	In its place	99·495	99·616	+ 0·121	
	Removed	99·564			
	In its place	99·451	99·506	+ 0·055	
	Removed	99·448			
	In its place	99·426	99·546	+ 0·120	+ 0·080
	Removed	99·645			
	In its place	99·524	99·554	+ 0·030	
	Removed	99·463			
	In its place	99·442	99·528	+ 0·086	
	Removed	99·594			
	In its place	99·565	99·666	+ 0·101	

Day, 1840.	Clock Removed or in its place.	Mean Micrometer Reading of the Theodolite.	Mean of Micrometer Readings, the one preceding and the other following that for Clock in its place.	Excess of Reading with Clock away above Reading with Clock in its place.	Mean.
		r	r	r	r
Dec. 2	Removed	99·738			
	In its place	99·915	99·843	− 0·072	
	Removed	99·948			
	In its place	99·831	99·927	+ 0·096	
	Removed	99·906			
Dec. 3	Removed	100·485			
	In its place	100·663	100·544	− 0·119	
	Removed	100·603			
	In its place	100·548	100·604	+ 0·056	
	Removed	100·606			
	In its place	100·484	100·694	+ 0·210	
	Removed	100·783			
	In its place	100·559	100·867	+ 0·308	+ 0·159
	Removed	100·951			
	In its place	100·444	100·903	+ 0·459	
	Removed	100·855			
	In its place	100·301	100·510	+ 0·219	
	Removed	100·165			
	In its place	100·265	100·248	− 0·017	
	Removed	100·356			

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

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

The vertical force magnet was placed in its Y's with its marked end towards the East: the horizontal force magnet was placed transverse to the magnetic meridian with its marked end towards the West. While they were thus placed, the micrometer-reading of the theodolite, corresponding to the position of the cross of the declination magnet, was registered by Mr. Paul. The vertical force magnet and the horizontal force magnet were then simultaneously removed to places where they had no effect on the declination magnet: the former by Mr. Glaisher, who was very careful in raising it out of, and dropping it into, its Y's: the latter by Mr. Hind. The micrometer-reading was then registered for the corresponding position of the cross, the disturbing magnets being away, and again when the two magnets were placed as before, and so on successively. The results are inserted in the following table:—

Day, 1841.	The Horizontal and Vertical Force Magnets away or in their places.	Micrometer Reading of the Theodolite.	Mean of Readings, the one preceding and the other following that for the Horizontal and Vertical Force Magnets in their places.	Excess of Reading with the Horizontal and Vertical Force Magnets away above Reading with the Horizontal and Vertical Force Magnets in their places.	Mean.
		r	r	r	r
May 26	Away	100·641			
	In their places	100·583	100·440	— 0·143	
	Away	100·239			
	In their places	100·512	100·176	— 0·336	
	Away	100·112			
	In their places	100·317	99·898	— 0·419	
	Away	99·683			
	In their places	100·020	99·483	— 0·537	
	Away	99·282			
	In their places	99·823	99·217	— 0·606	
	Away	99·151			
	In their places	99·824	99·171	— 0·653	
	Away	99·190			
	In their places	99·913	99·173	— 0·740	
	Away	99·156			
	In their places	99·843	99·109	— 0·734	— 0·587
	Away	99·062			
	In their places	99·722	99·164	— 0·558	
	Away	99·266			
	In their places	99·674	98·991	— 0·683	
	Away	98·715			
	In their places	99·665	98·800	— 0·855	
	Away	98·884			
	In their places	99·691	98·880	— 0·811	
	Away	98·876			
	In their places	99·299	98·873	— 0·426	
	Away	98·869			
	In their places	99·216	98·679	— 0·537	
	Away	98·488			
	In their places	99·287	98·537	— 0·750	
	Away	98·586			
	In their places	99·105	98·495	— 0·610	
	Away	98·403			

The compound effect is to cause the marked end of the declination magnet to approach the east by $0^{r}\cdot587$, or in arc $55''\cdot22$. As the effect is to increase all micrometer-readings, the correction is subtractive; and, therefore, from all observations $55''\cdot22$ has been subtracted throughout the year 1845.

No new experiments were made during the year 1845 to determine the separate or the compound effect of the different causes of disturbance on the respective instruments.

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

1844, December 28. 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. When the glass is so placed that the marked side is outside of the box, it is called its usual position. The cross-wire carried by the collimator of the magnet was observed with the marked side of the glass alternately inside and outside of the box. Observers, Messrs. Glaisher and Dunkin.

Marked Side of the Glass	Micrometer Reading.	Marked Side of the Glass	Micrometer Reading.
	r		r
Out of the box	100·158	Out of the box	100·122
In the box	99·943	In the box	99·903
Out of the box	100·140	Out of the box	100·119
In the box	99·910	In the box	99·908
Out of the box	100·115	Out of the box	100·112
In the box	99·903	In the box	99·905
Out of the box	100·118	Out of the box	100·105
In the box	99·908	In the box	99·903
Out of the box	100·108	Out of the box	100·118
In the box	99·906	In the box	99·901
Out of the box	100·117	Out of the box	100·120
In the box	99·900	In the box	99·910
Out of the box	100·110	Out of the box	100·112
In the box	99·909	In the box	99·900
Out of the box	100·110	Out of the box	100·121
In the box	99·880	In the box	99·891
Out of the box	100·102	Out of the box	100·110
In the box	99·889	In the box	99·889
Out of the box	100·104	Out of the box	100·108
In the box	99·901	In the box	99·900
Out of the box	100·113	Out of the box	100·106
In the box	99·895	In the box	99·889
Out of the box	100·119	Out of the box	100·120
In the box	99·908	In the box	99·910
Out of the box	100·122	Out of the box	100·110
In the box	99·902	In the box	99·907
Out of the box	100·120	Out of the box	100·115
In the box	99·905	In the box	99·910
Out of the box	100·117	Out of the box	100·120
In the box	99·902	In the box	99·891

The mean of all the readings when the marked side of the glass was outside of the box is $100^{r}\cdot116$, and the mean of all the readings when the marked side of the glass was inside of the box is $99^{r}\cdot906$. Half of the difference of these numbers is $0^{r}\cdot105$, which when converted into arc is $9''\cdot88$; and this value is used as the error caused by the plane glass throughout the year 1845. As the micrometer-head of the telescope is always kept East, and the glass is always kept in its "usual position," previously explained, the correction for the error is subtractive; and $9''\cdot 88$ has consequently been subtracted from all readings for the bisections of the magnet-cross during the year 1845.

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

1844, December 23 and 25. A magnet of the same size was suspended in the building 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 time of vibration of the magnet was 26^s. The distance of the scale from the reflector was 4 feet 7 inches: one foot of the scale corresponded to $30^{div}\cdot 9$ exactly: and, consequently, the value of one division of the scale was $12'.8''\cdot 21$. One observer, Mr. Dunkin, observed this magnet at intervals of 26^s; while another, Mr. Glaisher, observed the declination magnet, at such pre-arranged times that the mean of the times for both sets of observation 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, 1844.	Position of Cross of Collimator.	Mean Micrometer Reading for Declination Magnet.	Mean Reading of Scale of 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. 23	W	106·21	26·28	2. 46. 31	5. 18. 56	2. 27. 35		
	E	111·97	26·18	2. 55. 33	5. 17. 44	2. 37. 48	10. 13	5. 7
	W	106·50	26·19	2. 46. 59	5. 17. 54	2. 29. 5		
	E	110·58	26·20	2. 53. 22	5. 18. 1	2. 35. 21	6. 16	3. 13
	W	107·00	26·18	2. 47. 46	5. 17. 47	2. 29. 59		
	E	111·61	26·17	2. 54. 59	5. 17. 53	2. 37. 6	7. 7	3. 34
	W	105·93	26·20	2. 46. 5	5. 17. 55	2. 28. 10		
	E	111·10	26·16	2. 54. 11	5. 17. 32	2. 36. 39	8. 29	4. 15
	W	104·58	26·09	2. 43. 58	5. 16. 35	2. 27. 23		
	E	109·89	26·09	2. 52. 18	5. 16. 36	2. 35. 42	8. 19	4. 10
	W	105·42	26·03	2. 45. 17	5. 15. 58	2. 29. 19		
	E	111·50	26·07	2. 54. 49	5. 16. 21	2. 38. 28	9. 9	4. 35
	W	104·30	26·05	2. 43. 32	5. 16. 12	2. 27. 20		
	E	111·27	26·06	2. 54. 27	5. 16. 14	2. 38. 13	10. 53	5. 27
Dec. 25	W	104·98	26·31	2. 44. 35	5. 19. 15	2. 25. 20		
	E	109·70	26·33	2. 52. 0	5. 19. 31	2. 32. 29	7. 9	3. 35
	W	105·43	26·31	2. 45. 18	5. 19. 17	2. 26. 1		
	E	109·34	26·28	2. 51. 26	5. 18. 59	2. 32. 27	6. 26	3. 13
	W	104·54	26·14	2. 43. 54	5. 17. 12	2. 26. 42		
	E	108·47	26·05	2. 50. 3	5. 16. 12	2. 33. 51	7. 9	3. 35

The mean of the values in the last column is 4′. 4″, and when the collimator is West of the magnet, as it was during the year 1845, the readings are too small by the above amount; therefore 4′. 4″ has been added to all observations during the year 1845.

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 1845.

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.

		° ′ ″
Micrometer equivalent for reading for line of collimation, 100 ·365 (r)	—	2. 37. 21 ·33
Correction for the plane glass in the front of the box, in its usual position	—	9 ·88
Correction due to the compound effect of the horizontal force magnet and the vertical force magnet	—	55 ·22
	—	2. 38. 26 ·43
Correction for the effect of the mean time clock	+	9 ·41
	—	2. 38. 17 ·02
The collimator West of the magnet. Correction for Error of collimation	+	4. 4 ·12
	—	2. 34. 12 ·90

This value was used throughout the year 1845.

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

1846, December 4. Observer, Mr. Glaisher.

The suspension-skein was without torsion, when the torsion-circle read 220°. The torsion-circle was then turned through an angle of 90° on both sides of this reading, and the theodolite was read for the position of the magnetic cross in each position of the torsion-circle.

	°		° ′ ″
With torsion-circle reading	220,	the theodolite reading was	249. 34. 34 ·9
,,	130,	,,	249. 6. 48 ·8
,,	220,	,,	249. 34. 35 ·5
,,	310,	,,	250. 2. 47 ·1
,,	220,	,,	249. 34. 7 ·2
,,	130,	,,	249. 4. 55 ·5
,,	220,	,,	249. 34. 52 ·4

			°		′ ″
Therefore from the	1st pair	the difference for	90	of torsion was	27. 46 ·1
,,	2nd pair	,,		,,	27. 46 ·7
,,	3rd pair	,,		,,	28. 9 ·6
,,	4th pair	,,		,,	28. 39 ·9
,,	5th pair	,,		,,	29. 11 ·7
,,	6th pair	,,		,,	29. 56 ·9

And the torsion-force from the	1st pair is	$\frac{1}{195}$	of the earth's magnetic force.
,,	2nd pair is	$\frac{1}{195}$	,,
,,	3rd pair is	$\frac{1}{192}$	,,
,,	4th pair is	$\frac{1}{188}$	,,
,,	5th pair is	$\frac{1}{186}$	,,
,,	6th pair is	$\frac{1}{180}$	,,

1847, June 1. The torsion-circle reading was 220°, when the suspension-skein was without torsion. The torsion-circle was then turned through an angle of 80° or 90° on both sides of this reading, and the theodolite was read for the position of the cross in each position of the torsion-circle.

	°		° ′ ″
With torsion-circle reading	220,	the theodolite reading was	249. 32. 59 ·6
,,	320,	,,	250. 6. 49 ·3
,,	220,	,,	249. 33. 28 ·1
,,	130,	,,	249. 4. 8 ·3
,,	220,	,,	249. 32. 38 ·7
,,	310,	,,	250. 1. 4 ·0
,,	220,	,,	249. 32. 2 ·0
,,	130,	,,	249. 2. 49 ·1
,,	220,	,,	249. 32. 10 ·6
,,	300,	,,	249. 59. 38 ·0
,,	220,	,,	249. 31. 41 ·2

			°		′ ″
Therefore from the	1st pair	the difference for	100	of torsion was	33. 49 ·7
,,	2nd pair	,,	100	,,	33. 21 ·2
,,	3rd pair	,,	90	,,	29. 19 ·8

			°		′ ″
From the	4th pair	the difference for	90	of torsion was	28. 30 ·4
,,	5th pair	,,	90	,,	28. 25 ·3
,,	6th pair	,,	90	,,	29. 2 ·0
,,	7th pair	,,	90	,,	29. 12 ·9
,,	8th pair	,,	90	,,	29. 21 ·5
,,	9th pair	,,	80	,,	27. 27 ·4
,,	10th pair	,,	80	,,	27. 56 ·8

And the torsion-force from the	1st pair is $\frac{1}{179}$	of the earth's magnetic force.
,,	2nd pair is $\frac{1}{180}$	,,
,,	3rd pair is $\frac{1}{184}$	,,
,,	4th pair is $\frac{1}{190}$	,,
,,	5th pair is $\frac{1}{190}$	,,
,,	6th pair is $\frac{1}{188}$	,,
,,	7th pair is $\frac{1}{184}$	,,
,,	8th pair is $\frac{1}{184}$	,,
,,	9th pair is $\frac{1}{180}$	,,
,,	10th pair is $\frac{1}{172}$	,,

After this time this suspension-thread, which had been in use since 1840, November, without undergoing any change whatever either in its length or otherwise, was shortened for the purpose of carrying, in addition to the magnet and its apparatus as before, a mirror to be used in the self-registration of the changes of the position of the magnet by a photographic process.

The results thus obtained for the value of $\frac{\text{torsion force}}{\text{earth's magnetic force}}$ from the time of the establishment of the Magnetic Observatory, to the time of altering the suspension-skein, are:—

1840, August 28 = $\frac{1}{180}$.
1840, December 11 = $\frac{1}{157}$.
1842, February 1 = $\frac{1}{213}$, $\frac{1}{193}$, and $\frac{1}{170}$.
1842, May 16 = $\frac{1}{161}$, $\frac{1}{195}$, and $\frac{1}{193}$.
1843, January 23 = $\frac{1}{209}$, $\frac{1}{190}$, $\frac{1}{185}$, $\frac{1}{189}$, $\frac{1}{192}$, $\frac{1}{190}$, and $\frac{1}{190}$.
1843, September 4 = $\frac{1}{192}$, $\frac{1}{188}$, $\frac{1}{184}$, $\frac{1}{192}$, $\frac{1}{184}$, $\frac{1}{196}$, and $\frac{1}{188}$.
1844, December 28 = $\frac{1}{156}$, $\frac{1}{180}$, and $\frac{1}{195}$.
1845, April 21 = $\frac{1}{182}$, $\frac{1}{183}$, $\frac{1}{182}$, and $\frac{1}{188}$.
1846, January 1 = $\frac{1}{210}$, $\frac{1}{202}$, $\frac{1}{187}$, $\frac{1}{187}$, $\frac{1}{187}$, $\frac{1}{204}$, and $\frac{1}{200}$.
1846, December 4 = $\frac{1}{195}$, $\frac{1}{195}$, $\frac{1}{192}$, $\frac{1}{188}$, $\frac{1}{186}$, and $\frac{1}{180}$.
1847, June 1 = $\frac{1}{179}$, $\frac{1}{180}$, $\frac{1}{184}$, $\frac{1}{190}$, $\frac{1}{190}$, $\frac{1}{188}$, $\frac{1}{184}$, $\frac{1}{184}$, $\frac{1}{180}$, and $\frac{1}{172}$.

It is evident from the above results that during the whole time, from 1840, November, to 1847, June, there was no change in the value of the torsion-force of the suspension-skein, and the mean of these *55* results gives the torsion-force = $\frac{1}{187}$ of the earth's magnetic force

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, and to the value of its scale, one division having been found by Mr. Simms to be equal to $1''\cdot 0526$); and the azimuth-reading is then corrected by the quantity, elevation of W. end of axis × tan. star's altitude. The readings of the azimuth circle increase as the instrument is turned from N. to E., S., and W.: from which it follows that the correction must have the same sign as the elevation of the W. end.

The correction for the azimuth of the star observed has been computed independently in every observation, by the following method, which is found convenient, and which involves a principle that may be found advantageous for application in many other instances.

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

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

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

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

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

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

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

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

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

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

Then the last equation becomes

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

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

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

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

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

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

where E and F are constants."

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

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

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

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

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

we may put

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

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

Expanding both sides to the first power of δa,

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

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

The comparison of the terms multiplying δa gives,

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

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

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

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

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

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

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

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

The following table contains the values of these various quantities, as they have been used in the reduction of the observations.

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

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

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

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

C_s = seconds in time of hour-angle,

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

The following table contains the whole of the operations for determining the readings for the astronomical meridian in 1845 :—

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

Day, 1845.	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.	″	° ′ ″	
Jan. 24	Polaris S. P. . .	100·365	89. 51. 60	30	35	89. 51. 41·7	13. 4. 40	13. 6. 10	1. 3. 38	1. 30. 36	− 1. 33·4	89. 50. 8·3					
			89. 53. 70	35	40	89. 53. 48·3	13. 6. 50	13. 8. 20			− 2. 53·3	89. 50. 55·1					
			89. 55. 45	7	12	89. 55. 21·3	13. 9. 40	13. 11. 10			− 4. 37·7	89. 50. 43·6					
			89. 56. 70	35	40	89. 56. 48·3	13. 11. 50	13. 13. 20			− 5. 57·6	89. 50. 50·8	89. 50. 50·2	−38·50	−48·3	89. 50. 1·9	D
			89. 58. 50	10	15	89. 58. 25·0	13. 14. 25	13. 15. 55			− 7. 32·7	89. 50. 52·3					
			89. 59. 75	40	50	89. 59. 55·0	13. 16. 57	13. 18. 27			− 9. 6·0	89. 50. 49·0					
Feb. 5	Polaris S. P. . .	100·365	89. 35. 98	58	63	89. 36. 13·0	12. 38. 33	12. 39. 58	1. 3. 29	1. 30. 38	+ 14. 26·0	89. 50. 39·0					
			89. 38. 68	40	38	89. 38. 48·7	12. 43. 10	12. 44. 35			+ 11. 36·4	89. 50. 25·1					
			89. 40. 70	43	48	89. 40. 53·7	12. 46. 42	12. 48. 7			+ 9. 26·4	89. 50. 20·1					
			89. 43. 40	8	8	89. 43. 18·7	12. 50. 40	12. 52. 5			+ 7. 0·3	89. 50. 19·0					
			89. 45. 63	38	33	89. 45. 44·7	12. 54. 33	12. 55. 58			+ 4. 37·2	89. 50. 21·9	89. 50. 26·8	−33·68	−42·2	89. 49. 53·0	H B
			89. 47. 90	58	63	89. 48. 10·3	12. 58. 36	13. 0. 1			+ 2. 7·9	89. 50. 18·2					
			89. 51. 45	10	18	89. 51. 24·3	13. 3. 18	13. 4. 43			− 0. 45·5	89. 50. 38·8					
			89. 53. 63	23	28	89. 53. 38·0	13. 7. 6	13. 8. 31			− 3. 5·6	89. 50. 32·4					
Mar. 14	Polaris S. P. . .	100·365	89. 59. 60	10	45	89. 59. 38·3	13. 17. 4	13. 16. 48	1. 3. 10	1. 30. 46	− 8. 23·3	89. 51. 15·0					
			90. 4. 70	20	30	90. 4. 40·0	13. 25. 9	13. 24. 53			− 13. 21·0	89. 51. 19·0					
			90. 6. 60	15	25	90. 6. 33·3	13. 28. 42	13. 28. 26			− 15. 31·6	89. 51. 1·8					
			90. 8. 65	30	43	90. 8. 46·0	13. 32. 3	13. 31. 47			− 17. 34·5	89. 51. 11·5	89. 51. 11·3		−40·8	89. 50. 30·5	L
			90. 10. 50	20	28	90. 10. 32·7	13. 34. 58	13. 34. 42			− 19. 21·4	89. 51. 11·3					
			90. 12. 75	48	53	90. 12. 58·7	13. 39. 1	13. 38. 45			− 21. 49·5	89. 51. 9·1					
Mar. 30	Polaris S. P. . .	100·365	89. 36. 78	43	38	89. 36. 53·0	12. 42. 16	12. 41. 7	1. 3. 8	1. 30. 51	+ 13. 32·8	89. 50. 25·8					
			89. 39. 58	33	28	89. 39. 39·7	12. 46. 11	12. 45. 2			+ 11. 8·5	89. 50. 48·2					
			89. 43. 48	25	18	89. 43. 30·3	12. 52. 25	12. 51. 16			+ 7. 18·5	89. 50. 48·9					
			89. 45. 43	5	3	89. 45. 17·0	12. 55. 44	12. 54. 35			+ 5. 16·0	89. 50. 33·0					
			89. 47. 85	48	53	89. 48. 2·0	13. 0. 10	12. 59. 1			+ 2. 32·2	89. 50. 34·2	89. 50. 39·5		−39·4	89. 50. 1·9	H B
			89. 50. 60	15	23	89. 50. 32·7	13. 4. 7	13. 2. 58			+ 0. 6·2	89. 50. 38·8					
			89. 53. 53	18	23	89. 53. 31·3	13. 9. 0	13. 7. 51			− 2. 54·4	89. 50. 37·0					
			89. 56. 33	3	0	89. 56. 12·0	13. 13. 0	13. 11. 51			− 5. 22·2	89. 50. 49·8					
Mar. 31	Polaris S. P. . .	100·365	89. 48. 35	0	15	89. 48. 16·7	12. 59. 56	12. 58. 45	1. 3. 8	1. 30. 51	+ 2. 42·1	89. 50. 58·7					
			89. 50. 70	30	40	89. 50. 46·7	13. 3. 42	13. 2. 31			+ 0. 22·8	89. 51. 9·5					
			89. 53. 60	15	25	89. 53. 33·3	13. 8. 31	13. 7. 20			− 2. 35·3	89. 50. 58·1	89. 50. 48·7	−30·68	−39·4	89. 50. 9·2	L
			89. 55. 80	40	50	89. 55. 56·7	13. 12. 49	13. 11. 38			− 5. 14·2	89. 50. 42·5					
			89. 58. 35	5	15	89. 58. 18·3	13. 16. 39	13. 15. 28			− 7. 35·8	89. 50. 42·6					
			89. 59. 75	45	60	90. 0. 0·0	13. 20. 0	13. 18. 49			− 9. 39·4	89. 50. 20·6					

February 5d. The vernier readings by Mr. Breen preceding these observations were 8″ smaller than they were by the other observers, and they were found to be 8″·7 smaller in the observations following them: a correction of 8″·4 has therefore been applied additionally in deducing the above result.

March 14d. The level was not applied at the time of taking these observations; the correction for level has been found by taking a mean of the preceding and following corrections.

March 30d. The level was not applied at the time of taking these observations, and the correction applied is that found by the application of the level on the following day. The vernier readings by Mr. Breen preceding these observations were 6″·4 smaller than they were by the other observers, and they were 2″·6 greater in the observations following them: a correction of 1″·9 has therefore been applied additively in deducing the above result.

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, 1845.	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.	″	° ′ ″	
Apr. 6	Polaris S. P. .	100 ·365	89. 45. 48	13	18	89. 45. 26 ·3	12. 57. 39	12. 56. 3	1. 3. 8	1. 30. 53	+ 4. 21 ·9	89. 49. 48 ·3					
			89. 47. 75	38	48	89. 47. 53 ·7	13. 2. 0	13. 0. 24			+ 1. 41 ·1	89. 49. 34 ·8					
			89. 49. 70	35	43	89. 49. 49 ·3	13. 5. 20	13. 3. 44			− 22 ·2	89. 49. 27 ·1					
			89. 51. 68	30	38	89. 51. 45 ·3	13. 8. 20	13. 6. 44			− 2. 13 ·1	89. 49. 32 ·2	89. 49. 35 ·4	−1 ·43	− 1 ·8	89. 49. 40 ·3	H B
			89. 54. 40	8	18	89. 54. 22 ·0	13. 12. 35	13. 10. 59			− 4. 50 ·3	89. 49. 31 ·7					
			89. 56. 58	33	35	89. 56. 42 ·0	13. 16. 12	13. 14. 36			− 7. 3 ·9	89. 49. 38 ·1					
Apr. 8	Polaris S. P. .	100 ·365	89. 46. 70	40	45	89. 46. 51 ·7	13. 0. 25	12. 58. 37	1. 3. 8	1. 30. 54	+ 2. 47 ·1	80. 49. 38 ·7					
			89. 50. 70	35	43	89. 50. 49 ·3	13. 6. 36	13. 4. 48			− 1. 1 ·7	89. 49. 47 ·7					
			89. 53. 35	10	0	89. 53. 15 ·0	13. 10. 30	13. 8. 42			− 3. 25 ·9	89. 49. 49 ·1					
			89. 54. 70	35	43	89. 54. 49 ·3	13. 13. 7	13. 11. 19			− 5. 2 ·6	89. 49. 46 ·7	89. 49. 46 ·6	+1 ·99	+ 2 ·5	89. 49. 49 ·1	L
			89. 56. 75	45	52	89. 56. 57 ·3	13. 16. 34	13. 14. 46			− 7. 10 ·2	89. 49. 47 ·2					
			89. 58. 55	25	35	89. 58. 38 ·3	13. 19. 13	13. 17. 25			− 8. 48 ·0	89. 49. 50 ·3					
May 9	Polaris S. P. .	100 ·365	89. 43. 83	58	63	89. 44. 8 ·0	12. 58. 46	12. 54. 50	1. 3. 19	1. 31. 3	+ 5. 14 ·2	89. 49. 22 ·2					
			89. 47. 78	53	53	89. 48. 1 ·3	13. 5. 37	13. 1. 41			+ 1. 0 ·5	89. 49. 1 ·8					
			89. 49. 73	38	48	89. 49. 53 ·0	13. 8. 18	13. 4. 22			− 38 ·9	89. 49. 14 ·1					
			89. 51. 63	33	38	89. 51. 44 ·7	13. 11. 10	13. 7. 14			− 2. 25. 1	89. 49. 19 ·6	89. 49. 13 ·2	+3 ·65	+ 4 ·6	89. 49. 33 ·2	H B
			89. 53. 72	35	43	89. 53. 50 ·0	13. 14. 59	13. 11. 3			− 4. 46 ·5	89. 49. 3 ·5					
			89. 55. 82	43	48	89. 55. 57 ·7	13. 18. 3	13. 14. 7			− 6. 40 ·0	89. 49. 17 ·7					
May 26	δ Ursæ Minoris	100 ·365	90. 6. 78	48	52	90. 6. 59 ·3	18. 15. 50	18. 11. 3	18. 22. 28	3. 24. 22	−17. 40 ·7	89. 49. 18 ·6					
			89. 57. 38	8	18	89. 57. 21 ·3	18. 21. 45	18. 16. 58			− 8. 31 ·2	89. 48. 50 ·1					
			89. 52. 58	23	35	89. 52. 38 ·7	18. 25. 0	18. 20. 13			− 3. 29 ·1	89. 49. 9 ·5					
			89. 45. 40	3	8	89. 45. 17 ·0	18. 29. 51	18. 25. 4			+ 4. 1 ·7	89. 49. 18 ·7	89. 49. 15 ·0	−0 ·85	− 1 ·3	89. 49. 23 ·9	H B
			89. 38. 35	3	10	89. 38. 16 ·0	18. 34. 21	18. 29. 34			+10. 59 ·9	89. 49. 15 ·9					
			89. 33. 78	43	48	89. 33. 56 ·3	18. 37. 20	18. 32. 33			+15. 36 ·9	89. 49. 33 ·3					
			89. 26. 53	8	17	89. 26. 26 ·0	18. 42. 2	18. 37. 15			+22. 53 ·0	89. 49. 19 ·0					
June 2	δ Ursæ Minoris	100 ·365	89. 47. 103	60	58	89. 48. 13 ·7	18. 28. 15	18. 23. 30	18. 22. 28	3. 24. 20	+ 1. 36 ·0	89. 49. 49 ·7					
			89. 40. 103	58	60	89. 41. 13 ·7	18. 32. 37	18. 27. 52			+ 8. 21 ·8	89. 49. 35 ·5					
			89. 34. 60	23	33	89. 34. 38 ·7	18. 36. 58	18. 32. 13			+15. 5 ·8	89. 49. 44 ·5					
			89. 20. 72	32	43	89. 20. 49 ·0	18. 45. 42	18. 40. 57			+28. 35 ·5	89. 49. 24 ·5	89. 49. 36 ·5	+2 ·65	+ 4 ·0	89. 49. 50 ·0	H B
			89. 12. 62	23	33	89. 12. 39 ·3	18. 51. 9	18. 46. 24			+36. 59 ·2	89. 49. 38 ·6					
			89. 8. 60	28	35	89. 8. 41 ·0	18. 53. 42	18. 48. 57			+40. 54 ·4	89. 49. 35 ·4					
			89. 3. 58	23	35	89. 3. 38 ·7	18. 56. 54	18. 52. 9			+45. 49 ·0	89. 49. 27 ·6					

April 6d. The vernier readings by Mr. Breen preceding these observations were 4″·7 too small, and they were found to be 8″·7 too small in the observations following: a correction of 6″·7 additive has been applied.

May 9d. The correction to Mr. Breen's vernier readings before these observations was 17″·3 additive, and it was 13″·7 additive afterwards: a correction of 15″·5 additive has been applied to the above observations.

May 26d. The correction to Mr. Breen's vernier readings before these observations was 9″·0 additive, and it was 11″·3 additive afterwards; therefore a correction of 10″·2 additive has been applied.

June 2d. The correction to Mr. Breen's vernier readings before these observations was 14″·0 additive, and it was 5″·0 additive afterwards: a correction of 9″·5 additive 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, 1845.	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.	″	° ′ ″	
June 9	δ Ursæ Minoris	100·365	89. 15. 53	18	23	89. 15. 31·3	18. 49. 24	18. 44. 33	18. 22. 29	3. 24. 17	+34. 6·3	89. 49. 37·6					
			89. 11. 78	48	43	89. 11. 56·3	18. 51. 43	18. 46. 52			+37. 40·2	89. 49. 36·5					
			89. 7. 33	3	8	89. 7. 14·7	18. 54. 49	18. 49. 58			+42. 25·8	89. 49. 40·5					
			89. 4. 32	3	3	89. 4. 12·7	18. 56. 54	18. 52. 3			+45. 37·5	89. 49. 50·2	89. 49. 39·5	+1·65	+ 2·5	89·49·57·4	H B
			89. 0. 32	5	3	89. 0. 13·3	18. 59. 22	18. 54. 31			+49. 24·2	89. 49. 37·6					
			88. 56. 78	43	48	88. 56. 56·3	19. 1. 29	18. 56. 38			+52. 38·1	89. 49. 34·4					
July 6	δ Ursæ Minoris	100·365	89. 9. 25	10	15	89. 9. 16·7	18. 48. 52	18. 48. 29	18. 22. 28	3. 24. 9	+40. 9·0	89. 49. 25·7					
			89. 3. 30	15	20	89. 3. 21·7	18. 53. 11	18. 52. 48			+46. 46·0	89. 50. 7·7					
			88. 57. 85	55	60	88. 58. 6·7	18. 56. 39	18. 56. 16			+52. 3·6	89. 50. 10·3	89. 49. 53·1	+1·40	+ 2·1	89. 49. 55·2	L
			88. 50. 90	50	65	88. 51. 8·3	19. 0. 59	19. 0. 36			+58. 40·2	89. 49. 48·6					
July 8	δ Ursæ Minoris	100·365	90. 19. 40	13	8	90. 19. 20·3	18. 3. 40	18. 3. 13	18. 22. 27	3. 24. 8	−29. 43·0	89. 49. 37·3					
			90. 14. 75	43	43	90. 14. 53·7	18. 6. 37	18. 6. 10			−25. 10·1	89. 49. 43·6					
			89. 27. 43	18	23	89. 27. 28·0	18. 37. 18	18. 36. 51			+22. 15·8	89. 49. 43·8					
			89. 22. 83	53	55	89. 23. 3·7	18. 40. 3	18. 39. 36			+26. 30·3	89. 49. 34·0	89. 49. 39·8	+1·40	+ 2·1	89. 49. 46·1	H B
			89. 15. 48	15	20	89. 15. 27·7	18. 45. 9	18. 44. 42			+34. 21·5	89. 49. 49·2					
			89. 9. 35	0	2	89. 9. 12·3	18. 49. 1	18. 48. 37			+40. 18·0	89. 49. 30·4					
			88. 57. 35	3	5	88. 57. 14·3	18. 56. 57	18. 56. 30			+52. 26·4	89. 49. 40·7					
July 31	δ Ursæ Minoris	100·365	89. 47. 75	40	45	89. 47. 53·3	18. 24. 16	18. 23. 38	18. 22. 23	3. 24. 1	+ 1. 56·0	89. 49. 49·3					
			89. 43. 50	20	23	89. 43. 31·0	18. 27. 9	18. 26. 31			+ 6. 23·5	89. 49. 54·5					
			89. 39. 80	45	50	89. 39. 58·3	18. 29. 28	18. 28. 50			+ 9. 58·4	89. 49. 56·7					
			89. 33. 45	20	15	89. 33. 26·7	18. 33. 43	18. 33. 5			+16. 32·3	89. 49. 59·0					
			89. 27. 70	35	40	89. 27. 48·3	18. 37. 25	18. 36. 47			+22. 15·0	89. 50. 3·3	89. 49. 59·5	−2·60	− 3·9	89. 49. 55·6	L
			89. 22. 40	10	13	89. 22. 21·0	18. 40. 55	18. 40 17			+27. 38·7	89. 49. 59·7					
			89. 18. 35	0	5	89. 18. 13·3	18. 43. 37	18. 42. 59			+31. 48·1	89. 50. 1·4					
			89. 14. 50	18	22	89. 14. 30·0	18. 46. 9	18. 45. 31			+35. 41·8	89. 50. 11·8					
Aug. 15	δ Ursæ Minoris	100·365	90. 25. 88	57	52	90. 26. 5·7	17. 58. 54	17. 58. 36	18. 22. 18	3. 23. 58	−36. 33·5	89. 49. 32·2					
			90. 17. 92	62	53	90. 18. 9·0	18. 3. 55	18. 3. 37			−28. 50·6	89. 49. 18·4					
			90. 13. 80	48	43	90. 13. 57·0	18. 7. 5	18. 6. 47			−23. 57·9	89. 49. 59·1					
			90. 7. 58	38	25	90. 7. 40·3	18. 10. 57	18. 10. 39			−18. 0·0	89. 49. 40·3	89. 49. 40·8	+4·49	+ 6·7	89. 50. 0·2	H B
			89. 56. 88	63	58	89. 57. 9·7	18. 17. 42	18. 17. 24			− 7. 34·5	89. 49. 35·2					
			89. 52. 75	53	48	89. 52. 58·7	18. 20. 39	18. 20. 21			− 3. 0·9	89. 49. 57·8					
			89. 40. 73	45	43	89. 40. 53·7	18. 28. 18	18. 28. 0			+ 8. 48·7	89. 49. 42·3					
Aug. 20	Polaris	100·365	90. 11. 40	10	15	90. 11. 21·7	0. 32. 11	0. 32. 1	1. 4. 36	1. 30. 59	−21. 24·5	89. 49. 57·2					
			90. 7. 35	0	10	90. 7. 15·0	0. 38. 11	0. 38. 1			−17. 29·2	89. 49. 45·8					
			90. 5. 55	22	25	90. 5. 34·0	0. 40. 47	0. 40. 37			−15. 47·1	89. 49. 46·9					
			90. 3. 43	17	28	90. 3. 29·3	0. 43. 58	0. 43. 48			−13. 41·8	89. 49. 47·6	89. 49. 59·0	+7·07	+ 9·9	89. 50. 8·9	L

June 9d. The correction to Mr. Breen's vernier readings before these observations was 19″·7 additive, and it was 11″·3 additive afterwards; therefore a correction of 15″·5 additive has been applied.

July 8d. The correction to Mr. Breen's readings before these observations was 10″·0 additive, and it was 1″·7 subtractive afterwards: a correction of 4″·2 additive has been applied to the above observations.

August 15d. The correction to Mr. Breen's vernier readings before these observations was 10″·3 additive, and it was 15″·0 additive afterwards: a correction of 12″·7 additive has therefore 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, 1845.	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.	″	° ′ ″	
Aug. 20 *continued*	Polaris	100·365	89.59.75	53	60	90. 0. 2·7	0.49.28	0.49.18	1. 4.36	1.30.59	−10. 4·9	89.49.57·8					
			89.56.78	50	43	89.56.57·0	0.54.56	0.54.46			− 6.29·9	89.50.27·2					
			89.53.80	50	60	89.54. 3·3	0.58.53	0.58.43			− 3.52·8	89.50.10·6					
Sep. 8	Polaris	100·365	90. 2.45	15	15	90. 2.25·0	0.46.14	0.45.56	1. 4.46	1.30.53	−12.23·5	89.50. 1·6					
			89.58.35	5	10	89.58.16·7	0.51.48	0.51.30			− 8.44·0	89.49.32·7					
			89.56.35	3	5	89.56.14·3	0.55. 9	0.54.51			− 6.31·8	89.49.42·5					
			89.54.30	5	7	89.54.14·0	0.58. 3	0.57.45			− 4.37·3	89.49.36·7	89.49.40·6	+15·07	+21·1	89.50. 1·6	L
			89.51.75	47	50	89.51.57·3	1. 1.31	1. 1.13			− 2.20·3	89.49.37·0					
			89.49.45	15	15	89.49.25·0	1. 5.16	1. 4.58			+ 0. 7·9	89.49.32·9					
Sep. 9	Polaris	100·365	89.59.78	38	40	89.59.52·0	0.49.40	0.49.20	1. 4.46	1.30.53	−10. 9·5	89.49.42·5					
			89.55.68	28	23	89.55.39·7	0.55.58	0.55.38			− 6. 0·9	89.49.38·8					
			89.53.68	30	33	89.53.43·7	0.59. 7	0.58.47			− 3.56·5	89.49.47·2					
			89.50.95	58	53	89.51. 8·7	1. 3. 5	1. 2.45			− 1.19·7	89.49.49·0	89.49.40·7	+ 9·40	+13·1	89.49.59·4	H B
			89.47.90	58	60	89.48. 9·3	1. 7. 9	1. 6.49			+ 1.21·0	89.49.30·4					
			89.45.78	40	40	89.45.52·7	1.10.46	1.10.26			+ 3.43·9	89.49.36·6					
Sep. 19	Polaris	100·365	89.58.75	40	45	89.58.53·3	0.51.50	0.51.22	1. 4.50	1.30.50	− 8.51·6	89.50. 1·7					
			89.57.30	0	7	89.57.12·3	0.54.20	0.53.52			− 7.13·0	80.49.59·3					
			89.53.80	50	58	89.54. 2·7	0.59.10	0.58.42			− 4. 2·2	89.50. 0·4					
			89.52.35	7	15	89.52.19·0	1. 1.48	1. 1.20			− 2.18·3	89.50. 0·8	89.50. 1·4	+ 4·32	+ 6·0	89.50. 7·4	D
			89.48.40	7	15	89.48.20·7	1. 7.55	1. 7.27			+ 1.43·4	89.50. 4·0					
			89.46.55	25	32	89.46 37·3	1.10.29	1.10. 1			+ 3.24·7	89.50. 2·1					
Sep. 28	Polaris	100·365	89.46.48	23	13	89.46.28·0	1.10. 8	1. 9.36	1. 4.52	1.30.46	+ 3. 6·8	89.49.34·8					
			89.43.53	32	35	89.43.40·0	1.14.49	1.14.17			+ 6.11·6	89.49.51·6					
			89.41.73	53	48	89.41.58·0	1.17.22	1.16.50			+ 7.52·1	89.49.50·1					
			89.38.68	38	45	89.38.50·3	1.22.12	1.21.40			+11. 2·5	89.49.52·8	89.49.54·3	− 1·51	− 2·1	89.50. 2·9	H B
			89.35.73	50	45	89.35.56·0	1.26.47	1.26.15			+14. 2·7	89.49.58·7					
			89.33.53	25	33	89.33.37·0	1.30.28	1.29.56			+16.27·2	89.50. 4·2					
			89.31.63	40	38	89.31.47·0	1.33.22	1.32.50			+18.20·8	89.50. 7·8					
Oct. 7	Polaris	100·365	89.57.65	35	35	89.57.45·0	0.53.41	0.53.14	1. 4.54	1.30.43	− 7.40·0	89.50. 5·0					
			89.55.70	40	38	89.55.49·3	0.56.20	0.55.53			− 5.55·6	89.49.53·7					
			89.54.70	40	40	89.54.50·0	0.58. 5	0.57.38			− 4.46·6	89.50. 3·4					
			89.52.80	48	45	89.52.57·7	1. 1. 5	1. 0.38			− 2.48·3	89.50. 9·4	89.50. 1·0	+10·65	+14·9	89.50.15·6	L
			89.50.70	40	45	89.50.51·7	1. 3.45	1. 3.18			− 1. 3·1	89.49.48·6					
			89.48.33	0	3	89.48.12·0	1. 8.10	1. 7.43			+ 1.51·1	89.50. 3·1					
			89.46.45	15	18	89.46.26·0	1.10.48	1.10.21			+ 3.35·0	89.50. 1·0					
Oct. 14	Polaris	100·365	89.43.90	55	60	89.44. 8·3	1.13.56	1.13.32	1. 4.54	1.30.40	+ 5.40·3	89.49.48·6					
			89.41.40	10	17	89.41.22·3	1.17.23	1.16.59			+ 7.56·2	89.49.18·5					
			89.39.45	15	20	89.39.26·7	1.19.53	1.19.29			+ 9.34·5	89.49. 1·2	89.49.45·7	+13·49	+18·9	89.50. 4·6	L

September 9d. The correction to Mr. Breen's vernier readings before these observations was 4″·6 additive, and it was 6″·3 additive afterwards: a correction of 5″·5 additive has therefore been applied to the above observations.

September 28d. A correction of 10″·7 additive has been applied to Mr. Breen's observations on September 28.

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, 1845.	Object.	Reading of Micro-meter 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.	Corres-ponding Correc-tion.	Corrected Reading for North Meridian.	Observer.
		r	° ′ ″	″	″	° ′ ″	h m s	h m s	h m s	° ′ ″	′ ″	° ′ ″	° ′ ″	div.	″	° ′ ″	
Oct. 14	Polaris......	100 ·365	89. 38. 40	15	20	89. 38. 25 ·0	1. 22. 53	1. 22. 29	1. 4. 54	1. 30. 40	+ 11. 32 ·5	89. 49. 57 ·5					
			89. 35. 80	50	52	89. 36. 0 ·7	1. 26. 23	1. 25. 59			+ 13. 49 ·9	89. 49. 50 ·6					
			89. 34. 50	22	30	89. 34. 34 ·0	1. 29. 48	1. 29. 24			+ 16. 3 ·9	89. 50. 37 ·9					
Oct. 23	Polaris......	100 ·365	90. 2. 78	53	63	90. 3. 4 ·7	0. 44. 38	0. 43. 59	1. 4. 54	1. 30. 37	− 13. 42 ·9	89. 49. 21 ·8					
			90. 0. 75	40	48	90. 0. 54 ·3	0. 48. 16	0. 47. 37			− 11. 20 ·3	89. 49. 34 ·0					
			89. 59. 48	15	30	89. 59. 31 ·0	0. 50. 45	0. 50. 6			− 9. 42 ·7	89. 49. 48 ·3					
			89. 56. 73	48	60	89. 57. 0 ·3	0. 54. 53	0. 54. 14			− 7. 0 ·1	89. 50. 0 ·2	89. 49. 41 ·1	+ 3 ·90	+ 5 ·5	89. 49. 56 ·2	H B
			89. 53. 32	3	8	89. 53. 14 ·3	0. 59. 51	0. 59. 12			− 3. 44 ·6	89. 49. 29 ·8					
			89. 51. 33	8	13	89. 51. 18 ·0	1. 3. 7	1. 2. 28			− 1. 35 ·9	89. 49. 42 ·1					
			89. 49. 48	15	33	89. 49. 32 ·0	1. 6. 3	1. 5. 24			+ 0. 19 ·7	89. 49. 51 ·7					
Nov. 4	Polaris......	100 ·365	90. 5. 63	33	28	90. 5. 41 ·3	0. 42. 0	0. 41. 2	1. 4. 52	1. 30. 33	− 15. 36 ·6	89. 50. 4 ·8					
			90. 3. 72	37	35	90. 3. 48 ·0	0. 44. 40	0. 43. 42			− 13. 52 ·1	89. 49. 55 ·9					
			90. 1. 68	37	28	90. 1. 44 ·3	0. 48. 17	0. 47. 19			− 11. 30 ·3	89. 50. 14 ·1	89. 50. 3 ·3	+ 1 ·99	+ 2 ·8	89. 50. 15 ·8	H B
			89. 59. 63	35	28	89. 59. 42 ·0	0. 50. 51	0. 49. 53			− 9. 49 ·5	89. 49. 52 ·5					
			89. 57. 90	55	45	89. 58. 3 ·3	0. 53. 47	0. 52. 49			− 7. 54 ·2	89. 50. 9 ·1					
Nov. 10	Polaris......	100 ·365	89. 57. 90	55	50	89. 58. 5 ·0	0. 53. 59	0. 52. 55	1. 4. 50	1. 30. 31	− 7. 48 ·8	89. 50. 16 ·2					
			89. 55. 95	60	55	89. 56. 10 ·0	0. 56. 46	0. 55. 42			− 5. 59 ·4	89. 50. 10 ·6					
			89. 53. 45	15	20	89. 53. 26 ·7	0. 59. 47	0. 58. 43			− 4. 0 ·7	89. 49. 26 ·0					
			89. 51. 80	45	45	89. 51. 56 ·7	1. 2. 12	1. 1. 8			− 2. 25 ·6	89. 49. 31 ·1	89. 49. 56 ·6	+ 3 ·16	+ 4 ·4	89. 50. 1 ·0	L
			89. 51. 40	10	5	89. 51. 18 ·3	1. 4. 6	1. 3. 2			− 1. 10 ·8	89. 50. 7 ·5					
			89. 49. 70	40	40	89. 49. 50 ·0	1. 6. 12	1. 5. 8			+ 0. 11 ·8	89. 50. 1 ·8					
			89. 48. 50	18	20	89. 48. 29 ·3	1. 8. 17	1. 7. 13			+ 1. 33 ·8	89. 50. 3 ·1					
Nov. 18	Polaris......	100 ·365	90. 12. 65	35	40	90. 12. 46 ·7	0. 30. 20	0. 29. 16	1. 4. 47	1. 30. 28	− 23. 10 ·8	89. 49. 35 ·9					
			90. 10. 88	58	53	90. 11. 6 ·3	0. 33. 7	0. 32. 3			− 21. 22 ·7	89. 49. 43 ·6					
			90. 9. 63	33	28	90. 9. 41 ·3	0. 35. 5	0. 34. 44			− 19. 38 ·3	89. 50. 3 ·0					
			90. 8. 43	10	8	90. 8. 20 ·3	0. 38. 3	0. 36. 59			− 18. 10 ·6	89. 50. 9 ·8					
			90. 6. 45	13	5	90. 6. 21 ·0	0. 40. 29	0. 39. 25			− 16. 35 ·5	89. 49. 45 ·5	89. 49. 53 ·1	+ 8 ·49	+ 11 ·9	89. 50. 13 ·5	H B
			90. 4. 73	45	50	90. 4. 56 ·0	0. 42. 55	0. 41. 51			− 15. 0 ·4	89. 49. 55 ·6					
			90. 2. 42	13	13	90. 2. 22 ·7	0. 47. 6	0. 46. 2			− 12. 16 ·6	89. 50. 6 ·0					
			89. 57. 43	10	0	89. 57. 17 ·7	0. 54. 21	0. 53. 17			− 7. 32 ·2	89. 49. 45 ·5					
Nov. 25	Polaris......	100 ·365	89. 50. 75	43	35	89. 50. 51 ·0	1. 4. 28	1. 3. 27	1. 4. 44	1. 30. 26	− 0. 50 ·5	89. 50. 0 ·5					
			89. 47. 88	63	53	89. 48. 8. 0	1. 8. 1	1. 7. 0			+ 1. 29 ·1	89. 49. 37 ·1					
			89. 46. 48	23	18	89. 46. 29 ·7	1. 10. 40	1. 9. 39			+ 3. 13 ·3	89. 49. 43 ·0					
			89. 45. 28	3	3	89. 45. 11 ·3	1. 12 ·41	1. 11. 40			+ 4. 32 ·6	89. 49. 43 ·9	89. 49. 45 ·9	+ 12 ·07	+ 16 ·9	89. 50. 13 ·0	H B
			89. 43 60	35	28	89. 43. 41 ·0	1. 15. 11	1. 14. 10			+ 6. 10 ·8	89. 49. 51 ·8					
			89. 41. 58	23	15	89. 41. 32 ·0	1. 18. 16	1. 17. 15			+ 8. 11 ·9	89. 49. 43 ·9					
			89. 39. 63	28	33	89. 39. 41 ·3	1. 21. 1	1. 20. 0			+ 9. 59 ·8	89. 49. 41 ·2					

October 23d. A correction of 9″·6 additive has been applied to Mr. Breen's observations on October 23.

Nov. 4d. The correction to Mr. Breen's vernier readings before these observations was 8″·0 additive, and it was 11″·4 additive afterwards; a correction of 9″·7 additive has therefore been applied to the above observations.

November 18d. The correction to Mr. Breen's vernier readings before these observations was 6″·3 additive, and it was 10″·7 additive afterwards: a correction of 8″·5 has therefore been applied to the above observations.

November 25d. The correction to Mr. Breen's vernier readings before these observations was 12″·4 additive, and it was 8″·0 afterwards: a correction of 10″·2 additive 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—*concluded.*

Day, 1845.	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.	″	° ′ ″	
Dec. 6	Polaris......	100·365	90. 10. 62	23	18	90. 10. 34·3	0. 34. 6	0. 33. 12	1. 4. 38	1. 30. 23	−20. 31·0	89. 50. 3·3					
			90. 7. 53	13	13	90. 7. 26·3	0. 39. 13	0. 38. 19			−17. 11·7	89. 50. 14·7					
			90. 5. 85	48	40	90. 5. 57·7	0. 41. 34	0. 40. 40			−15. 40·0	89. 50. 17·7					
			90. 3. 90	48	52	90. 4. 3·3	0. 44. 10	0. 43. 16			−13. 58·3	89. 50. 5·0					
			90. 2. 38	8	3	90. 2. 16·3	0. 47. 9	0. 46. 15			−12. 1·6	89. 50. 14·7	89. 50. 5·3	+ 5·82	+ 8·1	89. 50. 20·7	H B
			89. 59. 83	43	43	89. 59. 56·3	0. 50. 27	0. 49. 33			− 9. 52·3	89. 50. 4·0					
			89. 57. 48	8	10	89. 57. 22·0	0. 54. 1	0. 53. 7			− 7. 32·4	89. 49. 49·6					
			89. 55. 43	8	3	89. 55. 18·0	0. 57. 29	0. 56. 35			− 5. 16·3	89. 50. 1·7					
			89. 52. 72	43	43	89. 52. 52·7	1. 1. 4	1. 0. 10			− 2. 55·5	89. 49. 57·2					
Dec. 12	Polaris......	100·365	89. 49. 80	45	50	89. 49. 58·3	1. 3. 49	1. 2. 58	1. 4. 34	1. 30. 22	− 1. 2·9	89. 48. 55·5					
			89. 47. 65	35	40	89. 47. 46·7	1. 7. 30	1. 6. 39			+ 1. 21·9	89. 49. 8·5					
			89. 46. 50	20	20	89. 46. 30·0	1. 9. 50	1. 8. 59			+ 2. 53·5	89. 49. 23·5					
			89. 43. 65	35	30	89·43. 43·3	1. 13. 39	1. 12. 48			+ 5. 23·4	89. 49. 6·8	89·49. 18·2	+13·65	+19·1	89. 49. 37·2	L
			89. 40. 50	20	20	89. 40. 30·0	1. 18. 30	1. 17. 39			+ 8. 33·8	89. 49. 3·8					
			89. 39. 60	25	25	89. 39. 36·7	1. 21. 29	1. 20. 38			+10. 30·7	89. 50. 7·4					
			89. 36. 80	50	48	89. 36. 59·3	1. 24. 20	1. 23. 29			+12. 22·3	89. 49. 21·7					
Dec. 21	δ Ursæ Minoris S. P.	100·365	89. 32. 33	8	3	89. 32. 14·7	6. 9. 5	6. 8. 16	18. 21. 35	3. 24. 8	+17. 44·0	89. 49. 58·7					
			89. 37. 63	35	38	89. 37. 45·3	6. 13. 14	6. 12. 25			+12. 12·6	89. 49. 57·9					
			89. 42. 25	0	0	89. 42. 8·3	6. 16. 41	6. 15. 52			+ 7. 36·9	89. 49. 45·3					
			89. 47. 70	38	30	89. 47. 46·0	6. 20. 40	6. 19. 51			+ 2. 18·6	89. 50. 4·6	89. 49. 53·3	+ 6·74	+ 7·9	89. 49. 56·9	H B
			89. 54. 55	23	28	89. 54·35·3	6. 26. 12	6. 25. 23			− 5. 3·7	89. 49. 31·6					
			89. 58. 68	43	48	89. 58. 53·0	6. 29. 3	6. 28. 14			− 8. 51·5	89. 50. 1·5					
Dec. 30	Polaris......	100·365	89. 54. 50	15	10	89. 54. 25·0	0. 58. 50	0. 58. 3	1. 4. 21	1. 30. 19	− 4. 7·4	89. 50. 17·6					
			89. 52. 95	60	55	89. 53. 10·0	1. 0. 42	0. 59. 55			− 2. 54·1	89. 50. 15·9					
			89. 52. 45	0	0	89. 52. 15·0	1. 2. 2	1. 1. 15			− 2. 1·7	89. 50. 13·3					
			89. 51. 35	0	5	89. 51. 13.3	1. 3. 50	1. 3. 3			− 0. 51·1	89. 50. 22·3					
			89. 50. 40	10	0	89. 50. 16·7	1. 5. 0	1. 4. 13			− 0. 5·2	89. 50. 11·4					
			89. 49. 50	15	15	89. 49. 26·7	1. 6. 20	1. 5. 33			+ 0. 47·1	89. 50. 13·8	89. 50. 15·6	+ 1·95	+ 2·7	89. 50. 18·3	G
			89. 48. 60	20	15	89. 48. 31·7	1. 7. 55	1. 7. 8			+ 1. 49·3	89. 50. 21·0					
			89. 47. 45	20	20	89. 47. 28·3	1. 9. 26	1. 8. 39			+ 2. 48·9	89. 50. 17·2					
			89. 46. 30	0	0	89. 46. 10·0	1. 11. 27	1. 10. 40			+ 4. 8·0	89. 50. 18·0					
			89. 44. 85	55	50	89. 45. 3·3	1. 12. 50	1. 12. 3			+ 5. 2·3	89. 50. 5·6					
Dec. 30	δ Ursæ Minoris S. P.	100·365	89. 52. 70	33	38	89. 52. 47·0	6. 24. 25	6. 23. 39	18. 21. 34	3. 24. 11	− 2. 46·6	89. 50. 0·4					
			90. 1. 73	38	35	90. 1. 48·7	6. 31. 11	6. 30. 25			−11. 47·5	89. 50. 1·2					
			90. 4. 90	53	60	90. 5. 7·7	6. 33. 26	6. 32. 40			−14. 47·2	89. 50. 20·4					
			90. 8. 43	15	12	90. 8. 23·3	6. 36. 6	6. 35. 20			−18. 20·2	89. 50. 3·1	89. 50. 4·2	+10·15	+11·9	89. 50. 17·5	H B
			90. 11. 85	58	63	90. 12. 8·7	6. 38. 49	6. 38. 3			−21. 57·0	89. 50. 11·6					
			90. 15. 38	3	8	90. 15. 16·3	6. 41. 24	6. 40. 38			−25. 23·1	89. 49. 53·2					
			90. 18. 35	3	8	90. 18. 15·3	6. 43. 34	6. 42. 48			−28. 15·8	89. 49. 59·6					

December 6d. The correction to Mr. Breen's vernier readings before these observations was 8″·0 additive, and it was 6″·3 additive afterwards: a correction of 7″·2 additive has therefore been applied to the above observations.

Dec. 21d. The corrections to Mr. Breen's vernier readings after the observations was found to be 4″·3 subtractive, and this correction was applied to the above observations.

December 30d. The readings of the verniers by Mr. Breen before these observations were made, were found to be identical with those of the other observers, and after these observations were made they were found to be 2″·7 too small: a correction of 1″·4 additive was therefore applied to these observations.

The following mean monthly readings were obtained by combining all the results in the month, according to the number of observations from which each was deduced.

Adopted Mean Readings for Astronomical South Meridian.

	° ′ ″
1845, January	269. 50. 2
February	269. 49. 53
March	269. 50. 5
April	269. 49. 45
May	269. 49. 26
June	269. 49. 53
July	269. 49. 52
August	269. 50. 5
September	269. 50. 3
October	269. 50. 5
November	269. 50. 11
December	269. 50. 16

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 also read at every observation 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 cross of 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 at which the magnet was observed in a state of vibration during the year 1845 is very small.

The adopted result is converted into arc, supposing $1^r = 1'.34''\cdot07$ (see page v), 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, by comparing his reading of the verniers with that of any of the other observers, the telescope not having been moved; in reducing the Term Observations 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.

In the Extraordinary Observations, the observations have always 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 that, by inspection, the magnet was at rest.

§ 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 1845. 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°.

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 rollers.

1844, December 27^d. Observer, Mr. Glaisher.

	° ′
With the marked end of the magnet to the East, the torsion-circle read	40. 9
With the marked end of the magnet to the West, the torsion-circle read	317. 0

The half difference is 41°.34½′ for the angle of torsion.

1844, December 30^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 ·7	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 ·7	Torsion-circle reading	40. 1

And the angle of torsion from these experiments is 41°.30½′.

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........................	51 ·6	Torsion-circle reading	317. 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........................	51 ·6	Torsion-circle reading	39. 56

And the angle of torsion from these is 41°.28′.

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........................	51 ·9	Torsion-circle reading	317. 0

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........................	51·9	Torsion-circle reading	40. 0

And the angle of torsion was 41°.30′.

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........................	51·3	Torsion-circle reading	317. 0

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........................	51·3	Torsion-circle reading	39. 56

The brass bar was inserted.

	div.		° ′
The division of the scale bisected by the vertical wire of the telescope was........................	51·3	Torsion-circle reading	359. 29

And the angle of torsion was 41°. 28′.

			° ′
Therefore, from the	1st set	of experiments the value was	41. 34½
,,	2nd set	,,	41. 30½
,,	3rd set	,,	41. 28
,,	4th set	,,	41. 30

The mean value of the angle of torsion was, therefore, considered to be 41°.31′.

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

	° ′
1841, January,	it was 41. 3
1842, January,	it was 42. 0
1842, April,	it was 41. 43
1843, January,	it was 41. 29
1843, May,	it was 40. 51
1843, December,	it was 41. 35

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.

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.

Day, 1844.	Magnet suspended from First Pair of Rollers.							
	Its marked end West.				Its marked end East.			
	Torsion-circle Reading.	Scale Reading.	Difference of Scale Readings for 1° of Torsion-circle.	Mean of the Times of Vibration.	Torsion-circle Reading.	Scale Reading.	Difference of Scale Readings for 1° of Torsion-circle.	Mean of the Times of Vibration.
	°	div.	div.	s	°	div.	div.	s
Dec.	312	9·83	8·20	22·17	35	8·05	5·60	19·30
	313	18·03	8·85	21·61	36	15·65	8·08	20· 1
	314—	26·88	5·60	20·88	37	24·73	9·97	20·00
	315—	32·48	13·24	21·12	38	34·70	8·23	19·92
	316+	45·72	9·18	21·20	39	42·93	10·58	20·00
	317+	54·90	9·77	20·87	40	53·51	8·62	20·40
	318	64·67	7·48	20·62	41	62·13	9·82	20·42
	319	72·15	7·94	20·52	42	71·95	11·20	20·82
	320	80·09	9·70	20·47	43	83·15	7·16	20·60
	321	89·79		19·92	44	90·31		20·84

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 less than 54$^{\text{div}}$·90; and that, when the marked end was East, with a torsion-circle reading of 40°, the scale-reading was 53$^{\text{div}}$·51; so that, with the respective readings of 317° of torsion-circle in one portion of the magnet and of 40° in the other, the scale-readings were nearly identical. The time of vibration, at 40°, was nearly half of a second less than at 317°. The mean value of the time of one vibration with the marked end of the magnet to the West, and the torsion-circle reading 317°, from another series of observations was found to be 20$^{\text{s}}$·86. Throughout the year 1845 the magnet was in this position, and the torsion-circle reading was 317°. The time of vibration throughout the year has been considered to be 20$^{\text{s}}$·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$^{\text{div}}$·89; and with the marked end East, it was 8$^{\text{div}}$·81.

The previous values of those determinations have been 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	3.	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

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
The torsion-circle reading was 41;	the scale-reading was 61·28;	the time of vibration was 20·4
The torsion-circle reading was 40;	the scale-reading was 59·65;	the time of vibration was 20·5
The torsion-circle reading was 38½;	the scale-reading was 50·51;	the time of vibration was 20·2
The torsion-circle reading was 40;	the scale-reading was 52·20;	the time of vibration was 20·3

On 1843, May 1^{d}, the time of vibration, with the torsion-circle reading 316°, was $20^{s}\cdot7$; and with the reading of 318° it was $20^{s}\cdot8$: it was concluded that some error had been made in the times of vibration at the reading of 317°, and throughout the year $20^{s}\cdot8$ was considered to be the true time of vibration. The same value, as above stated, was adopted throughout the year 1845.

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
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

And the mean of the values with the marked end of the magnet West, is $9^{div}\cdot28$; and with the marked end East, it is $9^{div}\cdot00$.

In the year 1841 experiments were made to determine the compound effect of the declination and vertical force magnets on the horizontal force magnet, the result of which was that the two magnets appeared to cause the horizontal force magnet, when its marked end was towards the West, to approach the North by a quantity corresponding to $0^{div}\cdot487$ of the scale. The following are the experiments by which this determination was made.

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

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

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

The mean compound effect of the two magnets, from the number in the last column, is 0·487 division of the scale, by which the scale-readings are increased, or by which the marked end is made to approach the North: the correction is therefore subtractive.

The scale was afterwards moved, so that all readings of it are less by $0^{\text{div.}}{\cdot}5$ than they would have been if it had remained unmoved; and thus all subsequent observations were corrected for the compound effect of the two magnets.

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° on the scale to the center of the face of the mirror is $8^{\text{ft.}}5^{\text{in.}}{\cdot}1$, and that the length of $30^{\text{div.}}{\cdot}9$ of the scale was 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 throughout the year 1845, the adopted angle of torsion was 41°.2′.50″, being the same as that in the years 1841, 1842, 1843, and 1844, the experiments in Article 1 of this section shewing that no change was necessary; consequently, the variation of horizontal force in terms of the whole horizontal force for a disturbance through one division of the scale, computed by the formula "Cotan. angle of torsion × value of one division in terms of radius," is 0·002206. The number actually used throughout the year 1845 is 0·002214.

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 position for no deflexion do not correspond exactly with those of the declination magnet. The adopted readings for no deflecting force at each observation were found by interpolation between those observed, on the supposition that their changes were proportional to the time.

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

Day, 1843.	Position of marked End of Horizontal Force Magnet.	Distance of Centers of Magnets.	Temperature of Horizontal Force Magnet.	Circle Reading.	Adopted Reading for no Deflecting Force.	Deflexion.	Its Natural Sine.
		ft. in.	°	° ′ ″	° ′ ″	° ′ ″	
April 20	Away	...	....	24. 16. 16·6			
	W	4. 0	67·7	49. 17. 17·9	24. 16. 56·8	25. 0. 21·1	} 0·42258
	W	4. 0	67·7	49. 17. 1·2	24. 17. 37·1	24. 59. 24·1	
	W	4. 0	118·8	48. 58. 58·5	24. 18. 17·3	24. 40. 41·2	0·41750
	W	4. 0	103·0	49. 1. 41·0	24. 18. 57·5	24. 42. 43·5	0·41806
	W	4. 0	76·7	49. 9. 6·9	24. 19. 37·7	24. 49. 29·2	0·41985
	Away	...	....	24. 20. 17·9			
April 21	Away	...	....	24. 14. 16·7			
	W	4. 0	55·2	49. 7. 5·1	24. 14. 56·1	24. 52. 9·0	0·42055
	W	4. 0	126·8	48. 44. 40·8	24. 15. 35·6	24. 29. 5·2	0·41447
	W	4. 0	106·3	48. 48. 2·8	24. 16. 15·0	24. 31. 47·8	0·41517
	W	4. 0	91·0	48. 50. 45·9	24. 16. 54·4	24. 33. 51·5	0·41570
	W	4. 0	73·4	48. 58. 39·1	24. 18. 13·3	24. 40. 25·8	0·41745
	Away	...	....	24. 18. 52·7			
April 29	Away	...	....	24. 32. 2·9			
	W	4. 0	54·8	49. 24. 45·2	24. 32. 59·2	24. 51. 46·0	0·42045
	Away	...	....	24. 34. 51·7			
	W	4. 0	139·0	49. 4. 35·0	24. 35. 32·4	24. 29. 2·6	0·41444
	W	4. 0	126·0	49. 8. 54·3	24. 36. 53·9	24. 32. 0·4	0·41522
	Away	...	....	24. 38. 15·4			
	W	4. 0	54·0	49. 20. 21·9	24. 38. 45·5	24. 41. 36·4	0·41776
	Away	...	....	24. 39. 45·8			
	W	4. 0	140·0	49. 2. 56·5	24. 39. 38·9	24. 23. 17·6	0·41292
	Away	...	....	24. 39. 25·2			
April 20	Away	...	....	24. 20. 17·9			
	W	4. 6	123·0	41. 33. 16·1	24. 20. 52·5	17. 12. 23·6	0·29578
	W	4. 6	115·0	41. 38. 2·6	24. 21. 9·9	17. 16. 52·7	0·29705
	W	4. 6	79·5	41. 42. 50·9	24. 22. 1·8	17. 20. 49·1	0·29816
	W	4. 6	58·0	41. 45. 24·1	24. 22. 53·8	17. 22. 30·3	0·29863
	Away	...	....	24. 23. 11·3			
April 29	Away	...	....	24. 32. 2·9			
	E	4. 0	57·6	1. 2. 40·3	24. 33. 55·4	23. 31. 15·1	0·39908
	Away	...	....	24. 34. 51·7			
	E	4. 0	133·0	1. 28. 35·3	24. 36. 13·2	23. 7. 37·9	0·39277
	E	4. 0	120·7	1. 24. 31·5	24. 37. 34·7	23. 13. 3·2	0·39422
	Away	...	....	24. 38. 15·4			
	E	4. 0	54·0	1. 12. 6·3	24. 39. 15·7	23. 27. 9·4	0·39799
	Away	...	....	24. 39. 45·8			
	E	4. 0	132·7	1. 31. 47·7	24. 39. 32·1	23. 7. 44·4	0·39281
	Away	...	....	24. 39. 25·2			

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

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

Marked end West, distance 4 feet.

The mean of 6 observations at low temperatures gives

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

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

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

Therefore,

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

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

Natural sine expressing whole force = 0·42 nearly

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

Marked end West, distance 4 feet 6 inches.

The mean of 2 observations at low temperatures gives

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

The mean of 2 observations at high temperatures gives

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

Therefore,

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

Also,

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

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

Marked end East, distance 4 feet.

The mean of 2 observations at low temperatures gives

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

The mean of 3 observations at high temperatures gives

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

Therefore,

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

Also,

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

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

Giving to the three determinations the weights 12, 3, and 5, the mean result of $\frac{\text{change of force for } 1^\circ}{\text{whole force}}$ is $= 0{\cdot}0001686.$

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 1845, is very small.

From the adopted scale-reading $37^{\text{div}}{\cdot}82$ was subtracted at the end of the year 1844, and this number has been used throughout the year 1845.

The remainder is converted into a number, expressing the proportion of the variable force to the mean horizontal force, by means of the numbers in Article 4 of this section.

Within the double box is suspended a thermometer, which is read at every even hour of observation. In Article 5 it appears that for an increase of temperature of 1° there is a decrease of horizontal force amounting to 0·0001686 parts of the whole horizontal force. This is applied, according to the reading of the inclosed thermometer, to every observation in the various sections: the observations are thus all reduced to a uniform temperature of 55°.

§ 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 and of the horizontal force magnet on the vertical force magnet.

The observations which are repeated here, for determining the disturbing effects of the other magnets, were made in the year 1841.

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

Observers, Messrs. Glaisher, Hind, and Dunkin.

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

An inspection of the numbers contained in the fourth column of this table when the magnets were away, will shew that no satisfactory result can be deduced from them. It would be necessary for this that the readings preceding and following the reading when the magnets were in their places, should be very nearly the same; in the table they differ very much. In consequence, the number in the last column can only be considered as shewing that the compound effect is very small. In two sets of experiments made in 1841, and published in the volume for that year, it was clearly shewn, that neither magnet had individually much effect in disturbing the vertical force magnet.

In the volume for 1842, are exhibited experiments shewing that the effect of the iron affixed to the electrometer pole was nearly inappreciable, the result being, that the marked end of the vertical force magnet was drawn upwards by 0·190 division of the scale. The apparent compound effect of the declination and horizontal force magnets, as deduced above, is nearly the same in amount, but acting in a contrary way; and, consequently, no corrections have been applied to any of the observations on account of either of these disturbing causes.

Determination of the Time of Vibration of the Vertical Force Magnet in the Vertical Plane.

2. Between 1845, January 6^{d} and December 30^{d}, the magnet had been in all positions for scale-readings between 39$^{div.}$ and 72$^{div.}$, and the times of vibration, which were observed every day, had been taken at every division between these, and found to be accordant at the same scale-readings throughout the year: each 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	
39	26·9	1	55	26·8	6
40	26·3	2	56	27·4	9
42	25·7	5	57	27·1	5
43	25·9	13	58	27·3	10
44	25·9	24	59	28·0	6
45	26·1	28	60	28·2	4
46	26·2	20	61	28·1	9
47	26·5	8	62	28·3	4
48	26·8	12	63	28·0	8
49	26·6	6	64	28·1	6
50	26·8	6	65	28·3	4
51	26·5	5	66	28·3	7
52	26·7	6	67	28·3	7
53	26·9	4	68	28·8	7
54	26·7	6	72	29·2	1

As the magnet is horizontal when the scale-reading is 50$^{div.}$, the number adopted as the mean time of vibration was 26^{s}·7, and it was used throughout the year 1845.

Determination of the Time of Vibration of the Vertical Force Magnet in the Horizontal Plane.

1844, April 28. Observer, Mr. Glaisher.

3. The vertical force magnet was suspended from a tripod in the library, the broad side of it 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 following observations were then taken for the purpose of ascertaining the time of its vibration in the horizontal plane. During the whole time the magnet was swinging through a small arc,

the extent of which was about five divisions of the scale. After April 28^d.2^h the magnet was left suspended, and on the following morning it was found to be without motion; a small swing was communicated, and all the observations were considered to be satisfactory. No correction is required for the rate of the chronometer, which was small.

Day and Hour.	Chronometer Times of the Extremes of Vibration.	Intervals in Solar Time.
d h	s	s
Apr. 28. 1	57·0	25·0
	22·0	24·5
	46·5	24·5
	11·0	25·0
	36·0	24·0
	0·0	24·0
	24·0	25·0
	49·0	25·6
	14·6	24·4
	39·0	24·4
	3·4	24·6
	28·0	26·0
	54·0	24·0
	18·0	21·5
	39·5	23·5
	3·0	24·5
	27·5	25·0
	52·5	24·5
	17·0	24·5
	41·5	25·0
	6·5	24·5
	31·0	25·0
	56·0	24·6
	20·6	25·4
	46·0	24·0
	10·0	24·5
	34·5	
Apr. 28. 22	31·5	23·5
	55·0	24·8
	19·8	24·4
	44·2	25·0
	9·2	24·8
	34·0	24·0
	58·0	25·0
	23·0	24·0
	47·0	24·5
	11·5	24·5
	36·0	24·5
	0·5	25·0
	25·5	25·2
	50·7	

Day and Hour.	Chronometer Times of the Extremes of Vibration.	Intervals in Solar Time.
d h	s	s
		24·3
Apr. 28. 22	15·0	25·0
	40·0	24·5
	4·5	25·0
	29·5	24·5
	54·0	23·5
	17·5	25·5
	43·0	25·0
	8·0	25·0
	33·0	24·8
	57·8	24·7
	22·5	24·5
	47·0	25·0
	12·0	26·0
	38·0	24·0
	2·0	25·5
	27·5	24·5
	52·0	25·4
	17·4	24·1
	41·5	24·5
	6·0	24·5
	30·5	25·5
	56·0	24·5
	20·5	24·5
	45·0	25·5
	10·5	24·5
	35·0	24·5
	59·5	24·5
	24·0	24·8
	48·8	25·2
	14·0	25·0
	39·0	24·5
	3·5	24·5
	28·0	24·5
	52·5	25·5
	18·0	24·5
	42·5	25·0
	7·5	25·0
	32·5	25·1
	57·6	24·9
	22·5	24·5
	47·0	23·0
	10·0	25·0
	35·0	

Day and Hour.	Chronometer Times of the Extremes of Vibration.	Intervals in Solar Time.
d h	s	s
		24·5
Apr. 28. 22	59·5	24·5
	24·0	25·0
	49·0	25·0
	14·0	24·5
	38·5	
	33·0	24·5
	57·5	24·3
	21·8	24·5
	46·3	25·2
	11·5	24·8
	36·3	24·2
	0·5	25·0
	25·5	24·8
	50·3	24·3
	14·6	24·9
	39·5	24·5
	4·0	24·7
	28·7	24·8
	53·5	24·5
	18·0	24·6
	42·6	24·9
	7·5	25·0
	32·5	25·1
	57·6	23·9
	21·5	24·5
	46·0	25·0
	11·0	25·5
	36·5	24·0
	0·5	24·5
	25·0	25·0
	50·0	24·6
	14·6	24·4
	39·0	25·5
	4·5	24·0
	28·5	24·5
	53·0	24·0
	17·0	24·5
	41·5	24·2
	5·7	24·3
	30·0	24·6
	54·6	24·4
	19·0	

The mean of the above times is $24^s{\cdot}6$, and this number has been used as the mean value of one vibration in the horizontal plane throughout the year 1845.

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 $8'.49''{\cdot}79$; 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 $4'.24''{\cdot}90$.

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, $5'.27''{\cdot}43$.

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

The dip has been assumed to be $69^\circ.0'$ throughout the year.

1845, January 6^d to December 31^d. T′ was assumed $24^s{\cdot}6$, and T was assumed to be $26^s{\cdot}7$; consequently, the value of the changes of vertical force (in terms of the whole vertical force) corresponding to a change of one division, was 0·000517, and this number has been used in the reduction of the observations throughout the year 1845.

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 year 1843 in the same manner as those for the horizontal force magnet, page xxxii:—

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

Day, 1843.	Position of Marked End of Vertical Force Magnet.	Distance of Centers of Magnets.	Temperature of Vertical Force Magnet.	Circle Reading.	Adopted Reading for no Deflecting Force.	Deflexion.	Its Natural Sine.
		ft. in.	°	° ′ ″	° ′ ″	° ′ ″	
April 26	E	4. 0	119·0	8. 27. 39·8	24. 23. 30·5	15. 55. 50·7	0·27447
continued.	Away	...	....	24. 23. 20·5			
	E	4. 0	50·5	8. 14. 52·2	24. 22. 12·0	16. 7. 19·8	0·27768
	Away	...	....	24. 21. 37·7			
	E	4. 0	138·2	8. 42. 5·3	24. 21. 7·9	15. 39. 2·6	0·26977
	E	4. 0	127·8	8. 40. 47·1	24. 20. 8·2	15. 39. 21·1	0·26985
	Away	...	....	24. 19. 8·6			
April 27	Away	...	....	24. 14. 15·8			
	E	4. 0	52·0	8. 21. 33·1	24. 17. 47·0	15. 56. 13·9	0·27458
	Away	...	....	24. 19. 32·5			
	E	4. 0	125·5	8. 44. 38·7	24. 19. 58·5	15. 35. 19·8	0·26873
	E	4. 0	114·2	8. 41. 8·6	24. 20. 24·6	15. 39. 16·0	0·26983
	Away	...	....	24. 20. 37·7			
	E	4. 0	52·0	8. 28. 31·1	24. 21. 35·7	15. 53. 4·6	0. 27369
	Away	...	....	24. 22. 4·8			
April 23	Away	...	....	24. 13. 1·6			
	E	5. 0	55·5	15. 47. 56·2	24. 14. 45·3	8. 26. 49·1	0·14690
	E	5. 0	129·0	16. 2. 55·4	24. 15. 37·1	8. 12. 41·7	0·14283
	E	5. 0	94·5	15. 58. 8·1	24. 18. 12·6	8. 20. 4·5	0·14495
	E	5. 0	76·0	15. 58. 5·5	24. 19. 4·5	8. 20. 59·0	0·14522
	Away	...	....	24. 20. 48·2			

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

Marked end West, distance 4 feet.

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

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

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

Marked end West, distance 5 feet.

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

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

Marked end East, distance 4 feet.

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

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

Marked end East, distance 5 feet.

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

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

Giving to these four results the respective weights 10, 1, 10, 1, the mean value of $\frac{\text{change of force for } 1^\circ}{\text{whole force}}$ is $= 0{\cdot}00026397$.

From these experiments it appears that for an increase of temperature of 1° the decrease of the vertical force was 0·000264 parts of the whole vertical force. This number has been applied to every observation in the various sections; the observations are thus reduced to an uniform temperature of 55°.

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 in Article 4 of this section. The numbers in the printed columns are those numbers reduced to the uniform temperature of 55° above mentioned.

Occasional Adjustments of the Vertical Force Magnet.

The scale had not been moved since it was first set up in the year 1840; and it was not moved throughout the year 1845.

The adopted scale-reading has been 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 values of one division of the scale.

In the year 1844, on December 26ᵈ, it was found that the knife-edges of the vertical force magnet were injured, particularly that which had rested on the South agate plane, and to such extent that, on passing the nail of the finger along it, the indentations sensibly checked the motion of the finger. It was sent to Mr. Barrow for the purpose of regrinding the edges.

On 1845, January 3^d, the knife-edges of the magnet were received from Mr. Barrow, and between this time and January 6^d the necessary adjustments were performed by Mr. Glaisher, and on the latter day a new series of observations was commenced. Every attempt which has been made to connect the series of numbers beginning at this time with that ending 1844, December 26^d, has failed, so that a totally new series commences from this time.

On the Effect of altering the Adjustment Screws at either End of the Magnet.

1843, May 5^d. Mr. Glaisher adjusted the magnet to balance, leaving the East screw, or that at the marked end of the magnet, vertical, and the West screw horizontal; he then made the following experiments.

The scale-reading was $41^{div}\cdot6$: the West screw was withdrawn 6 half-turns, and the mean scale-reading was then $22^{div}\cdot1$.

	div.
Therefore, 3 revolutions caused a change of......................	19·5
or, 1 revolution caused a change of......................	6·5

The West screw was then further withdrawn 5 half-turns, and the mean reading of the scale was found to be $7^{div}\cdot1$.

	div.		div.
Therefore, the withdrawing of the screw 2½ revolutions caused the scale-reading to change from	22·1	to	7·1
or, 1 revolution caused a change of......................	6·0		

Then the screw was driven through 2 half-revolutions, and the mean scale-reading was found to be $13^{div}\cdot5$.

	div.		div.
Therefore, 1 revolution caused the scale-reading to change from ...	7·1	to	13·5
or, 1 revolution of the screw caused a change of	6·4		

The screw was then driven through 10 half-revolutions, and the mean scale-reading was found to be $49^{div}\cdot4$.

	div.		div.
Therefore, 5 revolutions caused the scale-reading to change from ..	13·5	to	49·4
or, 1 revolution caused a change of......................	7·2		

After some experiments had been made with the vertical or East screw, as detailed below, the scale-reading being $82^{div}\cdot7$, and the mean time of one vibration being $25^{s}\cdot5$, the West or horizontal screw was withdrawn through 10 revolutions, and the scale-reading was $19^{div}\cdot0$, and the mean time of one vibration was $25^{s}\cdot1$.

	div.
Therefore, 10 revolutions caused a change of	63·7
or, 1 revolution caused a change of	6·4

The screw was then driven through 5 revolutions, and the mean scale-reading was $52^{div}\cdot2$, and the mean time of vibration was $25^{s}\cdot0$. The scale-reading was found to be 50^{div} when the magnet was horizontal and resting in its Y's.

On dropping the Y's, the magnet resting on the agate planes, the mean scale-reading was $67^{div}\cdot0$, and the mean time of one vibration was $24^{s}\cdot7$; the horizontal screw was then withdrawn 2 revolutions, and the scale-reading was $54^{div}\cdot0$.

	div.
Therefore, 1 revolution caused a change of	6·5

The screw was then withdrawn 1 half-revolution, when the scale-reading was $51^{div}\cdot1$, and the mean time of one vibration was $24^{s}\cdot9$; and, when the magnet was raised in its Y's, the scale-reading was 54^{div}.

After this time the instrument was left for observation with its marked end to the East.

The following are the experiments on the vertical screw alluded to above:—

The scale-reading was $49^{div}\cdot4$; the screw was then drawn upwards 10 half-revolutions, when the mean scale-reading was $38^{div}\cdot6$, and the mean time of vibration was $25^{s}\cdot8$;

	div.
Or, 1 revolution caused a change of	2·2

The screw was then drawn upwards 5 additional revolutions, when the scale-reading was $35^{div}\cdot4$, and the mean time of one vibration was $25^{s}\cdot9$.

	div.
From this, 1 revolution of the screw caused a change of	0·6

The screw was then drawn 5 additional revolutions, and the scale-reading was found to be $32^{div}\cdot5$, and the mean time of one vibration was $26^{s}\cdot1$.

	div.
Therefore, 5 revolutions caused a change in the reading of the scale of	2·9
or, 1 revolution caused a change of	0·6

The screw was then drawn upwards 30 additional revolutions, and the scale-reading was found to be $31^{div}\cdot8$, differing from the former reading by only $0^{div}\cdot7$; so that from this,

	div.
One revolution caused a change of	0·02

The mean time of one vibration was $30^{s}\cdot9$.

The screw was then driven downwards through 50 revolutions, and the scale-reading was found to be $36^{div}\cdot1$, being increased by $4^{div}\cdot3$ only.

	div.
Therefore, 1 revolution caused a change of........................	0 ·09

The mean of one vibration was $24^{s}\cdot6$.

The final results of the preceding sets of experiments are as follows: that, the withdrawal of the West or horizontal screw, the head of which is towards the West, through 1 revolution, causes the scale-reading to be less by $6^{div}\cdot7$, and the driving of the screw causes the scale-reading to be greater by $6^{div}\cdot7$ for every revolution; and that such changes in the position of the horizontal screw have a little, but only a little, effect on the time of vibration in the vertical plane.

That the driving of the vertical or East screw, the head of which is towards the zenith, through 50 revolutions, caused the time of vibration to be increased by about $5^{s}\cdot5$, and to be diminished by about the same amount on the withdrawal of the screw, and that such changes in the position of this screw have a very small effect on the scale-reading.

§ 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 $0^{in}\cdot014$ apart at their inner extremities. The divisions appear to be very 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 $0^{in}\cdot03$ and $0^{in}\cdot04$ 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 $1^{in}{\cdot}09$ apart; the whole length of each of the axles of the needles is $1^{in}{\cdot}20$, of which a length of $0^{in}{\cdot}88$ is nearly $0^{in}{\cdot}1$ in diameter; a portion, $0^{in}{\cdot}02$ in length on each side, is of a less thickness, and this part of each rests in the Y's when the needle is raised from the agate planes, and the remainder $0^{in}{\cdot}14$ on each side is the length of the terminations of the axles, and its thickness is about $0^{in}{\cdot}02$: both needles are of the same dimensions in these respects, and no certain difference exists in the thickness 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 their workmanship.

The observations were made in a house built for the purpose entirely of wood, with copper and brass fastenings, at the 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 vertical circle at the two ends of the needle is 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 as before. 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 repeated as before. At times the observations were made in the meridian and in the above manner, and at other times the observations were made in planes inclined to the magnetic meridian as follows:—The plane of the instrument was placed at a certain inclination to the magnetic meridian; the needle was placed on the Y supports, and lowered as usual on the agate planes, with its marked side on the same side with the divided circle, both being towards the East, and the vertical circle at the two ends of the needle was read. The instrument was then turned round by the South through successive 90° in azimuth; and the observation was repeated with the circle reading in its first position, increased by 90°, by 180°, and by 270° successively; in the last position the marked side of the needle and the graduated face of the instrument being towards the West. The needle was then reversed on its axle, so that its face was towards the East, the face of the instrument being still towards the West, and similar observations were made. The instrument was then turned in azimuth round by the South, through successive 90° as before; the observation being repeated in every different position of the instrument. The poles of the needle were then reversed in the usual way, and then step by step the observation was repeated as before. In a few instances observations have been made in only two different azimuths, the one differing from the other by 90°.

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 is adopted.

In the case of the observations being made in the magnetic meridian, the resulting dip is that corresponding to the mean of the eight observed results.

In the case of the observations being made in different azimuths: the mean inclination, deduced from each azimuthal angle, is converted into the Resulting Dip by the formula:—

$$\text{Cot.}^2\,\theta = \text{Cot.}^2\,\eta + \text{Cot.}^2\,\eta'$$

in which θ denotes the resulting dip,

η denotes the inclination to the magnetic meridian at a certain azimuth,

η' denotes the inclination at an azimuth at right angles to that for which the inclination is η.

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. *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 $0^{in}\cdot05$.

The vernier subdivides the scale divisions to $0^{in}\cdot002$; 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 $0^{in}\cdot565$ in diameter; the correction for the effect of capillary attraction is therefore only $+ 0^{in}\cdot002$. 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 height of the cistern above the mean level of the sea is 159 feet. This element is founded upon the determination of Mr. Lloyd, in the Phil. Trans., 1831; the elevation of the cistern above the brass piece inserted in a stone in the transit room (to which Mr. Lloyd refers) being $5^{ft}.2^{in}$.

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

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

No correction is required for 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 in the tube is at once measured.

DRY-BULB THERMOMETER.

The dry-bulb thermometer, used in conjunction with the wet-bulb thermometer, is mercurial; its scale is divided to $0^{\circ}\cdot5$.

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

Day, 1845.	The Dry Thermometer reads less than the Greenwich Standard.	Range of Temperature.	Number of Comparisons.	Mean Temperature.	Day, 1845.	The Dry Thermometer reads less than the Greenwich Standard.	Range of Temperature.	Number of Comparisons.	Mean Temperature.
	°	° °		°		°	° °		°
Jan. 6	0·2	43 to 46	9	45·4	July 7	0·7	64 to 82	11	71·6
13	0·2	38 to 47	11	42·4	14	0·5	54 to 64	11	58·7
20	0·2	33 to 43	11	37·8	21	0·8	55 to 72	9	61·8
27	0·2	33 to 42	11	37·7	28	0·8	51 to 66	10	56·3
Feb. 3	0·3	27 to 40	11	35·8	Aug. 4	0·5	54 to 67	8	60·5
10	0·1	26 to 32	11	29·2	11	0·5	54 to 59	9	58·0
17	0·3	28 to 40	11	33·5	18	0·8	48 to 67	10	57·4
24	0·2	33 to 44	11	37·5	25	0·5	50 to 67	11	59·2
Mar. 3	0·1	26 to 40	11	33·4	Sep. 1	0·5	52 to 66	12	57·5
10	0·2	33 to 42	12	37·1	8	0·3	42 to 68	12	54·4
17	0·1	22 to 35	12	28·5	15	0·4	46 to 54	10	50·3
24	0·3	39 to 48	9	45·4	22	0·4	50 to 62	11	52·8
31	0·2	39 to 55	12	46·4	29	0·5	43 to 58	11	49·3
April 7	0·3	30 to 51	11	40·4	Oct. 6	0·2	34 to 51	10	44·6
14	0·3	42 to 50	10	44·9	13	0·0	45 to 59	9	52·5
21	0·2	41 to 61	12	46·6	20	0·2	43 to 55	9	51·3
28	0·5	47 to 61	9	52·9	27	0·0	40 to 52	12	46·4
May 5	0·4	40 to 52	11	44·9	Nov. 3	0·2	35 to 47	9	41·0
12	0·5	45 to 55	12	49·2	10	0·2	43 to 52	8	47·9
19	0·4	42 to 52	12	47·1	24	0·3	31 to 40	11	35·8
26	0·8	44 to 56	12	49·7					
June 2	0·6	51 to 75	11	62·8	Dec. 1	0·4	43 to 49	11	46·0
9	0·7	47 to 70	12	56·7	8	0·2	31 to 48	8	39·1
16	0·9	59 to 72	12	66·3	15	0·4	42 to 50	10	46·8
23	0·7	51 to 69	11	59·8	22	0·2	30 to 44	9	36·2
30	0·7	53 to 69	8	58·9	29	0·2	31 to 49	11	39·1

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

Day, 1845.	The Dry Thermometer reads less than the Greenwich Standard below 32°.	Mean.	Day, 1845.	The Dry Thermometer reads less than the Greenwich Standard between 32° and 50°.	Mean.	Day, 1845.	The Dry Thermometer reads less than the Greenwich Standard between 50° and 60°.	Mean.	Day, 1845.	The Dry Thermometer reads less than the Greenwich Standard above 60°.	Mean.
	°	°		°	°		°	°		°	°
Feb. 10	0·1		Jan. 6	0·2		Apr. 28	0·5		June 2	0·6	
		0·1	13	0·2					16	0·9	
Mar. 17	0·1		20	0·2		June 9	0·7				
			27	0·2		23	0·7		July 7	0·7	0·7
						30	0·7		21	0·8	
			Feb. 3	0·3							
			17	0·3		July 14	0·5		Aug. 4	0·5	
			24	0·2		28	0·8				
			Mar. 3	0·1		Aug. 11	0·5				
			10	0·2		18	0·8	0·5			
			24	0·3		25	0·5				
			31	0·2							
						Sep. 1	0·5				
			Apr. 7	0·3		8	0·3				
			14	0·3		15	0·4				
			21	0·2		22	0·4				
			May 5	0·4	0·3	Oct. 13	0·0				
			12	0·5		20	0·2				
			19	0·4							
			26	0·8							
			Sep. 29	0·5							
			Oct. 6	0·2							
			27	0·0							
			Nov. 3	0·2							
			10	0·2							
			24	0·3							
			Dec. 1	0·4							
			8	0·2							
			15	0·4							
			22	0·2							
			29	0·2							

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

	°	°	°
Below	32		by......0·1
Between	32 and	50	by......0·3
Between	50 and	60	by......0·5
Above	60		by......0·7

Also, the correction to be applied to the Royal Observatory standard is $0^{\circ}\cdot2$ subtractive for all readings below 60°, and $0^{\circ}\cdot3$ subtractive above 60°. (See the volume for 1841.)

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

Below 32°	.... 0°·1	subtractive
Between 32 and 50	.... 0·1	additive
Between 50 and 60	.... 0·3	additive
Above 60	.... 0·4	additive

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

WET-BULB THERMOMETER.

The wet-bulb thermometer is mercurial; its scale is divided to $0^{\circ}\cdot5$. The readings of this thermometer when under the same circumstances as the dry thermometer, are considered to be $0^{\circ}\cdot2$ lower than those of the dry thermometer. (See the Introduction to the volume for 1841.)

The bulb is covered with a piece of fine muslin; immediately under it is placed a small cistern of rain-water. 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-bulb 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 of the moisture only, but if there be any suspicion on the mind of the observer as to its correctness, it is also done at its disappearance; and if any discordance appears between the results, the observation is repeated. It is found that no certain discordance exists between the results as obtained from the appearance and from the disappearance of the dew.

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

The thermometer used in determining the dew-point read—

On Jan.	6,	from	9	comparisons	between	43° and 46°,	higher by	0°·2
,,	13,	,,	11	,,	,,	38 and 47,	the same	
,,	20,	,,	11	,,	,,	33 and 43,	higher by	0·1
,,	27,	,,	11	,,	,,	33 and 42,	the same	
Feb.	3,	,,	11	,,	,,	27 and 40,	lower by	0·2
,,	10,	,,	11	,,	,,	26 and 32,	,,	0·3
,,	17,	,,	11	,,	,,	28 and 40,	,,	0·1
,,	24,	,,	11	,,	,,	33 and 44,	higher by	0·1
Mar.	3,	,,	11	,,	,,	26 and 40,	the same	
,,	10,	,,	12	,,	,,	33 and 42,	the same	
,,	17,	,,	12	,,	,,	22 and 35,	higher by	0·2
,,	24,	,,	9	,,	,,	39 and 48,	,,	0·1
,,	31,	,,	12	,,	,,	39 and 55,	lower by	0·3
April	7,	,,	11	,,	,,	30 and 51,	,,	0·1
,,	14,	,,	10	,,	,,	42 and 50,	higher by	0·1
,,	21,	,,	12	,,	,,	41 and 61,	,,	0·5
,,	28,	,,	9	,,	,,	47 and 61,	,,	0·4
May	5,	,,	11	,,	,,	40 and 52,	,,	0·1
,,	12,	,,	12	,,	,,	45 and 55,	,,	0·7
,,	19,	,,	12	,,	,,	42 and 52,	,,	0·3
,,	26,	,,	12	,,	,,	44 and 56,	,,	0·2
June	2,	,,	11	,,	,,	51 and 75,	,,	0·8
,,	9,	,,	12	,,	,,	47 and 70,	,,	0·5
,,	16,	,,	12	,,	,,	59 and 72,	,,	0·9
,,	23,	,,	11	,,	,,	51 and 69,	,,	1·0
,,	30,	,,	8	,,	,,	53 and 69,	,,	0·9
July	7,	,,	11	,,	,,	64 and 82,	,,	1·1
,,	14,	,,	11	,,	,,	54 and 64,	,,	0·5
,,	21,	,,	9	,,	,,	55 and 72,	,,	0·7
,,	28,	,,	10	,,	,,	51 and 66,	,,	0·9
Aug.	4,	,,	8	,,	,,	54 and 67,	,,	1·1
,,	11,	,,	9	,,	,,	54 and 59,	,,	0·5
,,	18,	,,	10	,,	,,	48 and 67,	,,	0·4
,,	25,	,,	11	,,	,,	50 and 67,	,,	0·7
Sep.	1,	,,	12	,,	,,	52 and 66,	,,	0·8
,,	8,	,,	12	,,	,,	42 and 68,	,,	0·4
,,	15,	,,	10	,,	,,	46 and 54,	lower by	0·2
,,	22,	,,	11	,,	,,	50 and 62,	higher by	0·2
,,	29,	,,	11	,,	,,	43 and 58,	the same	
Oct.	6,	,,	10	,,	,,	34 and 51,	higher by	0·3
,,	13,	,,	9	,,	,,	45 and 59,	lower by	0·1
,,	20,	,,	9	,,	,,	43 and 55,	the same	
,,	27,	,,	12	,,	,,	40 and 52,	higher by	0·5
Nov.	3,	,,	9	,,	,,	35 and 47,	,,	0·3
,,	10,	,,	8	,,	,,	43 and 52,	lower by	0·2

					° °		°
On Nov.	24, from	11	comparisons	between	31 and 40,	lower by	0·7
Dec.	1, ,,	11	,,	,,	43 and 49,	,,	0·1
,,	8, ,,	8	,,	,,	31 and 48,	,,	0·2
,,	15, ,,	10	,,	,,	42 and 50,	higher by	0·2
,,	22, ,,	9	,,	,,	30 and 44,	lower by	0·4
,,	29, ,,	11	,,	,,	31 and 49,	,,	0·1

From these observations it appears, that when the temperature is below 32° the thermometer reads very nearly the same as the standard; that between 32° and 50°, it reads higher by 0°·1; that between 50° and 60°, it reads higher by 0°·5; and that above 60°, it reads higher than the standard by 0°·9. 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 was made at 4^h, 10^h, 16^h, and 22^h, Göttingen mean time, every day except Sundays, Good Friday, and Christmas Day.

The relation existing between the temperature 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	2·1	0·066	4·2	0·072	6·3	0·078	8·4	0·084	10·5	0·091	12·6	0·098
·1	·061	·2	·067	·3	·072	·4	·078	·5	·084	·6	·091	·7	·099
·2	·062	·3	·067	·4	·072	·5	·078	·6	·085	·7	·092	·8	·099
·3	·062	·4	·067	·5	·073	·6	·079	·7	·085	·8	·092	12·9	·099
·4	·062	·5	·067	·6	·073	·7	·079	·8	·085	10·9	·092	13·0	·100
·5	·062	·6	·068	·7	·073	·8	·079	8·9	·086	11·0	·093	·1	·100
·6	·063	·7	·068	·8	·073	6·9	·080	9·0	·086	·1	·093	·2	·101
·7	·063	·8	·068	4·9	·074	7·0	·080	·1	·086	·2	·093	·3	·101
·8	·063	2·9	·068	5·0	·074	·1	·080	·2	·087	·3	·094	·4	·101
0·9	·063	3·0	·069	·1	·074	·2	·080	·3	·687	·4	·094	·5	·102
1·0	·064	·1	·069	·2	·075	·3	·081	·4	·087	·5	·094	·6	·102
·1	·064	·2	·069	·3	·075	·4	·981	·5	·088	·6	·095	·7	·102
·2	·064	·3	·069	·4	·075	·5	·081	·6	·088	·7	·095	·8	·103
·3	·064	·4	·070	·5	·075	·6	·082	·7	·088	·8	·096	13·9	·103
·4	·065	·5	·070	·6	·076	·7	·082	·8	·089	11·9	·096	14·0	·104
·5	·065	·6	·070	·7	·076	·8	·082	9·9	·089	12·0	·096	·1	·104
·6	·065	·7	·071	·8	·076	7·9	·083	10·0	·089	·1	·097	·2	·104
·7	·065	·8	·071	5·9	·077	8·0	·083	·1	·090	·2	·097	·3	·105
·8	·066	3·9	·071	6·0	·077	·1	·083	·2	·090	·3	·097	·4	·105
1·9	·066	4·0	·071	·1	·077	·2	·083	·3	·090	·4	·098	·5	·106
2·0	0·066	·1	0·072	·2	0·077	·3	0·084	·4	0·091	·5	0·098	·6	0·106

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.
14·7	0·106	20·1	0·130	25·5	0·158	30·9	0·192	36·3	0·232	41·7	0·281	47·1	0·338
·8	·107	·2	·130	·6	·158	31·0	·192	·4	·233	·8	·282	·2	·339
14·9	·107	·3	·131	·7	·159	·1	·193	·5	·234	41·9	·282	·3	·340
15·0	·108	·4	·131	·8	·160	·2	·194	·6	·235	42·0	·283	·4	·342
·1	·108	·5	·132	25·9	·160	·3	·194	·7	·235	·1	·284	·5	·343
·2	·108	·6	·132	26·0	·161	·4	·195	·8	·236	·2	·285	·6	·344
·3	·109	·7	·133	·1	·161	·5	·196	36·9	·237	·3	·286	·7	·345
·4	·109	·8	·133	·2	·162	·6	·197	37·0	·238	·4	·287	·8	·346
·5	·110	20·9	·134	·3	·163	·7	·197	·1	·239	·5	·288	47·9	·348
·6	·110	21·0	·134	·4	·163	·8	·198	·2	·240	·6	·289	48·0	·349
·7	·110	·1	·135	·5	·164	31·9	·198	·3	·240	·7	·290	·1	·350
·8	·111	·2	·135	·6	·164	32·0	·199	·4	·241	·8	·291	·2	·351
15·9	·111	·3	·136	·7	·165	·1	·200	·5	·242	42·9	·292	·3	·352
16·0	·112	·4	·136	·8	·165	·2	·201	·6	·243	43·0	·293	·4	·354
·1	·112	·5	·137	26·9	·166	·3	·201	·7	·244	·1	·295	·5	·355
·2	·112	·6	·137	27·0	·167	·4	·202	·8	·245	·2	·296	·6	·356
·3	·113	·7	·138	·1	·167	·5	·203	37·9	·246	·3	·297	·7	·357
·4	·113	·8	·138	·2	·168	·6	·204	38·0	·246	·4	·298	·8	·358
·5	·114	21·9	·139	·3	·168	·7	·204	·1	·247	·5	·299	48·9	·360
·6	·114	22·0	·139	·4	·169	·8	·205	·2	·248	·6	·300	49·0	·361
·7	·115	·1	·140	·5	·170	32·9	·206	·3	·249	·7	·301	·1	·362
·8	·115	·2	·140	·6	·170	33·0	·207	·4	·250	·8	·302	·2	·363
16·9	·115	·3	·141	·7	·171	·1	·207	·5	·251	43·9	·303	·3	·365
17·0	·116	·4	·141	·8	·172	·2	·208	·6	·252	44·0	·304	·4	·366
·1	·116	·5	·142	27·9	·172	·3	·209	·7	·253	·1	·305	·5	·367
·2	·117	·6	·142	28·0	·173	·4	·210	·8	·253	·2	·306	·6	·368
·3	·117	·7	·143	·1	·173	·5	·210	38·9	·254	·3	·307	·7	·370
·4	·118	·8	·143	·2	·174	·6	·211	39·0	·255	·4	·308	·8	·371
·5	·118	22·9	·144	·3	·175	·7	·212	·1	·256	·5	·309	49·9	·372
·6	·118	23·0	·144	·4	·175	·8	·213	·2	·257	·6	·310	50·0	·373
·7	·119	·1	·145	·5	·176	33·9	·213	·3	·258	·7	·311	·1	·375
·8	·119	·2	·145	·6	·177	34·0	·214	·4	·259	·8	·312	·2	·376
17·9	·120	·3	·146	·7	·177	·1	·215	·5	·260	44·9	·313	·3	·377
18·0	·120	·4	·146	·8	·178	·2	·216	·6	·261	45·0	·315	·4	·379
·1	·121	·5	·147	28·9	·178	·3	·216	·7	·262	·1	·316	·5	·380
·2	·121	·6	·147	29·0	·179	·4	·217	·8	·263	·2	·317	·6	·381
·3	·121	·7	·148	·1	·180	·5	·218	39·9	·263	·3	·318	·7	·382
·4	·122	·8	·148	·2	·180	·6	·219	40·0	·264	·4	·319	·8	·383
·5	·122	23·9	·149	·3	·181	·7	·219	·1	·265	·5	·320	50·9	·385
·6	·123	24·0	·150	·4	·182	·8	·220	·2	·266	·6	·321	51·0	·386
·7	·123	·1	·150	·5	·182	34·9	·221	·3	·267	·7	·322	·1	·388
·8	·124	·2	·151	·6	·183	35·0	·222	·4	·268	·8	·323	·2	·389
18·9	·124	·3	·152	·7	·184	·1	·223	·5	·269	45·9	·324	·3	·390
19·0	·125	·4	·152	·8	·184	·2	·223	·6	·270	46·0	·326	·4	·392
·1	·125	·5	·152	29·9	·185	·3	·224	·7	·271	·1	·327	·5	·393
·2	·126	·6	·153	30·0	·186	·4	·225	·8	·272	·2	·328	·6	·394
·3	·126	·7	·153	·1	·186	·5	·226	40·9	·273	·3	·329	·7	·396
·4	·126	·8	·154	·2	·187	·6	·227	41·0	·274	·4	·330	·8	·597
·5	·127	24·9	·155	·3	·188	·7	·227	·1	·275	·5	·331	51·9	·398
·6	·127	25·0	·155	·4	·188	·8	·228	·2	·276	·6	·332	52·0	·400
·7	·128	·1	·156	·5	·189	35·9	·229	·3	·277	·7	·333	·1	·401
·8	·128	·2	·156	·6	·190	36·0	·230	·4	·278	·8	·335	·2	·402
19·9	·129	·3	·157	·7	·190	·1	·231	·5	·279	46·9	·336	·3	·404
20·0	0·129	·4	0·157	·8	0·191	·2	0·231	·6	0·280	47·0	0·337	·4	0·405

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.
52·5	0·407	57·9	0·488	63·3	0·584	68·7	0·697	74·1	0·830	79·5	0·986	84·9	1·167
·6	·408	58·0	·489	·4	·586	·8	·699	·2	·832	·6	·989	85·0	·171
·7	·409	·1	·491	·5	·588	68·9	·701	·3	·835	·7	·992	·1	·175
·8	·411	·2	·493	·6	·590	69·0	·704	·4	·838	·8	·995	·2	·178
52·9	·412	·3	·494	·7	·591	·1	·706	·5	·840	79·9	0·998	·3	·182
53·0	·414	·4	·496	·8	·593	·2	·708	·6	·843	80·0	1·001	·4	·186
·1	·415	·5	·498	63·9	·595	·3	·711	·7	·846	·1	·005	·5	·190
·2	·416	·6	·499	64·0	·597	·4	·713	·8	·849	·2	·008	·6	·193
·3	·418	·7	·501	·1	·599	·5	·715	74·9	·851	·3	·011	·7	·197
·4	·419	·8	·503	·2	·601	·6	·717	75·0	·854	·4	·014	·8	·201
·5	·421	58·9	·504	·3	·603	·7	·720	·1	·857	·5	·017	85·9	·205
·6	·422	59·0	·506	·4	·605	·8	·722	·2	·860	·6	·021	86·0	·209
·7	·423	·1	·508	·5	·607	69·9	·725	·3	·862	·7	·024	·1	·212
·8	·425	·2	·509	·6	·609	70·0	·727	·4	·865	·8	·027	·2	·216
53·9	·426	·3	·511	·7	·611	·1	·729	·5	·868	80·9	·030	·3	·220
54·0	·428	·4	·513	·8	·613	·2	·732	·6	·871	81·0	·034	·4	·224
·1	·429	·5	·515	64·9	·615	·3	·734	·7	·873	·1	·037	·5	·228
·2	·431	·6	·516	65·0	·617	·4	·736	·8	·876	·2	·040	·6	·232
·3	·432	·7	·518	·1	·619	·5	·739	75·9	·879	·3	·043	·7	·235
·4	·434	·8	·520	·2	·621	·6	·741	76·0	·882	·4	·047	·8	·239
·5	·435	59·9	·521	·3	·623	·7	·744	·1	·885	·5	·050	86·9	·243
·6	·437	60·0	·523	·4	·626	·8	·746	·2	·887	·6	·053	87·0	·247
·7	·438	·1	·525	·5	·628	70·9	·748	·3	·890	·7	·057	·1	·251
·8	·440	·2	·527	·6	·630	71·0	·751	·4	·893	·8	·060	·2	·255
54·9	·441	·3	·528	·7	·632	·1	·753	·5	·896	81·9	·063	·3	·258
55·0	·442	·4	·530	·8	·634	·2	·756	·6	·899	82·0	·067	·4	·262
·1	·444	·5	·532	65·9	·636	·3	·758	·7	·902	·1	·069	·5	·266
·2	·445	·6	·534	66·0	·638	·4	·761	·8	·905	·2	·073	·6	·270
·3	·447	·7	·536	·1	·640	·5	·763	76·9	·908	·3	·077	·7	·274
·4	·449	·8	·537	·2	·642	·6	·766	77·0	·910	·4	·080	·8	·278
·5	·450	60·9	·539	·3	·644	·7	·768	·1	·913	·5	·083	87·9	·282
·6	·452	61·0	·541	·4	·646	·8	·771	·2	·916	·6	·087	88·0	·286
·7	·453	·1	·543	·5	·648	71·9	·773	·3	·919	·7	·090	·1	·290
·8	·455	·2	·544	·6	·651	72·0	·776	·4	·922	·8	·094	·2	·294
55·9	·456	·3	·546	·7	·653	·1	·778	·5	·925	82·9	·097	·3	·298
56·0	·458	·4	·548	·8	·655	·2	·781	·6	·928	83·0	·101	·4	·302
·1	·459	·5	·550	66·9	·657	·3	·783	·7	·931	·1	·104	·5	·306
·2	·461	·6	·552	67·0	·659	·4	·785	·8	·934	·2	·108	·6	·310
·3	·462	·7	·554	·1	·661	·5	·787	77·9	·937	·3	·111	·7	·314
·4	·464	·8	·555	·2	·664	·6	·790	78·0	·940	·4	·114	·8	·318
·5	·465	61·9	·557	·3	·666	·7	·792	·1	·943	·5	·118	88·9	·322
·6	·467	62·0	·559	·4	·668	·8	·795	·2	·946	·6	·121	89·0	·326
·7	·469	·1	·561	·5	·670	72·9	·797	·3	·949	·7	·125	·1	·330
·8	·470	·2	·563	·6	·672	73·0	·801	·4	·952	·8	·129	·2	·335
56·9	·472	·3	·565	·7	·674	·1	·803	·5	·955	83·9	·132	·3	·339
57·0	·473	·4	·567	·8	·677	·2	·806	·6	·958	84·0	·136	·4	·343
·1	·475	·5	·568	67·9	·679	·3	·809	·7	·961	·1	·139	·5	·347
·2	·476	·6	·570	68·0	·681	·4	·811	·8	·964	·2	·143	·6	·351
·3	·478	·7	·572	·1	·684	·5	·814	78·9	·967	·3	·146	·7	·355
·4	·480	·8	·574	·2	·686	·6	·817	79·0	·970	·4	·150	·8	·359
·5	·481	62·9	·576	·3	·688	·7	·819	·1	·973	·5	·153	89·9	·364
·6	·483	63·0	·578	·4	·690	·8	·822	·2	·976	·6	·157	90·0	1·368
·7	·485	·1	·580	·5	·692	73·9	·824	·3	·979	·7	·160		
·8	0·486	·2	0·582	·6	0·695	74·0	0·827	·4	0·983	·8	1·164		

Previously to 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	2·0	0·00076	3·9	0·00148	5·8	0·00220	7·7	0·00292
0·2	·00008	2·1	·00080	4·0	·00151	5·9	·00224	7·8	·00295
0·3	·00011	2·2	·00083	4·1	·00155	6·0	·00228	7·9	·00299
0·4	·00015	2·3	·00087	4·2	·00159	6·1	·00231	8·0	·00303
0·5	·00019	2·4	·00091	4·3	·00163	6·2	·00235	8·1	·00307
0·6	·00023	2·5	·00095	4·4	·00167	6·3	·00239	8·2	·00311
0·7	·00027	2·6	·00098	4·5	·00171	6·4	·00242	8·3	·00315
0·8	·00030	2·7	·00102	4·6	·00174	6·5	·00246	8·4	·00318
0·9	·00034	2·8	·00106	4·7	·00178	6·6	·00250	8·5	·00322
1·0	·00038	2·9	·00110	4·8	·00182	6·7	·00254	8·6	·00326
1·1	·00042	3·0	·00114	4·9	·00186	6·8	·00258	8·7	·00330
1·2	·00046	3·1	·00118	5·0	·00189	6·9	·00261	8·8	·00333
1·3	·00049	3·2	·00121	5·1	·00193	7·0	·00265	8·9	·00337
1·4	·00053	3·3	·00125	5·2	·00197	7·1	·00269	9·0	·00341
1·5	·00057	3·4	·00129	5·3	·00201	7·2	·00273	9·1	·00345
1·6	·00061	3·5	·00132	5·4	·00205	7·3	·00277	9·2	·00349
1·7	·00064	3·6	·00137	5·5	·00209	7·4	·00280	9·3	·00352
1·8	·00068	3·7	·00140	5·6	·00212	7·5	·00284	9·4	·00356
1·9	·00072	3·8	·00144	5·7	·00216	7·6	·00288	9·5	·00360

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.	$\frac{d}{88} \times \frac{1}{30}$
°		°		°		°		°	
9·6	0·00364	11·8	0·00447	14·0	0·00530	16·1	0·00610	18·2	0·00690
9·7	·00368	11·9	·00451	14·1	·00534	16·2	·00614	18·3	·00693
9·8	·00371	12·0	·00454	14·2	·00538	16·3	·00618	18·4	·00697
9·9	·00375	12·1	·00458	14·3	·00541	16·4	·00622	18·5	·00701
10·0	·00379	12·2	·00462	14·4	·00545	16·5	·00625	18·6	·00704
10·1	·00383	12·3	·00466	14·5	·00549	16·6	·00629	18·7	·00708
10·2	·00386	12·4	·00470	14·6	·00553	16·7	·00633	18·8	·00712
10·3	·00390	12·5	·00474	14·7	·00556	16·8	·00636	18·9	·00716
10·4	·00394	12·6	·00477	14·8	·00560	16·9	·00640	19·0	·00720
10·5	·00398	12·7	·00481	14·9	·00564	17·0	·00644	19·1	·00724
10·6	·00401	12·8	·00485	15·0	·00568	17·1	·00648	19·2	·00728
10·7	·00405	12·9	·00489	15·1	·00572	17·2	·00652	19·3	·00731
10·8	·00409	13·0	·00493	15·2	·00576	17·3	·00655	19·4	·00735
10·9	·00412	13·1	·00496	15·3	·00580	17·4	·00659	19·5	·00739
11·0	·00416	13·2	·00500	15·4	·00584	17·5	·00663	19·6	·00742
11·1	·00420	13·3	·00504	15·5	·00587	17·6	·00666	19·7	·00746
11·2	·00424	13·4	·00508	15·6	·00591	17·7	·00670	19·8	·00750
11·3	·00428	13·5	·00511	15·7	·00595	17·8	·00674	19·9	·00754
11·4	·00432	13·6	·00515	15·8	·00598	17·9	·00678	20·0	·00758
11·5	·00436	13·7	·00519	15·9	·00602	18·0	·00682	20·1	·00761
11·6	·00439	13·8	·00522	16·0	·00606	18·1	·00686	20·2	·00765
11·7	·00443	13·9	·00524						

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

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

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 lviii ranging with the difference of the readings of the dry and wet thermometers being multiplied into the height 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 liv to lvi 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 of uniform expansion. (Annales de Chimie, vol. 43.) The following table has been calculated upon this assumption, considering a volume of air under the pressure of 30 inches of mercury and at the temperature of 32° to be the unit of comparison.

A Table shewing the Volume of a Mass of Dry Air after Expansion from Heat, 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 above table; 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 liv, 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,

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

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

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

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

A Table shewing the Enlargement which a Volume of Dry Air receives when saturated with Vapour 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),

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

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

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

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

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

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 lix take out the volume after expansion at both temperatures, and then say, As volume at temp. of air : volume at temp. of dew-point : : $\left\{\begin{array}{c}\text{weight of a cubic foot}\\ \text{of vapour at temp. of}\\ \text{dew-point.}\end{array}\right\}$: $\left\{\begin{array}{c}\text{weight of a}\\ \text{cubic foot}\\ \text{of vapour}\\ \text{required.}\end{array}\right.$

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 lxiii.

Then 1·079 : 1·037 : : $\overset{gr.}{4{\cdot}28}$: $\overset{gr.}{4{\cdot}12}$ 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 $8^{gr.}{\cdot}00$, 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 $4^{gr.}{\cdot}28$ gives 4·11 grains. In this way the respective tables in the Abstracts were formed, exhibiting the weight of a cubic foot of vapour. Also as the weight of moisture in the assumed example was $4^{gr.}{\cdot}11$, and at 70° complete saturation takes place, when 8gr·00 of moisture are held in solution, the difference between these numbers, 3gr·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 lxiii it would appear, that air has its capacity for moisture doubled at each rise of 21° nearly. 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	
1·56	19·8	19·8
3·12	40·3	20·5
6·24	62·0	21·7
12·48	84·8	22·8

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 lxii, 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.

A 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 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 the weight of a cubic foot of dry and wet air, will give the part due to the moisture in the air; and this product, taken from the weight of a cubic foot of dry air, will give the weight of a cubic foot of air of the given temperature and humidity, under a pressure of 30 inches of mercury. The true weight of a cubic foot of air in its then existing state is found by multiplying the last found value by $\frac{\text{Height of the barometer}}{30}$. 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 $\overset{\text{inches}}{30}$: elastic force of vapour : : $\overset{\text{grains}}{268}$: the weight of a cubic foot of vapour.

A Table shewing the Weight of Vapour in a Cubic Foot of Space (upon the supposition of a Cubic Inch of Water producing 1625 Inches of Vapour), 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 THERMOMETER.

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

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

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

		°				°	°
January.	Add	0·1	to	all maximum readings	below	35	
	Subtract	0·3	from	all maximum readings	above	35	
	Add	0·4	to	all minimum readings	below	35	
	Add	0·2	to	all minimum readings	above	35	
February.	Add	0·6	to	all maximum readings	below	35	
	Add	0·3	to	all maximum readings	between	35 and	40
	Subtract	0·3	from	all maximum readings	above	40	
	Add	0·4	to	all minimum readings			
March.	Add	0·7	to	all maximum readings	below	40	
	Subtract	0·8	from	all maximum readings	above	40	
	Add	0·6	to	all minimum readings	below	40	
	Subtract	0·4	from	all minimum readings	between	40 and	50
	Subtract	0·8	from	all minimum readings	above	50	
April.	Subtract	0·4	from	all maximum readings	below	50	
	Subtract	1·3	from	all maximum readings	between	50 and	60
	Subtract	1·9	from	all maximum readings	above	60	
	Subtract	0·3	from	all minimum readings	below	50	
	Subtract	1·3	from	all minimum readings	above	50	
May.	Subtract	0·3	from	all maximum readings	below	55	
	Subtract	1·4	from	all maximum readings	above	55	

	°		° °
June.	Subtract 1·1 from all maximum readings below		70
	Subtract 2·3 from all maximum readings between		70 and 80
	Subtract 3·0 from all maximum readings above		80
	Subtract 1·0 from all minimum readings below		50
	Subtract 1·4 from all minimum readings above		50
July.	Subtract 1·0 from all maximum readings below		70
	Subtract 1·9 from all maximum readings between		70 and 85
	Subtract 3·5 from the reading taken at July 7^{d}. 22^{h}		
	Subtract 1·2 from all minimum readings		
August.	Subtract 0·7 from all maximum readings below		65
	Subtract 1·6 from all maximum readings above		65
	Subtract 0·4 from all minimum readings below		50
	Subtract 1·0 from all minimum readings above		50
September.	Subtract 1·1 from all maximum readings below		70
	Subtract 2·0 from all maximum readings above		70
	Subtract 0·8 from all minimum readings below		60
	Subtract 1·0 from all minimum readings above		60
October.	Subtract 0·9 from all maximum readings		
	Subtract 0·8 from all minimum readings		
November.	Subtract 0·9 from all maximum readings		
	Subtract 0·9 from all minimum readings		
December.	Subtract 0·5 from all maximum readings		
	Subtract 0·7 from all minimum readings above		40
	No correction to be applied to minimum readings below		40

RADIATION THERMOMETER.

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

The self-registering thermometer for radiation to the sky is of alcohol, with a blackened 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}.

During the year this thermometer, as in each of the previous years, has constantly had a tendency to read too little, in consequence of a portion of the alcohol passing to the upper part of the tube, and the amount of the error caused by this circumstance has been determined daily. Therefore the readings, as inserted in the Tabular Observations at 22^{h}, on every day, are the readings taken from the instrument, and increased by the following quantities:

		d h			d h		°
From	Jan.	1	to	Feb.	2.22	by	0·0
From	Feb.	3.22	to	Feb.	19.22	by	1·0
From	Feb.	20.22	to	Feb.	28.22	by	2·0
From	Mar.	1.22	to	Mar.	12.22	by	3·0
From	Mar.	13.22	to	Mar.	17.22	by	5·0
On	Mar.	18 at 22^h				by	3·5
From	Mar.	19.22	to	April	11.22	by	4·0
From	April	12.22	to	April	15.22	by	4·5
From	April	16.22	to	April	19.22	by	5·0
From	April	20.22	to	April	22.22	by	5·5
From	April	23.22	to	April	30.22	by	6·0
From	May	1.22	to	May	5.22	by	6·5
From	May	6.22	to	May	15.22	by	7·0
From	May	16.22	to	May	29.22	by	7·5
From	May	30.22	to	June	5.22	by	8·0
From	June	6.22	to	June	12.22	by	8·5
From	June	13.22	to	June	15.22	by	9·0
From	June	16.22	to	June	17.22	by	9.5
From	June	18.22	to	June	23.22	by	10·0
From	June	24.22	to	June	29.22	by	10·5
From	July	0.22	to	July	8.22	by	11·0
From	July	9.22	to	July	13.22	by	12·0
From	July	14.22	to	July	15.22	by	13·0
From	July	16.22	to	July	17.22	by	14·0
From	July	18.22	to	July	19.22	by	15·0
On	July	20 at 22^h				by	16·0

On July 16^d an attempt was made to clear the reading of this error, and it was reduced to 1°. After this the following corrections have been applied:

		d h			d h		°
From	July	21.22	to	July	30.22,	the correction applied is	+ 1·0
From	July	31.22	to	Aug.	8.22,	,,	+ 2·0
From	Aug.	9.22	to	Aug.	14.22,	,,	+ 2·5
From	Aug.	15.22	to	Aug.	17.22,	,,	+ 3·0
From	Aug.	18.22	to	Aug.	19.22,	,,	+ 3·3

On August 20^d another attempt was made to clear the instrument of the error, and subsequently to this date the following are the corrections:

		d h			d h		°
From	Aug.	20.22	to	Aug.	28.22,	the correction applied is	+ 1·5
From	Aug.	29.22	to	Aug.	30.22,	,,	+ 2·0
On	Aug.	31 at 22^h				,,	+ 3·0
From	Sep.	1.22	to	Sep.	2.22,	,,	+ 3·5
From	Sep.	3.22	to	Sep.	7.22,	,,	+ 4·0
From	Sep.	8.22	to	Sep.	12.22,	,,	+ 5·0
From	Sep.	13.22	to	Sep.	19.22,	,,	+ 6·0
From	Sep.	20.22	to	Oct.	4.22,	,,	+ 7·0
From	Oct.	5.22	to	Oct.	13.22,	,,	+ 7·5
From	Oct.	14.22	to	Oct.	27.22,	,,	+ 8·0

On October 28^d another attempt was made to lessen the error, and the correction applied to the readings, from Oct. $28^d.22^h$ to Nov. $21^d.22^h$, is + 4°·0.

On Nov. 22^d the amount of the error was again lessened. After this the following are the corrections:

		d h			d h			°
From	Nov.	22.22	to	Nov.	30.22,	the correction applied is		+ 1·5
On	Dec.	1 at 22^h					,,	+ 2·0
From	Dec.	2.22	to	Dec.	4.22,		,,	+ 2·5
From	Dec.	5.22	to	Dec.	10.22,		,,	+ 3·0
From	Dec.	11.22	to	Dec.	17.22,		,,	+ 3·5
From	Dec.	18.22	to	Dec.	24.22,		,,	+ 4·0

Another attempt was made to lessen the amount of the error on December 25^d. After this the corrections are as follows:

		d h			d h			°
From	Dec.	25.22	to	Dec.	29.22,	the correction applied is		+ 1·0
From	Dec.	30.22	to	Dec.	31.22,		,,	+ 1·5

POSITION OF THE THERMOMETERS DURING THE YEAR 1845.

A post was planted in the north-east re-entering angle of the Magnetic Observatory, about six feet from the walls of the building, and upon this a revolving frame is placed for carrying the thermometers. The frame consists of a horizontal board as base, of a vertical board projecting upwards from it connected with one edge of the horizontal board, and of two parallel inclined boards (separated about two inches) connected at the top with the vertical board, and at the bottom with the other edge of the horizontal board. The air passes freely between all these boards. The standard thermometer, the dry and wet-bulb thermometers, the dew-point instrument, and the maximum and minimum thermometer, are attached to the outside of the vertical board, with a small projecting roof above them; their bulbs 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 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 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., superintendent of the ship, or in his absence by Mr. Cooper, one of the officers of the ship.

Experiments to determine the Temperature of the Water of the Thames at different Depths.

1844. On May 13^d the following experiments were made by Mr. Glaisher for the purpose of trying the temperature of the water at different depths. The maximum and minimum thermometers and two detached thermometers were fixed upon a frame so that they could not strike against each other; the frame with the instruments was lowered in the water to a proposed depth, and allowed to remain there at least ten minutes; it was then quickly raised and the thermometers read, and again sunk to another depth, and so on. The following are the results. It was nearly high tide at the commencement of the experiments, but the tide ebbed very strongly towards the end.

The readings of the thermometers were—

	Maximum.	Minimum.	Detached.
At the depth of one inch	60°·5	60°·5	61°·0 and 61°·0
At the depth of two feet	60·5	60·5	60·5 and 60·5
At the depth of four feet	60·5	60·5	60·5 and 60·5
At the depth of six feet	60·3	60·3	60·0 and 60·0
At the depth of eight feet	60·5	60·3	60·0 and 60·0
At the depth of ten feet	60·5	60·0	60·0 and 60·0
At the depth of twenty-five feet	62·0	60·0	62·0 and 62·0

The depth of twenty-five feet was not measured; the length of line run out was thirty-six feet, and a weight of 7 lbs. was affixed so as to sink the thermometers, but the line cut the water at such an angle that the depth was estimated as above. This observation was repeated several times, and always with the same result; so also were the observations at eight feet and ten feet; and there appeared no doubt that, on the whole, the readings of the thermometers increased with the depth. This result was unexpected; and a probable reason may be, not that the water at that depth is actually warmer, but that the great pressure of the water compresses the bulbs, and thus drives the mercury higher up the stems, and causes the readings to be higher.

OSLER'S ANEMOMETER.

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

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

This instrument was in use till November 11^d, but during the whole of the year the traversing board had been constantly liable to move by jerks, in consequence of the links of the clock-chain slipping off the spikes of the barrel, owing probably to the links becoming unequally stretched. In the Abstracts it is stated that the instrument was out of order during a certain number of hours: by this is to be understood the number of hours during which the record was entirely lost, but this number does not represent at all the actual number of hours during which the traversing board was moving irregularly; on many occasions the observations were preserved by means of frequently examining the sheet, and noting the times of such examinations and the positions of the registering pencils. In consequence of this failure, all the parts of the instrument connected with the clock-movement were taken down, for the purpose of substituting another clock-movement which should drive the board without the intervention of a chain. This was not finished during the remainder of the year.

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 sixteenth 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	$2^{in}\cdot30$
The length of the flat part of each sail is	$1^{in}\cdot92$
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 = $0^{in}\cdot044$.

	in.
Assuming that the effective radius of the sail is	1·7
Then the circumference described is $1^{in}\cdot7 \times 2\pi =$ ...	10·68
Therefore, the motion of the wind in one revolution is	10·68
,, in 10,000 revolutions is	106800 inches

corresponding to $0^{in}\cdot044$ 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 into the longer leg of the syphon, and the whole contents run off. After leaving the globe, the water is received in a pipe attached to the building which carries it away. 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 it emptied itself, then weighing the water, and thus ascertaining its bulk, and dividing this bulk by the area of the surface of the rain-receiver. The quantity of water registered by this gauge, between 22^h of one day, and 22^h of the next, is added every day to the whole quantity previously registered from the beginning of the year, and the sum is inserted in the column whose heading is "Stand of Rain-gauge No. 1." The quantities in this column represent the amount of rain in inches collected from January 1.

The rain-gauge No. 2, on the top of the library, is a funnel, whose diameter is 6 inches;

its exposed area consequently is 28·3 square inches. The water passes into a cylinder from which it is poured into a circular vessel, the diameter of which is 3·25 inches; and therefore 3·4 inches 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 is 6 feet West of the gauge No. 3. The quantity of water collected is read at the end of every month: its readings are inserted in the marginal notes to the Observations.

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 thirty-five 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 inches 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 removable at pleasure. The action of the screw is to increase or diminish the capacity of the cylinder, and thus to draw back from, or to drive into the ball, a portion of liquid; and by this means the cylinder may be just filled, leaving no bubble of air in it. For using the instrument a stand or table is prepared, with a part movable, 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 again placed before the instrument: at the following 30^s the scale is read for the first shade observation, and at one minute afterwards is again read for the second shade observation; the instrument is then again exposed to the Sun, and read as before, and so on successively.

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, and in the Abstracts of former years it will be found that this effect is to stop one-sixth nearly of the incident rays of the Sun. 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.

The following series of careful observations were made in 1844 and 1845, in order to ascertain how far the fluid is driven up the tube (in divisions of the scale) by one turn of the screw.

1844, April 18. Observer, Mr. Glaisher.

Experiment 1.	One-fourth of one turn of the screw	caused the liquid to rise	66	divisions.
,, 2.	,,	,,	68	,,
,, 3.	,,	,,	67	,,
,, 4.	,,	,,	69	,,
,, 5.	,,	,,	60	,,
,, 6.	,,	,,	62	,,
,, 7.	,,	,,	63	,,
,, 8.	,,	,,	68	,,
,, 9.	,,	,,	65	,,
,, 10.	,,	,,	63	,,
,, 11.	,,	,,	63	,,
,, 12.	,,	,,	63	,,
,, 13.	,,	,,	62	,,
,, 14.	,,	,,	65	,,
,, 15.	,,	,,	66	,,

The mean of these numbers is 65; and, therefore, it appears that one turn of the screw drives the liquid up the stem through 260 divisions of its scale.

1845, January. Observer, Mr. Glaisher.

Previously to commencing the experiments, it was found that the reading of the scale increased 10 divisions in a minute; and after their completion the change per minute was found to be the same. The time occupied by an experiment was found to be 10^{s}, during which time the scale-reading had, consequently, increased by $\frac{10^{\text{div.}}}{6}$ or $1^{\text{div.}}\!\cdot 7$; and this was applied as a correction to each experiment, additive when the screw was withdrawn, or the greater scale-reading preceded the less, and subtractive when the screw was driven, or when the lesser scale-reading preceded the greater: the experiments were very carefully made.

The Screw was	Reading of the Scale: Before the Screw was Touched.	Reading of the Scale: After the Screw was moved ¼ Part of One Turn.	Difference of Scale Readings.	Correction.	Corrected Difference of Scale Readings, or Number of Scale Divisions corresponding to ¼ Turn of the Screw.	Number of Scale Divisions corresponding to One Turn of the Screw.
	div.	div.	div.	div.	div.	div.
Withdrawn	81·0	19·2	61·8	+ 1·7	63·5	254·0
Driven	14·0	79·6	65·6	− 1·7	63·9	255·6
Driven	7·5	75·0	67·5	− 1·7	65·8	263·2
Driven	12·0	76·5	64·5	− 1·7	62·8	251·2
Driven	1·0	67·5	66·5	− 1·7	64·8	259·2
Withdrawn	64·0	0·9	63·1	+ 1·7	64·8	259·2
Withdrawn	70·0	6·5	63·5	+ 1·7	65·2	260·8
Driven	4·2	70·0	65·8	− 1·7	64·1	256·4
Driven	0·0	67·0	67·0	− 1·7	65·3	261·2
Withdrawn	69·0	6·3	62·7	+ 1·7	64·4	257·6
Driven	8·5	75·0	66·5	− 1·7	64·8	259·2
Driven	16·0	82·7	66·7	− 1·7	65·0	260·0
Withdrawn	85·5	22·6	62·9	+ 1·7	64·6	258·4
Driven	24·8	91·3	66·5	− 1·7	64·8	259·2
Driven	− 2·0	65·5	67·5	− 1·7	65·8	263·2
Withdrawn	70·0	7·6	62·4	+ 1·7	64·1	256·4
Driven	10·7	77·0	66·3	− 1·7	64·6	258·4
Withdrawn	78·0	15·2	62·8	+ 1·7	64·5	258·0
Driven	19·5	87·0	67·5	− 1·7	65·8	263·2
Withdrawn	85·0	21·2	63·8	+ 1·7	65·5	262·2
Driven	24·2	90·3	66·1	− 1·7	64·4	257·6
Withdrawn	91·0	29·1	61·9	+ 1·7	63·6	254·4
Driven	31·0	97·0	66·0	− 1·7	64·3	257·2
Driven	− 4·0	63·0	67·0	− 1·7	65·3	261·2
Withdrawn	72·0	9·0	63·0	+ 1·7	64·7	258·8

The mean of the numbers in the last column is $258^{div}{\cdot}6$.

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

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 $0^{in}{\cdot}0435$. 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 $50^{in}{\cdot}4$. Therefore, the circumference of the screw at the bottom of the thread was $1^{in}{\cdot}5$ nearly, or its diameter was $0^{in}{\cdot}477$. 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 $16^{in}{\cdot}4$; from which the circumference of the bottom of the thread was $1^{in}{\cdot}5$ as before. This determination was by Mr. Main. The diameter of the screw at the outer edge of the threads was found to be $0^{in}{\cdot}52$. The depth of the thread by measurement was less than 0 05 inch.

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 1845, 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 yet 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 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, with 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 1845. During part of the year these persons were—

Mr. James Glaisher, Superintendent.
Mr. Edwin Dunkin.
Mr. Hugh Breen.
Mr. Charles Dilkes Lovelace.

Near the end of October, Mr. Edwin Dunkin was transferred to the Astronomical Department, and he was succeeded by Mr. Thomas Downs, who had been employed in the Computations connected with the Reduction of the Ancient Greenwich Planetary and Lunar Observations.

The order of observations 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 superintendent, 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.

In the printed Magnetical Observations which follow, the reduced readings of the Horizontal Force Magnetometer and the Vertical Force Magnetometer are corrected for temperature, adopting the thermometrical coefficients whose values have been given in the Introduction.

As it is possible, however, that some doubt may yet exist in regard to the accuracy of these coefficients, the whole of the temperatures, as read from the thermometers placed in the magnetometer-boxes, and used in the corrections of the results as printed in the following sheets, are given in the Tables here subjoined.

READINGS OF THE THERMOMETERS

PLACED WITHIN THE BOXES

OF THE

HORIZONTAL AND VERTICAL FORCE MAGNETS,

AT

EVERY OBSERVATION OF THE MAGNETS

MADE AT THE EVEN HOURS OF GÖTTINGEN MEAN TIME

BETWEEN

1845, JANUARY 1, AND 1845, DECEMBER 31.

Readings of the Thermometer placed within the Box of the Horizontal Force Magnet, at every Even Hour of Göttingen Mean Time, during the Months of Jan. and Feb., 1845.

Astronomical Day.	Hours of Göttingen Mean Time, Astronomical Reckoning. 0h	2h	4h	6h	8h	10h	12h	14h	16h	18h	20h	22h
Jan.	°	°	°	°	°	°	°	°	°	°	°	°
1	46·2	46·8	48·7	49·4	49·7	49·2	48·1	47·0	46·2	45·0	44·2	44·8
2	44·4	44·4	44·2	44·7	44·2	43·9	43·1	42·3	41·2	40·5	39·6	39·8
3	39·9	40·7	43·0	44·1	44·2	44·2	44·6	44·7	44·7	44·7	44·3	44·1
4	45·7	47·4	48·8	48·7	48·3	48·5	48·0					
5								47·0	47·0	47·1	47·0	47·8
6	48·8	52·0	52·6	52·5	52·4	52·1	52·8	52·0	51·1	50·5	49·8	49·8
7	49·8	51·8	52·8	53·2	52·2	52·0	51·3	50·6	49·2	48·2	46·8	45·6
8	44·7	44·2	45·4	45·8	45·5	45·5	45·1	44·2	43·4	42·0	41·4	41·8
9	41·6	41·3	40·9	41·0	40·9	40·9	41·8	42·0	42·0	41·8	41·5	41·2
10	41·0	43·5	45·8	48·5	49·1	49·0	49·5	49·2	49·5	50·8	50·8	50·7
11	50·6	50·1	51·8	52·8	53·8	53·2	52·4					
12								45·0	44·8	44·6	45·0	45·5
13	46·3	46·5	47·3	48·0	47·8	47·2	47·0	48·0	48·0	48·0	48·0	48·3
14	48·3	47·9	49·5	50·0	50·8	50·0	48·8	48·0	47·5	47·5	48·7	48·5
15	48·7	50·6	51·5	51·5	51·3	50·8	49·9	49·0	48·0	47·5	47·0	47·8
16	48·8	49·8	50·7	51·4	50·3	50·9	50·0	49·7	48·0	47·0	45·5	45·3
17	45·6	46·4	47·8	48·2	48·0	47·8	47·2	46·5	46·2	45·8	46·0	45·2
18	45·0	45·8	47·0	48·2	49·2	50·6	49·8					
19								43·1	43·4	43·1	43·0	43·3
20	43·8	44·8	45·2	46·1	46·2	46·8	47·2	46·6	45·4	44·0	43·0	41·7
21	42·1	44·8	48·2	48·2	48·2	46·2	45·0	43·0	41·5	40·5	39·5	39·0
22	40·0	41·6	44·2	46·7	47·8	48·7	49·5	50·8	51·2	52·2	54·2	55·0
23	54·0	54·8	55·1	55·3	56·3	55·2	54·2	52·9	51·2	49·2	48·0	48·5
24	49·8	50·8	51·2	51·2	51·2	51·0	51·0	50·2	48·0	46·5	45·0	44·0
25	44·5	48·2	51·0	52·3	52·2	51·6	51·5					
26								42·8	42·7	43·0	43·7	43·9
27	44·8	42·8	49·2	48·7	48·0	46·8	47·0	46·5	46·5	45·7	44·0	41·8
28	41·0	44·0	46·5	48·0	48·0	49·0	47·7	46·1	44·8	43·2	42·0	41·7
29	41·0	41·0	41·0	41·0	42·8	43·0	43·5	44·0	43·7	41·7	40·8	39·9
30	39·3	40·3	43·4	44·5	44·3	43·8	43·5	43·0	43·0	42·0	41·2	39·9
31	40·0	41·5	45·5	44·5	44·5	43·8	43·5	42·1	41·8	40·4	39·8	39·5

On 22d, at 11h, 13h, 15h, 17h, 19h, 21h, and 23h, the readings were 49°·0, 50°·0, 51°·0, 51°·9, 53°·2, 54°·8, and 55°·0 respectively.
On 23d, at 1h, 3h, 5h, 7h, and 9h, the readings were 55°·0, 55°·0, 55°·0, 56°·3, and 56°·0 respectively.

Astronomical Day.	Hours of Göttingen Mean Time, Astronomical Reckoning. 0h	2h	4h	6h	8h	10h	12h	14h	16h	18h	20h	22h
Feb.	°	°	°	°	°	°	°	°	°	°	°	°
1	39·0	39·0	39·3	40·0	40·9	41·9	42·2					
2								36·5	35·0	34·5	34·8	36·0
3	38·1	40·5	43·5	44·8	45·2	45·8	46·5	46·5	46·8	47·0	45·5	43·5
4	43·7	46·0	48·0	51·0	51·0	49·0	47·2	45·2	43·8	42·3	42·3	42·4
5	42·2	43·0	44·3	46·2	47·2	47·0	47·8	47·8	47·0	46·7	45·2	43·8
6	44·0	45·8	47·0	47·0	45·8	45·3	43·0	42·0	40·0	38·0	37·0	35·3
7	35·2	37·9	43·0	43·0	43·0	42·0	40·3	39·0	37·3	36·0	35·0	36·5
8	36·2	37·0	38·2	39·2	40·5	41·0	42·0					
9								34·8	34·8	34·8	34·5	35·0
10	35·8	36·4	38·5	39·6	39·5	39·3	39·2	39·0	38·0	37·5	37·0	36·9
11	37·5	40·7	44·0	45·3	45·0	43·0	40·2	38·0	35·9	32·0	29·1	27·3
12	27·0	30·0	33·2	35·8	37·2	38·0	39·0	38·0	36·5	35·8	34·5	34·0
13	34·0	34·6	37·5	38·5	39·2	40·0	40·0	41·0	42·0	42·5	43·0	43·5
14	43·1	45·2	48·5	48·5	47·8	46·3	44·1	43·0	42·0	41·5	41·0	42·3
15	42·5	43·0	42·9	43·0	43·0	42·1	41·8					
16								38·5	37·0	35·8	35·3	36·0
17	37·0	41·0	43·7	45·5	46·3	46·0	44·1	44·0	43·2	43·7	43·2	43·3
18	44·0	44·5	47·1	48·3	48·0	47·6	46·3	44·8	43·0	41·2	40·0	40·7
19	41·3	41·0	41·0	40·1	40·4	41·5	40·2	39·0	38·3	37·0	35·2	35·0
20	35·3	39·1	44·3	46·2	45·5	43·5	43·0	42·0	41·0	40·0	39·2	39·3
21	39·7	42·2	46·8	49·0	48·7	47·5	46·0	44·8	44·1	44·3	44·7	44·5
22	45·0	46·0	45·8	47·3	46·7	48·9	47·9					
23								39·3	39·2	39·2	39·5	40·7
24	42·0	44·0	46·0	47·3	48·0	49·1	49·2	48·5	48·3	48·5	47·5	45·5
25	44·6	49·7	47·2	49·8	50·0	49·8	50·0	50·0	49·0	48·1	48·0	48·5
26	49·5	50·5	52·0	52·5	52·2	51·6	51·5	50·0	48·8	47·2	46·5	45·3
27	44·8	46·0	49·0	49·5	49·5	51·0	50·6	49·5	48·0	47·0	46·1	45·8
28	45·5	44·5	44·3	44·3	44·0	43·5	43·5	42·6	40·8	40·5	39·5	39·0

On 21d, at 11h, 13h, 15h, 17h, 19h, 21h, and 23h, the readings were 47°·0, 44°·8, 44°·3, 44°·2, 44°·7, 44°·3, and 45°0, respectively.
On 22d, at 1h, 3h, 5h, 7h, and 9h, the readings were 44°·9, 45°·2, 46°·6, 47°·0, and 48°·3 respectively.

Readings of the Thermometer placed within the Box of the Vertical Force Magnet, at every Even Hour of Göttingen Mean Time, during the Months of Jan. and Feb., 1845.

Astronomical Day.	Hours of Göttingen Mean Time, Astronomical Reckoning. 0h	2h	4h	6h	8h	10h	12h	14h	16h	18h	20h	22h
Jan.	°	°	°	°	°	°	°	°	°	°	°	°
1												
2												
3												
4												
5								46·9	47·0	46·9	47·0	47·8
6	48·8	51·2	52·0	52·1	52·0	52·0	52·1	52·0	51·0	50·5	49·8	49·5
7	49·5	51·3	52·8	53·0	52·0	51·9	51·2	50·3	49·0	48·3	47·0	45·8
8	44·8	44·4	45·3	45·8	45·3	45·3	45·1	44·6	43·8	42·4	41·8	42·6
9	42·4	41·8	41·0	41·0	40·9	41·0	41·8	42·0	42·0	41·8	41·5	41·2
10	41·0	43·4	46·0	48·8	49·0	49·0	49·0	49·2	49·2	50·5	50·7	50·0
11	49·9	49·9	51·5	52·5	53·2	52·5	52·0					
12								45·0	44·9	44·5	44·6	44·8
13	46·3	46·2	47·2	47·9	47·6	47·1	46·5	47·5	48·0	47·0	47·0	48·3
14	48·5	47·5	49·0	50·0	50·4	49·6	48·5	48·2	47·5	47·2	49·0	48·0
15	48·5	50·2	51·3	51·5	51·0	50·2	49·8	48·8	48·0	47·5	47·0	47·7
16	48·8	49·6	50·0	50·9	50·8	50·2	49·8	49·5	48·0	47·0	45·5	44·8
17	45·4	46·2	47·1	48·0	48·0	47·5	47·0	46·2	46·0	45·7	45·8	45·0
18	45·0	45·5	47·0	48·0	48·8	50·0	49·6					
19								43·1	43·2	43·0	42·9	43·2
20	43·2	44·0	45·1	45·9	46·2	46·2	47·2	46·5	45·4	44·0	43·0	42·0
21	42·0	45·0	48·0	48·8	47·8	46·2	45·3	43·3	42·0	41·2	39·8	39·0
22	40·0	41·5	44·3	46·6	47·7	48·0	49·0	50·7	50·7	51·8	53·8	54·5
23	54·0	54·3	54·6	55·3	55·8	54·5	53·8	52·7	50·8	49·0	47·9	48·2
24	49·7	50·2	50·2	50·8	50·8	50·5	50·8	50·2	48·0	46·5	45·0	44·2
25	44 2	48·3	51·0	52·2	52·0	51·5	51·0					
26								43·2	42·8	42·8	43·4	43·4
27	44·2	42·3	49·0	48·4	48·0	46·8	46·5	46·0	46·0	45·5	44·0	41·8
28	41·2	43·5	46·2	47·5	47·5	48·5	47·5	46·1	45·0	43·7	42·2	42·2
29	41·5	41·3	41·0	41·1	42·4	43·0	43·5	43·8	43·4	41·5	41·2	40·0
30	39·4	40·1	43·5	44·2	44·2	43·5	43·0	42·7	42·7	42·0	41·2	40·0
31	40·2	41·9	44·3	44·0	44·0	43·5	43·8	42·6	42·0	40·9	40·0	40·2

On 22d, at 11h, 13h, 15h, 17h, 19h, 21h, and 23h, the readings were 48°·5, 50°·0, 50°·6, 51°·3, 53°·0, 54°·5, and 54°·5 respectively.
On 23d, at 1h, 3h, 5h, 7h, and 9h, the readings were 54°·0, 54°·4, 55°·0, 56°·0, and 55°·5 respectively.

Astronomical Day.	Hours of Göttingen Mean Time, Astronomical Reckoning. 0h	2h	4h	6h	8h	10h	12h	14h	16h	18h	20h	22h
Feb.	°	°	°	°	°	°	°	°	°	°	°	°
1	39·5	39·2	40·0	40·6	41·0	42·0	42·1					
2								37·0	36·2	35·0	35·2	36·3
3	38·5	40·5	43·4	44·7	45·0	45·5	46·0	46·0	46·5	46·5	45·5	43·8
4	43·7	46·0	47·5	51·0	51·0	49·0	47·1	45·3	43·8	42·7	42·1	42·6
5	42·2	42·8	44·2	46·0	47·0	46·9	47·5	47·8	47·0	46·3	45·3	43·9
6	44·0	45·0	46·7	46·8	45·8	45·3	43·0	42·0	40·0	38·0	37·0	36·2
7	35·9	37·9	43·0	43·0	43·0	42·0	40·5	39·5	37·8	36·8	35·9	36·0
8	36·3	37·0	38·2	39·6	40·6	40·8	42·0					
9								35·4	35·3	35·5	35·2	35·4
10	36·0	36·8	38·5	39·7	39·7	39·3	39·2	39·0	38·0	37·5	37·0	37·2
11	37·5	40·6	44·0	45·5	45·0	43·1	40·9	38·9	36·0	33·0	30·6	28·2
12	28·3	30·0	34·8	36·9	38·0	38·0	38·5	38·3	37·0	36·0	35·5	34·1
13	34·2	35·0	37·5	38·5	39·0	39·5	40·0	41·0	42·0	42·5	43·0	43·2
14	43·0	45·5	48·3	48·3	47·5	46·5	44·2	43·7	42·1	42·0	41·8	42·5
15	42·5	42·0	42·8	43·0	43·0	42·1	42·0					
16								39·0	37·5	36·2	36·0	36·0
17	37·0	41·0	44·0	45·5	46·0	46·0	44·3	44·0	43·2	43·6	43·2	43·2
18	43·8	44·5	47·2	48·5	48·2	47·7	46·7	45·0	43·3	41·8	40·0	40·8
19	41·5	41·2	41·2	40·6	40·7	41·0	40·2	39·5	38·5	37·5	35·5	34·7
20	35·0	39·1	44·5	46·5	45·5	43·8	43·0	42·1	41·0	40·0	39·3	39·2
21	39·1	41 8	47·2	49·8	49·0	47·0	45·8	44·8	44·1	44·3	44·7	44·5
22	44·7	45·8	45·5	47·2	46·7	48·2	47·5					
23								39·8	39·8	39·6	39·6	41·0
24	42·3	44·0	45·8	47·1	47·8	48·8	48·5	48·2	48·0	48·5	47·5	45·6
25	44·5	49·4	47·8	49·5	49·5	49·5	50·0	50·0	49·0	48·1	48·0	48·2
26	49·0	49·8	51·8	52·5	52·2	51 7	51·5	50·0	48·5	47·0	46·2	45·3
27	44·8	45·7	48·7	49·0	49·0	50·5	50·2	49·5	48·4	47·0	45·7	45·7
28	45·7	44·8	44·5	44·5	44·0	43·8	43·5	42·5	41·3	40·8	40·0	39·5

On 21d, at 11h, 13h, 15h, 17h, 19h, 21h, and 23h, the readings were 46°·6, 44°·5, 44°·3, 44°·2, 44°·8, 44°·2, and 45°·0 respectively.
On 22d, at 1h, 3h, 5h, 7h, and 9h, the readings were 44°·8, 45°·0, 46°·5, 47°·0, and 48°·2 respectively.

Readings of the Thermometer placed within the Box of the Horizontal Force Magnet, at every Even Hour of Göttingen Mean Time, during the Months of March and April, 1845.

Astronomical Day.	0^h	2^h	4^h	6^h	8^h	10^h	12^h	14^h	16^h	18^h	22^h	22^h
	Hours of Göttingen Mean Time, Astronomical Reckoning.											
Mar.	°	°	°	°	°	°	°	°	°	°	°	°
1	39·8	42·8	45·6	45·5	45·0	43·8	43·2					
2								41·8	41·8	40·9	40·8	42·0
3	42·5	43·2	42·8	42·6	42·1	41·2	39·2	37·7	36·1	35·3	34·4	35·5
4	36·5	38·7	41·0	42·0	42·0	41·0	39·8	38·5	37·0	35·5	35·2	35·4
5	36·3	38·8	41·3	42·5	41·5	39·5	38·2	37·0	35·0	33·0	32·0	30·9
6	31·5	32·8	34·0	34·0	36·5	37·0	36·0	35·0	34·2	34·5	34·0	36·2
7	37·0	40·0	42·8	44·4	44·7	44·0	43·4	42·3	40·5	39·0	38·0	38·5
8	39·3	41·0	43·8	45·4	44·1	43·1	41·0					
9								40·0	39·0	39·0	39·5	39·8
10	40·7	41·5	44·0	45·5	45·8	47·0	46·3	46·1	45·2	44·3	43·3	44·0
11	44·5	45·8	46·5	47·3	47·2	46·7	45·5	43·8	42·3	41·2	40·2	40·4
12	40·5	40·8	42·0	43·0	43·5	43·0	41·5	40·7	39·0	36·5	35·0	33·8
13	32·5	33·2	35·0	36·5	36·2	35·5	35·0	33·0	32·0	32·0	32·0	30·0
14	31·2	35·5	37·8	41·0	41·5	41·6	39·4	37·8	36·8	34·7	32·6	33·0
15	34·0	35·0	36·2	37·2	37·5	37·9	38·3					
16								31·0	30·0	30·8	31·0	31·5
17	32·3	35·0	38·5	41·3	42·0	41·5	41·0	40·0	38·2	36·3	34·9	34·4
18	35·2	37·5	41·3	45·0	46·1	46·6	46·1	44·0	43·1	41·0	40·0	40·3
19	40·8	41·4	44·1	46·2	47·4	48·5	47·7	47·8	47·3	47·0	46·5	48·0
20	47·7	50·0	52·3	55·0	55·2	54·5	52·0					
21								42·5	42·5	42·0	43·8	44·5
22	45·8	48·4	50·5	51·2	51·5	51·0	50·5					
23								49·0	50·0	51·8	52·9	53·8
24	54·0	55·8	57·4	58·1	58·4	57·7	56·2	54·8	52·6	50·8	49·7	48·6
25	49·4	51·8	54·0	55·2	55·6	55·6	54·8	54·5	53·7	53·0	52·0	52·0
26	53·7	55·8	58·3	58·8	58·8	57·2	57·0	57·0	55·5	53·5	53·0	52·8
27	53·5	54·5	57·5	58·5	60·0	59·5	58·0	56·5	55·0	54·6	53·0	54·8
28	56·9	59·0	61·5	60·9	59·6	58·2	56·8	55·0	53·0	51·3	50·0	49·6
29	51·0	53·8	55·6	56·4	56·3	55·0	53·5					
30								48·7	48·2	48·0	47·0	47·4
31	50·5	55·2	58·5	60·7	61·5	60·3	57·9	56·4	55·2	54·0	52·7	51·6

On 19^d, at 11^h, 13^h, 15^h, 17^h, 19^h, 21^h, and 23^h, the readings were 48°·5, 48°·0, 47°·5, 47°·5, 46°·6, 46°·5, and 48°·0 respectively.
On 20^d, at 1^h, 3^h, 5^h, 7^h, and 9^h, the readings were 48°·3, 50°·8, 54°·0, 55°·2 and 54°·5 respectively.

Astronomical Day.	0^h	2^h	4^h	6^h	8^h	10^h	12^h	14^h	16^h	18^h	20^h	22^h
	Hours of Göttingen Mean Time, Astronomical Reckoning.											
Apr.	°	°	°	°	°	°	°	°	°	°	°	°
1	51·4	53·5	55·2	56·0	56·0	55·4	54·0	52·5	51·5	49·0	48·0	47·8
2	48·5	53·0	57·0	58·5	59·0	57·0	56·5	54·6	52·8	52·2	51·3	51·3
3	54·6	58·1	63·2	64·8	65·8	64·0	62·5	60·5	58·0	56·0	55·0	54·2
4	56·3	60·7	63·4	66·2	66·3	65·0	61·0	58·2	55·6	53·5	51·6	50·7
5	50·8	53·2	56·5	57·5	57·1	55·2	53·5					
6								48·8	47·0	45·8	44·8	45·5
7	48·7	54·5	57·8	60·8	60·5	59·0	57·2	55·5	52·5	50·2	48·0	47·1
8	47·5	48·9	52·0	54·8	56·0	55·7	54·7	52·6	50·5	48·8	47·5	47·0
9	47·6	49·0	50·7	51·4	50·9	50·4	51·0	51·0	49·8	48·5	47·5	46·2
10	46·8	47·6	51·5	51·5	52·0	52·0	51·2	49·7	48·5	47·3	46·5	46·2
11	47·4	49·7	52·5	53·5	52·5	52·7	52·0	51·0	50·2	50·0	49·5	49·4
12	48·9	50·8	52·0	52·7	52·7	52·2	51·4					
13								47·9	47·5	47·0	46·8	48·5
14	49·8	52·7	54·5	55·2	54·9	54·5	53·5	52·8	51·7	51·2	50·5	49·9
15	49·6	49·3	50·5	50·8	50·5	50·0	49·1	49·0	48·8	47·8	47·8	47·8
16	48·2	50·2	53·0	55·0	55·2	55·8	55·5	54·0	53·0	50·5	50·0	51·5
17	54·0	58·2	60·8	63·0	62·5	60·5	57·7	56·4	54·4	53·6	52·5	51·8
18	51·8	54·6	57·0	58·8	59·6	59·1	57·5	55·5	54·5	53·5	52·6	52·1
19	53·5	57·2	61·4	63·7	63·8	62·3	60·5					
20								58·0	55·6	53·0	51·2	52·5
21	56·5	61·2	63·8	64·8	64·5	62·5	59·8	57·0	55·8	54·5	52·7	52·5
22	53·0	57·0	61·0	64·0	64·7	63·3	62·3	59·8	57·7	55·8	54·7	55·2
23	58·0	62·5	65·7	66·7	67·0	66·8	65·2	62·4	59·8	58·0	57·8	57·5
24	58·8	62·5	65·7	67·0	66·8	66·0	63·5	61·5	59·9	59·0	59·0	61·4
25	65·0	65·8	67·8	68·4	67·5	66·2	65·3	64·0	63·0	62·0	61·5	60·8
26	61·8	63·3	64·2	64·0	63·0	61·0	58·8					
27								56·2	54·8	54·0	53·8	55·0
28	57·5	59·7	60·8	61·0	62·0	60·2	59·5	58·4	57·8	57·3	57·8	58·6
29	60·0	61·8	63·7	64·8	64·8	64·0	63·2	62·0	60·0	58·8	57·5	57·1
30	57·5	58·8	60·8	61·0	61·2	60·7	60·5	60·0	60 0	60·0	60·0	60·2

On 23^d at 11^h, 13^h, 15^h, 17^h, 19^h, 21^h, and 23^h, the readings were 66°·0, 63°·5, 61°·0, 58°·8, 57°·3, 57°·3, and 58°·0 respectively.
On 24^d, at 1^h, 3^h, 5^h, 7^h, and 9^h, the readings were 59°·4, 63°·3 66°·3, 67°·3, and 66°·5 respectively.

Readings of the Thermometer placed within the Box of the Vertical Force Magnet, at every Even Hour of Göttingen Mean Time, during the Months of March and April, 1845.

Astronomical Day.	0^h	2^h	4^h	6^h	8^h	10^h	12^h	14^h	16^h	18^h	20^h	22^h
	Hours of Göttingen Mean Time, Astronomical Reckoning.											
Mar.	°	°	°	°	°	°	°	°	°	°	°	°
1	39·5	42·1	45·5	45·7	45·2	43·7	43·8					
2								42·0	41·9	41·0	41·0	41·8
3	42·5	43·5	42·8	42·9	42·3	41·5	40·0	38·2	36·9	36·0	35·2	35·8
4	37·0	39·0	41·0	42·2	42·3	41·0	39·5	38·8	37·3	36·5	36·0	35·6
5	36·5	38·8	41·5	42·5	41·2	39·8	38·0	37·0	35·0	33·0	32·0	31·8
6	31·7	33·0	34·0	34·0	36·5	37·0	36·4	35·1	34·8	34·6	34·3	36·0
7	37·5	40·5	43·0	44·8	44·9	44·0	44·0	43·0	41·5	39·8	38·8	38·8
8	39·6	41·2	45·0	46·7	45·6	44·0	42·0					
9								40·8	39·5	39·5	40·0	40·0
10	40·7	41·4	44·0	45·5	46·0	47·0	46·5	45·9	45·2	44·2	43·5	44·0
11	44·3	45·5	46·8	47·4	47·0	46·5	45·4	44·0	42·7	41·6	40·7	40·6
12	40·5	40·7	42·0	43·6	44·0	43·5	41·3	40·8	39·5	37·0	36·0	34·7
13	33·9	33·8	36·5	37·3	37·2	36·2	35·0	33·0	32·0	32·0	32·0	30·2
14	31·0	35·0	37·5	41·6	42·0	41·8	40·0	38·5	37·0	35·0	32·8	34·2
15	34·3	36·2	37·0	38·0	37·9	38·2	38·5					
16								30·8	30·3	31·0	31·3	31·8
17	32·5	35·1	39·5	41·7	41·8	41·5	41·0	40·2	38·4	36·8	35·3	34·6
18	35·0	37·8	42·0	45·3	46·0	46·2	45·8	44·1	43·0	41·8	40·2	41·0
19	41·0	41·7	44·4	46·2	47·2	48·5	47·7	47·8	47·2	47·0	46·5	48·0
20	47·3	49·5	52·6	55·0	55·0	54·0	52·0					
21								42·5	42·3	42·0	43·8	44·2
22	45·2	48·5	50·4	51·0	50·8	50·7	49·9					
23								49·2	50·0	51·7	52·4	53·5
24	53·8	55·8	57·4	58·0	58·3	57·4	56·0	54·8	52·8	51·0	50·0	48·5
25	49·0	51·5	53·8	55·0	55·3	55·1	54·0	54·0	53·3	53·0	52·0	51·6
26	53·0	55·2	58·8	59·0	58·5	57·5	57·0	57·0	55·5	53·5	53·0	52·2
27	53·2	54·0	57·5	58·0	59·5	59·2	56·4	55·8	54·9	54·2	53·2	54·2
28	56·0	58·5	61·7	60·9	59·7	58·0	56·8	55·0	53·0	51·3	50·0	49·0
29	50·2	52·2	56·0	56·5	56·4	55·0	53·3					
30								48·8	48·2	48·0	46·8	47·3
31	49·5	53·9	58·0	60·0	61·0	59·8	57·8	56·5	55·1	54·0	52·6	51·5

On 19^d, at 11^h, 13^h, 15^h, 17^h, 19^h, 21^h, and 23^h, the readings were 48°·5, 48°·0, 47°·5, 47°·3, 46°·3, 46°·3, and 48°·0 respectively.
On 20^d, at 1^h, 3^h, 5^h, 7^h, and 9^h, the readings were 47°·5, 50°·0, 54°·0, 55°·5, and 54°·5 respectively.

Astronomical Day.	0^h	2^h	4^h	6^h	8^h	10^h	12^h	14^h	16^h	18^h	20^h	22^h
	Hours of Göttingen Mean Time, Astronomical Reckoning.											
Apr	°	°	°	°	°	°	°	°	°	°	°	°
1	51·0	53·0	54·7	55·8	55·9	55·2	54·0	52·5	51·0	49·0	48·0	47·5
2	48·2	52·8	56·5	58 0	58·0	56·8	56·5	54·7	52·8	52·5	51·3	50·3
3	53·0	58·2	63·0	64·5	65·6	64·2	62·4	60·6	58·0	56·0	55·0	53·5
4	55·2	59·7	65·7	66·9	66·7	64·8	61·2	58·4	55·8	53·8	52·2	51·0
5	50 7	53·5	58·7	58·6	57·8	55·9	53·8					
6								49·2	47·5	46·2	44·7	44·4
7	47·2	53·0	58·0	59·7	59·7	58·7	57·1	55·8	52·8	50·5	48·0	47·3
8	47·4	48·8	53·1	54·5	56·0	55·7	54·5	52·5	50·7	49·4	47·8	47·2
9	47·5	48·8	51·0	50·7	50·7	50·1	51 0	51·0	49·5	48·0	47·0	46·5
10	46·5	47·9	51·0	51·0	51·0	51·0	50·8	49·5	48·5	47·3	46·7	46·4
11	46·8	49·5	52·3	53·2	52·3	52·5	52·0	51·0	50·0	50·0	49·5	49·4
12	48·7	50·1	51·7	52·3	52·4	52·0	51·1					
13								47·8	47 2	46·9	46·8	48·0
14	49·4	52·0	54·0	55·5	54. 1	53·8	53·0	52·5	51·5	50·8	50·2	49·7
15	49·4	49·3	50·0	50·4	50·2	49·5	49·0	49·0	48·8	47·8	47·8	47·7
16	48·0	49·8	53·4	55·0	55·2	55·8	55·0	53·8	52·7	50·0	49·5	49·5
17	52·2	56·8	61·7	63·0	62·0	60·0	57·8	56·2	54·7	53·8	52·5	51·8
18	51·8	54·7	58·9	60·0	60·8	59·7	58·0	56·0	54 8	53·5	52·5	51·9
19	52·7	56·9	63·0	64·3	64·4	63·0	60·0					
20								58·0	55·8	53·5	51·5	52·0
21	54·8	60·0	64·5	65·7	64·9	63·0	60·2	57·3	56·1	54·8	53·0	52·5
22	53·0	56·7	61·8	64·5	65·0	64·0	62·5	59·7	57·7	56·0	53·8	53·5
23	56·1	60·9	64·2	66·2	66·7	66·0	64·5	63·0	60·0	58·3	57·5	57·5
24	58·0	62·3	66·4	67·5	67·2	66·0	64·0	61·8	60·0	59·0	58·2	59·2
25	63·2	64·7	66·9	67·8	67·1	66·1	65·0	64·0	63·0	62·0	61·5	60·8
26	61·0	62·8	64·0	63·8	63·0	61·0	58·5					
27								55·5	54·5	53·8	53·5	53·8
28	56·0	58·5	59·5	59·8	61·5	60·0	58·8	58·0	57·5	57·2	57·4	58·0
29	59·3	60·8	63·2	63·8	64·0	63·5	62·8	62·0	60·1	58·7	57·5	56·5
30	56·8	58·0	60·0	60·3	60·5	59·5	60·0	59·5	59·5	59·5	59·5	57·8

On 23^d, at 11^h, 13^h, 15^h, 17^h, 19^h, 21^h, and 23^h, the readings were 65°·5, 64°·0, 61°·3, 59°·0, 57°·5, 57°·5, and 58°·0 respectively.
On 24^d, at 1^h, 3^h, 5^h, 7^h, and 9^h, the readings were 59°·2, 63°·6, 67°·0, 67°·2, and 67°·0 respectively.

Readings of the Thermometer placed within the Box of the Horizontal Force Magnet, at every Even Hour of Göttingen Mean Time, during the Months of May and June, 1845.

Astronomical Day.	0h	2h	4h	6h	8h	10h	12h	14h	16h	18h	20h	22h
May	°	°	°	°	°	°	°	°	°	°	°	°
1	60·8	62·5	62·5	66·5	67·0	65·5	63·8	62·8	62·5	61·6	61·0	61·2
2	62·0	63·8	65·7	65·8	65·5	63·8	62·0	60·2	58·0	56·0	54·8	54·8
3	55·8	57·0	58·8	59·5	61·0	60·5	59·5					
4								52·3	50·8	50·8	50·8	51·8
5	53·8	56·0	57·0	57·2	56·8	55·8	55·0	53·5	52·0	50·0	49·0	49·0
6	50·2	52·0	53·0	56·0	56·3	55·5	54·8	54·5	53·7	53·2	53·2	54·5
7	54·8	56·8	58·0	58·0	57·1	56·0	55·0	54·5	53·2	52·5	52·2	51·5
8	51·8	53 8	56·3	57·5	57·2	55·4	54·5	53·6	52·8	52·5	52·3	52·2
9	53·2	54·8	56·8	58·7	58·8	57·8	57·0	55·5	54·0	52·0	51·0	50·8
10	54·2	56·2	58·5	59·0	60·3	60·0	58·0					
11								49·3	53·6	52·8	52·0	52·7
12	54·3	55·8	56·8	57·4	58·0	58·0	58·0	57·7	56·5	55·8	55·8	56·8
13	58·0	60·3	62·5	63·3	62·8	62·3	61·3	59·6	58·0	58·0	57·5	58·7
14	60·6	62·5	64·0	64·5	64·1	63·0	61·0	57·8	56·0	54·6	54·4	54·8
15	56·5	59·5	61·8	63·8	64·1	64·0	62·8	62·3	61·5	59·5	58·5	58·3
16	60·0	62·2	63·5	64·2	64.5	64·3	63·8	63·0	61·8	61·5	61·0	59·5
17	60·1	61·7	62·8	62·7	61·3	59·7	57·2					
18								53·8	53·0	52·0	52·8	53·3
19	55·5	58·4	59·5	59·2	58·5	57·2	55·7	54·2	52·5	51·2	50·5	51·0
20	52·2	54·5	56·7	57·3	57·2	56·8	55·0	53·8	52·1	51·8	52·3	52·5
21	53·5	53·3	53·0	53 0	52·3	52·0	51·3	51·0	50·2	49·7	48·6	50·4
22	52·3	54·5	56·0	56·8	56·3	56·0	54·2	52·8	51·8	50·3	49·5	49·5
23	50·2	52·5	55·8	56·8	57·3	56·5	55·6	54·2	53·1	52·0	52·0	51·0
24	50·5	51·8	54·0	55·2	55·5	55·0	54·0					
25								53·0	52·2	51·6	51·0	51·2
26	52·5	54·0	55·0	56·4	56·5	55·5	54·5	54·5	52·0	50·0	49·0	50·0
27	54·2	58·0	60·8	63·6	65·3	65·8	65·8	64·0	63·2	62·0	61·5	60·8
28	61·0	62·3	64·8	66·4	66·7	66·8	65·5	64·0	63·0	63·3	61·8	61·5
29	61·2	61·2	61·6	61·2	60·8	60·0	59·8	59·5	59·2	59·5	58·8	58·2
30	59·8	63·1	66·2	67·8	68·2	68·0	67·5	64·0	63·2	63·0	61·5	62·5
31	62·6	65·3	67·2	67·8	68·0	67·5	66·0					

On 30^d, at 11^h, 13^h, 15^h, 17^h, 19^h, 21^h, and 23^h, the readings were 68°·0, 65°·0, 63°·5, 63°·0, 62°·0, 61°·3, and 63°·5 respectively.
On 31^d, at 1^h, 3^h, 5^h, 7^h, and 9^h, the readings were 64°·3, 66°·3, 67°·7, 68°·1, and 67°·7 respectively.

Readings of the Thermometer placed within the Box of the Vertical Force Magnet, at every Even Hour of Göttingen Mean Time, during the Months of May and June, 1845.

Astronomical Day.	0h	2h	4h	6h	8h	10h	12h	14h	16h	18h	20h	22h
May	°	°	°	°	°	°	°	°	°	°	°	°
1	58·5	60·7	63·0	65·0	66·5	65·0	63·6	62·8	62·2	60·8	59·7	59·5
2	60·0	62·3	64·5	64·7	64·6	63·5	61·8	60·2	57·8	56·0	54·8	54·5
3	54·8	56·4	58·0	59·0	60·2	59·8	58·7					
4								52·5	50·8	50·6	50·8	51·0
5	52·5	54·8	56·5	56·6	56·0	55·7	54·7	53·5	52·0	50·0	49·0	48·6
6	49·8	50·2	52·0	55·0	55·7	55·2	54·0	54·2	53·5	53·0	52·8	53·8
7	54·0	55·8	57·5	57·2	56·0	55·2	54·5	54·0	52·7	52·0	51·5	50·8
8	50·9	52·8	56·0	57·0	56·5	55 0	54·2	53·2	52·5	52·2	51·9	51·6
9	52·4	54·0	56·5	58·2	58·5	57·8	56·8	55·5	54·0	52·0	51·0	49·8
10	53·8	55·8	57·8	58·8	60·0	59·5	57·7					
11								49·4	53·6	53·0	51·8	52·5
12	53·7	55·5	56·0	57·0	57·1	57·6	57·0	56·8	55·8	54·8	55·0	55·2
13	57·0	59·1	61·2	62·2	62·2	61·4	61·0	59·5	58·0	58·0	57·5	57·5
14	59·4	61·3	63·0	63·8	63·7	63·0	59·8	57·8	56·2	54·6	54·2	54·0
15	55·8	58·6	61·0	63·0	63·8	63·8	62·8	62·3	61·2	59·2	58·6	58·0
16	58·8	61·6	63·0	63·8	63·7	63·7	63·1	62·3	61·0	61·0	60·5	59·0
17	59·3	61·2	62·0	62·0	61·0	59·2	57·0					
18								54·0	53·0	51·8	52·4	53·2
19	54·2	56·8	58·2	58·2	57·2	57·0	55·5	54·0	52·5	51·3	50·5	50·0
20	52·0	53·4	56·2	56·6	55·8	55·7	54·2	53·2	51·7	51·2	51·5	52·0
21	53·0	53·0	52·0	52·1	52·0	51·8	51·1	50·8	50·2	49·7	48·6	49·5
22	51·2	53·6	55·8	56·1	56·0	55·2	53·8	52·7	51·8	50·5	49·6	49·0
23	49·8	51·9	54·5	56·5	56·5	55·8	55·0	54·0	53·0	52·0	52·0	50·8
24	50·0	51·3	53·5	55·0	55·5	55·0	53·8					
25								52·8	52·0	51·6	51·0	50·8
26	52·0	53·5	54·6	55·8	56·2	56·0	55·5	54·2	52·0	50·0	48·8	49·2
27	53·0	57·5	60·2	63·0	64·7	66·2	65·7	64·0	63·2	62·0	61·5	60·5
28	60·0	61·5	64·0	64·8	66·3	66·5	65·2	63·8	63·0	63·3	61·6	61·2
29	61·0	60·8	60·8	60·0	60·6	58·8	59·7	59·0	58·8	58·8	58·5	58·0
30	58·8	62·2	65·7	67·7	68·2	68·0	67·5	64·2	63·0	63·0	61·4	62·5
31	62·4	64·2	66·6	67·8	68·0	67·2	66·0					

On 30^d, at 11^h, 13^h, 15^h, 17^h, 19^h, 21^h, and 23^h, the readings were, 68°·0, 64°·8, 63°·5, 63°·0, 61°·8, 61°·0, and 63°·5 respectively.
On 31^d at 1^h, 3^h, 5^h, 7^h, and 9^h, the readings were 63°·8, 65°·5, 67°·5, 68°·0, and 68°·0 respectively.

Astronomical Day.	0h	2h	4h	6h	8h	10h	12h	14h	16h	18h	20h	22h
June	°	°	°	°	°	°	°	°	°	°	°	°
1								65·0	63·7	62·2	63·0	65·6
2	68·2	71·5	73·4	75·0	75·0	74·5	72·2	69·7	67·8	65·5	64·6	63·8
3	67·8	70·2	71·7	71·8	70·8	69·5	67·2	65·7	64·0	62·5	61·0	60·4
4	61·0	63 0	64·8	65·2	65·0	64·0	62·0	60·5	59·2	59·0	59·5	60·7
5	61·8	64·0	65.8	67·2	67·5	67·5	66·7	66·0	64·8	64·0	64·2	65·0
6	66·0	67·2	68·8	68·8	68·2	67·0	65·2	64·0	62·3	62·2	62·0	62·0
7	63·8	65·7	66·4	67·0	65·6	64·5	63·0					
8								57·2	57·0	56·4	57·5	59·5
9	59·8	62·3	64·5	66·6	68·0	67·6	65·8	64·0	61·7	59·5	59·7	59·0
10	63·8	67·0	70·2	72·7	73·5	73·0	72·0	70·0	67·0	65·0	63·0	65·6
11	68·2	71·8	74·8	76·5	76·8	75·2	73·5	71·3	69·2	68·0	67·5	67·0
12	68·8	72·8	76·5	79·0	80·2	80·0	78·3	76·2	73·7	71·3	69·2	68·0
13	68·5	72·5	76·2	79·3	80·7	80·3	78·5	76·7	74·8	72·0	71·0	69·6
14	70·4	73·8	77·6	80·7	82·0	80·8	78·8					
15								76·2	73·7	72·0	70·0	69·8
16	70·8	72·5	73·6	74·7	75·5	75·6	74·3	72·8	71·3	69·2	68·3	67·2
17	67·6	68 0	69·4	70·6	72·0	71·8	71·3	70·3	69·2	68·5	68·0	67·8
18	66·8	66·3	66·3	66·2	66·5	66·0	66·0	63·4	63·0	62·5	62·0	63·0
19	63·8	67·5	69·5	70·2	70·8	71·0	69·6	68·0	67·0	66·0	65·5	68·3
20	69·6	72·0	74·0	76·0	75·8	74·4	72·6	70·5	67·8	65·5	65·5	67·0
21	69·0	73·0	74·5	75·7	76·3	74·4	72·5					
22								71·0	70·0	68·5	66·5	67·2
23	67·5	68·8	70·0	72·0	72·0	71·3	70·0	69·0	68·0	66·0	65·0	66·5
24	68·5	70·8	72·9	73·0	72·0	70·2	68·2	66·2	64·7	63·8	64 1	64·8
25	65·2	66·5	66·8	67·8	67·8	66·7	65·5	64·5	64·0	63·5	63·0	63·8
26	65·5	67·2	68·8	70·0	70·5	70·6	68·6	66·5	65·0	63·5	62·3	62·4
27	62·5	62·8	63·3	63·2	64·0	64·0	64·6	64·3	64·5	64·5	63·8	63·2
28	63·8	64·8	65·8	65·8	65·2	63·7	62·0					
29								63·0	61·5	61·0	60·5	60·8
30	61·7	64·2	66·8	68·6	69·2	68·5	67·0	65·3	64·2	64·0	63·3	63·6

On 18^d, at 11^h, 13^h, 15^h, 17^h, 19^h, 21^h, and 23^h, the readings were 66°·0, 63°·8, 62°·8, 63°·0, 62°·2, 61°·5, and 63°·2 respectively.
On 19^d, at 1^h, 3^h, 5^h, 7^h, and 9^h, the readings were 65°·6, 68°·5, 69°·7, 70°·8, and 71°·2 respectively.

Astronomical Day.	0h	2h	4h	6h	8h	10h	12h	14h	16h	18h	20h	22h
June	°	°	°	°	°	°	°	°	°	°	°	°
1								64·8	63·5	61·0	61·6	63·0
2	65·7	69·7	73·2	74·8	74·5	74·2	72·0	69·8	67·7	65·5	63·6	63·0
3	67·0	68·5	70·8	71·2	70·5	68·5	67·2	65·6	64·0	64·5	61·0	59·8
4	59·8	61·8	64·0	64·5	64·5	63·5	61·7	60·2	59·0	59·0	58·8	60·0
5	61·0	63·0	65·2	67·0	66·8	67·2	66·2	65·8	64·7	63·7	63·5	63·0
6	64·5	66·0	67·7	68·0	67·8	67·2	65·1	64·0	62·2	62·0	62·0	61·0
7	62·0	64·4	65·5	66·2	65·4	64·4	63·0					
8								57·0	56·8	56·2	55·8	56·2
9	57·8	60·8	63·8	66·1	67·6	67·2	65·5	64·0	61·8	59·5	58·0	58·5
10	63·0	65·1	69·7	71·8	73·3	73·2	72·0	70·0	67·0	65·0	63·0	63·8
11	66·0	70·8	74·3	76·0	76·5	75·2	73·4	71·2	69·2	67·8	67·4	66·7
12	68·5	72·0	76·2	78·7	80·0	80·0	78·7	76·2	74·0	71·7	69·4	68·0
13	68·2	71·8	76·5	79·7	81·2	80·7	79·0	77·1	75·0	72·0	71·0	69·4
14	70·2	73·6	77·3	81·0	82·7	81·0	79·1					
15								75·8	73·5	71·8	70·2	69·6
16	70·2	71·7	73·3	74·2	75·0	75·4	74·2	73·0	71·4	69·0	68·2	67·0
17	67·6	67·5	68·7	70·5	71·7	71·8	71·1	70·2	69·2	68·5	68·0	67·6
18	66·7	66·3	66·0	66·0	66·5	66·0	66·0	63·3	63·0	62·8	62·0	62·5
19	62·3	65·8	68·2	69·8	71·0	71·0	69·4	68·0	67·0	65·8	66·0	65·0
20	66·8	70·6	73·5	75·0	75·0	74·0	72·8	70·2	67·7	65·8	63·5	64·0
21	66·5	70·2	73·9	74·8	76·2	74·6	72·5					
22								70·8	68·8	67·5	65·0	64·7
23	65·2	66·8	69·0	71·4	71·8	71·0	70·0	69·0	68·0	66·0	65·0	65·3
24	66·8	69·8	71·7	72·0	71·6	70·0	68·2	66·2	64·8	63·5	62 5	62·8
25	63·2	65·8	65·8	66·7	67 2	66·6	65·2	64·3	64·0	63·5	63·0	62·7
26	64·0	66·0	68·0	69·7	70·0	70·4	68·5	66·7	64·8	63·5	62·2	61·7
27	61·8	62·5	63·0	63·0	63·5	63·5	64·1	64·0	64·2	63·8	63·2	63·0
28	63·5	64·0	65·5	65·5	64·6	63·2	62·0					
29								62·8	61·4	60·8	60·4	60·5
30	61·2	63·8	66·5	68·0	69·0	68·0	66·7	65·0	64·0	63·7	63·0	63·0

On 18^d, at 11^h, 13^h, 15^h, 17^h, 19^h, 21^h, and 23^h, the readings were 66°·0, 63°·6, 62°·8, 62°·8, 62°·0, 61°·5, and 62°·2, respectively.
On 19^d, at 1^h, 3^h, 5^h, 7^h, and 9^h, the readings were 64°·7, 67°·3, 69°·0, 70°·7, and 71°·0, respectively.

Readings of the Thermometer placed within the Box of the Horizontal Force Magnet, at every Even Hour of Göttingen Mean Time, during the Months of July and August, 1845.

Astronomical Day.	Hours of Göttingen Mean Time, Astronomical Reckoning.											
	0h	2h	4h	6h	8h	10h	12h	14h	16h	18h	20h	22h
July	°	°	°	°	°	°	°	°	°	°	°	°
1	63·7	64·5	67·0	68·0	68·2	67·8	66·3	64·7	63·3	61·8	61·2	61·2
2	62·2	64·0	65·2	65·8	65·6	64·8	63·6	62·8	62·0	63·0	64·2	66·6
3	69·7	72·7	74·8	76·8	77·2	76·0	74·2	71·4	69·0	66·0	64·5	64·3
4	65·2	67·0	69·0	70·8	71·3	70·7	69·6	68·0	66·3	64·5	64·0	65·8
5	67·5	71·7	73·8	75·0	74·8	73·5	71·8					
6								75·2	74·5	72·6	71·0	72·8
7	74·8	77·8	81·0	82·3	80·5	78·2	77·2	76·0	74·0	72·0	70·0	68·6
8	68·0	69·5	71·6	73·0	73·0	72·0	69·8	67·2	66·0	64·2	63·8	64·0
9	65·2	67·0	67·5	68·4	68·5	67·7	66·5	65·2	64·0	63·2	62·6	62·6
10	63·2	63·8	64·4	65·2	65·2	65·0	64·0	63·4	62·0	61·5	61·5	62·7
11	63·7	65·4	67·5	68·0	68·0	67·0	65·8	64·4	62·6	61·7	61·0	61·4
12	62·4	64·2	66·2	67·8	67·7	66·5	65·0					
13								65·0	64·5	64·0	63·2	63·3
14	64·0	64·7	66·0	66·5	66·8	66·8	66·0	64·8	63·5	63·0	62·2	62·0
15	62·7	63·7	65·0	64·8	64·8	64·0	63·4	61·5	59·8	59·0	59·6	59·5
16	61·0	63·2	65·7	68·0	68·8	68·5	67·0	66·0	65·2	65·0	64·0	64·5
17	64·8	66·3	67·2	69·0	70·3	70·0	69·2	68·0	66·4	66·0	66·0	65·8
18	66·7	69·0	71·8	74·0	74·8	74·0	72·3	70·7	68·8	66·6	65·5	66·5
19	68·8	71·8	73·8	75·0	75·0	73·2	71·5					
20								65·0	64·2	64·4	64·7	65·0
21	65·8	68·0	69·8	72·0	72·2	72·0	70·8	69·0	68·0	68·0	67·5	66·8
22	70·2		75·0	76·0	75·7	74·0	72·5	72·0	69·5	68·0	67·2	65·0
23	64·4	64·0	64·4	64·5	64·5	63·3	63·0	64·5	64·5	64·8	63·8	63·5
24	63·5	63·2	64·0	63·9	64·0	64·5	64·0	63·5	62·8	62·5	62·8	63·6
25	64·0	65·5	67·0	68·4	68·2	68·0	67·6	66·9	66·5	66·0	65·0	64·8
26	64·8	66·0	67·7	69·0	70·3	69·5	68·0					
27								64·4	64·0	62·5	62·0	62·1
28	64·0	66·0	67·2	68·0	68·0	67·0	65·5	63·0	62·0	61·0	60·5	59·0
29	60·0	61·0	64·0	64·0	65·0	65·0	63·0	61·5	61·0	60·0	59·0	60·2
30	63·2	65·0	66·0	66·0	65·0	63·8	62·8	61·6	61·0	60·0	59·6	61·0
31	61·6	63·6	65·0	66·2	66·2	65·8	65·0	63·0	62·0	62·0	62·0	60·6

On 23d, at 11h, 13h, 15h, 17h, 19h, 21h, and 23h, the readings were 63°·2, 63°·5, 64°·2, 64°·8, 64°·0, 63°·5, and 63°·5 respectively.
On 24d, at 1h, 3h, 5h, 7h, and 9h, the readings were 63°·4, 63°·4, 64°·5, 64°·0, and 65°·1, respectively.

Readings of the Thermometer placed within the Box of the Vertical Force Magnet, at every Even Hour of Göttingen Mean Time, during the Months of July and August, 1845.

Astronomical Day.	Hours of Göttingen Mean Time, Astronomical Reckoning.											
	0h	2h	4h	6h	8h	10h	12h	14h	16h	18h	20h	22h
July	°	°	°	°	°	°	°	°	°	°	°	°
1	63·0	64·0	66·8	68·0	68·0	67·8	66·2	64·6	63·2	61·6	60·7	60·2
2	61·0	63·3	64·6	65·5	64·8	64·5	63·5	62·5	62·0	62·8	62·8	64·8
3	68·0	71·5	74·2	76·5	77·0	76·2	74·2	71·6	69·0	66·0	64·5	63·8
4	64·5	66·2	68·8	70·4	71·0	70·5	69·4	67·9	66·3	64·3	63·0	63·5
5	65·3	70·0	72·0	74·5	74·5	73·6	71·5					
6								74·8	74·2	73·0	70·8	71·7
7	73·8	77·0	79·6	81·0	80·0	78·0	77·2	76·0	74·0	72·0	70·0	68·0
8	68·0	69·0	71·8	73·0	73·0	72·0	70·2	67·2	66·2	64·2	63·6	63·2
9	64·5	66·0	66·6	67·7	68·0	66·7	66·0	64·8	63·8	63·2	62·5	61·8
10	62·7	63·1	63·8	64·3	64·8	64·5	64·0	63·0	62·0	61·5	61·5	61·5
11	62·8	64·7	67·0	67·2	67·0	66·2	65·3	63·7	62·2	61·3	60·1	60·0
12	61·5	62·5	65·5	66·6	67·2	65·7	64·6					
13								64·8	64·5	64·0	63·0	62·6
14	63·2	64·2	65·2	66·2	66·6	66·5	65·3	64·1	63·0	62·5	61·8	61·2
15	62·0	63·0	64·0	64·0	64·5	64·0	63·2	61·6	59·7	59·0	58·0	58·5
16	60·0	61·8	65·0	68·2	68·3	67·8	66·8	65·7	65·0	65·0	64·0	64·0
17	64·5	65·6	67·0	68·8	70·0	69·8	69·2	68·0	66·3	66·0	66·0	65·5
18	66·2	68·5	71·7	73·5	74·2	73·4	72·6	70·8	69·0	66·6	64·6	64·5
19	67·6	70·0	73·0	74·7	74·6	73·2	71·4					
20								64·8	64·2	64·2	64·5	64·5
21	65·0	67·0	69·5	71·6	72·0	71·8	70·7	69·0	68·0	68·0	67·5	66·5
22	69·0		74·0	75·0	75·3	74·0	72·0	71·8	69·0	67·5	67·0	66·0
23	64·2	64·0	64·2	64·5	64·5	63·2	63·0	64·3	64·5	64·6	64·0	63·5
24	63·5	63·0	63·7	64·0	64·0	64·3	63·8	63·5	62·8	62·5	62·6	63·0
25	63·3	64·8	66·3	67·6	68·0	67·8	67·2	66·8	66·5	66·0	65·0	64·5
26	64·8	65·2	67·0	68·5	69·7	69·2	67·5					
27								64·2	64·0	62·5	61·8	61·2
28	63·0	65·5	66·5	67·2	67·2	66·8	65·0	62·8	62·0	60·8	60·3	58·0
29	59·8	60·8	63·5	63·5	64·5	64·5	62·7	61·5	61·0	60·0	59·0	59·5
30	61·5	63·8	65·0	65·0	64·0	63·0	62·3	61·4	61·0	60·0	59·3	59·5
31	60·1	62·5	64·3	66·0	66·0	65·5	64·5	62·5	62·0	62·0	62·0	60·2

On 24d, at 11h, 13h, 15h, 17h, 19h, 21h, and 23h, the readings were 63°·2, 63°·0, 64°·0, 64°·8, 64°·0, 63°·5, and 63°·5 respectively.
On 25d, at 1h, 3h, 5h, 7h, and 9h, the readings were 63°·0, 63°·2, 64°·3, 64°·0, and 64°·7 respectively.

Astronomical Day.	Hours of Göttingen Mean Time, Astronomical Reckoning.											
	0h	2h	4h	6h	8h	10h	12h	14h	16h	18h	20h	22h
Aug.	°	°	°	°	°	°	°	°	°	°	°	°
1	62·0	64·8	66·5	67·5	67·5	67·0	65·0	63·7	62·5	61·6	61·0	60·0
2	61·0	63·2	65·7	66·0	66·0	65·5	65·0					
3								63·0	62·0	61·0	62·0	62·2
4	63·0	65·5	67·5	68·5	69·0	68·4	68·0	66·5	65·1	64·0	63·1	63·8
5	64·6	66·0	68·0	70·0	71·5	70·0	68·2	67·0	66·0	65·0	64·0	64·2
6	65·0	67·7	69·2	70·3	70·5	69·5	68·0	66·2	64·7	63·0	62·5	62·2
7	63·5	65·0	66·5	67·0	66·7	66·0	65·0	64·5	63·0	62·0	62·0	61·5
8	62·5	65·0	66·3	67·5	67·2	67·0	65·9	65·0	64·0	64·0	63·7	63·8
9	64·5	66·3	68·0	68·0	67·5	66·0	64·8					
10								60·0	59·0	59·2	60·0	60·5
11	62·5	66·0	67·5	68·2	67·5	66·6	65·7	63·8	62·8	61·8	61·5	60·0
12	61·0	61·6	63·0	63·3	63·6	63·5	63·0	62·5	62·5	62·5	62·0	60·5
13	60·3	61·5	62·2	62·8	63·3	63·0	62·6	61·8	60·7	60·0	59·5	60·5
14	60·8	61·6	61·5	61·5	61·5	61·0	61·2	59·8	59·5	59·5	59·5	59·5
15	60·0	61·0	62·0	62·7	62·5	61·4	59·7	58·8	57·5	57·0	57·0	57·0
16	59·0	62·4	64·0	64·0	64·0	63·0	61·0					
17								59·8	58·5	58·0	57·7	58·7
18	60·7	63·7	66·0	67·8	68·0	67·2	66·0	64·5	63·8	63·0	63·0	62·5
19	63·2	64·4	65·5	66·5	66·5	65·5	63·5	62·4	61·5	60·3	59·8	60·0
20	61·5	63·0	64·6	64·8	65·2	64·0	62·0	61·0	59·8	59·0	57·8	59·5
21	61·5	63·5	65·5	66·5	67·0	66·0	65·0	63·0	62·0	58·5	58·0	58·7
22	61·0	64·5	68·0	69·0	69·5	68·0	65·9	63·7	62·8	62·0	61·4	61·2
23	61·2	65·0	66·8	68·0	68·0	67·0	65·3					
24								66·0	64·5	63·0	62·2	62·6
25	64·7	67·3	69·0	70·2	70·0	69·0	68·8	67·2	66·0	64·5	63·0	63·0
26	64·5	66·8	68·2	69·5	70·5	68·5	67·2	65·5	63·6	62·0	60·8	60·0
27	60·8	61·8	62·7	62·8	63·9	63·0	62·0	61·0	59·4	60·0	60·2	61·2
28	62·2	63·8	65·8	67·5	68·2	66·8	65·5	64·0	62·5	61·5	60·0	59·3
29	61·2	65·2	68·5	71·0	71·5	70·0	68·0	66·2	64·0	62·5	62·0	62·5
30	64·0	67·0	71·0	72·8	71·5	70·5	69·5					
31								69·2	68·0	66·5	65·6	65·0

On 29d, at 11h, 13h, 15h, 17h, 19h, 21h, and 23h, the readings were 69°·1, 66°·8, 65°·2, 63°·8, 62°·5, 62°·5, and 62°·8 respectively.
On 30d, at 1h, 3h, 5h, 7h, and 9h, the readings were 66°·0, 68°·8, 72°·0, 72°·8, and 71°·6 respectively.

Astronomical Day.	Hours of Göttingen Mean Time, Astronomical Reckoning.											
	0h	2h	4h	6h	8h	10h	12h	14h	16h	18h	20h	22h
Aug.	°	°	°	°	°	°	°	°	°	°	°	°
1	61·8	63·6	66·0	67·0	67·0	66·5	64·5	63·2	62·2	61·5	61·0	60·5
2	60·8	63·0	65·0	65·2	65·0	65·0	64·8					
3								62·8	62·0	61·0	61·8	62·0
4	62·8	65·2	66·7	68·0	68·3	68·1	67·5	66·3	65·0	64·0	63·0	63·0
5	64·2	65·2	67·5	70·0	72·0	70·0	68·2	67·0	66·0	65·0	64·1	64·3
6	64·8	67·0	69·0	70·0	70·0	69·5	67·8	66·2	64·5	63·0	62·5	62·0
7	63·5	64·8	66·0	66·8	66·5	66·0	64·7	64·2	62·8	62·0	62·0	61·0
8	62·2	64·8	(65·9)	67·0	66·8	66·7	65·3	64·5	64·0	64·0	63·7	63·5
9	63·8	65·8	67·1	67·5	67·2	65·7	64·8					
10								60·0	59·0	59·3	59·8	60·0
11	62·0	65·5	67·0	67·7	67·0	66·3	65·4	63·6	62·8	61·8	61·2	59·5
12	60·6	61·0	61·8	62·7	62·8	62·6	62·3	62·0	62·0	62·0	61·5	60·0
13	60·0	60·5	61·8	62·5	63·0	63·0	62·6	61·8	60·7	60·0	59·5	59·5
14	59·8	60·7	61·0	61·2	61·2	60·6	60·7	59·5	59·2	58·6	58·7	58·8
15	59·0	60·0	61·2	61·7	61·8	60·8	59·5	58·7	57·4	57·0	57·0	56·8
16	58·0	60·8	62·5	63·0	63·0	62·2	60·8					
17								59·8	58·5	57·8	57·2	56·7
18	59·8	62·8	65·2	67·0	67·2	66·8	66·0	64·3	63·5	63·0	63·0	61·7
19	62·7	63·8	65·0	66·3	66·0	65·0	63·3	61·8	61·3	59·7	58·0	58·5
20	60·0	62·0	63·5	64·5	64·4	63·8	62·0	61·0	59·8	59·0	57·8	58·0
21	59·7	62·3	65·0	66·2	67·0	66·0	65·0	63·0	62·0	58·0	57·7	57·2
22	59·2	63·7	68·0	68·5	69·0	68·0	65·8	63·7	63·0	61·5	60·7	60·4
23	62·3	64·3	66·5	67·5	67·6	66·7	65·0					
24								65·8	64·5	63·0	61·8	61·6
25	63·3	66·5	69·0	70·0	70·0	69·0	69·0	67·0	66·0	64·0	63·0	62·5
26	64·0	66·0	67·5	69·0	70·0	68·0	67·2	65·6	63·7	61·7	60·6	60·0
27	60·0	61·0	61·7	62·3	63·5	63·0	62·0	60·8	59·4	59·6	59·8	60·2
28	61·2	63·1	65·5	67·0	68·0	66·5	65·0	64·0	62·0	61·5	60·0	58·7
29	60·0	64·4	68·0	71·0	71·3	70·5	68·0	66·2	64·0	62·7	62·5	62·5
30	64·5	66·5	70·8	72·8	72·0	70·7	69·5					
31								69·0	68·0	66·5	65·6	64·8

On 29d, at 11h, 13h, 15h, 17h, 19h, 21h, and 23h, the readings were 69°·2, 67°·0, 65°·2, 63°·8, 62°·5, 62°·8, and 63°·0 respectively.
On 30d, at 1h, 3h, 5h, 7h, and 9h, the readings were 66°·0, 68°·6, 71°·5, 72°·8, and 71°·7 respectively.

On July 22d at 2h the observation was not taken; it was taken at 1h. 50m; and the reading was, for the horizontal, 72°·0, for the vertical, 70°·0.

Readings of the Thermometer placed within the Box of the Horizontal Force Magnet, at every Even Hour of Göttingen Mean Time, during the Months of September and October, 1845.

Astronomical Day.	0h	2h	4h	6h	8h	10h	12h	14h	16h	18h	20h	22h
Sep.	°	°	°	°	°	°	°	°	°	°	°	°
1	64·5	64·6	66·0	68·0	68·3	68·0	66·3	64·5	62·8	61·8	61·3	60·8
2	61·0	61·8	63·7	64·8	65·2	65·2	65·0	63·0	63·0	61·5	61·0	59·2
3	59·5	61·0	62·5	62·5	63·5	63·5	62·0	61·0	59·7	59·0	57·5	57·3
4	58·5	60·5	62·0	63·2	63·0	62·5	61·2	59·6	58·2	58·0	57·5	57·8
5	59·5	61·7	64·0	64·8	65·0	63·8	62·2	61·2	60·5	60·2	60·2	60·2
6	62·2	65·5	67·5	68·6	68·0	66·4	64·0					
7								62·0	59·5	58·0	57·0	57·0
8	58·5	63·5	69·8	71·0	70·7	70·0	68·4	66·7	61·0	59·8	58·0	58·4
9	60·7	65·0	69·8	71·5	72·5	71·5	70·0	67·8	65·7	64·0	61·8	60·4
10	61·0	63·0	65·8	67·0	67·0	66·7	66·5	65·5	64·0	62·5	62·0	61·0
11	61·0	62·3	64·0	65·8	66·0	67·0	66·0	65·3	65·0	65·0	65·0	65·2
12	67·0	69·3	71·0	71·5	70·2	68·0	66·0	63·8	62·0	60·0	58·8	58·8
13	60·8	64·2	67·0	68·8	68·8	67·5	67·0					
14								60·5	58·6	57·5	56·7	56·5
15	56·8	58·0	59·2	60·3	60·2	60·5	61·0	61·0	60·0	58·5	57·5	56·8
16	58·6	59·8	62·0	62·0	63·5	63·5	64·2	64·8	65·0	64·8	65·0	65·8
17	66·4	67·3	68·0	68.0	67·0	66·0	65·5	64·5	63·8	63·5	63·5	64·0
18	65·0	65·7	66·5	66·8	66·7	65·7	66·0	64·5	63·0	62·0	60·0	59·8
19	62·3	64·8	67·2	68·0	67·5	67·0	64·2	61·5	59·0	58·0	56·7	56·7
20	58·8	62·8	65·0	65·8	65·2	64·2	63·0					
21								59·5	59·5	59·5	58·8	59·2
22	61·6	63·7	65·5	65·7	64·5	63·5	63·0	62·0	61·0	59·5	58·5	57·5
23	57·7	59·5	61·5	61·5	62·0	61·5	59·0	57·0	54·3	53·0	52·8	52·3
24	55·5	60·5	63·8	64·5	64·0	63·0	62·5	61·0	58·8	58·5	58·8	58·7
25	60·5	60·5	61·6	63·2	64·0	65·3	65·5	65·6	65·7	64·0	63·0	62·0
26	62·7	65·0	66·3	66·5	65·8	64·5	62·1	60·5	58·5	56·0	56·8	56·8
27	57·7	58·8	60·5	60·8	61·0	61·2	61·5					
28								58·0	56·5	55·2	53·5	53·8
29	55·5	58·0	59·8	60·5	59·8	60·0	61·0	60·5	61·0	58·5	58·5	58·6
30	59·5	61·3	62·4	63·5	63·5	63·5	63·2	61·5	59·7	58·2	58·0	56·8

On 24d, at 11h, 13h, 15h, 17h, 19h, 21h, and 23h, the readings were 63°·0, 62° 0, 59°·5, 58°·5, 58°·8, 58°·5, and 59°·0 respectively.

On 25d, at 1h, 3h, 5h, 7h, and 9h, the readings were 59°·7, 61°·0, 62°·5, 63°·5, and 64°·8 respectively.

Astronomical Day.	0h	2h	4h	6h	8h	10h	12h	14h	16h	18h	20h	22h
Oct.	°	°	°	°	°	°	°	°	°	°	°	°
1	58·6	62·2	64·0	64·8	65·0	64·0	62·8	62·3	61·6	61·2	61·5	62·0
2	63·5	65·0	65·8	65·8	65·8	65·8	66·0	66·5	67·5	67·5	67·5	67·0
3	66·8	68·0	69·0	69·5	68·5	68·0	67·8	66·7	64·7	63·2	62·0	62·6
4	63·7	65·4		66·0	64·5	63·0	62·3					
5								53.5	52·0	50·7	51·0	51·0
6	52·2	54·2	56·0	56·7	56·8	57·5	58·0	60·0	60·5	61·0	60·0	58·7
7	58·5	59·8	62·0	62·5	62·5	61·5	59·4	57·5	55·0	54·0	54·0	54·5
8	56·2	58·7	60·8	61·0	61·0	60·2	61·7	62·3	62·2	61·7	59·8	58.5
9	58·0	59·0	59·7	59·4	58·8	58·8	58·2	57·1	55·5	54·7	54·0	53·7
10	54·0	56·5	59·8	61·0	61·0	60·2	59·0	57·5	56·8	56·0	57·0	57·5
11	58·7	60·7	60·8	60·0	60·8	59·8	58·5					
12								51·8	51·5	51·5	51·8	53·0
13	57·0	61·0	63·5	64·5	63·8	63·5	62·7	61·4	59·7	58·0	57·0	57·5
14	60·5	65·0	67·2	68·0	66·8	65·2	63·5	61·0	59·6	58·0	58·0	58·0
15	59·6	63·2	65·0	66·0	67·0	66·2	64·8	64·5	64·5	63·7	64·3	63·4
16	63·5	64·5	65·6	65·5	65·3	64·3	63·0	61·0	58·5	57·0	56·0	55·7
17	57·0	57·8	60·0	60·0	60·6	61·2	61·0	61·0	61·0	61·6	61·8	61·7
18	62·3	63·5	63·8	63·0	62·5	61·8	61·7					
19								57·5	57·5	57·5	57·2	57·0
20	58·2	61·0	63·1	63 2	62·8	61·5	59·6	58·2	57·0	55.0	54·0	53·0
21	54·0	57·0	58·8	59·5	60·0	60·5	60·5	59·2	57·5	56·0	55·6	54·5
22	54·5	55·5	56·0	57·2	58·0	60·0	61 0	60·4	59·8	59·6	59·2	60·5
23	60·6	61·2	62·5	62·5	61·3	61·5	58·2	55·6	53·0	52·0	50·6	49·8
24	51·2	53·8	58·5	59·5		57·2	56·2	54·8	53·0	51·5	50·0	50·6
25	51·0	54 0	57·0	57·5	57·5	56·0	54·2					
26								46·0	45·5	45·5	45·5	46·8
27	50·2	53·7	56·0	57·2	57·0	57·8	57·8	57·0	55·7	54·6	53·8	53·8
28	55·8	59·0	61·0	61·3	61·5	61·7	61·7	61·5	60·5	59·5	58·6	58·8
29	61·0	63·3	64·8	64·0	63·0	61·5	60·0	58·5	57·2	57·0	56·5	56·5
30	58·2	60·5	62·3	63·5	63·5	64·0	63·5	63·6	62·8	61·8	60·8	59·8
31	60·0	61·2	62·0	62·0	61·7	61·3	61·2	60·0	58·7	58·0	57·0	55·0

On 22d, at 11h, 13h, 15h, 17h, 19h, 21h, and 23h, the readings were 60°·5, 60°·5, 60·°3, 59°·7, 59°·8, 59°·4, and 60°·0 respectively.

On 23d, at 1h, 3h, 5h, 7h, and 9h, the readings were 60°·8, 62°·3, 62°·6, 62°·4, and 61°·8 respectively.

Readings of the Thermometer placed within the Box of the Vertical Force Magnet, at every Even Hour of Göttingen Mean Time, during the Months of September and October, 1845.

Astronomical Day.	0h	2h	4h	6h	8h	10h	12h	14h	16h	18h	20h	22h
Sep.	°	°	°	°	°	°	°	°	°	°	°	°
1	64·2	64·5	67·0	68·0	68·3	68·0	66·4	64·6	63·0	61·8	60·8	60·0
2	60·8	61·2	63·5	64·5	64·5	64·5	65·0	63·0	63·0	61·0	61·0	58·8
3	59·0	60·0	62·0	62·0	62·5	62·5	61·2	60·5	59·5	59·0	57·5	56·8
4	57·5	59·2	61·3	62·6	62·2	62·0	61·0	59·5	58·2	58·0	57.2	57·2
5	58·3	60·8	63·6	64·3	64·8	63·4	62·0	60·5	59·8	59·6	59·6	59·5
6	61·0	65·0	69·0	69·5	68·6	66·7	63·6					
7								62·0	59·5	58·0	57·0	57·0
8	57·8	62 8	69·0	71·0	71·0	69·8	68·2	66·5	60·8	59·6	58·0	57·7
9	59·5	64·4	70·0	71·8	72 2	71·3	70·0	68·2	66·6	64·0	61·9	60·2
10	60·2	62·8	65·7	66·7	66·7	66·5	66·5	65·5	63·7	62·3	62·0	60·6
11	60·6	62·0	63·6	65·2	65·5	66·5	65·2	64·5	64·5	64·5	64·7	64·5
12	66·0	68·5	72·0	71·8	70·5	68·7	66·2	63·8	62·0	60·0	58·5	58·5
13	59·8	63·6	67·8	69·0	68·6	67·2	66·3					
14								60·2	58·7	57·3	56·5	56·5
15	56·2	57·5	58·7	59·5	59·3	59·5	60·0	60·3	60·0	58·5	57·5	56·3
16	57·3	58·8	61·5	61·5	63·0	63·0	64·0	64·5	64·8	64·5	65·0	65·7
17	66·2	66·5	67·2	67·5	66·8	66·0	65·0	64·0	63·5	63·2	62·8	63·5
18	64·6	65·0	66·5	66·6	66·5	65·7	66·0	64·0	62·7	61·7	60·0	59·5
19	60·7	64·2	66·0	68·0	67·5	67.0	64·0	61·5	59·0	58·0	56·5	55·7
20	57·9	61·7	64·0	65·0	64·5	63·7	62·5					
21								58·6	59·0	58·5	58·6	58·2
22	60·2	62·8	65·8	65·7	64·2	63·0	62·5	61·7	60·7	59·0	57·9	56·8
23	56·8	58·2	61·0	61·0	61·5	61·0	58·5	57·0	54·2	53·0	52·7	51·5
24	54·2	59·2	64·0	64·8	64·0	63·0	62·5	61·0	59·0	58·0	58·4	58·2
25	60·0	61·0	61·2	63·0	64·0	65·0	65·2	65·0	65·5	63·8	62·8	61·2
26	61·4	64·0	66·3	66·5	66·2	64·0	62·0	60·5	58·5	56·0	56·6	56·2
27	56·8	58·2	59·7	60·0	60·3	60·5	60·8					
28								58·0	56·5	55·2	53·0	53·2
29	54·5	57·2	59·0	59·8	59·0	59·2	59·8	60·0	60·0	57·0	57·5	58·0
30	58·7	60·7	61·9	63·0	63·0	63·0	62·0	61·0	59·5	58·1	58·0	56·4

On 24d, at 11h, 13h, 15h, 17h, 19h, 21h, and 23h, the readings were 63°·0, 62°·0, 59°·5, 58°·2, 58°·3, 58°·0, and 58°·5 respectively.

On 25d, at 1h, 3h, 5h, 7h, and 9h, the readings were 60°·0, 60°·5, 62°·2, 63°·5, and 64°·6 respectively.

Astronomical Day.	0h	2h	4h	6h	8h	10h	12h	14h	16h	18h	20h	22h
Oct.	°	°	°	°	°	°	°	°	°	°	°	°
1	56·8	61·2	64·0	64·5	64·2	63·5	62·8	62·0	61·2	61·2	61·0	61·5
2	63·0	64·7	65·7	65·8	65·6	65·8	65·5	66·0	67·0	67·0	67·0	66·8
3	66·5	67·3	68·3	69·0	68·0	67·5	67·3	66·3	64·5	63·2	62·0	61·7
4	63·0	64·5		66·0	64·0	63·0	62·0					
5								53·7	52·0	50·8	50·7	51·0
6	51·8	53·5	55·2	55·7	56·5	57·2	57·5	58·7	59·5	59·8	59·2	58·0
7	58·0	59·0	61·7	62·0	62·0	61·0	59·0	57·6	55·0	53·8	53·6	54·0
8	55·7	58·0	60·8	60·8	60·5	60·0	61·2	61·6	61·7	61·3	59·5	58·0
9	58·0	58·0	59·0	58·6	58·5	58·4	58·0	57·0	55·4	54·6	54·0	53·3
10	53·5	56·0	59·5	60·5	60·5	59·8	58·5	57·2	56·8	56·0	57·0	56·8
11	58·0	59·6	61·0	60·2	60·0	59·5	58·2					
12								51·8	51·5	51·3	51·5	52·5
13	56·5	60·5	63·8	64·6	63·7	63·0	62·2	61·0	59·2	57·8	57·0	56·8
14	59·2	64·2	68·0	68·3	67·0	65·0	63·3	61·0	59·6	58·0	58·0	57·2
15	58·8	63·0	65·3	66·0	67·0	66·0	64·5	63·8	64·0	63·5	63·6	63·0
16	63·0	64·0	65·3	65·6	65·2	64·2	63·0	61·0	58·5	57·0	56·0	55·2
17	56·0	56·0	59·5	59·5	60·0	60·5	60·8	61·0	61·0	61·6	61·5	61·3
18	61·5	63·0	63·4	63·2	62·5	61.7	61·2					
19								57·2	57·3	57·2	56·7	56·5
20	57·8	60·5	63·0	63·0	62·5	61·3	59·0	58·0	57·0	55·0	54·0	52·8
21	53·5	55·7	58·2	59 0	59·2	60·0	60·3	59·0	57·5	56·0	55·4	53·8
22	53·8	54·6	56·0	57·0	58·0	60·0	60·5	60·0	59·6	59·5	59·5	60·0
23	60·5	60·0	62·7	62·0	61·2	61·0	58·2	55·8	53·2	52·0	51·0	49·7
24	51·0	53·4	58·0	58·5		57·0	56·0	54·7	53·0	51·5	50·0	50·0
25	50·2	53·7	56·5	57·1	56·8	55·7	54·0					
26								46·0	45·5	45·5	45·5	46·8
27	49·6	53·5	55·6	57·0	57·0	57·6	57·0	56·3	55·7	54·0	53·5	53·0
28	55·0	58·2	60·6	61·0	61·5	61·5	61·0	61·0	60·5	59·5	58·6	58·6
29	59·8	63·0	65·0	64·0	63·0	61·5	59·8	58·5	57·0	57·0	56·5	56·0
30	57·5	59·8	62·0	63·4	63·5	64·0	63·7	63·5	62·6	61·7	60·6	59·6
31	60·0	60·8	61·6	61·7	61·5	60·8	60·8	59·7	58·5	58·0	57·0	55·0

On 22d, at 11h, 13h, 15h, 17h, 19h, 21h, and 23h, the readings were 60°·0, 60°·0, 60°·0, 59°·5, 59°·8, 59°·2, and 59°·5 respectively.

On 23d, at 1h. 3h, 5h, 7h, and 9h, the readings were 61°·0, 62°·0, 62°·0, 62°·0, and 61°·3 respectively.

Readings of the Thermometer placed within the Box of the Horizontal Force Magnet, at every Even Hour of Göttingen Mean Time, during the Months of November and December, 1845.

Astronomical Day.	0h	2h	4h	6h	8h	10h	12h	14h	16h	18h	20h	22h
Nov.	°	°	°	°	°	°	°	°	°	°	°	°
1	55·2	58·0	61·0	62·2	61·9	60·0	57·5					
2								51·0	50·0	49·0	48·0	49·0
3	50·5	54·5	57·2	57·0	56·0	55·0	53·8	52·5	51·3	48·5	46·7	45·0
4	46·0	48·5	51·7	53·8	53·8	53·8	52·0	51·0	49·5	48·5	49·0	48·8
5	50·2	53·5	57·0	58·0	58·0	57·0	59·0	58·0	57·4	57·2	57·0	58·0
6	58·0	61·0	62·4	62·5	61·7	60·0	59·0	58·3	58·0	58·0	58·3	57·5
7	57·5	60·0	61·5	61·3	60·5	60·7	57·2	58·8	59·0	60·0	60·8	59·6
8	60·0	61·0	62·0	59·5	59·0	58·0	58·6					
9								55·0	54·5	54·0	53·5	54·2
10	54·5	57·3	57·6	57·8	57·5	56·0	55·7	55·7	55·6	54·5	53·4	53·0
11	53·0	54·7	55·7	55·8	55·7	56·5	54·0	55·0	55·0	55·0	54·3	54·8
12	54·5	58·3	60·2	59·0	57·0	57·0	56·0	55·0	53·0	52·0	50·5	49·2
13	50·3	53·5	54·5	55·0	55·0	55·2	55·3	54·8	54·5	53·5	52·3	52·3
14	53·0	53·0	54·2	54·0	54·2	54·6	53·2	52·0	51·7	51·2	50·5	51·0
15	51·0	52·5	54·5	54·8	54·0	54·0	54·5					
16								51·3	51·0	50·0	50·0	49·7
17	51·7	54·0	55·8	56·0	55·2	54·7	54·3	53·6	52·3	51·8	51·5	53·2
18	54·0	56·8	59·0	59·7	59·8	59·2	57·0	56·5	55·3	55·9	54·9	55·8
19	56·3	58·2	59·2	58·3	58·0	57·7	57·5	56·8	56·0	55·0	54·0	53·6
20	54·2	57·0	58·0	59·5	58·3	56·5	54·7	52·5	51·0	50·5	49·5	48·8
21	51·0	53·8	54·8	55·4	55·5	54·6	53·8	53·5	53·0	52·5	51·5	49·8
22	49·5	50·0	50·6	50·0	48·5	48·7	48·0					
23								38·8	38·5	38·5	39·2	42·0
24	44·8	50·5	52·4	51·5	51·0	50·7	50·2	49·5	47·5	46·2	44·8	45·0
25	47·0	48·5	50·2	51·5	52·3	52·5	52·5	52·8	52·9	52·8	53·5	53·5
26	54·5	55·7	57·0	57·0	58·0	58·0	58·0	57·8	57·0	56·7	56·0	56·0
27	56·8	58·2	58·8	58·6	58·5	58·0	58·0	57·5	57·5	57·2	57·2	57·5
28	57·8	57·2	57·5	57·2	57·0	57·5	57·0	58·0	56·8	57·0	57·5	57·2
29	57·0	57·7	57·6	59·3	69·8	60·0	59·9					
30								46·0	47·0	50·0	50·5	51·0

On 28d, at 11h, 13h, 15h, 17h, 19h, 21h, and 23h, the readings were 57°·5, 56°·5, 57°·6, 57°·0, 57°·5, 57°·2, and 57°·0 respectively.
On 29d, at 1h, 3h, 5h, 7h, and 9h, the readings were 57°·5, 57°·8, 58°·3, 60°·0, and 60°·5 respectively.

Astronomical Day.	0h	2h	4h	6h	8h	10h	12h	14h	16h	18h	20h	22h
Dec.	°	°	°	°	°	°	°	°	°	°	°	°
1	52·5	54·8	57·2	55·0	54·8	50·7	52·0	51·2	50·0	49·0	48·2	49·3
2	52·5	55·5	55·5	55·0	53·8	52·5	52·3	51·6	51·7	52·5	52·5	51·0
3	50·7	49·9	50·6	49·5	48·2	47·5	46·8	46·7	47·0	46·3	44·8	44·2
4	44·2	46·0	47·0	49·0	48·0	47·8	47·5	47·6	48·0	48·5	49·5	50·0
5	51·8	54·7	54·8	54·8	54·0	53·6	52·0	51·0	49·5	48·3	47·8	48·0
6	49·5	54·7	52·7	52·3	51·4	50·2	48·2					
7								39·2	39·7	40·2	39·4	39·8
8	40·5	42·8	47·5	47·5	49·8	49·5	50·0	50·8	51·0	51·0	51·2	51·5
9	52·3	54·0	54·8	53·8	52·2	51·8	51·4	49·7	48·5	47·6	46·4	45·0
10	45·5	47·0	48·6	48·6	48·3	48·4	48·8	48·9	48·9	49·0	49·3	49·3
11	51·2	53·5	54·2	53·5	53·0	52·2	51·0	49·4	47·5	46·0	45·0	45·0
12	46·5	48·5	50·2	50·0	49·5	48·6	48·0	47·2	45·0	43·2	41·8	40·3
13	41·5	42·0	42·3	42·5	42·5	42·2	42·0					
14								44·2	45·2	48·0	50·0	51·3
15	52·0	54·2	55·0	55·0	54·0	53·5	53·0	52·0	50·8	49·8	49·0	50·0
16	51·0	53·5	54·7	55·0	55·0	54·4	54·5	54·5	53·4	52·5	51·8	52·0
17	53·5	54·0	54·2	53·2	52·8	53·0	53·0	53·2	55·0	56·0	56·8	57·5
18	56·8	59·0	58·0	59·2	59·5	60·0	59·0	58·0	56·5	55·0	53·2	51·4
19	50·0	49·8	50·4	51·0	51·0	50·5	49·5	48·0	46·3	45·0	44·5	45·2
20	46·0	47·8	48·5	48·0	47·0	46·5	46·6					
21								37·2	37·2	37·5	37·5	38·2
22	39·0	39·0	40·7	42·5	44·2	45·5	47·2	47·5	47·0	46·0	45·0	46·8
23	47·8	48·6	49·0	48·5	48·0	48·0	48·0	48·0	48·0	47·5	47·0	45·8
24	46·7	49·7	51·5	51·0	50·0	49·0	47·7					
25								42·5	42·5	43·5	45·7	47·6
26	51·0	52·0	54·5	53·5	53·5	53·5	53·8	53·0	52·0	50·6	49·5	50·7
27		51·5	52·0	50·0	50·3	51·0	50·8					
28								46·4	46·2	45·0	44·5	44·3
29	44·5	45·8	46·5	47·0	48·2	49·8	51·0	53·0	53·0	54·0	55·0	56·0
30	56·8	58·0	59·0	57·5	57·0	55·0	54·8	53·5	52·0	51·2	48·2	47·0
31	47·5	48·5	51·5	51·5	51·7	52·5	53·5	54·0	54·0	53·0	52·0	52·0

On 17d, at 11h, 13h, 15h, 17h, 19h, 21h, and 23h, the readings were 53°·0, 53°·0, 54°·0, 55°·8, 57°·3, 57°·0, and 57°·0 respectively.
On 18d, at 1h, 3h, 5h, 7h, and 9h, the readings were 57°·0, 58°·0, 59°·0, 59°·3, and 60°·0 respectively.

Readings of the Thermometer placed within the Box of the Vertical Force Magnet, at every Even Hour of Göttingen Mean Time, during the Months of November and December, 1845.

Astronomical Day.	0h	2h	4h	6h	8h	10h	12h	14h	16h	18h	20h	22h
Nov.	°	°	°	°	°	°	°	°	°	°	°	°
1	54·8	58·0	61·0	62·0	61·5	60·0	57·2					
2								50·8	50·0	49·0	47·8	48·5
3	50·0	54·0	56·0	56·5	55·8	55·0	53·7	52·3	51·5	48·5	47·0	44·8
4	45·8	48·0	51·8	53·7	53·7	53·6	51·5	51·0	49·0	48·0	49·0	48·8
5	49·8	53·0	56·5	57·5	58·0	56·8	59·0	57·8	57·3	57·2	57·0	57·5
6	58·0	60·5	62·0	62·0	61·5	60·0	58·5	58·0	57·5	57·7	57·7	57·0
7	56·5	59·5	61·0	60·7	59·6	59·7	56·8	58·5	58·8	60·0	60·5	59·2
8	59·0	60·8	61·5	59·0	58·7	58·0	58·4					
9								54·8	54·5	53·8	53·5	53·6
10	54·0	57·0	57·0	57·5	57·3	56·0	54·5	55·3	54·3	53·8	53·0	52·5
11	53·0	54·2	55·0	55·5	55·5	55·8	53·8	55·0	55·0	55·0	54·0	54·3
12	54·5	58·0	60·0	58·5	56·8	57·0	55·7	55·0	53·0	52·0	50·5	49·0
13	49·7	53·5	54·5	55·0	55·0	55·0	54·5	54·4	54·0	53·2	52·3	52·0
14	52·5	53·9	53·8	53·5	53·8	54·2	52·8	52·0	51·5	51·0	50·2	51·0
15	50·8	52·2	54·0	54·2	54·0	53·5	54·3					
16								51·0	51·0	50·0	50·0	49·5
17	51·0	54·0	55·2	56·0	55·0	54·5	53·7	53·2	52·3	51·7	51·5	53·0
18	54·0	56·5	58·5	58·6	59·2	58·5	57·0	56·5	55·0	55·5	54·0	55·7
19	56·0	57·5	58·8	58·0	57·5	57·5	57·5	56·6	56·0	54·8	54·0	53·0
20	53·5	56·7	57·4	59·5	58·0	56·5	54·6	52·5	51·3	50·3	49·4	48·5
21	50·0	53·5	54·3	54·6	55·2	54·5	53·8	53·5	53·0	52·5	51·0	49·8
22	49·0	49·5	50·5	50·0	48·7	48·5	48·0					
23								39·0	38·5	38·5	39·0	42·0
24	44·5	49·8	52·0	51·3	51·0	50·5	50·0	49·2	47·5	46·5	45·0	45.0
25	46·5	49·0	50·0	51·5	52·2	52·5	52·8	52·2	53·0	53·0	53·0	53·5
26	54·0	55·0	56·5	56·3	57·2	57·5	57·8	58·0	57·0	56·8	56·0	56·5
27	56·5	57·5	58·7	58·6	58·5	58·0	57·2	57·2	57·2	56·5	56·6	57·3
28	57·5	56·8	57·0	57·0	56·5	57·0	56·5	57·8	57·0	57·3	57·2	56·8
29	57·8	58·5	57·5	59·0	60·0	60·0	59·7					
30								46·0	46·5	50·0	50·8	50·2

On 28d, at 11h, 13h, 15h, 17h, 19h, 21h, and 23h, the readings were 56°·4, 56°·0, 57°·8, 57°·5, 57°·3, 56°·8, and 56°·8 respectively.
On 29d, at 1h, 3h, 5h, 7h, and 9h, the readings were 59°·0, 57°·6, 58°·5, 59°·5, and 61°·0 respectively.

Astronomical Day.	0h	2h	4h	6h	8h	10h	12h	14h	16h	18h	20h	22h
Dec.	°	°	°	°	°	°	°	°	°	°	°	°
1	52·0	54·0	56·5	55·0	54·0	50·0	51·8	51·0	50·0	49·0	48·0	48·5
2	52·0	55·0	55·3	54·5	53·4	52·8	52·3	51·8	52·0	52·0	52·3	51·5
3	50·0	50·0	50·5	49·5	48·0	47·5	47·0	46·0	46·3	45·9	45·0	43·8
4	44·0	45·4	47·5	49·0	48·2	48·0	47·5	47·5	48·0	48·3	49·5	49·8
5	51·0	54·5	54·3	54·5	53·5	53·2	51·7	51·0	49·5	48·5	48·0	47·5
6	49·5	54·0	52·3	52·0	51·2	50·2	48·0					
7								39·0	39·0	39·8	40·0	39·5
8	40·0	42·8	47·0	47·2	49·0	49·0	50·0	50·7	51·0	51·0	51·2	51·0
9	52·0	53·5	54·6	53·5	52·0	51·8	51·2	49·7	48·5	47·3	46·6	45·3
10	45·5	46·8	48·5	48·7	48·3	48·3	48·4	48·6	48·5	48·8	49·0	49·8
11	51·0	53·3	54·0	53·6	53·0	52·0	51·0	49·4	47·5	46·0	45·0	45·0
12	46·5	48·0	49·8	50·0	49·5	48·6	48·3	47·0	45·2	43·6	42·0	40·3
13	41·5	41·6	42·2	42·2	42·3	42·0	42·2					
14								44·2	45·8	48·3	50·0	51·2
15	51·6	54·0	55·0	54·7	53·8	53·0	52·5	52·0	51·0	49·8	49·0	49·5
16	51·0	52·8	54·2	55·0	55·0	54·3	54·0	54·0	53·2	52·3	52·0	52·3
17	53·3	54·0	53·5	53·0	52·5	52·5	52·5	53·0	55·0	56·0	56·5	57·0
18	56·2	59·0	58·0	59·5	58·8	59·5	58·0	57·5	56·0	55·0	53·0	51·4
19	49·8	49·7	50·0	50·5	50·5	50·0	49·3	48·0	46·3	45·0	44·5	45·0
20	45·6	47·6	48·3	48·0	47·0	46·5	46·6					
21								37·5	37·0	37·7	37·7	38·5
22	38·8	38·8	40·7	42·0	44·0	45·7	47·0	47·2	47·0	46·0	45·0	47·0
23	47·5	48·5	48·8	48·5	48·0	48·0	48·0	47·8	48·0	47·7	47·0	45·5
24	46·5	49·5	51·8	51·3	50·0	49·3	48·2					
25								42·7	42·7	43·3	45·5	47·4
26	52·0	52·5	53·5	53·2	53·2	53·5	53·7	53·0	52·0	50·8	49·6	50·5
27	50·8	50·8	52·0	50·0	50·0	51·0	50·5					
28								46·0	46·0	45·0	44·7	43·6
29	44·0	46·2	46·8	47·0	48·0	49·5	50·6	51·8	51·6	52·5	54·0	56·0
30	56·5	58·0	58·5	57·0	56·0	54·5	54·5	53·3	52·3	51·5	48·5	47·0
31	48·0	49·0	51·8	51·5	51·5	52·3	53·3	54·0	53·8	53·0	52·0	52·0

On 17d, at 11h, 13h, 15h, 17h, 19h, 21h, and 23h, the readings were 52°·5, 52°·8, 54°·0, 56°·0, 56°·7, 56°·6, and 56°·2, respectively.
On 18d, at 1h, 3h, 5h, 7h, and 9h, the readings were 56°·6, 57°·8, 59°·0, 59°·0, and 59°·5 respectively.

ROYAL OBSERVATORY, GREENWICH.

DAILY OBSERVATIONS

OF

MAGNETOMETERS.

1845.

Daily Observations from January 0 to 4.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
......	....	...	...	..	Jan. 1. 14. 0	22. 58. 16	0 ·039650	...	L
......	....	...	...	..	16. 0	59. 3	039691	...	
......	....	...	...	..	18. 0	59. 30	040550	...	
......	....	...	...	..	20. 0	59. 45	041033	...	L
......	....	...	...	..	22. 0	22. 58. 31	040694	...	H B
......	....	...	...	..	Jan. 2. 0. 0	23. 1. 20	0 ·039673	...	H B
......	....	...	...	..	1. 50	2. 27	039341	...	
......	....	...	...	..	2. 0	2. 28	039562	...	
......	....	...	...	..	2. 10	3. 9	039385	...	H B
......	....	...	...	..	4. 0	23. 0. 33	040281	...	L
......	....	...	...	..	6. 0	22. 56. 1	040100	...	
......	....	...	...	..	8. 0	58. 9	040525	...	
......	....	...	...	..	10. 0	53. 27	039100	...	L
......	....	...	...	..	12. 0	57. 3	039584	...	D
......	....	...	...	..	14. 0	57. 33	039604	...	
......	....	...	...	..	16. 0	57. 18	039417	...	
......	....	...	...	..	18. 0	57. 18	039807	...	
......	....	...	...	..	20. 0	57. 5	039898	...	D
......	....	...	...	..	22. 0	22. 59. 24	039932	...	H B
......	....	...	...	..	Jan. 3. 0. 0	23. 2. 19	0 ·039306	...	L
......	....	...	...	..	1. 50	2. 2	040305	...	
......	....	...	...	..	2. 0	2. 2	040749	...	
......	....	...	...	..	2. 10	2. 2	041082	...	L
......	....	...	...	..	4. 0	23. 0. 9	040696	...	D
......	....	...	...	..	6. 0	22. 59. 9	041062	...	
......	....	...	...	..	8. 0	23. 0. 10	040680	...	
......	....	...	...	..	10. 0	22. 59. 58	040636	...	D
......	....	...	...	..	12. 0	59. 50	040238	...	H B
Jan. 0. 14. 0	22. 56. 37	0 ·039760	...	H B	14. 0	58. 45	039834	...	
16. 0	54. 14	040365	...		16. 0	57. 52	039878	...	
18. 0	57. 0	040440	...		18. 0	55. 30	040677	...	
20. 0	57. 18	040908	...	H B	20. 0	57. 14	040408	...	H B
22. 0	22. 58. 39	040479	...	L	22. 0	59. 26	040972	...	L
Jan. 1. 0. 0	23. 0. 25	0 ·039425	...	L	Jan. 4. 0. 0	22. 59. 34	0 ·041577	...	D
1. 50	3. 11	040723	...		1. 50	59. 17	041511	...	L
2. 0	2. 52	040568	...		2. 0	58. 57	041444	...	
2. 10	23. 2. 20	040235	...	L	2. 10	58. 46	041444	...	L
4. 0	22. 56. 53	040161	...	H B	4. 0	59. 5	040178	...	H B
6. 0	59. 1	040302	...		6. 0	58. 49	040161	...	
8. 0	56. 58	040773	...		8. 0	58. 57	040203	...	
10. 0	54. 53	040555	...	H B	10. 0	58. 11	040813	...	H B
12. 0	56. 0	039394	...	L	12. 0	58. 18	040351	...	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, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

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 and 2d. Every part of the suspension apparatus of each of the magnets was examined; the magnets were minutely examined, and found to be perfectly in good order, and observations were made for their adjustment.

Daily Observations from January 5 to 11.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Jan. 5. 14. 0	22. 59. 52	0·040026	0·042336	L	Jan. 8. 14. 0	22. 59. 8	0·040060	0·042215	L
16. 0	23. 0. 1	040536	042224		16. 0	59. 8	040500	042128	
18. 0	22. 59. 27	040508	042197		18. 0	58. 42	040416	042033	
20. 0	59. 1	040668	042208	L	20. 0	22. 58. 42	040913	041926	L
22. 0	22. 59. 1	041336	042363	H B	22. 0	23. 0. 16	041203	042494	H B
Jan. 6. 0. 0	23. 2. 33	0·041262	0·042476	H B	Jan. 9. 0. 0	23. 1. 0	0·039816	0·042580	H B
1. 50	22. 59. 28	041584	042572	D	1. 50	4. 35	039589	042536	
2. 0	59. 22	041562	042567		2. 0	4. 54	039256	042530	
2. 10	59. 7	041496	042520	D	2. 10	6. 9	039124	042577	H B
4. 0	59. 9	040668	042308	L	4. 0	23. 2. 59	039897	042542	L
6. 0	58. 21	040762	042510		6. 0	22. 59. 27	040356	042775	
8. 0	58. 8	040745	042086		8. 0	57. 50	038945	042981	
10. 0	57. 36	040915	042153	L	10. 0	55. 58	037240	043266	L
12. 0	58. 5	041211	042158	D	12. 0	42. 46	033408	041952	D
14. 0	58. 25	040920	042060		14. 0	36. 20	032468	042770	
16. 0	58. 25	041210	041951		16. 0	44. 1	036498	043100	D
18. 0	57. 44	041219	041984		18. 0	57. 21	037858	043203	G
20. 0	55. 17	040923	041841	L	20. 0	22. 59. 0	039334	042814	G
22. 0	22. 59. 22	041410	041958	H B	22. 0	23. 0. 19	039748	042646	H B
Jan. 7. 0. 0	23. 0. 49	0·041786	0·042185	H B	Jan. 10. 0. 0	23. 1. 23	0·039294	0·042682	H B
1. 50	22. 59. 18	042769	042552		1. 50	0. 57	040759	043180	
2. 0	59. 8	042792	042516		2. 0	0. 25	040627	043165	
2. 10	59. 3	042636	042485	H B	2. 10	23. 0. 8	040848	043134	H B
4. 0	59. 26	042208	042379	D	4. 0	22. 58. 37	041395	042984	D
6. 0	59. 26	041612	042127	D	6. 0	58. 37	041367	042766	
8. 0	57. 7	040313	041998	L	8. 0	55. 17	038148	042570	
10. 0	57. 23	039902	042266	L	10. 0	58. 22	039547	042317	D
12. 0	58. 4	041178	042226	H B	12. 0	56. 58	040208	042395	H B
14. 0	58. 42	040373	042231		14. 0	57. 17	039647	042405	
16. 0	59. 1	040910	042033		16. 0	58. 19	040208	042551	
18. 0	58. 21	041936	042143		18. 0	58. 35	040871	042734	
20. 0	22. 58. 20	041942	042152	H B	20. 0	22. 58. 23	040694	042455	H B
22. 0	23. 1. 1	041582	042103	L	22. 0	23. 0. 23	040279	042152	L
Jan. 8. 0. 0	23. 0. 1	0·041540	0·042160	L	Jan. 11. 0. 0	23. 0. 57	0·039907	0·042125	L
1. 50	22. 58. 54	041212	042250		1. 50	0. 12	040288	042255	
2. 0	58. 46	041566	042260		2. 0	0. 24	040288	042306	
2. 10	58. 46	041677	042224	L	2. 10	23. 0. 13	040796	042265	L
4. 0	58. 59	041947	042633	H B	4. 0	22. 58. 36	041484	042786	H B
6. 0	57. 31	040864	042547		6. 0	58. 8	041743	042854	
8. 0	59. 47	040635	042385		8. 0	57. 51	041226	042603	
10. 0	59. 22	040857	042343	H B	10. 0	54. 19	041434	042243	H B
12. 0	59. 1	040389	042254	L	12. 0	53. 42	041143	042163	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, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horrizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·6$; in Vertical Plane, $26^s·7$.

Jan. 9^d. From 10^h to 18^h considerable disturbances took place in the motions of all the magnets.

Daily Observations from January 12 to 18.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Jan. 12. 14. 0	22. 58. 43	0·039974	0·042383	L	Jan. 15. 14. 0	22. 56. 40	0·041606	0·042223	L
16. 0	22. 57. 49	040294	042610		16. 0	57. 5	041215	042271	
18. 0	23. 1. 16	040526	042557		18. 0	55. 16	041795	042169	
20. 0	22. 59. 3	041259	042717	L	20. 0	57. 34	041599	042317	L
22. 0	23. 0. 34	041055	042868	H B	22. 0	22. 57. 57	042067	042666	H B
Jan. 13. 0. 0	23. 1. 44	0·040150	0·042969	H B	Jan. 16. 0. 0	23. 1. 51	0·041616	0·042637	H B
1. 50	1. 52	040406	042890		1. 50	3. 3	041455	042615	
2. 0	1. 30	040451	042906		2. 0	3. 38	041544	042610	
2. 10	23. 1. 14	040473	042870	H B	2. 10	3. 41	041410	042610	H B
4. 0	22. 59. 39	041538	042953	L	4. 0	23. 1. 0	041674	042576	L
6. 0	57. 19	041880	042838		6. 0	22. 57. 38	042014	042648	
8. 0	56. 42	041336	042656		8. 0	56. 59	041827	042415	
10. 0	56. 45	041633	042420	L	10. 0	56. 49	041819	042230	L
12. 0	57. 6	041710	042236	G	12. 0	56. 23	041666	042306	D
14. 0	57. 29	041968	042484		14. 0	57. 54	042125	042269	
16. 0	58. 0	042012	042529		16. 0	57. 46	041968	042306	
18. 0	57. 52	041880	042198		18. 0	57. 19	042087	042203	
20. 0	57. 35	041814	042198	G	20. 0	58. 45	042251	041988	D
22. 0	22. 59. 27	040779	042567	H B	22. 0	22. 59. 2	041687	042294	H B
Jan. 14. 0. 0	23. 2. 2	0·041200	0. 042671	H B	Jan. 17. 0. 0	23. 0. 20	0·041317	0·042587	H B
1. 50	2. 6	042372	042418	L	1. 50	0. 54	041274	042441	L
2. 0	1. 42	042372	042428		2. 0	0. 44	041363	042415	
2. 10	23. 1. 13	042416	042423	L	2. 10	23. 0. 44	041497	042451	L
4. 0	22. 57. 55	043462	042736	G	4. 0	22. 59. 2	041314	042524	D
6. 0	57. 25	042352	042886	G	6. 0	58. 5	041759	042529	
8. 0	56. 55	042466	042748	D	8. 0	56. 7	040218	042555	
10. 0	55. 52	042375	042491	D	10. 0	56. 15	040915	042542	D
12. 0	53. 29	041793	042077	H B	12. 0	56. 59	041278	042404	H B
14. 0	56. 8	041282	042261		14. 0	57. 14	041049	042342	
16. 0	55. 32	041684	042304		16. 0	57. 41	040244	042337	
18. 0	56. 24	040354	042436		18. 0	57. 42	041217	042371	
20. 0	56. 53	042552	042757	H B	20. 0	57. 22	040986	042491	H B
22. 0	22. 58. 33	041078	042452	L	22. 0	22. 59. 33	040673	042357	L
Jan. 15. 0. 0	23. 1. 26	0·041334	0·042584	L	Jan. 18. 0. 0	23. 3. 7	0·040040	0·042440	L
1. 50	1. 26	041944	042669		1. 50	2. 25	041838	042479	
2. 0	1. 9	041988	042618		2. 0	2. 25	041838	042515	
2. 10	23. 0. 55	041988	042592	L	2. 10	23. 2. 18	041616	042489	L
4. 0	22. 58. 30	042497	042479	H B	4. 0	22. 59. 53	041376	042813	H B
6. 0	56. 36	042297	042419		6. 0	57. 11	041625	042710	
8. 0	55. 6	042330	042339		8. 0	56. 31	042018	042621	
10. 0	56. 37	042111	042328	H B	10. 0	56. 14	041613	042519	H B
12. 0	55. 38	041869	042125	L	12. 0	56. 44	041410	042253	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, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·6$; in Vertical Plane, $26^s·7$.

Daily Observations from January 19 to 25.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Jan. 19. 14. 0	22. 42. 25	0 ·038168	0 ·041054	L	Jan. 22. 14. 0	22. 56. 7	0 ·041758	0 ·042750	B
16. 0	54. 12	039879	040873		16. 0	55. 19	041426	042543	L
18. 0	22. 56. 37	040493	041090		18. 0	56. 10	042260	042431	L
20. 0	23. 1. 38	040696	041353	L	20. 0	22. 56. 52	042645	042545	H B
22. 0	1. 9	040571	042414	H B	22. 0	23. 0. 3	042626	042306	G
Jan. 20. 0. 0	23. 5. 14	0 ·040190	0 ·042538	H B	Jan. 23. 0. 0	23. 4. 32	0 ·041128	0 ·042190	L
1. 50	6. 41	040228	042801	D	1. 50	1. 29	041126	042150	H B
2. 0	7. 7	040427	042905	H B	2. 0	3. 11	040976	042243	
2. 10	4. 41	039719	042879	H B	2. 10	3. 19	040710	042263	H B
4. 0	1. 21	039299	043427	L	4. 0	1. 52	040540	042462	L
6. 0	23. 1. 34	040493	043199		6. 0	23. 0. 46	041105	042564	D
8. 0	22. 57. 1	039248	042953		8. 0	22. 56. 33	040744	042453	H B
10. 0	55. 28	040457	042689	L	10. 0	57. 25	040336	042105	G
12. 0	58. 37	040768	042555	D	12. 0	55. 44	039059	041915	L
14. 0	59. 49	040468	042340		14. 0	54. 56	038395	041882	
16. 0	22. 59. 42	040618	042333		16. 0	53. 41	039656	041149	
18. 0	23. 1. 58	040822	042145		18. 0	55. 11	038895	041071	
20. 0	22. 58. 16	040763	042274	D	20. 0	56. 52	039554	041210	L
22. 0	23. 0. 25	040765	042445	H B	22. 0	22. 59. 21	039882	041956	H B
Jan. 21. 0. 0	23. 1. 38	0 ·039968	0 ·042749	H B	Jan. 24. 0. 0	23. 2. 49	0 ·038598	0 ·042305	H B
1. 50	1. 36	040560	043097		1. 50	1. 31	039632	042121	
2. 0	2. 48	040605	043133		2. 0	1. 17	039765	042168	
2. 10	23. 2. 23	040162	043045	H B	2. 10	1. 33	039544	042142	H B
4. 0	22. 59. 25	039477	043165	D	4. 0	23. 0. 2	039545	042178	L
6. 0	57. 55	039831	042647		6. 0	22. 56. 0	037884	042467	
8. 0	53. 26	039124	042347		8. 0	57. 51	038770	042570	
10. 0	57. 17	039469	042079	D	10. 0	57. 29	037629	042171	L
12. 0	55. 20	040107	042142	H B	12. 0	52. 19	037408	041950	D
14. 0	58. 18	039856	042115		14. 0	57. 26	037493	042059	
16. 0	58. 5	039888	042273		16. 0	57. 3	036721	041883	
18. 0	58. 31	040959	042325		18. 0	22. 58. 37	038214	041952	
20. 0	22. 58. 50	040634	042365	H B	20. 0	23. 1. 30	038823	041975	D
22. 0	23. 0. 2	041124	042480	L	22. 0	1. 46	038829	042094	H B
Jan. 22. 0. 0	23. 0. 49	0 ·040630	0 ·042847	L	Jan. 25. 0. 0	23. 3. 41	0 ·039202	0 ·042295	H B
1. 50	0. 18	041345	042830		1. 50	2. 58	038061	043012	
2. 0	0. 51	041832	042845		2. 0	3. 12	038813	042991	
2. 10	23. 0. 30	041898	042804	L	2. 10	23. 4. 29	038880	042918	H B
4. 0	22. 59. 18	042229	043031	H B	4. 0	22. 57. 24	037319	042943	D
6. 0	58. 15	042654	042878		6. 0	56. 40	038470	042737	
8. 0	57. 49	042664	042733	H B	8. 0	57. 8	037590	042525	
10. 0	57. 49	041665	042715	G	10. 0	54. 21	037111	042093	D
12. 0	55. 39	044902	042700	G	12. 0	55. 6	037736	042148	H B

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, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

DECLINATION MAGNET.
Jan. 19d. Between 14h and 16h a remarkable change occurred; and between 18h and 20h a considerable change took place for the time of the day.
Jan. 24d. Between 10h and 12h the declination decreased 5′. 10″, and it increased 5′. 7″ in the following two hours; the changes were large for the times of the day.
Jan. 25d. Between 2h. 10m and 4h a considerable change occurred.

VERTICAL FORCE MAGNET.
Jan. 22d. Between 14h and 16h, and between 20h and 22h considerable changes occurred.

Daily Observations from January 26 to February 1.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Jan. 26. 14. 0	22. 55. 32	0·037055	0·041917	H B	Jan. 29. 14. 0	22. 57. 22	0·037103	0·044419	H B
16. 0	49. 37	038388	042164		16. 0	55. 37	037672	044323	
18. 0	51. 25	038637	042350		18. 0	56. 21	037421	044106	
20. 0	55. 13	039200	042425	H B	20. 0	56. 59	037378	044362	H B
22. 0	22. 59. 30	038525	042219	L	22. 0	22. 59. 38	037513	044424	L
Jan. 27. 0. 0	23. 0. 3	0·038612	0·042559	L	Jan. 30. 0. 0	23. 1. 16	0·036990	0·044471	L
1. 50	2. 11	039777	041293		1. 50	2. 34	039352	044812	
2. 0	2. 41	039224	041283		2. 0	1. 49	039197	044750	
2. 10	2. 41	039135	041283	L	2. 10	1. 15	038931	044760	L
4. 0	23. 0. 49	038718	042664	H B	4. 0	23. 1. 15	039591	045063	H B
6. 0	22. 58. 6	038611	042262		6. 0	22. 57. 6	039004	044756	
8. 0	57. 1	038979	042358		8. 0	49. 51	037398	044591	
10. 0	47. 49	040391	042021	H B	10. 0	55. 34	037844	044345	H B
12. 0	53. 42	038942	042220	G	12. 0	57. 21	038369	044218	G
14. 0	56. 28	038524	042539		14. 0	56. 16	037929	044164	
16. 0	56. 37	038613	042642		16. 0	57. 4	037929	044303	
18. 0	55. 58	038322	042567		18. 0	56. 55	037472	044218	
20. 0	56. 31	038410	042440	G	20. 0	55. 14	037956	044275	G
22. 0	22. 59. 0	038279	042288	L	22. 0	22. 58. 26	037513	044320	L
Jan. 28. 0. 0	23. 1. 54	0·038364	0·042413	L	Jan. 31. 0. 0	23. 3. 27	0·036866	0·044765	L
1. 50	0. 42	040866	042841		1. 50	2. 28	038228	044821	
2. 0	0. 32	041022	042815		2. 0	2. 28	038228	044811	
2. 10	1. 13	041089	042815		2. 10	23. 2. 16	038626	044847	L
4. 0	23. 0. 59	038967	044731		4. 0	22. 59. 18	038687	045016	G
6. 0	22. 56. 0	037340	044946		6. 0	58. 44	038340	044575	
8. 0	53. 27	037518	044491		8. 0	58. 37	038561	044368	
10. 0	51. 25	037621	044626		10. 0	56. 47	037556	044262	G
12. 0	51. 26	039017	043948		12. 0	56. 45	036974	044435	H B
14. 0	57. 1	038235	043707		14. 0	56. 46	036980	044360	L
16. 0	57. 40	037903	043821		16. 0	57. 33	036840	044357	
18. 0	22. 57. 7	038738	043538		18. 0	57. 15	037820	044299	
20. 0	23. 3. 45	039419	043592	L	20. 0	56. 10	037718	044398	L
22. 0	23. 4. 14	038993	044048	H B	22. 0	22. 57. 19	037180	044672	H B
Jan. 29. 0. 0	22. 59. 11	0·039028	0·044355	H B	Feb. 1. 0. 0	23. 0. 52	0·036541	0·044809	H B
1. 50	23. 1. 29	039095	044395		1. 50	1. 53	036873	044750	
2. 0	2. 9	039073	044482		2. 0	1. 21	036873	044724	
2. 10	3. 0	038984	044482	H B	2. 10	1. 16	036917	044719	H B
4. 0	23. 0. 52	038253	044548	L	4. 0	23. 0. 40	036813	044879	L
6. 0	22. 45. 43	038409	044730		6. 0	22. 58. 43	037309	044735	
8. 0	59. 11	037696	045160		8. 0	56. 42	038347	044693	
10. 0	49. 44	042800	044590	L	10. 0	56. 25	037898	044657	
12. 0	53. 9	037970	044262	H B	12. 0	56. 30	039232	044523	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, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

DECLINATION MAGNET.
Jan. 27d, 29d, and 30d. Considerable changes occurred.

HORIZONTAL FORCE MAGNET.
Jan. 28d and 29d. Considerable changes occurred.

VERTICAL FORCE MAGNET.
Jan. 28d. Between 10h and 12h a considerable change occurred.

Daily Observations from February 2 to 8.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Feb. 2. 14. 0	22. 58. 21	0 ·037466	0 ·044273	H B	Feb. 5. 14. 0	22. 53. 50	0 ·039034	0 ·044379	H B
16. 0	57. 44	037832	044444		16. 0	57. 26	038211	044256	
18. 0	57. 39	038322	044406		18. 0	56. 42	038492	044148	
20. 0	55. 17	038727	044645	H B	20. 0	57. 13	038348	043977	H B
22. 0	57. 17	038798	044884	L	22. 0	23. 2. 14	036007	043902	L
Feb. 3. 0. 0	22. 59. 58	0 ·038867	0 ·044897	L	Feb. 6. 0. 0	23. 6. 9	0 ·037369	0 ·044291	L
1. 50	23. 7. 10	040715	044716		1. 50	2. 15	038029	044596	
2. 0	1. 1	041026	044690		2. 0	1. 50	038184	044555	
2. 10	23. 1. 1	041158	044669	L	2. 10	23. 1. 50	038251	044451	L
4. 0	22. 58. 21	039852	044690	H B	4. 0	22. 59. 35	037791	044636	H B
6. 0	56. 31	039873	044557		6. 0	56. 32	037569	044367	
8. 0	56. 30	039676	044343		8. 0	56. 42	037122	044119	
10. 0	56. 27	039955	044351	H B	10. 0	55. 41	037324	044251	H B
12. 0	54. 2	039742	044105	G	12. 0	55. 29	040432	043975	G
14. 0	58. 10	039498	044043		14. 0	56. 39	036520	044119	
16. 0	55. 14	038908	043978		16. 0	57. 37	036866	044020	
18. 0	55. 14	038765	044072		18. 0	57. 2	036858	044051	
20. 0	55. 45	039129	044004	G	20. 0	55. 58	037729	044149	G
22. 0	22. 59. 9	039010	043876	L	22. 0	22. 58. 25	036687	044454	L
Feb. 4. 0. 0	23. 2. 56	0 ·041481	0 ·044149	L	Feb. 7. 0. 0	23. 2. 45	0 ·037821	0 ·044581	L
1. 50	2. 16	041096	044586		1. 50	2. 19	038457	044955	
2. 0	2. 16	041206	044519		2. 0	2. 19	038634	044913	
2. 10	23. 1. 57	041118	044509	L	2. 10	2. 19	038722	044903	L
4. 0	22. 58. 57	039355	044378	G	4. 0	23. 2. 17	038593	045464	G
6. 0	57. 14	039400	044846		6. 0	22. 59. 6	037597	044699	
8. 0	57. 18	039179	044578		8. 0	57. 53	037863	044647	
10. 0	56. 43	038728	044153	G	10. 0	52. 18	036320	044383	G
12. 0	56. 10	038821	043971	L	12. 0	57. 25	036696	044209	L
14. 0	58. 2	038414	043833		14. 0	58. 18	036917	044334	
16. 0	59. 16	039328	043886		16. 0	58. 18	037071	044215	
18. 0	58. 29	039692	044102		18. 0	56. 22	036961	044354	
20. 0	57. 43	039294	044176	L	20. 0	55. 25	037344	044437	L
22. 0	22. 57. 44	038447	044422	H B	22. 0	22. 57. 32	037644	044686	H B
Feb. 5. 0. 0	23. 2. 6	0 ·038082	0 ·044487	H B	Feb. 8. 0. 0	23. 1. 48	0 ·036176	0 ·044636	H B
1. 50	2. 55	039634	044667		1. 50	2. 11	037639	044914	
2. 0	2. 59	039634	044630		2. 0	1. 55	037729	044924	
2. 10	3. 6	039767	044646	H B	2. 10	23. 2. 3	037861	044903	H B
4. 0	4. 20	039146	044824	L	4. 0	22. 59. 18	038154	044883	L
6. 0	23. 5. 7	039359	045284		6. 0	58. 28	037837	044809	
8. 0	22. 58. 30	038489	045170		8. 0	57. 21	038036	044644	
10. 0	56. 28	038277	044694	L	10. 0	57. 3	037390	044454	L
12. 0	55. 57	039808	044506	H B	12. 0	57. 35	037715	044523	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, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s{\cdot}8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s{\cdot}6$; in Vertical Plane, $26^s{\cdot}7$.

DECLINATION MAGNET.
Feb. 5^d and 7^d. Considerable changes occurred.

HORIZONTAL FORCE MAGNET.
Feb. 3^d and 6^d. Considerable changes occurred.

Daily Observations from February 9 to 15.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Feb. 9. 14. 0	22. 50. 33	0·036314	0·044227	H B	Feb. 12. 14. 0	22. 56. 42	0·037921	0·043991	H B
16. 0	56. 8	036469	044475		16. 0	54. 47	036891	043751	
18. 0	59. 49	037709	044745		18. 0	57. 2	037082	043988	
20. 0	55. 39	037879	044733	H B	20. 0	56. 42	037547	044182	H B
22. 0	22. 59. 31	037344	044734	L	22. 0	22. 57. 28	036311	044184	L
Feb. 10. 0. 0	23. 1. 25	0·038144	0·044557	L	Feb. 13. 0. 0	23. 0. 20	0·035846	0·044158	L
1. 50	2. 37	038822	044778		1. 50	2. 21	037586	044354	
2. 0	2. 10	039132	044794		2. 0	1. 48	037630	044257	
2. 10	23. 1. 34	038999	044804	L	2. 10	23. 1. 57	037985	044344	L
4. 0	22. 58. 47	039201	044897	H B	4. 0	22. 59. 24	038257	044581	H B
6. 0	57. 5	038967	044809		6. 0	57. 2	038094	044380	H B
8. 0	57. 10	038286	044711		8. 0	56. 30	037859	044305	D
10. 0	55. 42	038186	044591	H B	10. 0	56. 25	037752	044250	G
12. 0	56. 32	038235	044522	D	12. 0	55. 54	037552	044155	D
14. 0	57. 25	038024	044512		14. 0	58. 5	038165	044119	
16. 0	57. 25	037434	044413		16. 0	55. 34	037693	044109	
18. 0	56. 55	038610	044581		18. 0	55. 34	038133	044092	
20. 0	57. 25	038747	044417	D	20. 0	56. 58	038018	043985	D
22. 0	22. 57. 27	038066	044666	L	22. 0	22. 58. 52	037417	043856	H B
Feb. 11. 0. 0	23. 1. 15	0·037327	0·044513	L	Feb. 14. 0. 0	23. 1. 9	0·036751	0·043613	L
1. 50	2. 8	039243	044840		1. 50	2. 8	038746	043901	
2. 0	2. 31	038977	044824		2. 0	1. 49	038636	043808	
2. 10	23. 3. 11	039088	044747	L	2. 10	23. 1. 30	038724	043798	L
4. 0	22. 59. 27	038388	044720	D	4. 0	22. 58. 55	038267	043921	H B
6. 0	57. 59	038896	044635		6. 0	56. 41	038090	044159	
8. 0	56. 2	037716	044348		8. 0	56. 14	037860	043328	
10. 0	55. 29	037067	044094	D	10. 0	55. 27	037672	043415	H B
12. 0	57. 46	037742	044009	L	12. 0	55. 24	037342	043153	L
14. 0	57. 46	036548	043936		14. 0	55. 39	037111	043280	
16. 0	58. 16	037165	043595		16. 0	58. 47	037427	043230	
18. 0	58. 11	037366	043093		18. 0	55. 29	037542	043617	
20. 0	58. 2	037271	042521	L	20. 0	57. 5	038852	043642	L
22. 0	22. 58. 21	037098	044426	H B	22. 0	57. 9	038828	043977	H B
Feb. 12. 0. 0	23. 2. 25	0·035652	0·044674	H B	Feb. 15. 0. 0	22. 59. 49	0·037114	0·043714	H B
1. 50	2. 48	035786	045015		1. 50	23. 0. 15	037664	043794	
2. 0	2. 20	036052	044938		2. 0	23. 0. 7	037642	043794	
2. 10	2. 10	036229	044896	H B	2. 10	22. 59. 56	037597	043768	H B
4. 0	23. 0. 3	037923	045109	L	4. 0	58. 13	037248	043690	L
6. 0	22. 56. 38	037968	044535		6. 0	58. 29	037597	043530	
8. 0	55. 53	038603	044387		8. 0	58. 20	037642	043597	
10. 0	55. 45	037611	044128	L	10. 0	58. 12	037666	043437	L
12. 0	55. 13	037759	044157	H B	12. 0	58. 1	037504	043489	H B

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, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20ˢ·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24ˢ·6; in Vertical Plane, 26ˢ·7.

Daily Observations from February 16 to 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″			
Feb. 16. 14. 0	22. 55. 35	0·037453	0·043436	H B
16. 0	56. 2	037684	043366	
18. 0	55. 49	037723	043420	
20. 0	57. 6	037772	043616	H B
22. 0	57. 0	037469	043807	L
Feb. 17. 0. 0	22. 59. 8	0·037463	0·043735	D
1. 50	23. 0. 55	041022	044016	
2. 0	0. 34	040778	044031	
2. 10	0. 27	040690	043990	D
4. 0	23. 0. 20	039642	043903	H B
6. 0	22. 53. 52	037845	043932	
8. 0	56. 38	038535	043836	
10. 0	55. 46	038816	043588	H B
12. 0	55. 27	038183	043434	D
14. 0	55. 31	037989	043557	
16. 0	55. 37	038052	043416	
18. 0	55. 5	038159	043564	
20. 0	56. 48	038495	043427	D
22. 0	56. 39	037914	043567	H B
Feb. 18. 0. 0	22. 59. 31	0·037325	0·043514	H B
1. 50	23. 1. 9	038140	043482	
2. 0	1. 3	038184	043502	
2. 10	23. 0. 50	038251	043476	H B
4. 0	22. 58. 21	039446	043827	D
6. 0	57. 16	038897	043540	
8. 0	56. 15	038514	043382	
10. 0	56. 15	038357	043292	D
12. 0	56. 52	037539	043255	L
14. 0	57. 21	037062	043133	
16. 0	57. 21	036911	043113	
18. 0	57. 51	037513	043219	
20. 0	56. 20	038239	043193	L
22. 0	56. 28	037937	043601	H B
Feb. 19. 0. 0	22. 59. 49	0·037197	0·043517	H B
1. 50	23. 0. 29	037745	043395	
2. 0	0. 31	037833	043447	
2. 10	23. 0. 14	037988	043437	
4. 0	22. 58. 27	037878	043763	H B
6. 0	57. 44	037725	043636	L
8. 0	57. 4	037997	043708	L
10. 0	56. 27	038051	043732	G
12. 0	56. 17	037387	043633	H B
Feb. 19. 14. 0	22. 55. 4	0·037360	0·043506	H B
16. 0	55. 10	036865	043563	
18. 0	55. 22	036843	043531	
20. 0	56. 8	036892	043463	H B
22. 0	22. 57. 55	036924	043696	D
Feb. 20. 0. 0	23. 1. 51	0·037196	0·043734	D
1. 50	2. 19	037643	044299	
2. 0	2. 55	037599	044305	
2. 10	23. 3. 41	037621	044305	D
4. 0	22. 59. 37	038084	044309	H B
6. 0	58. 40	037876	043839	
8. 0	57. 6	036650	043565	
10. 0	54. 45	035978	043488	H B
12. 0	52. 2	035406	043613	D
14. 0	53. 3	035236	043572	
16. 0	55. 59	034756	043509	
18. 0	53. 29	035294	043183	
20. 0	57. 10	034737	043283	D
22. 0	22. 58. 22	035330	043478	L
Feb. 21. 0. 0	23. 4. 55	0·034114	0·043550	L
1. 50	6. 48	037506	044123	
2. 0	5. 34	037240	044066	
2. 10	4. 10	037550	043978	L
4. 0	23. 0. 44	037181	044111	D
6. 0	22. 56. 27	036403	044022	
8. 0	57. 23	036087	043750	D
10. 0	54. 55	036414	043196	G
12. 0	48. 47	035429	043101	G
14. 0	51. 12	035468	042987	H B
16. 0	49. 25	035349	043257	L
18. 0	50. 58	035494	043522	L
20. 0	51. 42	035717	043570	D
22. 0	54. 12	033690	043591	G
Feb. 22. 0. 0	22. 57. 17	0·035502	0·043622	H B
1. 50	23. 0. 17	035815	043912	
2. 0	23. 0. 0	035340	044042	
2. 10	22. 59. 2	035611	043938	H B
4. 0	57. 43	036125	044082	D
6. 0	54. 17	035849	044308	H B
8. 0	52. 14	036677	043555	G
10. 0	46. 9	037493	043770	L
12. 0	51. 35	036039	043508	

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, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

DECLINATION MAGNET.
Feb. 17d, between 4h and 6h, and 22d, between 10h and 12h, considerable changes occurred for the times of the day.

HORIZONTAL FORCE MAGNET.
Feb. 17d. Between 0h and 1h. 50m a considerable change occurred.

Daily Observations from February 23 to March 1.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Feb. 23.14. 0	22. 48. 23	0 ·034644	0 ·043507	L	Feb. 26. 14. 0	22. 54. 57	0 ·036087	0 ·042938	G
16. 0	50. 42	034361	043259		16. 0	55. 36	036369	042743	
18. 0	49. 22	035468	043284		18. 0	55. 39	036585	042869	
20. 0	52. 56	035453	043284	L	20. 0	56. 20	036466	042916	G
22. 0	56. 24	036365	043489	H B	22. 0	22. 57. 30	034556	042979	L
Feb. 24. 0. 0	22. 59. 41	0 ·036342	0 ·043568	H B	Feb. 27. 0. 0	23. 2. 10	0 ·035468	0 ·043044	L
1. 50	57. 47	036505	043903		1. 50	4. 38	037288	043529	
2. 0	57. 43	037281	043929		2. 0	4. 3	037200	043549	
2. 10	58. 9	037391	043929	H B	2. 10	23. 1. 56	036514	043410	L
4. 0	47. 55	037819	044305	L	4. 0	22. 59. 52	037112	044041	G
6. 0	52. 42	037798	044194		6. 0	58. 18	037374	043760	
8. 0	39. 25	037141	043613		8. 0	48. 2	038260	043346	
10. 0	52. 4	037859	043412	L	10. 0	49. 17	035880	043365	G
12. 0	52. 42	036592	042832	H B	12. 0	22. 54. 57	036675	043135	L
14. 0	50. 27	036363	042710		14. 0	23. 0. 42	036400	042899	
16. 0	55. 34	035753	042989		16. 0	22. 58. 7	035569	043022	
18. 0	22. 59. 20	035832	043091		18. 0	56. 24	036506	043010	
20. 0	23. 3. 25	034422	043074	H B	20. 0	58. 28	037416	043084	L
22. 0	22. 57. 53	034369	043011	L	22. 0	22. 55. 15	036147	043327	H B
Feb. 25. 0. 0	22. 59. 11	0 ·034106	0 ·043120	L	Feb. 28. 0. 0	23. 3. 51	0 ·036207	0 ·043219	H B
1. 50	23. 6. 20	035415	044785		1. 50	6. 0	035771	043245	
2. 0	6. 18	035415	044930		2. 0	5. 58	035749	043251	
2. 10	5. 23	035969	044950	L	2. 10	5. 14	035816	043261	H B
4. 0	23. 3. 24	036585	044285	H B	4. 0	23. 2. 16	036822	043456	L
6. 0	22. 50. 51	037469	044223		6. 0	22. 52. 33	036711	043689	
8. 0	51. 54	036618	043882		8. 0	56. 11	036262	043515	
10. 0	55. 50	037160	043550	H B	10. 0	50. 41	037196	043462	L
12. 0	56. 13	038610	042886	D	12. 0	54. 39	035934	043471	H B
14. 0	53. 47	036817	043093		14. 0	50. 15	036422	042876	
16. 0	57. 9	035518	043165		16. 0	54. 27	035784	043190	
18. 0	53. 18	035188	043191		18. 0	56. 14	035888	043466	
20. 0	22. 57. 21	036477	043263	D	20. 0	56. 55	036051	043535	H B
22. 0	23. 0. 24	034436	043357	H B	22. 0	22. 56. 59	035589	043542	L
Feb. 26. 0. 0	23. 4. 48	0 ·035979	0 ·043455	H B	Mar. 1. 0. 0	23. 2. 25	0 ·035393	0 ·043305	L
1. 50	7. 17	035087	043692	L	1. 50	3. 47	037121	043737	
2. 0	6. 50	034710	043676		2. 0	3. 27	037121	043659	
2. 10	6. 50	034644	043702	L	2. 10	2. 41	036634	043685	
4. 0	23. 0. 38	036028	044297	D	4. 0	23. 0. 28	037065	043937	L
6. 0	22. 58. 49	036512	043898		6. 0	22. 58. 15	036915	043674	H B
8. 0	57. 30	036527	043404		8. 0	55. 19	036786	043537	
10. 0	54. 57	037466	043159	D	10. 0	55. 14	036461	043254	H B
12. 0	55. 34	036408	043184	G	12. 0	55. 21	036281	043426	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, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

DECLINATION MAGNET.
Feb. 24d. Between 2h.10m and 10h considerable changes took place, and the motion of the magnet at times was contrary to its usual motion.
Feb. 25d, 26d, 27d, 28d. Considerable changes occurred.

VERTICAL FORCE MAGNET.
Feb. 25d. Between 10h and 12h a considerable change occurred.

Daily Observations from March 2 to 8.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″			
Mar. 2. 14. 0	22. 55. 46	0 ·036087	0 ·043194	L
16. 0	56. 9	036286	043332	
18. 0	53. 40	035934	043230	
20. 0	55. 59	036338	043431	L
22. 0	55. 2	035834	043596	H B
Mar. 3. 0. 0	22. 59. 10	0 ·035298	0 ·043445	H B
1. 50	23. 1. 49	036569	043590	
2. 0	2. 4	036680	043616	
2. 10	23. 1. 47	036768	043580	H B
4. 0	22. 59. 19	036678	043513	L
6. 0	58. 0	036644	043560	
8. 0	58. 6	037026	043475	
10. 0	55. 54	036450	043269	L
12. 0	56. 46	037018	043276	D
14. 0	57. 26	036741	043027	
16. 0	56. 53	036446	043299	
18. 0	57. 28	036665	043518	
20. 0	57. 3	037175	043559	D
22. 0	56. 13	036588	043884	H B
Mar. 4. 0. 0	22. 59. 35	0 ·036204	0 ·043880	H B
1. 50	23. 0. 30	037265	044072	
2. 0	0. 16	037176	043979	
2. 10	23. 0. 8	037331	043839	H B
4. 0	22. 58. 29	038585	044119	D
6. 0	57. 44	038357	044078	
8. 0	57. 27	038048	043696	
10. 0	55. 36	038431	043555	D
12. 0	54. 1	037674	043232	H B
14. 0	54. 55	036390	043362	
16. 0	55. 8	036755	043359	
18. 0	54. 46	037141	043562	
20. 0	55. 22	036759	043720	H B
22. 0	54. 52	036327	043753	L
Mar. 5. 0. 0	22. 58. 17	0 ·036790	0 ·043768	L
1. 50	23. 1. 1	037548	044097	
2. 0	0. 54	037636	044091	
2. 10	23. 0. 40	037636	044055	L
4. 0	22. 58. 48	038548	044049	H B
6. 0	57. 12	037778	043864	
8. 0	57. 58	037453	043525	
10. 0	56. 22	037623	043409	H B
12. 0	57. 55	037446	043120	G

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″			
Mar. 5. 14. 0	22. 57. 34	0 ·036843	0 ·043425	G
16. 0	57. 13	036415	043388	
18. 0	57. 13	036562	043351	
20. 0	55. 23	036657	043552	G
22. 0	54. 35	035651	043996	L
Mar. 6. 0. 0	22. 58. 27	0 ·035421	0 ·043752	L
1. 50	23. 1. 8	036528	043962	
2. 0	1. 8	036682	043920	
2. 10	23. 1. 8	036727	043910	L
4. 0	22. 59. 38	037551	043693	G
6. 0	57. 29	037174	043357	
8. 0	56. 43	038087	043603	
10. 0	56. 39	037242	043580	G
12. 0	56. 20	037204	043535	L
14. 0	56. 42	036902	043523	
16. 0	56. 4	037828	043671	
18. 0	55. 5	037502	043825	
20. 0	54. 45	037241	043901	L
22. 0	53. 9	036840	044024	H B
Mar. 7. 0. 0	22. 59. 42	0 ·035559	0 ·043573	H B
1. 50	23. 3. 35	036246	043899	
2. 0	3. 31	036246	043853	
2. 10	3. 46	036822	043837	H B
4. 0	23. 0. 2	038184	044078	L
6. 0	22. 58. 21	038057	044021	
8. 0	56. 1	036381	043550	
10. 0	53. 26	036882	043474	L
12. 0	56. 25	036758	043525	D
14. 0	55. 49	036416	043505	
16. 0	55. 6	036021	043429	
18. 0	54. 29	036431	043321	
20. 0	56. 8	036305	043491	D
22. 0	22. 55. 44	035526	043507	H B
Mar. 8. 0. 0	23. 0. 55	0 ·034644	0 ·043558	H B
1. 50	3. 53	035929	043784	L
2. 0	3. 52	036106	043758	H B
2. 10	3. 34	036150	043722	H B
4. 0	23. 0. 45	037733	044358	D
6. 0	22. 56. 50	037186	044382	
8. 0	56. 16	036744	043637	
10. 0	56. 48	036685	043040	D
12. 0	56. 4	036527	043013	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, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s{\cdot}8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s{\cdot}6$; in Vertical Plane, $26^s{\cdot}7$.

Daily Observations from March 9 to 15.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Mar. 9. 14. 0	22. 58. 51	0 ·035759	0 ·043326	H B	Mar. 12. 14. 0	22. 56. 56	0 ·036830	0 ·043332	H B
16. 0	59. 20	034438	042844		16. 0	55. 33	036873	043371	
18. 0	55. 15	036364	043274		18. 0	55. 58	036913	043120	
20. 0	55. 33	035917	043565	H B	20. 0	56. 25	036282	043368	H B
22. 0	22. 55. 55	034884	043442	L	22. 0	22. 56. 53	035325	043489	L
Mar. 10. 0. 0	23. 0. 41	0 ·034837	0 ·043336	L	Mar. 13. 0. 0	23. 2. 50	0 ·034307	0 ·043392	L
{ 1. 50	3. 48	036235	043500		{ 1. 50	5. 43	035245	043469	
{ 2. 0	2. 48	036102	043490		{ 2. 0	5. 52	035289	043500	
{ 2. 10	23. 1. 56	036235	043490	L	{ 2. 10	6. 10	035489	043531	L
4. 0	22. 59. 54	039051	044022	H B	4. 0	23. 1. 56	036990	044379	H B
6. 0	56. 55	038465	043818		6. 0	22. 57. 8	036957	044104	
8. 0	54. 35	038760	043697		8. 0	56. 13	036619	043900	
10. 0	55. 8	038166	043656	H B	10. 0	55. 50	036588	043668	H B
12. 0	55. 47	038358	043332	L	12. 0	55. 51	036791	043440	G
14. 0	57. 27	037128	043220		14. 0	55. 37	036628	043304	
16. 0	58. 26	037108	043201		16. 0	56. 8	036436	043341	
18. 0	54. 51	036955	043153		18. 0	55. 15	036569	043785	
20. 0	55. 20	036896	043078	L	20. 0	22. 56. 14	035550	044173	G
22. 0	54. 47	036196	043454	H B	22. 0	23. 2. 16	034701	043904	L
Mar. 11. 0. 0	22. 59. 51	0 ·035816	0 ·043377	H B	Mar. 14. 0. 0	23. 1. 54	0 ·034529	0 ·043914	L
{ 1. 50	23. 3. 11	036855	043482		{ 1. 50	2. 44	035636	044112	
{ 2. 0	3. 30	037166	043477		{ 2. 0	3. 47	035215	044091	
{ 2. 10	4. 6	037232	043492	H B	{ 2. 10	2. 50	035127	043926	L
4. 0	23. 0. 50	037351	043546	L	4. 0	23. 2. 34	036293	044694	G
6. 0	22. 56. 29	037221	043559		6. 0	22. 58. 26	036350	044432	L
8. 0	54. 13	037625	043381		8. 0	53. 17	034907	044295	L
10. 0	51. 3	036544	043167	L	10. 0	48. 7	036075	044020	H B
12. 0	55. 28	036849	043067	D	12. 0	51. 14	034771	043545	L
14. 0	56. 43	036892	043096		14. 0	53. 10	034101	043542	
16. 0	55. 47	036549	043068		16. 0	57. 42	034551	043606	
18. 0	55. 36	036694	043196		18. 0	55. 54	034438	043569	
20. 0	55. 43	036833	043222	D	20. 0	55. 54	034280	043515	L
22. 0	54. 11	035805	043388	H B	22. 0	22. 57. 22	033418	044417	H B
Mar. 12. 0. 0	22. 57. 38	0 ·035954	0 ·043475	H B	Mar. 15. 0. 0	23. 1. 24	0 ·033632	0 ·044123	H B
{ 1. 50	23. 0. 53	036116	043491		{ 1. 50	4. 6	034289	044289	
{ 2. 0	0. 58	036138	043506		{ 2. 0	3. 0	033935	044263	
{ 2. 10	1. 9	036294	043506	H B	{ 2. 10	3. 36	034068	044252	H B
4. 0	23. 0. 9	037582	043856	D	4. 0	23. 0. 37	035777	044288	L
6. 0	22. 56. 56	037575	043776		6. 0	22. 57. 10	035018	044413	
8. 0	56. 41	037284	043628		8. 0	54. 49	034891	044344	
10. 0	56. 41	037111	043481	D	10. 0	54. 58	035867	044274	L
12. 0	57. 5	037054	043154	H B	12. 0	54. 47	035492	043976	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, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s{\cdot}8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s{\cdot}6$; in Vertical Plane, $26^s{\cdot}7$.

DECLINATION MAGNET.

March 14^d. Between 6^h and 10^h considerable changes occurred.

HORIZONTAL FORCE MAGNET.

March 10^d. Considerable changes occurred.

Daily Observations from March 16 to 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Mar. 16. 14. 0	22. 54. 49	0·034118	0·043990	H B	Mar. 19. 14. 0	22. 48. 41	0·036842	0·043329	D
16. 0	52. 26	034236	043957		16. 0	51. 33	036159	043186	H B
18. 0	57. 9	034904	044229		18. 0	51. 16	035554	043371	H B
20. 0	55. 6	034827	044510	H B	20. 0	53. 25	035757	043529	L
22. 0	22. 56. 41	034247	044528	L	22. 0	22. 55. 36	034971	044054	G
Mar. 17. 0. 0	23. 0. 48	0·035092	0·044098	L	Mar. 20. 0. 0	23. 1. 43	0·034300	0·043662	L
1. 50	2. 37	036459	044365		1. 50	4. 50	035526	043740	H B
2. 0	2. 12	036813	044396		2. 0	4. 51	035688	043814	
2. 10	23. 2. 21	036902	044329	L	2. 10	4. 36	035926	043794	H B
4. 0	22. 58. 23	037320	044736	H B	4. 0	23. 1. 54	036699	044048	L
6. 0	56. 19	037685	044458		6. 0	22. 52. 16	033173	044976	D
8. 0	57. 3	037294	044196		8. 0	58. 3	035288	044119	H B
10. 0	57. 49	036567	044060	H B	10. 0	57. 50	035368	043622	G
12. 0	56. 21	037302	043819	D	12. 0	57. 34	034921	043430	H B
14. 0	57. 46	035511	043845		14. 0	...	...	...	..
16. 0	56. 40	035188	043794		16. 0	...	...	...	..
18. 0	56. 4	035351	043827		18. 0	...	...	...	..
20. 0	54. 12	035999	043875	D	20. 0	...	...	...	..
22. 0	22. 57. 42	034917	044110	L	22. 0	...	...	...	..
Mar. 18. 0. 0	23. 0. 37	0·034943	0·043879	L	Mar. 21. 0. 0	...	...	...	..
1. 50	3. 25	036198	044463		1. 50	...	...	...	..
2. 0	2. 43	036463	044334		2. 0	...	...	...	..
2. 10	23. 3. 3	036352	044308	L	2. 10	...	...	...	..
4. 0	22. 59. 57	037486	044564	D	4. 0	...	...	...	..
6. 0	56. 11	036764	044535	D	6. 0	...	...	...	..
8. 0	57. 27	036619	044219	L	8. 0	...	...	...	..
10. 0	51. 40	038431	043982	D	10. 0	...	...	...	..
12. 0	55. 56	035933	044181	L	12. 0	...	...	...	..
14. 0	56. 22	035288	043516		14. 0	22. 58. 58	0·034147	0·043274	H B
16. 0	58. 51	035400	043603		16. 0	56. 10	033350	043558	
18. 0	55. 17	035442	043606		18. 0	52. 58	035435	043706	
20. 0	54. 30	035692	043658	L	20. 0	56. 44	035010	044082	H B
22. 0	54. 55	034880	044021	H B	22. 0	22. 55. 1	034089	043784	L
Mar. 19. 0. 0	22. 59. 51	0·034523	0·043799	H B	Mar. 22. 0. 0	23. 0. 55	0·035129	0·043759	L
1. 50	23. 2. 49	035709	044122		1. 50	3. 53	035660	044057	
2. 0	2. 43	035599	044127		2. 0	4. 16	035792	043995	
2. 10	23. 2. 41	036174	044122	H B	2. 10	4. 16	035748	043938	L
4. 0	22. 59. 19	037320	044261	L	4. 0	23. 0. 7	035994	044150	H B
6. 0	54. 56	036105	044147		6. 0	22. 55. 43	036158	044086	
8. 0	52. 27	034781	044287	L	8. 0	56. 14	036275	043764	
10. 0	48. 56	035034	044109	G	10. 0	55. 54	036234	043681	H B
12. 0	52. 45	036182	043457	G	12. 0	56. 12	036105	043444	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, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

DECLINATION MAGNET.

March 18d. Between 8h and 10h a considerable change occurred for the time of the day.
March 20d. Between 4h and 6h a considerable change occurred in the readings for all the magnets.

Daily Observations from March 23 to 29.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Mar. 23. 14. 0	22. 59. 40	0 ·038728	0 ·043036	L	Mar. 26. 14. 0	22. 55. 8	0 ·034664	0 ·043272	G
16. 0	54. 44	037902	043212		16. 0	53. 4	036158	043061	
18. 0	57. 16	038252	043376		18. 0	57. 30	034091	043190	
20. 0	53. 35	038306	043396	L	20. 0	54. 32	035335	043451	G
22. 0	22. 56. 8	036157	043577	H B	22. 0	54. 2	034172	043146	L
Mar. 24. 0. 0	23. 3. 38	0 ·036589	0 ·043336	H B	Mar. 27. 0. 0	22. 58. 28	0 ·034733	0 ·043198	L
1. 50	7. 22	038246	043802		1. 50	23. 4. 17	035013	042945	
2. 0	7. 36	038290	043848		2. 0	4. 0	034947	043136	
2. 10	7. 2	038445	043787	H B	2. 10	23. 3. 22	034947	043239	L
4. 0	5. 43	037831	043904	L	4. 0	22. 53. 38	037627	043838	G
6. 0	23. 0. 0	036799	044078		6. 0	57. 47	037377	043825	
8. 0	22. 54. 40	036629	043836		8. 0	51. 10	036525	044091	
10. 0	56. 53	036311	043423	L	10. 0	52. 34	035797	043453	G
12. 0	58. 25	037428	043261	D	12. 0	53. 31	035608	042755	L
14. 0	50. 56	035862	042473		14. 0	57. 17	035930	042934	
16. 0	52. 28	037281	042116		16. 0	56. 4	036095	043083	
18. 0	55. 34	035624	041961		18. 0	55. 44	036204	043152	
20. 0	55. 5	034087	042095	D	20. 0	52. 20	036043	043048	L
22. 0	22. 56. 49	033878	043085	H B	22. 0	22. 54. 7	035796	043265	H B
Mar. 25. 0. 0	23. 0. 44	0 ·034435	0 ·043160	H B	Mar. 28. 0. 0	23. 0. 1	0 ·036307	0 ·043131	H B
1. 50	5. 6	036879	043747		1. 50	2. 40	035624	043450	
2. 0	4. 22	036437	043686		2. 0	2. 26	035712	043419	
2. 10	3. 43	036393	043618	H B	2. 10	2. 45	035956	043440	H B
4. 0	23. 1. 13	037032	043843	D	4. 0	23. 0. 7	036979	043570	L
6. 0	22. 54. 46	036816	044103		6. 0	22. 57. 6	036633	043349	
8. 0	56. 6	036728	043711		8. 0	57. 48	036457	043145	
10. 0	55. 21	036728	043431	D	10. 0	53. 27	036462	042863	L
12. 0	55. 3	037212	043079	H B	12. 0	56. 0	035294	042996	D
14. 0	50. 8	036409	042929		14. 0	56. 58	035209	042955	
16. 0	54. 46	035631	042981		16. 0	56. 11	035335	042882	
18. 0	57. 35	036220	043296		18. 0	56. 31	035046	042960	
20. 0	55. 31	035320	043321	H B	20. 0	55. 40	035024	043041	D
22. 0	22. 55. 8	035142	043122	L	22. 0	58. 17	033539	043119	H B
Mar. 26. 0. 0	23. 1. 49	0 ·036073	0 ·043187	L	Mar. 29. 0. 0	22. 58. 11	0 ·034131	0 ·043285	H B
1. 50	6. 47	036497	043282		1. 50	23. 4. 17	035626	043348	H B
2. 0	7. 16	036120	043292		2. 0	5. 11	035736	043306	L
2. 10	5. 50	036696	043292	L	2. 10	23. 4. 6	035050	043275	L
4. 0	23. 5. 6	036369	043793	H B	4. 0	22. 58. 11	035134	043648	D
6. 0	22. 53. 29	035900	043851		6. 0	57. 23	035890	043584	
8. 0	48. 25	038335	043378		8. 0	54. 49	035696	043583	
10. 0	58. 4	036049	043124	H B	10. 0	51. 49	035608	043074	D
12. 0	52. 32	036236	043008	G	12. 0	53. 28	034999	042651	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, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^{s}\cdot8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^{s}\cdot6$; in Vertical Plane, $26^{s}\cdot7$.

DECLINATION MAGNET.
March 24^{d}. Between 12^{h} and 14^{h} a large change for the time of the day took place.
March 26^{d}. Between 4^{h} and 10^{h} considerable changes took place, and during the night the changes were frequent and considerable in amount.
March 29^{d}. Between $2^{h}.10^{m}$ and 4^{h} a considerable change occurred.

HORIZONTAL FORCE MAGNET.
March 26^{d}, between 6^{h} and 10^{h} considerable changes occurred.

VERTICAL FORCE MAGNET.
March 23^{d}, between 22^{h} and 24^{h}, and 27^{d}, between 8^{h} and 10^{h}, considerable changes occurred.

Daily Observations from March 30 to April 5.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Mar. 30. 14. 0	22. 54. 45	0 ·034913	0 ·043303	H B	April 2. 14. 0	22. 58. 11	0 ·035850	0 ·042844	H B
16. 0	54. 3	035316	043237		16. 0	57. 11	035566	042664	
18. 0	54. 9	035126	043330		18. 0	57. 24	035663	042947	
20. 0	53. 49	034912	043143	H B	20. 0	54. 40	035179	043106	H B
22. 0	55. 4	034139	043301	L	22. 0	22. 55. 32	033562	042965	L
Mar. 31. 0. 0	22. 59. 37	0 ·035020	0 ·043323	L	April 3. 0. 0	23. 6. 31	0 ·033791	0 ·043146	L
1. 50	23. 6. 9	036572	043641		1. 50	12. 50	034674	043376	
2. 0	6. 9	036528	043646		2. 0	11. 7	035073	043324	
2. 10	6. 22	036705	043518	L	2. 10	10. 34	035338	043282	L
4. 0	23. 3. 54	036867	043711	H B	4. 0	4. 6	036492	043832	H B
6. 0	22. 59. 51	036732	043588		6. 0	23. 0. 22	036256	043659	
8. 0	59. 8	037023	043402		8. 0	22. 57. 54	035761	043742	
10. 0	59. 24	036731	043049	H B	10. 0	22. 56. 39	034879	043104	H B
12. 0	59. 54	036742	042743	L	12. 0	23. 0. 58	035377	042850	D
14. 0	58. 27	036001	042777		14. 0	22. 59. 46	034860	042712	
16. 0	56. 38	035553	042759		16. 0	22. 58. 38	035343	042486	
18. 0	57. 26	035593	042846		18. 0	23. 0. 51	035357	042537	
20. 0	56. 18	035261	042730	L	20. 0	22. 57. 55	035209	042697	D
22. 0	22. 56. 14	034233	042931	H B	22. 0	22. 55. 52	033745	042860	L
April 1. 0. 0	23. 1. 37	0 ·033800	0 ·042923	H B	April 4. 0. 0	23. 5. 38	0 ·032353	0 ·042945	L
1. 50	5. 39	034689	043435		1. 50	9. 21	034407	043368	
2. 0	5. 48	034954	043394		2. 0	8. 14	033854	043265	
2. 10	5. 29	034999	043358	H B	2. 10	7. 14	033522	043223	
4. 0	23. 2. 42	036107	043345	L	4. 0	23. 3. 23	034866	043924	L
6. 0	22. 59. 16	036642	043373		6. 0	22. 59. 16	034966	043372	D
8. 0	57. 57	036486	043249		8. 0	57. 26	035116	043153	
10. 0	57. 6	036761	043007	L	10. 0	58. 7	034961	042869	D
12. 0	68. 33	035947	042992	G	12. 0	22. 59. 37	035144	042327	L
14. 0	57. 33	036002	042993		14. 0	23. 0. 57	034469	042254	
16. 0	59. 25	035721	042881		16. 0	23. 0. 42	034581	042996	
18. 0	56. 3	035518	042809		18. 0	22. 58. 53	034113	042380	
20. 0	56. 20	035126	041789	G	20. 0	54. 22	033413	042639	L
22. 0	22. 56. 28	033941	043224	H B	22. 0	22. 55. 21	032309	042840	H B
April 2. 0. 0	23. 4. 50	0 ·033706	0 ·043191	H B	April 5. 0. 0	23. 3. 27	0 ·032016	0 ·042533	H B
1. 50	8. 56	035113	043683		1. 50	8. 22	033929	043060	
2. 0	8. 55	035047	043667		2. 0	8. 7	034195	043066	
2. 10	9. 13	035047	043646	H B	2. 10	7. 47	034129	043050	H B
4. 0	4. 52	036214	043791	G	4. 0	23. 3. 30	034801	043528	L
6. 0	23. 0. 27	036092	043639	L	6. 0	22. 59. 38	035634	042907	
8. 0	22. 58. 19	036598	043188	G	8. 0	22. 59. 38	035611	042825	
10. 0	59. 39	035992	042913	G	10. 0	23. 0. 19	035022	042613	L
12. 0	57. 28	036438	042953	H B	12. 0	22. 59. 56	034932	042555	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, 227°; from March $31^{d}.\ 0^{h}$, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^{s}\cdot8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^{s}\cdot6$; in Vertical Plane, $26^{s}\cdot7$.

DECLINATION MAGNET.
April 1^{d}, 2^{d}, 3^{d}, and 4^{d}. Considerable changes occurred between the observation at 0^{h} and those which immediately preceded and followed 0^{h}.

HORIZONTAL FORCE MAGNET.
April 1^{d}. Between 20^{h} and 22^{h} a considerable change occurred.

VERTICAL FORCE MAGNET.
April 1^{d}. Between 20^{h} and 22^{h} a remarkable change occurred.
April 4^{d}. Between 4^{h} and 6^{h} a considerable change occurred.

Daily Observations from April 6 to 12.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
April 6. 14. 0	22. 59. 5	0·034798	0·042447	H B	April 9. 14. 0	22. 57. 14	0·035525	0·043239	G
16. 0	58. 13	035023	042702		16. 0	57. 15	035610	043080	
18. 0	58. 51	034575	042942		18. 0	57. 15	035433	042917	
20. 0	55. 57	033807	043043	H B	20. 0	56. 17	035152	042136	G
22. 0	22. 57. 30	032288	043078	L	22. 0	22. 55. 42	033536	042929	H B
April 7. 0. 0	23. 4. 38	0·033209	0·043264	L	April 10. 0. 0	23. 2. 56	0·034281	0·042789	H B
1. 50	5. 53	035877	043684		1. 50	6. 18	036165	043081	L
2. 0	8. 20	035921	043632		2. 0	6. 7	036165	043071	
2. 10	8. 41	036010	043482	L	2. 10	6. 13	035988	043045	L
4. 0	23. 2. 55	036394	043700	H B	4. 0	23. 2. 40	037382	043564	G
6. 0	22. 59. 47	036483	043467		6. 0	22. 59. 39	036275	043357	
8. 0	55. 44	036300	043145		8. 0	58. 31	036427	043182	
10. 0	59. 33	035579	042825	H B	10. 0	58. 30	036427	043114	G
12. 0	22. 59. 19	035517	042703	D	12. 0	57. 59	036335	043149	H B
14. 0	23. 0. 57	036446	042597		14. 0	58. 19	036013	043002	
16. 0	22. 59. 3	034784	042374		16. 0	57. 22	035721	043013	
18. 0	58. 41	034637	042341		18. 0	57. 45	035871	042995	
20. 0	55. 16	034064	042503	D	20. 0	53. 48	035359	043229	H B
22. 0	22. 55. 8	032693	042680	L	22. 0	22. 52. 54	033935	043212	L
April 8. 0. 0	23. 0. 17	0·032540	0·042649	L	April 11. 0. 0	23. 1. 37	0·033696	0·042894	L
1. 50	6. 56	034615	042963		1. 50	6. 51	035127	043209	
2. 0	6. 47	034638	042983		2. 0	6. 39	035437	043184	
2. 10	6. 47	034837	042999	L	2. 10	6. 52	035792	043184	L
4. 0	23. 3. 28	035828	043363	D	4. 0	23. 3. 20	036401	043545	H B
6. 0	22. 59. 19	035994	043464		6. 0	22. 59. 14	036682	043492	
8. 0	57. 50	036309	043354		8. 0	56. 51	036667	043137	
10. 0	58. 11	035727	043077	D	10. 0	54. 10	036745	043226	H B
12. 0	57. 20	035601	042885	L	12. 0	55. 31	036272	043150	D
14. 0	59. 41	035289	042678		14. 0	55. 57	035681	042995	
16. 0	58. 29	035020	042579		16. 0	55. 46	036408	043078	
18. 0	59. 15	034952	042701		18. 0	54. 56	036573	043238	
20. 0	54. 32	034555	042812	L	20. 0	53. 53	036112	043323	D
22. 0	22. 55. 3	032565	042829	H B	22. 0	22. 53. 53	034257	043286	L
April 9. 0. 0	23. 2. 40	0·032800	0·042904	H B	April 12. 0. 0	23. 2. 12	0·033730	0·042894	L
1. 50	6. 25	034632	043066		1. 50	6. 44	035403	043057	
2. 0	6. 52	034854	043102		2. 0	6. 50	035802	043047	
2. 10	6. 31	034898	043050	H B	2. 10	7. 12	036045	043057	L
4. 0	23. 2. 41	036095	043419	L	4. 0	23. 3. 2	036116	043101	D
6. 0	22. 58. 16	035439	043257		6. 0	22. 59. 7	036612	043436	
8. 0	55. 29	036018	043225		8. 0	57. 50	036811	043442	
10. 0	57. 18	035534	043057	L	10. 0	57. 1	036638	043161	D
12. 0	57. 53	036921	043192	G	12. 0	57. 24	036391	042969	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, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

DECLINATION MAGNET.
April 8d, 10d, 11d, and 12d. Considerable changes occurred.

VERTICAL FORCE MAGNET.
April 9d. Between 18h and 22h considerable changes occurred.

Daily Observations from April 13 to 19.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
April 13. 14. 0	22. 53. 50	0·033891	0·041529	L	April 16. 14. 0	22. 58. 52	0·037253	0·043026	G
16. 0	56. 14	034908	041795		16. 0	57. 31	036752	043029	
18. 0	51. 35	036019	042383		18. 0	56. 36	036769	042627	
20. 0	54. 50	035520	043375	L	20. 0	55. 12	036131	043028	G
22. 0	22. 55. 52	035942	043527	H B	22. 0	22. 56. 12	035279	043064	L
April 14. 0. 0	23. 3. 42	0·034547	0·043322	H B	April 17. 0. 0	23. 2. 58	0·035881	0·043130	L
1. 50	8. 36	035217	043611		1. 50	4. 33	036639	043446	H B
2. 0	7. 49	034774	043642		2. 0	4. 23	036440	043420	
2. 10	6. 57	034818	043595		2. 10	4. 14	036374	043322	
4. 0	23. 2. 27	035390	043979	H B	4. 0	23. 0. 56	036616	043591	H B
6. 0	22. 59. 50	036483	044074	L	6. 0	22. 59. 6	037123	043408	G
8. 0	54. 56	036698	043622		8. 0	58. 0	036529	043056	
10. 0	22. 58. 10	036475	043320	L	10. 0	57. 58	036476	042688	G
12. 0	23. 1. 21	036704	042753	H B	12. 0	58. 27	036045	042480	L
14. 0	22. 56. 46	035544	042848		14. 0	58. 27	035890	042439	
16. 0	57. 28	035622	042946		16. 0	56. 44	035728	042622	
18. 0	57. 52	035073	042999		18. 0	55. 14	035525	042732	
20. 0	55. 44	035551	043104	H B	20. 0	53. 44	035050	042590	L
22. 0	22. 57. 27	034586	043013	L	22. 0	22. 56. 7	034444	042560	H B
April 15. 0. 0	23. 2. 43	0·034336	0·042811	L	April 18. 0. 0	23. 3. 1	0·034422	0·042689	H B
1. 50	5. 33	036211	043011		1. 50	5. 9	035319	043155	
2. 0	5. 33	036056	043063		2. 0	5. 40	035806	043150	
2. 10	5. 53	036123	043053	L	2. 10	6. 24	036093	043150	H B
4. 0	23. 2. 7	036260	043497	H B	4. 0	5. 7	036435	043462	L
6. 0	22. 58. 49	037352	043612		6. 0	23. 2. 34	037826	043329	
8. 0	56. 1	037190	043388		8. 0	22. 57. 29	036434	043504	
10. 0	56. 4	036795	043230	H B	10. 0	53. 14	035641	042955	L
12. 0	56. 56	036664	043124	D	12. 0	58. 47	036011	042739	H B
14. 0	57. 59	036869	043181		14. 0	55. 46	036136	042185	
16. 0	57. 33	035528	043288		16. 0	57. 7	034261	042530	
18. 0	56. 50	036244	043241		18. 0	54. 9	035553	042420	
20. 0	56. 13	036377	043438	D	20. 0	52. 7	035311	042357	H B
22. 0	22. 54. 42	035646	043152	L	22. 0	22. 55. 54	034503	042478	L
April 16. 0. 0	23. 0. 48	0·034895	0·043149	L	April 19. 0. 0	23. 2. 55	0·034733	0·042709	L
1. 50	4. 24	036718	043392		1. 50	5. 58	036314	043245	
2. 0	4. 31	036785	043392		2. 0	5. 27	036912	043172	
2. 10	3. 54	036718	043345	L	2. 10	6. 44	036579	043110	L
4. 0	2. 31	037571	043737	D	4. 0	23. 2. 24	038025	043666	H B
6. 0	23. 0. 10	037778	043576	D	6. 0	22. 59. 46	036711	043472	
8. 0	22. 56. 40	038011	043359	L	8. 0	57. 39	036462	043580	
10. 0	58. 8	037759	043425	D	10. 0	55. 38	035365	042854	H B
12. 0	58. 37	037486	043240	G	12. 0	52. 43	035015	042388	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, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

DECLINATION MAGNET.
April 13d. Between 22h and 24h a considerable change occurred.

VERTICAL FORCE MAGNET.
April 13d, between 16h and 20h; April 14d, between 10h and 12h; April 18d, between 8h and 10h; and on April 19d, between 0h and 4h, considerable changes occurred.

Daily Observations from April 20 to 26.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
April 20. 14. 0	22. 53. 51	0 ·035498	0. 041948	L	April 23. 14. 0	22. 58. 41	0 ·036467	0 ·042612	D
16. 0	55. 40	034891	042277		16. 0	57. 32	036070	042217	L
18. 0	59. 46	034006	042332		18. 0	56. 39	035564	042363	L
20. 0	53. 35	034010	042610	L	20. 0	55. 58	035243	042565	H B
22. 0	22. 55. 10	031884	042908	H B	22. 0	22. 56. 26	033863	042711	G
April 21. 0. 0	23. 2. 7	0 ·032631	0 ·043067	H B	April 24. 0. 0	23. 3. 30	0 ·033642	0 ·042697	L
1. 50	6. 18	035045	043516		1. 50	10. 47	035868	043065	H B
2. 0	6. 5	035201	043417		2. 0	10. 33	035754	043115	
2. 10	6. 4	035422	043350	H B	2. 10	11. 9	036214	043110	H B
4. 0	2. 45	036750	043468	L	4. 0	9. 20	039287	043586	L
6. 0	23. 0. 59	037053	043256		6. 0	5. 37	037737	043500	D
8. 0	22. 56. 12	036603	043066		8. 0	23. 1. 38	035843	043192	H B
10. 0	55. 10	036086	042699	L	10. 0	22. 59. 10	035751	042905	G
12. 0	58. 4	036048	042368	D	12. 0	58. 20	035436	042488	L
14. 0	22. 56. 41	035970	042228		14. 0	57. 36	035385	042336	
16. 0	23. 0. 12	035345	042444		16. 0	58. 38	035268	042301	
18. 0	22. 58. 40	035966	042515		18. 0	58. 16	035004	042418	
20. 0	54. 38	034531	042411	D	20. 0	59. 16	035336	042445	L
22. 0	22. 54. 17	033213	042564	H B	22. 0	22. 56. 37	034460	042611	H B
April 22. 0. 0	23. 4. 3	0 ·033762	0 ·042608	L	April 25. 0. 0	23. 4. 22	0 ·033190	0 ·043216	D
1. 50	7. 24	035151	043161	H B	1. 50	12. 22	033547	043205	H B
2. 0	7. 1	035284	043145		2. 0	12. 6	033503	043158	
2. 10	6. 56	035372	043124	H B	2. 10	12. 8	033968	043127	H B
4. 0	3. 33	036650	043132	D	4. 0	23. 8. 51	035016	043258	L
6. 0	23. 0. 4	037404	043395		6. 0	22. 58. 8	036181	043543	
8. 0	22. 58. 8	036903	043217		8. 0	57. 42	036227	043063	
10. 0	57. 50	036134	042840	D	10. 0	56. 7	036405	042752	L
12. 0	56. 44	036185	042599	H B	12. 0	57. 38	035809	042348	D
14. 0	58. 4	035804	042386		14. 0	59. 50	037846	042488	
16. 0	57. 25	035868	042359		16. 0	59. 6	035042	042524	
18. 0	56. 47	035589	042350		18. 0	58. 12	035093	042580	
20. 0	53. 52	034893	042266	H B	20. 0	54. 49	034765	042768	D
22. 0	22. 56. 35	034314	042353	L	22. 0	22. 57. 4	032897	042542	H B
April 23. 0. 0	23. 6. 23	0 ·034391	0 ·042780	L	April 26. 0. 0	23. 5. 16	0 ·032757	0 ·042565	L
1. 50	8. 25	035887	043246		1. 50	11. 10	034097	042791	
2. 0	8. 34	036152	043220		2. 0	10. 53	034738	042791	
2. 10	8. 13	035998	043116	L	2. 10	10. 24	035071	042781	L
4. 0	5. 50	037250	043191	H B	4. 0	4. 58	037017	042974	D
6. 0	23. 1. 37	037508	043352		6. 0	23. 0. 54	036319	043030	
8. 0	22. 59. 52	037515	043158	H B	8. 0	22. 58. 45	037190	043004	
10. 0	57. 23	036883	042954	G	10. 0	58. 19	036451	042688	D
12. 0	58. 13	036678	042589	G	12. 0	58. 34	035767	042359	H B

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, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

DECLINATION MAGNET.
April 23d and 25d. Considerable changes occurred.

HORIZONTAL FORCE MAGNET.
April 20d, between 20h and 22h; on April 21d, between 0h and 1h. 50m; and on April 25d, between 12h and 14h, considerable changes occurred.

VERTICAL FORCE MAGNET.
April 22d, between 0h and 1h. 50m, and April 24d, between 22h and 24h, considerable changes occurred.

Daily Observations from April 27 to May 3.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
April 27. 14. 0	22. 47. 46	0·035591	0·041965	H B	April 30. 14. 0	22. 45. 13	0·037609	0·042437	G
16. 0	46. 29	034423	042264		16. 0	55. 57	035727	040783	
18. 0	50. 53	034242	042137		18. 0	58. 32	034399	042334	
20. 0	53. 7	033633	042564	H B	20. 0	54. 58	034399	042437	G
22. 0	22. 57. 9	031889	042432	L	22. 0	22. 59. 0	033702	042040	H B
April 28. 0. 0	23. 3. 57	0·032645	0·042702	L	May 1. 0. 0	23. 3. 16	0·034491	0·042390	H B
1. 50	7. 43	033418	043062		1. 50	4. 21	035178	043084	
2. 0	8. 2	033905	043104		2. 0	4. 24	035244	043043	
2. 10	7. 57	034016	043104		2. 10	23. 3. 54	035045	043017	H B
4. 0	23. 3. 15	035974	043368		4. 0	22. 57. 22	035053	043154	G
6. 0	22. 59. 55	036473	043282	L	6. 0	56. 14	037053	043424	
8. 0	59. 49	036222	043595	G	8. 0	57. 29	036630	043344	
10. 0	59. 43	035496	042983	D	10. 0	57. 38	036375	042710	G
12. 0	58. 49	035753	042666	L	12. 0	58. 8	036086	042418	H B
14. 0	56. 10	035676	042351		14. 0	57. 34	035827	042460	
16. 0	57. 21	035022	042452		16. 0	56. 40	035843	042529	
18. 0	55. 26	034493	042595		18. 0	54. 20	035778	042382	
20. 0	54. 2	034357	042761	L	20. 0	52. 5	035255	042365	H B
22. 0	22. 57. 36	033718	042465	H B	22. 0	54. 55	034935	042427	L
April 29. 0. 0	23. 3. 42	0·034444	0·042482	H B	May 2. 0. 0	22. 59. 12	0·035181	0·042275	L
1. 50	8. 6	034505	042583		1. 50	23. 0. 31	035931	042556	
2. 0	7. 51	034594	042573		2. 0	0. 21	035931	042577	
2. 10	7. 54	034572	042578		2. 10	23. 0. 16	036042	042566	L
4. 0	3. 22	034873	043035		4. 0	22. 57. 58	037028	042801	H B
6. 0	23. 0. 37	036455	043014		6. 0	55. 59	036691	042662	
8. 0	22. 55. 56	036278	043005		8. 0	55. 32	036508	042573	
10. 0	57. 21	036142	042837	H B	10. 0	56. 50	036329	042294	H B
12. 0	57. 52	035829	042693	D	12. 0	56. 35	036001	042113	L
14. 0	59. 1	035758	042745		14. 0	56. 21	036093	042063	
16. 0	58. 36	035661	042513		16. 0	55. 58	035941	042050	
18. 0	57. 54	035833	042597		18. 0	53. 25	035601	041979	
20. 0	55. 8	035258	042633	D	20. 0	50. 17	035064	041962	L
22. 0	22. 57. 59	033596	042317	L	22. 0	53. 50	034667	042156	H B
April 30. 0. 0	23. 2. 43	0·033421	0·042396	L	May 3. 0. 0	22. 59. 44	0·034416	0·042148	H B
1. 50	6. 5	034748	042315		1. 50	23. 0. 43	035483	042487	
2. 0	5. 42	034926	042331		2. 0	0. 46	035705	042513	
2. 10	5. 50	035081	042310	L	2. 10	23. 0. 52	035771	042513	H B
4. 0	23. 2. 3	034823	042766	D	4. 0	22. 57. 36	036298	042615	L
6. 0	22. 59. 29	035919	042710		6. 0	56. 23	037524	042631	
8. 0	23. 0. 59	037127	042753	D	8. 0	56. 10	037779	042617	
10. 0	22. 59. 17	037020	042473	H B	10. 0	56. 19	037251	042413	L
12. 0	53. 48	036144	042528	G	12. 0	56. 2	037436	042169	H B

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, 220°; April 29d. 0h, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

DECLINATION MAGNET.
April 30d. Between 14h and 16h a considerable change occurred.

VERTICAL FORCE MAGNET.
April 28d, between 8h and 10h, and on April 30d, between 14h and 18h, considerable changes occurred.

Daily Observations from May 4 to 10.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
May 4. 14. 0	22. 57. 53	0 ·036455	0 ·042150	H B	May 7. 14. 0	22. 57. 45	0 ·037073	0 ·042438	G
16. 0	57. 46	036333	042089		16. 0	56. 39	036830	042357	
18. 0	55. 19	036001	042429		18. 0	54. 14	036445	042448	
20. 0	53. 19	034938	042528	H B	20. 0	51. 51	035729	042445	G
22. 0	22. 56. 3	033691	042287	L	22. 0	22. 55. 58	034481	042126	H B
May 5. 0. 0	23. 0. 32	0 ·034673	0 ·042368	L	May 8. 0. 0	23. 2. 40	0 ·034887	0 ·041976	L
1. 50	0. 48	036221	042489		1. 50	3. 37	037042	042447	H B
2. 0	0. 52	036154	042489		2. 0	3. 29	037109	042442	
2. 10	23. 0. 52	036265	042479	L	2. 10	3. 19	036998	042400	H B
4. 0	22. 58. 35	037277	042643	H B	4. 0	23. 1. 41	037822	043023	G
6. 0	56. 7	037311	042736		6. 0	22. 58. 2	037804	043096	
8. 0	55. 52	037265	042537		8. 0	56. 20	037908	042808	
10. 0	57. 42	036829	042472	H B	10. 0	55. 40	037381	042412	G
12. 0	57. 45	036582	042400	D	12. 0	55. 35	037073	042294	H B
14. 0	57. 45	036482	042353		14. 0	55. 7	037185	042247	
16. 0	57. 2	036227	042396		16. 0	54. 45	037160	042326	
18. 0	53. 57	035488	042359		18. 0	54. 35	036512	042484	
20. 0	51. 46	035008	042348	D	20. 0	51. 44	035614	042379	H B
22. 0	22. 56. 20	034189	042351	L	22. 0	22. 56. 27	034800	042109	L
May 6. 0. 0	23. 2. 35	0 ·034128	0 ·042332	L	May 9. 0. 0	23. 2. 23	0 ·035391	0 ·042155	L
1. 50	2. 0	036249	042463		1. 50	4. 42	036725	042562	
2. 0	1. 55	036648	042463		2. 0	4. 38	037058	042562	
2. 10	23. 1. 38	036891	042463	L	2. 10	23. 4. 38	036947	042552	L
4. 0	22. 58. 21	037704	042722	D	4. 0	22. 59. 51	037353	042757	H B
6. 0	56. 34	037881	042913		6. 0	56. 53	038097	042879	
8. 0	56. 30	037379	042695		8. 0	55. 33	037782	042634	
10. 0	56. 1	037110	042500	D	10. 0	56. 30	037169	042381	H B
12. 0	57. 19	036836	042381	L	12. 0	56. 43	037343	042293	D
14. 0	57. 0	036785	042485		14. 0	56. 34	036977	042312	
16. 0	57. 13	036760	042533		16. 0	56. 23	036412	042221	
18. 0	55. 13	036498	042608		18. 0	54. 23	036249	042205	
20. 0	52. 6	035346	042591	L	20. 0	53. 10	035814	042158	D
22. 0	22. 55. 40	034305	042406	H B	22. 0	22. 55. 9	034495	041883	L
May 7. 0. 0	23. 2. 14	0 ·034512	0 ·042184	H B	May 10. 0. 0	23. 0. 59	0 ·034808	0 ·042768	L
1. 50	4. 6	036025	042592		1. 50	2. 2	035546	042654	H B
2. 0	3. 56	036312	042572		2. 0	1. 52	035591	042623	
2. 10	23. 3. 35	036357	042566	H B	2. 10	23. 1. 31	035856	042510	H B
4. 0	22. 59. 17	038199	042912	L	4. 0	22. 59. 2	037221	042764	D
6. 0	56. 15	037845	042750		6. 0	57. 8	037860	042836	
8. 0	56. 58	037581	042402		8. 0	56. 30	037660	042786	D
10. 0	56. 51	037593	042284		10. 0	56. 32	037144	042489	G
12. 0	58. 6	037180	042358	L	12. 0	56. 51	036561	042137	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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

HORIZONTAL FORCE MAGNET.
May 6d and 8d. Between 0h and 1h. 50m considerable changes occurred.

VERTICAL FORCE MAGNET.
May 8d, between 2h. 10m and 4h, and on May 8d, between 22h and 24h, considerable changes occurred.

Daily Observations from May 11 to 17.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
May 11. 14. 0	22. 54. 6	0 ·034794	0 ·040846	L	May 14. 14. 0	22. 55. 10	0 ·036017	0 ·041358	L
16. 0	56. 20	035857	042223		16. 0	54. 11	035822	041488	
18. 0	54. 55	035566	042365		18. 0	51. 23	035916	041557	
20. 0	52. 34	035585	042240	L	20. 0	52. 50	035993	041761	L
22. 0	22. 55. 51	035660	042006	H B	22. 0	22. 57. 20	035109	041662	H B
May 12. 0. 0	23. 2. 31	0 ·035511	0 ·041975		May 15. 0. 0	23. 4. 7	0 ·034402	0 ·041631	
1. 50	4. 13	036608	042302		1. 50	6. 9	035576	042323	
2. 0	3. 32	036474	042281		2. 0	5. 53	035421	042277	
2. 10	3. 9	036231	042244	H B	2. 10	5. 43	035753	042302	H B
4. 0	23. 1. 13	036401	042418	L	4. 0	23. 2. 15	037472	042419	L
6. 0	22. 58. 48	038230	042661		6. 0	22. 57. 9	037812	042793	
8. 0	58. 14	038376	042372		8. 0	55. 3	037642	042735	
10. 0	57. 12	038111	042401	L	10. 0	52. 32	036872	042306	L
12. 0	57. 23	037114	042201	H B	12. 0	54. 34	036248	042109	H B
14. 0	56. 51	036931	042185		14. 0	55. 34	036406	042158	
16. 0	55. 34	037103	042090		16. 0	54. 43	036115	042079	
18. 0	54. 54	036918	042111		18. 0	54. 20	035886	041850	
20. 0	53. 40	035677	042293	H B	20. 0	51. 48	036535	041790	H B
22. 0	22. 56. 8	034763	042092	L	22. 0	22. 53. 52	034663	041421	L
May 13. 0. 0	23. 0. 56	0 ·035498	0 ·042087		May 16. 0. 0	23. 0. 29	0 ·035396	0 ·041674	
1. 50	5. 3	037106	042290		1. 50	5. 6	036743	042226	
2. 0	5. 7	037439	042331		2. 0	5. 40	036500	042242	
2. 10	5. 7	037395	042321	L	2. 10	5. 2	036433	042174	L
4. 0	23. 0. 27	037348	042528	H B	4. 0	1. 33	036411	042208	H B
6. 0	22. 55. 54	038414	042576		6. 0	23. 0. 24	035711	042523	
8. 0	57. 11	038130	042415		8. 0	22. 57. 3	037356	042372	
10. 0	54. 33	036827	042183	H B	10. 0	56. 17	037167	042206	H B
12. 0	53. 24	035993	042255	D	12. 0	56. 57	036661	042085	D
14. 0	58. 42	036434	042028		14. 0	56. 21	036503	041940	
16. 0	51. 27	036627	041627		16. 0	56. 21	036365	041856	D
18. 0	53. 50	038531	042062		18. 0	55 28	036137	042171	G
20. 0	52. 1	036299	042126	D	20. 0	54. 22	035388	042236	G
22. 0	22. 55. 41	034510	042064	L	22. 0	22. 56. 19	034203	041659	L
May 14. 0. 0	23. 2. 15	0 ·034833	0 ·042053	L	May 17. 0. 0	23. 0. 3	0 ·034969	0 ·041474	
1. 50	3. 42	035953	042271		1. 50	2. 2	036570	042100	
2. 0	3. 26	035931	042271		2. 0	2. 10	036747	042084	
2. 10	3. 11	036418	042204	L	2. 10	2. 14	036791	042084	L
4. 0	23. 1. 54	037448	042492	D	4. 0	23. 0. 9	038749	042337	D
6. 0	22. 56. 20	038175	042771		6. 0	22. 58. 3	038467	042306	
8. 0	56. 52	037863	042496		8. 0	57. 53	037808	042094	
10. 0	56. 52	037676	042219	D	10. 0	56. 25	036850	041902	D
12. 0	56. 52	037669	041482	L	12. 0	53. 0	036071	041674	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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

DECLINATION MAGNET.
May 11d, 13d, and 15d, between 22h and 24h; on May 13d, between 14h and 16h; and on May 14d and 15d, between 4h and 6h, considerable changes occurred.

VERTICAL FORCE MAGNET.
May 11d, between 14h and 16h; on May 14d, between 10h and 12h; on May 15d, 16d, and 17d, between 0h and 1h.50m; and on May 16d, between 20h and 22h, considerable changes occurred.

Daily Observations from May 18 to 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″			
May 18. 14. 0	22. 52. 13	0·035050	0·041208	L
16. 0	55. 9	034028	041254	
18. 0	54. 30	033858	041541	
20. 0	55. 59	034260	041984	L
22. 0	22. 58. 39	035076	041952	H B
May 19. 0. 0	23. 8. 16	0·035317	0·041803	H B
1. 50	4. 55	036739	042148	
2. 0	5. 27	036850	042169	
2. 10	5. 3	036230	042112	H B
4. 0	23. 2. 44	036639	042155	L
6. 0	22. 59. 19	035746	042253	
8. 0	57. 47	036070	042010	
10. 0	55. 28	035362	042062	L
12. 0	57. 35	035816	041888	H B
14. 0	57. 8	035892	041776	
16. 0	56. 54	037043	041685	
18. 0	54. 33	036291	041798	
20. 0	52. 48	035131	042104	H B
22. 0	22. 55. 25	034418	041237	L
May 20. 0. 0	23. 4. 17	0·036062	0·041972	L
1. 50	7. 41	038003	042274	
2. 0	7. 46	037914	042264	
2. 10	7. 13	037560	042180	L
4. 0	23. 3. 19	038244	042635	H B
6. 0	22. 59. 14	038058	042452	
8. 0	57. 47	038218	042003	
10. 0	56. 54	038659	042058	H B
12. 0	56. 48	038530	041833	D
14. 0	54. 7	037862	041580	
16. 0	54. 18	037573	041670	
18. 0	55. 58	037522	041993	
20. 0	54. 8	037009	042207	D
22. 0	22. 57. 29	036290	042034	L
May 21. 0. 0	23. 3. 8	0·037390	0·042179	L
1. 50	3. 51	037799	042427	
2. 0	3. 44	037799	042427	
2. 10	3. 34	037799	042427	L
4. 0	23. 2. 0	038611	042370	D
6. 0	22. 58. 30	040139	042510	
8. 0	57. 5	039887	042432	
10. 0	55. 57	040013	042275	D
12. 0	54. 31	039850	042055	L
May 21. 14. 0	22. 53. 49	0·038692	0·042063	L
16. 0	52. 55	038821	042152	
18. 0	50. 1	038736	042331	
20. 0	53. 22	037885	042186	L
22. 0	22. 56. 32	037107	042263	H B
May 22. 0. 0	23. 3. 34	0·038227	0·042272	H B
1. 50	7. 23	038047	042528	
2. 0	7. 22	037936	042492	
2. 10	7. 19	038069	042466	H B
4. 0	4. 40	038479	042659	L
6. 0	1. 47	040431	042764	
8. 0	23. 0. 7	041475	042759	
10. 0	22. 54 54	040781	042232	L
12. 0	22. 59. 39	040763	042054	H B
14. 0	23. 1. 3	037094	042172	
16. 0	23. 0. 53	036879	042229	
18. 0	22. 59. 37	036226	042217	
20. 0	52. 41	035802	041741	H B
22. 0	22. 56. 36	036046	041542	L
May 23. 0. 0	23. 3. 58	0·038821	0·041742	L
1. 50	4. 3	037994	042198	
2. 0	4. 1	040142	042214	
2. 10	3. 47	040142	042183	L
4. 0	23. 0. 41	040127	042513	H B
6. 0	22. 56. 58	039965	042674	
8. 0	57. 50	039851	042338	
10. 0	58. 53	039914	042106	H B
12. 0	58. 36	039562	042020	D
14. 0	58. 31	039103	041978	
16. 0	58. 17	039049	041952	D
18. 0	54. 3	038463	042189	G
20. 0	22. 52. 5	036913	042241	G
22. 0	23. 0. 36	035415	041846	L
May 24. 0. 0	23. 4. 21	0·037654	0·041677	L
1. 50	5. 18	038960	041936	
2. 0	4. 59	038872	041911	
2. 10	5. 0	039093	041968	L
4. 0	23. 1. 52	039047	042446	D
6. 0	22. 58. 32	039804	042552	
8. 0	57. 6	039523	042554	
10. 0	58. 21	038686	042263	D
12. 0	58. 44	038471	041956	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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·6$; in Vertical Plane, $26^s·7$.

DECLINATION MAGNET.

May 18^d, 19^d, 20^d, 21^d, and 23^d, between 22^h and 24^h; on May 22^d, between 8^h and 10^h; and on 23^d, between 20^h and 22^h, considerable changes occurred.

HORIZONTAL FORCE MAGNET.

May 22^d, between 12^h and 14^h, and between 22^h and 24^h; and on May 23^d, between $1^h. 50^m$ and $2^h. 0^m$, and between 22^h and 24^h, considerable changes occurred.

VERTICAL FORCE MAGNET.

May 19^d. Between 20^h and 24^h a considerable change occurred.

May $23^d. 4^h$. This observation was taken at about $4^h. 5^m$, the scale being invisible (in consequence of an azimuthal disturbance of the magnet) at the time the observation ought to have been taken: the result is used in the subsequent sections as though it had been taken at the proper time.

Daily Observations from May 25 to 31.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″			
May 25. 14. 0	22. 56. 18	0·038744	0·041857	L
16. 0	55. 8	038763	041905	
18. 0	53. 44	038617	041964	
20. 0	55. 9	037961	042003	L
22. 0	22. 55. 1	037309	041630	H B
May 26. 0. 0	23. 0. 59	0·037508	0·041801	H B
1. 50	1. 42	038648	042073	
2. 0	1. 33	038981	042063	
2. 10	1. 30	038781	042016	H B
4. 0	23. 0. 26	039438	042116	L
6. 0	22. 58. 14	039188	042142	
8. 0	58. 10	039211	042305	
10. 0	58. 10	039007	042133	L
12. 0	59. 8	038793	041950	H B
14. 0	59. 2	038733	041797	
16. 0	58. 50	038685	041625	
18. 0	56. 11	038522	041651	
20. 0	55. 1	038219	041690	H B
22. 0	54. 40	037016	041837	L
May 27. 0. 0	22. 59. 12	0·037553	0·041952	L
1. 50	23. 0. 59	038554	042498	
2. 0	1. 13	038376	042452	
2. 10	23. 1. 28	038376	042385	L
4. 0	22. 59. 56	038985	042492	H B
6. 0	57. 31	039837	042544	
8. 0	56. 2	039706	042455	
10. 0	56. 36	038883	042411	H B
12. 0	56. 38	037931	042202	D
14. 0	56. 38	037868	041583	
16. 0	56. 38	038109	041660	
18. 0	54. 28	038392	041588	
20. 0	53. 43	037488	041729	D
22. 0	54. 43	036638	041470	L
May 28. 0. 0	22. 59. 6	0·036451	0·041054	L
1. 50	23. 0. 48	037292	041611	
2. 0	0. 45	037292	041569	
2. 10	23. 0. 45	037314	041569	L
4. 0	22. 59. 22	038669	042074	D
6. 0	56. 6	039206	042322	
8. 0	55. 46	039213	042113	D
10. 0	55. 59	038566	042031	H B
12. 0	57. 11	038101	041635	L
May 28. 14. 0	22. 58. 32	0·037846	0·041422	L
16. 0	57. 25	037676	041510	
18. 0	56. 18	038303	041817	
20. 0	54. 5	037472	041528	L
22. 0	54. 45	036492	041303	H B
May 29. 0. 0	22. 59. 0	0·037906	0·041221	H B
1. 50	23. 2. 14	037437	041204	
2. 0	2. 21	037503	041214	
2. 10	2. 30	037769	041301	H B
4. 0	23. 0. 33	037881	041715	L
6. 0	22. 57. 56	038477	041664	
8. 0	57. 15	038963	041796	
10. 0	56. 20	038517	041321	L
12. 0	56. 33	037996	041775	H B
14. 0	55. 39	038277	041550	
16. 0	52. 57	037761	041616	
18. 0	52. 35	037724	041679	
20. 0	53. 51	037007	041785	H B
22. 0	55. 20	035975	041421	L
May 30. 0. 0	22. 59. 20	0·036690	0·041559	L
1. 50	23. 2. 22	037915	042125	
2. 0	2. 36	038136	042033	
2. 10	2. 29	037937	042012	L
4. 0	23. 0. 19	038420	041928	H B
6. 0	22. 56. 41	039157	042088	
8. 0	52. 39	038760	042200	H B
10. 0	55. 15	037663	041946	G
12. 0	50. 41	036493	041767	G
14. 0	51. 39	036584	041015	L
16. 0	51. 17	036183	041004	D
18. 0	51. 29	037145	041262	D
20. 0	51. 20	035385	040973	H B
22. 0	22. 58. 25	035643	041368	G
May 31. 0. 0	23. 4. 3	0·034465	0·041227	G
1. 50	8. 58	035311	041506	H B
2. 0	10. 23	035853	041584	
2. 10	12. 15	036131	041652	H B
4. 0	23. 7. 13	035955	042140	L
6. 0	22. 58. 19	036101	042286	H B
8. 0	56. 8	036645	042035	D
10. 0	22. 54. 23	036671	041833	G
12. 0	23. 1. 44	038009	041620	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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

DECLINATION MAGNET.
May 25d, between 22h and 24h; on May 30d, between 20h and 24h; on May 31d, between 4h and 6h, and between 10h and 12h, considerable changes occurred.

VERTICAL FORCE MAGNET.
May 27d, between 0h and 1h. 50m, and between 12h and 14h; on May 28d, between 0h and 4h; and on May 30d, between 0h and 1h. 50m, and between 12h and 14h, considerable changes occurred.

Daily Observations from June 1 to 7.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
June 1. 14. 0	22. 59. 23	0·036135	0·041019	L	June 4. 14. 0	22. 58. 56	0·035303	0·040873	L
16. 0	58. 6	035581	041063		16. 0	23. 0. 14	035215	040971	
18. 0	57. 11	035681	040755		18. 0	22. 55. 39	035004	041374	
20. 0	55. 37	034134	041130	L	20. 0	55. 11	034381	041373	L
22. 0	22. 58. 21	034421	041624	H B	22. 0	22. 58. 37	033544	041318	H B
June 2. 0. 0	23. 3. 9	0·035727	0·041664	H B	June 5. 0. 0	23. 3. 14	0·035192	0·041153	H B
1. 50	5. 20	037062	042063		1. 50	5. 17	036739	041479	
2. 0	4. 45	036774	041986		2. 0	5. 1	036739	041458	
2. 10	5. 13	037062	041929	H B	2. 10	5. 7	036850	041443	H B
4. 0	3. 5	037009	042284	L	4. 0	3. 53	036713	041718	L
6. 0	23. 1. 5	036396	042537		6. 0	1. 35	036664	041997	
8. 0	22. 59. 19	036396	041951		8. 0	1. 35	036560	041676	
10. 0	57. 38	036133	041819	L	10. 0	1. 13	036892	041470	L
12. 0	57. 43	036185	041379	H B	12. 0	0. 4	036025	041232	H B
14. 0	58. 10	035960	041139		14. 0	23. 0. 10	036349	041324	
16. 0	57. 40	035991	041013		16. 0	22. 58. 25	035104	041131	
18. 0	57. 27	035776	040971		18. 0	55. 49	035566	041136	
20. 0	56. 19	033986	040976	H B	20. 0	55. 14	034449	041254	H B
22. 0	22. 58. 7	033606	040993	L	22. 0	22. 57. 1	033411	041086	L
June 3. 0. 0	23. 3. 48	0·034641	0·041605	L	June 6. 0. 0	23. 4. 24	0·034312	0·041348	L
1. 50	5. 24	035712	041608		1. 50	5. 19	035070	041392	
2. 0	5. 8	035801	041608		2. 0	5. 19	035401	041397	
2. 10	5. 8	035911	041634	L	2. 10	7. 30	035778	041403	L
4. 0	3. 42	035569	042127	H B	4. 0	6. 8	036892	041753	H B
6. 0	1. 20	034988	041958		6. 0	2. 9	036781	041993	
8. 0	23. 2. 25	035062	041562		8. 0	23. 0. 21	036701	041872	
10. 0	22. 59. 37	035792	041230	H B	10. 0	22. 59. 27	036763	041569	H B
12. 0	59. 54	035756	041202	D	12. 0	59. 16	036966	041237	D
14. 0	59. 54	035678	041074		14. 0	57. 48	036540	041195	
16. 0	22. 59. 54	035411	041097		16. 0	57. 48	036251	040983	D
18. 0	23. 0. 13	035200	040954		18. 0	55. 11	035770	041401	G
20. 0	22. 55. 12	035056	041008	D	20. 0	53. 34	034628	041546	G
22. 0	22. 57. 53	034467	040810	L	22. 0	22. 57. 27	032901	041231	L
June 4. 0. 0	23. 7. 57	0·035011	0·040733	L	June 7. 0. 0	23. 6. 21	0·034370	0·041101	L
1. 50	10. 18	035462	041307		1. 50	8. 27	035700	041352	
2. 0	10. 23	035285	041286		2. 0	8. 27	036143	041352	
2. 10	10. 28	035906	041286	L	2. 10	8. 44	036143	041404	
4. 0	7. 38	034684	042131	D	4. 0	5. 54	036484	041529	L
6. 0	3. 40	036235	042351		6. 0	23. 2. 54	036209	041713	D
8. 0	23. 0. 51	035869	042087		8. 0	22. 59. 28	037078	041445	
10. 0	22. 58. 31	035543	041590	D	10. 0	59. 28	036205	041352	D
12. 0	59. 25	035248	041027	L	12. 0	59. 31	035684	041112	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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·6$; in Vertical Plane, $26^s·7$.

DECLINATION MAGNET.
June 3^d. Between 18^h and 20^h a considerable change occurred for the time of the day.
June 3^d, 5^d, and 6^d. Between 22^h and 24^h the change was larger than usual.

VERTICAL FORCE MAGNET.
June 2^d, between 6^h and 8^h, and 22^h and 24^h; and on June 4^d, between 0^h and $1^h.50^m$, and between 10^h and 12^h, considerable changes occurred.

Daily Observations from June 8 to 14.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
June 8. 14. 0	22. 57. 19	0·035761	0·040795	L	June 11. 14. 0	23. 1. 12	0·036209	0·040955	L
16. 0	57. 52	035815	041047		16. 0	22. 58. 50	035631	040913	
18. 0	55. 53	035514	041074		18. 0	57. 38	035427	040906	
20. 0	56. 21	034527	041160	L	20. 0	55. 51	034456	041084	L
22. 0	22. 58. 40	033916	041007	H B	22. 0	22. 58. 18	033884	040852	H B
June 9. 0. 0	23. 3. 44	0·034254	0·041218	H B	June 12. 0. 0	23. 6. 30	0·032729	0·041127	H B
1. 50	8. 13	035653	041575		1. 50	7. 19	034848	041508	
2. 0	8. 21	035853	041529		2. 0	6. 56	034870	041472	
2. 10	8. 35	035964	041488	H B	2. 10	6. 42	035180	041436	H B
4. 0	5. 9	036271	041985	L	4. 0	7. 43	036473	041965	L
6. 0	3. 44	037624	042235		6. 0	3. 50	036411	041957	
8. 0	1. 41	037663	042145		8. 0	1. 49	036438	041842	
10. 0	23. 1. 2	036466	041703	L	10. 0	1. 45	036316	041594	L
12. 0	22. 58. 21	036559	041276	H B	12. 0	1. 14	036027	041265	H B
14. 0	58. 14	036717	041128		14. 0	23. 1. 26	036312	040936	
16. 0	57. 45	036526	040997		16. 0	22. 58. 41	035577	040795	
18. 0	57. 8	036262	040850		18. 0	56. 33	035457	040792	
20. 0	56. 55	034326	040925	H B	20. 0	53. 37	034480	040723	H B
22. 0	22. 57. 56	033454	041268	L	22. 0	22. 54. 17	033545	040658	L
June 10. 0. 0	23. 4. 17	0·034823	0·042017	L	June 13. 0. 0	23. 0. 23	0·034405	0·040731	L
1. 50	8. 12	035921	041702		1. 50	3. 55	035351	041574	
2. 0	8. 31	035744	041506		2. 0	4. 6	035306	041538	
2. 10	8. 52	035921	041666	L	2. 10	4. 4	035306	041445	L
4. 0	7. 7	036200	041805	H B	4. 0	4. 40	036179	041983	H B
6. 0	5. 1	037133	041863		6. 0	2. 19	036883	042227	
8. 0	0. 18	036428	042068		8. 0	0. 27	036745	042085	
10. 0	2. 31	035812	041746	H B	10. 0	0. 49	036610	041690	H B
12. 0	0. 45	035930	041399	D	12. 0	23. 0. 43	036371	041345	D
14. 0	23. 0. 28	035546	041073		14. 0	22. 59. 24	036264	041231	
16. 0	22. 59. 25	035700	040860		16. 0	59. 32	036273	040940	D
18. 0	57. 23	035360	041051		18. 0	56. 10	035930	040680	G
20. 0	22. 59. 29	034643	040864	D	20. 0	54. 38	035760	040949	G
22. 0	23. 3. 17	033912	041349	L	22. 0	22. 57. 28	034371	040594	L
June 11. 0. 0	23. 5. 57	0·034575	0·041258	L	June 14. 0. 0	23. 5. 40	0·035392	0·040789	L
1. 50	8. 23	035962	041956		1. 50	6. 51	036413	041703	
2. 0	8. 45	035564	041858		2. 0	6. 51	036501	041661	
2. 10	9. 36	035232	041801	L	2. 10	6. 33	036369	041630	
4. 0	9. 54	037070	042193	D	4. 0	2. 49	037059	041894	L
6. 0	8. 18	035544	042223		6. 0	1. 58	037431	042276	D
8. 0	3. 21	036502	042169		8. 0	1. 37	037873	042264	L
10. 0	2. 34	035743	041561	D	10. 0	0. 8	037182	041651	D
12. 0	1. 12	035919	041246	L	12. 0	23. 1. 2	036577	041252	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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20ˢ·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24ˢ·6; in Vertical Plane, 26ˢ·7.

DECLINATION MAGNET.
June 11ᵈ and 13ᵈ, between 22ʰ and 24ʰ, the changes were considerable.

HORIZONTAL FORCE MAGNET.
June 12ᵈ. Between 0ʰ and 1ʰ. 50ᵐ a considerable change occurred.

VERTICAL FORCE MAGNET.
June 12ᵈ, between 2ʰ. 10ᵐ and 4ʰ; June 13ᵈ, between 0ʰ and 1ʰ. 50ᵐ, and between 2ʰ. 10ᵐ and 4ʰ; and on June 14ᵈ, between 0ʰ and 1ʰ. 50ᵐ, and between 8ʰ and 10ʰ, considerable changes occurred.

Daily Observations from June 15 to 21.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″			
June 15. 14. 0	22. 59. 42	0·036887	0·041012	L
16. 0	58. 42	036462	040834	
18. 0	57. 44	036284	040928	
20. 0	55. 43	035678	040763	L
22. 0	22. 57. 7	034936	040693	H B
June 16. 0. 0	23. 2. 24	0·035593	0·040836	H B
1. 50	5. 7	036369	041133	
2. 0	5. 5	036324	041117	
2. 10	5. 0	036391	041092	H B
4. 0	2. 50	036379	041314	L
6. 0	1. 20	036787	041416	
8. 0	0. 29	037255	041421	
10. 0	0. 35	037560	041361	L
12. 0	0. 48	036897	041054	H B
14. 0	23. 0. 9	036885	040965	
16. 0	22. 59. 26	036143	040822	
18. 0	58. 51	035852	040649	
20. 0	58. 47	034703	040623	H B
22. 0	22. 59. 59	034405	040405	L
June 17. 0. 0	23. 2. 3	0·035691	0·040584	L
1. 50	3. 28	035914	040785	
2. 0	3. 28	035980	040775	
2. 10	3. 25	035870	040765	L
4. 0	2. 42	036373	041107	H B
6. 0	0. 55	036533	041454	
8. 0	0. 17	037081	041506	
10. 0	0. 20	036693	041331	H B
12. 0	0. 35	036232	041110	D
14. 0	0. 35	036217	040960	
16. 0	23. 0. 9	035830	040918	
18. 0	22. 58. 36	035534	040956	
20. 0	56. 34	034763	041006	D
22. 0	22. 57. 46	033865	040948	H B
June 18. 0. 0	23. 2. 17	0·034603	0·040563	L
1. 50	4. 9	036245	040588	
2. 0	4. 13	036289	040577	
2. 10	4. 5	036245	040665	L
4. 0	3. 11	036311	040668	D
6. 0	2. 12	036427	040813	
8. 0	2. 10	036921	040868	D
10. 0	2. 10	037079	040699	G
12. 0	1. 60	037079	040741	G

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″			
June 18. 14. 0	23. 2. 47	0·036815	0·040313	L
16. 0	2. 50	036747	040518	H B
18. 0	23. 0. 33	036086	040651	H B
20. 0	22. 58. 39	035447	040538	D
22. 0	22. 59. 53	034621	040230	G
June 19. 0. 0	23. 4. 55	0·035156	0·040488	L
1. 50	7. 39	037062	040878	H B
2. 0	8. 10	037334	040885	
2. 10	8. 11	037169	040948	H B
4. 0	6. 39	036833	041166	L
6. 0	3. 14	036908	041227	D
8. 0	1. 19	036611	041250	H B
10. 0	23. 0. 40	036380	...	G
12. 0	22. 59. 59	035920	040759	L
14. 0	59. 44	036357	040638	
16. 0	59. 32	036475	040617	
18. 0	56. 55	035972	040481	
20. 0	57. 11	034028	040576	L
22. 0	22. 59. 42	033619	040472	H B
June 20. 0. 0	23. 5. 33	0·034083	0·040451	H B
1. 50	8. 45	035841	041334	
2. 0	8. 58	036217	041319	
2. 10	8. 33	036417	041303	H B
4. 0	4. 37	037332	041609	L
6. 0	1. 49	037407	041561	
8. 0	23. 1. 39	036974	041178	
10. 0	22. 59. 57	036825	040898	L
12. 0	58. 28	036785	040794	H B
14. 0	58. 35	036450	040495	
16. 0	57. 10	036234	040268	
18. 0	55. 53	035887	040378	
20. 0	56. 1	034072	040174	H B
22. 0	22. 59. 44	033486	040378	L
June 21. 0. 0	23. 9. 28	0·034933	0·040625	L
1. 50	11. 19	036720	041187	
2. 0	11. 19	036720	041151	
2. 10	10. 51	036720	041125	L
4. 0	9. 13	037306	041575	H B
6. 0	4. 41	037135	041389	
8. 0	3. 17	036572	041541	
10. 0	23. 0. 45	035851	040969	H B
12. 0	22. 59. 38	035727	040643	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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 6$; in Vertical Plane, $26^s \cdot 7$.

DECLINATION MAGNET.
June 20^d. Between 22^h and 24^h a considerable change occurred.

VERTICAL FORCE MAGNET.
June 21^d. Between 8^h and 10^h a considerable change occurred.

Daily Observations from June 22 to 28.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″			
June 22. 14. 0	22. 59. 11	0·035760	0·040447	L
16. 0	59. 20	036099	040498	
18. 0	57. 37	035512	040698	
20. 0	22. 57. 27	033290	040383	L
22. 0	23. 0. 29	032811	040329	H B
June 23. 0. 0	23. 5. 17	0·033770	0·040338	H B
{ 1. 50	8. 5	035452	040797	
{ 2. 0	8. 14	035519	040781	
{ 2. 10	8. 7	035607	040776	H B
4. 0	8. 0	037317	041135	L
6. 0	4. 53	036793	041504	
8. 0	2. 39	036151	041455	
10. 0	23. 1. 49	035811	041027	L
12. 0	22. 59. 23	035944	040810	D
14. 0	59. 23	035442	040664	
16. 0	59. 25	035826	040690	
18. 0	57. 23	035972	040467	
20. 0	56. 25	034098	040446	D
22. 0	22. 58. 34	033821	040742	H B
June 24. 0. 0	23. 1. 48	0·034073	0·040699	H B
{ 1. 50	5. 17	035062	041217	
{ 2. 0	5. 24	035084	041217	
{ 2. 10	5. 17	035217	041185	H B
4. 0	4. 48	036459	041345	D
6. 0	1. 25	036742	041343	
8. 0	0. 38	036683	041195	
10. 0	23. 0. 26	036000	040810	D
12. 0	22. 59. 15	035948	040561	H B
14. 0	58. 24	035608	040354	
16. 0	59. 25	035640	040429	
18. 0	58. 23	035532	040515	
20. 0	22. 58. 43	033945	040484	H B
22. 0	23. 0. 24	034551	040423	L
June 25. 0. 0	23. 3. 37	0·034287	0·040311	L
{ 1. 50	4. 40	034995	040957	
{ 2. 0	4. 33	035061	040947	
{ 2. 10	4. 47	035172	040905	L
4. 0	6. 11	036197	040879	H B
6. 0	2. 41	036611	040873	
8. 0	2. 41	036035	041005	
10. 0	0. 6	035759	040811	H B
12. 0	0. 58	035776	040425	L

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″			
June 25. 14. 0	23. 0. 32	0·035275	0·040364	L
16. 0	23. 0. 32	035190	040523	
18. 0	22. 57. 51	035193	040588	
20. 0	58. 0	034466	040621	L
22. 0	22. 59. 59	033562	040365	H B
June 26. 0. 0	23. 6. 53	0·034094	0·040326	H B
{ 1. 50	8. 28	035070	040673	
{ 2. 0	8. 35	035025	040689	
{ 2. 10	8. 30	035070	040668	H B
4. 0	6. 58	035829	040959	L
6. 0	3. 11	036652	041106	
8. 0	1. 56	036915	040960	
10. 0	23. 0. 37	036312	040920	L
12. 0	22. 59. 57	035950	040564	D
14. 0	59. 29	036013	040511	
16. 0	58. 57	035869	040202	
18. 0	58. 57	035547	040288	
20. 0	57. 42	035299	040280	D
22. 0	22. 58. 39	034497	040246	H B
June 27. 0. 0	23. 2. 10	0·035200	0·040076	H B
{ 1. 50	4. 8	035606	040298	L
{ 2. 0	4. 25	035650	040324	
{ 2. 10	4. 17	035650	040308	L
4. 0	3. 14	036001	040694	D
6. 0	2. 7	036404	040854	
8. 0	1. 51	037293	040918	
10. 0	1. 51	037049	040779	D
12. 0	1. 39	036598	040704	H B
14. 0	23. 0. 14	035905	040606	
16. 0	22. 59. 36	036514	040714	
18. 0	59. 47	036360	040672	
20. 0	59. 22	035200	040596	H B
22. 0	22. 59. 53	034522	040156	L
June 28. 0. 0	23. 9. 45	0·034182	0·040164	L
{ 1. 50	8. 27	036964	040378	
{ 2. 0	8. 27	036875	040394	
{ 2. 10	8. 31	036875	040410	L
4. 0	4. 0	036647	040816	H B
6. 0	2. 55	036448	040945	
8. 0	3. 27	036102	040630	
10. 0	2. 42	036113	040399	H B
12. 0	2. 27	035957	040367	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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

DECLINATION MAGNET.
June 27d. Between 22h and 24h a considerable change occurred.

HORIZONTAL FORCE MAGNET.
June 28d. Between 0h and 1h. 50m a considerable change occurred.

VERTICAL FORCE MAGNET.
June 24d and 25d. Between 0h and 1h. 50m considerable changes occurred.

Daily Observations from June 29 to July 5.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
June 29. 14. 0	23. 1. 57	0·035640	0·040134	L	July 2. 14. 0	22. 56. 11	0·036203	0·040510	L
16. 0	23. 0. 9	035429	040085		16. 0	56. 18	036577	040512	
18. 0	22. 58. 26	034901	040221		18. 0	55. 40	036127	040878	
20. 0	23. 0. 32	033931	040338	L	20. 0	55. 40	035224	040630	L
22. 0	3. 16	033915	040370	H B	22. 0	22. 58. 40	034658	040729	H B
June 30. 0. 0	23. 5. 34	0·034932	0·040249		July 3. 0. 0	23. 2. 56	0·035760	0·040995	
1. 50	5. 54	036773	040755		1. 50	3. 24	036514	041387	
2. 0	5. 51	036508	040719		2. 0	3. 25	036514	041387	
2. 10	5. 49	036552	040698	H B	2. 10	3. 18	036514	041340	H B
4. 0	2. 22	036552	041163	L	4. 0	5. 9	037690	041556	L
6. 0	0. 0	035884	041347	L	6. 0	2. 49	037808	041662	
8. 0	1. 1	037358	041306	D	8. 0	1. 38	037478	041412	
10. 0	23. 0. 13	036021	040907	H B	10. 0	23. 0. 16	036897	041065	L
12. 0	22. 58. 23	035545	040460	D	12. 0	22. 58. 1	036525	040754	D
14. 0	22. 56. 13	035411	040203		14. 0	56. 12	036492	040574	
16. 0	23. 1. 11	034139	040063		16. 0	55. 29	036438	040400	
18. 0	22. 56. 7	035367	040293		18. 0	54. 38	036260	039966	
20. 0	54. 38	034141	040259	D	20. 0	54. 4	035562	040216	D
22. 0	22. 58. 24	033660	040419	H B	22. 0	22. 56. 30	035418	040367	L
July 1. 0. 0	23. 2. 16	0·035272	0·040337	L	July 4. 0. 0	23. 2. 58	0·035394	0·040784	
1. 50	3. 24	037245	040694	H B	1. 50	7. 58	037471	041000	
2. 0	3. 35	037489	040699	L	2. 0	8. 14	037559	040979	
2. 10	3. 35	037533	040720	L	2. 10	8. 21	037648	040948	L
4. 0	2. 33	037870	041206	D	4. 0	6. 15	038165	041309	D
6. 0	1. 3	037597	041269	D	6. 0	3. 5	037918	041401	
8. 0	1. 3	037055	041011	L	8. 0	1·44	037317	041234	
10. 0	23. 0. 16	036832	040906	L	10. 0	23. 1. 44	037059	040791	D
12. 0	22. 58. 43	036045	040622	H B	12. 0	22. 56. 24	037160	040599	H B
14. 0	57. 57	036017	040531		14. 0	58. 37	036667	040399	
16. 0	59. 15	036465	040435		16. 0	57. 35	036400	040355	
18. 0	54. 44	035679	040261		18. 0	55. 24	036116	040209	
20. 0	56. 0	035090	040287	H B	20. 0	53. 46	034570	040099	H B
22. 0	56. 0	034359	040181	L	22. 0	22. 56. 54	037090	040278	L
July 2. 0. 0	22. 59. 41	0·035437	0·040403	L	July 5. 0. 0	23. 6. 27	0·036227	0·040380	
1. 50	23. 0. 52	036961	040948		1. 50	7. 0	036056	041022	
2. 0	1. 5	036961	040948		2. 0	6. 42	035790	040939	
2. 10	1. 5	037625	040948	L	2. 10	6. 47	035835	040928	
4. 0	1. 42	037939	041064	H B	4. 0	4. 57	037033	040831	L
6. 0	23. 1. 27	036735	041219		6. 0	3. 54	037104	040875	H B
8. 0	22. 59. 34	036856	040910		8. 0	2. 5	036982	040607	
10. 0	57. 3	036831	040758	H B	10. 0	1. 42	036871	040333	H B
12. 0	56. 33	036406	040608	L	12. 0	23. 0. 30	036671	040021	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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

DECLINATION MAGNET.
July 3d and 4d. Considerable changes occurred.

HORIZONTAL FORCE MAGNET.
July 4d. Between 0h and 1h. 50m, and between 20h and 22h, considerable changes occurred.

VERTICAL FORCE MAGNET.
June 30d and July 2d. Between 0h and 1h. 50m considerable changes occurred.

Daily Observations from July 6 to 12.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
July 6. 14. 0	22. 59. 6	0·037050	0·039858	L	July 9. 14. 0	22. 59. 21	0·035504	0·039675	L
16. 0	23. 2. 8	035381	039865		16. 0	23. 0. 52	035411	039467	
18. 0	22. 55. 1	035988	039900		18. 0	22. 56. 47	035054	039743	
20. 0	54. 2	034786	039682	L	20. 0	53. 5	034509	039791	L
22. 0	22. 58. 57	034560	040042	H B	22. 0	54. 24	033380	039725	H B
July 7. 0. 0	23. 4. 37	0·035077	0·040349	H B	July 10. 0. 0	22. 57. 43	0·034367	0·039890	H B
1. 50	8. 44	036363	040817		1. 50	23. 0. 58	035112	039856	
2. 0	8. 51	036318	040760		2. 0	2. 24	036019	039861	
2. 10	8. 54	036274	040740	H B	2. 10	2. 15	035997	039851	H B
4. 0	9. 17	036862	041079	L	4. 0	23. 0. 52	036807	039933	L
6. 0	5. 19	035755	041351		6. 0	22. 58. 3	036943	040183	
8. 0	2. 39	035449	040828		8. 0	56. 27	036810	040135	
10. 0	0. 41	035434	040290	L	10. 0	54. 52	036798	040035	L
12. 0	23. 0. 58	035840	040295	D	12. 0	54. 45	036717	039945	D
14. 0	22. 59. 20	035857	039979		14. 0	54. 45	036603	039603	
16. 0	57. 49	035517	040092		16. 0	54. 13	035979	039706	
18. 0	57. 58	035642	039916		18. 0	48. 32	036314	039853	
20. 0	22. 55. 51	035037	039745	D	20. 0	46. 4	035695	039853	D
22. 0	23. 0. 11	033537	039516	H B	22. 0	49. 1	034039	039879	H B
July 8. 0. 0	23. 5. 5	0·033324	0·039718	L	July 11. 0. 0	22. 55. 9	0·034319	0·039922	H B
1. 50	9. 10	035770	039930		1. 50	23. 0. 29	035384	040170	H B
2. 0	9. 22	035726	039951		2. 0	0. 56	035472	040139	L
2. 10	9. 6	035571	039956	L	2. 10	0. 53	035649	040149	L
4. 0	8. 57	037102	040721	D	4. 0	23. 0. 34	037091	040659	D
6. 0	4. 53	036498	040893		6. 0	22. 57. 7	036977	040478	
8. 0	23. 1. 50	036321	040681		8. 0	54. 51	037685	040426	
10. 0	22. 59. 55	035509	040319	D	10. 0	54. 51	037028	040162	D
12. 0	59. 19	035821	039905	H B	12. 0	54. 1	036713	039925	H B
14. 0	58. 35	035623	039573		14. 0	53. 34	036785	039678	
16. 0	22. 58. 4	035906	039785		16. 0	52. 20	036546	039665	
18. 0	23. 3. 40	035976	039303		18. 0	51. 23	036526	039738	
20. 0	22. 57. 17	035222	039435	H B	20. 0	50. 45	036074	039606	H B
22. 0	22. 57. 46	033596	039494	L	22. 0	22. 53. 32	035634	039674	L
July 9. 0. 0	23. 0. 31	0·033733	0·039828	L	July 12. 0. 0	23. 0. 38	0·035648	0·040070	L
1. 50	4. 32	034349	039956	D	1. 50	1. 49	036773	040050	
2. 0	4. 41	034394	039956		2. 0	1. 58	037039	040060	
2. 10	4. 44	034438	039956	D	2. 10	2. 26	037083	040055	L
4. 0	4. 14	035541	040129	H B	4. 0	2. 56	037955	040630	H B
6. 0	23. 1. 15	036247	040352		6. 0	1. 18	038692	040697	
8. 0	22. 59. 28	036264	040364		8. 0	23. 0. 14	037989	040566	
10. 0	59. 59	035642	039896	H B	10. 0	22. 58. 9	037142	040108	H B
12. 0	59. 33	036057	039800	L	12. 0	57. 53	037241	040009	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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

DECLINATION MAGNET.
July 6d, between 16h and 18h; on July 8d, between 16h and 20h; and on July 10d, between 16h and 18h, considerable changes took place for the times of the day.
July 11d. Between 22h and 24h a considerable change occurred.

HORIZONTAL FORCE MAGNET.
July 8d. Between 0h and 1h. 50m a considerable change occurred.

VERTICAL FORCE MAGNET.
July 7d, between 6h and 8h, and between 8h and 10h; and on July 11d and 12d, between 2h. 10m. and 4h, considerable changes occurred.

Daily Observations from July 13 to 19.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
July 13. 14. 0	22. 52. 39	0·036688	0·039907	L	July 16. 14. 0	22. 57. 4	0·036858	0·039782	L
16. 0	51. 37	036647	039983		16. 0	56. 32	036943	039831	
18. 0	48. 1	036341	040006		18. 0	53. 32	036401	039970	
20. 0	47. 23	035496	039845	L	20. 0	51. 38	035854	039835	L
22. 0	50. 53	034916	039585	H B	22. 0	51. 43	035739	039613	H B
July 14. 0. 0	22. 57. 14	0·035411	0·039675	H B	July 17. 0. 0	22. 57. 53	0·034772	0·039688	H B
1. 50	23. 0. 21	036217	039805		1. 50	23. 3. 17	035912	039953	
2. 0	0. 20	036150	039774		2. 0	3. 30	035957	039947	
2. 10	23. 0. 24	036239	039784	H B	2. 10	3. 39	036023	039911	H B
4. 0	22. 58. 59	037367	039805	L	4. 0	23. 0. 25	036287	040220	L
6. 0	58. 59	038493	040203		6. 0	22. 56. 15	036749	040420	
8. 0	58. 27	038544	040268		8. 0	55. 46	037633	040256	
10. 0	56. 35	038101	040004	L	10. 0	54. 54	036608	040131	L
12. 0	54. 50	037301	039791	D	12. 0	52. 42	036583	039915	D
14. 0	52. 53	037097	039712		14. 0	53. 14	036047	039915	
16. 0	51. 54	036920	039639		16. 0	52. 19	036284	039687	
18. 0	48. 7	036813	039807		18. 0	49. 48	035618	039924	
20. 0	48. 15	036146	039627	D	20. 0	51. 6	034843	039971	D
22. 0	52. 58	035736	039602	H B	22. 0	51. 18	034389	039554	H B
July 15. 0. 0	22. 59. 21	0·035855	0·039675	H B	July 18. 0. 0	22. 58. 26	0·033855	0·039733	H B
1. 50	23. 2. 34	036511	039887		1. 50	23. 6. 47	036726	040015	
2. 0	2. 22	036622	039876		2. 0	7. 1	036571	039984	
2. 10	2. 8	036467	039881	H B	2. 10	7. 28	036726	039943	H B
4. 0	23. 0. 59	037330	040182	D	4. 0	6. 23	037424	040420	D
6. 0	22. 59. 0	037982	040125	H B	6. 0	3. 27	037332	040426	
8. 0	59. 18	037982	040174	L	8. 0	23. 1. 11	038464	040408	
10. 0	58. 9	037182	039965	L	10. 0	22. 59. 25	037288	040057	D
12. 0	56. 9	037014	039815	H B	12. 0	58. 48	036711	040027	H B
14. 0	54. 27	036824	039641		14. 0	55. 27	036063	039743	
16. 0	52. 45	036646	039434		16. 0	54. 21	036271	039589	
18. 0	49. 0	036111	039596		18. 0	51. 37	036473	039405	
20. 0	48. 18	034795	039518	H B	20. 0	49. 56	034625	039332	H B
22. 0	22. 52. 24	034867	039573	L	22. 0	22. 54. 59	034641	039518	L
July 16. 0. 0	23. 0. 15	0·035831	0·039829	L	July 19. 0. 0	23. 5. 30	0·035563	0·040077	L
1. 50	3. 17	037224	039891		1. 50	11. 13	036029	040288	
2. 0	3. 17	037224	039901		2. 0	11. 53	036139	040256	
2. 10	2. 55	037268	039870	L	2. 10	11. 50	036117	040246	L
4. 0	3. 11	037161	040378	H B	4. 0	8. 59	036014	040443	H B
6. 0	1. 33	037132	040633		6. 0	5. 5	036396	040612	
8. 0	23. 0. 49	037223	040324		8. 0	2. 4	036661	040302	
10. 0	22. 58. 54	037217	040099	H B	10. 0	0. 47	036466	039927	H B
12. 0	57. 16	036851	039908	L	12. 0	23. 0. 22	036199	039726	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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20ˢ·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24ˢ·6; in Vertical Plane, 26ˢ·7.

DECLINATION MAGNET.
July 13ᵈ, 14ᵈ, 15ᵈ, 17ᵈ, and 18ᵈ, between 22ʰ and 24ʰ, considerable changes occurred; and also between 0ʰ and 1ʰ. 50ᵐ, on the 17th, 18th, and 19th.

HORIZONTAL FORCE MAGNET.
July 18ᵈ. Between 0ʰ and 1ʰ. 50ᵐ a considerable change occurred.

Daily Observations from July 20 to 26.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
July 20. 14. 0	22. 53. 59	0·036024	0·039348	L	July 23. 14. 0	22. 52. 11	0·036603	0·040008	L
16. 0	55. 2	035666	039500		16. 0	53. 8	036603	039828	L
18. 0	49. 47	035922	039644		18. 0	54. 45	035768	039802	T D
20. 0	52. 1	035309	039776	L	20. 0	50. 24	035598	039696	T D
22. 0	52. 28	033987	039580	G	22. 0	49. 53	034928	039719	G
July 21. 0. 0	22. 56. 8	0·033924	0·039505	D	July 24. 0. 0	22. 52. 12	0·034441	0·039496	D
1. 50	23. 1. 10	033612	039614		1. 50	57. 38	033814	039675	L
2. 0	1. 10	034143	039614		2. 0	57. 44	033614	039639	
2. 10	1. 10	034564	039625	D	2. 10	58. 12	033283	039655	
4. 0	23. 2. 13	037460	040238	L	4. 0	59. 48	036850	040133	L
6. 0	22. 59. 25	036992	040451		6. 0	58. 24	036059	040420	T D
8. 0	58. 3	036362	040267		8. 0	55. 7	035588	040342	G
10. 0	56. 15	035886	040007	L	10. 0	52. 28	035341	040095	D
12. 0	54. 45	035682	039814	D	12. 0	52. 53	034813	039834	L
14. 0	53. 27	035553	039568		14. 0	50. 12	034883	039332	
16. 0	53. 27	035648	039666		16. 0	53. 14	034764	038552	
18. 0	50. 40	035848	039852		18. 0	52. 59	034005	038566	
20. 0	50. 6	034567	039798	D	20. 0	22. 57. 47	033126	038964	L
22. 0	22. 52. 26	033341	039581	T D	22. 0	23. 0. 39	032709	039267	D
July 22. 0. 0	23. 2. 29	0·034030	0·039724	T D	July 25. 0. 0	23. 1. 27	0·030496	0·039469	D
1. 50	7. 59	035996	040453	T D	1. 50	22. 58. 46	034603	039985	
2. 0	...	...	...		2. 0	59. 35	034781	039985	
2. 10	8. 46	036284	039290	L	2. 10	59. 30	034803	040000	
4. 0	7. 10	036883	039906	D	4. 0	59. 41	035036	040598	D
6. 0	4. 30	036543	040377		6. 0	58. 16	036646	040718	L
8. 0	23. 0. 58	036802	040389		8. 0	55. 25	035505	040648	
10. 0	22. 58. 43	036004	039968	D	10. 0	49. 35	035427	040078	L
12. 0	57. 1	035727	039631	G	12. 0	51. 10	034607	039935	D
14. 0	55. 50	035996	039765		14. 0	51. 36	034908	039960	
16. 0	54. 31	035926	039371		16. 0	50. 52	035083	040056	
18. 0	51. 22	035604	038304		18. 0	49. 15	035131	040017	
20. 0	50. 1	036442	039412	G	20. 0	50. 24	034673	039717	D
22. 0	49. 49	034696	039345	T D	22. 0	51. 32	033776	039802	L
July 23. 0. 0	22. 56. 58	0·034594	0·038921	L	July 26. 0. 0	22. 53. 47	0·034131	0·039597	T D
1. 50	23. 0. 51	035190	038977	T D	1. 50	59. 47	035264	039712	L
2. 0	1. 0	035300	038998		2. 0	22. 59. 43	035131	039702	
2. 10	1. 0	035389	039024		2. 10	23. 0. 4	035264	039723	L
4. 0	23. 1. 15	035589	039438	T D	4. 0	22. 58. 56	035597	040178	D
6. 0	22. 56. 10	035939	039880	G	6. 0	58. 8	036106	040486	
8. 0	53. 42	037599	040128	G	8. 0	55. 46	036371	040543	
10. 0	52. 51	036665	039743	D	10. 0	55. 7	035970	040147	D
12. 0	51. 33	037012	039701	D	12. 0	53. 44	035559	039741	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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

DECLINATION MAGNET.
July 20d. Between 16h and 18h a large change took place for the time of the day.
July 21d and 22d. Between 22h and 24h considerable changes occurred.
July 22d. 2h. The observations of the magnets were not taken; no note was made at the time accounting for the omission.

HORIZONTAL FORCE MAGNET.
July 24d. Between 2h. 10m and 4h, and between 22h and 24h, considerable changes occurred.
July 25d. Between 0h and 1h. 50m a considerable change took place.

VERTICAL FORCE MAGNET.
July 22d. Between 1h. 50m and 2h. 10m a considerable change appears to have taken place; but it seems highly probable that the observation at 1h. 50m was recorded two scale divisions in excess; and if so, the reduced reading would have been 0·039419, and the usual change would only have taken place: the observation as reduced above is used in subsequent calculations.
July 24d. Between 14h and 16h a considerable change occurred.

Daily Observations from July 27 to August 2.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
July 27. 14. 0	22. 54. 21	0·035147	0·039490	L	July 30. 14. 0	22. 52. 57	0·036220	0·039681	L
16. 0	53. 27	035234	039696		16. 0	52. 57	036517	039659	
18. 0	53. 20	035156	039579		18. 0	48. 25	035130	039664	
20. 0	49. 15	034517	039611	L	20. 0	49. 46	034331	039567	L
22. 0	22. 52. 4	033804	039431	D	22. 0	53. 46	033971	039448	D
July 28. 0. 0	23. 0. 4	0·034326	0·039830	D	July 31. 0. 0	22. 59. 8	0·036331	0·039333	D
1. 50	2. 45	035109	040351		1. 50	23. 2. 25	037137	039905	
2. 0	3. 3	035242	040341		2. 0	2. 36	037114	039889	
2. 10	3. 4	035486	040351	D	2. 10	2. 42	037092	039879	D
4. 0	23. 0. 11	035690	040325	L	4. 0	23. 0. 45	036577	039620	L
6. 0	22. 57. 53	036135	040302		6. 0	22. 59. 32	036450	040327	
8. 0	57. 21	036091	040230		8. 0	57. 43	036184	040120	
10. 0	57. 21	035744	040083	L	10. 0	56. 50	036160	039911	L
12. 0	56. 56	035334	039753	G	12. 0	55. 16	036068	039833	G
14. 0	55. 4	035462	039508		14. 0	54. 18	035861	039672	
16. 0	54. 0	035337	039504		16. 0	53. 34	035736	039737	
18. 0	50. 41	035499	039807		18. 0	50. 43	035736	040093	
20. 0	50. 18	035215	039443	G	20. 0	48. 50	034517	040124	G
22. 0	53. 11	033454	039343	L	22. 0	52. 19	034390	039726	L
July 29. 0. 0	22. 59. 16	0·033912	0·039740	T D	Aug. 1. 0. 0	22. 59. 31	0·035514	0·039797	T D
1. 50	23. 2. 51	035122	039791		1. 50	23. 6. 4	037274	039797	
2. 0	2. 49	035300	039781		2. 0	10. 35	036875	039823	
2. 10	2. 45	035388	039817	T D	2. 10	11. 1	035326	039787	T D
4. 0	23. 0. 27	036098	040169	G	4. 0	8. 52	036501	040389	G
6. 0	22. 57. 30	034791	040107		6. 0	7. 23	035674	040876	
8. 0	23. 6. 0	036312	040246		8. 0	0. 21	035829	040963	
10. 0	23. 5. 33	036223	040200	G	10. 0	23. 0. 49	036297	040103	G
12. 0	22. 56. 48	035972	039775	D	12. 0	22. 56. 3	035161	039275	D
14. 0	55. 38	035850	039558		14. 0	59. 39	035294	039287	
16. 0	53. 40	035897	039638		16. 0	52. 46	036020	038822	
18. 0	51. 42	036200	039746		18. 0	52. 46	035402	038834	
20. 0	51. 5	034827	039570	D	20. 0	54. 35	034259	038992	D
22. 0	22. 53. 18	034367	039620	L	22. 0	22. 56. 49	033292	038979	T D
July 30. 0. 0	23. 0. 40	0·034943	0·039760	L	Aug. 2. 0. 0	23. 2. 12	0·034281	0·039316	T D
1. 50	6. 4	036467	039953		1. 50	6. 54	035496	039959	L
2. 0	6. 0	036290	039928		2. 0	6. 4	034611	039959	
2. 10	5. 40	036024	039850	L	2. 10	6. 9	035120	039845	L
4. 0	23. 1. 27	036747	040136	D	4. 0	23. 1. 2	035943	040172	D
6. 0	22. 58. 52	037567	040286		6. 0	22. 57. 26	036216	040054	
8. 0	55. 11	036135	040104		8. 0	56. 0	036659	039892	
10. 0	53. 17	036019	039923	D	10. 0	55. 25	036153	039815	D
12. 0	53. 21	036535	039790	L	12. 0	53. 51	036201	039597	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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·6$; in Vertical Plane, $26^s·7$.

DECLINATION MAGNET.
July 27^d, 29^d, and 31^d, between 22^h and 24^h, considerable changes occurred.
July 29^d. Between 6^h and 8^h a considerable change occurred, the motion of the magnet being contrary to its usual motion; and another considerable change occurred between 10^h and 12^h.
July 31^d and August 1^d. The changes were considerable.

HORIZONTAL FORCE MAGNET.
July 30^d. Between 22^h and 24^h a considerable change occurred.

VERTICAL FORCE MAGNET.
July 30^d, between 0^h and $1^h. 50^m$, and on August 1^d, between $2^h. 10^m$ and 12^h, considerable changes occurred.

Daily Observations from August 3 to 9.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Aug. 3. 14. 0	22. 53. 49	0·035462	0·039121	L	Aug. 6. 14. 0	22. 55. 50	0·036671	0·039252	L
16. 0	50. 40	035846	039168		16. 0	56. 13	036637	038846	
18. 0	49. 22	034967	039302		18. 0	53. 4	037057	039101	
20. 0	51. 19	033787	039611	L	20. 0	56. 45	034536	039455	L
22. 0	22. 55. 43	032449	039365	T D	22. 0	52. 51	034441	039375	T D
Aug. 4. 0. 0	23. 2. 10	0·032540	0·039431	T D	Aug. 7. 0. 0	22. 59. 40	0·035326	0·039590	T D
1. 50	5. 38	035223	039908		1. 50	23. 4. 7	035625	039726	
2. 0	5. 16	034781	039908		2. 0	4. 6	035802	039726	
2. 10	3. 35	035710	039898	T D	2. 10	3. 43	036688	039726	T D
4. 0	23. 2. 30	035563	040304	L	4. 0	23. 3. 46	037496	039992	L
6. 0	22. 59. 16	036841	040494		6. 0	22. 59. 10	037028	040135	
8. 0	59. 5	037058	040087		8. 0	58. 4	037520	039787	
10. 0	57. 2	036602	039899		10. 0	55. 4	037257	039707	L
12. 0	54. 53	037242	039689	L	12. 0	54. 54	037241	039456	G
14. 0	52. 50	036545	039518	G	14. 0	50. 52	036603	039649	
16. 0	59. 26	036152	039349		16. 0	51. 43	037012	039095	
18. 0	52. 19	035234	039334		18. 0	50. 50	036178	039375	
20. 0	50. 7	034704	039292	G	20. 0	50. 36	035736	039727	G
22. 0	53. 10	033827	039338	L	22. 0	22. 58. 5	033879	039447	T D
Aug. 5. 0. 0	22. 58. 9	0·033742	0·039696	T D	Aug. 8. 0. 0	23. 3. 40	0·034713	0·039556	T D
1. 50	58. 26	034866	039898	L	1. 50	5. 58	036068	039933	
2. 0	58. 28	035640	039960		2. 0	5. 57	036024	039933	
2. 10	58. 48	036194	039934		2. 10	5. 46	036423	039855	T D
4. 0	59. 44	037464	040284	L	4. 0	4. 9	037795	040119	G
6. 0	57. 15	037361	040458	G	6. 0	23. 0. 34	037556	040033	
8. 0	56. 48	036796	040800		8. 0	22. 59. 21	037328	039686	
10. 0	56. 28	036608	040014	G	10. 0	58. 58	036917	039597	G
12. 0	56. 13	036147	039666	D	12. 0	57. 0	037107	039176	D
14. 0	54. 50	036275	039516		14. 0	56. 23	037087	039063	
16. 0	54. 29	035994	039603		16. 0	56. 25	036784	039039	
18. 0	51. 41	036090	039536		18. 0	51. 15	036407	039339	
20. 0	50. 54	035345	039525	D	20. 0	51. 31	035581	039409	D
22. 0	22. 54. 56	034781	039475	T D	22. 0	53. 52	034492	039435	L
Aug. 6. 0. 0	23. 5. 11	0·034474	0·039447	T D	Aug. 9. 0. 0	22. 59. 9	0·035053	0·039126	L
1. 50	8. 47	036882	039877	L	1. 50	23. 4. 54	036909	039447	
2. 0	8. 37	036705	039893		2. 0	5. 3	037308	039360	
2. 10	8. 54	036705	039909	L	2. 10	5. 28	037308	039360	L
4. 0	3. 43	036782	040246	D	4. 0	23. 3. 13	036977	039888	D
6. 0	23. 1. 42	037766	040344		6. 0	22. 59. 46	036866	040175	
8. 0	22. 59. 28	037889	040081		8. 0	56. 51	037312	039987	
10. 0	59. 3	037276	039892	D	10. 0	56. 51	036858	039425	D
12. 0	56. 15	037419	039551	L	12. 0	51. 49	038160	039080	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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

DECLINATION MAGNET.
August 3d, 5d, and 6d. Between 22h and 24h considerable changes occurred.
August 4d, between 14h and 16h, and between 16h and 18h; and August 7d, between 20h and 22h, considerable changes occurred for the times of the day.

HORIZONTAL FORCE MAGNET.
August 4d and 6d, between 0h and 1h. 50m, considerable changes occurred; and on August 6d, between 18h and 20h, a considerable change took place.

VERTICAL FORCE MAGNET.
August 9d. Between 2h. 10m and 4h, and between 8h and 10h, considerable changes occurred.

Daily Observations from August 10 to 16.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Aug. 10. 14. 0	22. 50. 39	0 ·036812	0 ·041648	L	Aug. 13. 14. 0	22. 53. 19	0 ·037472	0 ·039270	L
16. 0	51. 50	036332	039048		16. 0	52. 29	036843	039134	
18. 0	49. 22	036809	039272		18. 0	50. 11	036502	039209	
20. 0	48. 8	035396	039569	L	20. 0	50. 29	035709	039242	L
22. 0	50. 58	035037	039467	T D	22. 0	52. 54	035281	039222	H B
Aug. 11. 0. 0	22. 57. 34	0 ·034935	0 ·039246	T D	Aug. 14. 0. 0	22. 57. 2	0 ·036240	0 ·039036	H B
1. 50	23. 3. 5	035972	039911		1. 50	59. 42	037616	039067	
2. 0	3. 44	035972	039911		2. 0	59. 27	037594	039160	
2. 10	3. 42	036238	039885	T D	2. 10	59. 31	037660	039181	H B
4. 0	23. 3. 35	037113	039790	L	4. 0	56. 37	038307	039307	L
6. 0	22. 58. 8	037055	039907		6. 0	54. 32	037643	039338	
8. 0	56. 48	037317	039609		8. 0	54. 50	037909	039292	
10. 0	56. 55	037093	039538	L	10. 0	52. 31	038443	039170	L
12. 0	55. 58	036763	039403	H B	12. 0	53. 51	038013	039289	H B
14. 0	54. 34	036440	039192		14. 0	52. 35	037974	029046	
16. 0	54. 21	036580	039224		16. 0	51. 43	037347	039142	
18. 0	51. 37	036498	039327		18. 0	52. 23	037458	039231	
20. 0	48. 55	035982	039390	H B	20. 0	50. 23	036085	039288	H B
22. 0	51. 18	035396	038715	T D	22. 0	22. 52. 31	035177	038995	L
Aug. 12. 0. 0	22. 57. 35	0 ·035122	0 ·038995	T D	Aug. 15. 0. 0	23. 0. 54	0 ·036059	0 ·038851	L
1. 50	59. 14	035712	039059		1. 50	6. 20	038222	039199	
2. 0	59. 20	035823	039069		2. 0	7. 19	038222	039173	
2. 10	59. 12	035889	039095	T D	2. 10	7. 10	037669	039110	L
4. 0	56. 40	036835	039425	H B	4. 0	23. 5. 3	038968	039938	H B
6. 0	54. 38	037152	039621		6. 0	22. 57. 18	036452	040101	
8. 0	54. 3	037911	039524		8. 0	56. 3	037480	039710	
10. 0	54. 50	037473	039388	H B	10. 0	57. 50	037293	039285	H B
12. 0	54. 59	037278	039360	D	12. 0	57. 4	036850	039222	D
14. 0	53. 35	037613	039323		14. 0	55. 41	037007	039242	
16. 0	51. 58	036972	039432		16. 0	54. 30	036786	039174	D
18. 0	51. 20	037171	039514		18. 0	52. 12	036612	039321	G
20. 0	50. 22	036466	039459	D	20. 0	51. 27	035173	039461	G
22. 0	51. 22	035525	039053	T D	22. 0	22. 54. 16	033778	039424	L
Aug. 13. 0. 0	22. 57. 5	0 ·036332	0 ·038950	T D	Aug. 16. 0. 0	23. 2. 31	0 ·035712	0 ·039481	L
1. 50	59. 56	037200	039144	L	1. 50	6. 59	038062	039901	
2. 0	59. 56	037244	039144		2. 0	7. 33	038239	039875	
2. 10	59. 56	037200	039154	L	2. 10	7. 18	038239	039791	L
4. 0	58. 5	037873	039477	D	4. 0	23. 1. 49	038467	040076	D
6. 0	55. 33	037399	039646		6. 0	22. 57. 58	037824	039850	
8. 0	55. 35	038348	039597		8. 0	59. 25	037824	039623	
10. 0	56. 4	037898	039489	D	10. 0	59. 25	037632	039427	D
12. 0	53. 51	038118	039409	L	12. 0	58. 32	037381	039151	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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 6$; in Vertical Plane, $26^s \cdot 7$.

DECLINATION MAGNET.
August 10^d, 11^d, 14^d, 15^d, and 16^d. Considerable changes occurred.
August 16^d. Between $2^h. 10^m$ and 4^h a considerable change occurred.

HORIZONTAL FORCE MAGNET.
August 15^d and 16^d, between 0^h and $1^h. 50^m$, and between 4^h and 6^h, considerable changes occurred; and on August 16^d, between 0^h and $1^h. 50^m$, a considerable change occurred.

VERTICAL FORCE MAGNET.
August 11^d. Between 20^h and 22^h a considerable change occurred.

Daily Observations from August 17 to 23.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″			
Aug. 17. 14. 0	22. 53. 25	0·036690	0·039146	L
16. 0	56. 49	036513	039010	
18. 0	57. 0	035941	038989	
20. 0	55. 36	035226	038934	L
22. 0	22. 57. 24	034975	038755	H B
Aug. 18. 0. 0	23. 3. 56	0·034673	0·039114	H B
1. 50	8. 58	036423	040072	
2. 0	9. 7	036290	040030	
2. 10	9. 15	036489	039994	H B
4. 0	8. 14	038075	040183	L
6. 0	1. 33	037496	040136	
8. 0	0. 27	037242	039785	
10. 0	23. 0. 9	037549	039608	L
12. 0	22. 59. 1	037079	039526	G
14. 0	58. 0	037046	039310	
16. 0	56. 41	037370	039409	
18. 0	54. 25	036791	039484	
20. 0	53. 5	036127	039649	G
22. 0	22. 56. 8	033916	039150	H B
Aug. 19. 0. 0	23. 1. 22	0·036117	0·039253	H B
1. 50	2. 58	037250	039385	L
2. 0	2. 28	036852	039375	
2. 10	2. 35	037361	039343	L
4. 0	23. 1. 46	037548	040012	G
6. 0	22. 57. 6	038759	039812	
8. 0	56. 53	038980	039578	
10. 0	56. 21	038722	039288	G
12. 0	55. 54	038116	038999	H B
14. 0	55. 41	038350	038883	
16. 0	56. 14	038019	038952	
18. 0	53. 53	037483	038906	
20. 0	51. 44	035959	038732	H B
22. 0	22. 56. 45	034510	038709	L
Aug. 20. 0. 0	23. 6. 4	0·034322	0·039157	
1. 50	8. 46	036481	039597	
2. 0	8. 27	037366	039633	
2. 10	9. 7	037278	039633	L
4. 0	5. 11	038724	039818	H B
6. 0	1. 15	038802	039875	
8. 0	23. 0. 15	037939	039553	
10. 0	22. 59. 40	038090	039369	H B
12. 0	58. 54	037728	039116	L
Aug. 20. 14. 0	22. 57. 13	0·037779	0·039111	L
16. 0	56. 9	038417	039052	
18. 0	53. 23	037528	039100	
20. 0	51. 35	035685	039041	L
22. 0	22. 56. 14	034048	039017	H B
Aug. 21. 0. 0	23. 8. 41	0·035141	0·039082	H B
1. 50	10. 50	037451	039386	
2. 0	10. 50	037939	039355	
2. 10	10. 50	037983	039304	H B
4. 0	7. 11	038810	039707	L
6. 0	3. 58	038493	039837	
8. 0	3. 26	038356	039836	
10. 0	2. 33	037854	039552	L
12. 0	23. 1. 1	037773	039438	G
14. 0	22. 59. 22	037876	039225	
16. 0	58. 17	037949	039323	
18. 0	55. 41	037399	038862	
20. 0	53. 27	036162	039066	G
22. 0	22. 59. 13	034665	039068	H B
Aug. 22. 0. 0	23. 10. 53	0·035610	0·039410	L
1. 50	13. 50	037267	040045	
2. 0	14. 4	037666	039875	
2. 10	14. 23	037931	039823	
4. 0	12. 0	037907	040287	L
6. 0	7. 7	037767	040212	G
8. 0	2. 13	037719	039920	
10. 0	4. 6	037419	039537	G
12. 0	23. 0. 49	037555	039266	H B
14. 0	22. 55. 40	036644	038897	
16. 0	56. 31	036027	039122	
18. 0	57. 37	036798	039000	
20. 0	55. 36	035634	039021	H B
22. 0	22. 59. 4	034714	038952	L
Aug. 23. 0. 0	23. 6. 0	0·034492	0·039454	L
1. 50	11. 40	036024	039775	
2. 0	11. 49	035980	039749	
2. 10	11. 44	035913	039723	L
4. 0	9. 29	036596	039865	H B
6. 0	6. 23	037043	040035	
8. 0	3. 35	037486	039777	
10. 0	23. 0. 5	036430	039565	H B
12. 0	22. 59. 31	036960	039185	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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

DECLINATION MAGNET.
August 19d, 20d, and 21d, between 22h and 24h, remarkable changes occurred; on August 22d, between 12h and 14h, a considerable change occurred for the time of the day; and between 22h and 24h, a considerable change occurred.

HORIZONTAL FORCE MAGNET.
August 18d, between 20h and 24h, considerable changes occurred; and on August 20d and 21d, between 0h and 1h. 50m, considerable changes took place.

VERTICAL FORCE MAGNET.
August 19d, between 2h. 10m and 4h, and on August 22d, between 22h and 24h, considerable changes occurred.

Daily Observations from August 24 to 30.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Aug. 24. 14. 0	22. 56. 13	0·036593	0·039204	L	Aug. 27. 14. 0	22. 55. 44	0·036340	0·039058	L
16. 0	55. 17	036382	039053		16. 0	55. 10	036135	038946	
18. 0	53. 7	037234	038879		18. 0	54. 19	036281	039061	
20. 0	53. 51	036433	039011	L	20. 0	51. 49	036204	039321	L
22. 0	22. 58. 12	034575	039031	H B	22. 0	22. 55. 1	035112	039147	H B
Aug. 25. 0. 0	23. 7. 51	0·035331	0·039330	H B	Aug. 28. 0. 0	23. 0. 56	0·035681	0·039173	H B
1. 50	11. 28	036548	039792		1. 50	3. 31	036639	039385	
2. 0	11. 37	036592	039771		2. 0	3. 34	036506	039339	
2. 10	11. 56	036880	039740	H B	2. 10	3. 17	036528	039329	H B
4. 0	8. 45	036349	040225	L	4. 0	1. 36	036780	039533	L
6. 0	3. 54	036908	039972		6. 0	23. 0. 29	037069	039661	
8. 0	1. 47	036830	039781		8. 0	22. 58. 57	037896	039821	
10. 0	0. 48	037191	039543		10. 0	57. 5	036883	039503	L
12. 0	23. 0. 35	037312	039620		12. 0	55. 12	036817	039236	G
14. 0	22. 59. 29	036664	039376	L	14. 0	54. 8	036695	039153	
16. 0	57. 44	037035	039345	G	16. 0	54. 3	036529	038961	
18. 0	55. 17	037156	039163		18. 0	53. 53	037023	039295	
20. 0	51. 21	035950	039112	G	20. 0	22. 53. 37	036724	039105	G
22. 0	22. 54. 31	035462	038990	T D	22. 0	23. 0. 58	035586	038942	H B
Aug. 26. 0. 0	23. 4. 54	0·035895	0·039298	T D	Aug. 29. 0. 0	23. 5. 51	0·036662	0·039157	L
1. 50	9. 48	036773	039423	L	1. 50	12. 17	038936	040008	
2. 0	10. 16	037658	039397		2. 0	13. 4	038715	040039	
2. 10	10. 12	037104	039345	L	2. 10	12. 1	037608	039879	L
4. 0	8. 59	038560	039643	G	4. 0	6. 34	037504	040442	G
6. 0	23. 5. 38	035505	040101		6. 0	23. 4. 16	038704	040122	G
8. 0	22. 59. 44	036516	040117		8. 0	22. 57. 39	037395	040237	L
10. 0	23. 0. 7	036308	039366	G	10. 0	40. 11	034859	038930	H B
12. 0	22. 58. 23	036221	039402	H B	12. 0	59. 18	038415	038855	
14. 0	57. 34	036065	039327		14. 0	50. 49	035674	038503	H B
16. 0	56. 28	035830	039026		16. 0	55. 11	035411	038740	L
18. 0	56. 8	035802	038948		18. 0	58. 11	036042	038835	T D
20. 0	54. 48	034469	039057	H B	20. 0	22. 58. 0	033079	038990	T D
22. 0	22. 57. 4	034067	039157	L	22. 0	23. 1. 48	033274	039248	G
Aug. 27. 0. 0	23. 2. 35	0·034867	0·039260	L	Aug. 30. 0. 0	23. 8. 24	0·034348	0·039983	G
1. 50	5. 10	035546	039327		1. 50	11. 54	036236	040081	L
2. 0	5. 27	035613	039322		2. 0	12. 15	035921	040108	
2. 10	5. 27	035702	039312	L	2. 10	11. 50	035574	040151	
4. 0	23. 2. 40	036010	039305	H B	4. 0	6. 50	036490	040560	L
6. 0	22. 59. 14	036491	039304		6. 0	23. 5. 34	037128	040649	T D
8. 0	58. 13	037210	039538		8. 0	22. 59. 17	036575	040205	T D
10. 0	57. 52	036813	039287	H B	10. 0	22. 58. 32	035697	039722	H B
12. 0	57. 1	036887	039210	L	12. 0	23. 2. 18	036169	039400	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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·6$; in Vertical Plane, $26^s·7$.

DECLINATION MAGNET.
August 24^d and 25^d, between 22^h and 24^h, remarkable changes occurred; and on August 29^d and 30^d, considerable changes occurred.

HORIZONTAL FORCE MAGNET.
August 26^d, between 4^h and 6^h, a considerable change occurred; and on August 29^d, between 0^h and 20^h, considerable changes took place.

VERTICAL FORCE MAGNET.
August 29^d. Considerable changes occurred.

Daily Observations from August 31 to September 6.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Aug. 31. 14. 0	22. 58. 48	0·035852	0·039155	L	Sep. 3. 14. 0	22. 53. 10	0·036052	0·038885	D
16. 0	58. 38	036534	039072		16. 0	52. 23	035367	039015	
18. 0	54. 27	034951	039141		18. 0	53. 41	034517	039100	
20. 0	52. 48	034798	039291	L	20. 0	53. 23	034107	038926	D
22. 0	22. 55. 52	034386	039225	H B	22. 0	22. 57. 3	032722	038561	L
Sep. 1. 0. 0	23. 0. 43	0·035098	0·038999	H B	Sep. 4. 0. 0	23. 3. 17	0·033746	0·039066	L
1. 50	2. 56	036797	039146		1. 50	3. 17	035923	039462	
2. 0	3. 0	036775	039161		2. 0	3. 22	035923	039472	
2. 10	3. 21	036864	039171	H B	2. 10	23. 3. 6	036322	039472	L
4. 0	23. 3. 2	037079	039656	L	4. 0	22. 55. 58	038259	040089	D
6. 0	22. 59. 13	036534	039692		6. 0	56. 43	035674	039853	
8. 0	56. 38	037249	039668		8. 0	57. 28	036237	039323	
10. 0	56. 39	036135	039434	L	10. 0	55. 18	036064	039266	D
12. 0	54. 10	036289	039006	H B	12. 0	51. 10	035953	038914	L
14. 0	53. 8	035983	038747		14. 0	51. 19	036102	038767	
16. 0	22. 55. 53	036668	038460		16. 0	51. 13	035466	038577	
18. 0	23. 0. 40	036011	038427		18. 0	49. 51	035277	038898	
20. 0	22. 54. 50	034731	038644	H B	20. 0	50. 25	034041	038944	L
22. 0	22. 58. 48	033317	038459	L	22. 0	22. 54. 47	033449	038887	H B
Sep. 2. 0. 0	23. 2. 36	0·033307	0·038670	L	Sep. 5. 0. 0	23. 1. 58	0·034425	0·038946	H B
1. 50	6. 9	035037	038982		1. 50	4. 5	036481	039554	
2. 0	6. 1	034594	039008		2. 0	3. 58	036526	039570	
2. 10	6. 26	034816	039034	L	2. 10	3. 44	036415	039565	H B
4. 0	23. 3. 13	035714	039931	H B	4. 0	23. 0. 15	037182	039926	L
6. 0	22. 57. 50	036012	039833		6. 0	22. 55. 45	036698	039723	
8. 0	51. 22	035681	039663		8. 0	56. 53	036467	040088	
10. 0	52. 52	036146	039217	H B	10. 0	55. 20	035776	039279	L
12. 0	55. 17	039123	039288	G	12. 0	51. 7	035747	038920	H B
14. 0	52. 34	036348	039184		14. 0	56. 18	035931	038586	
16. 0	51. 47	035640	038941		16. 0	54. 22	036189	038872	
18. 0	52. 34	035695	038914		18. 0	53. 11	035673	039067	
20. 0	52. 15	034879	039224	G	20. 0	51. 39	034367	039242	H B
22. 0	22. 53. 45	033488	038623	L	22. 0	22. 55. 44	033791	038999	L
Sep. 3. 0. 0	23. 1. 20	0·033163	0·038841	L	Sep. 6. 0. 0	23. 6. 47	0·034330	0·039069	L
1. 50	5. 48	035011	039260		1. 50	10. 41	036994	039856	
2. 0	5. 35	034901	039260		2. 0	11. 0	037172	039825	
2. 10	5. 31	035344	039312	L	2. 10	10. 5	037127	039779	L
4. 0	23. 0. 23	036263	040073	G	4. 0	5. 41	038330	040127	H B
6. 0	22. 58. 11	035422	039830		6. 0	23. 2. 29	037588	039917	
8. 0	55. 23	036013	039450		8. 0	22. 59. 42	036135	039602	
10. 0	49. 54	036543	039429	G	10. 0	23. 0. 16	035841	039183	H B
12. 0	55. 5	035913	039044	D	12. 0	22. 58. 46	035898	038799	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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·6$; in Vertical Plane, $26^s·7$.

DECLINATION MAGNET.
Sep. 2^d, 3^d, 4^d, and 5^d, considerable changes occurred; and on Sep. 5^d, between 22^h and 24^h, a remarkable change occurred.

HORIZONTAL FORCE MAGNET.
Sep. 2^d, between 10^h and 14^h, considerable changes occurred; and on Sep. 5^d and 6^d, between 0^h and $1^h. 50^m$, considerable changes took place.

VERTICAL FORCE MAGNET.
Sep. 2^d, between $2^h. 10^m$ and 4^h, and 20^h and 22^h; Sep. 3^d, between $2^h. 10^m$ and 4^h, and between 22^h and 24^h; Sep. 4^d, between $2^h. 10^m$ and 8^h; Sep. 5^d, between 8^h and 10^h; and on Sep. 6^d, between 0^h and $1^h. 50^m$, considerable changes occurred.

Daily Observations from September 7 to 13.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″			
Sep. 7. 14. 0	22. 58. 38	0 ·037130	0 ·038299	D
16. 0	52. 12	035288	038224	
18. 0	51. 56	035387	038587	
20. 0	51. 19	034487	038763	D
22. 0	22. 58. 19	032782	038882	L
Sep. 8. 0. 0	23. 4. 38	0 ·033812	0 ·038989	L
1. 50	6. 59	035105	039906	
2. 0	7. 4	035149	039886	
2. 10	6. 37	035105	039751	L
4. 0	6. 45	037017	040380	D
6. 0	4. 1	037509	040184	
8. 0	2. 3	037436	039802	
10. 0	23. 1. 26	037228	039505	D
12. 0	22. 59. 10	036956	039201	L
14. 0	58. 39	037464	039167	
16. 0	56. 33	036362	038282	
18. 0	55. 38	036070	038430	
20. 0	54. 55	035387	038577	L
22. 0	22. 57. 51	033551	038627	HB
Sep. 9. 0. 0	23. 6. 36	0 ·033212	0 ·039025	H B
1. 50	8. 27	035049	039848	
2. 0	7. 50	035072	039765	
2. 10	7. 49	035205	039666	H B
4. 0	6. 3	037062	040158	L
6. 0	23. 4. 36	037572	039997	
8. 0	22. 59. 26	037410	039802	
10. 0	23. 1. 22	037085	039451	L
12. 0	0. 26	036541	039176	H B
14. 0	23. 0. 28	037230	038778	
16. 0	22. 57. 48	036475	038893	
18. 0	57. 23	036053	038709	
20. 0	55. 47	035502	038666	H B
22. 0	22. 56. 29	033914	038020	L
Sep. 10. 0. 0	23. 0. 4	0 ·034458	0 ·038795	L
1. 50	1. 26	035972	039508	
2. 0	1. 26	036127	039389	
2. 10	23. 1. 17	036083	039457	L
4. 0	22. 58. 39	036448	039720	H B
6. 0	57. 59	036829	039628	
8. 0	57. 24	036984	039441	
10. 0	57. 17	036911	039441	H B
12. 0	56. 4	036987	039482	G

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″			
Sep. 10. 14. 0	22. 55. 28	0 ·037437	0 ·039327	G
16. 0	53. 41	036850	039021	
18. 0	54. 36	036750	038999	
20. 0	52. 26	036134	039173	G
22. 0	22. 54. 14	034503	038746	L
Sep. 11. 0. 0	23. 0. 32	0 ·034901	0 ·038607	L
1. 50	2. 42	036008	039210	
2. 0	2. 11	035897	039189	
2. 10	23. 2. 3	036008	039246	
4. 0	22. 58. 46	036518	039590	L
6. 0	56. 51	037377	039588	H B
8. 0	56. 28	037965	039420	G
10. 0	55. 42	037249	039632	G
12. 0	56. 24	037545	039154	D
14. 0	56. 24	036960	039079	
16. 0	55. 24	037773	039188	
18. 0	53. 58	038437	038907	
20. 0	54. 49	036312	039048	D
22. 0	22. 59. 3	034951	039001	L
Sep. 12. 0. 0	23. 10. 2	0 ·033707	0 ·039303	L
1. 50	11. 39	036268	039746	L
2. 0	11. 35	036135	039736	H B
2. 10	10. 52	036135	039721	H B
4. 0	5. 21	035494	040107	D
6. 0	4. 28	035114	039899	
8. 0	0. 11	035491	039670	
10. 0	23. 0. 16	035471	039266	D
12. 0	22. 59. 54	035972	039020	L
14. 0	56. 40	036484	038454	
16. 0	55. 46	035115	038620	
18. 0	54. 29	035617	038536	
20. 0	54. 16	034195	038503	L
22. 0	22. 55. 46	034084	038756	H B
Sep. 13. 0. 0	23. 4. 46	0 ·034247	0 ·038882	H B
1. 50	8. 44	034913	039735	
2. 0	8. 6	035025	039709	
2. 10	8. 7	035467	039657	H B
4. 0	3. 50	036475	039867	L
6. 0	23. 2. 24	035629	039651	
8. 0	22. 59. 39	036892	039462	
10. 0	58. 28	035386	039102	L
12. 0	57. 19	035722	039047	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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20^s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24^s·6; in Vertical Plane, 26^s·7.

DECLINATION MAGNET.
Sep. 7^d, between 14^h and 16^h, and between 20^h and 22^h, considerable changes occurred for the times of the day.
Sep. 7^d, 8^d, 10^d, 11^d, and 12^d, between 22^h and 24^h; Sep. 9^d, between 6^h and 8^h; and on Sep. 12^d, between 2^h. 10^m and 4^h, considerable changes took place.

HORIZONTAL FORCE MAGNET.
Sep. 12^d. Between 0^h and 1^h. 50^m a considerable change occurred.

VERTICAL FORCE MAGNET.
Sep. 8^d, between 14^h and 16^h, and Sep. 9^d, 10^d, 11^d, and 13^d, between 0^h and 1^h. 50^m, considerable changes occurred.

Daily Observations from September 14 to 20.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Sep. 14. 14. 0	22. 53. 38	0·035525	0·038490	H B	Sep. 17. 14. 0	22. 46. 8	0·036360	0·037835	H B
16. 0	54. 3	035357	038487		16. 0	50. 44	036307	038597	
18. 0	53. 29	035479	038408		18. 0	49. 6	037496	038884	
20. 0	52. 4	034790	038579	H B	20. 0	55. 46	034883	038784	H B
22. 0	53. 17	033937	038682	D	22. 0	59. 44	035146	038850	D
Sep. 15. 0. 0	22. 57. 33	0·034430	0·038576	D	Sep. 18. 0. 0	22. 59. 19	0·036090	0·039043	D
1. 50	57. 55	035299	038962		1. 50	23. 1. 32	036586	039164	
2. 0	57. 45	035409	038983		2. 0	1. 36	036586	039169	
2. 10	57. 41	035498	038972	D	2. 10	23. 1. 30	036520	039185	D
4. 0	54. 38	035702	039175	H B	4. 0	22. 59. 36	036323	039581	H B
6. 0	53. 51	036066	039025		6. 0	57. 5	037592	039477	
8. 0	52. 14	036249	038843		8. 0	56. 8	037708	039239	
10. 0	52. 14	035967	038844	H B	10. 0	54. 59	037294	039027	H B
12. 0	53. 4	036229	039105	G	12. 0	53. 55	037567	039211	G
14. 0	53. 9	036340	039142		14. 0	50. 26	036869	038817	
16. 0	52. 35	036170	039131		16. 0	51. 39	037676	038582	
18. 0	53. 7	035804	038864		18. 0	50. 21	037684	038426	
20. 0	51. 17	035413	038756	G	20. 0	52. 1	035373	038278	G
22. 0	53. 28	033700	038573	H B	22. 0	22. 54. 14	034874	038461	H B
Sep. 16. 0. 0	22. 59. 20	0·035091	0·038583	H B	Sep. 19. 0. 0	23. 3. 53	0·035720	0·038556	H B
1. 50	23. 0. 21	036181	038918		1. 50	3. 3	037363	039288	
2. 0	22. 59. 49	036070	038876		2. 0	3. 47	037296	039303	
2. 10	59. 26	036136	038887	H B	2. 10	3. 30	037008	039262	H B
4. 0	55. 36	035536	039424	G	4. 0	23. 0. 14	036730	039567	G
6. 0	52. 6	035957	039165		6. 0	22. 57. 52	037619	039796	
8. 0	51. 32	036765	039287		8. 0	56. 58	036493	039612	
10. 0	46. 59	035547	039225	G	10. 0	50. 24	036031	039247	G
12. 0	51. 1	036065	039277	D	12. 0	53. 47	035688	038817	D
14. 0	50. 0	035946	039316		14. 0	58. 37	035429	038581	
16. 0	50. 0	036090	039307		16. 0	57. 48	035690	038515	
18. 0	50. 0	036455	039202		18. 0	56. 21	036162	038774	
20. 0	50. 0	036511	039303	D	20. 0	55. 14	034391	038651	D
22. 0	22. 54. 46	035208	039177	H B	22. 0	22. 56. 29	033661	038580	H B
Sep. 17. 0. 0	23. 0. 27	0·035863	0·038932	H B	Sep. 20. 0. 0	23. 5. 35	0·033819	0·038752	H B
1. 50	2. 11	036260	039079		1. 50	7. 19	035185	039305	
2. 0	2. 12	036792	039125		2. 0	7. 6	035185	039305	
2. 10	23. 1. 40	036836	039141	H B	2. 10	6. 50	035185	039279	H B
4. 0	22. 57. 19	037862	039438	D	4. 0	5. 12	035382	039531	D
6. 0	55. 21	037442	039492		6. 0	2. 37	036404	039464	
8. 0	55. 36	037493	039277		8. 0	23. 1. 24	036479	039146	D
10. 0	55. 58	039028	039091	D	10. 0	22. 56. 0	035777	039016	H B
12. 0	39. 18	036839	038735	H B	12. 0	55. 58	035351	038731	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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·6$; in Vertical Plane, $26^s·7$.

DECLINATION MAGNET.
Sep. 17^d. Between 10^h and 14^h, remarkable changes occurred; and between 18^h and 20^h, a considerable change took place; but scarcely any change took place between 22^h and 24^h, which was remarkable.
Sep. 18^d, between 22^h and 24^h; on Sep. 19^d, between 8^h and 10^h, and between 22^h and 24^h, considerable changes occurred.

HORIZONTAL FORCE MAGNET.
Sep. 17^d. Between 10^h and 12^h, and between 18^h and 20^h, a considerable change occurred.

VERTICAL FORCE MAGNET.
Sep. 20^d. Between 0^h and $1^h. 50^m$ a considerable change occurred.

Daily Observations from September 21 to 27.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″			
Sep. 21. 14. 0	22. 55. 4	0 ·036306	0 ·038549	H B
16. 0	52. 58	036705	038748	
18. 0	52. 20	036771	038725	
20. 0	51. 35	036033	038854	H B
22. 0	22. 54. 58	034861	038794	D
Sep. 22. 0. 0	23. 2. 48	0 ·035269	0 ·039059	D
{ 1. 50	22. 59. 43	036224	039369	
{ 2. 0	59. 39	036312	039348	
{ 2. 10	59. 21	036378	039343	D
4. 0	55. 51	037260	039680	H B
6. 0	53. 51	037073	039327	
8. 0	52. 47	037732	038937	
10. 0	50. 34	037385	038768	H B
12. 0	52. 38	037256	038940	G
14. 0	52. 38	037130	038840	
16. 0	52. 13	037071	038814	
18. 0	52. 34	037281	038650	
20. 0	51. 10	036756	038757	G
22. 0	50. 27	036210	038467	H B
Sep. 23. 0. 0	22. 55. 53	0 ·036045	0 ·038441	H B
{ 1. 50	59. 18	037591	038686	
{ 2. 0	59. 27	037790	038681	
{ 2. 10	59. 23	037746	038681	H B
4. 0	56. 29	038086	039240	G
6. 0	54. 20	038573	039173	
8. 0	53. 37	037949	039139	
10. 0	53. 42	038241	039017	G
12. 0	52. 22	038569	038513	D
14. 0	52. 0	038251	038572	
16. 0	51. 8	037504	038555	
18. 0	49. 37	038633	038239	
20. 0	49. 34	037515	038486	D
22. 0	22. 52. 13	035349	038495	H B
Sep. 24. 0. 0	23. 1. 29	0 ·036778	0 ·038887	H B
{ 1. 50	0. 42	038137	039400	
{ 2. 0	1. 9	038314	039410	
{ 2. 10	23. 0. 5	037960	039312	H B
4. 0	22. 56. 18	038056	039717	D
6. 0	54. 12	037931	039364	
8. 0	53. 55	038710	039195	D
10. 0	53. 21	039005	039018	G
12. 0	53. 12	037924	039093	
Sep. 24. 14. 0	22. 44. 13	0 ·037890	0 ·038749	G
16. 0	40. 17	036851	037859	H B
18. 0	53. 37	035693	037543	H B
20. 0	54. 54	032512	038264	D
22. 0	57. 21	034576	038660	D
Sep. 25. 0. 0	22. 58. 32	0 ·034484	0 ·039162	G
{ 1. 50	23. 5. 20	031655	039797	
{ 2. 0	9. 1	032868	040145	
{ 2. 10	9. 1	032951	040170	G
4. 0	23. 2. 16	034095	039825	H B
6. 0	22. 50. 51	032884	040631	H B
8. 0	54. 12	036452	039717	D
10. 0	47. 23	036739	039536	D
12. 0	51. 13	036441	039097	H B
14. 0	51. 40	036237	038968	
16. 0	56. 44	035346	039048	
18. 0	52. 20	036053	038800	
20. 0	53. 56	035484	038784	H B
22. 0	22. 54. 54	035558	038713	D
Sep. 26. 0. 0	23. 0. 54	0 ·035832	0 ·038854	D
{ 1. 50	22. 59. 21	036268	039386	
{ 2. 0	59. 1	036622	039376	
{ 2. 10	58. 48	036024	039365	D
4. 0	57. 26	035846	039744	H B
6. 0	54. 33	036877	039529	
8. 0	53. 41	037023	039413	
10. 0	53. 47	036338	038947	H B
12. 0	53. 36	036372	038874	D
14. 0	52. 48	036986	038462	
16. 0	48. 7	035849	038218	
18. 0	51. 10	036221	038298	
20. 0	51. 59	036357	038786	D
22. 0	55. 46	034519	038758	H B
Sep. 27. 0. 0	22. 59. 41	0 ·034672	0 ·038751	H B
{ 1. 50	58. 0	036298	039022	
{ 2. 0	57. 53	036365	039001	
{ 2. 10	57. 39	036409	038966	H B
4. 0	55. 41	038513	039196	D
6. 0	53. 58	035930	039519	
8. 0	47. 53	034923	039401	
10. 0	50. 22	035400	039331	
12. 0	53. 4	037466	038489	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, 219°; from Sep. 22ᵈ. 1ʰ. 50ᵐ, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20ˢ·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24ˢ·6; in Vertical Plane, 26ˢ·7.

DECLINATION MAGNET.
Sep. 21ᵈ, 23ᵈ, and 25ᵈ, between 22ʰ and 24ʰ; Sep. 24ᵈ, between 12ʰ and 18ʰ; and Sep. 25ᵈ, between 0ʰ and 24ʰ, considerable changes took place.

HORIZONTAL FORCE MAGNET.
Sep. 23ᵈ, between 20ʰ and 22ʰ, a considerable change occurred; Sep. 24ᵈ, between 18ʰ and 22ʰ; Sep. 25ᵈ, between 0ʰ and 1ʰ. 50ᵐ, and between 6ʰ and 8ʰ; and on Sep. 27ᵈ, between 2ʰ. 10ᵐ and 4ʰ, between 4ʰ and 6ʰ, and 10ʰ and 22ʰ, considerable changes took place.

VERTICAL FORCE MAGNET.
Sep. 23ᵈ, between 2ʰ. 10ᵐ and 4ʰ, and between 10ʰ and 12ʰ; Sep. 24ᵈ, between 0ʰ and 1ʰ. 50ᵐ, and between 14ʰ and 20ʰ; and on Sep. 25ᵈ, between 6ʰ and 8ʰ, considerable changes occurred.

Daily Observations from September 28 to October 4.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Sep. 28. 14. 0	22. 50. 44	0 ·037092	0 ·038489	H B	Oct. 1. 14. 0	22. 50. 44	0 ·037535	0 ·038811	H B
16. 0	52. 14	036837	038492		16. 0	55. 8	038412	038734	
18. 0	52. 57	036993	038484		18. 0	52. 31	037193	038904	
20. 0	53. 36	036615	038286	H B	20. 0	50. 48	036935	039064	H B
22. 0	54. 40	035935	038473	D	22. 0	52. 50	035558	039098	D
Sep. 29. 0. 0	22. 58. 4	0 ·036601	0 ·038817	D	Oct. 2. 0. 0	22. 57. 29	0 ·037053	0 ·039075	D
{ 1. 50	57. 10	037092	039249		{ 1. 50	58. 26	036511	039301	
{ 2. 0	56. 43	037070	039234		{ 2. 0	58. 12	036511	039301	
{ 2. 10	56. 42	037181	039234	D	{ 2. 10	58. 10	036533	039285	D
4. 0	54. 9	037420	039301	H B	4. 0	55. 34	036758	039528	H B
6. 0	51. 13	037384	039389		6. 0	53. 27	037134	039365	
8. 0	48. 21	037531	038996		8. 0	52. 30	037488	039239	
10. 0	47. 45	037188	038966	H B	10. 0	52. 46	037511	039266	H B
12. 0	49. 33	037336	038959	G	12. 0	52. 31	037567	039110	G
14. 0	50. 23	037074	038950		14. 0	52. 48	037430	039242	
16. 0	50. 44	037824	039002		16. 0	52. 39	037733	039392	
18. 0	51. 28	037399	038375		18. 0	52. 36	037777	039263	
20. 0	52. 22	036668	038549	G	20. 0	51. 30	037357	039325	G
22. 0	52. 42	035644	038753	H B	22. 0	51. 45	035501	039230	H B
Sep. 30. 0. 0	22. 56. 21	0 ·036771	0 ·038870	H B	Oct. 3. 0. 0	22. 58. 23	0 ·035776	0 ·038939	H B
{ 1. 50	58. 53	037343	039383		{ 1. 50	23. 1. 20	036223	039213	D
{ 2. 0	58. 14	037387	039341		{ 2. 0	1. 12	036113	039207	
{ 2. 10	57. 29	037320	039315	H B	{ 2. 10	23. 0. 30	036069	039207	
4. 0	55. 26	037730	039327	G	4. 0	22. 57. 48	036926	039539	D
6. 0	51. 47	037872	039277		6. 0	53. 34	036656	039734	H B
8. 0	52. 39	037917	039080		8. 0	53. 7	036863	039211	G
10. 0	52. 39	037939	039070	G	10. 0	52. 39	037198	038975	G
12. 0	52. 10	038419	038863	D	12. 0	48. 43	038072	038892	D
14. 0	52. 12	037577	038728		14. 0	53. 45	037929	038860	
16. 0	53. 39	037691	038601		16. 0	52. 12	037301	038551	
18. 0	52. 47	037990	038582		18. 0	52. 20	037334	038563	
20. 0	53. 35	037225	038878	D	20. 0	51. 36	036288	038811	D
22. 0	22. 52. 3	035803	038599	H B	22. 0	50. 28	036546	038845	H B
Oct. 1. 0. 0	22. 58. 57	0 ·035866	0 ·038632	H B	Oct. 4. 0. 0	22. 56. 53	0 ·036290	0 ·038811	H B
{ 1. 50	23. 0. 25	037363	039400		{ 1. 50	58. 52	036800	039011	
{ 2. 0	22. 59. 50	037319	039364		{ 2. 0	58. 45	036800	039001	
{ 2. 10	59. 24	037451	039318	H B	{ 2. 10	58. 42	036977	038975	H B
4. 0	54. 54	038090	039768	D	4. 0	...	...	...	
6. 0	52. 59	037672	039601		6. 0	54. 12	037545	039071	D
8. 0	52. 41	037286	039381		8. 0	53. 47	037666	038714	
10. 0	48. 42	037603	039063	D	10. 0	52. 40	037455	038558	D
12. 0	51. 44	037421	039017	H B	12. 0	52. 15	037513	038072	H B

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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

DECLINATION MAGNET.

Sep. 30d and Oct. 2d and 3d, between 22h and 24h, considerable changes occurred; and on Oct. 3d, between 12h and 14h, a considerable change for the time of the day took place.

VERTICAL FORCE MAGNET.

Sep. 29d, between 16h and 18h; Sep. 30d, between 0h and 1h. 50m; and on Oct. 3d, between 6h and 8h, considerable changes occurred.
Oct. 4d. 4h. The observations were inadvertently omitted.

Daily Observations from October 5 to 11.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Oct. 5. 14. 0	22. 51. 35	0·037833	0·038295	H B	Oct. 8. 14. 0	22. 51. 24	0·038421	0·038814	H B
16. 0	52. 58	037755	038307		16. 0	50. 22	038603	038794	
18. 0	53. 4	038530	038502		18. 0	51. 6	038053	038730	
20. 0	52. 2	037231	038660	H B	20. 0	51. 28	037088	038482	H B
22. 0	50. 51	036079	038797	T D	22. 0	50. 43	036292	038319	L
Oct. 6. 0. 0	22. 57. 35	0·034778	0·038615	D	Oct. 9. 0. 0	22. 55. 36	0·035985	0·038309	L
1. 50	23. 0. 42	037553	038852		1. 50	57. 11	036996	038515	
2. 0	0. 43	037575	038868		2. 0	56. 57	037041	038515	
2. 10	23. 0. 3	037398	038878	D	2. 10	57. 5	036996	038577	L
4. 0	22. 57. 37	037195	039213	H B	4. 0	55. 15	037403	038764	H B
6. 0	52. 12	036317	039200		6. 0	52. 28	037020	038663	
8. 0	49. 26	036511	039267		8. 0	53. 21	038114	038704	
10. 0	52. 47	037848	039131	H B	10. 0	47. 17	036652	038770	H B
12. 0	52. 59	038664	038962	G	12. 0	43. 9	034713	038164	D
14. 0	53. 38	037609	038963		14. 0	45. 6	035810	038107	
16. 0	51. 46	037140	039025		16. 0	46. 0	036623	037999	
18. 0	51. 21	037602	038959		18. 0	51. 46	036863	038403	
20. 0	50. 28	036812	038841	G	20. 0	22. 52. 19	036833	038508	D
22. 0	51. 0	035285	038551	L	22. 0	23. 1. 3	034767	038500	L
Oct. 7. 0. 0	22. 57. 9	0·035251	0·038525	L	Oct. 10. 0. 0	23. 1. 14	0·035704	0·038630	L
1. 50	58. 35	036690	038841		1. 50	22. 59. 31	035907	039290	
2. 0	58. 35	036867	038820		2. 0	22. 59. 49	035907	039264	
2. 10	58. 35	037132	038841	L	2. 10	23. 0. 12	035686	039223	L
4. 0	55. 6	038215	039657	G	4. 0	22. 57. 6	036734	039443	D
6. 0	51. 42	038234	039591		6. 0	51. 54	038045	039397	
8. 0	53. 41	038300	039074		8. 0	51. 34	036739	039144	
10. 0	53. 8	037975	038810	G	10. 0	49. 36	037400	038933	D
12. 0	50. 25	037729	038541	L	12. 0	51. 58	036819	038461	L
14. 0	48. 55	037406	038450		14. 0	51. 58	036741	038505	
16. 0	50. 24	037423	038137		16. 0	51. 24	036844	038571	
18. 0	50. 24	037586	038254		18. 0	55. 11	036110	038489	
20. 0	50. 24	037586	038501	L	20. 0	53. 27	037210	038830	L
22. 0	50. 27	036697	038539	H B	22. 0	52. 15	035790	038803	H B
Oct. 8. 0. 0	22. 55. 49	0·036542	0·038703	H B	Oct. 11. 0. 0	22. 56. 29	0·034909	0·038826	H B
1. 50	58. 9	037366	038949		1. 50	57. 5	035913	039067	D
2. 0	58. 2	037366	038934		2. 0	56. 41	036178	038989	H B
2. 10	57. 56	037322	038903	H B	2. 10	57. 20	036555	038968	H B
4. 0	55. 0	037967	039290	L	4. 0	52. 45	035753	039271	L
6. 0	53. 30	038222	038903		6. 0	53. 3	036502	038961	
8. 0	53. 2	038178	038865		8. 0	53. 26	037213	038821	
10. 0	52. 47	038352	038743	L	10. 0	51. 1	037310	038767	L
12. 0	50. 58	039404	038878	H B	12. 0	52. 2	037155	038562	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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·6$; in Vertical Plane, $26^s·7$.

DECLINATION MAGNET.
Oct. 5^d and 6^d, between 22^h and 24^h; Oct. 6^d, between 4^h and 6^h; and Oct. 9^d, between 8^h and 10^h, and between 16^h and 22^h, considerable changes occurred; and the usual change between 22^h and 24^h did not take place.

HORIZONTAL FORCE MAGNET.
Oct. 6^d, between 0^h and $1^h. 50^m$, and Oct. 9^d, between 20^h and 22^h, considerable changes occurred.

VERTICAL FORCE MAGNET.
Oct. 7^d, between $2^h. 10^m$ and 8^h; Oct. 9^d, between 10^h and 12^h; and Oct. 10^d, between 0^h and $1^h. 50^m$, considerable changes occurred.

Daily Observations from October 12 to 18.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Oct. 12. 14. 0	22. 53. 20	0 ·037167	0 ·038311	H B	Oct. 15. 14. 0	22. 51. 11	0 ·036847	0 ·038733	H B
16. 0	53. 5	037072	038407		16. 0	52. 24	037179	038879	
18. 0	52. 13	038046	038437		18. 0	51. 18	037065	038758	
20. 0	51. 12	037544	038655	H B	20. 0	50. 38	036679	038851	H B
22. 0	52. 9	036198	038614	L	22. 0	51. 59	034866	038647	L
Oct. 13. 0. 0	22. 57. 8	0 ·036656	0 ·038957	T D	Oct. 16. 0. 0	22. 59. 42	0 ·034883	0 ·038631	L
1. 50	56. 24	037779	039341	G	1. 50	59. 49	035983	038998	
2. 0	56. 19	038001	039315	T D	2. 0	59. 33	036050	038998	
2. 10	55. 48	038001	039289	T D	2. 10	59. 14	036116	038998	L
4. 0	54. 11	038160	039416	H B	4. 0	55. 30	036547	039165	H B
6. 0	53. 3	037798	039120		6. 0	54. 15	036906	038996	
8. 0	53. 20	038100	038856		8. 0	53. 39	036938	038895	
10. 0	52. 43	038691	038786	H B	10. 0	53. 7	037189	038678	H B
12. 0	53. 19	038201	038651	D	12. 0	51. 57	037145	038470	D
14. 0	52. 51	037604	038480		14. 0	51. 33	037071	038278	
16. 0	52. 51	037625	038309		16. 0	54. 3	037576	038079	
18. 0	54. 6	037513	038318		18. 0	51. 53	038007	037961	
20. 0	52. 8	037542	038473	D	20. 0	53. 55	036863	038054	D
22. 0	52. 32	036188	038467	L	22. 0	51. 14	034930	037967	L
Oct. 14. 0. 0	22. 57. 58	0 ·037030	0 ·038800	L	Oct. 17. 0. 0	22. 57. 10	0 ·035041	0 ·038437	L
1. 50	56. 29	037795	039516		1. 50	59. 2	036350	038753	
2. 0	56. 29	037795	039480		2. 0	22. 59. 2	036527	038778	
2. 10	56. 10	038083	039438	L	2. 10	23. 0. 15	036571	038778	L
4. 0	54. 6	037571	039645	D	4. 0	23. 0. 15	036746	039377	D
6. 0	53. 42	038062	039306		6. 0	22. 55. 52	036658	039149	
8. 0	52. 12	037703	038989		8. 0	54. 10	037512	039028	
10. 0	51. 16	037431	038704	D	10. 0	54. 6	037060	038969	D
12. 0	50. 51	037407	038580	L	12. 0	49. 16	036938	038799	L
14. 0	53. 7	036894	038387		14. 0	49. 8	036229	038894	
16. 0	52. 18	037209	038420		16. 0	49. 37	037004	038914	
18. 0	51. 49	037269	038319		18. 0	51. 37	037106	038984	
20. 0	51. 14	037092	038629	L	20. 0	51. 16	036986	038855	L
22. 0	51. 27	035985	038448	H B	22. 0	51. 45	035419	038751	H B
Oct. 15. 0. 0	22. 58. 59	0 ·037054	0 ·038798	H B	Oct. 18. 0. 0	22. 57. 12	0 ·036428	0 ·038700	H B
1. 50	57. 53	037643	039468		1. 50	58. 3	038094	038936	
2. 0	57. 50	037888	039416		2. 0	58. 2	038138	038915	
2. 10	57. 53	037710	039354	H B	2. 10	58. 16	038204	038889	H B
4. 0	56. 15	037397	039470	L	4. 0	55. 41	037812	038958	L
6. 0	55. 7	036526	039293		6. 0	55. 19	038119	038802	
8. 0	51. 33	037958	039454		8. 0	53. 22	037591	038679	
10. 0	49. 58	037291	039190	L	10. 0	53. 14	038402	038690	L
12. 0	50. 53	037008	038877	H B	12. 0	53. 40	037699	038682	H B

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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 6$; in Vertical Plane, $26^s \cdot 7$.

DECLINATION MAGNET.
Oct. 14^d and 15^d. Between 22^h and 24^h considerable changes occurred.

VERTICAL FORCE MAGNET.
Oct. 14^d and 15^d. Between 0^h and $1^h.50^m$ considerable changes occurred.

Daily Observations from October 19 to 25.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Oct. 19. 14. 0	22. 47. 29	0·037251	0·038293	H B	Oct. 22. 14. 0	22. 53. 19	0·036703	0·038950	D
16. 0	50. 15	037583	038460		16. 0	53. 25	036734	038870	H B
18. 0	52. 15	037871	038556		18. 0	52. 25	037054	038834	H B
20. 0	52. 8	037333	038549	H B	20. 0	52. 15	036322	038921	L
22. 0	50. 17	037542	038388	L	22. 0	52. 23	035746	038981	D
Oct. 20. 0. 0	22. 58. 41	0·037967	0·038318	L	Oct. 23. 0. 0	22. 56. 56	0·035520	0·038969	H B
1. 50	23. 1. 8	039108	038979		1. 50	57. 30	036069	038795	L
2. 0	1. 45	039661	038979		2. 0	57. 30	036308	038795	
2. 10	2. 44	039108	038979	L	2. 10	57. 19	036519	038874	L
4. 0	23. 0. 23	037007	039385	H B	4. 0	54. 15	036750	039310	H B
6. 0	22. 54. 16	037976	039096		6. 0	53. 13	037127	038987	D
8. 0	54. 16	037908	038855		8. 0	53. 4	036723	038749	L
10. 0	53. 11	037200	038647	H B	10. 0	52. 50	036957	038862	G
12. 0	49. 38	037054	038454	D	12. 0	52. 5	036550	038418	H B
14. 0	46. 38	036927	038251		14. 0	50. 57	036817	038265	
16. 0	49. 14	037210	038261		16. 0	51. 37	036906	038152	
18. 0	56. 47	035209	038002		18. 0	52. 12	037024	038338	
20. 0	57. 41	036855	038116	D	20. 0	52. 34	036498	038466	H B
22. 0	22. 54. 52	035755	037851	L	22. 0	54. 29	034990	038324	L
Oct. 21. 0. 0	23. 2. 33	0·033932	0·038191	L	Oct. 24. 0. 0	22. 59. 20	0·035228	0·038668	L
1. 50	4. 43	036170	038797		1. 50	22. 59. 38	036334	038913	
2. 0	4. 57	035771	038766		2. 0	23. 0. 4	036600	038913	
2. 10	23. 5. 11	035284	038745	L	2. 10	23. 0. 25	036998	038830	L
4. 0	22. 57. 38	036498	039332	D	4. 0	22. 55. 30	036601	039405	H B
6. 0	54. 23	037126	039048		6. 0	53. 45	035974	039118	
8. 0	53. 0	037300	038867		8. 0	...	...	...	
10. 0	34. 41	037251	039183	D	10. 0	51. 24	036579	038582	H B
12. 0	45. 41	036144	038667	L	12. 0	51. 29	036963	038421	D
14. 0	49. 17	036698	038066		14. 0	51. 29	036681	038316	
16. 0	50. 3	035701	037851		16. 0	50. 58	036840	038162	
18. 0	50. 49	036044	037956		18. 0	54. 11	037758	037937	
20. 0	51. 33	036086	038407	L	20. 0	53. 44	036131	037913	D
22. 0	52. 46	035257	038234	H B	22. 0	22. 56. 41	034904	038327	L
Oct. 22. 0. 0	22. 57. 18	0·035612	0·038378	H B	Oct. 25. 0. 0	23. 0. 46	0·035415	0·038456	L
1. 50	58. 51	036069	038687		1. 50	22. 58. 33	036368	039251	
2. 0	59. 0	035937	038687		2. 0	58. 4	036368	039127	
2. 10	58. 39	036025	038697	H B	2. 10	57. 32	036368	039385	L
4. 0	54. 26	036154	039006	L	4. 0	54. 16	037033	039391	D
6. 0	51. 42	036513	039187		6. 0	52. 29	036763	039177	
8. 0	51. 58	037491	039001	L	8. 0	52. 16	036985	038994	
10. 0	52. 43	037654	039270	G	10. 0	49. 35	036309	038771	D
12. 0	51. 59	037137	039190	G	12. 0	48. 49	036513	038349	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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·6$; in Vertical Plane, $26^s·7$.

DECLINATION MAGNET.

Oct. 19^d and 20^d, between 22^h and 24^h; Oct. 20^d, between 4^h and 6^h, and 16^h and 18^h; and Oct. 21^d, between $2^h. 10^m$ and 4^h, and 8^h and 12^h, remarkable changes took place.

HORIZONTAL FORCE MAGNET.

Oct. 20^d, between $2^h.10^m$ and 4^h, and between 16^h and 18^h, considerable changes occurred; and on Oct. 21^d, between 0^h and $1^h. 50^m$, a considerable change took place.

VERTICAL FORCE MAGNET.

Oct. 20^d, between 0^h and $1^h. 50^m$, and Oct. 21^d, from 0^h to 14^h, considerable changes occurred.
Oct. $24^d. 8^h$. The observations were omitted.

Daily Observations from October 26 to November 1.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Oct. 26. 14. 0	22. 50. 32	0·036336	0·038305	L	Oct. 29. 14. 0	22. 51. 49	0·036911	0·038347	L
16. 0	51. 55	036694	038379		16. 0	53. 14	037355	038251	
18. 0	51. 35	037026	038462		18. 0	52. 47	037277	038443	
20. 0	51. 35	037469	038519	L	20. 0	54. 0	037059	038440	L
22. 0	50. 42	037225	038670	H B	22. 0	52. 57	036040	038453	H B
Oct. 27. 0. 0	22. 56. 35	0·037537	0·038825	H B	Oct. 30. 0. 0	22. 56. 30	0·036307	0·038720	H B
1. 50	57. 10	037601	039183		1. 50	58. 16	037207	039068	
2. 0	57. 10	037601	039183		2. 0	58. 10	037096	039062	
2. 10	57. 26	037668	039121	H B	2. 10	57. 27	036853	038872	H B
4. 0	56. 13	037593	039215	L	4. 0	55. 31	038000	039080	L
6. 0	54. 15	037355	039079		6. 0	53. 40	037983	039056	
8. 0	51. 18	037763	038856		8. 0	53. 2	038160	038866	
10. 0	51. 26	037457	038946	L	10. 0	53. 2	038002	038817	L
12. 0	51. 46	037568	038763	H B	12. 0	52. 25	037496	038763	H B
14. 0	51. 35	037254	038598		14. 0	53. 17	037823	038753	
16. 0	51. 6	037409	038590		16. 0	53. 8	038285	038623	
18. 0	51. 27	037510	038349		18. 0	52. 43	038292	038545	
20. 0	51. 35	037397	038402	H B	20. 0	51. 40	037856	038472	H B
22. 0	51. 23	037441	038421	L	22. 0	51. 29	035937	038420	L
Oct. 28. 0. 0	22. 56. 0	0·037559	0·038716	L	Oct. 31. 0. 0	22. 54. 38	0·035971	0·038588	L
1. 50	56. 0	037439	039146		1. 50	56. 26	036972	038861	
2. 0	55. 50	037439	038991		2. 0	56. 26	037149	038861	
2. 10	55. 42	037661	038950	L	2. 10	56. 21	036972	038861	L
4. 0	53. 34	038178	039077	H B	4. 0	54. 51	037905	038984	H B
6. 0	53. 1	037985	038982		6. 0	54. 26	037883	038825	
8. 0	52. 46	038019	039067		8. 0	53. 13	038076	038674	
10. 0	52. 20	037943	038994	H B	10. 0	52. 7	038096	038675	H B
12. 0	47. 26	037500	038775	D	12. 0	47. 24	037370	038789	D
14. 0	52. 53	037421	038739		14. 0	52. 50	036790	038518	
16. 0	52. 24	037407	038725		16. 0	53. 57	036856	038322	
18. 0	54. 16	037259	038621		18. 0	52. 22	037690	038520	
20. 0	53. 7	037150	038549	D	20. 0	52. 36	038206	038458	D
22. 0	51. 38	035833	038730	H B	22. 0	58. 11	036538	038199	L
Oct. 29. 0. 0	22. 56. 53	0·035787	0·038923	L	Nov. 1. 0. 0	22. 57. 38	0·035022	0·038404	L
1. 50	58. 8	036842	039380		1. 50	23. 0. 37	036826	039327	T D
2. 0	58. 2	037063	039338		2. 0	22. 58. 28	036273	039146	
2. 10	57. 42	036886	040414	L	2. 10	59. 8	036384	039198	T D
4. 0	55. 12	037341	039375	D	4. 0	57. 28	036451	039488	D
6. 0	53. 7	037426	038957		6. 0	53. 14	036611	039561	
8. 0	53. 7	037477	038811		8. 0	51. 22	035297	039083	
10. 0	51. 50	037244	038658	D	10. 0	46. 21	034333	038837	D
12. 0	52. 29	037344	038406	L	12. 0	51. 31	035126	038252	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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

DECLINATION MAGNET.
Oct. 28d and 31d. Between 12h and 14h a considerable change took place on each day for the time of the day.

VERTICAL FORCE MAGNET.
Oct. 29d, between 2h and 2h. 10m, and between 2h. 10m and 4h; and on Nov. 1d, between 0h and 1h. 50m, and between 10h and 12h, considerable changes occurred

Daily Observations from November 2 to 8.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Nov. 2. 14. 0	22. 54. 49	0 ·036898	0 ·038289	L	Nov. 5. 14. 0	22. 53. 0	0 ·036450	0 ·038731	L
16. 0	52. 30	037680	038430		16. 0	53. 31	037167	038744	
18. 0	52. 56	.037178	038011		18. 0	53. 22	037311	038779	
20. 0	56. 51	035459	038004	L	20. 0	53. 22	037498	038934	L
22. 0	55. 20	035961	038556	T D	22. 0	52. 51	036384	038962	T D
Nov. 3. 0. 0	22. 58. 41	0 ·036481	0 ·038792	T D	Nov. 6. 0. 0	22. 56. 23	0 ·035897	0 ·038862	T D
1. 50	58. 21	037338	039124		1. 50	56. 41	036451	039237	
2. 0	58. 27	037294	039072		2. 0	56. 38	036783	039195	
2. 10	57. 52	037338	039072	T D	2. 10	56. 36	036894	039160	T D
4. 0	54. 50	037952	039600	L	4. 0	54. 14	037840	039126	L
6. 0	51. 50	037763	038750		6. 0	52. 26	038079	038858	
8. 0	50. 53	037593	038534		8. 0	51. 1	037677	038788	
10. 0	47. 41	037423	038432	L	10. 0	50. 24	037787	038562	L
12. 0	48. 2	037064	038227	H B	12. 0	51. 56	037351	038378	H B
14. 0	51. 27	037043	038210		14. 0	52. 6	037298	038443	
16. 0	51. 26	037171	038293		16. 0	53. 42	037535	038450	
18. 0	51. 5	037115	037900		18. 0	50. 37	037845	038554	
20. 0	52. 0	036765	038078	H B	20. 0	52. 45	037542	038627	H B
22. 0	52. 18	035613	037936	T D	22. 0	22. 56. 8	035634	038572	T D
Nov. 4. 0. 0	22. 57. 2	0 ·035562	0 ·038582	T D	Nov. 7. 0. 0	23. 0. 14	0 ·035523	0 ·038440	T D
1. 50	58. 0	036540	039246		1. 50	1. 24	036170	039077	L
2. 0	58. 26	036872	039127		2. 0	1. 20	036325	039077	
2. 10	57. 59	036872	039023	T D	2. 10	23. 1. 3	036391	039051	L
4. 0	54. 34	037726	039293	H B	4. 0	22. 58. 25	036624	039348	H B
6. 0	54. 10	037795	039157		6. 0	56. 44	035439	039289	
8. 0	52. 25	037441	038873		8. 0	50. 30	036432	039093	
10. 0	47. 7	036134	038729	H B	10. 0	49. 41	037020	038912	H B
12. 0	47. 32	037246	038412	T D	12. 0	48. 11	035761	038054	T D
14. 0	50. 31	036588	038254		14. 0	52. 7	036697	038425	
16. 0	51. 12	036599	038011		16. 0	53. 10	037218	038468	
18. 0	52. 31	037425	037928		18. 0	54 25	037986	038588	
20. 0	52. 57	037399	038269	T D	20. 0	52. 40	037302	038844	T D
22. 0	52. 6	034820	038433	L	22. 0	53. 2	035991	038573	L
Nov. 5. 0. 0	22. 56. 35	0 ·035833	0 ·038661	L	Nov. 8. 0. 0	22. 57. 1	0 ·035926	0 ·038650	L
1. 50	57. 57	036837	039206		1. 50	57. 46	036894	039058	
2. 0	57. 51	037257	039170		2. 0	57. 11	036894	039058	
2. 10	22. 59. 23	037501	039145	L	2. 10	56. 46	037203	039058	L
4. 0	23. 2. 9	036878	040197	T D	4. 0	52. 51	037506	039501	T D
6. 0	23. 0. 34	035719	040281		6. 0	52. 29	037081	038428	
8. 0	22. 54. 36	034612	039611		8. 0	52. 54	037218	038218	
10. 0	52. 9	035483	039026	T D	10. 0	51. 55	037225	038190	T D
12. 0	52. 16	037085	039203	L	12. 0	52. 7	037371	038476	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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

DECLINATION MAGNET.
Nov. 5d and 7d. Between 6h and 8h considerable changes occurred for the times of the day.

HORIZONTAL FORCE MAGNET.
Nov. 4d. Between 20h and 22h a considerable change occurred.

VERTICAL FORCE MAGNET.
Nov. 3d, 4d, 5d, and 7d. Considerable changes occurred.

Daily Observations from November 9 to 15.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″			
Nov. 9. 14. 0	22. 54. 14	0 ·037202	0 ·038249	L
16. 0	54. 35	037560	038325	
18. 0	53. 11	037696	038337	
20. 0	53. 37	037833	038371	L
22. 0	54. 22	037553	038449	T D
Nov. 10. 0. 0	22. 57. 22	0 ·037892	0 ·038513	T D
1. 50	56. 57	038589	039089	
2. 0	56. 57	038700	039079	
2. 10	56. 46	038589	039037	T D
4. 0	54. 35	038419	039616	L
6. 0	52. 30	038121	039970	
8. 0	51. 51	037848	039917	
10. 0	49. 49	037748	039574	L
12. 0	48. 36	038384	038139	H B
14. 0	50. 9	039491	038149	
16. 0	50. 17	038588	037931	
18. 0	50. 17	038312	038115	
20. 0	52. 58	037926	038069	H B
22. 0	53. 14	037083	038159	T D
Nov. 11. 0. 0	22. 56. 45	0 ·037349	0 ·038385	T D
1. 50	56. 45	037815	038711	
2. 0	57. 4	037993	038726	
2. 10	57. 17	037993	038726	T D
4. 0	55. 40	037542	038793	H B
6. 0	50. 15	037648	038838	
8. 0	51. 45	038052	038724	
10. 0	49. 50	038652	038710	H B
12. 0	51. 33	037874	038202	T D
14. 0	51. 41	038088	038302	
16. 0	52. 14	037977	038302	
18. 0	51. 39	038132	038302	
20. 0	52. 44	037637	038090	T D
22. 0	53. 2	036947	038247	L
Nov. 12. 0. 0	22. 56. 48	0 ·037073	0 ·038491	L
1. 50	57. 24	038139	039130	H B
2. 0	56. 45	038029	039094	
2. 10	56. 37	038029	039001	H B
4. 0	54. 36	038307	039105	T D
6. 0	52. 24	037617	038493	
8. 0	52. 14	037099	037960	
10. 0	49. 44	037432	038313	T D
12. 0	51. 57	037372	038228	L
Nov. 12. 14. 0	22. 53. 5	0 ·037423	0 ·038250	L
16. 0	52. 26	037482	038033	
18. 0	51. 23	038286	038131	
20. 0	52. 35	037765	038573	L
22. 0	52. 37	036836	037985	T D
Nov. 13. 0. 0	22. 55. 38	0 ·037333	0 ·038324	T D
1. 50	56. 9	038275	039070	
2. 0	56. 5	038164	039044	
2. 10	55. 50	038275	039002	T D
4. 0	54. 6	038445	038708	L
6. 0	52. 29	038309	038587	
8. 0	51. 12	038088	038561	
10. 0	51. 3	038232	038597	L
12. 0	51. 7	038095	038387	H B
14. 0	51. 36	037766	038298	
16. 0	51. 49	037693	038281	
18. 0	52. 15	037766	038240	
20. 0	53. 9	037319	038137	H B
22. 0	53. 28	036522	038286	T D
Nov. 14. 0. 0	22. 56. 27	0 ·037906	0 ·038460	T D
1. 50	55. 39	037637	038555	
2. 0	55. 31	037704	038550	
2. 10	55. 20	037704	038550	T D
4. 0	53. 43	037730	038601	H B
6. 0	53. 28	038582	038402	
8. 0	52. 5	038350	038368	
10. 0	52. 22	038152	038427	H B
12. 0	50. 34	038003	038042	T D
14. 0	50. 51	037799	037847	
16. 0	51. 55	037969	038112	
18. 0	51. 44	037995	038100	
20. 0	51. 29	037876	037975	T D
22. 0	54. 17	036965	038342	L
Nov. 15. 0. 0	22. 56. 56	0 ·036876	0 ·038310	L
1. 50	55. 26	037663	038544	
2. 0	55. 26	037619	038544	
2. 10	55. 7	037552	038570	L
4. 0	54. 20	038180	038649	T D
6. 0	52. 26	038341	038349	
8. 0	51. 39	038249	038203	
10. 0	51. 57	037807	037984	T D
12. 0	51. 57	038113	038247	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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s{\cdot}8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s{\cdot}6$; in Vertical Plane, $26^s{\cdot}7$.

DECLINATION MAGNET.
Nov. 11^d. Between 4^h and 6^h a considerable change occurred for the time of the day.

VERTICAL FORCE MAGNET.
Nov. 10^d, between 10^h and 12^h, and Nov. 13^d, between 0^h and $1^h.\ 50^m$, considerable changes occurred.

Daily Observations from November 16 to 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Nov. 16. 14. 0	22. 52. 12	0 ·038566	0 ·037944	L	Nov. 19. 14. 0	22. 51. 46	0 ·038062	0 ·038259	L
16. 0	53. 5	039445	038053		16. 0	50. 32	037593	038214	
18. 0	51. 32	039673	037913		18. 0	51. 14	037601	038249	
20. 0	52. 41	039717	038084	L	20. 0	53. 44	037918	038287	L
22. 0	22. 57. 55	036744	037962	T D	22. 0	54. 0	037296	038080	H B
Nov. 17. 0. 0	23. 1. 23	0 ·037969	0 ·038394	T D	Nov. 20. 0. 0	22. 56. 27	0 ·037332	0 ·038310	H B
1. 50	2. 33	039467	038814		1. 50	55. 29	037321	038792	
2. 0	1. 1	038692	038788		2. 0	55. 14	037365	038750	
2. 10	23. 3. 1	038582	038814	T D	2. 10	54. 55	037498	038667	H B
4. 0	22. 55. 55	038113	039254	L	4. 0	53. 55	037933	038537	L
6. 0	54. 25	038523	039031		6. 0	52. 4	038631	039190	G
8. 0	43. 27	035819	039005		8. 0	51. 58	037984	038577	T D
10. 0	49. 51	036974	038584	L	10. 0	51. 8	037789	038362	L
12. 0	50. 45	037902	038088	H B	12. 0	51. 3	037505	038129	H B
14. 0	51. 33	036632	038121		14. 0	51. 21	037264	037932	
16. 0	52. 38	036655	038303		16. 0	52. 2	038006	038075	
18. 0	52. 37	037322	038289		18. 0	52. 10	037876	038214	
20. 0	53. 53	037138	038454	H B	20. 0	52. 0	037773	038152	H B
22. 0	53. 41	037117	038715	T D	22. 0	52. 0	037698	038085	L
Nov. 18. 0. 0	22. 55. 29	0 ·037076	0 ·038555	T D	Nov. 21. 0. 0	22. 55. 13	0 ·037297	0 ·038388	L
1. 50	58. 48	038017	038853		1. 50	55. 23	038326	038837	L
2. 0	58. 45	037951	038879		2. 0	55. 14	038326	038827	T D
2. 10	57. 15	037464	038843	T D	2. 10	55. 2	038326	038827	T D
4. 0	54. 10	037617	039046	H B	4. 0	51. 22	037389	038598	H B
6. 0	41. 48	039285	038942		6. 0	50. 43	038377	038512	
8. 0	53. 14	038151	038743		8. 0	48. 18	038305	038519	
10. 0	51. 23	036897	038487	H B	10. 0	50. 20	037754	038387	H B
12. 0	48. 45	036656	038107	T D	12. 0	50. 5	037618	038228	T D
14. 0	49. 23	037280	038119		14. 0	50. 18	037611	038165	
16. 0	51. 43	037474	037785		16. 0	50. 27	037593	038033	
18. 0	52. 21	037311	038166		18. 0	50. 32	037840	038097	
20. 0	54. 12	036565	037842	T D	20. 0	50. 41	037714	037944	T D
22. 0	56. 47	035611	038414	L	22. 0	53. 11	036761	037963	L
Nov. 19. 0. 0	22. 54. 29	0 ·037202	0 ·038463	L	Nov. 22. 0. 0	22. 55. 39	0 ·036267	0 ·038166	L
1. 50	54. 29	037082	038704		1. 50	56. 16	037149	038469	
2. 0	55. 3	037414	038756		2. 0	55. 58	037238	038469	
2. 10	56. 10	037746	038807	L	2. 10	56. 5	037415	038469	L
4. 0	54. 37	037296	039719	T D	4. 0	53. 25	037118	038665	T D
6. 0	50. 39	037365	039353		6. 0	52. 35	037348	038275	
8. 0	52. 1	037933	038817		8. 0	50. 6	037137	037905	
10. 0	51. 45	038148	038549	T D	10. 0	50. 36	036795	037982	T D
12. 0	50. 47	037848	038368	L	12. 0	51. 15	036898	038057	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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^{s}\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^{s}\cdot 6$; in Vertical Plane, $26^{s}\cdot 7$.

DECLINATION MAGNET.
Nov. 16^{d}, between 20^{h} and 22^{h}, and Nov. 17^{d}, between $2^{h}. 10^{m}$ and 4^{h}, and between 6^{h} and 10^{h}, considerable changes occurred for the times of the day; and on Nov. 18^{d}, between 4^{h} and 8^{h}, large changes took place.

HORIZONTAL FORCE MAGNET.
Nov. 16^{d}, between 20^{h} and 22^{h}, and Nov. 17^{d}, between 16^{h} and 17^{h}, considerable changes occurred.

VERTICAL FORCE MAGNET.
Nov. 18^{d}, between 20^{h} and 22^{h}, and Nov. 19^{d} and 20^{d}, considerable changes occurred.

Daily Observations from November 23 to 29.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Nov. 23. 14. 0	22. 53. 3	0·036441	0·037982	L	Nov. 26. 14. 0	22. 52. 5	0·038010	0·038397	L
16. 0	53. 14	036721	038030		16. 0	51. 43	038428	038210	
18. 0	53. 4	037054	038134		18. 0	51. 23	038045	038260	
20. 0	51. 38	038722	038085		20. 0	51. 23	038258	038101	L
22. 0	52. 17	038755	038489	L	22. 0	51. 17	037815	038388	T D
Nov. 24. 0. 0	22. 56. 50	0·037903	0·038555	T D	Nov. 27. 0. 0	22. 54. 34	0·037774	0·038321	T D
1. 50	55. 20	038651	039204		1. 50	55. 27	037967	038435	
2. 0	55. 41	038651	039514		2. 0	55. 27	038078	038393	
2. 10	55. 49	038319	039514	T D	2. 10	54. 59	038012	038383	T D
4. 0	56. 18	037380	039103	L	4. 0	53. 1	038069	038482	L
6. 0	52. 57	037493	038644		6. 0	51. 59	038168	038270	
8. 0	49. 42	036522	038487		8. 0	51. 24	038351	038420	
10. 0	49. 5	036914	038407	L	10. 0	50. 19	037535	038225	L
12. 0	52. 10	037426	038332	H B	12. 0	50. 0	037092	038159	H B
14. 0	53. 1	037484	038187		14. 0	50. 11	037583	038215	
16. 0	55. 21	037255	037951		16. 0	51. 41	038003	038241	
18. 0	50. 57	037677	038043		18. 0	51. 10	038085	038119	
20. 0	51. 51	037792	037973	H B	20. 0	52. 53	038860	038062	H B
22. 0	52. 12	037229	038180	T D	22. 0	54. 11	035745	038237	T D
Nov. 25. 0. 0	22. 54. 41	0·036993	0·038437	T D	Nov. 28. 0. 0	22. 57. 22	0·034578	0·038419	T D
1. 50	54. 26	037824	038993		1. 50	55. 50	036248	038519	
2. 0	53. 59	037868	038983		2. 0	56. 14	036248	038545	
2. 10	53. 40	037868	038993	T D	2. 10	56. 19	036314	038561	T D
4. 0	52. 14	038024	038704	H B	4. 0	53. 36	037140	038577	H B
6. 0	52. 5	038534	038697		6. 0	51. 56	037178	038432	
8. 0	51. 31	038204	038643		8. 0	51. 34	036922	038243	H B
10. 0	48. 23	039478	038547	H B	10. 0	50. 44	037074	038478	G
12. 0	50. 59	038105	038518	T D	12. 0	51. 24	037321	038290	Mr. Gould
14. 0	52. 26	037979	038338		14. 0	52. 45	036826	038576	L
16. 0	52. 26	038173	038550		16. 0	52. 22	036844	038158	T D
18. 0	51. 29	038156	038472		18. 0	51. 13	037055	038237	T D
20. 0	50. 34	037722	038405	T D	20. 0	51. 6	036897	038210	H B
22. 0	53. 2	037611	038459	L	22. 0	49. 58	036358	038141	G
Nov. 26. 0. 0	22. 53. 26	0·037338	0·038452	L	Nov. 29. 0. 0	22. 54. 0	0·036037	0·038447	T D
1. 50	53. 36	037985	038406		1. 50	55. 52	035646	038683	
2. 0	53. 21	037985	038406		2. 0	55. 21	035602	038667	
2. 10	53. 21	037985	038380	L	2. 10	54. 33	035005	038594	T D
4. 0	52. 38	038206	038662	T D	4. 0	54. 11	036493	038342	L
6. 0	51. 38	038140	038377		6. 0	47. 47	036715	038764	H B
8. 0	51. 25	038266	038443		8. 0	51. 49	036955	038588	T D
10. 0	51. 10	037933	038409	T D	10. 0	50. 38	037033	038475	G
12. 0	48. 20	037933	038214	L	12. 0	47. 23	037371	038302	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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^{s}\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^{s}\cdot 6$; in Vertical Plane, $26^{s}\cdot 7$.

DECLINATION MAGNET.
Nov. 29^{d}. Between 4^{h} and 6^{h} a considerable motion for the time of the day.

HORIZONTAL FORCE MAGNET.
Nov. 27^{d}. Between 20^{h} and 22^{h} a considerable change occurred.

VERTICAL FORCE MAGNET.
Nov. 24^{d} and 25^{d}. Between 0^{h} and $1^{h}. 50^{m}$ considerable changes occurred.

Daily Observations from November 30 to December 6.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Nov. 30. 14. 0	22. 53. 0	0 ·036381	0 ·037581	T D	Dec. 3. 14. 0	22. 39. 52	0 ·033533	0 ·038046	T D
16. 0	52. 40	037170	037842		16. 0	49. 3	033628	038021	
18. 0	51. 39	037902	038637		18. 0	53. 21	034173	038743	
20. 0	51. 39	037433	038434	T D	20. 0	53. 24	034804	038532	T D
22. 0	50. 54	036522	038068	L	22. 0	52. 17	035366	038241	L
Dec. 1. 0. 0	22. 53. 49	0 ·036556	0 ·038286	L	Dec. 4. 0. 0	22. 54. 44	0 ·035410	0 ·038500	L
{ 1. 50	55. 13	037389	038503		{ 1. 50	54. 53	036558	038663	
{ 2. 0	55. 13	037389	038503		{ 2. 0	54. 35	036558	038621	
{ 2. 10	55. 9	037389	038503	L	{ 2. 10	54. 43	036956	038621	L
4. 0	53. 19	037797	038688	T D	4. 0	52. 54	036905	038639	T D
6. 0	51. 57	037534	038044		6. 0	53. 27	037178	039097	
8. 0	51. 20	037655	037971		8. 0	52. 15	036898	038574	
10. 0	50. 4	036914	037189	T D	10. 0	51. 22	037041	038574	T D
12. 0	51. 34	037622	037922	L	12. 0	51. 6	036370	038411	L
14. 0	51. 23	037176	037893		14. 0	52. 25	035944	038442	
16. 0	51. 23	037578	038379		16. 0	53. 2	036676	038470	
18. 0	51. 40	037732	037846		18. 0	51. 57	037536	038343	
20. 0	52. 46	038039	037773	L	20. 0	53. 3	038370	038453	L
22. 0	53. 51	037561	037982	T D	22. 0	54. 51	036795	038599	T D
Dec. 2. 0. 0	22. 58. 11	0 ·037264	0 ·038803	T D	Dec. 5. 0. 0	22. 58. 40	0 ·037367	0 ·038539	T D
{ 1. 50	23. 0. 9	037508	039130		{ 1. 50	23. 0. 1	037926	039298	
{ 2. 0	0. 3	037508	039104		{ 2. 0	22. 59. 33	037638	039173	
{ 2. 10	23. 0. 3	037508	039078	T D	{ 2. 10	58. 36	037483	039116	T D
4. 0	22. 55. 59	037508	038785	L	4. 0	57. 49	036548	038919	L
6. 0	52. 0	037866	038367		6. 0	55. 50	036282	038998	
8. 0	51. 27	037662	038148	L	8. 0	52. 13	037475	038604	
10. 0	50. 5	037109	038176	T D	10. 0	50. 58	036964	038550	L
12. 0	49. 29	037274	038085	H B	12. 0	51. 11	036736	038258	H B
14. 0	52. 0	037554	038114		14. 0	50. 22	036987	038208	
16. 0	53. 24	037925	038250		16. 0	52. 19	036002	038101	
18. 0	51. 58	040031	038017		18. 0	52. 37	037591	038121	
20. 0	54. 36	038969	038049	H B	20. 0	52. 5	037727	038222	H B
22. 0	22. 55. 34	037186	038025	T D	22. 0	53. 27	036898	038174	T D
Dec. 3. 0. 0	23. 1. 18	0 ·035807	0 ·037758	T D	Dec. 6. 0. 0	22. 56. 38	0 ·037374	0 ·038773	T D
{ 1. 50	23. 0. 51	037774	038171		{ 1. 50	55. 32	038214	039589	
{ 2. 0	22. 59. 3	037110	038171		{ 2. 0	55. 32	038258	039563	
{ 2. 10	22. 58. 21	036889	038223	T D	{ 2. 10	55. 34	038413	039537	T D
4. 0	23. 2. 34	033243	039870	H B	4. 0	54. 40	037010	038706	H B
6. 0	22. 51. 10	033544	040376		6. 0	52. 0	037009	038492	
8. 0	46. 16	029227	039815		8. 0	52. 11	037254	038389	
10. 0	50. 35	030769	039502	H B	10. 0	51. 20	037250	038348	H B
12. 0	44. 52	030495	038646	T D	12. 0	49. 33	037086	037963	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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 6$; in Vertical Plane, $26^s \cdot 7$.

DECLINATION MAGNET.
Dec. 3^d, between 4^h and 6^h, and between 10^h and 16^h, the changes were considerable for the times of the day.

HORIZONTAL FORCE MAGNET.
Dec. 2^d, between 16^h and 18^h, a considerable change occurred; and on Dec. 3^d, between 2^h. 10^m and 4^h, between 6^h and 8^h, and between 12^h and 14^h, considerable changes took place.

VERTICAL FORCE MAGNET.
Dec. 3^d, considerable disturbances took place; Dec. 4^d, between 6^h and 8^h; Dec. 5^d, between 0^h and 1^h. 50^m, and between 22^h and 0^h; and on Dec. 6^d, between 0^h and 4^h, considerable changes occurred.

Daily Observations from December 7 to 13.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Dec. 7. 14. 0	22. 52. 14	0 ·036686	0 ·037697	T D	Dec. 10. 14. 0	22. 52. 8	0 ·038600	0 ·038396	T D
16. 0	52. 14	037214	037956		16. 0	52. 47	038600	038380	
18. 0	52. 14	037786	038209		18. 0	52. 21	038617	038320	
20. 0	50. 37	037694	038272	T D	20. 0	49. 56	038336	038269	T D
22. 0	51. 50	037500	038166	L	22. 0	50. 58	037646	038196	L
Dec. 8. 0. 0	22. 55. 13	0 ·037394	0 ·038272	L	Dec. 11. 0. 0	22. 53. 23	0 ·037663	0 ·038342	L
{ 1. 50	56. 9	038228	038959		{ 1. 50	54. 39	038718	038629	
{ 2. 0	56. 11	038449	038959		{ 2. 0	54. 51	038718	038660	
{ 2. 10	56. 0	038382	038917	L	{ 2. 10	54. 37	038940	038629	L
4. 0	53. 21	038628	039189	T D	4. 0	53. 12	038394	038452	T D
6. 0	51. 10	038584	039086		6. 0	50. 3	038275	038258	
8. 0	50. 43	039019	039045		8. 0	49. 51	037902	038111	
10. 0	50. 31	038924	038580	T D	10. 0	49. 57	038054	037975	T D
12. 0	50. 39	038566	038585	L	12. 0	48. 46	037297	037918	L
14. 0	51. 34	038370	038511		14. 0	50. 21	036914	037857	
16. 0	52. 2	038404	038410		16. 0	51. 1	037144	037693	
18. 0	52. 48	038515	038342		18. 0	50. 4	037665	037684	
20. 0	51. 57	039213	038384	L	20. 0	51. 9	037937	037642	L
22. 0	50. 56	039042	038280	T D	22. 0	51. 34	037162	037937	T D
Dec. 9. 0. 0	22. 53. 17	0 ·038846	0 ·038415	T D	Dec. 12. 0. 0	22. 54. 1	0 ·035978	0 ·038271	H B
{ 1. 50	54. 31	038981	038630		{ 1. 50	57. 59	037536	038491	
{ 2. 0	54. 31	038914	038588		{ 2. 0	57. 28	037581	038470	
{ 2. 10	54. 44	038803	038578	T D	{ 2. 10	56. 44	037558	038393	H B
4. 0	52. 14	038828	038615	L	4. 0	54. 7	037781	039080	L
6. 0	51. 42	038769	038268		6. 0	53. 13	037348	038378	
8. 0	51. 42	038497	038027		8. 0	53. 13	035714	038349	
10. 0	51. 4	038651	038181	L	10. 0	51. 52	037110	038189	L
12. 0	51. 30	038760	038126	H B	12. 0	51. 27	036831	038188	H B
14. 0	51. 41	038183	037931		14. 0	50. 43	036872	037958	
16. 0	52. 18	038754	037863		16. 0	52. 14	036897	037834	
18. 0	51. 14	039000	037815		18. 0	52. 25	037565	037841	
20. 0	52. 0	039171	037894	H B	20. 0	52. 5	037548	037688	H B
22. 0	52. 47	038425	037913	T D	22. 0	51. 51	037360	037627	T D
Dec. 10. 0. 0	22. 55. 48	0 ·037469	0 ·038111	T D	Dec. 13. 0. 0	22. 58. 19	0 ·035571	0 ·038099	L
{ 1. 50	58. 15	038056	038299		{ 1. 50	23. 3. 42	035656	038383	
{ 2. 0	57. 52	038233	038267		{ 2. 0	3. 59	035834	038383	
{ 2. 10	57. 31	038277	038241	T D	{ 2. 10	23. 2. 37	035988	038383	L
4. 0	55. 36	038151	038484	H B	4. 0	22. 57. 10	036061	038800	H B
6. 0	51. 21	038505	038303		6. 0	49. 36	036339	038800	
8. 0	51. 8	038454	038219		8. 0	49. 50	036029	038646	
10. 0	51. 5	038338	038281	H B	10. 0	39. 2	035247	038422	H B
12. 0	51. 28	038185	038317	T D	12. 0	48. 11	035656	038231	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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

DECLINATION MAGNET.
From Dec. 12d. 22h to Dec. 13d, 12h, considerable changes occurred.

VERTICAL FORCE MAGNET.
Dec. 12d. Between 2h. 10m and 4h, and between 4h and 6h, considerable changes occurred.

Daily Observations from December 14 to 20.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Dec. 14. 14. 0	22. 52. 13	0 ·037580	0 ·038268	T D	Dec. 17. 14. 0	22. 50. 50	0 ·037339	0 ·038146	L
16. 0	52. 31	037971	038381		16. 0	52. 2	038265	038628	T D
18. 0	53. 8	039112	039015		18. 0	52. 59	037926	038654	T D
20. 0	50. 9	039075	038481	T D	20. 0	52. 3	037818	038461	H B
22. 0	51. 2	037923	038539	H B	22. 0	52. 8	037848	038432	G
Dec. 15. 0. 0	22. 57. 9	0 ·035585	0 ·038335	L	Dec. 18. 0. 0	22. 54. 52	0 ·037110	0 ·038308	G
1. 50	57. 56	037841	038752		1. 50	59. 7	037942	038994	T D
2. 0	56. 53	037841	038633		2. 0	58. 43	037882	039116	
2. 10	56. 19	037885	038710	L	2. 10	57. 42	037627	039047	T D
4. 0	53. 44	038198	038690	T D	4. 0	54. 27	038111	038852	L
6. 0	51. 13	038044	038481		6. 0	45. 17	039067	039103	T D
8. 0	48. 33	037364	038347		8. 0	45. 13	039738	038649	H B
10. 0	49. 49	037390	038162	T D	10. 0	50. 28	038916	038611	G
12. 0	49. 42	037748	038030	G	12. 0	49. 28	038878	038267	T D
14. 0	50. 25	036913	037975	L	14. 0	50. 57	039040	038197	
16. 0	51. 47	037374	037763		16. 0	50. 57	038785	038101	
18. 0	53. 25	036805	037757		18. 0	51. 46	038530	038034	
20. 0	52. 30	036846	037907	L	20. 0	51. 23	038490	037878	T D
22. 0	52. 5	037282	038195	T D	22. 0	51. 44	038140	037842	L
Dec. 16. 0. 0	22. 54. 7	0 ·036854	0 ·038435	T D	Dec. 19. 0. 0	22. 53. 30	0 ·037791	0 ·037937	L
1. 50	56. 18	037589	038636	H B	1. 50	55. 33	037868	038195	
2. 0	57. 1	037678	038626		2. 0	55. 33	037824	038195	
2. 10	57. 2	037589	038569	H B	2. 10	55. 24	037868	038216	L
4. 0	52. 56	037771	038643	L	4. 0	53. 34	038855	038456	T D
6. 0	51. 4	037534	038623		6. 0	50. 44	038957	038407	
8. 0	47. 32	037756	038432		8. 0	50. 48	038736	038303	
10. 0	49. 29	037321	038211	L	10. 0	50. 36	038761	038239	T D
12. 0	46. 43	037516	038017	H B	12. 0	50. 24	038481	038116	L
14. 0	49. 30	037161	038152		14. 0	50. 6	038447	038005	
16. 0	53. 43	037018	038059		16. 0	50. 31	038468	037893	
18. 0	52. 32	037641	037874		18. 0	51. 4	039265	038020	
20. 0	54. 7	037433	037965	H B	20. 0	51. 33	039513	038063	L
22. 0	52. 50	036360	038106	T D	22. 0	51. 35	039742	038299	T D
Dec. 17. 0. 0	22. 53. 26	0 ·036726	0 ·038344	T D	Dec. 20. 0. 0	22. 53. 35	0 ·038484	0 ·038519	H B
1. 50	54. 39	037143	038607		1. 50	55. 9	038546	038419	
2. 0	54. 39	037032	038617		2. 0	55. 23	038723	038515	
2. 10	54. 26	037143	038617	T D	2. 10	55. 11	038635	038452	H B
4. 0	49. 27	036889	038553	H B	4. 0	53. 50	038421	038462	L
6. 0	51. 42	037472	038431		6. 0	52. 39	037783	038099	
8. 0	50. 21	037293	038263	H B	8. 0	51. 46	037613	037948	
10. 0	50. 54	037571	038211	G	10. 0	47. 48	037307	037997	L
12. 0	49. 57	037549	038221	G	12. 0	49. 59	037324	038105	H B

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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

DECLINATION MAGNET.
Dec. 14d, between 22h and 24h; Dec. 18d, between 4h and 6h, and between 8h and 10h, considerable changes took place for the times of the day.

HORIZONTAL FORCE MAGNET.
Dec. 14d, between 22h and 24h, and Dec. 15d, between 0h and 1h. 50m, considerable changes occurred.

VERTICAL FORCE MAGNET.
Dec. 14d, between 16h and 20h, and Dec. 18d, between 0h and 1h. 50m, considerable changes occurred.

Daily Observations from December 21 to 27.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Dec. 21. 14. 0	22. 52. 31	0·036877	0·037741	H B	Dec. 24. 14. 0	...	...	...	..
16. 0	52. 44	037342	037862		16. 0	...	...	...	..
18. 0	52. 3	038743	038113		18. 0	...	...	...	..
20. 0	52. 25	038478	038129	H B	20. 0	...	...	...	..
22. 0	52. 6	038109	038082	T D	22. 0	...	...	...	..
Dec. 22. 0. 0	22. 55. 23	0·037360	0·037955	L	Dec. 25. 0. 0	...	...	...	..
1. 50	54. 47	038290	038058		1. 50	...	...	...	..
2. 0	54. 47	038290	038089		2. 0	...	...	...	..
2. 10	54. 24	038245	038058	L	2. 10	...	...	...	..
4. 0	52. 58	038801	038523	H B	4. 0	...	...	...	..
6. 0	52. 44	038907	038365		6. 0	...	...	...	..
8. 0	49. 48	038620	038448		8. 0	...	...	...	..
10. 0	50. 51	039196	038561	H B	10. 0	...	...	...	..
12. 0	50. 51	038754	038388	L	12. 0	...	...	...	..
14. 0	50. 18	037255	038181		14. 0	22. 51. 28	0·036383	0·038114	H B
16. 0	51. 37	037613	038196		16. 0	51. 47	038088	038068	
18. 0	51. 8	037665	037994		18. 0	51. 36	038612	038083	
20. 0	52. 4	038159	037895	L	20. 0	51. 42	039052	038183	H B
22. 0	52. 39	038686	038346	T D	22. 0	51. 38	038601	038301	L
Dec. 23. 0. 0	22. 53. 57	0·038258	0·038199	H B	Dec. 26. 0. 0	22. 53. 33	0·038293	0·039118	L
1. 50	54. 55	038704	038287		1. 50	55. 5	038397	039002	
2. 0	54. 51	038660	038267		2. 0	55. 5	038641	039013	
2. 10	54. 53	038682	038231	H B	2. 10	55. 5	038751	039110	L
4. 0	53. 47	038285	038190	L	4. 0	53. 8	039264	039194	H B
6. 0	54. 13	037979	038137		6. 0	52. 19	039117	038896	
8. 0	51. 56	038005	038099		8. 0	52. 0	039427	038839	
10. 0	50. 52	037894	038067	L	10. 0	51. 59	039205	038966	H B
12. 0	51. 22	038005	038109	T D	12. 0	51. 33	039057	038889	L
14. 0	51. 27	037739	038014		14. 0	51. 51	039186	038834	
16. 0	51. 14	037562	038078		16. 0	51. 2	039127	038699	
18. 0	50. 41	037521	038055		18. 0	52. 9	038845	038496	
20. 0	50. 39	037569	038052	T D	20. 0	51. 17	039145	038375	L
22. 0	52. 29	037455	037759	H B	22. 0	52. 9	038795	038830	T D
Dec. 24. 0. 0	22. 57. 23	0·036721	0·038074	H B	Dec. 27. 0. 0	22. 55. 46	...	0·038925	T D
1. 50	57. 24	037873	038634		1. 50	55. 46	0·039928	038848	
2. 0	57. 14	037651	038608		2. 0	56. 18	039751	038977	
2. 10	56. 38	037607	038566	H B	2. 10	56. 11	039751	039003	
4. 0	53. 31	036828	038465	T D	4. 0	54. 31	039083	039423	T D
6. 0	51. 17	037364	038230		6. 0	52. 48	040271	038714	G
8. 0	51. 42	037348	038016		8. 0	51. 44	040233	038698	
10. 0	50. 1	037178	038106	T D	10. 0	49. 32	041260	038962	G
12. 0	50. 40	037334	037949	H B	12. 0	50. 11	040407	038856	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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·6$; in Vertical Plane, $26^s·7$.

HORIZONTAL FORCE MAGNET.
Dec. $27^d. 0^h$. No observation was taken of this magnet, its adjustments being under examination.

VERTICAL FORCE MAGNET.
Dec. 25^d, between 22^h and 24^h, and Dec. 27^d, between 4^h and 6^h, considerable changes occurred.

Daily Observations from December 28 to 31.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Dec. 28. 14. 0	22. 50. 56	0 ·041098	0 ·038253	T D	...	...	...	...	..
16. 0	51. 14	041441	038459		...	...	...	...	..
18. 0	50. 8	041348	038320		...	...	...	...	..
20. 0	51. 2	041440	038364	T D	...	...	...	...	..
22. 0	51. 30	041295	038281	H B	...	...	...	...	..
Dec. 29. 0. 0	22. 53. 52	0 ·041130	0 ·038510	H B	...	...	...	...	..
1. 50	54. 31	040309	039090		...	...	...	...	..
2. 0	54. 30	040221	039080		...	...	...	...	..
2. 10	54. 19	040309	039106	H B	...	...	...	...	..
4. 0	52. 47	040495	039074	T D	...	...	...	...	..
6. 0	50. 17	040646	038879		...	...	...	...	..
8. 0	50. 10	040740	038900		...	...	...	...	..
10. 0	49. 45	040569	039073	T D	...	...	...	...	..
12. 0	49. 55	040994	039002	G	...	...	...	...	..
14. 0	49. 55	040936	039008		...	...	...	...	..
16. 0	51. 31	040670	038603		...	...	...	...	..
18. 0	51. 13	039667	038418		...	...	...	...	..
20. 0	54. 37	040567	038633	G	...	...	...	...	..
22. 0	52. 38	040073	039135	T D	...	...	...	...	..
Dec. 30. 0. 0	22. 56. 39	0 ·039324	0 ·039060	T D	...	...	...	...	..
1. 50	59. 3	038907	039673		...	...	...	...	..
2. 0	22. 59. 48	038730	039689		...	...	...	...	..
2. 10	23. 2. 19	037646	039699	T D	...	...	...	...	..
4. 0	22. 59. 58	039919	040002	G	...	...	...	...	..
6. 0	48. 5	038977	039477		...	...	...	...	..
8. 0	49. 26	039247	039238		...	...	...	...	..
10. 0	45. 19	039239	038739	G	...	...	...	...	..
12. 0	49. 7	039050	038775	H B	...	...	...	...	..
14. 0	51. 39	039227	038840		...	...	...	...	..
16. 0	53. 14	039659	038711		...	...	...	...	..
18. 0	52. 37	039700	038919		...	...	...	...	..
20. 0	53. 3	039854	038391	H B	...	...	...	...	..
22. 0	53. 54	039207	038377	T D	...	...	...	...	..
Dec. 31. 0. 0	22. 55. 20	0 ·038628	0 ·038884	T D	...	...	...	...	..
1. 50	53. 44	038311	039158		...	...	...	...	..
2. 0	54. 13	038466	039158		...	...	...	...	..
2. 10	54. 29	038577	039148	T D	...	...	...	...	..
4. 0	53. 13	039175	039680	H B	...	...	...	...	..
6. 0	51. 49	037205	039276		...	...	...	...	..
8. 0	51. 15	039165	039110		...	...	...	...	..
10. 0	50. 7	039101	039223	H B	...	...	...	...	..
12. 0	49. 9	038807	039042	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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

DECLINATION MAGNET.
Dec. 30d. Between 4h and 6h the change was unusually large for the time of the day.

HORIZONTAL FORCE MAGNET.
Dec. 30d. Between 2h. 10m and 4h a considerable change occurred.

VERTICAL FORCE MAGNET.
Dec. 29d, 30d, and 31d. Considerable changes occurred.

ROYAL OBSERVATORY, GREENWICH.

TERM-DAY OBSERVATIONS

OF

MAGNETOMETERS.

1845.

Term-Day Observations of January 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Jan. 22. 10. 0	22. 57. 49	0·041665	0·042715	G	Jan. 22. 14. 0	22. 56. 7	0·041758	0·042750	D
5	57. 15	041445	042726		5	55. 44	041802	042729	
10	57. 24	041179	042731		10	55. 8	041802	042719	
15	57. 6	041401	042762		15	55. 4	041802	042708	
20	56. 57	041572	042762		20	54. 45	041691	042688	
25	56. 51	041704	042789		25	54. 45	041647	042673	
30	56. 52	041704	042763		30	54. 59	041642	042657	
35	56. 57	041704	042753		35	54. 47	041619	042662	
40	57. 6	041721	042763		40	54. 21	041575	042647	
45	57. 6	041699	042727		45	54. 9	041486	042631	
50	56. 57	041677	042737		50	54. 20	041420	042621	
55	56. 48	041677	042764		55	54. 31	041397	042611	
Jan. 22. 11. 0	22. 56. 33	0·041761	0·042774	G	Jan. 22. 15. 0	22. 54. 37	0·041348	0·042611	D
5	56. 48	041895	042806		5	54. 36	041392	042605	
10	56. 50	041939	042806		10	54. 28	041437	042600	
15	56. 50	042001	042790		15	54. 34	041503	042611	
20	57. 15	042067	042790		20	54. 50	041547	042590	
25	57. 57	042172	042827		25	54. 59	041570	042585	
30	57. 58	043854	042662		30	54. 57	041564	042605	D
35	49. 25	044469	042611		35	55. 17	041520	042595	L
40	48. 47	044978	042699		40	54. 49	041409	042579	
45	50. 7	045571	042663		45	54. 49	041409	042564	
50	51. 12	045770	042663		50	54. 55	041277	042574	
55	53. 19	045593	042700		55	55. 20	041409	042548	
Jan. 22. 12. 0	22. 55. 39	0·044902	0·042700	G	Jan. 22. 16. 0	22. 55. 19	0·041426	0·042543	L
5	56. 22	044348	042638		5	55. 19	041443	042570	
10	22. 58. 12	043816	042612		10	55. 3	041554	042518	
15	23. 0. 1	043014	042546		15	55. 20	041571	042544	
20	1. 35	041818	042484		20	55. 14	041571	042529	
25	1. 40	041061	042484		25	55. 14	041544	042571	
30	23. 0. 0	040750	042495		30	55. 9	041477	042520	
35	22. 57. 43	040967	042460	G	35	55. 6	041494	042546	
40	55. 57	040967	042486	D	40	55. 4	041494	042504	
45	55. 14	041566	042564		45	55. 2	041556	042520	
50	55. 30	041715	042569		50	54. 57	041573	042520	
55	55. 47	041693	042595		55	55. 16	041639	042547	
Jan. 22. 13. 0	22. 55. 32	0·041578	0·042653	D	Jan. 22. 17. 0	22. 55. 24	0·041767	0·042557	L
5	55. 0	041639	042653		5	55. 50	041767	042557	
10	54. 52	041700	042659		10	56. 8	041901	042521	
15	55. 0	041700	042679		15	56. 6	041967	042548	
20	55. 19	041739	042696		20	56. 11	042006	042548	
25	55. 49	041849	042722		25	56. 24	042006	042564	
30	56. 19	041910	042722		30	56. 15	042006	042553	
35	56. 30	041949	042754		35	56. 15	042006	042522	
40	56. 36	041861	042744		40	56. 15	042023	042538	
45	56. 44	041922	042765		45	56. 17	042177	042497	
50	56. 44	041983	042755		50	56. 13	042221	042466	
55	56. 36	041961	042770		55	56. 7	042243	042472	

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, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

Jan. 22d. 11h. 30m. After this observation additional observations were taken. (See the Section of Extraordinary Observations.)

Term-Day Observations of January 22 and 23.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″			
Jan. 22. 18. 0	22. 56. 10	0·042260	0·042431	L
5	55. 54	042277	042457	
10	55. 54	042294	042422	
15	55. 54	042422	042458	
20	55. 52	042373	042526	
25	55. 52	042345	042501	
30	55. 49	042235	042537	L
35	55. 56	042186	042554	H B
40	56. 5	042269	042570	
45	56. 26	042352	042528	
50	56. 56	042308	042565	
55	57. 31	042369	042597	
Jan. 22. 19. 0	22. 57. 56	0·042541	0·042608	H B
5	58. 0	042580	042650	
10	58. 0	042732	042557	
15	58. 2	042793	042593	
20	57. 53	042766	042584	
25	57. 27	042721	042548	
30	57. 11	042760	042548	
35	56. 50	042755	042533	
40	56. 41	042772	042611	
45	56. 34	042745	042446	
50	56. 22	042789	042498	
55	56. 41	042716	042525	
Jan. 22. 20. 0	22. 56. 52	0·042645	0·042545	H B
5	56. 35	042689	042561	
10	56. 33	042728	042535	
15	56. 55	042728	042536	
20	57. 7	042813	042547	
25	57. 17	042857	042547	
30	57. 29	042830	042552	
35	58. 21	042807	042554	
40	58. 27	042891	042512	
45	58. 26	042958	042486	
50	58. 16	042796	042476	
55	58. 11	042997	042461	
Jan. 22. 21. 0	22. 58. 35	0·042970	0·042477	H B
5	58. 40	042925	042446	
10	58. 7	042881	042436	
15	58. 23	042791	042425	
20	58. 41	043014	042405	
25	59. 12	043124	042446	
30	22. 59. 49	043274	042384	
35	23. 0. 10	043208	042374	
40	0. 13	043119	042353	
45	0. 22	043053	042332	H B
50	0. 3	042898	042306	G
55	0. 3	042719	042306	

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″			
Jan. 22. 22. 0	23. 0. 3	0·042626	0·042306	G
5	0. 3	042516	042306	
10	0. 3	042294	042306	
15	0. 3	042072	042306	
20	0. 3	042028	042306	
25	1. 2	042072	042327	
30	1. 52	042072	042332	
35	2. 6	042028	042332	
40	2. 17	041984	042332	
45	2. 40	042006	042358	
50	3. 7	041984	042358	
55	3. 12	041829	042368	
Jan. 22. 23. 0	23. 3. 14	0·041629	0·042363	G
5	2. 22	041568	042336	D
10	2. 31	041617	042357	
15	2. 46	041645	042315	
20	2. 39	041583	042326	
25	2. 19	041700	042299	
30	2. 12	041855	042288	
35	1. 29	041926	042278	
40	2. 12	041975	042252	D
45	3. 19	041936	042226	L
50	4. 0	041875	042262	
55	4. 32	041587	042226	
Jan. 23. 0. 0	23. 4. 32	0·041128	0·042190	L
5	4. 26	041211	042200	
10	3. 18	040829	042200	
15	2. 47	041068	042226	
20	2. 47	040863	042174	
25	2. 35	040880	042122	
30	2. 1	041058	042132	
35	1. 40	040853	042122	
40	1. 14	041136	042112	
45	1. 13	040976	042102	
50	0. 43	040909	042102	
55	0. 25	040948	042122	
Jan. 23. 1. 0	23. 0. 50	0·041298	0·042174	L
5	0. 57	041408	042122	
10	1. 23	041364	042148	L
15	2. 4	041497	042200	H B
20	2. 41	041696	042210	
25	3. 50	041785	042200	
30	3. 44	041612	042226	
35	3. 16	041436	042216	
40	1. 57	041170	042169	
45	1. 16	040904	042123	
50	1. 29	041126	042150	
55	2. 30	041037	042165	

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, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

Term-Day Observations of January 23.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Jan. 23. 2. 0	23. 3. 11	0·040976	0·042243	H B	Jan. 23. 6. 0	23. 0. 46	0·041105	0·042564	D
5	3. 49	040976	042253		5	0. 52	041228	042574	
10	3. 19	040710	042263		10	0. 34	041311	042564	
15	3. 52	040777	042269		15	0. 27	041395	042586	
20	3. 36	040091	042331		20	0. 17	041390	042612	
25	3. 8	040290	042331		25	0. 25	041362	042627	
30	3. 4	040329	042409		30	0. 18	041357	042617	
35	2. 39	040174	042424		35	23. 0. 12	041352	042618	
40	0. 47	040241	042455	H B	40	22. 59. 56	041241	042607	D
45	0. 53	039952	042444	L	45	59. 45	041280	042592	H B
50	0. 39	039620	042434		50	59. 31	041280	042572	
55	0. 28	039509	042434		55	59. 23	041319	042589	
Jan. 23. 3. 0	23. 0. 42	0·039195	0·042434	L	Jan. 23. 7. 0	22. 59. 16	0·041364	0·042614	H B
5	0. 31	039283	042414		5	59. 6	041275	042609	
10	1. 39	039416	042470		10	59. 5	041208	042599	
15	2. 16	039416	042565		15	58. 52	041364	042562	
20	2. 16	039261	042565		20	58. 44	041319	042551	
25	3. 14	039372	042451		25	58. 53	041253	042525	
30	3. 27	039389	042436		30	56. 35	041142	042510	
35	3. 3	039699	042430		35	56. 37	041231	042505	
40	2. 29	040097	042410		40	56. 33	041231	042489	
45	1. 55	040186	042426		45	56. 29	041364	042489	
50	2. 3	040319	042415		50	56. 37	041186	042474	
55	1. 54	040496	042415		55	56. 32	040965	042443	
Jan. 23. 4. 0	23. 1. 52	0·040540	0·042462	L	Jan. 23. 8. 0	22. 56. 33	0·040744	0·042453	H B
5	1. 35	040650	042420		5	57. 0	040633	042443	
10	2. 12	040872	042488		10	57. 2	040567	042431	
15	2. 4	040761	042488		15	57. 9	040506	042431	
20	2. 9	040982	042545		20	56. 56	040373	042457	
25	2. 22	040982	042644		25	56. 30	040329	042462	
30	2. 22	040744	042602		30	56. 26	040201	042441	
35	2. 28	040567	042618		35	56. 20	040156	042436	H B
40	1. 54	040302	042644	L	40	58. 40	040112	042390	G
45	2. 0	040080	042618	D	45	58. 53	039807	042416	
50	2. 0	040125	042582		50	57. 58	039807	042467	
55	1. 53	040213	042593		55	57. 34	039586	042441	
Jan. 23. 5. 0	23. 2. 12	0·039947	0·042593	D	Jan. 23. 9. 0	22. 56. 44	0·039365	0·042441	G
5	2. 31	040036	042516		5	56. 10	038700	042440	
10	2. 21	039881	042583		10	54. 28	038246	042440	
15	2. 11	039920	042609		15	54. 21	038030	042428	
20	1. 44	039898	042568		20	54. 21	038876	042464	
25	1. 10	040031	042547		25	52. 57	040514	042490	
30	1. 17	040159	042573		30	54. 39	041294	042490	
35	1. 0	040358	042584		35	22. 58. 31	041277	042463	
40	1. 2	040557	042594		40	23. 0. 38	040392	042437	
45	0. 50	041105	042594		45	23. 0. 41	040087	042265	
50	0. 35	041260	042621		50	22. 59. 34	040153	042188	
55	0. 42	041260	042600		55	57. 48	040314	042131	

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, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

Term-Day Observations of February 21.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Feb. 21. 10. 0	22. 54. 55	0·036414	0·043196	G	Feb. 21. 14. 0	22. 51. 12	0·035468	0·042987	H B
5	54. 52	036131	043102		5	50. 51	035407	042992	
10	50. 11	036109	043065		10	50. 33	035296	042991	
15	49. 43	035893	043039		15	50. 7	035368	043027	
20	48. 30	035827	043049		20	50. 2	035257	043027	
25	48. 10	035655	043060		25	49. 56	035307	043043	
30	47. 47	035766	043143		30	49. 46	035373	043053	
35	47. 28	035699	043159		35	49. 57	035329	043069	
40	47. 14	035616	043142		40	50. 9	035223	043105	
45	46. 53	035793	043152		45	49. 54	035223	043093	
50	46. 49	035793	043193		50	50. 30	035312	043119	
55	46. 49	035886	043167		55	50. 53	035206	043113	
Feb. 21. 11. 0	22. 47. 10	0·036285	0·043229	G	Feb. 21. 15. 0	22. 50. 19	0·035206	0·043119	H B
5	47. 38	036246	043239		5	50. 15	035273	043129	
10	47. 46	036251	043244		10	49. 51	035162	043170	
15	47. 59	036234	043227		15	49. 43	035300	043143	
20	48. 10	036345	043201		20	49. 32	035454	043153	
25	48. 18	036438	043201		25	49. 49	035543	043189	
30	48. 24	036089	043164		30	49. 46	035366	043205	
35	48. 28	036072	043138		35	49. 36	035366	043205	H B
40	48. 35	035944	043138		40	49. 36	035366	043247	L
45	48. 50	035529	043138		45	49. 27	035349	043231	
50	48. 50	035596	043111		50	49. 21	035349	043231	
55	48. 50	035623	043137		55	49. 21	035349	043241	
Feb. 21. 12. 0	22. 48. 47	0·035429	0·043101	G	Feb. 21. 16. 0	22. 49. 25	0·035349	0·043257	L
5	48. 5	035212	043084		5	49. 31	035327	043241	
10	47. 33	034863	043100		10	49. 53	035327	043236	
15	48. 36	035289	043162		15	49. 59	035305	043262	
20	49. 35	035494	043145		20	50. 5	035349	043273	
25	50. 40	035477	043119		25	50. 11	035261	043298	
30	51. 32	035570	043066		30	50. 22	035101	043360	
35	52. 3	035597	043030	G	35	50. 28	034968	043417	
40	53. 30	035912	043003	H B	40	50. 42	034968	043500	
45	53. 55	035519	042987		45	50. 47	034946	043490	
50	54. 21	035458	042914		50	50. 53	034857	043500	
55	53. 50	035485	042872		55	50. 39	034813	043500	
Feb. 21. 13. 0	22. 53. 20	0·035601	0·042836	H B	Feb. 21. 17. 0	22. 50. 19	0·034813	0·043506	L
5	52. 44	035534	042804		5	50. 24	034702	043490	
10	52. 5	035734	042794		10	50. 48	034702	043474	
15	52. 40	035800	042820		15	50. 45	034702	043500	
20	52. 41	035911	042810		20	50. 50	034768	043500	
25	52. 21	035911	042846		25	50. 59	034813	043490	
30	52. 28	035911	042882		30	51. 4	035118	043517	
35	52. 0	035911	042888		35	51. 16	035162	043517	
40	51. 56	035955	042888		40	51. 6	035140	043527	
45	51. 43	035955	042903		45	51. 6	035162	043501	
50	51. 45	035689	042951		50	51. 10	035317	043491	
55	51. 24	035512	042951		55	51. 1	035427	043512	

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, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

Term-Day Observations of February 21 and 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Feb. 21. 18. 0	22. 50. 58	0 ·035494	0 ·043522	L	Feb. 21. 22. 0	22. 54. 12	0 ·033690	0 ·043591	G
5	50. 55	035577	043522		5	53. 33	033552	043534	
10	50. 51	035754	043548		10	53. 43	033663	043560	
15	51. 3	035621	043548		15	53. 50	033907	043580	
20	50. 52	035505	043570		20	54. 7	034123	043622	
25	50. 37	035638	043570		25	54. 12	034405	043648	
30	49. 55	035816	043596		30	54. 30	034760	043633	
35	49. 55	035816	043596		35	54. 37	034693	043633	
40	50. 37	035877	043586	L	40	54. 22	034710	043633	
45	51. 11	035611	043606	D	45	54. 1	034710	043649	
50	51. 18	035589	043622		50	54. 9	034599	043649	
55	51. 40	035628	043639		55	54. 9	034616	043702	
Feb. 21. 19. 0	22. 51. 31	0 ·035562	0 ·043639	D	Feb. 21. 23. 0	22. 54. 40	0 ·034838	0 ·043738	G
5	51. 38	035606	043633		5	54. 57	034794	043738	G
10	51. 49	035562	043633		10	54. 44	034904	043675	H B
15	51. 51	035562	043639		15	54. 59	035015	043716	
20	51 41	035539	043639		20	55. 10	034949	043742	
25	51. 39	035495	043644		25	54. 31	034683	043691	
30	51. 8	035562	043617		30	53. 51	034616	043639	
35	50. 49	035562	043596		35	54. 38	035126	043654	
40	50. 18	035539	043586		40	55. 34	034705	043716	
45	51. 39	035606	043586		45	55. 39	035170	043649	
50	51. 36	035606	043580		50	56. 35	035325	043663	
55	51. 33	035695	043570		55	57. 16	035059	043679	
Feb. 21. 20. 0	22. 51. 42	0 ·035717	0 ·043570	D	Feb. 22. 0. 0	22. 57. 17	0 ·035502	0 ·043622	H B
5	51. 12	035788	043565		5	56. 33	035613	043580	L
10	50. 43	035788	043539		10	56. 22	035524	043596	
15	50. 59	035744	043539		15	55. 43	034904	043570	
20	50. 52	035683	043508		20	55. 18	035015	043487	
25	50. 36	035616	043492		25	55. 18	035214	043482	
30	50. 36	035505	043465		30	55. 59	035264	043478	
35	51. 7	035638	043465		35	56. 14	035441	043519	
40	51. 14	035577	043465		40	56. 27	035441	043535	
45	51. 10	035621	043439		45	56. 27	035507	043613	
50	51. 38	035666	043449		50	56. 50	035529	043597	
55	51. 45	035627	043422		55	57. 16	035529	043654	
Feb. 21. 21. 0	22. 51. 59	0 ·035715	0 ·043412	D	Feb. 22. 1. 0	22. 56. 49	0 ·035308	0 ·043623	L
5	52. 7	035649	043407		5	56. 41	034882	043592	
10	52. 45	035516	043434		10	56. 27	035298	043614	
15	52. 45	035334	043434		15	57. 32	035116	043676	
20	53. 1	035002	043429		20	57. 0	035221	043702	
25	53. 26	034736	043434		25	56. 44	034950	043666	L
30	53. 18	034514	043470		30	56. 46	034967	043755	H B
35	52. 59	034470	043481		35	57. 6	035316	043687	
40	53. 6	034492	043486	D	40	58. 9	035533	043792	
45	53. 11	034354	043491	G	45	22. 59. 16	035704	043865	
50	54. 7	034155	043528		50	23. 0. 17	035815	043912	
55	54. 16	033756	043544		55	0. 19	035655	043999	

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, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20^s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24^s·6; in Vertical Plane, 26^s·7.

Term-Day Observations of February 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Feb. 22. 2. 0	23. 0. 0	0·035340	0·044042	H B	Feb. 22. 6. 0	22. 54. 17	0·035849	0·044308	H B
5	22. 57. 11	035434	043902		5	54. 19	036004	044282	
10	59. 2	035611	043938		10	54. 13	036009	044256	
15	59. 21	035660	043870		15	54. 19	036053	044188	
20	58. 53	035577	043901		20	54. 11	036142	044157	
25	58. 21	035670	043896		25	54. 10	036208	044116	
30	58. 17	035604	043869	H B	30	54. 3	036302	044116	
35	58. 10	035609	043843	L	35	54. 7	036302	044065	H B
40	58. 3	035609	043843	L	40	53. 55	036546	044023	G
45	58. 8	035570	043816	D	45	53. 38	036723	043945	
50	58. 55	035730	043831		50	53. 7	036551	043971	
55	58. 47	035757	043857		55	53. 23	036285	043945	
Feb. 22. 3. 0	22. 58. 0	0·035337	0·043810	D	Feb. 22. 7. 0	22. 53. 25	0·036174	0·043903	G
5	57. 16	035133	043795		5	53. 38	036285	043893	
10	57. 23	035243	043805		10	53. 39	036334	043830	
15	57. 42	035570	043800		15	53. 33	036467	043815	
20	58. 3	035658	043883		20	53. 13	036489	043799	
25	58. 25	035831	043929		25	52. 17	036489	043789	
30	58. 14	035609	044034		30	52. 50	036472	043737	
35	57. 46	035604	044013		35	52. 56	036428	043691	
40	57. 42	035538	043997		40	52. 44	036495	043686	
45	57. 27	035444	044039		45	52. 35	036650	043660	
50	57. 21	035511	044039		50	52. 20	036677	043633	
55	57. 34	035726	044071		55	52. 18	036699	043633	
Feb. 22. 4. 0	22. 57. 43	0·036125	0·044082	D	Feb. 22. 8. 0	22. 52. 14	0·036677	0·043555	G
5	57. 52	036031	044134		5	52. 0	036694	043582	
10	58. 6	035876	044170		10	51. 46	036684	043609	
15	58. 55	035783	044213		15	51. 46	036346	043635	
20	58. 0	034981	044207		20	52. 7	036275	043661	
25	57. 20	034422	044223		25	51. 55	036331	043672	
30	56. 56	034555	044208	D	30	52. 1	036326	043715	
35	55. 55	034461	044260	H B	35	51. 56	036232	043741	
40	54. 41	033509	044250		40	52. 1	036160	043757	G
45	54. 15	033261	044225		45	51. 44	036300	043784	L
50	52. 42	033145	044184		50	51. 37	036361	043873	
55	50. 40	033848	044190		55	51. 27	036439	043873	
Feb. 22. 5. 0	22. 49. 21	0·034416	0·044304	H B	Feb. 22. 9. 0	22. 50. 26	0·036727	0·043879	L
5	48. 18	034640	044372		5	51. 1	036860	043894	
10	48. 35	035415	044408		10	50. 56	036727	043874	
15	49. 6	035874	044512		15	51. 2	036744	043874	
20	50. 1	035869	044553		20	50. 31	036656	043843	
25	50. 32	036285	044549		25	49. 46	036567	043817	
30	50. 54	036152	044580		30	45. 41	036301	043801	
35	51. 29	036169	044539		35	44. 32	036434	043744	
40	52. 44	036346	044524		40	43. 50	036855	043718	
45	53. 50	036252	044488		45	44. 12	037093	043744	
50	54. 12	036053	044178		50	44. 56	037292	043796	
55	54. 0	035893	044426		55	45. 36	037425	043770	

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, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·6$; in Vertical Plane, $26^s·7$.

Term-Day Observations of March 19.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Mar. 19. 10. 0	22. 48. 56	0 ·035034	0 ·044109	G	Mar. 19. 14. 0	22. 48. 41	0 ·036842	0 ·043329	D
5	51. 32	034348	044135		5	47. 59	036598	043329	
10	52. 29	034769	044135		10	47. 3	036404	043255	
15	52. 53	034990	044186		15	46. 59	035961	043255	
20	53. 14	035544	044186		20	46. 51	035762	043276	
25	53. 33	035654	044186		25	46. 14	035363	043260	
30	54. 0	035654	044161		30	46. 22	035080	043234	
35	54. 25	035654	044161		35	46. 44	034903	043255	
40	56. 26	036097	044161		40	48. 28	034770	043281	
45	56. 32	036562	044135		45	51. 15	034682	043328	
50	57. 1	036562	044057		50	52. 42	034377	043374	
55	22. 58. 22	036983	044031		55	54. 12	034178	043359	
Mar. 19. 11. 0	23. 0. 23	0 ·036983	0 ·044031	G	Mar. 19. 15. 0	22. 56. 8	0 ·034134	0 ·043395	D
5	0. 57	036412	044004		5	56. 50	034156	043395	
10	23. 0. 15	036301	043962		10	56. 53	034355	043368	
15	22. 59. 22	036174	043833		15	56. 45	034803	043388	
20	57. 22	035869	043744		20	56. 36	035246	043383	
25	56. 24	035852	043692		25	56. 33	035622	043383	
30	55. 32	035852	043641		30	56. 21	035932	043347	
35	55. 32	036123	043615		35	56. 22	036309	043357	D
40	54. 10	036278	043589		40	55. 58	036397	043327	H B
45	53. 45	036659	043562		45	55. 8	036380	043270	
50	53. 41	036421	043526		50	53. 57	036336	043212	
55	53. 14	036293	043510		55	52. 37	036269	043222	
Mar. 19. 12. 0	22. 52. 45	0 ·036182	0 ·043457	G	Mar. 19. 16. 0	22. 51. 33	0 ·036159	0 ·043186	H B
5	52. 15	036182	043457		5	51. 0	036269	043206	
10	51. 27	036199	043484		10	51. 1	036225	043222	
15	51. 26	036310	043510		15	50. 21	036309	043232	
20	52. 30	036532	043536		20	50. 6	036353	043191	
25	53. 14	036532	043536		25	49. 57	036397	043325	
30	53. 53	036615	043562		30	49. 57	036353	043311	
35	54. 6	036549	043562	G	35	49. 43	036242	043321	
40	53. 23	036017	043500	D	40	49. 35	036198	043327	
45	53. 42	035818	043449		45	49. 13	036193	043321	
50	53. 48	035592	043476		50	49. 13	036148	043347	
55	54. 28	035414	043465		55	49. 27	036148	043342	
Mar. 19. 13. 0	22. 53. 49	0 ·035547	0 ·043476	D	Mar. 19. 17. 0	22. 49. 51	0 ·035971	0 ·043383	H B
5	53. 33	035636	043491		5	49. 55	035645	043388	
10	53. 26	035747	043476		10	50. 21	035534	043372	
15	52. 47	035818	043459		15	51. 10	035583	043408	
20	52. 28	036128	043454		20	51. 45	035672	043418	
25	53. 22	036438	043469		25	52. 32	035655	043438	
30	52. 57	036549	043495		30	53. 3	035655	043423	
35	52. 9	036682	043505		35	53. 10	035721	043433	
40	51. 36	036903	043474		40	53. 29	035505	043438	
45	50. 28	036908	043438		45	53. 26	035461	043428	
50	49. 40	037173	043339		50	52. 53	035416	043392	
55	49. 13	036908	043371		55	51. 52	035134	043376	

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, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·6$; in Vertical Plane, $26^s·7$.

Term-Day Observations of March 19 and 20.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Mar. 19. 18. 0	22. 51. 16	0 ·035554	0 ·043371	H B	Mar. 19. 22. 0	22. 55. 36	0 ·034971	0 ·044054	G
5	52. 22	035117	043385		5	56. 14	034573	044003	
10	51. 52	035338	043401		10	56. 53	034241	043977	
15	52. 3	035338	043396		15	57. 13	033577	043951	
20	52. 34	035321	043443		20	57. 17	033577	043909	
25	52. 11	035587	043436		25	57. 29	033466	043925	
30	53. 17	035587	043426		30	57. 50	033422	043941	
35	53. 21	035764	043452		35	58. 35	033400	043930	
40	53. 10	036012	043431	H B	40	58. 29	033178	043925	
45	53. 35	036012	043513	L	45	58. 34	032912	043899	
50	53. 54	035968	043399		50	58. 53	032912	043899	
55	54. 6	035907	043466		55	59. 18	032691	043925	
Mar. 19. 19. 0	22. 54. 20	0 ·036106	0 ·043285	L	Mar. 19. 23. 0	22. 59. 17	0 ·032691	0 ·043925	G
5	53. 53	036173	043476		5	57. 26	033090	043898	D
10	53. 6	036195	043476		10	56. 35	033294	043914	
15	52. 43	035995	043486		15	56. 37	033604	043893	
20	52. 6	036040	043450		20	57. 20	034002	043861	
25	52. 12	035995	043481		25	59. 11	033737	043866	
30	52. 22	035934	043502		30	59. 11	033366	043871	
35	52. 25	035868	043512		35	22. 59. 40	033521	043855	
40	53. 44	035801	043424		40	23. 0. 12	033587	043809	
45	54. 1	035912	043519		45	0. 41	033764	043803	
50	53. 48	035558	043508		50	1. 2	033902	043730	
55	53. 36	035624	043529		55	1. 47	033880	043683	D
Mar. 19. 20. 0	22. 53. 25	0 ·035757	0 ·043529	L	Mar. 20. 0. 0	23. 1. 43	0 ·034300	0 ·043662	L
5	53. 8	035713	043555		5	2. 8	034650	043533	
10	52. 48	035580	043555		10	2. 47	034451	043455	
15	52. 25	035580	043528		15	2. 56	034445	043456	
20	52. 24	035492	043538		20	2. 56	034623	043388	
25	52. 28	035425	043538		25	3. 10	034684	043445	
30	52. 37	035425	043538		30	3. 25	034905	043378	
35	52. 23	035425	043528		35	4. 11	034878	043347	
40	52. 36	035425	043647		40	4. 28	034922	043363	
45	52. 26	035514	043544		45	4. 28	034983	043508	
50	52. 26	035536	043502		50	4. 56	034784	043467	
55	52. 43	035425	043502		55	4. 36	034735	043477	
Mar. 19. 21. 0	22. 52. 47	0 ·035425	0 ·043502	L	Mar. 20. 1. 0	23. 3. 55	0 ·034358	0 ·043431	L
5	52. 47	035486	043549		5	3. 45	034575	043380	
10	53. 0	035388	043674		10	3. 34	034476	043484	
15	53. 18	035382	043643		15	3. 34	034360	043537	L
20	53. 31	035134	043696		20	3. 18	034416	043558	H B
25	53. 3	035195	043739		25	3. 38	035031	043565	
30	52. 52	035229	043770		30	5. 58	036393	043644	
35	53. 5	035423	043808		35	5. 23	035945	043834	
40	53. 47	035374	043792	L	40	5. 41	036029	043758	
45	55. 33	035391	043923	G	45	5. 18	035664	043765	
50	55. 46	035092	043974		50	4. 50	035526	043740	
55	55. 46	035065	044002		55	4. 47	035605	043767	

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, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20^{s}·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24^{s}·6; in Vertical Plane, 26^{s}·7.

Term-Day Observations of March 20.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Mar. 20. 2. 0	23. 4. 51	0·035688	0·043814	H B	Mar. 20. 6. 0	22. 52. 16	0·033173	0·044976	D
5	4. 46	035882	043814		5	51. 11	033195	045096	
10	4. 36	035926	043794		10	52. 58	032730	045261	
15	4. 41	035833	043762		15	54. 54	032304	045318	
20	4. 15	035739	043742		20	55. 26	032526	045339	
25	4. 4	035977	043758		25	54. 32	033212	045304	
30	4. 1	036022	043795		30	55. 36	033522	045216	
35	3. 57	035950	043780		35	57. 15	033986	045159	
40	3. 52	036172	043769	H B	40	58. 39	033810	045066	D
45	3. 52	036233	043718	L	45	58. 56	033694	045051	H B
50	3. 32	036648	043676		50	59. 15	033981	044906	
55	3. 10	036709	043693		55	59. 3	034469	044887	
Mar. 20. 3. 0	23. 3. 25	0·036864	0·043693	L	Mar. 20. 7. 0	22. 58. 53	0·034757	0·044861	H B
5	3. 4	036904	043745		5	59. 2	034801	044803	
10	2. 57	036938	043705		10	58. 26	034845	044653	
15	2. 51	036888	043748		15	58. 41	034889	044611	
20	2. 51	036972	043770		20	59. 6	034867	044533	
25	2. 48	036989	043787		25	59. 2	034956	044466	
30	2. 48	036978	043793		30	58. 41	035310	044367	
35	2. 33	036663	043841		35	58. 22	035908	044300	
40	2. 40	036282	043867		40	58. 42	035952	044316	
45	1. 23	036697	043869		45	58. 25	035509	044238	
50	1. 41	037373	043957		50	57. 49	035642	044206	
55	1. 56	037390	044026		55	58. 8	035332	044160	
Mar. 20. 4. 0	23. 1. 54	0·036699	0·044048	L	Mar. 20. 8. 0	22. 58. 3	0·035288	0·044119	H B
5	0. 58	036096	043976		5	58. 27	035271	044083	
10	0. 25	035444	043925		10	58. 27	034939	044040	
15	0. 25	036634	043911		15	57. 41	035165	044004	
20	0. 25	036845	043978		20	57. 37	035126	043972	
25	0. 44	038190	044040		25	57. 32	035131	043946	
30	0. 25	038025	044187		30	57. 18	035175	043909	
35	0. 12	037577	044187		35	57. 22	035269	043909	
40	0. 9	037439	044146		40	57. 34	035402	043945	H B
45	23. 0. 1	037628	044188		45	57. 38	035385	043841	G
50	22. 59. 38	037690	044236	L	50	57. 43	035562	043841	
55	22. 59. 48	037679	044277	D	55	57. 37	035567	043805	
Mar. 20. 5. 0	23. 0. 7	0·037829	0·044304	D	Mar. 20. 9. 0	22. 57. 30	0·035567	0·043805	G
5	0. 31	037891	044346		5	57. 16	035501	043780	
10	1. 38	037154	044439		10	57. 17	035412	043737	
15	1. 21	036640	044481		15	57. 29	035302	043727	
20	1. 48	035976	044471		20	57. 36	035302	043701	
25	23. 1. 14	035373	044518		25	57. 39	035302	043701	
30	22. 59. 47	034461	044591		30	57. 40	035302	043674	
35	57. 15	033614	044617		35	57. 45	035346	043674	
40	56. 19	034450	044685		40	57. 45	035390	043674	
45	55. 46	034334	044784		45	57. 48	035346	043648	
50	54. 37	034068	044867		50	57. 48	035346	043648	
55	53. 9	033421	044903		55	57. 48	035346	043622	

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, 227°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 6$; in Vertical Plane, $26^s \cdot 7$.

Term-Day Observations of April 23.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Apr. 23. 10. 0	22. 57. 23	0 ·036883	0 ·042954	G	Apr. 23. 14. 0	22. 58. 41	0 ·036467	0 ·042612	D
5	57. 23	036734	042938		5	58. 20	036517	042574	
10	57. 23	036822	042885		10	58. 6	036594	042537	
15	57. 40	036960	042906		15	57. 49	036488	042536	
20	57. 45	036987	042880		20	57. 40	036249	042488	
25	57. 59	037325	042859		25	57. 45	036122	042494	
30	57. 10	036926	042791		30	57. 53	036149	042461	
35	56. 26	036467	042734		35	58. 3	036176	042467	
40	55. 52	036356	042734		40	58. 10	036137	042450	
45	56. 7	036250	042713		45	58. 7	036436	042407	
50	56. 31	036211	042739		50	58. 33	036529	042428	
55	57. 18	036858	042729		55	58. 19	036490	042385	
Apr. 23. 11. 0	22. 58. 5	0 ·037301	0 ·042770	G	Apr. 23. 15. 0	22. 57. 58	0 ·036495	0 ·042359	D
5	58. 5	037062	042800		5	58. 3	036345	042353	
10	58. 2	036664	042717		10	57. 40	036240	042337	
15	57. 36	036603	042690		15	57. 32	036223	042311	
20	57. 36	036586	042700		20	57. 39	036294	042299	
25	57. 36	...	042674		25	58. 11	036211	042315	
30	57. 36	036790	042658		30	58. 22	036105	042288	
35	58. 33	036662	042631		35	58. 43	036110	042272	
40	57. 54	036065	042611		40	58. 43	036093	042260	D
45	58. 2	036203	042610		45	58. 22	036076	042276	L
50	58. 33	036518	042584		50	57. 50	036059	042259	
55	58. 11	036656	042584		55	57. 43	036087	042233	
Apr. 23. 12. 0	22. 58. 13	0 ·036678	0 ·042589	G	Apr. 23. 16. 0	22. 57. 32	0 ·036070	0 ·042217	L
5	58. 13	036661	042578		5	57. 48	036008	042190	
10	58. 13	036627	042551		10	57. 10	035991	042196	
15	58. 13	036610	042551		15	57. 11	035930	042179	
20	58. 13	036576	042567		20	56. 54	035908	042179	
25	58. 2	036382	042577		25	56. 49	035780	042179	
30	57. 56	036348	042545		30	57. 2	035807	042199	
35	57. 56	036154	042556	G	35	56. 52	035724	042203	
40	57. 59	036358	042582	D	40	56. 36	035685	042187	
45	58. 27	036479	042581		45	56. 34	035624	042202	
50	58. 37	036418	042622		50	56. 37	035624	042197	
55	58. 38	036406	042607		55	56. 38	035607	042218	
Apr. 23. 13. 0	22. 58. 28	0 ·036278	0 ·042627	D	Apr. 23. 17. 0	22. 56. 39	0 ·035590	0 ·042212	L
5	58. 35	036195	042606		5	56. 39	035573	042201	
10	58. 39	036178	042636		10	56. 39	035551	042217	
15	58. 39	036095	042599		15	56. 47	035556	042252	
20	58. 39	035989	042619		20	56. 49	035583	042242	
25	58. 41	036083	042609		25	56. 34	035566	042241	
30	58. 52	036154	042624		30	56. 37	035566	042277	
35	58. 55	036093	042634		35	56. 37	035549	042323	
40	58. 57	036164	042618		40	56. 37	035549	042338	
45	58. 55	036479	042586		45	56. 32	035554	042354	
50	59. 16	036723	042607		50	56. 28	035515	042353	
55	58. 56	036684	042622		55	56. 39	035542	042358	

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, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20ˢ·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24ˢ·6; in Vertical Plane, 26ˢ·7.

Term-Day Observations of April 23 and 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Apr. 23. 18. 0	22. 56. 39	0 ·035564	0 ·042363	L	Apr. 23. 22. 0	22. 56. 26	0 ·033863	0 ·042711	G
5	57. 1	035547	042357		5	56. 30	033703	042711	
10	57. 5	035614	042378		10	56. 18	033659	042762	
15	57. 8	035530	042377		15	56. 35	033897	042711	
20	57. 0	035469	042356		20	56. 35	033897	042737	
25	57. 0	035563	042387		25	56. 54	033914	042737	
30	57. 21	035386	042386		30	57. 2	033693	042764	
35	57. 33	035236	042376	L	35	57. 7	033516	042790	
40	57. 15	035413	042360	H B	40	57. 7	033710	042815	
45	57. 34	035374	042365		45	57. 22	033820	042867	
50	57. 21	035396	042349		50	58. 25	033842	042841	
55	57. 29	035379	042365		55	58. 57	033904	042868	
Apr. 23. 19. 0	22. 57. 26	0 ·035357	0 ·042339	H B	Apr. 23. 23. 0	22. 59. 5	0 ·033837	0 ·042868	G
5	57. 13	035396	042354		5	59. 44	033788	042868	G
10	57. 10	035418	042390		10	22. 59. 57	033500	042843	D
15	56. 40	035413	042385		15	23. 0. 19	033473	042858	
20	56. 57	035413	042411		20	0. 34	033401	042843	
25	56. 56	035430	042457		25	0. 46	033440	042822	
30	57. 8	035474	042406		30	1. 9	033374	042812	
35	57. 1	035540	042447		35	1. 41	033502	042822	
40	56. 39	035513	042509		40	2. 1	033524	042807	
45	56. 37	035447	042519		45	2. 16	033608	042786	
50	56. 26	035381	042550		50	2. 40	033713	042755	
55	56. 22	035287	042560		55	3. 8	033797	042734	D
Apr. 23. 20. 0	22. 55. 58	0 ·035243	0 ·042565	H B	Apr. 24. 0. 0	23. 3. 30	0 ·033642	0 ·042697	L
5	55. 47	035115	042571		5	3. 42	033659	042677	
10	55. 27	035093	042581		10	3. 56	033659	042713	
15	55. 19	034943	042581		15	4. 22	033609	042689	
20	55. 34	034832	042586		20	4. 37	033676	042756	
25	55. 52	034815	042623		25	4. 53	033582	042700	
30	56. 22	034860	042633		30	5. 15	033559	042706	
35	56. 24	034771	042638		35	5. 34	033576	042696	
40	56. 52	034820	042649		40	5. 53	033665	042676	
45	56. 54	034865	042617		45	6. 9	033727	042692	
50	56. 57	034754	042623		50	6. 28	033727	042709	
55	56. 53	034671	042623		55	6. 53	033921	042693	
Apr. 23. 21. 0	22. 57. 4	0 ·034626	0 ·042649	H B	Apr. 24. 1. 0	23. 7. 12	0 ·033965	0 ·042709	L
5	57. 14	034493	042617		5	7. 24	033861	042747	
10	57. 1	034449	042602		10	7. 32	034006	042774	
15	56. 52	034333	042659		15	7. 51	034433	042786	
20	56. 47	034289	042669		20	8. 20	034578	042838	
25	56. 39	034245	042664		25	8. 41	034850	042866	L
30	56. 29	034134	042669		30	9. 21	035189	042966	H B
35	56. 12	034024	042685	H B	35	9. 46	035334	042983	
40	56. 12	034178	042664	G	40	10. 0	035385	043005	
45	56. 19	033974	042695		45	10. 18	035640	043007	
50	56. 11	033863	042726		50	10. 47	035868	043065	
55	56. 28	033863	042711		55	10. 33	035659	043092	

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°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·6$; in Vertical Plane, $26^s·7$.

Term-Day Observations of April 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Apr. 24. 2. 0	23. 10. 33	0·035754	0·043115	H B	Apr. 24. 6. 0	23. 5. 37	0·037737	0·043500	D
5	10. 37	036015	043109		5	5. 30	037980	043484	
10	11. 9	036214	043110		10	5. 11	038108	043457	
15	11. 11	036032	043152		15	5. 3	038174	043473	
20	11. 24	036115	043157		20	4. 57	038152	043493	
25	11. 1	035911	043163		25	4. 39	037865	043504	
30	11. 2	035933	043185		30	4. 46	037372	043472	
35	11. 15	035573	043170	H B	35	5. 9	036509	043467	
40	10. 25	035241	043165	L	40	4. 52	036176	043411	D
45	9. 53	035479	043130		45	4. 23	036132	043385	H B
50	10. 19	035541	043166		50	3. 49	035950	043374	
55	10. 19	034562	043131		55	3. 28	035906	043358	
Apr. 24. 3. 0	23. 8. 24	0·034760	0·043105	L	Apr. 24. 7. 0	23. 3. 33	0·036016	0·043342	H B
5	8. 49	035769	043184		5	2. 55	035977	043342	
10	9. 23	036246	043289		10	2. 49	035999	043332	
15	9. 23	036479	043285		15	2. 38	036026	043332	
20	9. 15	036867	043338		20	2. 43	036026	043332	
25	9. 9	037034	043309		25	2. 22	035810	043316	
30	9. 13	037798	043331		30	2. 7	035877	043301	
35	9. 44	038010	043399		35	1. 54	036053	043296	
40	9. 44	038708	043458		40	1. 55	035617	043275	
45	9. 31	039085	043505		45	1. 55	035948	043264	
50	9. 34	040060	043548		50	2. 3	035838	043264	
55	9. 44	039341	043585		55	1. 47	035843	043197	
Apr. 24. 4. 0	23. 9. 20	0·039287	0·043586	L	Apr. 24. 8. 0	23. 1. 38	0·035843	0·043192	H B
5	9. 20	039038	043597		5	1. 32	035710	043172	
10	9. 5	038750	043525		10	1. 5	035782	043135	
15	8. 49	039166	043484		15	0. 44	035759	043089	
20	9. 8	038635	043463		20	0. 30	035892	043120	
25	8. 56	038186	043427		25	0. 30	036047	043120	H B
30	8. 1	037898	043406		30	0. 22	035853	043120	G
35	8. 23	037717	043433		35	0. 22	035853	043026	
40	8. 2	037761	043392	L	40	0. 25	035897	043026	
45	7. 58	037623	043449	D	45	0. 29	035963	043031	
50	7. 33	037335	043372		50	0. 19	035991	043042	
55	6. 58	037064	043352		55	23. 0. 17	035880	043016	
Apr. 24. 5. 0	23. 6. 38	0·036909	0·043342	D	Apr. 24. 9. 0	22. 59. 58	0·035836	0·042979	G
5	6. 11	036661	043342		5	22. 59. 53	035853	042979	
10	6. 45	037214	043311		10	23. 0. 2	035853	042968	
15	6. 48	037474	043378		15	0. 11	035870	042968	
20	6. 42	037403	043399		20	0. 18	035914	042968	
25	6. 42	037841	043384		25	23. 0. 1	035931	042968	
30	6. 46	038261	043437		30	22. 59. 52	035931	042942	
35	6. 25	038189	043442		35	59. 25	035865	042942	
40	6. 24	038389	043431		40	59. 25	035948	042937	
45	6. 18	038339	043473		45	59. 26	035948	042932	
50	6. 14	038140	043457		50	59. 26	035904	042899	
55	5. 58	037980	043495		55	59. 20	035921	042905	

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, 220°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

Term-Day Observations of May 30.

Gottingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
May 30. 10. 0	22. 55. 15	0 ·037663	0 ·041946	G	May 30. 14. 0	22. 51. 39	0 ·036584	0 ·041015	L
5	54. 46	037308	041951		5	51. 26	036722	041020	
10	54. 46	037353	041951		10	51. 5	036900	041005	
15	54. 43	037419	041941		15	50. 22	037148	040979	
20	54. 22	037419	041941		20	49. 13	037148	040979	
25	54. 1	037419	041941		25	49. 1	037131	040952	
30	53. 55	037242	041941		30	48. 56	036866	040926	
35	53. 55	037021	041931		35	48. 49	036733	040936	
40	53. 55	036866	041931		40	48. 49	036782	040909	
45	53. 55	036800	041925		45	50. 6	036849	040996	
50	53. 55	036866	041925		50	49. 53	036849	040970	
55	53 55	036866	041941		55	50. 15	036876	040970	
May 30. 11. 0	22. 53. 36	0 ·036866	0 ·041915	G	May 30. 15. 0	22. 50. 3	0 ·036876	0 ·040944	L
5	52. 48	036645	041915		5	50. 3	036876	040944	
10	52. 47	036628	041888		10	50. 14	036859	040933	
15	52. 36	036611	041888		15	50. 22	036770	040943	
20	52. 21	036588	041862		20	50. 32	036593	040917	
25	52. 9	036527	041846		25	50. 40	036526	040948	
30	50. 24	036527	041809		30	50. 47	036620	040931	
35	50. 8	036594	041809		35	50. 55	036465	040967	
40	49. 45	036577	041819		40	50. 49	036377	040978	L
45	49. 43	036688	041793		45	50. 58	036288	040967	D
50	49. 51	036732	041793		50	51. 1	036205	040983	
55	50. 14	036715	041773		55	51. 1	036205	040973	
May 30. 12. 0	22. 50. 41	0 ·036493	0 ·041767	G	May 30. 16. 0	22. 51. 17	0 ·036183	0 ·041004	D
5	51. 11	036459	041714		5	51. 28	036161	041025	
10	51. 25	036469	041625		10	51. 33	036161	041045	
15	51. 34	036458	041624		15	52. 7	036254	041066	
20	51. 54	036335	041561		20	52. 28	036299	041076	
25	52. 0	036301	041518		25	52. 35	036321	041091	
30	52. 3	036228	041439		30	52. 59	036365	041107	
35	51. 44	036127	041386		35	53. 11	036387	041133	
40	51. 28	036160	041328	G	40	53. 18	036365	041159	
45	51. 35	036259	041281	L	45	53. 46	036348	041174	
50	51. 43	036180	041232		50	54. 17	036326	041200	
55	51. 53	036102	041159		55	54. 58	036326	041232	
May 30. 13. 0	22. 51. 53	0 ·036068	0 ·041117	L	May 30. 17. 0	22. 55. 40	0 ·036304	0 ·041257	D
5	51. 59	036073	041100		5	55. 58	036392	041268	
10	51. 56	036212	041095		10	56. 11	036458	041283	
15	52. 0	036217	041095		15	56. 4	036592	041283	
20	52. 18	036327	041095		20	56. 4	036769	041283	
25	52. 31	036399	041069		25	55. 47	036901	041309	
30	52. 26	036382	041090		30	54. 11	037123	041324	
35	52. 54	036365	041058		35	54. 23	037278	041314	
40	52. 48	036348	041058		40	53. 46	037278	041293	
45	50. 22	036463	041032		45	53. 9	037322	041278	
50	52. 5	036463	041032		50	52. 26	037256	041257	
55	51. 51	036535	041015		55	51. 56	037168	041252	

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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

Term-Day Observations of May 30 and 31.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
May 30. 18. 0	22. 51. 29	0·037145	0·041262	D	May 30. 22. 0	22. 58. 25	0·035643	0·041368	G
5	51. 22	037151	041235		5	58. 5	035549	041394	
10	51. 8	037244	041209		10	58. 37	035544	041420	
15	51. 6	037227	041198		15	58. 40	035583	041447	
20	50. 57	037337	041192		20	58. 52	035583	041447	
25	50. 57	037375	041177		25	58. 56	035600	041468	
30	50. 51	037237	041176		30	59. 24	035772	041495	
35	50. 37	037176	041160	D	35	22. 59. 49	035923	041547	
40	50. 31	037159	041143	H B	40	23. 0. 28	035895	041578	
45	50. 47	037098	041158		45	0. 16	035912	041600	
50	50. 57	037120	041148		50	0. 41	035957	041595	
55	51. 5	037125	041141		55	1. 6	035929	041621	
May 30. 19. 0	22. 51. 7	0·037020	0·041115	H B	May 30. 23. 0	23. 0. 50	0·035747	0·041642	G
5	51. 11	037047	041121		5	0. 35	035641	041621	
10	51. 0	036936	041104		10	0. 23	035535	041563	
15	51. 11	036897	041104		15	0. 32	035513	041474	
20	51. 7	036831	041052		20	0. 52	035385	041448	
25	51. 14	036658	041083		25	1. 6	035302	041422	
30	51. 13	036326	041042		30	1. 54	035351	041405	
35	51. 2	036348	041026		35	2. 49	035640	041405	
40	51. 12	036265	041036		40	2. 51	035445	041447	
45	51. 15	035778	041015		45	2. 51	035096	041368	
50	51. 10	035845	041004		50	2. 59	034969	041229	G
55	51. 20	035717	040983		55	3. 27	034903	041254	L
May 30. 20. 0	22. 51. 20	0·035385	0·040973	H B	May 31. 0. 0	23. 4. 3	0·034465	0·041227	L
5	51. 33	035207	040968		5	4. 26	034305	041264	
10	51. 48	035008	040946		10	4. 49	034383	041300	
15	52. 33	034881	040972		15	5. 13	034599	041369	
20	52. 49	034748	041003		20	5. 37	034699	041421	
25	52. 31	034571	040998		25	5. 41	034473	041448	
30	52. 36	034415	040951		30	5. 43	034662	041422	
35	52. 40	034327	040962		35	6. 7	034679	041448	
40	53. 15	034437	040977		40	6. 15	034784	041475	
45	53. 54	034554	040977		45	6. 15	035062	041528	
50	54. 52	034576	040998		50	6. 40	034968	041554	
55	55. 40	034687	041003		55	6. 40	034958	041580	
May 30. 21. 0	22. 56. 35	0·034908	0·041014	H B	May 31. 1. 0	23. 7. 8	0·034798	0·041607	L
5	57. 27	034836	041065		5	7. 8	034594	041587	
10	57. 31	035008	041123		10	6. 51	035053	041566	
15	57. 43	035180	041124		15	6. 29	034694	041551	
20	57. 40	035197	041171		20	6. 49	035292	041520	
25	58. 13	035480	041172		25	6. 55	037965	041619	
30	59. 1	035608	041261		30	10. 13	038603	041660	
35	57. 43	035470	041287		35	10. 17	037114	041707	
40	57. 39	035597	041236	H B	40	8. 40	035426	041609	L
45	58. 18	035703	041252	G	45	8. 47	035178	041516	H B
50	58. 16	035720	041310		50	8. 58	035311	041506	
55	58. 16	035737	041341		55	10. 10	036390	041563	

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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

Term-Day Observations of May 31.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
May 31. 2. 0	23. 10. 23	0·035853	0·041584	H B	May 31. 6. 0	22. 58. 19	0·036101	0·042286	H B
5	11. 22	035870	041595		5	57. 49	035548	042224	
10	12. 15	036131	041652		10	57. 26	035189	042219	
15	13. 6	037056	041699		15	56. 57	035078	042224	
20	13. 45	037919	041731		20	56. 33	035078	042214	
25	12. 16	037847	041793		25	56. 14	035344	042208	
30	11. 19	037223	041733		30	56. 12	035604	042214	
35	11. 29	037062	041728		35	56. 4	035782	042224	H B
40	11. 32	036238	041734	H B	40	56. 2	035892	042229	D
45	11. 45	036211	041749	L	45	55. 56	036025	042256	
50	11. 55	036034	041766		50	56. 9	035931	042267	
55	12. 26	035829	041802		55	56. 15	035688	042256	
May 31. 3. 0	23. 12. 30	0·036023	0·041850	L	May 31. 7. 0	22. 56. 25	0·035732	0·042241	D
5	12. 34	036040	041876		5	56. 23	035776	042215	
10	12. 37	036235	041902		10	56. 22	035931	042194	
15	11. 57	035880	041939		15	56. 19	036108	042179	
20	11. 17	035632	041945		20	56. 8	036285	042158	
25	10. 52	035117	041946		25	56. 8	036418	042122	
30	10. 36	035223	042008		30	56. 3	036556	042127	
35	10. 21	035223	042008		35	56. 4	036977	042106	
40	9. 34	035063	042050		40	56. 13	036911	042143	
45	8. 16	035036	042061		45	56. 41	036556	042127	
50	7. 54	035274	042087		50	56. 37	036578	042050	
55	7. 27	035651	042104		55	56. 31	036756	042050	
May 31. 4. 0	23. 7. 13	0·035955	0·042140	L	May 31. 8. 0	22. 56. 8	0·036645	0·042035	D
5	6. 48	036176	042166		5	56. 4	036556	042009	
10	6. 2	035972	042193		10	55. 40	036539	041998	
15	5. 35	036548	042183		15	55. 11	036539	041998	
20	5. 24	037096	042209		20	54. 53	036739	041993	
25	5. 1	037096	042246		25	54. 23	036783	042009	
30	4. 24	037334	042220		30	53. 36	037120	042019	
35	4. 16	036717	042220	L	35	53. 30	037208	042024	
40	2. 48	035342	042204	H B	40	53. 43	037208	042014	D
45	2. 34	035027	042221		45	53. 13	036943	042035	G
50	1. 38	035315	042237		50	52. 41	037036	042019	
55	1. 15	036084	042222		55	52. 59	036815	042019	
May 31. 5. 0	23. 0. 43	0·036416	0·042290	H B	May 31. 9. 0	22. 53. 17	0·036505	0·042035	G
5	0. 36	036483	042326		5	53. 19	036594	042002	
10	0. 29	036062	042342		10	53. 41	036660	042002	
15	23. 0. 32	035199	042275		15	53. 41	036643	041982	
20	22. 59. 59	035177	042202		20	53. 49	036577	041955	
25	59. 41	035310	042145		25	53. 55	036643	041949	
30	59. 36	036167	042285		30	53. 50	036643	041918	
35	59. 46	037120	042275		35	53. 55	036643	041892	
40	59. 56	037629	042301		40	54. 4	036643	041903	
45	59. 44	037607	042326		45	54. 4	036671	041876	
50	59. 25	037208	042328		50	54. 14	036671	041850	
55	58. 42	036677	042286		55	54. 23	036671	041860	

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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^{s}\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^{s}\cdot 6$; in Vertical Plane, $26^{s}\cdot 7$.

Term-Day Observations of June 18.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
June 18. 10. 0	23. 2. 10	0 ·037079	0 ·040699	G	June 18. 14. 0	23. 2. 47	0 ·036815	0 ·040313	L
5	2. 10	037079	040699		5	2. 47	036842	040323	
10	2. 10	037079	040689		10	2. 49	036798	040301	
15	2. 10	037079	040689		15	2. 46	036759	040321	
20	2. 10	037079	040673		20	2. 46	036759	040311	
25	2. 10	037079	040653		25	2. 46	036742	040321	
30	2. 10	037079	040653		30	2. 39	036742	040311	
35	2. 10	037079	040653		35	2. 38	036725	040347	
40	2. 10	037013	040653		40	2. 38	036680	040347	
45	2. 10	036858	040647		45	2. 38	036708	040335	
50	2. 10	036858	040647		50	2. 38	036708	040345	
55	2. 10	036858	040647		55	2. 38	036580	040340	
June 18. 11. 0	23. 2. 9	0 ·037013	0 ·040637	G	June 18. 15. 0	23. 2. 38	0 ·036535	0 ·040351	L
5	2. 9	037013	040689		5	2. 36	036535	040361	
10	2. 8	037013	040689		10	2. 36	036535	040361	
15	2. 7	037013	040689		15	2. 36	036597	040387	
20	2. 7	036924	040689		20	2. 36	036685	040387	
25	2. 7	036880	040689		25	2. 48	036597	040429	
30	2. 5	036968	040689		30	2. 55	036730	040397	
35	2. 5	036968	040689		35	2. 55	036730	040449	
40	2. 1	037079	040705		40	2. 59	036730	040413	L
45	2. 1	037079	040715		45	3. 3	036725	040466	H B
50	2. 2	037079	040715		50	2. 47	036747	040456	
55	2. 2	....	040731		55	2. 52	036769	040482	
June 18. 12. 0	23. 2. 0	0 ·037079	0 ·040741	G	June 18. 16. 0	23. 2. 50	0 ·036747	0 ·040518	H B
5	1. 55	037045	040698		5	2. 43	036747	040538	
10	1. 51	036856	040661		10	2. 41	036702	040544	
15	1. 51	036734	040634		15	2. 44	036725	040517	
20	1. 44	036606	040607		20	2. 40	036747	040537	
25	1. 48	036373	040555		25	2. 32	036813	040542	
30	1. 48	036273	040502		30	2. 30	036857	040568	
35	1. 48	036305	040459		35	2. 21	036879	040594	
40	1. 49	036382	040406	G	40	2. 16	036791	040599	
45	1. 49	036679	040384	L	45	2. 6	036791	040578	
50	1. 49	036773	040368		50	2. 0	036791	040584	
55	1. 51	036739	040331		55	2. 0	036680	040594	
June 18. 13. 0	23. 1. 51	0 ·036705	0 ·040278	L	June 18. 17. 0	23. 1. 39	0 ·036702	0 ·040599	H B
5	1. 51	036705	040288		5	1. 46	036552	040615	
10	2. 0	036688	040278		10	1. 43	036552	040620	
15	2. 6	036688	040288		15	1. 42	036552	040615	
20	2. 6	036688	040288		20	1. 39	036535	040620	
25	2. 17	036671	040288		25	1. 23	036402	040636	
30	2. 17	036671	040261		30	1. 34	036430	040656	
35	2. 17	036671	040261		35	1. 30	036341	040646	
40	2. 17	036699	040277		40	1. 18	036407	040646	
45	2. 30	036699	040287		45	1. 5	036280	040646	
50	2. 44	036699	040287		50	1. 3	036236	040646	
55	2. 45	036682	040297		55	0. 59	036152	040656	

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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20ˢ·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24ˢ·6; in Vertical Plane, 26ˢ·7.

Term-Day Observations of June 18 and 19.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
June 18. 18. 0	23. 0. 33	0·036086	0·040651	H B	June 18. 22. 0	22. 59. 53	0·034621	0·040230	G
5	23. 0. 27	036064	040624		5	23. 0. 12	034621	040360	
10	22. 59. 57	036091	040619		10	0. 23	034511	040514	
15	23. 0. 6	036069	040629		15	0. 28	034483	040576	
20	22. 59. 54	036091	040583		20	0. 39	034350	040576	
25	59. 57	036069	040583		25	0. 44	034373	040607	
30	59. 47	036008	040576		30	1. 1	034373	040540	
35	59. 51	035986	040550	H B	35	1. 4	034373	040540	
40	59. 51	035986	040586	D	40	1. 13	034217	040591	
45	59. 48	036008	040559		45	1. 29	034168	040555	
50	59. 39	035991	040543		50	1. 37	034168	040528	
55	59. 33	035991	040543		55	1. 44	034212	040528	
June 18. 19. 0	22. 59. 15	0·035858	0·040512	D	June 18. 23. 0	23. 1. 57	0·034212	0·040513	G
5	58. 55	035902	040512		5	2. 23	034362	040513	
10	58. 46	035814	040517		10	2. 33	034407	040569	G
15	58. 57	035908	040528		15	2. 52	034424	040523	L
20	59. 10	035930	040528		20	3. 8	034424	040523	
25	59. 6	035863	040528		25	3. 18	034441	040523	
30	58. 59	035753	040543		30	3. 29	034441	040550	
35	58. 51	035708	040538		35	3. 38	034679	040550	
40	58. 34	035553	040538		40	4. 0	034723	040540	
45	58. 38	035713	040564		45	4. 26	034873	040519	
50	58. 43	035625	040548		50	4. 33	035028	040519	
55	58. 38	035536	040538		55	4. 43	035156	040488	
June 18. 20. 0	22. 58. 39	0·035447	0·040538	D	June 19. 0. 0	23. 4. 55	0·035156	0·040488	L
5	58. 39	035359	040554		5	5. 14	035323	040489	
10	58. 39	035231	040527		10	5. 26	035384	040541	
15	58. 33	035164	040521		15	5. 41	035462	040584	
20	58. 47	035192	040495		20	5. 41	035479	040580	
25	58. 51	035236	040501		25	5. 46	035734	040555	
30	58. 53	035241	040484		30	5. 51	035840	040598	
35	58. 59	035064	040484		35	6. 6	036029	040619	L
40	58. 58	034909	040484		40	6. 20	036068	040656	H B
45	58. 52	034915	040468		45	6. 20	036080	040694	
50	58. 44	034937	040468		50	6. 27	036297	040741	
55	58. 59	034920	040447		55	6. 45	036375	040794	
June 18. 21. 0	22. 58. 48	0·034809	0·040452	D	June 19. 1. 0	23. 6. 20	0·036547	0·040831	H B
5	58. 49	034981	040478		5	6. 19	036647	040863	
10	58. 58	034882	040510		10	6. 37	036686	040863	
15	58. 35	034899	040537		15	6. 55	036632	040875	
20	58. 45	034983	040537		20	7. 3	036649	040891	
25	59. 3	034645	040547		25	7. 5	036882	040906	
30	59. 4	034502	040512		30	7. 29	036982	040928	
35	59. 7	034696	040538		35	7. 45	037154	040902	
40	59. 3	034602	040667	D	40	7. 45	037055	040892	
45	59. 10	034553	040152	G	45	7. 28	037072	040883	
50	59. 19	034742	040152		50	7. 39	037062	040878	
55	59. 27	034781	040126		55	7. 50	037101	040868	

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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s{\cdot}8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s{\cdot}6$; in Vertical Plane, $26^s{\cdot}7$.

Term-Day Observations of June 19.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
June 19. 2. 0	23. 8.10	0·037334	0·040885	H B	June 19. 6. 0	23. 3.14	0·036908	0·041227	D
5	8. 9	037351	040905		5	2.58	036952	041243	
10	8.11	037169	040948		10	3. 2	036947	041244	
15	8. 0	036899	040958		15	2.58	036925	041228	
20	7.44	036987	040944		20	2.53	036986	041244	
25	8. 3	037425	040975		25	2.45	036920	041264	
30	8. 6	037530	041028		30	2.35	036804	041276	
35	8. 4	037481	041038		35	2.24	036715	041255	D
40	8. 3	037453	041004	H B	40	2.18	036710	041266	H B
45	8. 7	037470	040978	L	45	2. 7	036621	041288	
50	8. 7	037470	041031		50	2. 8	036682	041298	
55	7.58	037487	041026		55	2. 6	036727	041273	
June 19. 3. 0	23. 7.56	0·037239	0·041032	L	June 19. 7. 0	23. 1.58	0·036699	0·041299	H B
5	7.50	037256	041032		5	1.45	036378	041288	
10	7.42	037140	041049		10	1.42	036400	041310	
15	7.35	037069	041033		15	1.35	036439	041284	
20	7.35	036847	041059		20	1.41	036417	041300	
25	7.19	036687	041075		25	1.39	036506	041253	
30	7.12	037058	041112		30	1.39	036550	041264	
35	7. 9	036721	041097		35	1.40	036594	041285	
40	6.58	036738	041113		40	1.37	036594	041259	
45	7 .1	036755	041114		45	1.31	036677	041243	
50	6.49	036755	041140		50	1.35	036744	041260	
55	6.39	036772	041130		55	1.28	036744	041244	
June 19. 4. 0	23. 6.39	0·036833	0·041166	L	June 19. 8. 0	23. 1.19	0·036611	0·041250	H B
5	6.17	036833	041157		5	1.22	036744	041224	
10	6.17	036833	041172		10	1.15	036761	041224	
15	6.14	036894	041167		15	0.59	036628	041208	
20	6. 5	036872	041179		20	0.59	036628	041208	
25	6. 1	036872	041179		25	0.53	036601	041208	
30	6. 1	036872	041205		30	0.51	036579	041198	H B
35	5.56	036872	041221	L	35	0.47	036424	041182	G
40	5.47	036828	041205	D	40	...	036397	041182	
45	5.33	036845	041227		45	0.41	036242	041182	
50	5.30	036712	041253		50	0.34	036397	041182	
55	5.26	036646	041258		55	0.26	036414	041156	
June 19. 5. 0	23. 5.14	0·036734	0·041280	D	June 19. 9. 0	23. 0. 5	0·036370	0·041156	G
5	5. 2	036801	041306		5	22. 59.39	036414	041156	
10	4.43	036840	041296		10	23. 0.56	036414	041282	
15	4.40	036840	041311		15	1. 6	036397	041130	
20	4.36	036857	041318		20	1.13	036397	041130	
25	4.26	036923	041297		25	1. 3	036397	041120	
30	4.18	037073	041307		30	0.52	036375	041115	
35	4. 1	037051	041303		35	0.52	036353	041115	
40	3.49	036891	041282		40	0.52	036331	041115	
45	3.39	036913	041277		45	0.43	036269	041115	
50	3.29	036908	041267		50	0.43	036247	041115	
55	3.26	036908	041216		55	23. 0.41	036247	041115	

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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·6$; in Vertical Plane, $26^s·7$.

Term-Day Observations of July 23.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
July 23. 10. 0	22. 52. 51	0 ·036665	0 ·039743	D	July 23. 14. 0	22. 52. 11	0 ·036603	0 ·040008	L
5	52. 42	036554	039738		5	52. 13	036603	040008	
10	52. 24	036421	039733		10	52. 17	036586	039965	
15	52. 20	036443	039733		15	52. 15	036542	039965	
20	52. 14	036576	039743		20	52. 15	036542	039965	
25	52. 7	036576	039748		25	52. 6	036586	039955	
30	52. 5	036559	039748		30	52. 2	036480	039929	
35	52. 3	036559	039748		35	52. 17	036436	039929	
40	52. 7	036581	039743		40	52. 13	036392	039929	
45	52. 4	036603	039753		45	52. 11	036392	039929	
50	52. 4	036626	039748		50	52. 54	036441	039903	
55	52. 9	036648	039748		55	53. 9	036508	039903	
July 23. 11. 0	22. 52. 5	0 ·036714	0 ·039748	D	July 23. 15. 0	22. 53. 7	0 ·036552	0 ·039903	L
5	52. 5	036825	039753		5	53. 7	036552	039893	
10	52. 5	036869	039753		10	53. 7	036569	039919	
15	52. 8	036830	039727		15	53. 11	036569	039877	
20	51. 57	036719	039722		20	53. 11	036569	039903	
25	51. 40	036631	039717		25	53. 11	036525	039872	
30	51. 33	036719	039717		30	52. 59	036542	039853	
35	51. 27	036830	039722		35	52. 41	036475	039775	
40	51. 29	036896	039717		40	53. 4	036520	039775	
45	51. 29	036946	039696		45	53. 4	036520	039801	
50	51. 29	036990	039696		50	53. 4	036537	039822	
55	51. 30	037012	039691		55	53. 4	036603	039849	
July 23. 12. 0	22. 51. 33	0 ·037012	0 ·039701	D	July 23. 16. 0	22. 53. 8	0 ·036603	0 ·039828	L
5	51. 41	037012	039701		5	53. 10	036603	039828	
10	51. 41	037029	039696		10	53. 6	036620	039833	
15	52. 0	037074	039696		15	53. 6	036620	039833	
20	52. 5	037046	039696		20	53. 8	036620	039802	
25	51. 59	037069	039696		25	53. 11	036620	039802	
30	51. 55	037152	039691		30	53. 12	036637	039828	
35	51. 31	037152	039681		35	53. 12	036526	039828	
40	51. 19	037063	039686		40	53. 12	036460	039828	
45	50. 58	037103	039675		45	51. 58	036460	039812	
50	50. 53	037080	039681		50	51. 58	036477	039824	
55	50. 48	037031	039670		55	52. 37	036433	039824	
July 23. 13. 0	22. 50. 55	0 ·036986	0 ·039660	D	July 23. 17. 0	22. 53. 12	0 ·036433	0 ·039855	L
5	51. 0	036915	039691		5	53. 35	036167	039855	
10	51. 4	036932	039712		10	53. 32	035879	039855	
15	51. 10	037015	039739		15	53. 25	035768	039870	
20	51. 46	036927	039775		20	53. 59	035724	039880	
25	51. 38	036767	039807		25	54. 27	035370	039880	
30	51. 47	036806	039865		30	54. 11	035370	039859	
35	51. 55	036912	039886		35	53. 58	035370	039859	
40	52. 0	036796	039923		40	54. 7	035326	039859	L
45	51. 56	036768	039939		45	54. 6	035326	039833	T D
50	52. 4	036790	039960	D	50	54. 6	035591	039849	
55	52. 11	036741	039981	L	55	54. 8	035547	039844	

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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

Term-Day Observations of July 23 and 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
July 23. 18. 0	22. 54. 45	0 ·035768	0 ·039802	T D	July 23. 22. 0	22. 49. 53	0 ·034928	0 ·039719	G
5	54. 45	035685	039802		5	50. 1	034928	039709	
10	54. 56	035751	039828		10	50. 18	034928	039693	
15	54. 56	035734	039791		15	50. 36	034994	039647	
20	55. 22	035717	039749		20	50. 44	034928	039616	
25	55. 21	035717	039765		25	50. 50	034994	039590	
30	55. 34	035811	039806		30	50. 55	034994	039574	
35	55. 32	035905	039748		35	50. 59	035061	039559	
40	55. 24	035861	039758		40	51. 7	035149	039512	
45	54. 28	035888	039696		45	51. 41	035149	039512	
50	54. 0	035915	039712		50	52. 0	035149	039512	
55	53. 55	035871	039696		55	51. 55	034994	039512	
July 23. 19. 0	22. 53. 17	0 ·035810	0 ·039670	T D	July 23. 23. 0	22. 51. 56	0 ·034883	0 ·039512	G
5	52. 16	035632	039639		5	51. 36	034883	039512	
10	51. 53	035743	039644		10	52. 2	034883	039486	
15	51. 16	035394	039675		15	51. 17	034772	039460	G
20	50. 25	035504	039644		20	52. 5	034418	039460	D
25	50. 7	035615	039623		25	52. 5	034396	039465	
30	50. 6	035615	039644		30	51. 53	034374	039465	
35	50. 4	035615	039618		35	51. 53	034441	039465	
40	50. 3	035438	039644		40	51. 53	034396	039470	
45	49. 51	035598	039644		45	51. 36	034418	039470	
50	49. 51	035598	039774		50	51. 48	034463	039476	
55	50. 11	035598	039774		55	52. 3	034596	039470	
July 23. 20. 0	22. 50. 24	0 ·035598	0 ·039696	T D	July 24. 0. 0	22. 52. 12	0 ·034441	0 ·039496	D
5	49. 31	035709	039722		5	52. 20	034396	039512	
10	49. 33	035670	039747		10	52. 32	034441	039511	
15	49. 31	035581	039824		15	52. 47	034396	039542	
20	49. 30	035670	039721		20	53. 16	034307	039527	
25	49. 33	035581	039731		25	53. 29	034219	039537	
30	49. 29	035564	039729		30	54. 0	034268	039546	
35	49. 32	035564	039683		35	54. 17	034069	039582	
40	49. 21	035453	039668	T D	40	54. 44	034114	039613	
45	49. 18	035299	039668	G	45	55. 0	034069	039608	
50	48. 41	035326	039673		50	55. 12	034069	039603	
55	48. 41	035326	039688		55	55. 29	034202	039577	
July 23. 21. 0	22. 48. 40	0 ·035326	0 ·039677	G	July 24. 1. 0	22. 55. 54	0 ·034379	0 ·039587	D
5	48. 49	035326	039677		5	56. 10	034202	039587	
10	48. 49	035326	039672		10	56. 21	034025	039592	
15	48. 40	035282	039667		15	56. 48	034119	039587	
20	48. 57	035282	039667		20	57. 5	034251	039613	
25	49. 1	035326	039709		25	57. 25	034407	039639	
30	49. 14	035326	039719		30	57. 37	034495	039670	
35	49. 24	035215	039719		35	57. 47	034473	039691	
40	49. 24	035149	039709		40	57. 50	034207	039691	D
45	49. 34	035061	039709		45	57. 38	033947	039691	L
50	49. 35	034883	039719		50	57. 38	033814	039675	
55	49. 46	034950	039719		55	57. 30	033748	039649	

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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20ˢ·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24ˢ·6; in Vertical Plane, 26ˢ·7.

Term-Day Observations of July 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
July 24. 2. 0	22. 57. 44	0·033614	0·039639	L	July 24. 6. 0	22. 58. 24	0·036059	0·040420	T D
5	57. 53	033548	039639		5	57. 48	036169	040420	
10	58. 12	033283	039655		10	58. 11	036324	040420	
15	58. 15	033477	039707		15	58. 0	036722	040446	
20	58. 35	033742	039717		20	58. 5	036722	040472	
25	22. 58. 44	033920	039727		25	58. 18	036855	040462	
30	23. 0. 42	034097	039743		30	58. 16	036739	040487	
35	22. 59. 21	034296	039758		35	58. 1	036872	040503	
40	59. 28	034562	039768		40	57. 55	036739	040462	T D
45	59. 33	034866	039794		45	57. 35	036762	040436	G
50	59. 33	035000	039820		50	57. 33	036628	040456	
55	59. 33	035088	039820		55	56. 55	036518	040472	
July 24. 3. 0	22. 59. 29	0·035309	0·039820	L	July 24. 7. 0	22. 56. 17	0·036518	0·040472	G
5	59. 42	035326	039856		5	56. 16	036628	040472	
10	59. 34	035370	039899		10	56. 19	036628	040472	
15	59. 20	035453	039899		15	56. 28	036673	040472	
20	59. 35	035564	039950		20	56. 35	036739	040482	
25	59. 27	035581	039930		25	56. 47	036407	040482	
30	59. 17	035470	039967		30	56. 2	036076	040446	
35	59. 25	035776	039977		35	56. 9	036053	040420	
40	59. 35	036042	040013		40	55. 32	036053	040394	
45	59. 43	036125	040071		45	55. 2	036053	040394	
50	59. 51	036490	040071		50	55. 28	035854	040394	
55	59. 57	036739	040123		55	55. 22	035765	040368	
July 24. 4. 0	22. 59. 48	0·036850	0·040133	L	July 24. 8. 0	22. 55. 7	0·035588	0·040342	G
5	59. 48	036850	040170		5	55. 1	035428	040352	
10	59. 48	037044	040191	L	10	54. 14	035246	040317	
15	59. 52	036912	040248	T D	15	53. 32	035418	040343	G
20	59. 35	036995	040289		20	53. 32	035435	040317	D
25	59. 39	037105	040332		25	53. 29	035452	040359	
30	59. 41	037056	040363		30	53. 36	035513	040396	
35	59. 55	036857	040410		35	53. 36	035535	040375	
40	59. 7	036458	040378		40	53. 36	035353	040402	
45	58. 2	036365	040368		45	53. 4	035370	040392	
50	58. 35	036807	040394		50	51. 58	035387	040413	
55	58. 39	036935	040457		55	51. 48	035360	040387	
July 24. 5. 0	22. 58. 28	0·036869	0·040483	T D	July 24. 9. 0	22. 52. 20	0·035421	0·040397	D
5	57. 36	036807	040473		5	52. 27	035338	040397	
10	57. 46	036763	040462		10	52. 27	035138	040361	
15	58. 16	036569	040430		15	51. 22	035232	040324	
20	58. 9	036613	040446		20	50. 3	035255	040303	
25	58. 3	036662	040462		25	49. 33	035127	040231	
30	57. 58	036552	040446		30	50. 41	035370	040216	
35	57. 59	036424	040436		35	51. 28	035287	040236	
40	57. 56	036203	040446		40	52. 9	035065	040189	
45	58. 25	036120	040430		45	52. 26	034650	040163	
50	58. 38	036031	040420		50	52. 22	034827	040121	
55	58. 42	036125	040420		55	52. 18	035142	040085	

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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·6$; in Vertical Plane, $26^s·7$.

Term-Day Observations of August 29.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″			
Aug. 29. 10. 0	22. 40. 11	0 ·034859	0 ·038930	H B
5	36. 37	036016	038929	
10	37. 6	038721	038971	
15	45. 49	039010	039150	
20	52. 29	037864	039144	
25	55. 38	036584	039124	
30	54. 52	035881	039149	
35	53. 44	035859	039080	
40	52. 56	036373	039184	
45	53. 0	036866	039137	
50	54. 7	036849	039218	
55	55. 57	036472	039260	
Aug. 29. 11. 0	22. 55. 20	0 ·036544	0 ·039217	H B
5	55. 7	036438	039191	
10	54. 47	036465	039155	
15	55. 13	036448	039138	
20	55. 53	036542	039102	
25	56. 41	036592	039075	
30	56. 55	036641	039075	
35	57. 29	036796	039039	
40	59. 29	036713	039053	
45	59. 14	037493	039037	
50	59. 53	038250	039005	
55	59. 41	038565	038933	
Aug. 29. 12. 0	22. 59. 18	0 ·038415	0 ·038855	H B
5	58. 50	038023	038719	
10	59. 17	037828	038563	
15	22. 59. 52	037745	038609	
20	23. 0. 12	037529	038588	
25	1. 13	036781	038547	
30	23. 0. 38	036144	038458	
35	22. 59. 44	035707	038390	
40	57. 15	036110	038390	
45	55. 44	036514	038420	
50	54. 33	036962	038425	
55	54. 11	036900	038425	
Aug. 29. 13. 0	22. 53. 57	0 ·036928	0 ·038430	H B
5	53. 34	037198	038393	
10	53. 57	037221	038440	
15	54. 17	036894	038409	
20	55. 1	036473	038402	
25	54. 33	035770	038392	
30	53. 27	035460	038298	
35	52. 7	035421	038298	
40	50. 59	035731	038381	
45	51. 2	035979	038426	
50	51. 23	035758	038452	
55	51. 2	035586	038468	

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″			
Aug. 29. 14. 0	22. 50. 49	0 ·035674	0 ·038503	H B
5	50. 34	035768	038502	L
10	50. 46	035751	038569	
15	50. 42	035180	038552	
20	49. 55	035070	038552	
25	49. 26	035053	038620	
30	50. 2	035257	038593	
35	51. 1	035063	038680	
40	51. 27	035002	038696	
45	51. 19	035251	038669	
50	52. 15	035145	038685	
55	52. 41	035145	038695	
Aug. 29. 15. 0	22. 52. 54	0 ·035061	0 ·038694	L
5	52. 35	035155	038678	
10	52. 51	035138	038652	
15	51. 10	035032	038625	
20	53. 20	035104	038615	
25	53. 56	035087	038701	
30	54. 29	035248	038716	
35	54. 33	035275	038690	
40	54. 16	035258	038612	
45	54. 45	035285	038653	
50	54. 45	035445	038662	
55	54. 59	035428	038698	
Aug. 29. 16. 0	22. 55. 11	0 ·035411	0 ·038740	L
5	55. 22	035411	038765	
10	55. 22	035411	038765	
15	54. 59	035571	038769	
20	54. 56	035571	038790	
25	54. 56	035748	038764	
30	55. 11	035837	038800	
35	54. 45	035837	038800	
40	54. 45	035948	038832	
45	54. 59	036086	038790	
50	54. 43	036042	038790	
55	54. 43	036219	038790	
Aug. 29. 17. 0	22. 54. 43	0 ·036152	0 ·038790	L
5	55. 11	036135	038789	
10	55. 3	036118	038763	
15	55. 22	036212	038758	
20	55. 15	036327	038762	
25	55. 15	036178	038813	
30	55. 15	036144	038812	
35	55. 24	036083	038905	
40	55. 41	036066	038889	
45	55. 35	036137	038863	
50	56. 13	036297	038857	L
55	56. 11	036501	038841	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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20ˢ·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24ˢ·6; in Vertical Plane, 26ˢ·7.

Aug. 29ᵈ. 10ʰ. 5ᵐ. After this observation additional observations were taken. (See Section of Extra Observations.)

Term-Day Observations of August 29 and 30.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Aug. 29. 18. 0	22. 58. 11	0·036042	0·038835	T D	Aug. 29. 22. 0	23. 1. 48	0·033274	0·039248	G
5	57. 53	035599	038835		5	2. 7	033164	039403	
10	57. 38	035488	038783		10	2. 35	033225	039429	
15	57. 40	035112	038799		15	3. 44	033646	039429	
20	57. 46	035377	038819		20	3. 42	033668	039507	
25	57. 55	035377	038809		25	3. 42	033734	039507	
30	58. 16	035599	038851		30	3. 42	033751	039560	
35	58. 30	035643	038871		35	3. 42	033862	039638	
40	58. 39	035821	038964		40	3. 20	033862	039612	
45	57. 46	035776	038948		45	3. 3	033862	039612	
50	57. 53	035643	038974		50	3. 16	034144	039612	
55	57. 46	035643	038974		55	3. 19	034144	039639	
Aug. 29. 19. 0	22. 57. 50	0·035377	0·038990	T D	Aug. 29. 23. 0	23. 3. 26	0·034166	0·039665	G
5	22. 57. 50	035599	038980		5	4. 15	034383	039727	
10	23. 0. 8	035471	038990		10	5. 12	034422	039806	
15	22. 59. 34	035139	038980		15	5. 5	034483	039822	
20	23. 0. 21	035078	038990		20	5. 53	034832	039849	
25	0. 21	034901	038990		25	5. 54	034738	039864	
30	23. 0. 9	034773	038980		30	5. 43	034689	039917	
35	22. 59. 9	033334	038938		35	6. 23	034706	039902	
40	58. 58	033223	038964		40	6. 34	034613	039851	
45	58. 12	033096	038990		45	7. 45	034519	039851	
50	58. 0	032763	038964		50	8. 8	034336	039904	
55	57. 58	032857	038990		55	8. 5	034398	039956	
Aug. 29. 20. 0	22. 58. 0	0·033079	0·038990	T D	Aug. 30. 0. 0	23. 8. 24	0·034348	0·039983	G
5	58. 18	033300	038990		5	8. 42	034449	039967	
10	59. 9	033494	039032		10	9. 7	034532	040020	
15	59. 51	033538	039068		15	9. 14	034655	040098	
20	22. 59. 32	033711	039094		20	9. 45	034689	040038	
25	23. 0. 2	033777	039094		25	10. 17	034662	040089	
30	22. 59. 52	033395	039094		30	10. 26	034696	040152	
35	58. 36	032952	039052		35	10. 38	034552	040178	
40	57. 44	033351	039068		40	10. 46	034525	040252	
45	22. 59. 21	033147	039104		45	11. 9	034559	040180	
50	23. 0. 16	033147	039095		50	11. 10	034416	040249	
55	22. 58. 6	033562	039121		55	10. 59	034610	040275	
Aug. 29. 21. 0	22. 59. 18	0·032942	0·039182	T D	Aug. 30. 1. 0	23. 10. 58	0·034467	0·040302	G
5	59. 23	032942	039172		5	11. 20	035348	040276	
10	22. 59. 58	032610	039207		10	11. 27	035387	040286	
15	23. 1. 43	032056	039248		15	11. 35	035581	040224	
20	1. 56	032056	039300		20	11. 6	035581	040177	
25	2. 44	032234	039279		25	11. 1	035819	040182	
30	3. 19	031614	039274		30	10. 41	035659	040209	
35	2. 27	032056	039248		35	10. 49	035742	040158	
40	1. 58	032278	039274		40	11. 20	036091	040158	
45	2. 18	031946	039264		45	11. 37	036108	040174	G
50	2. 42	032056	039248		50	11. 54	036236	040081	L
55	1. 57	032278	039248	T D	55	12. 27	036347	040098	

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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20^s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24^s·6; in Vertical Plane, 26^s·7.

Term-Day Observations of August 30.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Aug. 30. 2. 0	23. 12. 15	0 ·035921	0 ·040108	L	Aug. 30. 6. 0	23. 5. 34	0 ·037128	0 ·040649	T D
5	11. 44	035623	040098		5	5. 6	037128	040665	
10	11. 50	035574	040151		10	5. 6	037128	040675	
15	11. 27	035121	040188		15	4. 45	037128	040649	
20	11. 31	035469	040194		20	4. 35	037128	040623	
25	11. 42	035614	040241		25	3. 59	036951	040546	
30	12. 0	035676	040268		30	3. 20	036686	040546	
35	11. 57	035554	040284		35	2. 49	036287	040494	
40	12. 12	035461	040311		40	2. 25	036022	040494	
45	12. 12	034831	040261		45	1. 25	035756	040494	
50	12. 12	034848	040314		50	23. 0. 51	035579	040546	
55	11. 51	034749	040330		55	22. 57. 43	035446	040520	
Aug. 30. 3. 0	23. 11. 19	0 ·034677	0 ·040331	L	Aug. 30. 7. 0	22. 55. 33	0 ·037394	0 ·040546	T D
5	10. 53	034711	040342		5	55. 0	037842	040519	
10	10. 42	034745	040375		10	55. 8	038201	040596	
15	10. 35	034824	040318		15	55. 39	038362	040622	
20	10. 35	035018	040346		20	56. 14	038278	040606	
25	10. 16	035052	040373		25	56. 47	037929	040570	
30	10. 5	035130	040352		30	57. 33	037009	040517	
35	9. 52	035164	040322		35	57. 21	036992	040465	
40	9. 48	035375	040350		40	56. 49	036975	040388	
45	8. 55	035542	040428		45	57. 25	037180	040325	
50	8. 18	035825	040454		50	58. 5	037030	040283	
55	7. 15	036124	040507		55	58. 44	036703	040283	
Aug. 30. 4. 0	23. 6. 50	0 ·036490	0 ·040560	L	Aug. 30. 8. 0	22. 59. 17	0 ·036575	0 ·040205	T D
5	6. 44	036618	040561		5	59. 21	036243	040231	
10	6. 31	036635	040535		10	59. 19	036354	040152	
15	6. 31	036718	040531		15	22. 59. 46	036686	040178	
20	6. 59	036873	040510		20	23. 0. 8	036421	040136	
25	7. 20	036669	040536		25	23. 0. 8	035801	040116	
30	7. 46	036642	040562		30	22. 59. 38	036083	040023	
35	7. 56	036703	040552		35	59. 27	036149	039997	
40	7. 49	036720	040449		40	22. 59. 47	036083	040023	T D
45	7. 49	036737	040408		45	23. 0. 4	036194	040023	H B
50	7. 40	036754	040408		50	0. 6	036083	040039	
55	7. 40	036975	040398		55	0. 14	035950	040069	
Aug. 30. 5. 0	23. 7. 27	0 ·036992	0 ·040358	L	Aug. 30. 9. 0	23. 0. 14	0 ·035485	0 ·040037	H B
5	7. 6	037187	040358		5	23. 0. 0	035402	039975	
10	6. 46	037342	040384		10	22. 59. 10	035474	039939	
15	6. 24	037470	040385		15	58. 48	035678	039933	
20	6. 24	037265	040411		20	58. 10	036192	039943	
25	6. 9	037043	040412		25	58. 8	036353	039881	
30	5. 55	036994	040454		30	22. 59. 2	036025	039848	
35	5. 55	036745	040501		35	23. 1. 14	035959	039833	
40	6. 0	036856	040517	L	40	1. 29	035676	039796	
45	5. 59	036762	040544	T D	45	23. 0. 7	035416	039734	
50	5. 50	036779	040606		50	22. 59. 36	035377	039692	
55	5. 34	036890	040648		55	58. 51	035537	039702	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, 219°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s{\cdot}8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s{\cdot}6$; in Vertical Plane, $26^s{\cdot}7$.

Term-Day Observations of September 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Sep. 24. 10. 0	22. 53. 21	0·039005	0·039018	G	Sep. 24. 14. 0	22. 44. 13	0·037890	0·038749	G
5	52. 56	038518	039018		5	43. 42	037807	038712	
10	52. 54	038562	038915		10	43. 2	037684	038643	
15	52. 49	038717	038925		15	42. 6	037667	038576	G
20	52. 54	038717	038931		20	40. 35	037495	038514	H B
25	52. 49	038673	038941		25	39. 57	036748	038461	
30	52. 48	038452	038925		30	39. 38	036669	038366	
35	52. 55	038297	038957		35	39. 57	035921	038335	
40	52. 52	037676	038951		40	39. 52	035528	038304	
45	52. 19	037455	039028		45	40. 11	035423	038267	
50	52. 8	037278	039039		50	41. 5	035721	038266	
55	52. 13	037234	039013		55	42. 24	036014	038302	
Sep. 24. 11. 0	22. 52. 39	0·037743	0·039070	G	Sep. 24. 15. 0	22. 43. 16	0·036240	0·038311	H B
5	52. 44	038009	039117		5	43. 5	036223	038265	
10	52. 52	037881	039105		10	44. 6	036312	038213	
15	52. 58	037704	039116		15	44. 46	036539	038207	
20	52. 59	037798	039090		20	43. 48	036428	038140	
25	52. 59	037908	039131		25	43. 56	036499	038103	
30	53. 10	038113	039120		30	43. 59	036394	038087	
35	53. 10	038179	039120		35	43. 27	036615	038092	
40	53. 1	038068	039120		40	42. 13	036731	038056	
45	52. 56	037874	039109		45	41. 2	036598	037988	
50	52. 36	037387	039119		50	39. 55	036493	037901	
55	52. 36	037370	039093		55	40. 13	036758	037875	
Sep. 24. 12. 0	22. 53. 12	0·037924	0·039093	G	Sep. 24. 16. 0	22. 40. 17	0·036851	0·037859	H B
5	53. 8	038034	039109		5	39. 39	036918	037790	
10	52. 58	037907	039092		10	39. 12	036895	037785	
15	52. 34	037840	039092		15	40. 5	037123	037764	
20	52. 12	038000	039066		20	41. 16	037433	037763	
25	51. 34	038000	039040		25	41. 58	037543	037784	
30	50. 10	037983	039013		30	42. 18	037748	037758	
35	48. 5	037983	038988		35	43. 26	037792	037743	
40	43. 47	037983	038972		40	44. 19	037991	037758	
45	42. 43	037789	038936		45	45. 20	038323	037742	
50	43. 9	037745	038936		50	46. 10	038284	037726	
55	44. 24	037728	038910		55	46. 20	038284	037726	
Sep. 24. 13. 0	22. 45. 58	0·037662	0·038951	G	Sep. 24. 17. 0	22. 46. 27	0·038196	0·037668	H B
5	46. 14	037600	038934		5	47. 14	037908	037621	
10	46. 51	037472	038970		10	47. 55	038063	037579	
15	46. 56	037677	038984		15	49. 36	038351	037559	
20	47. 15	037677	038984		20	51. 22	038063	037605	
25	47. 16	037660	038984		25	50. 47	037664	037559	
30	47. 1	037643	038984		30	50. 12	037465	037507	
35	46. 13	037958	038957		35	50. 15	037177	037491	
40	46. 1	037941	038889		40	50. 11	036911	037502	
45	45. 7	037924	038852		45	50. 56	036822	037481	
50	45. 10	037951	038801		50	52. 23	036425	037491	
55	45. 0	037907	038785		55	53. 18	036070	037538	

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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

Term-Day Observations of September 24 and 25.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Sep. 24. 18. 0	22. 53. 37	0·035693	0·037543	H B	Sep. 24. 22. 0	22. 57. 21	0·034576	0·038660	D
5	51. 20	035141	037543		5	57. 48	034422	038650	
10	50. 39	034825	037574		10	57. 21	034284	038672	
15	51. 40	035489	037647		15	57. 28	034461	038672	
20	51. 47	036663	037755		20	57. 51	034439	038666	
25	52. 35	036928	037828		25	57. 18	034527	038708	
30	52. 52	036635	037864		30	57. 31	034389	038729	
35	53. 32	036016	037828	H B	35	57. 31	034345	038729	
40	54. 21	035130	037802	D	40	57. 33	034168	038724	
45	56. 10	034909	037838		45	58. 42	034411	038718	
50	57. 55	034682	037886		50	58. 31	034163	038745	
55	59. 9	034505	037923		55	58. 31	033985	038751	
Sep. 24. 19. 0	22. 58. 54	0·034682	0·037959	D	Sep. 24. 23. 0	22. 58. 36	0·033919	0·038735	D
5	59. 11	034748	037938		5	58. 34	034135	038771	
10	59. 46	034793	037969		10	58. 41	034169	038824	D
15	59. 47	034593	038010		15	58. 21	034075	038866	G
20	58. 57	034284	037984		20	58. 1	033938	038893	
25	57. 48	033885	037943		25	57. 41	033822	038919	
30	57. 35	033642	037969		30	57. 52	034033	038972	
35	55. 42	033951	038000		35	57. 48	034160	038998	
40	56. 5	033686	038020		40	58. 3	034244	039025	
45	56. 8	033000	038062		45	58. 13	034305	039051	
50	55. 2	032579	038139		50	58. 8	034322	039077	
55	54. 44	032557	038191		55	58. 28	034401	039130	
Sep. 24. 20. 0	22. 54. 54	0·032512	0·038264	D	Sep. 25. 0. 0	22. 58. 32	0·034484	0·039162	G
5	55. 59	032756	038320		5	58. 43	034843	039162	
10	56. 20	032584	038320		10	59. 35	035065	039162	
15	57. 57	032584	038346		15	59. 22	035003	039162	
20	57. 11	032983	038377		20	59. 42	034986	039162	
25	59. 33	032983	038397		25	22. 59. 39	034875	039162	
30	59. 54	032943	038423		30	23. 1. 0	034637	039147	
35	59. 48	032788	038438		35	1. 21	035617	039141	
40	59. 9	032700	038448		40	4. 2	036281	039183	
45	22. 59. 11	032921	038438		45	4. 17	036220	039183	
50	23. 0. 7	032749	038464		50	5. 36	036468	039193	
55	0. 18	032395	038427		55	4. 29	036291	039193	
Sep. 24. 21. 0	22. 59. 54	0·032262	0·038427	D	Sep. 25. 1. 0	23. 5. 4	0·035411	0·039157	G
5	59. 40	032439	038484		5	4. 39	033590	039183	
10	59. 55	032639	038494		10	5. 29	033081	039131	
15	22. 59. 42	033143	038510		15	6. 28	032058	039174	
20	23. 0. 19	033165	038551		20	6. 17	031189	039184	
25	0. 58	033652	038587		25	6. 38	031189	039309	
30	23. 1. 0	033563	038587		30	4. 18	030430	039351	
35	22. 59. 41	033386	038608		35	3. 30	031333	039408	
40	58. 52	033807	038603		40	7. 8	031488	039626	
45	58. 23	034311	038629		45	6. 3	031240	039740	
50	58. 36	034554	038639		50	5. 20	031655	039797	
55	58. 12	034709	038660		55	5. 52	032143	039885	

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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^{s}\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^{s}\cdot 6$; in Vertical Plane, $26^{s}\cdot 7$.

Term-Day Observations of September 25.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Sep. 25. 2. 0	23. 9. 1	0·032868	0·040145	G	Sep. 25. 6. 0	22. 50. 51	0·032884	0·040631	H B
5	8. 44	032934	040310		5	49. 5	033327	040802	
10	9. 1	032951	040170		10	45. 34	034074	040864	
15	9. 40	032221	040283		15	48. 2	034517	040849	
20	7. 23	031750	040273		20	48. 56	034716	040792	
25	5. 48	031640	040273		25	48. 56	034716	040657	
30	4. 16	031701	040276		30	49. 54	035044	040581	
35	3. 54	032875	040276		35	49. 41	035287	040540	H B
40	3. 57	034203	040349		40	49. 58	035154	040462	D
45	4. 1	034663	040313		45	49. 58	035088	040380	
50	3. 40	034663	040313		50	49. 32	035282	040282	
55	3. 9	034237	040307		55	48. 56	035481	040252	
Sep. 25. 3. 0	23. 2. 53	0·034281	0·040121	G	Sep. 25. 7. 0	22. 49. 31	0·035902	0·040215	H B
5	1. 44	034364	040039	H B	5	51. 6	036035	040159	
10	2. 10	034962	039961		10	52. 13	036207	040081	
15	2. 52	035422	040008		15	53. 18	036229	040024	
20	2. 56	034714	040013		20	53. 59	036224	039998	
25	2. 25	034532	039937		25	54. 11	036025	039947	
30	3. 10	035129	039927		30	54. 27	035820	039943	
35	2. 52	035235	039953		35	54. 26	035886	039876	
40	3. 7	035190	039974		40	54. 30	035997	039855	
45	3. 8	034809	039933		45	54. 23	036036	039824	
50	2. 53	034499	039907		50	54. 29	036036	039757	
55	2. 22	034162	039855		55	54. 4	036319	039763	
Sep. 25. 4. 0	23. 2. 16	0·034095	0·039825	H B	Sep. 25. 8. 0	22. 54. 12	0·036452	0·039717	H B
5	1. 50	034378	039805		5	54. 14	036513	039732	
10	23. 0. 54	034439	039826		10	54. 19	036336	039727	
15	22. 59. 57	034993	039807		15	54. 8	036441	039701	
20	59. 9	035098	039781		20	54. 0	036480	039670	
25	58. 23	035558	039777		25	53. 49	036370	039681	
30	57. 59	035686	039786		30	53. 35	036166	039676	
35	57. 56	036217	039777		35	53. 22	036360	039697	
40	58. 21	036810	039829		40	53. 28	036514	039692	
45	58. 29	037713	039882		45	53. 20	036797	039673	
50	59. 5	038504	039918		50	53. 16	036637	039673	
55	58. 40	038504	039990		55	52. 52	036438	039657	
Sep. 25. 5. 0	22. 58. 24	0·038300	0·039970	H B	Sep. 25. 9. 0	22. 52. 22	0·036034	0·039652	D
5	22. 59. 4	038450	040028		5	52. 4	035990	039622	
10	23. 0. 5	037896	040095		10	51. 32	036184	039632	
15	1. 19	036518	040105		15	52. 29	036384	039632	
20	23. 0. 54	035389	040127		20	52. 6	036334	039627	
25	22. 58. 59	034809	040122		25	52. 14	036268	039654	
30	56. 25	034339	040205		30	52. 18	036240	039639	
35	53. 27	034648	040262		35	52. 1	036240	039639	
40	52. 13	035573	040344		40	50. 49	036307	039644	
45	51. 47	035595	040491		45	49. 55	036501	039623	
50	52. 8	034971	040522		50	48. 7	036766	039576	
55	51. 21	033686	040522		55	47. 47	036739	039556	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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20^s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24^s·6; in Vertical Plane, 26^s·7.

Term-Day Observations of October 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Oct. 22. 10. 0	22. 52. 43	0·037654	0·039270	G	Oct. 22. 14. 0	22. 53. 19	0·036703	0·038950	D
5	52. 43	037609	039260		5	53. 19	036748	038955	
10	52. 43	037626	039260		10	53. 25	036792	038950	
15	52. 52	037582	039245		15	53. 25	036814	038950	
20	52. 49	037444	039235		20	53. 15	036858	038960	
25	52. 34	037533	039183		25	52. 56	036902	038955	
30	52. 35	037638	039167		30	52. 56	036952	038955	
35	52. 34	037550	039167		35	52. 43	036996	038950	
40	52. 34	037483	039162		40	52. 15	036996	038950	
45	52. 34	037544	039162		45	52. 9	036974	038940	
50	52. 26	037500	039157		50	52. 9	036974	038940	
55	52. 24	037517	039157		55	52. 11	036929	038940	
Oct. 22. 11. 0	22. 52. 23	0·037517	0·039152	G	Oct. 22. 15. 0	22. 52. 33	0·036885	0·038940	D
5	52. 29	037517	039152		5	52. 42	036907	038940	
10	52. 45	037601	039178		10	52. 39	036935	038923	
15	52. 44	037667	039173		15	52. 29	036890	038918	
20	52. 45	037618	039199		20	52. 47	036785	038918	
25	52. 38	037551	039167		25	52. 47	036807	038902	
30	52. 12	037568	039179		30	52. 50	036812	038907	
35	52. 9	037502	039174		35	53. 11	036724	038918	
40	52. 9	037502	039148		40	53. 11	036502	038886	
45	51. 59	037430	039163		45	53. 13	036508	038886	D
50	51. 40	037319	039163		50	53. 25	036530	038875	H B
55	51. 41	037225	039190		55	53. 22	036646	038860	
Oct. 22. 12. 0	22. 51. 59	0·037137	0·039190	G	Oct. 22. 16. 0	22. 53. 25	0·036734	0·038870	H B
5	52. 14	037225	039190		5	53. 39	036734	038870	
10	52. 28	037319	039158		10	53. 46	036734	038854	
15	53. 5	037430	039158		15	53. 28	036778	038819	
20	53. 31	037524	039132		20	53. 21	036778	038829	
25	53. 31	037524	039127		25	53. 24	036822	038870	
30	53. 12	037507	039080		30	53. 20	036894	038828	
35	53. 0	037285	039064		35	53. 20	037026	038834	
40	52. 56	037130	039054		40	53. 13	037071	038798	
45	52. 40	037025	039028		45	52. 59	036960	038828	
50	52. 38	037047	039028		50	52. 50	037026	038844	
55	53. 1	037162	038997	G	55	53. 6	037071	038849	
Oct. 22. 13. 0	22. 53. 3	0·037118	0·038992	D	Oct. 22. 17. 0	22. 52. 59	0·037048	0·038844	H B
5	52. 59	037074	038976		5	52. 47	037004	038828	
10	53. 4	037008	038966		10	52. 31	037004	038828	
15	53. 4	036941	038960		15	52. 32	037071	038803	
20	53. 4	036875	038960		20	52. 37	037048	038834	
25	53. 8	036809	038966		25	52. 26	037026	038808	
30	52. 50	036792	038955		30	52. 31	037031	038828	
35	52. 48	036814	038960		35	52. 40	036965	038844	
40	53. 6	036792	038955		40	52. 27	036987	038844	
45	53. 22	036792	038950		45	55. 22	036921	038854	
50	53. 29	036703	038950		50	52. 18	036987	038844	
55	53. 17	036615	038955		55	52. 15	037031	038828	

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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·6$; in Vertical Plane, $26^s·7$.

Term-Day Observations of October 22 and 23.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Oct. 22. 18. 0	22. 52. 25	0 ·037054	0 ·038834	H B	Oct. 22. 22. 0	22. 52. 23	0 ·035746	0 ·038981	G
5	52. 36	036987	038844		5	52. 14	035702	038976	
10	52. 20	036921	038860		10	52. 27	035685	038949	
15	52. 27	036938	038870		15	52. 45	035884	038949	
20	52. 27	036894	038854		20	53. 3	035867	038913	
25	52. 22	036850	038870		25	53. 8	035867	038907	
30	52. 14	036894	038886		30	53. 22	035695	038870	
35	52. 30	036850	038896		35	53. 42	035695	038870	
40	52. 28	036872	038922		40	54. 12	035651	038870	
45	52. 21	036911	038906		45	52. 51	035634	038844	
50	52. 33	036933	038933		50	54. 0	035413	038844	
55	52. 21	036889	038939		55	53. 43	035307	038818	G
Oct. 22. 19. 0	22. 52. 47	0 ·036889	0 ·038944	H B	Oct. 22. 23. 0	22. 54. 17	0 ·035218	0 ·038757	D
5	52. 16	036850	038933	H B	5	54. 32	035102	038762	
10	52. 22	036894	038896	L	10	54. 37	034991	038793	
15	52. 17	036877	038942		15	54. 42	035031	038820	
20	52. 17	036744	038932		20	55. 6	035097	038825	
25	52. 20	036639	038932		25	55. 6	035114	038841	
30	51. 36	036639	038896		30	55. 15	035247	038852	
35	52. 14	036622	038937		35	55. 35	035242	038878	
40	52. 21	036578	038906		40	56. 4	035242	038909	D
45	52. 21	036516	038937		45	56. 3	035325	038936	H B
50	52. 24	036383	038921		50	56. 18	035436	038962	
55	52. 24	036322	038921		55	56. 33	035409	038952	
Oct. 22. 20. 0	22. 52. 15	0 ·036322	0 ·038921	L	Oct. 23. 0. 0	22. 56. 56	0 ·035520	0 ·038969	H B
5	52. 15	036366	038921		5	56. 52	035498	038984	
10	52. 6	036366	038915		10	56. 56	035475	038989	
15	51. 48	036649	038925		15	57. 8	035537	038979	
20	51. 48	036339	038925		20	57. 14	035647	039005	
25	51. 48	036272	038904		25	57. 13	035714	038995	
30	51. 46	036162	038868		30	57. 36	035846	039016	
35	51. 52	036162	038884		35	57. 36	035846	039042	
40	51. 52	036162	038884		40	58. 5	035780	039016	
45	51. 52	036179	038884		45	57. 44	035532	039068	
50	51. 52	036179	038857		50	57. 44	035532	039053	
55	51. 38	036068	038857		55	57. 51	035664	039095	
Oct. 22. 21. 0	22. 51. 38	0 ·035913	0 ·038867	L	Oct. 23. 1. 0	22. 58. 0	0 ·035797	0 ·039106	H B
5	51. 31	035930	038868		5	57. 54	035908	039058	
10	51. 10	035947	038868		10	58. 4	035947	039022	
15	51. 11	035875	038894		15	58. 5	036035	039015	
20	50. 59	035981	038911		20	57. 59	035880	038989	
25	51. 19	035931	038911		25	57. 56	036052	038937	H B
30	51. 7	036015	038937		30	58. 6	036008	038911	L
35	51. 35	035838	038963		35	57. 49	036008	038874	
40	51. 43	035899	038948		40	57. 49	035981	038874	
45	51. 54	035872	038949		45	57. 43	035981	038785	
50	52. 2	035889	038954	L	50	57. 30	036069	038795	
55	51. 58	035906	038949	G	55	57. 30	036263	038759	

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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20^s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24^s·6; in Vertical Plane, 26^s·7.

Term-Day Observations of October 23.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Oct. 23. 2. 0	22. 57. 30	0 ·036308	0 ·038795	L	Oct. 23. 6. 0	22. 53. 13	0 ·037127	0 ·038987	D
5	57. 30	036325	038847		5	53. 13	036994	038977	
10	57. 19	036519	038874		10	53. 13	037060	038966	
15	57. 19	036536	038917		15	53. 13	037038	038971	
20	57. 3	036420	038969		20	53. 13	036972	038977	
25	56. 55	036570	038954		25	53. 13	036927	038971	
30	56. 55	036587	039007		30	53. 10	036933	038966	
35	56. 55	036587	039059		35	53. 7	036933	038961	
40	56. 35	036759	039061		40	53. 2	036977	038961	
45	56. 40	036842	039114		45	53. 6	036999	038971	
50	56. 23	036682	039166		50	53. 6	036977	038966	
55	56. 9	036611	039125	L	55	53. 4	036955	038961	
Oct. 23. 3. 0	22. 55. 55	0 ·036606	0 ·039178	L&HB	Oct. 23. 7. 0	22. 53. 4	0 ·036955	0 ·038966	D
5	55. 43	036628	039225	H B	5	53. 4	037004	038934	L
10	55. 34	036650	039236		10	53. 4	036987	038934	
15	55. 27	036711	039272		15	53. 4	036904	038898	
20	55. 15	036667	039251		20	53. 4	036887	038856	
25	55. 2	036667	039257		25	53. 4	036825	038871	
30	54. 57	036600	039283		30	53. 4	036808	038845	
35	54. 49	036645	039273		35	53. 4	036808	038809	
40	54. 40	036578	039284		40	53. 4	036791	038819	
45	54. 29	036640	039274		45	53. 4	036774	038802	
50	54. 29	036684	039300		50	53. 4	036757	038776	
55	54. 14	036706	039284		55	53. 4	036740	038776	
Oct. 23. 4. 0	22. 54. 15	0 ·036750	0 ·039310	H B	Oct. 23. 8. 0	22. 53. 4	0 ·036723	0 ·038749	L
5	54. 15	036750	039274		5	53. 4	036768	038749	
10	54. 0	036728	039258		10	53. 4	036785	038749	
15	53. 53	036640	039243		15	53. 4	036740	038759	
20	53. 45	036617	039217		20	53. 4	036757	038775	
25	53. 36	036595	039179		25	53. 4	036757	038775	
30	53. 33	036679	039169		30	52. 55	036774	038802	
35	53. 32	036745	039169		35	52. 55	036774	038802	
40	53. 28	036789	039116		40	52. 55	036774	038802	L
45	53. 30	036900	039116		45	52. 58	036791	038818	G
50	53. 26	036878	039070		50	52. 56	036791	038807	
55	53. 22	036878	039080	H B	55	52. 56	036808	038812	
Oct. 23. 5. 0	22. 53. 22	0 ·036922	0 ·039039	D	Oct. 23. 9. 0	22. 53. 0	0 ·036808	0 ·038812	G
5	53. 24	036989	039054		5	53. 1	036808	038812	
10	53. 24	036944	039039		10	53. 1	036808	038801	
15	53. 27	037033	039049		15	53. 3	036791	038827	
20	53. 27	037144	039028		20	53. 3	036814	038852	
25	53. 27	037188	039018		25	53. 3	036791	038852	
30	53. 27	037105	039008		30	53. 0	036774	038826	
35	53. 27	036994	039013		35	53. 0	036774	038831	
40	53. 31	036972	039013		40	53. 0	036819	038831	
45	53. 10	036994	039008		45	52. 59	036841	038831	
50	53. 10	037060	038997		50	52. 59	036868	038805	
55	53. 10	037060	038982		55	52. 59	036868	038826	

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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s{\cdot}8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s{\cdot}6$; in Vertical Plane, $26^s{\cdot}7$.

Term-Day Observations of November 28.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Nov. 28. 10. 0	22. 50. 44	0·037074	0·038478	G	Nov. 28. 14. 0	22. 52. 45	0·036826	0·038576	L
5	50. 42	037074	038426		5	52. 45	036826	038576	
10	50. 46	037074	038385		10	52. 37	036809	038576	
15	50. 51	037140	038390		15	52. 21	036809	038576	
20	50. 51	037140	038390		20	52. 21	036809	038576	
25	50. 51	037162	038347		25	52. 21	036792	038576	
30	50. 45	037162	038332		30	52. 19	036970	038524	
35	50. 45	037162	038306		35	52. 8	037014	038503	
40	50. 41	037140	038301		40	51. 54	037108	038503	
45	50. 46	037140	038280		45	51. 54	037041	038503	
50	50. 59	037229	038280	G	50	52. 26	036997	038524	
55	50. 58	037229	038284	B A G	55	52. 31	036980	038482	
Nov. 28. 11. 0	22. 51. 12	0·037207	0·038309	B A G	Nov. 28. 15. 0	22. 55. 7	0·037467	0·038472	L
5	51. 15	037051	038319		5	54. 15	037627	038384	
10	51. 11	037145	038309		10	53. 26	037671	038368	
15	51. 8	037167	038309		15	52. 39	037610	038275	
20	51. 20	037173	038284		20	51. 27	037328	038239	
25	51. 19	037283	038284		25	51. 16	037261	038208	
30	51. 21	037333	038336		30	51. 16	037178	038202	
35	51. 21	037288	038336		35	51. 16	037006	038176	
40	51. 9	037156	038311		40	51. 45	036939	038186	
45	51. 9	037227	038285		45	52. 0	036878	038169	L
50	51. 12	037294	038269		50	52. 19	036861	038143	T D
55	51. 20	037321	038285		55	52. 31	036905	038159	
Nov. 28. 12. 0	22. 51. 24	0·037321	0·038290	B A G	Nov. 28. 16. 0	22. 52. 22	0·036844	0·038158	T D
5	51. 26	037321	038311		5	52. 18	036844	038148	
10	51. 30	037193	038268		10	52. 13	036844	038159	
15	51. 22	036972	038268		15	52. 2	036905	038169	
20	51. 23	036888	038211		20	51. 58	036972	038195	
25	51. 30	036932	038206		25	51. 50	037016	038210	
30	51. 41	037004	038179		30	51. 40	037082	038212	
35	51. 37	037026	038179		35	51. 34	037082	038212	
40	51. 26	037004	038195		40	51. 32	037127	038196	
45	51. 18	036987	038189		45	51. 13	037099	038212	
50	51. 25	037031	038179		50	51. 1	037099	038202	
55	51. 25	036881	038153		55	50. 58	037099	038213	
Nov. 28. 13. 0	22. 51. 16	0·036815	0·038143	B A G	Nov. 28. 17. 0	22. 50. 55	0·037144	0·038229	T D
5	51. 20	036965	038205	L	5	50. 29	037166	038229	
10	51. 20	036888	038190		10	50. 14	037188	038239	
15	51. 34	036861	038259		15	50. 17	037144	038222	
20	51. 34	036878	038269		20	50. 22	037099	038232	
25	51. 22	036895	038322		25	50. 32	037099	038238	
30	51. 22	036929	038374		30	50. 32	037099	038248	
35	51. 49	036946	038391		35	50. 32	037099	038248	
40	52. 3	036897	038401		40	50. 32	037099	038263	
45	52. 8	036936	038444		45	50. 44	037099	038237	
50	52. 12	037014	038481		50	50. 46	037099	038237	
55	52. 12	036942	038549		55	50. 46	037099	038227	

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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·6$; in Vertical Plane, $26^s·7$.

The observations with the initials B. A. G. were taken by Mr. Gould, of the University of Cambridge, Massachusetts.

Term-Day Observations of November 28 and 29.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Nov. 28. 18. 0	22. 51. 13	0·037055	0·038237	T D	Nov. 28. 22. 0	22. 49. 58	0·036358	0·038141	G
5	51. 24	036989	038237		5	49. 53	036292	038152	
10	51. 32	037006	038206		10	50. 6	036248	038157	
15	51. 33	036784	038237		15	50. 14	036341	038157	
20	51. 40	036690	038237		20	49. 44	036341	038157	
25	51. 41	036690	038237		25	50. 22	036452	038157	
30	51. 42	036973	038237		30	50. 54	036496	038131	
35	52. 2	036929	038217		35	50. 48	036341	038121	
40	51. 44	036929	038186	T D	40	50. 59	036297	038105	
45	51. 50	036835	038176	H B	45	50. 49	036214	038121	
50	51. 44	036924	038222		50	50. 49	036214	038121	
55	51. 50	036897	038253		55	50. 52	036214	038121	G
Nov. 28. 19. 0	22. 52. 33	0·037140	0·038196	H B	Nov. 28. 23. 0	22. 52. 21	0·036435	0·038141	L
5	51. 50	037162	038237		5	52. 21	036214	038106	
10	51. 40	037007	038253		10	51. 14	036435	038189	
15	51. 7	037074	038212		15	53. 6	036545	038159	
20	51. 19	037029	038212		20	52. 45	036214	038246	
25	51. 50	037295	038222		25	52. 45	036214	038185	
30	52. 2	037007	038226		30	52. 35	036214	038253	
35	51. 21	037074	038195		35	52. 47	036214	038289	
40	51. 39	037007	038200		40	53. 6	036214	038342	
45	51. 10	037140	038149		45	52. 37	036214	038316	
50	50. 58	037118	038220		50	53. 0	036103	038358	L
55	50. 49	036919	038215		55	53. 8	036148	038414	T D
Nov. 28. 20. 0	22. 51. 6	0·036897	0·038210	H B	Nov. 29. 0. 0	22. 54. 0	0·036037	0·038447	T D
5	51. 6	037118	038215		5	54. 0	036103	038498	
10	51. 23	037123	038246		10	53. 50	036009	038535	
15	50. 51	037012	038231		15	53. 49	036165	038551	
20	51. 9	037167	038231		20	53. 56	036226	038613	
25	50. 59	037167	038205		25	54. 5	036137	038620	
30	51. 44	036951	038205		30	53. 49	035977	038620	
35	52. 4	037195	038194		35	53. 34	035778	038657	
40	51. 39	037305	038167		40	53. 34	035822	038622	
45	51. 37	037372	038173		45	53. 40	035706	038658	
50	51. 41	037333	038173		50	53. 33	035617	038731	
55	52. 1	037244	038157		55	53. 39	035590	038711	
Nov. 28. 21. 0	22. 51. 48	0·037156	0·038121	H B	Nov. 29. 1. 0	22. 54. 24	0·035634	0·038784	T D
5	51. 49	037023	038136		5	54. 24	035590	038799	
10	51. 35	036890	038152		10	54. 42	035634	038726	
15	51. 37	036779	038136		15	55. 14	035518	038762	
20	51. 3	036735	038136		20	55. 1	035762	038726	
25	50. 19	036801	038141		25	55. 24	036272	038736	
30	50. 43	036513	038152		30	56. 9	036094	038725	
35	50. 20	036513	038147		35	56. 9	035983	038735	
40	50. 10	036314	038167		40	55. 31	035696	038725	
45	50. 11	036182	038162		45	55. 31	035668	038699	
50	49. 54	035960	038157		50	55. 52	035646	038683	
55	49. 46	036292	038167	H B	55	55. 36	035557	038647	

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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20ˢ·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24ˢ·6; in Vertical Plane, 26ˢ·7.

Term-Day Observations of November 29.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Nov. 29. 2. 0	22. 55. 21	0·035602	0·038667	T D	Nov. 29. 6. 0	22. 47. 47	0·036715	0·038764	H B
5	54. 56	035226	038630		5	48. 58	036666	038728	
10	54. 33	035005	038594		10	49. 23	036356	038754	
15	54. 32	034938	038604		15	50. 7	036373	038722	
20	54. 9	034827	038603		20	50. 50	036085	038764	
25	53. 40	034894	038593		25	50. 25	036390	038702	
30	53. 54	034800	038551		30	50. 52	036629	038714	
35	54. 13	035199	038541	T D	35	50. 58	036894	038709	H B
40	53. 58	035841	038602	H B	40	50. 58	037021	038672	T D
45	55. 22	035818	039524		45	51. 18	037132	038688	
50	55. 23	035841	039481		50	50. 49	037149	038688	
55	55. 7	035841	039481	H B	55	52. 3	037082	038699	
Nov. 29. 3. 0	22. 54. 42	0·035796	0·038461	L	Nov. 29. 7. 0	22. 52. 1	0·037011	0·038689	T D
5	54. 11	035907	038419		5	51. 53	036901	038679	
10	54. 1	036084	038419		10	51. 56	036834	038715	
15	54. 8	036222	038378		15	51. 56	036707	038699	
20	53. 55	036333	038378		20	51. 56	036707	038715	
25	53. 55	036333	038378		25	51. 54	036707	038715	
30	53. 55	036333	038368		30	51. 53	036707	038732	
35	54. 5	036421	038368		35	51. 53	036707	038716	
40	53. 52	036421	038368		40	52. 7	036817	038690	
45	53. 56	036426	038368		45	51. 52	036911	038691	
50	53. 56	036493	038332		50	51. 52	036911	038561	
55	54. 19	036493	038342		55	51. 52	036911	038588	
Nov. 29. 4. 0	22. 54. 11	0·036493	0·038342	L	Nov. 29. 8. 0	22. 51. 49	0·036955	0·038588	T D
5	54. 11	036510	038368		5	51. 39	036972	038614	
10	54. 3	036664	038394		10	51. 26	036928	038640	
15	54. 1	036571	038452		15	51. 18	036901	038651	
20	54. 1	036571	038462		20	51. 18	036834	038641	
25	53. 44	036588	038488		25	51. 18	036807	038667	
30	53. 38	036605	038515		30	51. 9	036758	038684	
35	53. 36	036384	038541		35	51. 24	036758	038694	
40	53. 49	035559	038567		40	51. 15	036775	038705	
45	53. 11	035426	038553		45	51. 15	036841	038722	
50	52. 28	036196	038522		50	51. 0	036969	038737	
55	49. 35	034160	038548	L	55	51. 0	036991	038748	T D
Nov. 29. 5. 0	22. 45. 56	0·034331	0·038544	H B	Nov. 29. 9. 0	22. 50. 57	0·037008	0·038759	G
5	44. 20	034459	038590		5	50. 57	037030	038732	
10	43. 15	034653	038673		10	50. 46	037123	038706	
15	42. 35	034936	038709		15	50. 50	037167	038679	
20	42. 27	035489	038766		20	50. 50	037195	038669	
25	43. 1	036016	038787		25	50. 50	037195	038643	
30	44. 1	036232	038798		30	50. 50	037200	038617	
35	43. 38	036647	038788		35	50. 46	037178	038590	
40	44. 17	036819	038778		40	50. 42	037133	038564	
45	45. 4	036902	038778		45	50. 42	037028	038537	
50	45. 49	036836	038762		50	50. 39	037050	038537	
55	46. 41	036897	038789		55	50. 38	037033	038501	

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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·6$; in Vertical Plane, $26^s·7$.

Between 5^h and $6^h. 45^m$ extra observations were taken. (See the Section of Extraordinary Observations.)

Term-Day Observations of December 17.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Dec. 17. 10. 0	22. 50. 54	0 ·037571	0 ·038211	G	Dec. 17. 14. 0	22. 50. 50	0 ·037339	0 ·038146	L
5	50. 53	037571	038211		5	51. 5	037356	038172	
10	50. 50	037571	038206		10	51. 5	037356	038198	
15	50. 51	037549	038195		15	51. 42	037373	038225	
20	50. 51	037526	038201		20	51. 46	037390	038225	
25	50. 51	037526	038201		25	51. 51	037456	038267	
30	50. 51	037526	038201		30	51. 40	037518	038294	
35	50. 51	037549	038201		35	51. 40	037645	038320	
40	50. 51	037571	038206		40	51. 27	037645	038346	
45	50. 52	037593	038206		45	51. 27	037662	038373	
50	50. 52	037593	038211		50	51. 27	037679	038399	
55	50. 52	037593	038211		55	51. 40	037879	038399	
Dec. 17. 11. 0	22. 50. 53	0 ·037593	0 ·038211	G	Dec. 17. 15. 0	22. 51. 51	0 ·037696	0 ·038436	L
5	50. 55	037571	038211		5	51. 39	037448	038462	
10	50. 53	037571	038211		10	51. 39	037730	038504	
15	50. 34	037526	038211		15	52. 5	037969	038531	
20	50. 30	037526	038211		20	52. 11	037969	038531	
25	50. 38	037482	038211		25	52. 11	037986	038531	
30	50. 38	037438	038216		30	52. 4	038003	038532	
35	50. 47	037438	038221		35	52. 4	038020	038558	L
40	50. 55	037526	038221		40	51. 52	038037	038584	T D
45	51. 22	037526	038221		45	51. 40	038098	038586	
50	51. 22	037526	038221		50	51. 40	038181	038612	
55	50. 14	037526	038221		55	51. 51	038181	038612	
Dec. 17. 12. 0	22. 49. 57	0 ·037549	0 ·038221	G	Dec. 17. 16. 0	22. 52. 2	0 ·038265	0 ·038628	T D
5	49. 39	037593	038211		5	52. 25	038215	038639	
10	49. 32	037615	038232		10	52. 26	038149	038665	
15	49. 11	037659	038227		15	52. 40	038122	038682	
20	49. 4	037681	038221		20	52. 41	038095	038666	
25	48. 13	037726	038221		25	52. 44	038095	038692	
30	46. 43	037792	038227		30	52. 44	038156	038693	
35	45. 11	038855	038237	G	35	52. 43	038173	038703	
40	45. 25	038965	038211	L	40	52. 43	038173	038729	
45	45. 39	038412	038159		45	52. 38	038190	038756	
50	46. 40	038190	038186		50	52. 22	038207	038772	
55	47. 36	037792	038125		55	52. 16	038207	038772	
Dec. 17. 13. 0	22. 48. 37	0 ·037526	0 ·038135	L	Dec. 17. 17. 0	22. 52. 2	0 ·038224	0 ·038794	T D
5	49. 47	037349	038135		5	51. 53	038224	038773	
10	50. 39	037305	038135		10	52. 1	038224	038773	
15	50. 21	037322	038135		15	52. 16	038241	038747	
20	50. 36	037499	038135		20	52. 16	038241	038737	
25	51. 1	037499	038135		25	52. 29	038174	038721	
30	50. 41	037588	038125		30	52. 31	038068	038711	
35	50. 41	037765	038125		35	52. 35	038019	038696	
40	50. 56	037765	038125		40	52. 49	037909	038696	
45	50. 56	037738	038162		45	52. 50	037859	038685	
50	50. 56	037605	038162		50	52. 54	037815	038670	
55	50. 50	037450	038146		55	53. 4	037815	038670	

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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 26s·7.

Term-Day Observations of December 17 and 18.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Dec. 17. 18. 0	22. 52. 59	0 ·037926	0 ·038654	T D	Dec. 17. 22. 0	22. 52. 8	0 ·037848	0 ·038432	G
5	53. 3	038009	038654		5	52. 17	037893	038390	
10	53. 10	038026	038644		10	52. 26	037831	038348	
15	53. 6	038087	038654		15	52. 32	037831	038302	
20	52. 58	038171	038644		20	52. 40	037704	038275	
25	52. 54	038232	038645		25	52. 44	037593	038269	
30	52. 48	038310	038671		30	52. 46	037466	038233	
35	52. 44	038428	038671	T D	35	52. 52	037399	038191	
40	52. 29	038499	038698	H B	40	52. 59	037133	038181	
45	52. 34	038627	038682		45	53. 19	036851	038154	
50	52. 43	038577	038703		50	53. 23	036873	038128	
55	52. 30	038639	038693		55	53. 52	036767	038128	
Dec. 17. 19. 0	22. 52. 22	0 ·038633	0 ·038688	H B	Dec. 17. 23. 0	22. 53. 46	0 ·036789	0 ·038101	G
5	52. 32	038589	038678		5	53. 38	036656	038101	L
10	52. 22	038594	038678		10	53. 38	036479	038117	
15	51. 56	038506	038641		15	53. 44	036418	038070	
20	51. 47	038423	038611		20	53. 25	036241	038153	
25	51. 57	038423	038600		25	52. 48	036861	038153	
30	51. 45	038317	038605		30	53. 2	036972	038153	
35	52. 18	038184	038579		35	53. 57	037082	038153	
40	52. 21	038118	038559		40	53. 58	037082	038153	
45	52. 20	037813	038482		45	54. 0	036955	038282	
50	52. 23	037791	038476		50	54. 7	037021	038256	
55	52. 14	037729	038471		55	54. 25	037287	038256	
Dec. 17. 20. 0	22. 52. 3	0 ·037818	0 ·038461	H B	Dec. 18. 0. 0	22. 54. 52	0 ·037110	0 ·038308	L
5	52. 3	037907	038471		5	54. 52	036955	038308	
10	52. 11	037907	038445		10	56. 5	037176	038335	
15	52. 24	037901	038497		15	56. 29	037304	038387	
20	52. 28	037968	038492		20	57. 37	037304	038387	
25	52. 35	037990	038440		25	57. 57	037415	038413	
30	52. 11	038189	038497		30	57. 47	037127	038413	
35	52. 18	038212	038476		35	57. 38	037082	038413	
40	52. 27	038367	038497		40	57. 50	037304	038388	
45	52. 20	038361	038450		45	57. 59	037232	038430	
50	52. 20	038384	038487		50	57. 28	037232	038398	
55	52. 20	038273	038476		55	57. 28	037232	038424	
Dec. 17. 21. 0	22. 52. 7	0 ·038229	0 ·038450	H B	Dec. 18. 1. 0	22. 57. 28	0 ·037321	0 ·038414	L
5	52. 4	038251	038440		5	57. 53	037355	038493	
10	52. 16	038290	038466		10	58. 35	037328	038572	
15	52. 8	038157	038482		15	58. 55	037406	038624	
20	51. 56	038174	038461		20	58. 18	037440	038677	L
25	52. 26	038174	038493		25	58. 30	037457	038730	T D
30	52. 18	038257	038488		30	58. 47	037491	038783	
35	52. 38	038346	038467		35	58. 46	037702	038836	
40	52. 38	038324	038483	H B	40	58. 51	037763	038888	
45	52. 40	038097	038477	G	45	59. 7	037797	038941	
50	52. 28	037942	038441		50	59. 7	037942	038994	
55	52. 14	037893	038453		55	58. 56	037976	039073	

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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s{\cdot}8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s{\cdot}6$; in Vertical Plane, $26^s{\cdot}7$.

Term-Day Observations of December 18.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m	° ′ ″				d h m	° ′ ″			
Dec. 18. 2. 0	22. 58. 43	0 ·037882	0 ·039116	T D	Dec. 18. 6. 0	22. 45. 17	0 ·039067	0 ·039103	T D
5	58. 11	037755	039073		5	44. 59	039178	039128	
10	57. 42	037627	039047		10	45. 9	039687	039101	
15	57. 38	037831	039020		15	45. 56	040130	039101	
20	57. 4	037831	038994	T D	20	47. 4	040130	039050	
25	57. 5	037770	038968	H B	25	48. 9	040063	039024	
30	57. 12	037687	038951		30	48. 38	039926	038981	
35	57. 13	037758	038946		35	49. 33	039882	038955	T D
40	57. 27	037807	038914	H B	40	50. 4	039682	038955	H B
45	57. 41	037766	038929	L	45	50. 36	039527	038883	
50	57. 59	037773	038888		50	50. 40	039461	038898	
55	57. 59	037729	038835		55	51. 3	039372	038846	
Dec. 18. 3. 0	22. 57. 59	0 ·037712	0 ·038819	L	Dec. 18. 7. 0	22. 51. 27	0 ·039195	0 ·038789	H B
5	57. 45	037712	038835		5	51. 21	039239	038799	
10	57. 36	037712	038835		10	51. 7	039106	038779	
15	57. 29	037712	038861		15	50. 45	038880	038742	
20	57. 0	037867	038830		20	50. 27	038681	038706	
25	56. 35	037933	038851		25	50. 21	038592	038701	
30	55. 34	038155	038851		30	50. 3	038747	038711	
35	54. 29	038155	038871		35	50. 6	038836	038711	
40	54. 7	038155	038871		40	49. 34	038769	038690	
45	54. 33	038044	038878		45	47. 25	038742	038664	
50	54. 35	037978	038888		50	45. 17	038698	038608	
55	54. 35	038044	038852		55	44. 12	039406	038551	
Dec. 18. 4. 0	22. 54. 27	0 ·038111	0 ·038852	L	Dec. 18. 8. 0	22. 45. 13	0 ·039738	0 ·038649	H B
5	54. 13	038128	038878		5	46. 30	039938	038644	
10	54. 13	038189	038888		10	47. 34	040021	038695	
15	54. 22	038427	038925		15	48. 37	040021	038696	
20	54. 39	038605	038936		20	49. 7	039839	038650	
25	54. 39	038666	038962		25	49. 4	039617	038671	
30	54. 39	038727	038978		30	49. 6	039391	038666	
35	53. 35	038744	039025	L	35	48. 49	039324	038656	
40	52. 48	038717	039030	T D	40	48. 41	039324	038662	
45	51. 55	038734	039047		45	48. 39	039341	038662	H B
50	51. 55	038751	039073		50	48. 53	039186	038678	G
55	51. 55	038684	039063		55	49. 29	039048	038688	
Dec. 18. 5. 0	22. 51. 54	0 ·038657	0 ·039079	T D	Dec. 18. 9. 0	22. 50. 3	0 ·038982	0 ·038705	G
5	51. 48	038768	039090		5	50. 5	038894	038705	
10	51. 49	038768	039126		10	50. 18	038960	038679	
15	52. 7	038785	039126		15	50. 39	038938	038673	
20	52. 8	038785	039152		20	50. 40	038938	038663	
25	51. 52	038785	039152		25	50. 33	038938	038663	
30	51. 54	038718	039163		30	50. 34	038938	038653	
35	51. 24	038785	039127		35	50. 36	038960	038653	
40	51. 7	038785	039106		40	50. 36	038916	038647	
45	49. 14	038802	039101		45	50. 36	038938	038658	
50	46. 21	038802	039086		50	50. 35	038938	038627	
55	45. 47	038979	039128		55	50. 31	038916	038621	

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, 228°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot6$; in Vertical Plane, $26^s\cdot7$.

ROYAL OBSERVATORY, GREENWICH.

EXTRAORDINARY OBSERVATIONS

OF

MAGNETOMETERS.

1845.

Extraordinary Observations of January 9.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Jan. 9. 9. 57. 30			0·043266	L
10. 0. 0	22. 55. 58			
10. 2. 30		0·037240		L
11. 57. 30			041952	D
12. 0. 0	42. 46			
2. 30		033408		
4. 0	41. 35	033364	041962	
9. 0	41. 50	033297	041978	
14. 0	40. 53	033297	041998	
19. 0	35. 39	033408	042055	
21. 0	36. 26	034028	042215	
22. 0	36. 46	034139	042252	
23. 0	36. 58	034272	042272	
24. 0	37. 16	034139	042246	
25. 0	37. 28	034072	042220	
26. 0	37. 34	033807	042174	
28. 0	37. 36	033586	042169	
29. 0	37. 21	033492	042195	
30. 0	36. 48	033448	042211	
31. 0	36. 46	033381	042236	
32. 0	37. 2	033381	042246	
33. 0	37. 22	033381	042293	
34. 0	37. 39	033514	042350	
36. 0	38. 39	033779	042521	
37. 0	39. 15	033912	042577	
38. 0	40. 7	034156	042692	
39. 0	41. 6	034333	042753	
40. 0	42. 16	034577	042847	
41. 0	43. 23	034732	042862	
42. 0	44. 24	034798	042904	
43. 0	45. 21	034887	042914	
44. 0	45. 46	034820	042867	
45. 0	46. 25	034820	042888	
46. 0	46. 51	034776	042862	
47. 0	47. 16	034931	042867	
48. 0	47. 26	035041	042867	
50. 0	48. 22	035861	042970	
51. 0	49. 9	036192	043058	
52. 0	48. 51	036436	043053	
53. 0	48. 56	036303	043022	
54. 0	49. 17	036702	043053	
55. 0	49. 10	036968	043073	
56. 0	48. 44	037255	043084	
12. 58. 0	48. 52	037809	043115	
13. 0. 0	48. 39	037477	043063	
1. 0	48. 42	037455	043053	
3. 0	50. 45	037499	043084	
7. 0	50. 58	037455	043120	
8. 0	50. 33	037455	043089	
10. 0	50. 26	037366	043017	
13. 0	48. 53	036924	042857	

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Jan. 9. 13. 14. 0	22. 47. 51	0·036591	0·042779	D
15. 0	46. 59	036370	042733	
16. 0	45. 56	036303	042666	
18. 0	44. 22	036303	042614	
21. 0	43. 19	036082	042495	
25. 0	44. 31	035351	042443	
27. 0	44. 17	034997	042448	
31. 0	41. 6	034527	042615	
35. 0	38. 19	034859	042760	
39. 0	38. 40	035014	042755	
45. 0	39. 53	034505	042713	
50. 0	39. 39	033487	042765	
56. 0	37. 15	032955	042770	
13. 57. 30			042770	
14. 0. 0	36. 20			
2. 30		032468		
8. 0	37. 2	032336	042889	
13. 0	38. 50	031848	042842	
20. 0	44. 7	031671	043194	
29. 0	46. 40	031737	043194	
44. 0	51. 4	031737	043194	
49. 0	51. 49	031892	043090	
14. 58. 0	54. 32	032114	043023	
15. 2. 0	57. 8	032424	042967	
9. 0	22. 58. 10	032491	042936	
23. 0	23. 4. 40	033664	042687	
25. 0	6. 19	033708	042687	
27. 0	3. 48	034549	042780	
30. 0	23. 1. 27	034749	042806	
32. 0	22. 56. 44	034992	042832	
35. 0	52. 49	035679	042858	
38. 0	49. 25	036099	042879	
39. 0	48. 6	036320	042874	
40. 0	47. 3	036320	042905	
41. 0	46. 10	036520	042936	
42. 0	45. 30	036542	042926	
44. 0	44. 30	036830	042977	
47. 0	44. 34	036941	043023	
48. 0	44. 38	036941	043029	
49. 0	44. 45	036830	043039	
53. 0	44. 36	036542	043039	
56. 0	44. 0	036520	043090	
15. 57. 30			043100	
16. 0. 0	44. 1			
2. 30		036498		
6. 0	45. 54	036586	043199	
8. 0	46. 43	036586	043246	
11. 0	47. 1	036498	043241	
16. 0	47. 27	036520	043241	
23. 0	47. 34	036520	043241	
29. 0	47. 56	036542	043246	

Jan. 9^{d}. A change of 13′. 12″ having taken place in the position of the Declination Magnet between 10^{h} and 12^{h}, extra observations were commenced. A strong auroral light appeared in the horizon extending from N. W. to N. E.

Jan. $9^{d}. 12^{h}. 36^{m}$, the auroral light was less distinct; at $12^{h}. 56^{m}$ it was nearly invisible, but was diffused over a much larger portion of the sky; at $13^{h}. 18^{m}$ the light wholly disappeared.

Extraordinary Observations of January 9, 19, and 22.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Jan. 9. 17. 57. 30			0·043203	D
18. 0. 0	22. 57. 21			
2. 30		0·037858		
1. 45	57. 45	038058	043193	
3. 45	58. 36	038168	043167	
8. 45	58. 55	038389	043141	
13. 45	59. 8	038500	043131	
18. 45	59. 18	038483	043062	
23. 45	59. 19	038594	043062	
28. 45	59. 19	038660	043036	
33. 45	59. 18	038815	043020	
38. 45	59. 15	038882	042985	
18. 48. 45	58. 31	038726	042969	
19. 57. 30			042814	
20. 0. 0	59. 0			
2. 30		039334		D
Jan. 19. 13. 57. 30			0·041054	L
14. 0. 0	22. 42. 25			
2. 30		0·038168		
9. 45	47. 17	037880	041106	
14. 45	48. 43	037946	041209	
16. 45	49. 17	037946	041199	
19. 45	50. 8	038013	041199	
22. 45	50. 57	038257	041199	
24. 45	51. 26	038185	041158	
27. 45	52. 25	038074	041106	
29. 45	52. 53	037963	041064	
32. 45	53. 27	037742	040977	
34. 45	53. 44	037631	041002	
37. 45	53. 56	037587	040977	
39. 45	54. 40	037565	040977	
42. 45	55. 11	037189	040899	
44. 45	54. 42	036746	040847	
47. 45	54. 42	036524	040795	
49. 45	54. 50	036303	040734	
52. 45	54. 58	035639	040589	
14. 54. 45	54. 58	035462	040589	
15. 57. 30			040873	
16. 0. 0	54. 12			
2. 30		039879		L
Jan. 22. 11. 30. 0	22. 57. 58			G
32. 30		0·043871	0·042611	
35. 0	49. 25			
37. 30		044469	042673	
40. 0	48. 47			
41. 0	49. 25	044691	042663	
42. 0	49. 6	044978	042673	
42. 30		044995	042663	
43. 0	49. 20	045105	042647	

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Jan. 22. 11. 43. 30	22. 49. 36	0·045150	0·042637	G
45. 0	50. 7	045327	042637	
46. 0	50. 18	045327	042679	
47. 0	50. 23	045593	042679	
47. 30	50. 40	045571	042663	
49. 0	50. 59	045438	042647	
50. 0	51. 12	045504	042663	
51. 0	51. 35	045748	042663	
52. 0	51. 56	045748	042673	
52. 30	52. 30	045770	042673	
54. 0	52. 51	045787	042700	
55. 0	53. 19	045787	042700	
56. 0	54. 11	045743	042690	
57. 30	54. 39	045610	042700	
58. 0	55. 9			
11. 59. 0	55. 23	045344	042674	
12. 0. 0	55. 39	045167	042612	
1. 0	55. 52	045012	042612	
2. 30	56. 2	044902	042612	
3. 0	56. 9	044569	042602	
5. 0	56. 22	044481	042612	
6. 0	56. 29	044481	042596	
7. 30	57. 25	044365	042586	
8. 0	57. 44	044254	042576	
10. 0	58. 12	044077	042587	
11. 0	58. 48	043922	042545	
12. 30	59. 19	043833	042519	
13. 0	59. 34	043767	042509	
14. 0	22. 59. 42	043590	042509	
15. 0	23. 0. 2	043369	042509	
16. 0	0. 12	043303	042536	
17. 0	0. 30	043102	042536	
17. 30	0. 46	043031	042484	
19. 0	1. 8	042766	042484	
19. 30	1. 30	042501	042494	
20. 0	1. 36	042301	042494	
21. 0	1. 44	042169	042484	
22. 0	1. 49	042058	042500	
22. 30	1. 54	041835	042484	
24. 0	1. 48	041438	042458	
25. 0	1. 41	041349	042458	
26. 0	1. 32	041193	042458	
27. 0	1. 23	041149	042480	
27. 30	1. 7	041078	042495	
28. 0	0. 35	040967	042485	
29. 0	0. 14	040945	042485	
30. 0	23. 0. 0	040834	042475	
31. 0	22. 59. 28	040790	042460	
32. 30	59. 7	040767	042434	
33. 0	58. 36	040745	042460	
34. 0	58. 21	040745	042470	

Jan. 19^d. 14^h. The position of the Declination Magnet being different from what it was expected to be at this time, and the change in the following ten minutes being large, extra observations were commenced.

Jan. 22^d. Between 11^h. 30^m and 11^h. 35^m a sudden change of 8′. 33″ having taken place in the position of the Declination Magnet, extra observations were commenced. (See Section of Term-Day Observations for observations before 11^h. 30^m and after 14^h.)

Extraordinary Observations of January 22, 27, and 28.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Jan. 22. 12. 35. 0	22. 57. 43	0 ·040745	0 ·042460	G
36. 0	57. 17	040901	042460	
37. 0	56. 43	040967	042460	
38. 0	56. 21	041012	042486	
39. 0	56. 5	041166	042547	
40. 0	55. 57	041166	042537	
42. 30		040984	042537	G
43. 0	55. 23	041427	042532	D
45. 0	55. 14			
46. 0	55. 14	041649	042580	
47. 0	55. 14	041671	042574	
47. 30		041583	042569	
48. 0	55. 22	041671	042569	
49. 0	55. 24	041693	042569	
50. 0	55. 31			
51. 0	55. 33	041693	042595	
52. 30	55. 39	041732	042595	
54. 0	55. 47	041864	042616	
55. 0	55. 47	041864	042611	
56. 0	55. 48	041754	042626	
57. 30		041710	042653	
12. 58. 0	55. 42	041644	042643	
13. 0. 0	55. 33	041644	042643	
1. 0	55. 25	041622	042633	
2. 30	55. 16	041595	042653	
3. 0	55. 10	041683	042653	
4. 0	55. 1	041661	042648	
5. 0	55. 1	041661	042653	
6. 0	54. 58	041727	042669	
7. 30	54. 55	041639	042659	
9. 0	54. 55	041683	042664	
10. 0	54. 52			
12. 30		041700	042679	
13. 0	55. 13	041700	042669	
15. 0	55. 0			
17. 30		041717	042669	
20. 0	55. 19			
22. 30	55. 37	041739	042696	
25. 0	55. 49	041761	042701	
27. 30	56. 4	041866	042722	
30. 0	56. 19			
13. 57. 30			042750	
14. 0. 0	56. 7			
2. 30		041758		D
Jan. 27. 7. 57. 30			0 ·042358	H B
8. 0. 0	22. 57. 1			
2. 30		0 ·038979		
9. 57. 30			042021	
10. 0. 0	47. 49			
2. 30		040391		
Jan. 27. 10. 9. 30	22. 48. 21	0 ·040457	0 ·042047	H B
11. 30	48. 41	040457	042041	
14. 30	49. 6	040280	042004	
16. 30	48. 42	040191	042020	
18. 30	48. 55	039992	042004	
19. 30	49. 0	039904	042004	
21. 30	49. 10	039793	041994	
23. 30	49. 13	039727	042004	
25. 30	49. 20	039682	042004	
27. 30	49. 30	039549	041994	
29. 30	49. 40	039522	042004	
31. 30	49. 49	039367	041994	
33. 30	49. 49	039234	042020	
35. 30	50. 6	039168	042004	
37. 30	50. 26	039057	042035	
39. 30	51. 6	039013	042025	
41. 30	51. 31	038748	042040	
43. 30	51. 58	038703	042046	
45. 30	52. 21	038482	042030	
47. 30	52. 46	038305	042020	
49. 30	53. 2	038260	042030	
51. 30	53. 36	038371	042040	
53. 30	54. 6	038592	042056	
55. 30	54. 54	038925	042092	
57. 30	55. 26	039190	042118	
10. 59. 30	55. 51	039367	042097	
11. 1. 30	56. 17	039412	042082	
3. 30	56. 40	039434	042072	
5. 30	56. 53	039434	042066	
10. 30	56. 57	039367	042056	H B
39. 15	53. 20	038942	042220	G
49. 15	53. 39	038942	042220	
11. 57. 30			042220	
12. 0. 0	53. 42			
2. 30		038942		
12. 29. 16	55. 37	038814	042468	
13. 57. 30			042539	
14. 0. 0	22. 56. 28			
2. 30		038524		G
Jan. 28. 1. 47. 30			0 ·042841	L
50. 0	23. 0. 42			
52. 30		0 ·040866		
55. 0	0. 32		042815	
1. 57. 30		041022		
2. 2. 30			042815	
10. 0	1. 13		042815	
2. 12. 30		041089		L
3. 57. 30			044731	G
4. 0. 0	0. 59			
2. 30		038967		

Jan. 27[d]. A change of 9′. 12″ having taken place in the position of the Declination Magnet between 8[h] and 10[h], extra observations were commenced.

Jan. 28[d]. Considerable changes having taken place in the positions of the Horizontal and Vertical Force Magnets between 2[h]. 10[m] and 4[h], extra observations were commenced.

Extraordinary Observations of January 28, 29, and 30.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Jan. 28. 4. 5. 0	23. 2. 0	0·038879	0·044846	G
10. 0	1. 52	038830	044867	
15. 0	1. 52	038780	044898	
20. 0	1. 38	038686	044872	
25. 0	1. 24	038642	044899	
30. 0	0. 53	038526	044925	
4. 45. 0	23. 0. 20	038183	044946	
5. 0. 0	22. 59. 48	037886	044905	
15. 0	58. 44	037460	044809	
30. 0	53. 12	037383	044845	
45. 0	53. 15	037417	044929	
5. 57. 30			044946	
6. 0. 0	56. 0			
2. 30		037340		
6. 15. 0	56. 0	037451	044775	
7. 30. 0	54. 53	037385	044491	
7. 57. 30			044491	
8. 0. 0	22. 53. 27			
2. 30		037518		G
Jan. 29. 3. 57. 30			0·044548	L
4. 0. 0	23. 0. 52			
4. 2. 30		0·038253		
5. 57. 30			044730	
6. 0. 0	22. 45. 43			
2. 30		038409		
19. 15	47. 21	039190	045087	
24. 15	47. 2	039633	044896	
29. 15	47. 2	039578	044922	
34. 15	47. 2	039445	044881	
39. 15	48. 6	039152	044933	
44. 15	45. 50	038926	044908	
49. 15	48. 50	039568	045016	
52. 15	52. 26	038943	045016	
54. 15	53. 7	038279	045006	
57. 15	52. 55	037499	044965	
6. 59. 15	51. 48	037255	044985	
7. 2. 15	50. 44	037499	044996	
4. 15	51. 18	037565	044980	
7. 15	52. 21	037472	045054	
9. 15	53. 46	037444	045074	
14. 15	55. 53	037019	045126	
17. 15	56. 38	036527	045183	
19. 15	55. 48	035973	045193	
22. 15	52. 54	035929	045226	
24. 15	51. 40	036388	045236	
27. 15	51. 46	037053	045241	
29. 15	51. 59	037356	045215	
32. 15	53. 44	037534	045231	
34. 15	53. 51	037933	045241	

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Jan. 29. 7. 37. 15	22. 53. 42	0·037955	0·045200	L
39. 15	54. 47	038194	045236	
42. 15	57. 2	038304	045252	
44. 15	58. 19	038150	045236	
47. 15	59. 22	037795	045232	
49. 15	59. 26	037878	045232	
52. 15	59. 53	037768	045212	
7. 57. 30			045160	
8. 0. 0	59. 11			
8. 2. 30		037696		
9. 57. 30			044590	
10. 0. 0	49. 44			
2. 30		042800		
9. 15	54. 23	041931	044440	
12. 15	55. 5	041379	044388	
14. 15	55. 18	041049	044311	
16. 15	56. 13	040713	044182	
18. 15	56. 18	040493	044182	
20. 15	56. 9	040138	044203	
22. 15	56. 25	040005	044250	
24. 15	56. 49	039784	044275	
26. 15	57. 12	039623	044218	
28. 15	57. 41	039380	044068	
30. 15	57. 41	038959	044073	
32. 15	57. 1	038738	044032	
40. 15	55. 53	038915	044017	
42. 15	56. 1	038937	044053	
44. 15	56. 16	038755	044069	
46. 15	56. 24	038755	044043	
48. 15	56. 1	038357	044079	
50. 15	55. 42	038202	044140	
52. 15	54. 53	038091	044120	
54. 15	54. 7	038136	044006	
56. 15	53. 24	038512	044059	
10. 58. 15	53. 20	038755	044059	
11. 0. 15	54. 2	038888	044126	
2. 15	54. 32	038866	044132	
4. 15	54. 51	038800	044261	
6. 15	55. 53	038866	044209	
8. 15	56. 22	038578	044147	
10. 15	56. 35	038445	044064	
12. 15	56. 3	038202	044028	
14. 15	55. 50	037931	044028	
16. 15	55. 16	037887	044070	
18. 15	54. 25	037687	044080	L
11. 57. 30			044262	H B
12. 0. 0	53. 9			
2. 30		037970		H B
Jan. 30. 1. 47. 30			0·044812	L
50. 0	23. 2. 34			

Jan. 29^d. A change of 15′. 9″ having taken place in the position of the Declination Magnet between 4^h and 6^h, extra observations were commenced.

Extraordinary Observations of January 30 and February 20.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Jan. 30. 1. 52. 30		0·039352		L
1. 57. 30			0·044750	
2. 0. 0	23. 1. 49			
2. 30		039197		
7. 30			044760	
10. 0	1. 15			
2. 12. 30		038931		L
3. 57. 30			045063	H B
4. 0. 0	1. 15			
2. 30		039591		
50. 0	0. 56	037861	044729	
53. 0	0. 41	037750	044713	
55. 0	0. 24	038149	044693	
57. 0	23. 0. 12	038415	044703	
4. 59. 0	22. 59. 56	038282	044687	
5. 1. 0	59. 49	038210	044672	
3. 0	59. 48	038099	044661	
6. 0	59. 28	038144	044635	
8. 0	59. 1	038116	044677	
12. 0	58. 27	038050	044688	
18. 0	57. 38	038133	044730	
27. 0	56. 45	038355	044756	
36. 0	57. 4	038637	044772	
44. 0	57. 7	039031	044756	
5. 57. 30			044756	
6. 0. 0	57. 6			
6. 2. 30		039004		
7. 57. 30			044591	
8. 0. 0	49. 51			
2. 30		037398		
8. 0	44. 34	038532	044596	
10. 0	43. 46	038953	044632	
12. 0	44. 11	039307	044647	
14. 0	44. 33	039506	044668	
16. 0	44. 39	039727	044683	
18. 0	44. 39	039749	044668	
20. 0	44. 20	039860	044673	
22. 0	44. 19	040281	044662	
25. 0	44. 50	040503	044662	
27. 0	44. 51	040834	044652	
29. 0	45. 18	040928	044652	
31. 0	45. 38	040994	044642	
32. 0	45. 52	041106	044642	
35. 0	46. 9	041261	044627	
8. 49. 0	50. 18	040424	044476	
9. 0. 0	51. 58	039273	044393	
2. 0	52. 6	039029	044393	
4. 0	52. 15	038719	044377	
6. 0	52. 14	038476	044367	
8. 0	51. 59	038210	044335	
10. 0	51. 52	038016	044324	

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Jan. 30. 9. 12. 0	22. 51. 39	0·037928	0·044319	H B
15. 0	51. 23	038016	044330	
18. 0	51. 5	038016	044330	
20. 0	51. 6	038149	044350	
27. 0	52. 11	038371	044356	
29. 0	52. 26	038371	044350	
34. 0	53. 3	038238	044361	
39. 0	54. 7	038193	044376	
43. 0	54. 55	037955	044382	
9. 57. 30			044345	
10. 0. 0	55. 34			
10. 2. 30		037844		H B
11. 30. 0	56. 51	038364	044234	G
11. 57. 30			044218	
12. 0. 0	22. 57. 21			
2. 30		038369		G
Feb. 20. 1. 47. 30			0·044299	D
50. 0	23. 2. 19			
52. 30		0·037643		
1. 57. 30			044305	
2. 0. 0	2. 55			
2. 30		037599		
7. 30			044305	
10. 0	23. 3. 41			
2. 12. 10		037621		D
3. 57. 30			044309	H B
4. 0. 0	22. 59. 37			
2. 30		038084		
20. 0	59. 7	038157	044145	
24. 0	59. 15	038440	044166	
4. 42. 0	59. 18	038397	044107	
5. 57. 30			043839	
6. 0. 0	58. 40			
6. 2. 30		037876		
7. 57. 30			043565	
8. 0. 0	57. 6			
8. 2. 30		036650		
9. 57. 30			043488	
10. 0. 0	54. 45			
2. 30		035978		
15. 0	45. 26	037267	043451	
17. 0	44. 36	037267	043435	
19. 0	43. 17	037267	043435	
21. 0	42. 45	037267	043425	
23. 0	42. 15	036802	043394	
25. 0	41. 49	036780	043394	
28. 0	41. 37	036320	043384	
30. 0	41. 29	036099	043384	
32. 0	41. 50	036143	043425	
34. 0	42. 18	035833	043451	

Jan. 30^{d}. Considerable changes having taken place in the positions of the Horizontal Force and Vertical Force Magnets between $2^{h}. 10^{m}$ and 4^{h}, extra observations were commenced.

Feb. 20^{d}. Between $2^{h}. 10^{m}$ and 4^{h} the scale reading decreased $2^{div}·75$, corresponding to an apparent decrease of Vertical Force of 0·001421, and extra observations were commenced: it was afterwards found that this change of reading was chiefly attributable to an increase of temperature from 39°·1 at $2^{h}. 10^{m}$ to 44°·5 at 4^{h}, which corresponds to an additive correction of $0·000264 \times 5·4 = 0·001426$ parts of the Vertical Force.

Feb. 20^{d}. Between $10^{h}. 0^{m}$ and $10^{h}. 15^{m}$ a change of 9′. 19″ occurred in the position of the Declination Magnet, and extra observations were commenced: at 12^{h} the position was nearly the same as at 10^{h}, and the disturbance had ceased.

Extraordinary Observations of February 20 and 24.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Feb. 20. 10. 36. 0	22. 42. 31	0·035877	0·043487	HB
38. 0	43. 11	036055	043522	
40. 0	43. 56	036099	043538	
42. 0	44. 43	036099	043564	
44. 0	45. 33	036010	043580	
46. 0	46. 33	035905	043616	
48. 0	47. 29	035860	043642	
50. 0	48. 5	035860	043657	
52. 0	49. 1	035750	043651	
54. 0	49. 43	035683	043666	
56. 0	50. 37	035705	043666	
10. 58. 0	51. 19	035705	043666	
11. 0. 0	51. 59	035639	043682	
3. 0	52. 37	035484	043682	
4. 0	52. 45	035307	043682	
6. 0	53. 44	035417	043697	
8. 0	53. 44	035373	043671	
12. 0	53. 47	035179	043656	
14. 0	53. 59	035179	043656	
16. 0	54. 19	035179	043692	HB
11. 57. 30			043613	D
12. 0. 0	22. 52. 2			
2. 30		035406		D
Feb. 24. 1. 47. 30			0·043903	HB
50. 0	22. 57. 47			
52. 30		0·036505		
1. 57. 30			043929	
2. 0. 0	57. 43			
2. 30		037281		
7. 30			043929	
10. 0	58. 9			
2. 12. 30		037391		HB
3. 57. 30			044305	L
4. 0. 0	47. 55			
2. 30		037819		
12. 15	49. 54			
14. 15	50. 21			
15. 15	50. 34			
18. 15	50. 15			
19. 15	50. 29			
20. 15	50. 44			
22. 15	50. 48			
24. 15	51. 14			
26. 15	51. 35			
27. 15	51. 51			
28. 15	51. 19			
29. 15	51. 38			
30. 15	51. 45			
31. 15	51. 15			
32. 15	51. 34			

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Feb. 24. 4. 33. 15	22. 51. 34			L
34. 15	53. 25			
35. 15	51. 54			
36. 15	51. 51			
37. 15	52. 8			
38. 15	52. 14			
4. 39. 15	52. 26			
5. 57. 30			0·044194	
6. 0. 0	52. 42			
6. 2. 30		0·037798		
7. 57. 30			043613	
8. 0. 0	39. 25			
2. 30		037141		
11. 15	39. 59	037269	043655	
13. 15	39. 50	037352	043644	
14. 15	39. 33	037263	043634	
15. 15	39. 23	037109	043660	
17. 15	39. 27	036954	043682	
19. 15	38. 25	036821	043589	
21. 15	37. 22	036949	043589	
22. 15	36. 52	037192	043609	
23. 5	36. 28	037569	043635	
24. 5	36. 46	037945	043682	
25. 5	37. 30	038144	043692	
26. 15	38. 7	038520	043708	
27. 15	38. 54	038742	043744	
28. 15	40. 6	038941	043760	
29. 15	41. 11	038941	043728	
30. 15	42. 31	038941	043723	
31. 15	43. 32	038958	043723	
32. 15	44. 40	038958	043718	
33. 15	45. 39	038958	043718	
34. 15	46. 24	038980	043723	
35. 15	47. 1	038958	043718	
36. 15	47. 38	038914	043718	
37. 15	48. 46	038737	043728	
38. 15	49. 53	038670	043723	
39. 15	50. 32	038426	043718	
40. 15	50. 44	039136	043770	
41. 15	50. 0	038737	043744	
42. 15	49. 16	038532	043786	
43. 15	50. 5	039020	043786	
44. 15	51. 14	038776	043744	
45. 15	52. 8	039197	043641	
46. 15	53. 14	039086	043667	
47. 15	54. 41	038931	043631	
48. 15	56. 3	038665	043615	
49. 15	58. 28	038090	043620	
50. 15	57. 26	037647	043599	
51. 15	57. 26	037204	043548	
52. 15	56. 51	036601	043491	

Feb. 24^d. A change of 10′. 14″ having taken place in the Declination Magnet between $2^h. 10^m$ and 4^h, 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 corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″				d h m s	° ′ ″			
Feb. 24. 8. 53. 15	22. 55. 55	0 ·036335	0 ·043565	L	Feb. 24. 13. 0. 30	22. 55. 10	0 ·035927	0 ·042417	H B
54. 15	54. 48	036070	043513		3. 0	54. 29	035860	042391	
55. 15	53. 55	035937	043487		5. 0	54. 3	035860	042427	
56. 15	53. 13	035893	043466		7. 0	53. 31	035927	042437	
57. 15	52. 35	035826	043409		9. 0	53. 11	036153	042521	
58. 15	52. 17	035738	043471		10. 0	53. 11	036175	042557	
8. 59. 15	52. 6	035671	043451		11. 0	53. 5	036242	042567	
9. 0. 15	51. 43	035627	043461		12. 0	52. 46	036175	042567	
1. 15	51. 22	035494	043471		13. 0	52. 28	036197	042557	
2. 15	50. 48	035428	043513		15. 0	52. 1	036242	042495	
3. 15	50. 21	035406	043513		16. 0	51. 52	036175	042505	
4. 15	50. 8	035228	043513		18. 0	51. 16	036242	042505	
5. 15	50. 0	035228	043513		19. 0	50. 57	036308	042531	
6. 15	49. 42	035245	043503		20. 0	50. 38	036397	042608	
7. 15	49. 24	035245	043487		21. 0	50. 19	036397	042618	
8. 15	49. 9	035245	043482		22. 0	50. 5	036507	042618	
9. 15	48. 49	035245	043487		27. 0	49. 28	036557	042572	
10. 15	48. 42	035290	043508		32. 0	49. 18	036778	042660	
11. 15	48. 38	035467	043565		34. 0	49. 15	036778	042634	
12. 15	48. 35	035467	043565		13. 57. 30			042710	
13. 15	48. 35	035578	043581		14. 0. 0	50. 27			
14. 15	48. 35	035578	043591		14. 2. 30		036363		
15. 15	48. 41	035644	043570		15. 24. 0	58. 23	035593	043046	
16. 15	48. 26	035528	043539		25. 15	59. 1	035637	043134	
17. 15	48. 9	035528	043566		26. 15	59. 26	035637	043072	
18. 15	47. 49	035617	043556		27. 15	59. 44	035637	043082	
19. 15	47. 42	035683	043545		28. 15	22. 59. 57	035527	043072	
20. 15	47. 36	035816	043556		29. 15	23. 0. 9	035399	043087	
21. 15	47. 23	035883	043566		30. 15	0. 11	035421	043062	
22. 15	47. 11	036148	043608		31. 45	0. 20	035421	043046	
23. 15	47. 1	036259	043618		32. 45	0. 28	035244	043072	
24. 15	47. 18	036547	043638		33. 45	0. 29	035177	043072	
25. 15	47. 48	036635	043624		34. 45	0. 28	035177	043056	
26. 15	48. 10	036829	043654		35. 45	0. 20	035177	043072	
27. 15	48. 36	036852	043634		36. 45	0. 17	035066	043036	
28. 15	48. 52	036852	043623		38. 15	23. 0. 4	034978	043030	
29. 15	48. 55	036852	042597		39. 15	22. 59. 45	034956	043030	
9. 57. 30			043412		40. 15	59. 31	034912	043020	
10. 0. 0	52. 4				41. 15	59. 14	034956	042995	
10. 2. 30		037859		L	42. 15	58. 56	035133	042953	
11. 57. 30			042832	H B	43. 15	58. 33	035000	042927	
12. 0. 0	52. 42				44. 15	58. 27	034956	042917	
2. 30		036592			45. 15	58. 10	035199	042943	
48. 30	56. 22	037360	042443		46. 15	57. 50	035110	042917	
50. 30	56. 41	037316	042437		47. 15	57. 40	035177	042933	
54. 30	56. 39	036768	042489		48. 15	57. 22	035177	042979	
55. 30	56. 30	036635	042479		49. 15	56. 54	035333	042979	
56. 30	56. 23	036480	042474		51. 45	56. 43	035399	042943	
57. 30	56. 3	036436	042365		52. 45	56. 25	035443	042948	
58. 30	55. 49	036192	042375		53. 45	56. 6	035443	042959	
12. 59. 30	55. 38	036015	042375		54. 45	56. 1	035576	042995	

Extraordinary Observations of February 24 and 25.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ' ''				d h m s	° ' ''			
Feb. 24. 15. 55. 45	22. 55. 47	0·035598	0·042979	H B	Feb. 24. 17. 21. 45	22. 59. 6	0·034530	0·043202	H B
15. 57. 30			042989		22. 45	58. 56	034419	043254	
16. 0. 0	55. 34				23. 45	58. 35	034663	043218	
2. 30		035753			24. 45	58. 40	034752	043161	
7. 45	56. 9	035886	043036		25. 45	59. 26	034796	043254	
8. 45	56. 12	035842	043036		26. 45	59. 33	034530	043264	
10. 15	56. 20	035886	043082		27. 45	59. 33	034597	043167	
11. 15	56. 26	035886	043098		28. 45	59. 30	034592	043151	
12. 15	56. 22	035842	043108		29. 45	59. 29	034725	043197	
14. 45	56. 1	035798	043098		30. 45	59. 39	034879	043244	
15. 45	55. 59	035908	043108		31. 45	59. 56	034879	043259	
16. 45	55. 41	035842	043108		32. 45	59. 54	034990	043218	
17. 45	55. 30	035842	043077		33. 45	59. 48	034990	043151	
40. 45	54. 36	035305	043279		34. 45	59. 46	035056	043177	
41. 45	54. 30	035438	043269		35. 45	59. 37	035167	043161	
42. 45	54. 27	035416	043227		44. 45	59. 10	035389	043074	
43. 45	54. 27	035372	043021		17. 57. 30			043091	
44. 45	54. 4	035194	043036		18. 0. 0	22. 59. 20			
45. 45	53. 50	035194	043011		2. 30		035832		H B
46. 45	53. 35	035083	043005						
47. 45	53. 31	035083	043098		Feb. 25. 3. 57. 30			0·044285	H B
48. 45	53. 26	035127	043124		4. 0. 0	23. 3. 24			
49. 45	53. 29	035150	043269		4. 2. 30		0·036585		
50. 45	53. 18	035017	043253		5. 57. 30			044223	
51. 45	53. 16	035083	043243		6. 0. 0	22. 50. 51			
52 45	53. 23	035083	043217		2. 30		037469		
55. 0	53. 42	035017	043134		8. 0	47. 7	037469	044078	
56. 0	53. 43	034973	043047		11. 0	46. 20	037912	044156	
57. 45	53. 49	034818	043175		12. 0	46. 13	038156	044140	
58. 45	53. 55	034752	043254		13. 0	45. 55	038045	044078	
16. 59. 45	53. 49	034752	043285		14. 0	45. 40	038267	044088	
17. 0. 45	54. 9	034708	043270		15. 0	46. 3	038178	044088	
1. 45	54. 33	034752	043166		16. 0	46. 51	038311	044078	
2. 45	54. 59	034663	043151		17. 0	47. 24	038267	044114	
3. 45	55. 18	034530	043141		18. 0	47. 52	038267	044140	
4. 45	55. 34	034641	043125		19. 0	48. 18	038023	044140	
5. 45	55. 48	034530	043306		20. 0	48. 35	037912	044156	
6. 45	56. 11	034530	043161		21. 0	48. 49	037824	044166	
7. 45	56. 26	034419	043254		22. 0	49. 9	037735	044140	
8. 45	56. 20	034486	043270		24. 0	49. 23	037381	044088	
10. 45	56. 29	034530	043254		25. 0	49. 20	037248	044021	
11. 45	56. 59	034862	043254		26. 0	49. 19	037270	044036	
12. 45	57. 11	034818	043177		41. 0	49. 35	036623	044078	
13. 45	57. 36	034530	043187		42. 0	49. 42	036556	044021	
14. 45	57. 43	034397	043141		45. 0	49. 38	036401	044005	
15. 45	57. 48	034486	043130		46. 0	49. 45	036379	043995	
16. 45	57. 59	034774	043151		47. 0	49. 45	036379	043975	
17. 45	58. 25	034486	043218		48. 0	49. 45	036379	043985	
19. 0	58. 39	034575	043238		49. 0	49. 42	036313	043985	
19. 45	58. 52	034530	043280		50. 0	49. 34	036180	043985	
20. 45	59. 16	034575	043270		6. 54. 0	49. 40	036158	043975	

Feb. 24d. 16h. 40m. There is a strong light at an altitude of about 5°, extending from the W. N. W. to the N. N. W., which is probably auroral, its colour being decidedly different from that of reflected light; at 17h. 10m it was nearly obscured by cirro-stratus cloud; at 17h. 40m, the light had quite disappeared.

Feb. 25d. A change of 12′. 33″ having taken place in the position of the Declination Magnet between 4h and 6h, and the Horizontal Force Magnet being also affected, extra observations were commenced.

Extraordinary Observations of February 25 and 27, and March 20.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Feb. 25. 7. 0. 0	22. 51. 31	0·036158	0·043964	H B
2. 0	51. 48	036003	043959	
3. 0	51. 51	036003	043975	
16. 0	52. 19	036003	043908	
24. 0	47. 16	035627	043846	
25. 0	46. 39	035627	043846	
26. 0	46. 13	035715	043846	
27. 0	46. 5	035782	043830	
28. 0	46. 23	035892	043856	
30. 0	46. 52	036175	043892	
31. 0	47. 17	036175	043892	
32. 0	47. 48	036175	043913	
33. 0	48. 26	036396	043933	
34. 0	48. 47	036308	043943	
35. 0	49. 12	036330	043954	
36. 0	49. 26	036308	043933	
37. 0	49. 43	036286	043933	
41. 0	50. 5	036153	043887	
43. 0	50. 3	036175	043892	
45. 0	50. 6	036175	043892	
50. 0	51. 17	036308	043882	
7. 57. 30			043882	
8. 0. 0	22. 51. 54			
2. 30		036618		H B
Feb. 27. 5. 57. 30			0·043760	G
6. 0. 0	22. 58. 18			
6. 2. 30		0·037374		
7. 57. 30			043346	
8. 0. 0	48. 2			
2. 30		038260		
5. 0	47. 27	038166	043320	
10. 0	47. 13	038055	043320	
12. 0	46. 41	037944	043285	
15. 0	46. 39	037961	043295	
8. 30. 0	46. 35	037995	043338	
9. 15. 0	44. 55	037970	043376	
30. 0	49. 30	037074	043377	
35. 0	49. 47	036803	043393	
40. 0	49. 50	036709	043395	
45. 0	49. 34	036444	043379	
9. 57. 30			043365	
10. 0. 0	22. 49. 17			
2. 30		035880		G
Mar. 20. 3. 57. 30			0·044048	D
4. 0. 0	23. 1. 54			
4. 2. 30		0·036699		
5. 25. 0	23. 1. 14			
27. 30		035390	044591	
30. 0	22. 59. 47			
Mar. 20. 5. 32. 30		0·034478	0·044617	D
33. 0	22. 58. 44	033813	044617	
34. 0	57. 44	033636	044623	
35. 0	57. 15	033592	044638	
36. 0	56. 57	033614	044659	
37. 30	56. 29	033631	044685	
38. 0	56. 44	034029	044727	
39. 0	56. 32	034029	044727	
40. 0	56. 19	034206	044727	
41. 0	56. 39	034428	044752	
42. 0	56. 39	034467	044784	
43. 0	56. 5	034401	044815	
44. 0	55. 52	034378	044825	
45. 0	55. 45	034246	044831	
46. 0	55. 34	034290	044867	
47. 30	55. 31	034334	044841	
48. 0	55. 4	034356	044846	
49. 0	54. 46	034467	044857	
50. 0	54. 37	034334	044877	
51. 0	53. 51	034290	044872	
52. 30	53. 24	034085	044903	
53. 0	52. 59	033886	044934	
54. 0	53. 4	033864	044944	
55. 0	53. 9	033665	044944	
56. 0	53. 18	033643	044944	
57. 30	53. 13	033438	044976	
58. 0	52. 52	033173	044981	
5. 59. 0	52. 30	033084	045013	
6. 0. 0	52. 16	032885	045033	
1. 0	51. 39	033040	045070	
2. 30	51. 11	033173	045096	
3. 0	51. 7	032996	045111	
4. 0	51. 5	033261	045132	
5. 0	51. 11	033261	045178	
6. 0	51. 16	033217	045220	
7. 30	51. 6	033195	045261	
8. 0	51. 1	033173	045272	
9. 0	51. 54	033217	045308	
9. 30	52. 28	033217	045344	
10. 0	52. 59	033217	045344	
10. 30	53. 24	033062	045350	
11. 0	53. 53	033040	045344	
11. 30	54. 15	032951	045360	
12. 0	54. 17	032553	045308	
12. 30	54. 3	032747	045318	
13. 0	54. 17	032526	045266	
13. 30	54. 39	032393	045282	
14. 0	54. 33	032415	045298	
14. 30	54. 53	032348	045308	
15. 0	54. 54	032393	045308	
15. 30	55. 6	032260	045272	

Feb. 27^d. A change of $10'.16''$ having taken place in the Declination Magnet between 6^h and 8^h, extra observations were commenced.

March 20^d. A considerable change in the position of the Horizontal Force Magnet having taken place between $5^h.27^m.30^s$ and $5^h.32^m.30^s$, extra observations were commenced.

Extraordinary Observations of March 20 and 26.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Mar. 20. 6. 16. 0	22. 54. 56	0 ·032304	0 ·045308	D
17. 30	55. 15	032304	045339	
18. 0	55. 32	032326	045350	
19. 0	55. 17	032149	045318	
20. 0	55. 26	032348	045298	
21. 0	55. 15	032459	045287	
22. 30	54. 45	032526	045277	
23. 0	54. 25	032614	045277	
24. 0	54. 9	032813	045272	
25. 0	54. 31	033035	045256	
26. 0	54. 33	033079	045220	
27. 30	54. 58	033212	045216	
28. 0	54. 59	033256	045201	
29. 0	55. 23	033322	045190	
30. 0	55. 36	033411	045190	
31. 0	56. 11	033455	045175	
32. 30	56. 24	033522	045159	
33. 0	56. 46	033699	045154	
34. 0	57. 3	033854	045154	
35. 0	57. 14	033920	045112	
36. 0	57. 34	033942	045102	
37. 30	57. 57	033986	045066	
38. 0	58. 20	033854	045055	
39. 0	58. 28	033721	045572	
40. 0	58. 39	033743	045552	D
41. 0	58. 43	033854	045035	H B
42. 30		033827	045051	
43. 0	58. 52	033782	045015	
45. 0	58. 55	033827	044948	
46. 0	58. 55	033650	044922	
47. 30		033694	044906	
50. 0	59. 14			
52. 30		033981	044887	
53. 0	59. 7	034092	044876	
55. 0	59. 3	034181	044881	
6. 57. 30		034469	044861	
7. 0. 0	58. 53	034779	044845	
2. 30		034757	044803	
5. 0	59. 1	034801	044732	
7. 30		034801	044653	
9. 0	58. 32	034735	044627	
10. 0	58. 26	034735	044621	
11. 0	58. 20	034801	044611	
12. 30	58. 23	034845	044611	
13. 0	58. 24	034956	044601	
14. 0	58. 32	034956	044595	
15. 0	58. 41	034956	044569	
16. 0		034845	044559	
17. 30		034889	044533	
20. 0	59. 6	034845	044472	
22. 30		034867	044466	
Mar. 20. 7. 25. 0	22. 59. 1			H B
27. 30		0 ·034956	0 ·044367	
30. 0	58. 40	035199	044300	
32. 30		035310	044300	
34. 0	58. 24	035620	044300	
35. 0	58. 22	035642	044310	
36. 0	58. 22	035952	044300	
37. 30		035908	044316	
38. 0	58. 42	035908	044310	
40. 0	58. 42	035908	044264	
42. 0	58. 42			
42. 30		035952	044238	
44. 0	58. 31	035864	044238	
45. 0	58. 25	035642	044206	
7. 57. 30			044119	
8. 0. 0	22. 58. 3			
2. 30		035288		H B
Mar. 26. 3. 57. 30			0 ·043793	H B
4. 0. 0	23. 5. 6			
4. 2. 30		0 ·036369		
5. 57. 30			043851	
6. 0. 0	22. 53. 29			
2. 30		035900		
12. 0	49. 34	036210	043804	
14. 0	48. 49	036564	043788	
14. 45	47. 45	036630		
15. 45	48. 58	036785	043876	
16. 45	49. 3	036962		
17. 45	49. 29	037162	043901	
19. 45	50. 1	037228	043896	
22. 0	50. 40	037295	043958	
24. 0	52. 3	037826	043963	
26. 0	52. 40	037826	043942	
28. 0	53. 0	037538	043922	
30. 0	53. 28	037317	043865	
32. 0	53. 38	037228	043845	
34. 0	53. 49	037118	043845	
36. 0	54. 0	036918	043834	
41. 0	53. 48	036454	043798	
6. 57. 0	51. 47	036564	043771	
7. 13. 0	50. 6	035678	043781	
17. 0	48. 24	035457	043760	
19. 0	47. 22	035767	043766	
21. 0	47. 37	036121	043776	
23. 0	48. 31	036187	043786	
25. 0	49. 45	036143	043807	
27. 0	50. 2	035590	043786	
28. 0	49. 47	035545		
29. 0	47. 44	036630	043668	
30. 0	44. 28	034992		

March 26ᵈ. A change of 11′. 37″ having taken place in the position of the Declination Magnet between 4ʰ and 6ʰ, extra observations were commenced.

Extraordinary Observations of March 26 and April 27.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Mar. 26. 7. 31. 0	22. 42. 16	0 ·036630	0 ·043647	H B
32. 0	38. 16	035966	043657	
34. 0	37. 18	037959	043694	
35. 15	37. 30	039132		
36. 0	37. 26	039575	043843	
38. 0	43. 2	040704	043812	
40. 0	46. 28	040682	043797	
42. 15	49. 31	039664		
43. 30	50. 36	039176	043616	
45. 30	50. 48	037804	043476	
48. 0	47. 52	036918	043404	
50. 30	45. 13	037029	043383	
54. 0	45. 11	037583	043372	
7. 57. 30			043378	
8. 0. 0	48. 25			
2. 30		038335		
7. 0	53. 19	037543	043366	
9. 0	54. 32	037344	043361	
11. 0	55. 21	036884	043340	
13. 0	55. 43	036663	043319	
15. 0	56. 15	035932	043273	
17. 0	56. 11	035318	043216	
19. 0	55. 32	035141	043201	
21. 0	55. 3	034875	043190	
23. 0	53. 48	034875	043206	
25. 0	53. 22	035030	043221	
27. 0	53. 38	035168	043221	
32. 0	54. 9	035212	043266	
34. 0	54. 11	035262	043277	
8. 36. 0	54. 14	035262	043277	
9. 57. 30			043124	
10. 0. 0	58. 4			
10. 2. 30		036049		H B
11. 25. 0	49. 29	035611	042796	G
40. 0	49. 56	035594	042837	
50. 0	50. 50	035771	042940	
11. 57. 30			043008	
12. 0. 0	52. 32			
2. 30		036236		
10. 0	52. 48	036545	042992	
12. 30. 0	52. 55	036103	043018	
13. 0. 0	51. 51	035771	043044	
30. 0	54. 27	034996	043277	
13. 57. 30			043272	
14. 0. 0	55. 8			
14. 2. 30		034664		
15. 0. 0	59. 51	035480	043013	
15. 57. 30			043061	
16. 0. 0	53. 4			
2. 30		036158		
16. 30. 0	49. 5	036073	043007	

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Mar. 26. 17. 57. 30			0 ·043190	G
18. 0. 0	22. 57. 30			
2. 30		0 ·034091		G
Apr. 27. 12. 38. 34	22. 46. 45	0 ·039712	0 ·041842	H B
54. 1	47. 19	039800	041852	
55. 1	47. 31	040155	041816	
56. 1	48. 31	040287	041779	
57. 31	48. 44	039269	041753	
12. 59. 0	48. 10	038406	041655	
13. 0. 30	47. 27	037941	041552	
1. 30	48. 4	037763	041568	
2. 30	48. 22	037476	041628	
3. 30	48. 6	037060	041654	
4. 30	48. 17	036795	041680	
5. 30	47. 51	036197	041582	
6. 30	46. 4	035864	041572	
7. 15	46. 35	038234	041912	
7. 45	51. 27			
9. 0	50. 14	038853	041841	
10. 0	50. 10	038809	041757	
11. 0	49. 42	038234	041711	
12. 0	49. 16	037884	041721	
13. 0	49. 6	037995	041737	
14. 0	49. 16	037796	041632	
15. 0	49. 32	037464	041653	
18. 0	49. 13	037270	041627	
19. 0	49. 16	037181	041607	
20. 0	49. 11	037203	041648	
21. 0	49. 5	037004	041652	
22. 0	49. 34	036938	041652	
24. 0	49. 6	036849	041684	
26. 0	50. 17	036450	041668	
27. 30	49. 28	036234	041678	
29. 0	49. 13	036766	041798	
30. 30	50. 21	036854	041762	
32. 0	50. 17	036744	041745	
43. 30	47. 44	035580	041753	
45. 0	47. 35	035447	041826	
46. 30	47. 21	035115	041831	
48. 0	47. 52	035032	041868	
50. 30	47. 16	034899	041857	
52. 0	47. 43	035143	041976	
53. 30	48. 5	034988	041976	
13. 57. 30			041965	
14. 0. 0	47. 46			
2. 30		035591		
4. 0	49. 34	035285	042121	
5. 30	49. 16	035175	042167	
7. 0	49. 13	035441	042191	
9. 0	52. 15	036636	042259	

April $27^{d}.\ 12^{h}.\ 25^{m}$. An aurora was seen for a few minutes, and at $12^{h}.\ 38^{m}$ extra observations were commenced: $13^{h}.\ 40^{m}$, the auroral light is still visible, a little to the E. of N., but not so vivid as before.

Extraordinary Observations of April 27 and 30, and August 15.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Apr. 27. 14. 10. 0	22. 52. 14	0·036436	0·042233	H B
11. 0	51. 6	035950	042191	
12. 0	49. 37	035645	042145	
13. 0	48. 50	035623	042120	
14. 0	48. 48	035689	042191	
15. 0	48. 35	035689	042207	
14. 33. 45	46. 55	035124	042222	
15. 57. 30			042264	
16. 0. 0	22. 46. 29			
16. 2. 30		034423		H B
Apr. 30. 11. 57. 30			0·042528	G
12. 0. 0	22. 53. 48			
12. 2. 30		0·036144		
13. 57. 30			042437	
14. 0. 0	45. 13			
2. 30		037609		
10. 0	44. 21	037609	042437	
20. 0	42. 46	035174	041501	
25. 0	41. 54	034731	041501	
30. 0	40. 27	034709	041511	
31. 0	42. 27	034731	041522	
32. 0	43. 23	034554	041532	
33. 0	43. 35	034554	041537	
33. 30	44. 4	034554	041537	
34. 0	44. 29	034554	041548	
35. 0	44. 52	034510	041553	
36. 0	45. 22	034510	041558	
37. 0	45. 53	034510	041600	
38. 0	46. 26	034510	041610	
39. 0	46. 56	034510	041610	
40. 0	46. 37	034466	041594	
41. 0	46. 57	034488	041610	
42. 0	47. 8	034510	041600	
44. 0	47. 26	034510	041610	
45. 0	48. 46	034510	041600	
50. 0	50. 45	034466	041594	
14. 55. 0	51. 42	034399	041584	
15. 0. 0	55. 36	034444	041574	
5. 0	56. 24	034576	041532	
10. 0	57. 59	034576	041532	
15. 0	22. 59. 55	034620	041481	
20. 0	23. 2. 1	034687	041413	
25. 0	0. 33	034775	041388	
30. 0	5. 53	034952	041388	
35. 0	8. 55	035882	041253	
40. 0	8. 57	036391	041145	
44. 0	7. 48	037166	041067	
45. 0	6. 22	037277	041031	
46. 0	5. 12	037055	040979	

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Apr. 30. 15. 47. 0	23. 4. 44	0·036834	0·040928	G
48. 0	4. 21	036658	040928	
49. 0	3. 47	036502	040912	
50. 0	2. 29	036281	040876	
51. 0	2. 6	036082	040835	
52. 0	0. 47	035971	040809	
53. 0	23. 0. 21	035838	040783	
54. 0	22. 59. 30	035816	040773	
55. 0	58. 49	035661	040809	
57. 0	57. 43	035727	040783	
15. 57. 30			040783	
16. 0. 0	55. 57	035617	040830	
2. 30		035727		
5. 0	54. 32	035506	040861	
10. 0	52. 47	035617	040928	
15. 0	50. 52	036059	041093	
20. 0	49. 11	036059	041145	
25. 0	50. 41	035838	041290	
26. 0	50. 41	035838	041290	
30. 0	52. 0	035396	041501	
35. 0	52. 42	035396	041506	
40. 0	52. 58	035130	041610	
45. 0	53. 35	035174	041739	
50. 0	53. 35	035041	041869	
16. 55. 0	53. 35	034952	041895	
17. 0. 0	53. 35	034952	041920	
15. 0	54. 5	035196	042179	
17. 30	55. 59	035174	042292	
17. 45	56. 5	034731	042318	
17. 57. 30			042334	
18. 0. 0	58. 32			
2. 30		034399		
15. 0	59. 13	034399	042386	
30. 0	56. 41	034731	042396	
18. 45. 0	55. 51	034731	042396	
19. 0. 0	54. 50	034731	042489	
15. 0	54. 24	034665	042566	
19. 57. 30			042437	
20. 0. 0	22. 54. 58			
2. 30		034399		G
Aug. 15. 3. 57. 30			0·039938	H B
4. 0. 0	23. 5. 3			
4. 2. 30		0·038968		
5. 57. 30			040101	
6. 0. 0	22. 57. 18			
2. 30		036452		
8. 0	56. 31	036563	040122	
9. 45	56. 31	036563	040117	
11. 45	56. 31	036762		
13. 45	56. 18	036828	040122	

April 30ᵈ. A change of 8′. 35″ having taken place between the positions of the Declination Magnet at 12^h and 14^h, extra observations were commenced: a very black cloud overspread the sky at this time.

Aug. 15ᵈ. A change of 7′. 45″ having taken place in the position of the Declination Magnet, and a considerable change having also taken place in the position of the Horizontal Force Magnet between 4^h and 6^h, extra observations were commenced.

Extraordinary Observations of August 15 and 29.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Aug. 15. 6. 16. 0	22. 56. 20	0 ·037028	0 ·040143	H B
17. 45	56. 14	037205	040148	
21. 45	56. 10	037647	040138	
23. 45	56. 6	037603	040122	
25. 45	55. 38	037581		
27. 45	55. 46	037426	040080	
29. 45	55. 42	037409	040070	
31. 45	55. 17	037298	040060	
33. 45	54. 55	037188	040028	
35. 45	54. 36	037100	040039	
37. 45	54. 10	037122	040023	
39. 45	53. 45	037254	040013	
41. 45	53. 36	037409	040028	
45. 45	53. 14	037431	040003	
47. 45	53. 14	037497	040003	
49. 45	53. 26	037586	040008	
51. 45	53. 38	037586	039998	
6. 55. 45	53. 55	037564	039987	
7. 3. 45	54. 19	036856	039917	
5. 45	54. 36	036967	039922	
7. 45	54. 44	036878	039906	
9. 45	54. 55	036878	039901	
11. 45	54. 54	036789	039875	
13. 45	55. 0	036767	039875	
21. 45	55. 17	037166	039849	
31. 45	55. 30	037215	039818	
53. 45	55. 54	037083	039745	
7. 57. 30			039710	
8. 0. 0	22. 56. 3			
2. 30		037480		H B
Aug. 29. 7. 57. 30			0 ·040237	L
8. 0. 0	22. 57. 39			
8. 2. 30		0 ·037395		L
9. 57. 30			038930	H B
10. 0. 0	40. 11			
2. 30		034859	038929	
5. 0	36. 37			
6. 45	35. 15			
7. 30		036016	038971	
8. 45	35. 45			
10. 0	37. 6	038213	039074	
12. 30	39. 2	038721	039150	
12. 45	41. 32	038899	039093	
13. 45	43. 40			
15. 0	45. 49	039076	039233	
17. 15	49. 20	038815	039160	
17. 30		039010	039144	
18. 15	50. 33	038815	039144	
19. 0	51. 37	038638	039222	
20. 0	52. 29	038329	039212	

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Aug. 29. 10. 21. 15	22. 53. 48	0 ·038112	0 ·039165	H B
21. 45	54. 48			
22. 30		037864	039124	
22. 45	55. 3	037514		
23. 45	55. 30	037315	039124	
25. 0	55. 38	036983	039217	
26. 15	55. 49	036700	039091	
27. 30		036584	039149	
27. 45	55. 39	036368	039159	
28. 45	55. 31	036169	039112	
30. 0	54. 52			
32. 30		035881	039080	
32. 45	54. 15	035837	039194	
33. 45	53. 53	035814	039158	
35. 0	53. 44			
37. 30		035859	039184	
37. 45	53. 9	036042	039189	
38. 45	52. 59	036130	039225	
40. 0	52. 56	036351	039219	
41. 45	53. 6			
42. 30		036373	039137	
43. 45	52. 56	036533	039240	
45. 0	53. 0	036799	039271	
46. 15	54. 19	036915	039218	
47. 15	53. 59			
47. 30		036866	039218	
48. 15	54. 3	036760	039187	
50. 0	54. 7	036760	039218	
51. 15	54. 24	036760	039182	
52. 30		036849	039260	
52. 45	54. 55	036849	039218	
53. 45	55. 21	036826	039260	
55. 0	55. 57	036583	039260	
56. 15	55. 58	036521	039160	
10. 57. 30		036472	039217	
11. 0. 0	55. 20			
2. 30		036544	039191	
3. 45	55. 30	036482	039171	
5. 0	55. 7	036349	039197	
6. 45	54. 37			
7. 30		036438	039155	
8. 45	54. 52	036643		
10. 0	54. 47			
12. 30		036465	039138	
13. 15	55. 32	036493	039144	
15. 0	55. 13	036404	039164	
17. 30		036448	039102	
20. 0	55. 53	036431	039159	
22. 30		036542	039075	
23. 45	56. 24	036569	039137	
25. 0	56. 41			

Aug. 29^d. A change of 17′. 28″ having taken place in the position of the Declination Magnet between 8^h and 10^h, additional observations to those of the term were commenced. (See Section of Term-Day Observations, for continuation after 14^h. 12^m. 30^s.)

Extraordinary Observations of August 29 and September 17.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Aug. 29. 11. 27. 30		0 ·036592	0 ·039075	H B
28. 15	22. 57. 1	036552	039091	
30. 0	56. 55			
32. 30		036641	039039	
35. 0	57. 29			
37. 30		036796	039053	
40. 0	59. 29			
41. 15	59. 23	036696	039012	
42. 30		036713	039037	
42. 46	59. 51	036984	039022	
43. 46	59. 31	037138		
45. 0	59. 14	037160	038996	
46. 46	59. 33			
47. 30		037493	039005	
47. 46	59. 51	037763	038969	
50. 0	59. 53	037941	038959	
51. 46	22. 59. 59			
52. 30		038250	038933	
52. 46	23. 0. 7	038454	038974	
53. 46	23. 0. 14	038499	038901	
55. 0	22. 59. 41	038743	038891	
56. 46	23. 0. 23			
11. 57. 30		038565	038855	
12. 0. 0	22. 59. 18			
2. 30		038415	038719	
5. 0	58. 50			
6. 46	58. 56			
7. 30		038023	038563	
7. 46	58. 56	038204	038647	
8. 46	59. 7	038028	038636	
10. 0	59. 17			
12. 30		037828	038609	
15. 0	22. 59. 52			
17. 30		037745	038588	
17. 46	23. 0. 10	037617	038578	
20. 0	0. 12			
22. 30		037529	038547	
25. 0	1. 13			
27. 30		036781	038458	
30. 0	23. 0. 38			
32. 30		036144	038390	
35. 0	22. 59. 44	035795	038406	
37. 30		035707	038390	
40. 0	57. 15	035977	038452	
42. 30		036110	038420	
43. 46	56. 48	036226		
45. 0	55. 44			
47. 30		036514	038425	
50. 0	54. 33			
52. 30		036962	038425	
53. 46	54. 16	037011		

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Aug. 29. 12. 55. 0	22. 54. 11			H B
12. 57. 30		0 ·036900	0 ·038430	
13. 0. 0	53. 57			
2. 30		036928	038393	
5. 0	53. 34			
7. 30		037198	038440	
10. 0	53. 57			
12. 30		037221	038409	
13. 45	54. 3	037070	038424	
15. 0	54. 17	037048	038434	
17. 30		036894	038402	
18. 45	55. 6	036827	038402	
20. 0	55. 1	036650	038392	
21. 40	55. 6			
22. 30		036473	038392	
23. 15	54. 54	036235	038382	
25. 0	54. 33	036013	038350	
26. 15	54. 25	035792	038314	
27. 30		035770	038298	
28. 45	53. 46	035549	038309	
30. 0	53. 27			
32. 30		035460	038298	
35. 0	52. 7			
35. 45	51. 52	035421	038407	
37. 15	51. 28	035443	038407	
37. 30		035421	038381	
38. 15	51. 21	035443	038407	
40. 0	50. 59			
41. 45	50. 56			
42. 30		035731	038426	
43. 45	50. 52	035824	038442	
45. 0	51. 2			
46. 40	51. 32			
47. 30		035979	038452	
48. 15	51. 31	035824	038452	
50. 0	51. 23			
51. 15	51. 14			
52. 30		035758	038468	
52. 45	51. 17	035829	038509	
53. 45	51. 14	035807	038520	
55. 0	51. 2			
13. 57. 30		035586	038503	
14. 0. 0	50. 49			
2. 30		035674	038502	
5. 0	50. 34			
7. 30		035768	038569	
10. 0	22. 50. 46			
12. 30		035751		H B
Sep. 17. 9. 57. 30			0 ·039091	D
10. 0. 0	22. 55. 58			

Aug. 29^{d}. 12^{h}. 55^{m}. A few streamers of an aurora were seen in the constellation Ursa Major.

Sep. 17^{d}. A change of 16′. 40″ having taken place in the position of the Declination Magnet between 10^{h} and 12^{h}, extra observations were commenced.

Extraordinary Observations of September 17 and 20.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d. h. m. s.	° ′ ″			
Sep. 17. 10. 2. 30		0·039028		D
11. 57. 30			0·038735	H B
12. 0. 0	22. 39. 18			
2. 30		036839		
11. 0	40. 40	036025	038589	
13. 0	40. 36	035759	038573	
14. 0	40. 34	035693	038584	
15. 0	40. 26	035605	038553	
16. 0	40. 16	035538	038568	
17. 0	40. 2	035472	038563	
19. 0	39. 34	035256	038563	
22. 0	39. 3	035145	038527	
24. 15	38. 57	035189	038521	
24. 45	38. 56	035012	038527	
25. 45	38. 45	035012	038521	
26. 45	38. 39	035012	038521	
27. 45	38. 34	034995	038494	
28. 45	38. 33	034995	038494	
29. 45	38. 32	035061	038510	
30. 45	38. 28	035083	038531	
31. 45	38. 21	035128	038526	
44. 45	41. 15	034823	038448	
46. 45	41. 54	034557	038468	
12. 57. 45	42. 51	034740	038416	
13. 2. 45	43. 7	034562	038396	
13. 45	48. 21	034679	038198	
14. 45	48. 44	034457	038131	
15. 45	49. 7	034479	038110	
17. 0	49. 26	034396	038085	
18. 0	49. 47	034329	038079	
18. 45	50. 18	034329		
20. 45		034042	037966	
22. 0	50. 34	033886	037924	
23. 0	50. 43	033776	037924	
24. 0	50. 46	033776	037914	
36. 45	51. 26			
39. 45	52. 57			
41. 45	53. 14			
49. 45	50. 36			
52. 45	49. 56			
13. 57. 30			037835	
14. 0. 0	46. 8			
2. 30		036360		
15. 0	46. 30	035656	037973	
29. 0	51. 33	035197	038092	
30. 0	52. 28	035175	038134	
31. 0	52. 51	035219	038170	
32. 0	53. 16	035374	038175	
33. 0	53. 44	035506	038144	
34. 0	53. 58	035506	038134	
36. 0	54. 28	035506	038180	
Sep. 17. 14. 38. 0	22. 54. 47			H B
43. 0	55. 44	0·035932	0·038154	
44. 0	55. 50	036043	038164	
45. 0	55. 56	035954	038118	
46. 0	55. 54	035999	038108	
47. 0	55. 58	035999	038102	
48. 0	55. 42	036043	038123	
49. 0	55. 31	035999	038075	
50. 0	55. 16	035954	038096	
51. 0	54. 59	035932	038075	
52. 0	54. 36	035888	038049	
53. 0	54. 12	035844	038096	
54. 0	53. 55	035733	038096	
55. 0	53. 33	035777	038055	
14. 56. 0	53. 16	035755	038081	
15. 7. 0	52. 13	035827	038220	
10. 0	52. 27	035915	038246	
16. 0	52. 51	036120	038288	
15. 57. 30			038597	
16. 0. 0	50. 44			
2. 30		036307		
16. 15. 2	50. 41	036263	038695	
17. 57. 30			038884	
18. 0. 0	22. 49. 6			
2. 30		037496		H B
Sep. 20. 7. 57. 30			0·039146	D
8. 0. 0	23. 1. 24			
8. 2. 30		0·036479		D
9. 57. 30			039016	H B
10. 0. 0	22. 56. 0			
2. 30		035777		
21. 30	50. 6	037735	038953	
24. 30	50. 15	037564	038921	
26. 0	50. 9	037431	038911	
28. 0	50. 33	037321	038901	
30. 0	50. 29	037010	038870	
32. 0	50. 21	036722	038865	
34. 0	50. 6	036501		
35. 0	49. 53	036329	038823	
37. 0	49. 37	036219	038818	
39. 0	49. 28	036019		
40. 0	49. 28	035931	038823	
42. 0	49. 32	035864		
43. 0	49. 33	035776		
48. 0	50. 13	035537		
54. 58	51. 57	035122	038786	
10. 59. 58	52. 40	035056	038786	
11. 4. 58	53. 21	034972	038786	
14. 59	54. 29	034911	038794	
29. 59	56. 27	035071	038815	

Sep. 17ᵈ. From 13ʰ. 36ᵐ to 14ʰ + very heavy rain was falling, and the Observer was occupied with electrical observations.

Sep. 20ᵈ. 10ʰ. 21ᵐ. 30ˢ. A change of 5′. 54″ having taken place in the position of the Declination Magnet since the last regular observation, and a considerable change in the position of the Horizontal Force Magnet having also occurred, extra observations were commenced.

Extraordinary Observations of September 20, October 21, and November 16.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Sep. 20. 11. 57. 30			0·038731	H B
12. 0. 0	22. 55. 58			
2. 30		0·035351		H B
Oct. 21. 7. 57. 30			0·038867	D
8. 0. 0	22. 53. 0			
8. 2. 30		0·037300		
9. 38. 0	26. 23	036814	039285	
39. 0	26. 28	037123	039259	
40. 0	26. 59	037456	039202	
41. 0	27. 26	037855	039202	
42. 0	28. 28	037982	039337	
43. 0	29. 22	037982	039321	
44. 0	30. 14	037938	039337	
45. 0	30. 47	037849	039290	
46. 0	31. 24	037761	039182	
47. 0	31. 57	037717	039192	
48. 0	32. 5	037606	039172	
49. 0	32. 7	037429	039172	
50. 0	32. 9	037318	039206	
51. 0	32. 18	037251	039202	
52. 0	32. 13	037251	039120	
53. 0	32. 15	037251	039131	
54. 0	32. 16	037251	039188	
55. 0	32. 30	037273	039199	
56. 0	32. 41	037318	039209	
57. 0	33. 9	037407	039162	
57. 30			039183	
58. 0	33. 35	037451	039173	
9. 59. 0	34. 12	037429	039126	
10. 0. 0	34. 41			
2. 30		037251		
3. 0	36. 0	037030	039105	
4. 0	36. 33	036853	039079	
5. 0	37. 1	036787	039058	
6. 0	37. 15	036698	039012	
7. 0	37. 27	036587	039012	
8. 0	37. 40	036565	039074	
9. 0	37. 52	036499	039079	
10. 0	38. 34	036189	039012	
11. 0	38. 56	036144	039063	
12. 0	39. 50	036122	039100	
13. 0	39. 44	036056	039105	
14. 0	40. 4	035967	039063	
15. 0	40. 19	035923	039048	
16. 0	40. 35	035834	039074	
17. 0	40. 50	035790	039105	
18. 0	41. 2	035746	039141	
19. 0	41. 34	035768	039079	
20. 0	41. 48	035812	039089	
21. 0	42. 15	035790	039095	
Oct. 21. 10. 22. 0	22. 42. 37	0·035746	0·039084	D
23. 0	43. 2	035702	039131	
24. 0	43. 25	035658	039115	
25. 0	43. 42	035613	039100	
26. 0	44. 11	035613	039059	
27. 0	44. 37	035636	039038	
28. 0	45. 8	035658	039054	
29. 0	45. 33	035658	039105	
30. 0	46. 3	035658	039167	
31. 0	46. 33	035503	039152	
32. 0	46. 55	035414	039131	
33. 0	47. 16	035370	039084	
34. 0	47. 46	035370	039069	
35. 0	47. 53	035281	039084	
36. 0	48. 10	035281	039131	
37. 0	48. 33	035281	039147	
38. 0	48. 32	035281	039105	
39. 0	48. 51	035414	039095	
40. 0	48. 45	035458	039033	
41. 0	48. 52	035525	039043	
42. 0	48. 55	035613	039059	
43. 0	48. 49	035658	039079	
44. 0	48. 35	035702	039095	
45. 0	48. 35	035702	039059	
46. 0	48. 32	035702	039033	
47. 0	48. 41	035746	039028	
48. 0	48. 54	035901	039054	
49. 0	49. 5	035945	039084	
50. 0	49. 13	035989	039033	
51. 0	49. 15	036078	039023	
52. 0	49. 26	036167	039023	
10. 57. 0	49. 29	036189	039059	
11. 3. 0	50. 30	036300	039033	
13. 0	50. 51	036720	039002	D
11. 57. 30			038667	L
12. 0. 0	22. 45. 41			
2. 30		036144		L
Nov. 16. 19. 57. 30			0·038084	L
20. 0. 0	22. 52. 41			
20. 2. 30		0·039717		L
21. 57. 30			037962	T D
22. 0. 0	22. 57. 55			
2. 30		036744		T D
22. 22. 45	23. 5. 16	037035	038265	H B
23. 0. 0	3. 5	038906	038157	G
9. 0	2. 47	039339	038163	H B
17. 0	2. 9	039400	038200	T D
27. 0	1. 25	039196	038236	
37. 0	1. 48	039053	038278	
51. 0	1. 23	038489	038357	

Oct. 21ᵈ. 9ʰ. 37ᵐ. A great change in the position of the Declination Magnet amounting to 26′. 37″ having taken place since 8ʰ, extra observations were commenced.

Nov. 16ᵈ. A considerable change having taken place in the position of the Horizontal Force Magnet between 20ʰ and 22ʰ, extra observations were commenced.

Extraordinary Observations of November 16 and 17.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Nov. 16. 23. 57. 30			0 ·038394	T D
Nov. 17. 0. 0. 0	23. 1. 23			
2. 30		0 ·037969		
20. 0	4. 18	038037	038542	
30. 0	4. 20	038182	038516	
0. 40. 0	5. 19	038105	038606	T D
1. 6. 0	3. 12	038146	038573	H B
20. 0	1. 56	038463	038550	T D
47. 30			038814	
50. 0	2. 33			
52. 30		039467		
1. 57. 30			038788	
2. 0. 0	1. 1			
2. 30		038692		
7. 30			038814	
10. 0	3. 1			
12. 30		038582		
2. 20. 0	23. 2. 46	038300	038866	T D
3. 57. 30			039254	L
4. 0. 0	22. 55. 55			
4. 2. 30		038113		
5. 57. 30			039031	
6. 0. 0	54. 25			
6. 2. 30		038523		
7. 57. 30			039005	
8. 0. 0	43. 27			
2. 30		035819		
13. 45	41. 39	035780	038999	
14. 45	41. 14	035802	038983	
15. 45	41. 3	035891	038989	
16. 45	40. 58	036112	038989	
17. 45	41. 14	036112	038999	
18. 45	41. 36	036112	039015	
19. 45	41. 55	036112	038999	
20. 45	42. 27	036112	039015	
21. 45	42. 57	036045	038999	
22. 45	43. 21	036001	038999	
23. 45	43. 50	036001	038999	
24. 45	44. 11	035935	039020	
25. 45	44. 38	035935	039025	
26. 45	44. 56	035918	038999	
28. 45	45. 31	035763	038963	
29. 45	47. 16	035697	038963	
30. 45	45. 46	035652	038963	
31. 45	45. 46	035608	038963	
32. 45	45. 51	035541	038973	
33. 45	46. 8	035475	038973	
34. 45	46. 23	035431	038973	
35. 45	46. 41	035431	038973	
36. 45	46. 57	035431	038963	

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Nov. 17. 8. 37. 45	22. 47. 13	0 ·035387	0 ·038963	L
38. 45	47. 24	035387	038973	
39. 45	47. 24	035342	038963	
40. 45	47. 23	035342	038973	
41. 45	47. 26	035387	038973	
42. 45	47. 39	035431	038973	
43. 45	47. 58	035541	038973	
44. 45	48. 15	035608	038973	
45. 45	48. 26	035608	038973	
46. 45	48. 26	035652	038963	
47. 45	48. 30	035652	038973	
48. 45	48. 42	035635	038946	
49. 45	48. 54	035635	038946	
50. 45	48. 59	035635	038920	
51. 45	49. 14	035635	038920	
52. 45	49. 14	035746	038904	
53. 45	49. 28	035768	038925	
54. 45	49. 37	035857	038904	
57. 45	49. 36	035967	038894	
58. 45	49. 17	036078	038894	
8. 59. 45	49. 10	035901	038894	
9. 0. 45	48. 51	035857	038869	
1. 45	48. 30	035813	038874	
2. 45	48. 4	035857	038894	
3. 45	48. 4	035746	038936	
4. 45	46. 42	036034	038920	
5. 45	46. 19	036078	038930	
6. 45	46. 19	036632	038894	
7. 45	46. 11	036742	038869	
8. 45	46. 0	036964	038843	
9. 45	46. 31	037517	038894	
10. 45	47. 33	037849	038910	
11. 45	48. 33	038010	038868	
13. 45	48. 56	038164	038817	
14. 45	50. 0	038120	038817	
15. 45	50. 26	038054	038832	
16. 45	50. 20	038054	038796	
17. 45	50. 42	038054	038765	
18. 45	51. 5	037943	038765	
19. 45	51. 40	037832	038755	
20. 45	52. 7	037722	038734	
22. 45	51. 34	037500	038713	
23. 45	51. 40	037500	038703	
24. 45	51. 40	037389	038677	
25. 45	51. 40	037389	038661	
26. 45	51. 38	037389	038661	
27. 45	51. 34	037389	038661	
28. 45	51. 24	037279	038620	
29. 45	51. 24	037234	038620	
30. 45	51. 16	037168	038646	
31. 45	51. 16	037168	038610	

Nov. 17^d. 2^h. 20^m. As no large changes were taking place in the positions of the magnets, extra observations were discontinued.

Nov. 17^d. A change of 10′. 58″ having taken place in the position of the Declination Magnet between 6^h and 8^h, extra observations were resumed.

Extraordinary Observations of November 17 and 18, and December 3.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Nov. 17. 9. 57. 30			0 ·038584	L
10. 0. 0	22. 49. 51			
2. 30		0 ·036974		L
Nov. 18. 3. 57. 30			0 ·039046	H B
4. 0. 0	22. 54. 10			
4. 2. 30		0 ·037617		
5. 57. 30			038942	
6. 0. 0	41. 48			
2. 30		039285		
11. 37	45. 9	038710	038885	
33. 37	48. 18	036894	038788	
41. 15	47. 41	037425	038772	
44. 15	47. 58	037381	038772	
47. 15	48. 30	037448	038804	
50. 15	48. 35	037381	038804	
52. 15	48. 21	037403	038793	
53. 15	48. 24	037470	038778	
6. 58. 15	48. 35	037514	038778	
7. 0. 15	48. 58	037620	038788	
1. 15	49. 6	037620	038793	
5. 15	49. 52	037708	038788	
8. 16	50. 3	037753	038789	
14. 16	50. 38	037819	038789	
20. 16	50. 52	037642	038753	
28. 16	51. 59	037753	038774	
43. 16	52. 41	037797	038759	
7. 57. 30			038743	
8. 0. 0	22. 53. 14			
2. 30		038151		H B
Dec. 3. 1. 47. 30			0 ·038171	T D
50. 0	23. 0. 51			
52. 30		0 ·037774		
1. 57. 30			038171	
2. 0. 0	22. 59. 3			
2. 30		037110		
7. 30			038223	
10. 0	22. 58. 21			
2. 12. 30		036889		T D
3. 57. 30			039870	H B
4. 0. 0	23. 2. 34			
2. 30		033243		
7. 45	22. 59. 6	034179	039993	
8. 45	58. 32	034046	039884	
9. 45	57. 56	034024	039869	
10. 45	57. 49	034134	039895	
11. 45	57. 36	034046	039863	
12. 45	57. 43	034046	039863	
13. 45	57. 50	034046	039879	
14. 45	57. 42	033985	039889	

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Dec. 3. 4. 15. 45	22. 57. 28	0 ·033919	0 ·039879	H B
16. 15	57. 30	033896	039863	
16. 45	57. 21	033852	039853	
17. 45	57. 11	033919	039837	
18. 45	57. 13	033919	039853	
19. 45	57. 15	033830	039837	
20. 45	57. 24	033808	039837	
21. 45	57. 29	033481	039843	
22. 45	57. 8	033613	039869	
23. 45	57. 16	033636	039884	
24. 45	57. 47	033525	039905	
25. 45	57. 31	033303	039889	
26. 45	56. 28	032883	039905	
27. 45	57. 22	032750	039936	
28. 45	56. 13	032639	039940	
29. 45	55. 52	032639	040084	
30. 45	56. 14	033038	040162	
31. 45	57. 7	033508	040343	
32. 45	57. 40	033619	040400	
33. 45	57. 28	033552	040379	
34. 45	57. 40	033242	040333	
35. 45	58. 1	033065	040327	
36. 45	58. 31	032954	040343	
37. 45		032844	040379	
38. 45	56. 23	032578	040411	
39. 45	55. 24	032667	040421	
40. 45	54. 28	032800	040379	
41. 45	54. 34	033004	040369	
42. 45	54. 24	033048	040369	
43. 45	54. 8	032960	040307	
44. 45	54. 22	032694	040240	
45. 45	55. 31	032494	040229	
46. 45	56. 21	032163	040245	
47. 45	55. 43	031897	040255	
48. 45	54. 35	031830	040265	
49. 45	53. 33	031830	040296	
50. 45	52. 19	031720	040296	
51. 45	51. 31	031924	040250	
52. 45	50. 47			
53. 45	50. 35	032212	040157	
54. 45	50. 43	032411	040146	
55. 45	50. 32	032588	040136	
56. 45	50. 47	032876	040146	
57. 45	51. 15	033053	040146	
58. 45	51. 39	033208	040167	
4. 59. 45	52. 16	033363	040239	
5. 0. 45	52. 51			
1. 45	52. 53	033585	040188	
2. 45	53. 51	033718	040162	
3. 45	54. 33	033917	040152	
4. 45	55. 53	034049	040152	

Nov. 18^d. A change of 12′. 22″ having taken place in the position of the Declination Magnet between 4^h and 6^h, extra observations were commenced.

Dec. 3^d. 4^h. Changes to a considerable amount having taken place in the positions of the Horizontal and Vertical Force Magnets, extra observations were commenced.

Extraordinary Observations of December 3.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″				d h m s	° ′ ″			
Dec. 3. 5. 5. 45	22. 57. 27	0 ·033696	0 ·040119	H B	Dec. 3. 6. 12. 45	22. 55. 35	0 ·034285	0 ·040158	H B
6. 45	57. 37	033280	040135		13. 45	55. 2	034728	040168	
7. 45	57. 30	033346	040187		14. 45	55. 28	035258	040158	
8. 45	57. 35	033413	040212		15. 45	56. 34	035635	040184	
9. 45	57. 3	033501	040228		16. 45	57. 42	035724	040189	
10. 45	56. 38	033568	040264		17. 45	58. 3	035613	040194	
11. 45	56. 2	033701	040306		18. 45	58. 9	035746	040193	
12. 45	55. 41	033944	040316		19. 45	58. 12	035901	040157	
13. 45	55. 6	034431	040352		20. 45	57. 43	035990	040167	
14. 45	53. 21	035272	040316		21. 45	57. 40	036172	040162	
15. 45	52. 16	035449	040445		22. 45	58. 12	036482	040162	
16. 45	50. 56	036539	040574		23. 45	58. 58	036703	040244	
17. 45	50. 56	036982	040636		25. 45	22. 59. 39	036681	040208	
18. 45	51. 33	037535	040548		26. 45	23. 0. 24	036908	040275	
19. 45	53. 25	038443	040729		27. 45	1. 50	036974	040337	
20. 45	55. 29	038908	040755		28. 45	3. 50	036974	040373	
21. 45	22. 58. 29	039130	040739		29. 45	6. 40	036686	040389	
22. 45	23. 1. 2	038576	040626		30. 45	9. 26	036155	040353	
23. 45	3. 8	037956	040548		31. 45	11. 23	035313	040291	
24. 45	4. 40	037160	040445		32. 45	12. 17	034782	040260	
25. 45	5. 40	036318	040435		33. 45	12. 28	034317	040327	
26. 45	5. 14	035460	040368		34. 45	10. 54	033985	040389	
27. 45	4. 32	035017	040429		35. 45	8. 44	034073	040518	
28. 45	2. 47	035083	040486		36. 45	7. 3	034521	040560	
29. 45	1. 14	035304	040315		37. 45	6. 40	035185	040596	
30. 45	0. 14	035681	040263		38. 45	7. 27	035429	040638	
31. 45	0. 5	036213	040211		39. 45	8. 44	035296	040596	
35. 45	8. 9	039445	040263		40. 45	9. 56	034986	040508	
37. 15	14. 53	039179	040247		41. 45	11. 10	034632	040336	
39. 15	24. 31	036522	039952		42. 45	12. 22	034234	040155	
40. 15	25. 36	035415	039824		43. 45	13. 8	033857	040062	
41. 15	26. 2	034402	039859		44. 45	12. 55	033835	040052	
42. 15	25. 52	032520	039782		45. 45	12. 56	034012	040062	
43. 15	21. 29	031745	039885		46. 45	13. 58	034350	040119	
44. 15	16. 24	031745	040154		56. 45	20. 17	032827	040605	
45. 15	12. 11	031413	040185		57. 45	20. 51	032495	040904	
46. 15	23. 7. 53	031480	040263		6. 59. 15	17. 55	032606	041059	
49. 45	22. 57. 7	033672	040511		7. 0. 15	16. 32	032827	041188	
51. 15	56. 56	033942	040459		1. 15	14. 17	033076	041353	
52. 15	56. 36	034053	040485		2. 45	10. 53	033297	041524	
53. 15	56. 18	034208	040427		3. 45	8. 2	033386	041498	
54. 15	56. 20	034297	040417		4. 45	5. 30	033475	041477	
5. 57. 30			040376		5. 45	3. 41	033740	041369	
6. 0. 0	51. 10				6. 45	2. 36	034138	041275	
2. 30		033544			7. 45	2. 3	034161	041162	
6. 45	52. 19	035431	040189		8. 45	23. 1. 20	034094	041059	
7. 45	55. 40	035364	040210		9. 45	22. 59. 51	033784	040991	
8. 45	57. 25	035099	040184		10. 46	57. 53	033718	040913	
9. 45	58. 8	034745	040184		11. 46	56. 16	033944	040758	
10. 45	58. 5	034257	040163		12. 46	55. 47	034166	040609	
11. 45	56. 46	034085	040142		13. 46	56. 2	034343	040500	

Extraordinary Observations of December 3.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.	Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″				d h m s	° ′ ″			
Dec. 3. 7.14.46	22.57.25	0·034453	0·040396	H B	Dec. 3. 8.20.45	22.35.29	0·031557	0·040315	H B
15.46	58.22	034277	040247		21.45	34.35	031850	040284	
16.46	58.53	034144	040143		22.45	32.38	032137	040201	
17.46	59.31	034121	040050		23.45	31.43	032204	040046	
18.46	59.30	033988	040009		24.45	29.45	032625	040004	
19.46	58.26	034121	040014		25.45	29.17	033842	040056	
20.46	57.55	034918	040112		26.45	28.55	034175	040098	
21.46	58.13	035367	040205		27.45	28.33	034351	040056	
22.46	22.59.5	035832	040231		28.45	28.52	034595	039994	
23.46	23.0.53	036230	040220		29.45	28.5	035237	040020	
24.46	2.54	036473	040220		30.45	28.40	036942	040082	
25.46	4.52	036717	040240		31.45	32.25	037496	040185	
26.46	7.44	036363	040214		32.45	35.18	036676	040185	
27.46	8.54	036053	040152		33.45	33.59	036366	040185	
28.46	8.54	036318	040209		34.45	33.34	036787	040175	
29.46	9.59	036451	040220		35.45	33.58	037722	040191	
31.46	13.29	037076	040292		36.45	37.58	038851	040263	
32.46	19.38	036301	040188		37.45	41.50	038541	040279	
33.46	23.13	034774	040049		38.45	44.26	037655	040263	
34.46	24.31	033158	039894		39.45	45.27	036704	040279	
35.46	22.47	031896	039816		40.45	45.51	035375	040134	
36.46	19.25	031254	039878		41.45	44.35	034002	040067	
37.46	16.22	030877	040039		42.45	42.10	033294	040010	
38.46	13.33	030479	040156		43.45	39.4	032718	039932	
39.46	11.5	030147	040337		44.45	37.21	032519	039824	
40.46	8.25	029969	040389		45.45	35.12	032165	039700	
41.46	5.57	029886	040446		46.45	33.40	032010	039591	
42.46	4.40	030019	040462		47.45	32.47	032630	039663	
43.46	3.51	029864	040462		48.45	32.58	033516	039643	
44.46	2.14	030130	040503		50.15	34.50	033786	039622	
45.46	2.33	030041	040358		51.15	36.11	033653	039493	
48.46	3.45	028358	039841		52.15	37.44	033764	039410	
49.46	4.54	027584	039779		53.15	38.43	033742	039285	
50.46	5.22	027030	039701		54.45	40.40	033698	039249	
51.46	4.46	026327	039634		55.45	42.17	033454	039176	
52.46	3.22	025906	039566		56.45	44.2	033122	039124	
53.46	23.1.25	025840	039592		57.45	45.53	032767	039073	
54.46	22.58.32	025862	039717		58.45	47.11	032613	039114	
7.57.30			039815		8.59.45	48.0	032148	039130	
8.0.0	46.16				9.0.45	47.44	031594	039145	
2.30		029227			1.45	47.58	031241	039078	
9.45	45.34	030716	041038		2.45	48.4	030952	039053	
10.45	42.57	030671	041018		3.46	47.48	030487		
11.45	40.45	030052	040961		4.46	47.21	030554	039021	
12.45	39.5	030273	040951		5.46	47.12	030487	038985	
13.45	37.26	030538	040879		6.46	47.52	030803	039021	
14.45	36.38	030826	040889		7.46	48.20	030803	039047	
15.45	36.7	031336	040853		8.46	49.9	030780	039150	
16.45	36.37	031446	040770		9.46	50.16	030891	039176	
17.45	36.56	031601	040780		10.46	50.53	030825	039150	
18.45	36.34	031424	040547		23.46	42.1	030094	039192	

From Dec. $3^d.6^h.50^m$ to 7^h there was no appearance of any auroral light, the sky being overcast: at 10^h a faint aurora was visible; it extended from η Ursæ Majoris to about α Lyræ, but was extremely faint, on account of cirro-stratus clouds in that direction: at $10^h.40^m$ the aurora was still visible, but not brighter than at 10^h; its apex appeared to be exactly between α Lyræ and η Ursæ Majoris: at $11^h.15^m$ the aurora was very bright; its altitude appeared to be about 8°.

Extraordinary Observations of December 3.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Dec. 3. 9. 24. 46	22. 42. 13	0·030205	0·039249	H B
25. 46	42. 36	030249	039182	
26. 46	42. 59	030409	039218	
28. 46	43. 58	030631	039176	
29. 46	44. 25	030675	039176	
30. 46	44. 28	030586	039119	
32. 46	43. 52	030631	039166	
38. 46	46. 27	031073	039130	
43. 46	47. 6	031317	039321	
45. 46	46. 57	031278	039321	
47. 46	46. 59	031455	039336	
48. 46	47. 32	031521	039362	
53. 46	49. 32	031322	039486	
9. 57. 30			039502	
10. 0. 0	50. 35			
2. 30		030769		
15. 46	46. 46	028892	039087	
17. 46	45. 8	028826	039071	
19. 46	42. 33	029135	039129	
23. 46	41. 7	029960	039165	
25. 46	40. 25	030424	039304	
26. 46	40. 21	030602	039330	
27. 46	40. 19	030735	039320	
28. 46	40. 35	030690	039345	
29. 46	40. 41	030735	039268	
31. 46	40. 35	031022	039211	
34. 46	40. 17	031620	039397	
45. 46	45. 38	033109	039423	
47. 46	45. 46	033175	039191	
48. 46	45. 56	033042	039216	
49. 46	45. 53	033086	039206	
54. 46	44. 19	032140	039045	
56. 46	44. 14	031940	038973	
10. 58. 46	43. 44	031763	038858	
11. 0. 46	42. 51	031675	038858	
2. 46	42. 32	031808	038941	
5. 47	41. 28	031171	038817	
7. 47	40. 19	031016	038884	
17. 47	40. 19			
23. 47	43. 4	031636	039034	
25. 47	43. 28	031508	038987	
28. 47	43. 55	031663	039024	
31. 47	44. 46	031995	039044	
36. 47	44. 51	032327	038956	
40. 47	43. 37	032969	038837	
46. 47	47. 16	032200	038388	
48. 16	47. 22	031734	038253	
49. 16	47. 2	031424	038206	H B
51. 45	46. 7	029941	038000	T D
53. 45	45. 33	030162	038258	
57. 30			038646	

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Dec. 3. 11. 58. 45	22. 44. 4	0·032708	0·038517	T D
12. 0. 0	44. 52			
0. 45	42. 26	033262	038569	
2. 30		030495		
2. 45	42. 12	033373	038610	
4. 45	41. 20	033771	038733	
6. 25	40. 25	033815	038748	
8. 35	39. 28	033815	038852	
10. 45	39. 19	034369	038893	
12. 45	37. 58	034922	038981	
14. 45	37. 13	035476	039059	
16. 45	39. 7	035144	038722	
18. 45	39. 11	035410	038774	
20. 45	39. 1	035476	038826	
22. 45	40. 10	035476	038852	
24. 45	41. 56	035255	038852	
27. 45	43. 45	034922	038852	
29. 45	44. 23	033815	038799	
31. 45	44. 56	034369	038789	
33. 45	45. 39	032930	038695	
34. 45	47. 5	032266	038695	
36. 45	46. 54	031602	038643	
38. 45	47. 35	031269	038669	
40. 45	48. 2	030716	038581	
42. 45	47. 30	030384	038540	
44. 45	46. 26	029831	038504	
46. 45	45. 51	029697	038463	
48. 45	44. 11	030008	038540	
50. 45	43. 54	030162	038566	
52. 45	43. 21	030495	038524	
54. 45	42. 44	030760	038514	
56. 45	42. 3	031026	038427	
58. 45	41. 4	030876	038437	
12. 59. 45	39. 4	030920	038437	
13. 0. 15	37. 58			
1. 15	36. 55			
2. 15	37. 0	030920	038437	
4. 45	37. 0	031098	038463	
6. 45	37. 20	031363	038461	
8. 45	37. 41	031629	038503	
10. 45	38. 16	031762	038564	
12. 45	38. 18	031806	038574	
14. 45	37. 9	032094	038574	
16. 45	36. 50	032249	038538	
17. 15	35. 49	032691	038538	
18. 45	35. 43	032869		
20. 45	35. 43	032913		
22. 45	35. 53	033090	038518	
24. 45	36. 11	033356	038528	
26. 45	36. 45	033533	038538	
28. 45	36. 53	033798		

Dec. $3^{d}. 12^{h}. 20^{m}$. The aurora has become faint.

Extraordinary Observations of December 3, 13, and 30.

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Dec. 3. 13. 30. 45	22. 37. 21	0·033909		T D
32. 45	37. 41	034020	0·038511	
34. 45	37. 48	034020	038496	
36. 45	38. 54	034020	038460	
38. 45	39. 11		038418	
40. 45	39. 11	033843	038279	
48. 45	38. 57	033687	038124	
13. 57. 30			038046	
14. 0. 0	39. 52			
2. 30		033533		
3. 45	41. 12	032426	037968	
5. 45	39. 51	032138	037891	
7. 15	38. 22	032027	037865	
9. 45	37. 49	032138	037839	
14. 45	38. 15	032310	037865	
19. 45	39. 0	032487	037891	
24. 45	40. 24	032708	037891	
26. 45	40. 36	032886	037865	
28. 45	41. 30	032487	037840	
33. 45	42. 15	032376	037840	
35. 45	43. 16	032222	037875	
38. 45	44. 26	031823	037907	
40. 45	45. 31	031796	037917	
43. 45	46. 15	031729	037953	
48. 45	46. 43	031619	037968	
14. 53. 45	46. 43	031463	038020	
15. 8. 45	47. 9	031574	038046	
28. 45	48. 28	031636	038025	
38. 45	49. 13	033407	037944	
48. 45	49. 12	033407	037970	
53. 45	49. 9	033562	037985	
15. 57. 30			038021	
16. 0. 0	49. 3			
2. 30		033628		T D
Dec. 13. 7. 57. 30			0·038646	H B
8. 0. 0	22. 49. 50			
2. 30		0·036029		
9. 57. 30			038422	
10. 0. 0	39. 2			
2. 30		035247		
5. 16	38. 42	035203	038412	
12. 46	38. 14	035757	038427	
17. 46	39. 25	035690	038447	
21. 46	39. 58	035535	038447	
23. 46	40. 13	035358	038458	
25. 46	40. 29	035137	038427	
27. 46	40. 55	035026	038427	
30. 46	41. 24	034921	038453	
34. 46	41. 49	035009	038453	
37. 46	42. 29	035053	038453	

Göttingen Mean Time (Astronomical Reckoning) of Declination Observation.	Western Declination.	Horizontal Force Reading in parts of the whole Hor. Force corrected for Temperature.	Vertical Force Reading in parts of the whole Vert. Force corrected for Temperature.	Observers.
d h m s	° ′ ″			
Dec. 13. 10. 41. 46	22. 43. 13	0·035075	0·038438	H B
44. 46	43. 39	035186	038443	
48. 46	44. 15	035341	038427	
51. 46	44. 28	035230	038386	
10. 54. 46	44. 48	035230	038386	H B
11. 57. 30			038231	T D
12. 0. 0	48. 11			
2. 30		035656		T D
Dec. 30. 1. 47. 30			0·039673	T D
50. 0	22. 59. 3			
52. 30		0·038907		
1. 57. 30			039689	
2. 0. 0	22. 59. 48			
2. 30		038730		
7. 30			039699	T D
10. 0	23. 2. 19			H B
12. 30		037646		
36. 29	22. 50. 53	037697	039699	
40. 15	49. 45	038073	039558	
41. 15	49. 27	038267		
42. 15	49. 4	038311		
43. 15	48. 43	038444		
44. 15	48. 40	038489		
45. 15	48. 40	038533		
47. 15	48. 23	038710		
49. 15	48. 44	038710	040015	
51. 15	49. 4	038776	039994	
53. 15	48. 57	038837	040030	
55. 15	48. 35	038970	040000	
2. 57. 15	48. 28	038992	040000	
3. 2. 15	49. 35	039502	040047	
8. 15	51. 3	039851	040057	
10. 16	51. 44	039851	040047	
16. 16	53. 10	039868	040068	
20. 16	53. 50	039868	040053	
25. 46	54. 59	039929	040063	H B
32. 46	56. 34	040328	039794	G
3. 57. 30			040002	
4. 0. 0	59. 58			
2. 30		039919		
5. 55. 0	48. 18	038906	039503	
57. 30			039477	
6. 0. 0	48. 5			
2. 30		038977		
6. 45. 0	49. 2	038966	039345	
7. 57. 30			039238	
8. 0. 0	49. 26			
2. 30		039247		G

Dec. 13d. A change of 10′. 48″ having taken place in the position of the Declination Magnet between 8h and 10h, extra observations were commenced.

Dec. 30d. At 2h. 10m, the Declination Magnet being in a disturbed state, extra observations were commenced.

ROYAL OBSERVATORY, GREENWICH.

OBSERVATIONS

OF

THE MAGNETIC DIP.

1845.

DAY and APPROXIMATE HOUR, 1845.	Letter referring to Needle.	Angle made by the Plane of the Vertical Circle with the North Magnetic Meridian, reckoning towards the East.	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.	(3) West. Circle Reading Upper.	Lower.	Marked Side of Needle West. Graduated Face of Circle (4) East. Circle Reading Upper.	Lower.	(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.	(2) West. Circle Reading Upper.	Lower.	Marked Side of Needle East. Graduated Face of Circle (1) East. Circle Reading Upper.	Lower.	(3) West. Circle Reading Upper.	Lower.	Mean for each Azimuthal Angle.	Resulting Dip.	Observer.
d h		°		° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	° ′	
Jan. 2. 3	A 2	40		72. 30	30	130	130	73. 28	27	30	31	73. 32	33	55	52	73. 25	26	32	31	73. 30¼	69. 3·4	G
		130		76. 26	25	38	37	76. 20	21	20	20	76. 0	2	51	50	75. 85	84	58	59	76. 22¼		
Jan. 2. 21	A 2	40	Not moved									72. 58	59	100	100	72. 10	102	50	49	73. 17¼	69. 2·1	G
		130										76. 30	29	31	50	76. 46	45	31	32	76. 36¾		
Jan. 12. 21	A 1	40		73. 30	28	31	33	73. 34	36	29	31	73. 16	18	30	28	73. 52	55	34	32	73. 32½	68. 55·5	D
		130		76. 13	11	14	17	75. 65	62	53	55	75. 57	59	79	77	75. 59	61	69	66	76. 6		
Jan. 16. 3	A 1	40		73. 66	65	40	42	73. 45	43	29	31	73. 33	35	38	41	73. 30	32	40	38	73. 40½	68. 59·8	D
		130		75. 65	63	59	60	75. 75	74	53	56	76. 2	3	7	5	75. 68	70	58	55	76. 3½		
Jan. 16. 21	A 1	40	Not moved	73. 22	23	20	20	73. 35	40	40	42									73. 30¼	68. 55·8	G
		130		75. 51	52	88	88	75. 55	55	62	63									76. 9¼		
Jan. 19. 3	A 1			68. 61	60	45	45	68. 52	52	40	40	68. 55	55	53	53	68. 85	86	45	45		68. 54·5	
Jan. 30. 3	A 1			68. 77	74	57	56	68. 87	87	52	53	68. 53	54	105	106	68. 30	30	32	35		69. 1·8	
Feb. 2. 21	A 1			68. 67	67	50	50	68. 63	63	48	48	69. 5	7	35	30	68. 47	45	45	45		69. 0·0	
Feb. 6. 3	A 1			68. 53	53	52	52	68. 63	65	58	58	68. 53	52	105	108	68. 55	52	65	67		69. 3·2	
Feb. 9. 21	A 1			68. 47	45	62	60	68. 68	68	53	53	68. 90	90	52	52	68. 40	40	52	50		68. 57·5	
Feb. 12. 3	A 1	40		73. 35	32	80	80	73. 52	52	14	15	73. 20	25	59	57	73. 30	30	35	35	73. 40¾	68. 55·9	
		130		75. 90	90	38	38	76. 15	14	10	10	75. 50	50	77	77	75. 74	70	20	25	75. 56¾		
Feb. 12. 21	A 1	40	Not moved	73. 69	69	35	33	73. 35	35	60	62									73. 49¾	69. 5·0	G
		130		75. 72	72	58	56	75. 70	70	45	45									76. 1		
Feb. 16. 21	A 1	40		73. 75	74	43	46	73. 50	48	41	43	73. 49	52	49	47	73. 36	39	56	55	73. 50¼	69. 8·4	D
		130		76. 17	15	12	15	75. 78	75	55	57	75. 78	82	30	31	76. 11	12	8	5	76. 6¼		

Jan. 19d. 3h. The morning had been wet and windy: after the observation had been taken it was found that the unmarked end of the needle had moisture on it. The observation is not good.

DAY and APPROXIMATE HOUR, 1845.	Letter referring to Needle.	Angle made by the Plane of the Vertical Circle with the North Magnetic Meridian, reckoning towards the East.	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.								Mean for each Azimuthal Angle.	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.		Graduated Face of Circle (3) West.		Graduated Face of Circle (4) East.		Graduated Face of Circle (2) West.		Graduated Face of Circle (4) East.		Graduated Face of Circle (2) West.		Graduated Face of Circle (1) East.		Graduated Face of Circle (3) West.				
				Circle Reading Upper.	Circle Reading Lower.	Circle Reading Upper.	Circle Reading Lower.	Circle Reading Upper.	Circle Reading Lower.	Circle Reading Upper.	Circle Reading Lower.	Circle Reading Upper.	Circle Reading Lower.	Circle Reading Upper.	Circle Reading Lower.	Circle Reading Upper.	Circle Reading Lower.	Circle Reading Upper.	Circle Reading Lower.			
d h		°		° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	° ′	
Feb. 20. 3	A 1	40		73. 42	40	62	68	73. 85	86	32	32	73. 20	20	53	54	73. 42	43	30	25	73. 46	69. 0·1	G
		130		75. 62	62	50	52	75. 30	28	58	60	75. 62	58	64	64	76. 0	0	15	16	75. 57½+		
Feb. 20. 21	A 1	40	Not moved	73. 25	20	62	70	73. 78	70	40	38									73. 50½	69. 4·2	G
		130		76. 3	0	15	18	75. 50	50	50	45									75. 59		
Feb. 23. 21	A 1	40		73. 47	44	56	59	73. 53	50	57	59	73. 30	32	37	33	73. 61	65	38	35	73. 47¼	69. 9·7	D
		130		76. 21	24	7	10	76. 2	0	12	16	76. 11	8	18	22	76. 3	6	18	14	76. 12		
Feb. 27. 3	A 1	40		73. 42	40	48	51	73. 40	42	44	46	73. 32	35	26	22	73. 61	65	47	45	73. 42¾	69. 0·2	D
		130		76. 0	3	2	3	76. 0	3	16	18	76. 3	5	7	11	75. 62	66	33	30	76. 1½		
Feb. 27. 21	A 1	40	Not moved	73. 52	53	45	50	73. 58	60	40	42									73. 50	69. 13·7	G
		130		76. 5	5	27	30	76. 7	7	18	23									76. 15¼		
Mar. 2. 21	A 1	40		73. 50	52	39	43	73. 39	35	45	48	73. 29	32	45	41	73. 33	37	29	26	73. 39	69. 1·7	D
		130		75. 69	66	55	59	75. 57	55	75	73	76. 8	11	20	18	76. 8	8	15	18	76. 8½		
Mar. 6. 3	A 1	40		73. 46	45	35	37	73. 53	51	30	32	73. 28	31	44	40	73. 34	37	39	37	73. 38¾	68. 56·8	
		130		75. 60	57	56	59	75. 76	78	57	55	76. 0	3	7	3	75. 58	60	52	48	76. 0¾		
Mar. 6. 21	A 1	40	Not moved	73. 48	46	36	40	73. 60	57	46	49									73. 47¾	69. 6·0	
		130		76. 8	6	10	12	75. 66	63	58	60									76. 5¼		
Mar. 9. 21	A 1	40		73. 32	30	28	30	73. 48	50	33	35	73. 47	50	49	46	73. 38	42	41	39	73. 40	69. 0·3	
		130		76. 11	8	3	6	76. 13	11	2	4	75. 75	78	52	48	75. 58	60	63	67	76. 5		
Mar. 16. 21	A 1	40		73. 42	40	23	26	73. 58	56	38	39	73. 36	38	37	33	73. 32	36	37	39	73. 38¼	68. 54·0	
		130		76. 11	8	5	8	75. 70	69	49	50	75. 39	41	66	62	75. 53	57	41	38	75. 56¾		
Mar. 23. 21	A 1	40		73. 38	42	33	35	73. 54	52	36	39	73. 50	53	32	29	73. 32	36	34	32	73. 39⅛	69. 0·4	
		130		75. 77	73	51	54	75. 61	58	62	64	76. 11	15	3	1	76. 7	9	16	13	76. 6¼		

DAY and APPROXIMATE HOUR, 1845.	Letter referring to Needle.	Angle made by the Plane of the Vertical Circle with the North Magnetic Meridian, reckoning towards the East.	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.	(3) West. Circle Reading Upper.	Lower.	Marked Side of Needle West. Graduated Face of Circle (4) East. Circle Reading Upper.	Lower.	(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.	(2) West. Circle Reading Upper.	Lower.	Marked Side of Needle East. Graduated Face of Circle (1) East. Circle Reading Upper.	Lower.	(3) West. Circle Reading Upper.	Lower.	Mean for each Azimuthal Angle.	Resulting Dip.	Observer.
d h		°		° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	° ′	
Mar. 27. 3	A 1	40		73. 58	59	28	31	73. 58	56	25	27	73. 25	28	43	40	73. 42	46	38	38	73. 39¾	68. 56·2	D
		130		75. 77	74	46	50	75. 75	73	43	47	75. 46	48	62	58	75. 51	55	66	62	75. 58½		
Mar. 27. 21	A 1	40	Not moved	73. 50	48	25	29	73. 49	47	30	33									73. 39	68. 58·0	
		130		75. 74	71	48	49	75. 74	71	54	57									76. 2¼		
Mar. 30. 21	A 1	40		73. 41	40	21	25	73. 61	57	30	32	73. 36	39	33	37	73. 37	39	28	32	73. 36¾	68. 55·8	
		130		75. 76	77	44	48	75. 77	74	54	58	75. 59	63	49	46	76. 2	4	9	6	76. 1½		
Mar. 31. 3	A 1	40	Not moved									73. 29	32	42	39	73. 36	40	27	27	73. 34	68. 49·5	
		130										75. 51	54	49	48	75. 54	56	62	59	75. 54¼		
Apr. 3. 3	A 1	40		73. 41	43	29	33	73. 35	32	40	43	73. 36	39	39	36	73. 42	45	28	26	73. 36¾	68. 53·5	D
		130		75. 57	59	65	62	75. 70	98	55	59	75. 64	67	58	55	75. 63	67	25	22	75. 57½		
Apr. 3. 21	A 1	40	Not moved	73. 45	46	35	32	73. 45	45	40	41									73. 41¼	69. 1·0	G
		130		75. 75	78	50	50	76. 0	0	5	7									76. 4¾		
Apr. 6. 21	A 1	40		73. 47	45	55	56	73. 49	46	39	42	73. 33	35	36	39	73. 46	45	24	23	73. 41¼	68. 58·7	D
		130		75. 62	59	62	66	75. 58	55	58	61	75. 68	71	39	36	76. 15	17	4	1	76. 0¾		
Apr. 7. 3	A 1	40	Not moved									73. 39	42	58	55	73. 39	42	23	22	73. 40	68. 55·3	
		130										76. 10	14	5	2	75. 51	54	39	38	75. 56¾		
Apr. 10. 3	A 1	40		73. 35	35	34	37	73. 49	46	40	42	73. 47	50	58	55	73. 28	31	11	11	73. 37½	68. 54·9	
		130		76. 8	5	0	2	75. 66	63	50	53	76. 38	39	7	4	75. 44	40	21	23	75. 59		
Apr. 13. 21	A 1	40		73. 45	46	32	35	73. 52	49	32	35	73. 21	23	38	35	73. 26	25	31	33	73. 35	68. 55·6	
		130		75. 69	66	51	55	75. 62	59	68	71	75. 56	59	66	64	76. 7	9	8	4	76. 3¼		
Apr. 17. 3	A 1	40		73. 38	40	32	35	73. 61	60	37	40	73. 34	37	47	44	73. 22	26	45	43	73. 40¼	68. 57·3	
		130		75. 58	54	60	63	75. 76	78	44	48	76. 2	4	46	42	76. 4	8	6	2	75. 59¾		
Apr. 17. 21	A 1	40	Not moved	73. 39	41	33	37	73. 46	42	25	28									73. 36½	68. 55·5	
		130		75. 63	61	59	63	75. 71	68	50	52									76. 1		

DAY and APPROXIMATE HOUR, 1845.	Letter referring to Needle.	Angle made by the Plane of the Vertical Circle with the North Magnetic Meridian, reckoning towards the East.	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.	Mean for each Azimuthal Angle.	Resulting Dip.	Observer.
d h		°		° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	° ′	
Apr. 21. 21	A 1	40		73. 26	28	39	41	73. 31	34	55	58	73. 33	36	39	42	73. 33	37	31	31	73. 37¼	68. 57·9	D
		130		75. 62	65	58	61	75. 62	59	66	70	75. 59	62	66	63	76. 14	17	3	0	76. 4¼		
Apr. 27. 21	A 1	40		73. 33	38	33	37	73. 30	27	55	57	73. 22	24	55	52	73. 26	28	27	26	73. 35¼	68. 56·0	
		130		75. 52	50	88	90	75. 80	78	58	61	75. 58	61	58	54	75. 58	62	55	52	76. 3½		
May 1. 3	A 1	40		73. 23	25	34	38	73. 44	41	50	53	73. 39	36	28	26	73. 21	25	36	33	73. 34½	68. 58·7	
		130		75. 59	57	84	88	75. 59	55	83	86	75. 90	94	49	46	75. 59	62	68	64	76. 9		
May 2. 21	A 1	40	Not moved									73. 58	60	48	46	73. 30	32	18	17	73. 38¾	69. 1·5	
		130										76. 3	6	5	1	76. 9	12	11	8	76. 7		
May 4. 21	A 1	40		73. 27	26	26	28	73. 41	39	44	47	73. 35	38	51	48	73. 31	35	26	25	73. 35½	69. 1·6	
		130		76. 15	11	22	25	76. 3	1	9	11	76. 12	15	43	41	75. 63	66	52	55	76. 12¾		
May 8. 3	A 1	40		73. 42	43	28	32	73. 43	41	41	44	73. 33	37	57	54	73. 10	12	22	26	73. 35½	68. 57·2	
		130		76. 10	7	3	7	75. 50	48	58	62	75. 51	55	83	81	75. 85	88	62	59	76. 5¼		
May 8. 21	A 1	40	Not moved									73. 20	22	61	59	73. 20	23	38	36	73. 35	68. 51·0	
		130										75. 74	72	45	48	75. 47	43	58	55	75. 55¼		
May 11. 22	A 1	40		73. 28	26	27	30	73. 37	35	58	61	73. 26	29	53	50	73. 17	21	41	39	73. 36¼	68. 56·5	D
		130		76. 2	0	24	27	76. 6	4	15	18	75. 46	48	75	72	75. 50	53	47	45	76. 3¼		
May 15. 3	A 1	40		76. 25	24	2	1	75. 55	52	65	67	75. 38	40	55	56	75. 40	45	80	85	76. 0¾	68. 58·3	G
		130		73. 61	60	32	32	73. 41	38	30	35	73. 45	42	62	61	73. 15	20	40	38	73. 40¾		
May 15. 21	A 1	40	Not moved									75. 33	36	80	75	75. 47	50	68	66	75. 57	68. 54·4	D
		130										73. 37	40	52	56	73. 25	29	34	33	73. 38¼		
May 18. 21	A 1	40		75. 71	73	57	55	75. 84	81	56	59	75. 42	46	76	73	75. 80	84	52	48	76. 5—	68. 59·6	
		130		73. 60	57	35	38	73. 42	40	28	32	73. 22	25	76	73	73. 20	24	26	24	73. 39—		

May 8d. 3h. The needle was troublesome to use; it would settle in very different positions; and it was only after repeatedly raising it from the agate planes that it would settle in its usual position.

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d h			° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	
May 22. 3	A 1		69. 6	5	2	0	68. 61	64	48	51	68. 45	45	59	56	68. 57	57	62	65	68. 57·8	D
May 22. 21	A 1	Not moved									68. 37	37	52	51	68. 59	62	48	51		
May 25. 21	A 1		68. 41	39	63	61	68. 50	53	49	52	68. 48	58	69	67	68. 60	64	54	57	68. 54·8	D
May 29. 3	A 1		68. 52	50	64	63	68. 93	92	35	32	69. 30	32	10	10	68. 15	15	30	30	68. 55·8	G
May 29. 21	A 1	Not moved									69. 22	24	4	2	68. 6	6	32	35		D
June 1. 21	A 1		68. 58	58	65	63	69. 8	11	4	8	69. 40	42	21	18	68. 10	13	35	38	69. 0·8	
June 2. 3	A 1	Not moved	68. 59	59	72	71	68. 58	62	71	73										
June 8. 21	A 1		68. 56	58	78	75	68. 57	60	57	58	69. 17	18	15	12	68. 37	39	47	50	69. 1·0	
June 12. 3	A 1		68. 35	36	81	79	68. 123	126	54	56	69. 23	24	8	11	68. 34	38	28	30	69. 4·0	
June 12. 21	A 1	Not moved	68. 35	36	81	79	69. 70	74	9	11										
June 15. 21	A 1		68. 39	38	65	62	68. 49	52	76	79	69. 24	22	17	17	68. 36	40	33	36	68. 57·8	
June 22. 21	A 1		68. 44	47	61	59	68. 51	54	62	66	69. 7	7	14	11	68. 35	40	44	46	68. 55·5	
June 26. 3	A 1		68. 46	45	73	70	68. 57	61	54	57	69. 5	4	10	8	68. 25	29	46	48	68. 54·8	
June 29. 21	A 1		68. 59	59	59	60	68. 43	47	64	68	69. 2	2	6	3	68. 50	54	45	47	68. 56·8	
July 3. 3	A 1		69. 1	2	5	3	69. 0	5	12	15	68. 63	63	41	39	68. 34	39	100	103	69. 2·8	
July 6. 21	A 1		69. 8	8	17	14	68. 41	46	62	61	68. 68	67	60	57	68. 46	50	44	47	68. 58·5	
July 10. 3	A 1		68. 89	89	60	58	18. 56	61	58	60	68. 32	32	74	71	69. 65	70	26	29	68. 58·0	
July 13. 21	A 1		69. 0	2	7	4	68. 52	57	71	73	68. 64	44	54	51	68. 53	58	41	44	68. 56·0	

July 3^{d}. 3^{h}. With the marked side of the needle East, the graduated face of the circle West, and its unmarked end pointing downwards, the observations, as compared with other observations in the same position, appear to be both one degree too large, and if so, the resulting dip should be 68°. 55¼′.

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			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.		Graduated Face of Circle (3) West.		Graduated Face of Circle (4) East.		Graduated Face of Circle (2) West.		Graduated Face of Circle (4) East.		Graduated Face of Circle (2) West.		Graduated Face of Circle (1) East.		Graduated Face of Circle (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 17. 3	A 1		69. 0	0	3	0	69. 13	18	1	4	68. 55	55	48	45	68. 56	61	44	46	68. 58·0	D
July 20. 21	A 1		68. 54	54	56	54	69. 3	5	4	6	68. 58	56	52	50	68. 48	53	37	40	68. 54·5	
July 27. 21	A 1		68. 62	61	56	54	68. 55	60	67	70	68. 49	49	68	66	68. 50	55	55	58	68. 58·5	D
July 31. 3	A 1		69. 12	13	5	7	69. 0	0	0	2	68. 58	58	62	62	68. 30	33	25	27	68. 54·8	G
July 31. 21	A 1	Not moved	68. 53	53	56	52	68. 51	55	63	66										
Aug. 3. 21	A 1		68. 54	53	73	69	68. 53	58	63	66	68. 38	38	67	63	68. 67	72	50	54	68. 58·5	D
Aug. 10. 21	A 1		68. 58	58	67	64	69. 12	17	3	7	68. 33	34	45	43	68. 59	63	40	43	68. 55·5	
Aug. 13. 3	A 1		68. 59	55	56	58	68. 43	43	58	65	68. 70	66	57	57	68. 57	57	47	55	68. 56·5	
Aug. 13. 21	A 1	Not moved									68. 61	57	57	60	68. 54	56	54	62		D
Aug. 17. 21	A 1		68. 75	69	56	60	68. 72	70	49	60	68. 41	52	66	64	68. 64	62	55	68	69. 1·5	G
Aug. 21. 3	A 1		68. 72	70	53	59	68. 72	65	50	59	68. 63	58	55	55	68. 70	70	40	55	69. 0·4	
Aug. 24. 21	A 2		68. 60	60	50	58	69. 13	8	10	17	68. 58	58	35	40	68. 57	57	50	58	68. 58·0	
Aug. 28. 3	A 2		68. 60	68	58	63	68. 50	52	30	35	68. 90	85	40	45	68. 60	55	62	72	68. 58·0	
Aug. 31. 21	A 2		68. 53	47	37	47	68. 72	68	50	62	68. 90	82	52	65	68. 47	45	43	50	68. 55·8	
Sep. 4. 3	A 2		68. 65	60	55	65	68. 75	60	45	55	69. 5	0	0	10	68. 70	62	38	45	68. 59·5	G
Sep. 4. 21	A 2	Not moved									68. 50	45	50	55	68. 63	61	48	55		D
Sep. 7. 21	A 2		68. 58	52	42	50	68. 55	51	50	65	68. 64	59	52	63	68. 62	58	53	60	68. 56·3	
Sep. 8. 3	A 2	Not moved									68. 46	48	53	60	68. 55	50	38	44		

DAY and APPROXIMATE HOUR, 1845.	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.		Graduated Face of Circle (3) West.		Graduated Face of Circle (4) East.		Graduated Face of Circle (2) West.		Graduated Face of Circle (4) East.		Graduated Face of Circle (2) West.		Graduated Face of Circle (1) East.		Graduated Face of Circle (3) West.			
			Circle Reading Upper.	Circle Reading Lower.	Circle Reading Upper.	Circle Reading Lower.	Circle Reading Upper.	Circle Reading Lower.	Circle Reading Upper.	Circle Reading Lower.	Circle Reading Upper.	Circle Reading Lower.	Circle Reading Upper.	Circle Reading Lower.	Circle Reading Upper.	Circle Reading Lower.	Circle Reading Upper.	Circle Reading Lower.		
d h			° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	
Sep. 11. 3	A 2		68. 51	46	58	64	68. 70	72	43	50	68. 55	51	30	35	68. 50	46	58	62	68. 52·5	D
Sep. 11. 21	A 2	Not moved	68. 60	55	40	45	68. 70	65	45	58										G
Sep. 14. 21	A 2		68. 44	40	46	39	68. 55	52	57	55	68. 45	42	35	40	68. 50	47	43	49	68. 46·2	D
Sep. 18. 3	A 2		68. 38	32	40	44	69. 5	3	8	13	68. 54	49	51	56	68. 51	48	54	61	68. 53·0	
Sep. 18. 21	A 2	Not moved	68. 56	51	25	31	69. 10	8	15	24										
Sep. 21. 21	A 2		68. 48	43	47	51	69. 11	8	26	34	68. 52	47	32	38	68. 55	52	67	72	68. 57·8	
Sep. 28. 21	A 2		68. 47	42	40	46	68. 33	30	54	55	68. 48	44	58	56	69. 15	12	9	14	68. 52·8	
Oct. 2. 3	A 2		68. 45	40	48	55	68. 40	35	59	65	68. 68	62	43	49	68. 57	52	70	77	68. 54·0	
Oct. 2. 21	A 2	Not moved									68. 65	60	33	39	68. 55	50	78	86		
Oct. 5. 21	A 2		68. 36	32	48	53	68. 50	48	66	73	68. 62	55	59	65	68. 53	49	58	64	68. 54·5	
Oct. 9. 3	A 2		68. 42	38	69	74	68. 79	80	54	60	68. 22	15	71	77	68. 57	54	68	74	68. 58·3	
Oct. 12. 21	A 2		68. 22	18	51	57	68. 50	48	83	88	68. 42	38	68	76	68. 47	44	70	78	68. 55·0	
Oct. 16. 3	A 2		68. 54	48	34	40	68. 51	48	69	78	68. 8	3	220	226	68. 50	47	90	96	(69. 13·8)	D
Oct. 16. 21	A 2		68. 52	43	50	63	69. 140	140	22	32	68. 18	12	60	62	71. 30	40	141	130	(70. 6·5)	G
Oct. 19. 21	A 2		68. 40	36	36	41	69. 6	4	2	8	66. 91	87	53	57	69. 7	5	66	72	(68. 38·2)	D
Oct. 26. 21	A 1		68. 68	62	45	48	68. 50	50	60	66	68. 60	53	65	68	69. 2	0	6	12	68. 59·8	D
Oct. 30. 3	A 1		68. 61	62	40	49	68. 73	73	50	60	69. 30	28	32	35	68. 30	32	25	32	68. 59·5	G
Nov. 2. 21	A 1		68. 61	57	76	78	68. 72	70	44	52	69. 32	28	18	21	68. 29	27	14	21	68. 58·8	D

Oct. $16^d. 3^h$. The observations taken before reversing the poles of the needle agree with those previously taken in the same positions, but those taken afterwards differ materially from previous observations; it would seem that the needle was injured in some way during the process: the observer was not aware of anything of the kind having taken place, as he performed the operation with the utmost care.

Oct. $16^d. 21^h$. The first parts of this observation were taken as the previous observer had left the needle resting on its agate planes: before reversing its poles it was well examined, and nothing certain appeared to be the matter with it.

Oct. $19^d. 21^h$. After this observation the use of this needle was discontinued.

DAY and APPROXIMATE HOUR, 1845.	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.		Graduated Face of Circle (3) West.		Graduated Face of Circle (4) East.		Graduated Face of Circle (2) West.		Graduated Face of Circle (4) East.		Graduated Face of Circle (2) West.		Graduated Face of Circle (1) East.		Graduated Face of Circle (3) West.			
			Circle Reading Upper.	Circle Reading Lower.	Circle Reading Upper.	Circle Reading Lower.	Circle Reading Upper.	Circle Reading Lower.	Circle Reading Upper.	Circle Reading Lower.	Circle Reading Upper.	Circle Reading Lower.	Circle Reading Upper.	Circle Reading Lower.	Circle Reading Upper.	Circle Reading Lower.	Circle Reading Upper.	Circle Reading Lower.		
d h			° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	
Nov. 6. 3	A 1		69. 20	21	6	14	68. 58	59	40	49	69. 20	25	20	25	68. 46	55	31	37	69. 3·0	G
Nov. 6. 21	A 1	Not moved									69. 31	26	8	14	68. 51	47	27	34		H B
Nov. 9. 21	A 1		69. 15	10	19	23	68. 52	55	56	63	69. 3	0	1	5	68. 50	46	53	55	69. 1·5	
Nov. 13. 3	A 1		69. 8	0	6	10	68. 55	58	32	40	68. 74	68	28	25	68. 65	63	34	42	68. 53·0	
Nov. 16. 21	A 1		69. 25	20	5	12	68. 50	55	33	42	68. 81	75	52	56	68. 59	57	27	33	68. 57·8	
Nov. 20. 3	A 1		69. 33	25	7	13	68. 55	46	28	35	68. 78	72	52	55	68. 55	55	30	38	68. 57·5	
Nov. 23. 21	A 1		69. 16	10	9	15	68. 59	57	33	40	69. 8	0	3	0	68. 47	45	35	40	68. 56·0	H B
Nov. 26. 3	A 1		69. 30	28	32	37	68. 55	55	25	32	68. 72	75	50	52	68. 60	65	40	45	69. 2·0	L
Nov. 30. 20	A 1		68. 73	68	53	56	68. 60	58	33	39	68. 30	45	50	56	68. 53	50	40	49	68. 57·0	H B
Dec. 4. 3	A 1		68. 50	42	50	55	68. 68	64	52	68	68. 35	30	15	30	69. 28	22	12	15	68. 54·8	L
Dec. 7. 21	A 1		68. 70	68	48	45	68. 53	55	36	44	68. 83	75	44	46	68. 45	40	23	30	68. 50·2	H B
Dec. 11. 3	A 1		69. 10	5	0	7	68. 56	52	33	40	68. 50	53	60	58	68. 65	63	55	52	68. 56·2	H B
Dec. 14. 21	A 1		68. 30	30	54	60	68. 78	70	48	50	68. 60	55	15	20	68. 30	32	5	10	68. 40·5	L
Dec. 21. 21	A 1		68. 50	47	60	65	68. 35	37	30	20	68. 75	67	52	54	68. 50	47	24	32	68. 46·5	L
Dec. 28. 21	A 1		69. 25	23	3	0	68. 50	47	65	65	69. 28	26	20	18	68. 50	48	43	45	69. 4·8	H B

Dec. 14d and 21d. The results on both these days are small: no note was made at the time by the Observer, who, therefore, seems to have been satisfied with the observations.

ROYAL OBSERVATORY, GREENWICH.

ORDINARY

METEOROLOGICAL OBSERVATIONS.

1845.

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Jan. 0. 14	30·023	37·0	36·7	0·3	..	..	42·4 35·1	E by S	..	..	..	..	..	..	10	..
16	30·032	35·5	35·4	0·1	35·3	0·2	48·0	NE	..	..	..	..	..	..	10	..
18	30·023	34·8	34·7	0·1	..	..	31·2	NE	..	..	..	..	..	..	10	..
20	30·043	34·8	34·8	0·0	..	..	36·8	N by E	..	..	..	..	..	..	10	..
22	30·066	37·1	36·9	0·2	37·5	−0·4	35·5	ENE	..	..	..	0·00	0·00	0·000	10	..
Jan. 1. 0	30·056	39·7	39·2	0·5	..	..	..	NE	..	..	..	..	..	..	10	..
2	30·045	41·3	40·6	0·7	..	..	..	NE	..	..	..	..	..	..	10	..
4	30·041	39·5	39·3	0·2	39·0	0·5	42·4	NE	..	..	..	..	..	..	2	3rd Qr.
6	30·028	39·1	38·7	0·4	..	..	34·4	NE	..	..	..	..	..	..	10	..
8	30·043	39·2	38·8	0·4	..	..	——	ENE	..	..	..	..	..	..	10	..
10	30·041	38·7	36·2	2·5	33·8	4·9	45·4	ENE	..	..	..	..	..	..	10	..
12	30·015	36·8	35·5	1·3	..	..	28·3	NE	..	..	..	..	..	..	10	..
14	29·998	34·1	33·6	0·5	..	..	——	NE	..	..	..	..	..	..	8	..
16	29·981	34·3	33·6	0·7	33·5	0·8	37·2	NNE	..	..	..	..	..	..	10	..
18	29·959	34·8	33·3	1·5	..	..	36·2	NNE	..	..	..	..	..	..	10	Transit
20	29·958	34·4	33·0	1·4	..	..	..	NE	..	..	..	..	..	..	10	..
22	29·957	34·8	33·6	1·2	32·3	2·5	..	N by E	..	..	..	0·00	0·00	0·000	5	..
Jan. 2. 0	29·930	36·7	34·9	1·8	..	..	..	NNW	..	..	..	..	..	..	8	..
2	29·908	36·8	34·7	2·1	..	..	..	NNW	..	..	..	..	..	..	10	..
4	29·904	36·1	33·3	2·8	31·5	4·6	37·0	WSW	..	..	..	..	..	..	10	..
6	29·892	34·9	32·3	2·6	..	..	29·1	SW	..	..	..	..	..	..	10	..
8	29·896	33·5	31·6	1·9	..	..	——	SW	..	..	..	..	..	..	10	..
10	29·905	33·3	31·2	2·1	30·0	3·3	42·7	SW	..	..	..	..	..	..	10	..
12	29·895	33·6	31·4	2·2	..	..	19·8	SW	..	..	..	..	..	..	10	..
14	29·892	33·1	31·1	2·0	..	..	——	SW	..	..	..	..	..	..	10	..
16	29·896	32·9	30·6	2·3	28·0	4·9	39·0	SW	..	..	..	..	..	..	10	..
18	29·859	31·2	29·6	1·6	..	..	36·0	SW	..	..	..	..	..	..	9	..
20	29·869	31·1	29·4	1·7	..	..	..	SW	..	..	..	..	..	..	10	Transit
22	29·874	29·8	28·3	1·5	26·5	3·3	..	SSW	..	..	..	0·00	0·00	0·000	½	..
Jan. 3. 0	29·856	33·7	31·9	1·8	..	..	..	Calm	..	..	..	..	..	..	9	..
2	29·824	36·8	32·2	4·6	..	..	..	Calm	..	..	..	..	..	..	10	..
4	29·836	37·1	35·3	1·8	33·5	3·6	39·7	Calm	..	..	..	..	..	..	7	..
6	29·847	36·2	34·8	1·4	..	..	30·3	Calm	..	..	..	..	..	..	10	..
8	29·863	36·8	35·8	1·0	..	..	——	Calm	..	..	..	..	..	..	10	..
10	29·889	38·6	37·5	1·4	35·5	3·1	41·2	Calm	..	..	..	..	..	..	10	..
12	29·916	38·6	37·5	1·1	..	..	21·4	SW	..	..	..	..	..	..	10	..
14	29·938	38·5	37·6	0·9	..	..	37·2	SW	..	..	..	..	..	..	10	..
16	29·969	39·0	38·0	1·0	38·0	1·0	36·0	SW	..	..	..	..	..	..	10	..
18	29·979	38·5	37·7	0·8	..	..	..	SW	..	..	..	..	..	..	10	..
20	30·021	38·5	37·8	0·7	..	..	..	SW	..	..	..	..	..	..	9	Transit
22	30·064	39·5	38·6	0·9	39·0	0·5	..	Calm	..	WSW	2·18	0·00	0·01	0·020	9	..
Jan. 4. 0	30·078	42·0	41·3	0·7	..	..	..	SW	..	..	..	..	..	..	10	..
2	30·063	42·7	41·8	0·9	..	..	..	SW	..	..	..	..	..	..	10	..
4	30·083	43·0	42·1	0·9	41·5	1·5	..	WSW	..	..	..	..	..	..	10	..
6	30·091	41·7	41·0	0·7	..	..	..	SW	..	..	..	..	..	..	10	..

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.

Every part of each instrument was examined, and found to be in good order, except Whewell's Anemometer, which needed slight repairs, and which was sent to Mr. Simms for this purpose; it was received from him on January 2d, and was set to work on January 2d at 22h.

TEMPERATURE OF THE DEW POINT.

Jan. 0d at 22h. The reading was higher than that of the Dry Thermometer.

REMARKS.	Observer.
Cirro-stratus and scud : the Moon's place is visible.	H B
,, overcast.	
,, ,, foggy.	
,, ,, ,,	H B
,, ,,	L
Overcast: cirro-stratus: the sky was partially clear at about 23^{h}.	
,, ,,	L
Cirro-stratus and scud all around the horizon; there are also a few cymoid cirri towards the S. E.	H B
Cirro-stratus and scud : Jupiter is occasionally visible.	
,, very dark.	
,, a few stars are visible in the E : the reflexion of the London lights is rather high this evening.	H B
Overcast: a few stars are dimly visible now and then.	L
Some stars are visible to the N. and W. of the zenith; otherwise overcast: the sky became overcast directly after this observation.	
Overcast.	
,,	
,,	L
Light cirri: cirro-stratus and scud.	H B
Thin cirro-stratus, scud, and a few cumuli near the Sun's place.	
Overcast, with the exception of a few small breaks in the E.: very gloomy.	H B
Overcast: slight haze.	L
,, ,,	
Overcast, with the exception of a small portion of clear sky a little N. of the zenith.	
Overcast.	L
,, the clouds are high.	D
,, ,,	
,, ,,	
A few stars are shining in different parts of the sky, and the Moon is visible.	
Overcast.	D
Cloudless, with the exception of a few light cirri in the S.W.	H B
A few cirri about the zenith; otherwise the sky is covered with loose scud : at $0^{h}. 10^{m}$ the sky became clear, with the exception of a line of cirro-stratus around the horizon, and a few light cirri remained floating about in different directions.	L
The sky is covered with cirro-stratus, scud, and fleecy clouds.	L
Cirri, scud, and fleecy clouds : the afternoon is fine.	D
Overcast : cirro-stratus.	
,, a few drops of rain are falling.	
,,	D
,, the clouds are broken in a few places, especially towards the S. and S. E., and several stars have been seen during the last twenty minutes.	H B
Overcast: cirro-stratus and scud.	
,, ,, a light rain is falling.	
,, ,, ,,	
Cirro-cumuli near the zenith, and cirro-stratus and scud in every other part of the sky.	H B
A few cirri about the zenith, the rest of the sky being covered with cirro-stratus and scud: about five minutes before this observation nearly one-third of the sky became clear.	L
Overcast.	D
,,	L
Cirro-stratus and scud.	H B
Overcast: cirro-stratus and scud.	

MINIMUM FREE THERMOMETER.

Jan. $0^{d}. 22^{h}$. The reading was higher than that of the Dry Thermometer at 18^{h} and 20^{h}.

Jan. $1^{d}. 22^{h}$. The reading was higher than that of the Dry Thermometer at 14^{h} and 16^{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 22^h. of Free Therm. / of Rad. Therm. / of Therm. in Water of the Thames.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Jan. 4. 8	30·089	42·3	41·6	0·7	..	..	46·6	SW	..	..	..	..	..	..	10	..
10	30·099	41·8	41·4	0·4	40·5	1·3	39·3	SW	..	..	..	..	..	..	6	..
12	30·076	41·0	40·4	0·6	..	..	45·7	SW	..	..	..	..	..	..	10	..
14	..	..	..	..	..	..	34·2	SW	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..		SW	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..		SW	½ to 1½	..	..	..	..	..	..	..
20	..	..	..	..	..	..	38·0	SW	1 to 2½	..	..	..	..	..	..	..
22	30·016	45·5	44·0	1·5	..	..	36·5	SW	½ to 1½	WSW	5·12	0·04	0·08	0·090	10	Transit
Jan. 5. 0	..	..	..	..	..	..	..	SW	1½ to 3	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	SW	½ to 2	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	SW	½ to 1	..	..	..	..	..	..	..
6	..	..	..	..	..	..		SW	0 to ½	..	..	..	..	..	..	..
8	29·973	47·0	45·3	1·7	..	..	48·4	SW	0 to ½	..	..	..	..	..	10	..
10	..	..	..	..	..	..	44·0	SW	0 to ½	..	..	..	..	..	..	..
12	..	..	..	..	..	..	48·3	SW	0 to 1	SW	6·05	..	..	..	..	..
14	29·961	45·7	43·7	2·0	..	..	37·8	SW	½ to 1½	..	..	..	..	..	10	..
16	29·961	44·0	42·5	1·5	43·5	0·5		SW	½ to 1½	WSW	0·23	..	..	..	2	..
18	29·953	44·5	43·4	1·1	..	..	38·5	SW	½ to 1½	..	..	..	..	..	10	..
20	29·975	43·9	42·7	1·2	..	..	37·5	SSW	½ to 1½	..	..	..	..	..	7+	Greatest declination S.
22	30·003	43·7	42·8	0·9	42·5	1·2	..	SSW	..	SW	1·08	0·04	0·00	0·090	6	Transit
Jan. 6. 0	30·003	50·5	48·0	2·5	..	..	..	SW	½ to 1½	..	..	..	..	..	8	..
2	30·004	49·3	47·4	1·9	..	..	..	SSW	..	..	..	..	..	..	10	..
4	30·028	45·9	45·2	0·7	45·0	0·9	51·3	Calm	..	WSW	0·75	..	..	..	10	..
6	30·046	44·5	44·2	0·3	..	..	44·2	Calm	..	..	..	..	..	..	10	..
8	30·056	43·5	43·2	0·3	..	..		Calm	..	..	..	..	..	..	10	..
10	30·076	44·5	44·2	0·3	44·5	0·0	55·6	Calm	..	..	..	..	..	..	10	..
12	30·085	44·6	44·3	0·3	..	..	38·0	S by W	..	..	..	..	..	..	10	..
14	30·088	44·6	44·5	0·1	..	..		S by W	..	..	..	..	..	..	10	..
16	30·093	44·4	44·4	0·0	44·5	−0·1	39·2	Calm	..	..	..	..	..	..	10	..
18	30·091	43·8	43·8	0·0	..	..	38·0	Calm	..	..	..	..	..	..	10	Perigee
20	30·116	43·6	43·6	0·0	..	..	..	Calm	..	..	..	..	..	..	10	..
22	30·141	44·4	44·1	0·3	44·0	0·4	..	Calm	..	SW	3·15	0·04	0·00	0·090	10	..
Jan. 7. 0	30·135	48·6	46·7	1·9	..	..	..	Calm	..	..	..	..	..	..	10	Transit
2	30·121	47·4	45·6	1·8	..	..	..	Calm	..	..	..	..	..	..	7	..
4	30·128	46·3	44·8	1·5	43·5	2·8	49·5	Calm	..	..	..	..	..	..	9	..
6	30·133	44·0	42·8	1·2	..	..	31·5	Calm	..	..	..	..	..	..	10	..
8	30·146	40·7	40·2	0·5	..	..		Calm	..	..	..	..	..	..	0	..
10	30·159	39·7	39·2	0·5	39·5	0·2	54·1	Calm	..	..	..	..	..	..	10	..
12	30·150	40·5	39·9	0·6	..	..	28·5	Calm	..	..	..	..	..	..	10	..
14	30·146	37·8	37·7	0·1	..	..		Calm	..	..	..	..	..	..	10	..
16	30·141	35·2	35·1	0·1	34·3	0·9	40·5	Calm	..	..	..	..	..	..	10	..
18	30·113	32·8	32·7	0·1	..	..	38·5	Calm	..	..	..	..	..	..	10	..
20	30·116	31·5	31·3	0·2	..	..	..	Calm	..	..	..	..	..	..	10	New
22	30·117	31·5	31·2	0·3	31·5	0·0	..	Calm	..	SSW	1·35	0·04	0·00	0·090	10	..
Jan. 8. 0	30·099	31·5	31·2	0·3	..	..	..	Calm	..	..	..	..	..	..	10	Transit

TEMPERATURE OF THE DEW POINT.

Jan. 6^d. 16^h. The reading was higher than that of the Dry Thermometer.

MINIMUM FREE THERMOMETER.

Jan. 5^d. 22^h. The reading was higher than that of the Dry Thermometer at 20^h and 22^h.

Jan. 6^d. 22^h. The reading was higher than that of the Dry Thermometer at 8^h, 18^h, and 20^h.

REMARKS.	Observer.
Overcast: cirro-stratus and scud.	H B
Within the last five minutes several stars have become visible towards the S., but they appear very dim, as the sky is still covered with a thin cirro-stratus: at $10^h. 8^m$ scarcely a star was visible.	H B
Overcast.	L
Overcast: cirro-stratus and scud: the wind blowing in gusts to 1 and 1½.	
Overcast: cirro-stratus and scud: the wind blowing in gusts to 1 and 1½.	
,,	
Nearly cloudless: a cumulo-stratus cloud extends round the horizon, and the stars look very small: at $16^h. 30^m$ the sky became [quite overcast.	
Overcast: wind in gusts to 2½ or 3.	
Brown-looking scud is passing rapidly over the S. half of the sky: the zenith is pretty free of cloud, and the N. half is more or less covered with cirro-stratus, with a few cirri and cirro-cumuli a little N. of the zenith: wind in gusts to 3. At $20^h. 15^m$ the whole of the sky, except round the horizon, was free from any clouds excepting cirri and scud: there were some beautiful specimens of the former.	L
The sky is generally covered with fine cirro-cumuli, a few cirri, and large quantities of light scud, which move quickly from the W.	H B
Cirro-cumuli and scud.	H B
Overcast.	D
Cirro-stratus and scud, with some fleecy clouds near the zenith.	L
Overcast: cirro-stratus and scud.	
Overcast.	
,,	L
,,	D
,,	
,,	
,, the night has been remarkably dark, the sky being covered with one uniform black cloud, without any change whatever [during the whole time.	D
,, cirro-stratus and scud.	H B
Overcast: cirro-stratus and scud: a few breaks near the zenith.	
Scud covers nearly the whole of the sky, the only part free from it being towards the E.	H B
There are a few breaks in the clouds in different directions, chiefly near the zenith.	D
Overcast.	D
Cloudless: the clouds have disappeared within the last half hour.	L
Overcast again.	L
Overcast.	H B
,, a light rain is falling.	
,, ,,	
,, no change whatever.	
,, foggy.	H B
,, ,,	L
Overcast: slight fog.	

MAXIMUM RADIATION THERMOMETER.
Jan. $4^d. 22^h$ and $5^d. 22^h$. The readings were lower than those of the Maximum Free Thermometer.

STRENGTH OF THE WIND BY ESTIMATION.
Jan. $4^d. 22^h$. In the General Remarks, by the expression "Wind in gusts to 1 and 1½," is meant that the Pressure of the Wind by Estimation sometimes amounted to 1 and 1½, 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.

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Jan. 8. 2	30·070	32·7	32·2	0·5	..	..	..	Calm	..	..	..	..	..	..	10	..
4	30·062	33·2	32·7	0·5	32·0	1·2	34·3	ENE	..	..	..	..	..	..	10	..
6	30·053	32·4	32·1	0·3	..	..	31·2	E	..	..	..	..	..	..	10	..
8	30·060	32·6	32·5	0·1	..	..	—	E	..	..	..	..	..	..	10	..
10	30·049	32·8	32·7	0·1	32·5	0·3	35·6	E by S	..	..	..	..	..	..	10	..
12	30·028	32·4	32·3	0·1	..	..	27·2	E	..	..	..	..	..	..	10	..
14	30·010	33·5	33·3	0·2	..	..	—	E	..	..	..	..	..	..	10	..
16	29·989	32·3	32·2	0·1	32·0	0·3	40·2	E by S	..	..	..	..	..	..	10	..
18	29·976	32·0	31·8	0·2	..	..	38·2	E by S	..	..	..	..	..	..	10	..
20	29·991	32·4	32·2	0·2	..	..		E by S	..	..	..	..	..	..	10	..
22	30·015	32·0	31·9	0·1	33·0	–1·0	..	Calm	..	E	2·52	0·04	0·00	0·090	10	..
Jan. 9. 0	30·000	32·8	32·7	0·1	..	..	..	Calm	..	..	..	..	..	..	10	..
2	29·954	33·4	33·2	0·2	..	..	..	Calm	..	..	..	..	..	..	10	Transit
4	29·954	33·1	32·8	0·3	32·5	0·6	36·2	Calm	..	..	..	..	..	..	10	..
6	29·950	31·3	31·1	0·2	..	..	30·8	Calm	..	..	..	..	..	..	10	..
8	29·956	31·7	31·9	–0·2	..	..	—	Calm	..	..	..	..	..	..	10	..
10	29·944	32·1	32·0	0·1	32·0	0·1	36·5	SW	..	..	..	..	..	..	10	..
12	29·924	32·1	32·2	–0·1	..	..	26·8	S	..	..	..	..	..	..	10	..
14	29·908	32·6	32·2	0·4	..	..	—	S	..	..	..	..	..	..	10	..
16	29·887	33·4	32·3	1·1	30·5	2·9	40·0	S by E	..	..	..	..	..	..	10	..
18	29·889	33·2	32·7	0·5	..	..	38·2	SSW	..	..	..	..	..	..	10	..
20	29·864	32·2	32·2	0·0	..	..	..	SE	..	..	..	..	..	..	4	..
22	29·845	36·5	36·1	0·4	36·5	0·0	..	Calm	..	S	1·90	0·04	0·00	0·090	8	..
Jan. 10. 0	29·821	44·0	43·0	1·0	..	..	..	S by W	0 to ½	..	..	..	..	..	9	..
2	29·773	47·8	45·7	2·1	..	..	..	S	0 to 1½	..	..	..	..	..	5	Transit
4	29·751	45·0	42·8	2·2	..	3·5	..	S	0 to 1	..	..	..	..	..	6	..
6	29·728	42·6	40·9	1·7	41·5	..	..	S	0 to ½	..	..	..	..	..	10	..
8	29·692	43·0	41·7	1·3	..	..	48·4 ~~31·1~~ —	S	½ to 1½	..	..	..	..	..	8	..
10	29·664	44·4	42·6	1·8	40·0	4·4	58·7	S	½ to 3	..	..	..	..	..	9¾	..
12	29·628	43·7	42·4	1·3	..	..	32·5 —	S	½ to 2	..	..	..	..	..	9½	..
14	29·601	45·8	43·8	2·0	..	..	40·0	S	2 to 3½	..	..	..	..	..	10	..
16	29·584	47·5	45·0	2·5	43·5	4·0	38·2	S	1 to 3	..	..	..	..	..	10	..
18	29·553	45·8	44·1	1·7	..	..	..	S	3½ to 4½	..	..	..	..	..	10	..
20	29·547	46·5	45·7	0·8	..	..	..	S	2½ to 5	..	..	..	..	..	10	..
22	29·569	47·0	46·4	0·6	47·0	0·0	..	S	3 to 4½	SSW	8·12	0·05	0·01	0·130	10	..
Jan. 11. 0	29·585	47·5	47·1	0·4	..	..	..	SSW	2 to 4	..	..	..	..	..	10	..
2	29·583	47·1	46·9	0·2	..	..	..	S by W	..	..	..	..	..	..	10	..
4	29·593	47·3	47·2	0·1	47·0	0·3	50·7	S by W	..	SSW	2·60	..	..	..	10	Transit
6	29·583	47·5	46·9	0·6	..	..	~~45·7~~	S by W	½ to 1	..	..	..	..	..	10	..
8	29·598	47·4	46·7	0·7	..	..	—	S by W	½ to 1½	..	..	..	..	..	10	..
10	29·601	46·5	46·2	0·3	46·0	0·5	49·7	S by W	0 to ¾	..	..	..	..	..	10	..
12	29·598	46·2	45·7	0·5	..	..	43·0	S by W	..	..	..	..	..	..	10	..
14	..	..	..	..	..	..	—	SSW	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	40·8	SSW	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	39·5	Calm	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
22	29·668	45·0	44·8	0·2	..	..	..	Calm	..	SW	0·70	0·23	0·48	0·595	10	..

DRY THERMOMETER.
Jan 9d, at 8h and 12h. The readings were lower than those of the Wet Thermometer.

TEMPERATURE OF THE DEW POINT.
Jan. 8d. 22h. The reading was higher than that of the Dry Thermometer.

MAXIMUM FREE THERMOMETER.
Jan. 9d. 22h. The reading was lower than that of the Dry Thermometer at 22h.

REMARKS.	Observer.
Overcast: the fog has cleared off.	L
,, foggy.	H B
,, a dense fog.	
,, foggy: a very thin rain falling.	
,, ,, ,,	H B
,, a slight fog.	L
,, ,,	
,, ,,	
,, ,,	
,, foggy.	L
,,	H B
Overcast: no change.	
,, ,,	H B
,, misty: a very small drizzling rain.	L
,, a very small drizzling rain.	
,, the mist seems in a great measure to have cleared off: a very slight and fine drizzling rain.	L
,,	D
,, there is a strong auroral light in the horizon, extending from N.W. to N. E.	
,, very dark: the auroral light has disappeared.	
,,	D
,,	G
Shortly after 18^h the clouds were dissipated, and the zenith and 50° around it became clear: a mist continues near the horizon.	G
Fleecy clouds and scud, with cirro-stratus near the horizon.	H B
Cirro-stratus and scud, with breaks in the clouds in various directions: the Sun is shining through them.	
Cumuli and scud, the latter in large quantities S. of the zenith; the wind is blowing in gusts to 1.	H B
The S. E. portion of the sky is nearly clear, in every other part scud is prevalent.	D
Cirro-stratus and scud: between this and the last observation the sky has been about half covered, and became clouded only a few minutes before the present time.	
The stars are shining in the S. E., and here and there in other directions: since 6^h the amount of cloud has been very variable: the wind is blowing in gusts to 1.	
A few stars are visible S. of the zenith; the sky is otherwise overcast: the wind is occasionally blowing in gusts to 2.	D
A short time previously to this observation several stars were visible, but at present there is scarcely one: the wind is blowing in gusts to 2 and upwards.	H B
A few stars are visible in the E. and near the zenith: the clouds have a black and very stormy appearance.	
Overcast: the wind is blowing in gusts to 2½ and upwards.	
The wind is still blowing in frequent gusts to 2½, as at the last observation, with squalls of rain occasionally.	
Since the last observation there have been several violent squalls of rain, and the wind has increased considerably: the gusts occur more frequently, and probably exceed 2½.	H B
Fine drizzling rain in squalls: cirro-stratus and scud: the scud is moving rapidly from the S.: the wind blowing in heavy gusts to 3½ or 4.	L
Overcast: cirro-stratus and scud: the wind blowing in gusts to 3 or 3½: fine drizzling rain.	
,, ,, the gusts of wind are not so violent nor so frequent as at the previous observation: fine drizzling rain falling.	L
Overcast: cirro-stratus and scud, with light rain falling.	H B
Overcast, with heavy rain falling.	
Rain falling heavily.	
Rain falling heavily; it has continued without intermission since 8^h.	H B
,, very dark.	L
A very thick, damp atmosphere with cirro-stratus and thick mist.	G

MINIMUM RADIATION THERMOMETER.

Jan. 10^d. 22^h. The reading was higher than that of the Minimum Free Thermometer at 22^h.

PRESSURE OF THE WIND AS RECORDED BY OSLER'S ANEMOMETER IN POUNDS ON THE SQUARE FOOT.

Jan. 10^d. At $9^h. 20^m$, a gust to 4 lbs.; at $19^h. 20^m$, a gust to 6 lbs.; at $20^h. 40^m$ and at $20^h. 50^m$, gusts to 5 lbs.

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Jan. 12. 0	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	In Equator
2	..	..	..	..	..	..		Calm	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	46·0	N by W	..	N	0·47	..	..	..	..	Transit
6	..	..	..	..	..	..	36·8	N by W	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..		NW	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	46·4	NW	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	29·0	Calm	..	..	..	..	..	..	..	..
14	29·664	40·3	40·3	0·0	..	..		Calm	..	..	..	..	..	..	10	..
16	29·656	40·6	40·4	0·2	40·5	0·1	41·0	SW	..	..	..	..	..	..	10	..
18	29·624	40·6	40·2	0·4	..	..	40·0	SSW	..	SSW	1·28	..	..	..	10	..
20	29·583	38·0	37·7	0·3	..	..	..	S	..	..	..	..	..	..	8	..
22	29·534	42·0	41·0	1·0	39·8	2·2	..	SSE	..	S	0·52	0·25	0·05	0·650	10	..
Jan. 13. 0	29·488	43·7	43·0	0·7	..	..	..	S by W	0 to ½	..	..	..	..	..	10	..
2	29·464	46·4	44·7	1·7	..	..	..	SW	0 to 1	S	0·44	..	..	..	9½	..
4	29·480	46·0	43·6	2·4	42·0	4·0	..	SSW	½ to 2	SSW	1·18	..	..	..	10	Transit
6	29·464	42·9	41·7	1·2	..	..	47·9	S by W	¼ to 1	..	..	..	..	..	0	..
8	29·469	43·5	42·4	1·1	..	..	40·9	S	¼ to ½	S	1·94	..	..	..	10	..
10	29·480	42·8	41·3	1·5	42·0	0·8		S	..	..	..	..	..	..	8	..
12	29·466	42·0	41·1	0·9	..	..	50·3 35·7	S by E	..	..	..	..	..	..	4	..
14	29·463	42·6	41·8	0·8	..	..	41·5 41·0	S by E	..	..	..	..	..	..	9	..
16	29·470	41·7	41·2	0·5	41·5	0·2	..	SSE	..	..	..	..	..	..	10	..
18	29·466	41·2	40·4	0·8	..	..	..	SE	..	..	..	..	..	..	10	..
20	29·485	40·4	40·2	0·2	..	..	..	E by S	..	..	..	..	..	..	10	..
22	29·522	40·4	40·4	0·0	40·0	0·4	..	ESE	..	E	0·61	0·32	0·09	0·730	10	..
Jan. 14. 0	29·532	42·2	41·8	0·4	..	..	..	Calm	..	..	..	..	..	..	10	..
2	29·550	41·1	40·8	0·3	..	..	..	Calm	..	..	..	..	..	..	10	..
4	29·605	41·0	40·8	0·2	40·5	0·5	43·5 39·2	WSW	..	..	..	..	..	..	10	..
6	29·633	41·2	40·7	0·5	..	..		Calm	..	..	..	..	..	..	10	Transit
8	29·679	40·4	39·9	0·5	..	..	44·5	Calm	..	..	..	..	..	..	10	..
10	29·673	40·6	40·2	0·4	39·5	1·1	34·0	Calm	..	..	..	..	..	..	10	..
12	29·653	39·5	39·2	0·3	..	..	41·5	Calm	..	..	..	..	..	..	9	..
14	29·639	40·1	39·8	0·3	..	..	41·5	Calm	..	..	..	..	..	..	9	..
16	29·629	39·2	39·1	0·1	37·5	1·7	..	Calm	..	..	..	..	..	..	4	..
18	29·599	41·2	40·7	0·5	..	..	..	Calm	..	..	..	..	..	..	10	..
20	29·585	41·4	40·6	0·8	..	..	..	S by W	..	..	..	..	..	..	10	..
22	29·590	40·6	40·1	0·5	38·5	2·1	..	S	..	S	1·81	0·34	0·00	0·765	10	1st Qr.

MINIMUM FREE THERMOMETER.

Jan. 13d. 22h. The reading was higher than that of the Dry Thermometer at 20h and 22h.

DIRECTION OF THE WIND BY OSLER'S ANEMOMETER.

Jan. 12d. At 0h. 40m the direction was S. E.; at 0h. 45m it was N. by W., and continued, with slight variations, about this point till 8h; at 8h. 5m it was N. W.; at 9h. 20m it changed to E.; at 9h. 55m it changed to N. W., passing the S. and W. points; and after this time the changes are sufficiently represented by the ordinary observations.

REMARKS.	Observer.
Overcast: very fine drizzling rain, scarcely perceptible.	L
,, ,, very calm.	
,, a few stars are dimly shining now and then in the zenith.	
Cirro-stratus and scud: some cirri and fleecy clouds are about the zenith.	L
Overcast with cirro-stratus and scud, with the exception of a small break in the clouds near the Sun's place.	H B
Overcast: rain falling.	
Cirro-stratus and scud: breaks in the clouds in many parts of the sky.	H B
,, rain has been falling, which lasted only a few minutes: the wind is blowing in gusts to ½: about ten minutes after the observation the sky became cloudless, excepting a bank of cloud along the horizon.	L
Cloudless, *with the exception of a few dark clouds near the W. horizon.*	
Cirro-stratus and fleecy clouds are about the place of the Moon: it has suddenly become overcast: the wind is blowing in gusts to 1.	
Cirro-stratus: the stars are shining about and to the N. of the zenith: there is a film round the Moon, but no part is coloured.	L
The Moon is setting, and illuminates the stratus clouds above her: the horizon all round is lined with stratus: the zenith, and the part round it for 60°, is principally clear: there are black patches of stratus here and there.	G
Almost immediately after 12^h clouds formed in sufficient quantities to cover the whole of the sky, since which time breaks have appeared here and there; they, however, seem to be motionless: there is at present a solitary break in the clouds in the S. W.: the reflexion of the London lights is about its mean height.	
One uniform black stratus covers the sky.	
A very slight rain has fallen occasionally: it is now very dark.	
A very slight rain has fallen since the last observation, and still continues.	G
Overcast: there is rain falling.	H B
At $0^h.40^m$ the wind suddenly changed from E. to W.: after this observation there was so considerable a gloom as to make the [use of candles necessary in the computing-room.	H B
Overcast: very gloomy: during the morning gloom has prevailed; at $0^h.20^m$ the sky in the N. W. had the appearance of tarnished copper; at $0^h.35^m$ it was so dark that candles were required in the room for computing: the wind at $0^h.40^m$ changed from E. by S. to W. by S., going round by S., dense vapour then came gradually up and dispersed in the direction of N. of E.; at $1^h.10^m$ it appeared to settle near the horizon, from N. E. to N. W, and the rest of the sky became much lighter; at $1^h.40^m$ it was sufficiently light to see without candles, but the gloom still continued: during the interval between $0^h.35^m$ and $1^h.0^m$ the cross of the Declination Magnetometer was invisible without the use of a lamp, and the appearance of things generally was the same as just before dark.	L
It still continues very gloomy: candles are required in the computing-room.	D
It still continues as at the last observation: there is a great mist and gloom: the atmosphere is very dull.	G
Cirro-stratus and scud: the Moon is visible through the clouds occasionally.	D
Overcast: *rain is falling.*	D
Shortly before this observation the Moon and several stars were visible, and there were many extensive breaks in the clouds near the zenith, but at present only a few of the larger stars are to be seen.	H B
Cirro-stratus and scud: a few stars are visible.	
Since the last observation the amount of cloud has varied from 3 to 8: at 15^h the sky S. of the zenith was nearly clear, except a small portion of cirro-stratus here and there: at present the sky S. of the zenith is splendidly clear: there is a bank of cirro-stratus in the S. E. horizon, at an altitude of about 15°, which is gradually rising: at $16^h.20^m$ the cirro-stratus above mentioned had nearly covered the sky; fifteen minutes after this time not a star was to be seen, and the dry thermometer rose 1°.	
Overcast.	H B
,, 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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Jan. 15. 0	29·580	42·2	40·9	1·3	..	..	..	SSE	..	..	..	..	..	..	10	..
2	29·573	42·9	41·0	1·9	..	..	..	SSW	..	..	..	..	..	..	10	..
4	29·576	41·7	40·6	1·1	39·0	2·7	43·9	S	..	..	..	..	..	..	10	..
6	29·629	40·2	39·4	0·8	..	..	39·2	S by E	..	..	..	..	..	..	10	Transit.
8	29·662	39·5	38·7	0·8	..	..	——	S by W	..	..	..	..	..	..	10	..
10	29·696	39·5	38·7	0·8	39·0	0·5	45·5	Calm	..	..	..	..	..	..	10	..
12	29·730	40·0	39·2	0·8	..	..	36·3	Calm	..	..	..	..	..	..	10	..
14	29·752	40·5	39·8	0·7	..	..	——	Calm	..	..	..	..	..	..	10	..
16	29·789	40·8	40·2	0·6	40·0	0·8	41·8	Calm	..	..	..	..	..	..	10	..
18	29·810	40·7	40·2	0·5	..	..	41·8	S by W	..	..	..	..	..	..	10	..
20	29·859	41·5	40·8	0·7	..	..	..	S by W	..	..	..	..	..	..	10	..
22	29·907	41·8	41·2	0·6	40·0	1·8	..	SW	..	S	2·60	0·34	0·00	0·765	10	..
Jan. 16. 0	29·920	43·8	42·7	1·1	..	..	..	SW	..	..	..	..	..	..	8	..
2	29·922	45·5	43·6	1·9	..	..	..	SW	..	..	..	..	..	..	10	..
4	29·940	44·2	42·7	1·5	40·0	4·2	46·9	SW	..	..	..	..	..	..	10	..
6	29·963	42·6	41·2	1·4	..	..	33·1	S by W	..	..	..	..	..	..	10	..
8	29·988	40·7	39·6	1·1	..	..	——	Calm	..	..	..	..	..	..	10	Transit.
10	30·004	40·0	38·7	1·3	38·0	2·0	54·7	Calm	..	..	..	..	..	..	10	..
12	30·012	38·6	37·4	1·2	..	..	23·4	Calm	..	..	..	..	..	..	10	..
14	30·014	37·5	36·6	0·9	..	..	——	Calm	..	..	..	..	..	..	10	..
16	30·013	34·0	33·7	0·3	33·0	1·0	41·3	Calm	..	..	..	..	..	..	6	..
18	30·013	35·2	34·7	0·5	..	..	41·3	S by E	..	..	..	..	..	..	10	..
20	30·011	36·8	35·8	1·0	..	..	..	S	..	..	..	..	..	..	10	..
22	30·015	38·3	37·2	1·1	36·0	2·3	..	S	..	S	3·24	0·34	0·00	0·770	10	..
Jan. 17. 0	29·992	39·9	38·7	1·2	..	..	..	S by E	..	..	..	..	..	..	10	..
2	29·963	40·2	39·1	1·1	..	..	..	S	..	..	..	..	..	..	10	..
4	29·946	39·7	38·6	1·1	37·5	2·2		S by W	..	..	..	..	..	..	10	..
6	29·933	38·6	37·6	1·0	..	..	40·8	S by E	..	..	..	..	..	..	10	..
8	29·898	37·6	37·1	0·5	..	..	37·5	S by E	..	..	..	..	..	..	10	Transit.
10	29·887	38·0	37·4	0·6	36·5	1·5	——	S by E	..	..	..	..	..	..	10	..
12	29·866	38·4	37·7	0·7	..	..	41·9	S by E	..	..	..	..	..	..	10	..
14	29·835	38·8	37·8	1·0	..	..	33·4	S by E	..	..	..	..	..	..	10	..
16	29·792	39·7	38·7	1·0	36·8	2·9	——	S	0 to ¼	..	..	..	..	..	10	..
18	29·748	40·0	38·5	1·5	..	..	41·2	S	½ to 3½	..	..	..	..	..	2	..
							41·2									
20	29·717	39·7	38·6	1·1	..	..	..	S	½ to 1½	..	..	..	..	..	10	..
22	29·700	40·4	39·4	1·0	38·0	2·4	..	S	½ to 1	S	4·86	0·34	0·00	0·770	10	..
Jan. 18. 0	29·669	41·5	40·9	0·6	..	..	..	S by E	..	..	..	..	..	..	10	..
2	29·643	42·1	41·5	0·6	..	..	..	S by W	..	..	..	..	..	..	10	..
4	29·599	44·2	42·6	1·6	41·0	3·2		S by E	0 to ½	..	..	..	..	..	9	..
6	29·550	42·9	41·9	1·0	..	..	46·1	S by E	0 to 1	..	..	..	..	..	10	..
8	29·496	43·7	43·2	0·5	..	..	36·0	S by E	..	S	2·87	..	..	..	10	..
10	29·454	41·8	41·2	0·6	40·5	1·3	——	SW	0 to 1	SW	2·38	..	..	..	10	Transit.
							47·2									
12	29·493	37·0	36·7	0·3	..	..	30·8	SSW	..	..	..	..	..	..	5	..
							——									
							41·0									
							41·0									
14	..	..	..	..	..	..	..	S by W	..	..	..	..	..	..	..	..

OSLER'S ANEMOMETER.

Jan. 18d. From 8h. 55m to 9h. 45m the wind was blowing with a pressure varying from 1 lb. to 3 lbs.

REMARKS.	Observer.
Overcast: cirro-stratus and scud, with a small break in the clouds a little to the E. of the zenith.	L
,, cirro-stratus and dark-looking scud.	L
,, cirro-stratus and scud.	H B
,, ,,	
,, ,,	
,, ,,	H B
,, ,,	L
,, ,,	
,, ,,	
,, ,,	
,, ,,	L
,, ,,	H B
Cirro-stratus and light scud: there are a few cumuli near the N. horizon, and a large cumulo-stratus in N.W. horizon.	
Overcast: cirro-stratus and dark scud.	H B
,, ,,	L
,, ,,	
,, ,,	
,, ,,	L
,, ,,	D
,, ,,	
Clear in the zenith and in the S.	
Overcast.	
,,	D
,,	H B
Overcast: no change.	H B
,,	L
,, cirro-stratus.	D
Cirro-stratus and scud: the Moon is visible through the clouds.	
,,	
,,	D
Overcast: cirro-stratus and scud.	H B
,, ,,	
,, ,, there are a few breaks in the clouds, through which three or four stars are visible.	
Cirro-stratus near and all round the horizon; there are also portions in other parts of the sky, the greater part of which was covered about ten minutes previously to this observation. At $18^h. 10^m$ the sky N. of the zenith was nearly obscured.	
Cirro-stratus and scud.	H B
,,	L
Overcast: cirro-stratus and scud: a thin fine drizzling rain began to fall at about $22^h. 45^m$, which still continues.	
,, ,, the rain still continues.	L
Cirro-stratus and scud: cirro-cumuli near the zenith.	H B
,, the wind is blowing in gusts to $1\frac{1}{2}$.	
Overcast: heavy rain is falling; it commenced at 7^h.	
,, since the last observation several heavy showers of rain have fallen: the wind is blowing in gusts to 2: the rain ceased about twenty minutes since: at $10^h. 5^m$ another shower of rain fell.	H B
The northern part of the sky is more or less covered with cloud: there are some fleecy clouds coming from the W., or a little S. of it, and crossing the Moon, which has a beautiful corona round her: the wind by the anemometer vane is S., or S. by W., but the clouds are moving nearly from W., so that there are two currents of wind: the stars are looking dim: the rain ceased about $11^h. 10^m$: a heavy shower of rain fell about $10^h. 40^m$. At $12^h. 10^m$ there was a fine corona round the Moon.	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.	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.	RAIN. Stand of Rain-gauge No.1, (Osler's).	Reading of Rain-gauge No.2.	Stand of Rain-gauge No.3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Jan. 18. 16	..	..	..	..	..	..	..	S by W	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	S by W	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	S by W	..	..	..	..	..	..	..	..
22	29·449	40·4	38·8	1·6	..	..	..	S	..	WSW	0·83	0·53	0·25	1·015	4	Apogee
Jan. 19. 0	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..
2	29·333	44·4	41·7	2·7	..	..	..	SSW	1 to 1½	..	..	..	..	..	7	..
4	..	..	..	..	..	..	45·0	S	..	S	2·07	..	..	..	..	..
6	..	..	..	..	..	..	32·4	S by E	..	SE	0·52	..	..	..	..	..
8	..	..	..	..	..	..	——	SSE	..	..	..	..	..	..	..	Greatest declination N.
10	28·885	41·0	40·3	0·7	..	..	47·5	ESE	..	..	..	..	..	..	10	Transit
12	..	..	..	..	..	..	29·2	S by E	..	..	..	..	..	..	..	..
14	28·735	35·7	35·4	0·3	..	..	——	WSW	..	..	..	..	..	..	10	..
16	28·708	32·5	32·3	0·2	32·5	0·0	41·5	WSW	..	..	..	..	..	..	10	..
18	28·739	33·3	33·2	0·1	..	..	41·0	N by E	0 to ½	..	..	..	..	..	10	..
20	28·895	35·5	35·3	0·2	..	..	..	N by E	4 to 5	..	..	..	..	..	10	..
22	29·031	37·7	37·7	0·0	38·0	–0·3	..	N	4 to 6	N	2·98	0·90	0·00	1·595	10	..
Jan. 20. 0	29·181	41·3	39·6	1·7	..	..	..	N by W	5 to 11	..	..	..	..	..	9¾	..
2	29·304	42·4	39·3	3·1	..	..	..	NNW	4½ to 9	..	..	..	..	..	10	..
4	29·422	41·7	38·9	2·8	36·0	5·7	..	NNW	3½ to 6	..	..	..	..	..	3	..
6	29·562	40·5	36·9	3·6	..	..	41·9 / 31·7	NW	2 to 4	..	..	..	..	..	1	..
8	29·629	37·3	34·7	2·6	..	..	44·3	NNW	..	..	..	..	..	..	0	..
10	29·701	39·0	36·2	2·8	36·0	3·0	22·4	NNW	0 to 1	..	..	..	..	..	10	Transit
12	29·778	36·8	34·5	2·3	..	..	40·0	NNW	0 to 1	..	..	..	..	..	0	..
14	29·826	36·0	33·3	2·7	..	..	39·0	NNW	..	..	..	..	..	..	4	..
16	29·879	33·5	31·3	2·2	28·0	5·5	..	NW	..	..	..	..	..	..	0	..
18	29·914	33·6	31·4	2·2	..	..	..	NW	..	..	..	..	..	..	0	..
20	29·976	33·2	31·5	1·7	..	..	..	NNW	..	..	..	..	..	..	0	..
22	30·045	33·0	31·7	1·3	30·0	3·0	..	N by W	..	N	5·45	0·90	0·00	1·620	7	..
Jan. 21. 0	30·075	36·5	34·7	1·8	..	..	..	N by W	..	..	..	..	..	..	0	..
2	30·087	39·5	37·6	1·9	..	..	..	N by W	..	..	..	..	..	..	¼	..
4	30·108	39·2	37·5	1·7	35·0	4·2	40·1	N by W	..	..	..	..	..	..	0	..
6	30·109	35·6	34·4	1·2	..	..	30·2	NNE	..	..	..	..	..	..	8	..
8	30·135	32·0	31·9	0·1	..	..	——	ENE	..	..	..	..	..	..	3	..
10	30·156	31·0	30·8	0·2	30·5	0·5	55·0	Calm	..	..	..	..	..	..	1	..
12	30·163	31·0	30·7	0·3	..	..	24·5	Calm	..	..	..	..	..	..	2	Transit
14	30·138	31·0	30·6	0·4	..	..	——	Calm	..	..	..	..	..	..	½	..
16	30·132	30·5	30·2	0·3	30·5	0·0	38·8	Calm	..	..	..	..	..	..	0	..
18	30·127	31·3	31·7	–0·4	..	..	37·0	Calm	..	..	..	..	..	..	0	..
20	30·137	33·5	31·8	1·7	..	..	..	Calm	..	..	..	..	..	..	8	..
22	30·150	37·0	36·1	0·9	36·0	1·0	..	Calm	..	..	..	0·90	0·00	1·630	10	..
Jan. 22. 0	30·150	40·5	39·3	1·2	..	..	..	SSW	..	..	..	..	..	..	10	..
2	30·126	43·9	42·5	1·4	..	..	..	SSW	..	SSW	0·82	..	..	..	9+	..
4	30·111	43·5	42·3	1·2	40·0	3·5	..	SSW	..	..	..	..	..	..	10	..
6	30·103	42·4	41·6	0·8	..	..	..	SSW	..	SW	1·92	..	..	..	7	..

BAROMETER.
From Jan. 19d. 18h to Jan. 20d. 6h the increase in the readings was considerable.

DRY THERMOMETER.
Jan. 21d. 18h. The reading was lower than that of the Wet Thermometer.

DEW POINT THERMOMETER.
Jan. 19d. 22h. The reading was higher than that of the Dry Thermometer.

MAXIMUM FREE THERMOMETER.
Jan. 20d. 22h. The reading was lower than that of the Dry Thermometer at 2h.

REMARKS.	Observer.
Fleecy clouds, with a few cirri and scud. At $22^h.40^m$ the sky was nearly free from cloud.	H B
Cumuli: cirro-stratus and scud. (See Section of Extraordinary Observations for additional observations on this day.)	
Overcast: a light drizzling rain is falling.	H B
,, rain is still falling; it has not ceased since 11^h.	L
,, snow is falling rather fast.	
,, the snow has ceased, but there seems to be a fine drizzling rain, though scarcely perceptible: the wind is blowing in gusts to 1.	
,, cirro-stratus and scud: the wind is blowing in gusts to $3\frac{1}{2}$ or 4: rain is falling in squalls.	L
,, the rain is falling heavily: the wind is blowing in gusts to about 3.	H B
Cirro-stratus and scud: there are breaks in the clouds towards the N. and N.E.: the wind is blowing in gusts to 3.	
,, the wind is blowing in frequent gusts to 3+.	H B
,, cumuli low down in the W. horizon: the wind is blowing in gusts to $3\frac{1}{2}$ or 4: about five minutes before this observation, the amount of cloud was $9\frac{1}{2}$. At $4^h.10^m$ three-fifths of the sky were covered with cloud, the portion N. to W. only remaining nearly cloudless.	L
There are small patches of loose scud in different directions, with a narrow bank of cloud round the horizon; otherwise cloudless. At $7^h.5^m$ the sky became more or less covered with clouds, with breaks in them here and there; there were also large masses of scud floating about in every direction, which, when they passed the Moon, shewed a beautiful colouring round her.	
Cloudless: the stars seem very small, and none are visible near the horizon; the larger stars are the only ones visible.	
Overcast: cirro-stratus and scud: the clouds began to gather about $8^h.15^m$, and the sky was quite covered with them by $8^h.40^m$.	L
Cloudless: the only cloud visible at present is a small fragment of scud near the Moon, and that is of no numerical extent.	D
There is scud scattered over the sky, which has been alternately clear and cloudy since the last observation: the reading of the barometer is about one inch higher than it was yesterday at 14^h.	
Cloudless.	
,,	
,,	D
Cumuli: cirro-stratus and scud.	H B
Cloudless.	
Light cirri in various directions.	
Cloudless, excepting a few cirri N.W. of the zenith, which is of no numerical amount.	H B
The sky near the W. horizon is clear; with that exception every part is covered with cloud: the modification is chiefly scud.	D
There are light clouds scattered in every direction: hazy.	
There are a few clouds here and there: hazy.	D
There are light clouds in every part of the sky: it is also very hazy.	H B
There are light clouds in different parts of the sky.	
Cloudless.	
,,	
Cirro-stratus and scud.	H B
,,	L
Cirro-stratus and scud.	
There are reticulated cirri and cirro-cumuli about the zenith, with a kind of light cirro-stratus in other parts.	L
Cirro-stratus and scud.	H B
Cirro-stratus and scud, with a few cirro-cumuli S. and E. of the zenith.	

PRESSURE OF THE WIND IN POUNDS ON THE SQUARE FOOT BY OSLER'S ANEMOMETER.

Jan. 19^d, at $7^h.25^m$, a sudden gust to 2 lbs.; at $19^h.40^m$, a gust to 5 lbs.; and at $21^h.40^m$, a pressure of 7 lbs. was recorded.
Jan. 19^d, at $23^h.20^m$, a gust of 13 lbs.; on Jan. 20^d, at 1^h and $1^h.20^m$, gusts to 10 lbs,; at $6^h.40^m$, no pressure was shown.

RAIN.

Jan. 21^d. The increase in rain-gauge No. 3 was by deposition of moisture.

WHEWELL'S ANEMOMETER.

Jan. $21^d.22^h$. The instrument was found unclamped, and its reading was scarcely different from that of yesterday.

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.	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.	RAIN. Stand of Rain-gauge No. 1. (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3. (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Jan. 22. 8	30·099	41·6	41·1	0·5	..	..	45·6	SSW	..	..	..	..	..	..	10	..
10	30·107	42·2	41·5	0·7	40·5	1·7	37·3	SSW	..	..	..	..	..	..	10	..
12	30·093	42·8	42·5	0·3	..	..	——	SSW	..	..	..	..	..	..	10	Transit
14	30·060	43·4	43·4	0·0	..	..	49·0	SSW	..	..	..	..	..	..	10	..
16	30·020	43·9	43·8	0·1	44·0	−0·1	34·5	SSW	..	SSW	1·35	..	..	..	10	..
18	29·992	45·0	44·9	0·1	..	..	——	SSW	..	..	..	..	..	..	10	..
20	29·975	44·4	43·0	1·4	..	..	37·5	SSW	..	..	..	..	..	..	10	..
22	29·962	43·6	42·7	0·9	40·5	3·1	37·0	SSW	..	SW	0·96	0·90	0·00	1·630	10	..
Jan. 23. 0	29·930	45·5	44·3	1·2	..	..	..	S by W	0 to $\frac{3}{4}$	..	..	..	..	..	10	..
2	29·856	45·2	44·5	0·7	..	..	..	S by W	0 to $\frac{1}{2}$	..	..	..	..	..	10	Full
4	29·818	43·5	42·9	0·6	42·0	1·5	47·0	S by W	..	..	..	..	..	..	10	..
6	29·764	42·0	41·8	0·2	..	..	38·7	S by W	0 to $\frac{1}{2}$	..	..	..	..	..	10	..
8	29·709	42·0	41·9	0·1	..	..	——	SSW	0 to $\frac{1}{2}$	SSW	5·10	..	..	..	10	..
10	29·680	41·7	40·7	1·0	39·5	2·2	49·7	S by W	0 to $\frac{1}{2}$	..	..	..	..	..	10	..
12	29·608	40·7	39·9	0·8	..	..	34·2	S by W	$\frac{1}{4}$ to $\frac{1}{2}$	..	..	..	..	..	10	..
14	29·557	39·3	38·6	0·7	..	..	——	S	$\frac{1}{2}$ to 1	..	..	..	..	..	10	Transit
16	29·519	39·0	38·5	0·5	39·0	0·0	39·0	S	$\frac{1}{2}$ constant	..	..	..	..	..	10	..
18	29·486	40·9	40·4	0·5	..	..	37·5	S by W		..	..	..	..	..	10	..
20	29·485	40·5	40·2	0·3	..	..	..	SSW	..	..	..	..	..	..	7	..
22	29·508	39·5	39·0	0·5	38·5	1·0	..	SSW	..	WSW	1·05	0·90	0·00	1·650	8	..
Jan. 24. 0	29·511	44·4	42·5	1·9	..	..	..	SW by W	1 to $1\frac{1}{2}$	..	..	..	..	..	9	..
2	29·530	44·0	42·0	2·0	..	..	..	W	$1\frac{1}{2}$ to $2\frac{1}{2}$	..	..	..	..	..	10	..
4	29·579	44·5	41·1	3·4	40·0	4·5	45·2	NW	$\frac{1}{2}$ to 2	..	..	..	..	..	10	..
6	29·665	43·4	40·2	3·2	..	..	32·4	NW by W	$\frac{1}{2}$ to 3	NNW	0·59	..	..	..	10	..
8	29·741	43·5	40·3	3·2	..	..	——	NW	$\frac{1}{2}$ to $1\frac{1}{2}$	..	..	..	..	..	10	..
10	29·806	42·[illegible]	39·8	2·7	37·0	5·5	49·3	NW	..	NW	2·16	..	..	..	10	..
12	29·863	39·5	37·6	1·9	..	..	26·7	NW	..	WNW	0·40	..	..	..	0	Transit
14	29·898	35·2	35·0	0·2	..	..	——	W by S	..	..	..	..	..	..	0	..
16	29·927	33·2	32·7	0·5	31·0	2·2	38·8	WSW	..	WSW	0·68	..	..	..	0	..
18	29·943	33·1	32·3	0·8	..	..	38·2	SW	..	..	..	..	..	..	6	..
20	29·956	34·1	33·2	0·9	..	..		SW	..	..	..	..	..	..	$9\frac{1}{2}$	..
22	29·960	36·5	35·4	1·1	33·0	3·5	..	S by W	..	SW	1·49	0·90	0·00	1·655	7	..
Jan. 25. 0	29·957	42·4	39·9	2·5	..	..	..	SSW	..	..	..	..	..	..	3	..
2	29·898	45·3	43·3	2·0	..	..	..	SSW	0 to $\frac{3}{4}$	SSW	2·41	..	..	..	8	..
4	29·844	46·0	44·8	1·2	43·5	2·5	49·9	SSW	1 to $1\frac{1}{2}$	..	..	..	..	..	10	..
6	29·800	45·5	44·8	0·7	..	..	36·3	SSW	1 to 2	..	..	..	..	..	10	..
8	29·753	46·0	45·8	0·2	..	..	——	SSW	1 to 2	..	..	..	..	..	10	..
10	29·688	48·3	47·6	0·7	46·5	1·8	58·6	SW	$1\frac{1}{4}$ to $2\frac{1}{2}$	SW	4·35	..	..	..	10	..
12	29·621	48·2	47·0	1·2	..	..	32·0	SW	$2\frac{1}{2}$ to 3	..	..	..	..	..	10	..
14	..	..	..	..	..	..	——	SW	2 to 3	..	..	..	..	..	..	Transt
16	..	..	..	..	..	..	39·8	SW	3 to 4	..	..	..	..	..	..	..
18	..	..	..	..	..	..	38·8	WSW	2 to $2\frac{1}{2}$	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	WSW	3 to 5	..	..	..	..	..	..	..
22	29·412	45·0	40·2	4·8	..	..	..	W by S	4 to 6	WSW	2·12	0·94	0·04	1·725	7	..
Jan. 26. 0	..	..	..	..	..	..	..	WNW	2 to $5\frac{1}{2}$	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	NW	4 to 11	NW	3·30	..	..	..	..	..
4	29·505	42·6	37·0	5·6	..	..	..	NW	2 to 4	..	..	..	..	..	10	..
6	..	..	..	..	..	..	..	NW	0 to $\frac{1}{2}$	..	..	..	..	..	..	..

TEMPERATURE OF THE DEW POINT.

JAN. 22d. 16h. The reading was higher than that of the Dry Thermometer.

PRESSURE OF THE WIND BY OSLER'S ANEMOMETER.

Jan. 25d, at 14h. 25m, a gust to 7 lbs.; after this time there were frequent gusts to 5 lbs; and at 23h. 10m a pressure of 11 lbs.

RAIN.

Jan. 24d. 22h. The increase in rain-gauge No. 3 was by deposition of moisture.

REMARKS.	Observer.
Overcast: cirro-stratus and scud: there is a thin rain falling.	H B
Cirro-stratus and scud; the latter passing quickly from the W. by S.: the Moon's place is just visible: wind blowing in occasional	G
The same as at the last observation. [gusts to 1.	G
Overcast.	D
,, cirro-stratus and scud, which is passing rapidly from S.S.W.: the wind blowing in occasional gusts to $\frac{3}{4}$: the Moon	L
,, [is visible through the clouds.	
,,	L
The sky is covered with cloud of different densities.	D
Overcast: cirro-stratus and scud: wind blowing in gusts to 1.	L
,, ,,	H B
,,	L
,, the air is damp and misty.	D
,, rain is falling: wind blowing in gusts to 1.	H B
At $9^h. 40^m$ the sky was again covered with dark scud moving rapidly: it had been cloudless for a short time.	G
Overcast: the wind is blowing in gusts to $1\frac{1}{2}$.	L
,, the wind is blowing in gusts to $3\frac{1}{2}$ or 4, with a fine small drizzling rain.	
,, ,, ,,	
,, the wind is blowing in gusts to $3\frac{1}{2}$: the rain has fallen in squalls since the last observation, but it ceased at $17^h. 45^m$.	
Cirro-stratus and scud, with an extensive break in the clouds to the W. extending nearly from the zenith to the horizon, through	
which the Moon is shining beautifully.	L
Cirro-stratus and scud: at $21^h. 40^m$ the sky was nearly cloudless.	H B
Cirro-stratus and dark scud: there is an extensive break in the clouds in the S.E.: the wind is blowing in gusts to 1.	
Overcast: the wind blowing in gusts to $1\frac{1}{2}$.	H B
Cirro-stratus and scud.	L
,, the wind blowing in gusts to 2.	
Overcast: the wind blowing in gusts to $1\frac{1}{2}$.	
Cirro-stratus, scud, and fleecy clouds: the wind blowing in gusts to $\frac{1}{2}$.	L
Cloudless.	D
,,	
,, [the exception of a portion in the S.E., which is clear.	
Since the last observation the sky has been generally covered with a very thin cloud in lines, and continues so at present, with	
The sky is covered with a thin stratus, excepting a long narrow break in the horizon from the E. nearly to the S.: the clouds in	
the E. are beautifully tinged with red: there is a slight hoar frost.	D
The eastern portion of the sky is covered with fleecy clouds and scud; there are also a few cirri in other directions.	H B
Cirro-stratus near the N.W. horizon: there is a light cirrus in other directions.	
Cirro-stratus and scud: there are a few cumuli near the zenith.	H B
,, there are a few drops of rain falling.	D
,,	
,,	
Overcast: cirro-stratus: the wind blowing in gusts to 1+.	D
,, ,, the wind blowing in gusts to 2: the Moon's place is visible.	H B
Cirro-stratus and scud: a gale of wind.	G
Large masses of scud from which icy particles are falling: the wind blowing in gusts to 3 and $3\frac{1}{2}$, but steadily at 2 or $2\frac{1}{2}$.	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Jan. 26. 8	..	..	..	..	..	..	~~43·4~~	NNW	½ to 2½	..	..	..	..	..	..	..
10	..	..	..	..	..	..	35·2	W	..	W	1·30	..	..	..	..	..
12	..	..	..	..	..	..	——	W by S	..	..	..	..	..	..	..	..
14	29·579	36·1	33·7	2·4	..	..	51·2	WSW	0 to 1	..	..	..	..	..	9½	..
16	29·519	35·1	33·2	1·9	30·5	4·6	29·0	WSW	..	..	..	..	..	..	10	Transit
18	29·408	36·7	34·7	2·0	..	..	——	SW by S	..	..	..	..	..	..	10	In Equator
20	29·247	37·8	37·4	0·4	..	..	40·0	SSW	0 to ½	..	..	..	..	..	10	..
22	29·131	39·5	38·7	0·8	28·5	11·0	39·0	SW	1 to 2	WSW	1·15	1·03	0·13	1·830	10	..
Jan. 27. 0	29·075	42·0	40·0	2·0	..	..	..	WNW	1½ to 3½	..	..	..	..	..	10	..
2	29·065	41·6	38·2	3·4	..	..	..	W by N	1½ to 2	..	..	..	..	..	10	..
4	29·035	41·1	37·0	4·1	32·3	8·8	..	WNW	½ to 2	WNW	2·23	..	..	..	7	..
6	29·021	38·4	35·0	3·4	..	..	..	W	½ to 2	W	2·10	..	..	..	3	..
8	29·004	35·4	33·2	2·2	..	..	42·5	WSW	0 to ½	..	..	..	..	..	0	..
10	28·991	33·8	32·6	1·2	31·0	2·8	28·6	WSW	..	..	..	..	..	..	2	..
12	28·987	34·5	33·4	1·1	..	..	——	WSW	..	..	..	..	..	..	10	..
14	28·985	32·0	31·5	0·5	..	..	47·1 24·4 ——	WSW	..	..	..	..	..	..	0	..
16	28·975	31·5	31·2	0·3	29·5	2·0	39·8 39·2	WSW	..	..	..	..	..	..	4	Transit
18	28·962	30·5	30·2	0·3	..	..	..	WSW	..	..	..	..	..	..	5	..
20	28·945	29·8	29·7	0·1	..	..	..	SW	..	..	..	..	..	..	4	..
22	28·904	32·0	31·3	0·7	30·5	1·5	..	SW	..	WSW	0·77	1·03	0·13	1·830	2	..
Jan. 28. 0	28·876	35·2	33·8	1·4	..	..	..	WSW	..	..	..	..	..	..	4	..
2	28·847	36·0	35·2	0·8	..	..	..	WSW	..	..	..	..	..	..	4	..
4	28·821	37·0	36·1	0·9	34·5	2·5	.. 39·7 28·7	W by W	..	..	..	..	..	..	8	..
6	28·824	35·0	34·7	0·3	..	..	——	Calm	..	..	..	..	..	..	10	..
8	28·849	34·6	34·4	0·2	..	..	47·2 22·7	Calm	..	..	..	..	..	..	10	..
10	28·885	33·2	32·7	0·5	31·0	2·2	——	N	..	..	..	..	..	..	10	..
12	28·964	33·0	32·7	0·3	..	..	39·2	NNE	..	..	..	..	..	..	10	..
14	29·017	31·3	31·2	0·1	..	..	39·0	N	..	..	..	..	..	..	9	..
16	29·056	31·8	31·2	0·6	31·0	0·8	..	N by W	..	NW	0·27	..	..	..	10	Transit
18	29·085	31·5	30·7	0·8	..	..	..	N by W	..	..	..	..	..	..	10	..
20	29·127	30·0	29·6	0·4	..	..	..	NNW	..	..	..	..	..	..	10	..
22	29·167	30·2	29·6	0·6	28·0	2·2	..	W by N	..	NNW	1·35	1·06	0·07	1·915	10	..
Jan. 29. 0	29·185	31·5	31·0	0·5	..	..	..	WSW	..	..	..	..	..	..	10	..
2	29·187	32·5	31·2	1·3	..	..	..	W by S	..	..	..	..	..	..	10	..
4	29·199	32·7	31·6	1·1	30·0	2·7	..	WSW	..	..	..	..	..	..	10	..
6	29·211	32·7	31·7	1·0	..	..	..	WSW	..	..	..	..	..	..	10	..

BAROMETER.

Jan. 26d. From 16h to 22h the reading decreased considerably. (See Section of Extraordinary Observations.)

MINIMUM FREE THERMOMETER.

Jan. 26d at 22h. The reading was higher than that of the Dry Thermometer at 16h.

PRESSURE OF WIND IN POUNDS ON THE SQUARE FOOT, AS SHEWN BY OSLER'S ANEMOMETER.

Jan. 26d. Between 0h and 2h. 30m, there were frequent gusts of 10 lbs. pressure; occasionally of 11 and 12 lbs.; and at 2h. 15m there was one of 13 lbs.: occasionally, after this time till 8h, there were frequent gusts of 3 lbs., with a light wind blowing in the intervals.

REMARKS.	Observer.
Nearly overcast: at $13^h. 40^m$ a lunar halo was visible, but clouds obscured it before any measures could be taken. At $14^h. 17^m$ there was another halo; its diameter was 44°, but it was very faint, and ill defined.	H B
Overcast: the Moon is visible, with the halo still around her.	
,,	
,, the rain is falling, but not so heavily.	H B
,, the rain is falling: the wind is blowing in gusts to 1.	L
Cirro-stratus and scud: there are two or three small breaks in the clouds, but not to any numerical amount: the rain has now [ceased: the wind still blows in gusts to 1.	
Overcast: the wind is blowing in gusts to $1\frac{1}{2}$: there have been several squalls of rain since the last observation, but it has now ceased.	L
The sky is principally covered with cirro-stratus and scud.	H B
Masses of scud and fleecy clouds near the W. and N.W. horizon are gradually rising.	
Cloudless.	
There are fragments of scud in various parts of the sky, especially near the N. and N.W. horizon: the stars appear very dim.	H B
At about 11^h the stars became partially obscured; one or two were visible in breaks about $11^h. 20^m$: since that time the sky has been covered with dark loose scud, and a little snow has fallen.	G
The snow continued falling till $12^h. 20^m$; the ground at that time was white with it: immediately afterwards the Moon shone brightly, and since that time occasionally loose masses of scud have passed over from the N.W.: at present the sky is cloudless, and the Moon is shining with great brilliancy.	
The Moon is shining brightly: a few clouds are in the E. and S.: the North is clear: the clouds are white and of a fleecy nature: frequently since 14^h the sky has been three-fourths covered with clouds, and has then suddenly become clear: there is no upper cloud.	
The sky has continued changing its appearance repeatedly in much the same way as before.	
Everything has continued in a similar way: at times the sky has been very clear, and the Moon has shone with much brilliancy.	G
Cirri principally cover the sky, mingled with cirro-stratus and vapour round the horizon.	L
Cirri in different directions, with cirro-stratus and vapour about the horizon.	
There are some fine specimens of cumuli all round the horizon, as high as 20°; some in the southern part of the sky extend nearly to the zenith, and their tops are beautifully tinged: there are vapour and scud near the horizon, so as to obscure the basis of the cumuli: there are a few cirri about the zenith.	L
There is a little dull blue sky near the zenith; every other part of the sky is covered, near the horizon and all round it, by imperfectly formed cumuli flowing into cumulo-strati; above them is scud, and the whole is moving from the W.: there are occasional gentle airs from the W.	G
The sky is covered with scud, and all is slowly moving from the N.N.W.: there are occasional gentle airs from the N.E.	
There is rain falling, mixed with sleet: the sky became overcast immediately after the last observation, the clouds flowing into cirro-stratus.	
Rain and sleet continued falling for some time, and since that time a very thin rain has been falling.	G
Overcast: no rain.	L
Cirro-stratus and scud, with a few breaks in various directions: the Moon is visible through the clouds.	
The sky has been partially clear and cloudy since the last observation; it is now covered with cloud, excepting a small break about the zenith, to no numerical amount.	
Cirro-stratus and scud.	
,, the Moon is visible through the clouds.	L
Overcast: there is a slight fog.	H B
Overcast: there is a slight fog.	
The day has been very gloomy: at $2^h. 20^m$ it was dark and gloomy; at $2^h. 10^m$ the clouds had suddenly cleared away, but at $2^h. 21^m$ they as suddenly collected again.	H B
Overcast, with a slight fog, and very gloomy.	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Jan. 29. 8	29·210	30·8	31·1	-0·3	..	..	..	Calm	..	..	..	..	..	..	10	..
10	29·203	28·4	28·2	0·2	27·0	1·4	32·6	Calm	..	..	..	..	..	..	10	..
12	29·188	29·0	29·3	-0·3	..	..	25·1	Calm	..	..	..	..	..	..	9¾	..
14	29·159	27·0	27·2	-0·2	24·5	2·5		Calm	..	..	..	..	..	..	0	..
							32·2 17·0									
16	29·141	27·0	26·8	0·2	23·5	3·5		Calm	..	..	..	..	..	..	10	..
18	29·118	28·2	28·0	0·2	24·0	4·2	39·0	Calm	..	..	..	..	..	..	10	Transit
20	29·114	28·5	28·2	0·3	25·0	3·5	38·2	Calm	..	..	..	..	..	..	10	..
22	29·113	29·6	29·6	0·0	29·0	0·6	..	Calm	..	W	0·78	1·06	0·00	1·915	10	..
Jan. 30. 0	29·093	31·5	31·3	0·2	..	..	..	Calm	..	..	..	..	..	..	10	..
2	29·067	33·5	31·9	1·6	..	..	..	Calm	..	..	..	..	..	..	2	..
4	29·062	32·1	31·9	0·2	30·0	2·1	..	NNW	..	..	..	..	..	..	10	..
6	29·048	31·5	31·6	-0·1	..	..	..	N	..	..	..	..	..	..	10	..
8	29·050	31·5	31·2	0·3	..	..	..	NNW	..	..	..	..	..	..	10	..
10	29·056	31·3	30·7	0·6	30·0	1·3	34·5	NNW	..	..	..	..	..	..	10	..
12	29·074	30·3	29·1	1·2	..	..	27·6	NNW	..	..	..	..	..	..	10	..
							45·6 23·0									
14	29·089	29·2	28·4	0·8	..	..		NNW	½ constant	..	..	..	..	..	10	3rd Qr.
16	29·112	28·0	27·5	0·5	25·0	3·0	37·7 37·7	NNW	½ to 2	..	..	..	..	..	10	..
18	29·142	28·0	27·7	0·3	..	..	..	NNW	½ to 1½	..	..	..	..	..	10	Transit
20	29·160	29·2	28·9	0·3	..	..	..	NNW	½ to 2	..	..	..	..	..	10	..
22	29·245	30·2	29·9	0·3	28·0	2·2	..	NNW	½ to 1	N	3·33	1·06	0·10	1·920	9	..
Jan. 31. 0	29·293	32·3	31·9	0·4	..	..	..	NNW	½ to 1½	..	..	..	..	..	4	..
2	29·330	33·7	31·9	1·8	..	..	..	NNW	0 to ¾	..	..	..	..	..	8	..
4	29·356	33·5	32·2	1·3	30·5	3·0	34·9	NNW	½ to 2½	N	3·38	..	..	..	9	..
6	29·411	32·2	31·4	0·8	..	..	24·4	NNW	½ to 1	..	..	..	..	..	10	..
8	29·477	32·0	31·2	0·8	..	..		NNW	½ to 1	..	..	..	..	..	10	..
10	29·512	32·2	31·7	0·5	30·5	1·7		NNW	½ to 1	..	..	..	..	..	10	..
12	29·570	31·3	30·9	0·4	..	..	44·2	NNW	0 to ½	..	..	1·06	0·00	1·920	9½	..
14	29·599	29·8	28·7	1·1	..	..	16·8	NNW	0 to ½	..	..	..	..	..	1	..
16	29·617	29·0	27·4	1·6	22·0	7·0	37·0	NW	..	NW	0·84	..	..	..	3	..
18	29·616	27·0	25·3	1·7	..	..	36·5	W	..	..	..	..	..	..	0	..
20	29·652	27·5	26·7	0·8	..	..	..	NNW	..	..	..	..	..	..	10	Transit
22	29·671	30·4	29·7	0·7	26·8	3·6	..	NNW	..	N	0·28	1·06	0·00	1·965	10	..
Feb. 1. 0	29·671	32·5	31·7	0·8	..	..	35·9	NNW	..	..	..	..	..	..	10	..
2	29·665	34·5	32·2	2·3	..	..	28·4	NNW	..	..	..	..	..	..	3	..
4	29·678	35·0	32·9	2·1	30·5	4·5	45·9	NNW	0 to ½	..	..	..	..	..	1	..
6	29·704	33·0	32·0	1·0	..	..	20·5	NNW	0 to 1	..	..	..	..	..	3	..
8	29·731	33·5	32·3	1·2	..	..	36·0 35·8	NNW	0 to ½	..	..	..	..	..	10	..

DRY THERMOMETER.

Jan. 29d, at 8h, 12h, and 14h; and 30d, at 6h. The readings were lower than those of the Wet Thermometer.

MAXIMUM FREE THERMOMETER.

Jan. 29d. 22h. The reading was lower than that of the Dry Thermometer at 4h and 6h, and higher than that of the Maximum Radiation Thermometer as read at the same time.

RAIN.—Jan. 30d. 22h. The increase in the reading of rain-gauge No. 2 was caused by the melting of snow.

Jan. 31d. 12h. The amount collected during the month of January in the rain-gauge No. 4, was 2in·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 2in·39.

Feb. 1d. The increase in the reading of rain-gauge No. 3, was caused by the melting of snow.

REMARKS.	Observer
The sky has been partially clear at times since the last observation, but it is now quite overcast, and very dark.	L
Overcast, but a few stars are dimly seen now and then about the zenith and South of it; there is also a slight fog.	L
A few stars are visible in various parts of the sky, chiefly near the zenith and S. of it.	H B
The sky is cloudless, but the stars appear dim: at 15^h a few light clouds appeared in the N.W., and rapidly extended over the sky; in half an hour afterwards every part of the sky was overcast: at $15^h.10^m$ a beautifully coloured corona appeared around the Moon, and remained till $15^h.30^m$; its diameter was about 5°.	
Overcast: cirro-stratus and scud.	
,, ,,	
,, ,, a little snow is falling.	H B
,, ,,	L
Overcast: cirro-stratus and scud: a very slight fall of snow.	
Cirro-stratus towards the N. and N.W. horizon; otherwise clear. At $2^h.20^m$ the sky became overcast.	L
Overcast, and very gloomy.	H B
Overcast.	
,,	
,, cirro-stratus and scud: the reflexion of the London lights appears low to-night.	H B
At $10^h.39^m$ a break appeared in the zenith, and from that time till $11^h.45^m$ the clouds around the zenith, to the distance of 70° from it, gradually diminished, and the stars at the latter time shone brightly; immediately afterwards the zenith became obscured, and then successively all the parts around it, as though by the condensation of vapour; no motion was discernible in the clouds: at present the sky is covered with stratus, which is high, as the reflexion of the London lights is high.	G
The sky has continued to be covered with dark stratus, which now appears to be more dense and lower, as the reflexion of the London lights is 2° or 3° lower than it was.	
The sky continues as before, except that the clouds are at a less distance from the Earth, as shewn by the reflexion of the London lights having become less and less, till it was lost in the horizon at $15^h.20^m$; at this time some snow fell, which continues falling in small quantities.	
Snow has been falling in small flakes without intermission since 16^h, and it is now about three-quarters of an inch thick on the level ground: the wind has been noisy, and in frequent gusts from 1 to $1\frac{1}{2}$, and sometimes to 2.	
But little snow has fallen since 18^h: the sky is now overcast: cirro-stratus.	G
Cirro-stratus and scud, with a break in the clouds to the N. of the zenith: the snow fallen on level ground, as measured at $23^h.30^m$, was about an inch in depth; in some places it was three-quarters of an inch, and in others about an inch and a half.	L
Cirro-stratus round the horizon, and reticulated cirri about the zenith.	
Cirro-stratus and scud, with a continuous break in the clouds to the N.W. of the zenith.	L
The sky is nearly covered with a thin cirro-stratus: the wind is blowing in gusts.	G
Cirro-stratus and scud.	
Cirro-stratus and scud, the latter moving from the N. at a low elevation.	
Cirro-stratus and scud: the wind is blowing in gusts.	G
,, a few stars are visible in the West.	HB
Cirro-stratus for about 5° around the horizon, otherwise cloudless; two minutes after this time the sky became quite overcast.	L
Patches of cirro-stratus in every direction: the sky has been clear and cloudy alternately several times since the last observation: the wind is blowing in gusts to $\frac{1}{2}$.	
Cloudless.	
The sky is covered with cirro-stratus and a thin haze.	L
Overcast: cirro-stratus and scud.	H B
Overcast: cirro-stratus and scud, but not so dense as at the preceding observation.	
Fleecy clouds and cumuli, chiefly near the N. and W. horizon: the sky is of a deep blue colour.	H B
About five minutes before the observation three parts of the sky were covered with cloud; it is now nearly cloudless, except a bank of cirro-stratus extending along the N. and W. horizon.	L
Cirro-stratus towards the N. and W., and scud in different directions in the S. part of the sky; elsewhere it is clear. At $6^h.25^m$ the sky became covered with cirro-stratus, and snow began to fall.	
Overcast: the snow mentioned in the last observation did not last more than a quarter of an hour, but a very slight fall has just commenced.	

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Feb. 1. 10	29·753	32·3	32·0	0·3	31·0	1·3	..	NNW	0 to ½	..	..	..	..	..	10	..
12	29·767	32·0	31·8	0·2	..	..	..	NNW	..	..	..	..	..	..	10	..
14	..	..	..	..	..	..	..	N	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	N	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	N by E	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	N	..	..	..	..	..	..	..	Transit
22	29·877	31·5	30·7	0·8	..	..	..	N by W	..	N	4·01	1·06	0·00	2·015	0	..
Feb. 2. 0	..	..	..	..	..	..	..	N by W	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	N by E	..	NNE	1·50	..	..	..	..	..
4	29·876	34·7	32·3	2·4	..	..	36·5	N	..	..	..	..	..	..	1	..
6	29·879	32·7	32·2	0·5	..	..	25·6	N by W	..	..	..	..	..	..	1	Greatest declination S.
8	..	..	..	..	..	..	——	N by W	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	55·6	NNW	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	16·5	WNW	..	..	..	..	..	..	..	..
14	29·859	28·8	28·5	0·3	..	..	——	SW	..	..	..	..	..	..	10	..
16	29·840	30·0	29·9	0·1	27·5	2·5	35·5	SSW	..	..	..	..	..	..	10	..
18	29·813	32·0	31·5	0·5	..	..	35·0	WSW	..	..	..	..	..	..	10	..
20	29·805	33·0	32·3	0·7	..	..	..	WSW	..	..	..	..	..	..	10	..
22	29·796	33·7	32·3	1·4	32·5	1·2	..	WSW	..	WSW	1·35	1·09	0·07	2·025	10	Transit
Feb. 3. 0	29·797	35·5	34·8	0·7	..	..	..	SW	..	..	..	..	..	..	10	..
2	29·774	38·9	38·4	0·5	..	..	..	NNW	..	..	..	..	..	..	10	..
4	29·791	39·7	39·7	0·0	40·0	-0·3	..	N by W	..	..	..	..	..	..	10	..
6	29·830	40·1	40·2	-0·1	..	..	..	N	..	N	3·22	..	..	..	10	..
8	29·866	40·0	39·4	0·6	..	..	40·4	N by W	..	..	..	..	..	..	10	..
10	29·892	39·8	38·4	1·4	37·0	2·8	34·0 ——	N	1 to 2½	..	..	..	..	..	10	..
12	29·938	37·5	36·9	0·6	..	..	41·2	N	½ to 1½	..	..	..	..	..	0	..
14	29·960	36·0	35·4	0·6	..	..	30·1 —— 35·8	N	½ constant	..	..	..	..	..	10	..
16	29·998	35·5	34·7	0·8	33·5	2·0	35·0	N	0 to ¾	..	..	..	..	..	10	..
18	30·005	35·3	34·5	0·8	..	..	..	N	..	..	..	..	..	..	10	..
20	30·057	35·3	34·4	0·9	..	..	..	N by W	..	..	..	..	..	..	10	..
22	30·088	36·2	35·1	1·1	34·0	2·2	..	N by W	..	NNW	0·78	1·09	0·00	2·035	10	Transit
Feb. 4. 0	30·108	39·1	37·1	2·0	..	..	..	NNW	..	..	..	..	..	..	10	Perigee
2	30·120	39·6	37·4	2·2	..	..	..	NNW	..	..	..	..	..	..	10	..
4	30·117	39·2	36·7	2·5	34·0	5·2	40·5	NNW	..	..	..	..	..	..	10	..
6	30·102	35·8	34·4	1·4	..	..	30·4	SW	..	..	..	..	..	..	10	..
8	30·105	34·2	32·2	2·0	..	..	——	SW	..	..	..	..	..	..	1	..
10	30·083	33·2	32·2	1·0	30·0	3·2	46·3	SW	..	..	..	..	..	..	0	..
12	30·053	32·2	31·2	1·0	..	..	26·2	SW	..	..	..	..	..	..	0	..
14	30·021	31·2	30·4	0·8	..	..	——	SW	..	..	..	..	..	..	0	..
16	29·978	31·2	30·6	0·6	31·0	0·2	35·5	SW	..	..	..	..	..	..	0	..
18	29·942	33·7	32·9	0·8	..	..	35·2	SW	..	..	..	..	..	..	10	..
20	29·928	34·7	34·1	0·6	..	..	..	SW	..	..	..	..	..	..	10	..
22	29·930	36·1	35·6	0·5	34·0	2·1	..	SW	..	W	3·93	1·09	0·00	2·035	10	..
Feb. 5. 0	29·914	40·0	38·6	1·4	..	..	..	W	..	..	..	..	..	..	7	Transit
2	29·878	42·4	39·7	2·7	..	..	..	W by S	0 to ½	..	..	..	..	..	5	..

DRY THERMOMETER.

Feb. 3d. 6h. The reading was lower than that of the Wet Thermometer.

DEW POINT THERMOMETER.

Feb. 3d. 4h. The reading was higher than that of the Dry Thermometer.

WIND.

Feb 4d. 6h to 22h. The direction by estimation was generally W., that by Osler's Anemometer was generally S. W.; it is probable that the motion of the clouds during a part of the time was from the W.

REMARKS.	Observer.
Overcast, with the exception of the zenith and for 5° or 6° round it, which has been alternately clear and cloudy: the sky is now [overcast.	L
Overcast.	L
Cirro-stratus and haze towards the N. horizon.	G
Cumuli along the horizon extending from the S. E. to the W.	
Detached coloured cumuli around the horizon.	G
	H B
Overcast: cirro-stratus.	
,, rain is falling.	
,, cirro-stratus.	
,, ,,	H B
,, a fine drizzling rain is falling: the rain which had previously fallen had frozen, so that the ground is covered with a [sheet of ice.	L
Overcast and foggy.	
Overcast, and very slight fog.	L
Overcast: gloomy.	H B
,,	
,, the reflexion of the London lights is high this evening.	
Cirro-stratus and scud: Capella is occasionally visible: the wind is blowing in gusts to $1\frac{1}{2}$.	H B
About ten minutes before the present time the clouds very suddenly dispersed, and at present the sky is nearly cloudless, or rather, the clouds were wholly dissipated within one minute at $11^h. 50^m$.	G
At $12^h. 55^m$ the whole sky was suddenly obscured by clouds, which were high; at $12^h. 57^m$ a few drops of rain fell; at $13^h. 1^m$ the sky was cloudless, and continued so till $13^h. 49^m$; at $13^h. 50^m$ there was not a star visible; and the sky is now covered with a light cirro-stratus.	
At $14^h. 10^m$ there was not a particle of cloud to be seen, and the sky continued clear till $15^h. 10^m$; since that time it has been overcast with a moderately high cirro-stratus.	
Overcast: cirro-stratus: the clouds have not been broken since 16^h.	
,, ,, the clouds have not been broken since 18^h.	G
,,	L
Overcast.	
,,	
,,	L
A few trifling breaks have appeared in the western portion of the sky, but at no time to any numerical amount.	G
With the exception of a very thick mist, or probably a cloud near the horizon, the sky is cloudless, and it has been so since $6^h. 40^m$.	
Cloudless.	G
,,	L
,,	
,,	
About five minutes after the last observation the sky became quite overcast, and has remained so ever since.	
Overcast: cirro-stratus and scud.	L
The whole of the sky is covered with cirro-stratus of various densities.	H B
Cirro-stratus and light clouds: the sky near the zenith, and for 20° around, is free from cloud.	
Cumuli and fleecy clouds: the sky towards the N. and N. E. horizon is covered with a thin cirro-stratus.	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Feb. 5. 4	29·830	43·4	40·3	3·1	43·5	−0·1	..	W by N	0 to ½	..	..	..	..	..	7	..
6	29·793	40·1	38·2	1·9	..	..	44·1	WSW	0 to ¼	..	..	..	..	..	1	..
8	29·784	37·5	36·7	0·8	..	..	32·7	W	..	..	..	..	..	..	0	..
10	29·752	40·0	37·2	2·8	36·0	4·0	———	WNW	0 to ½	WNW	2·80	..	..	..	10	..
12	29·708	38·3	35·7	2·6	..	..	51·2	W	1 to 2	..	..	..	..	..	7	..
							26·0									
14	29·709	38·4	35·7	2·7	..	..	———	NW	½ to 1	NW	1·05	..	..	..	3	..
16	29·706	35·5	33·7	1·8	31·0	4·5	35·3	WNW	0 to ¼	..	..	..	..	..	0	..
18	29·714	34·5	32·2	2·3	..	..	35·3	NW	0 to ½	..	..	..	..	..	0	..
20	29·730	33·5	30·2	3·3	..	..	..	NNW	½ to 1½	..	..	..	..	..	0	..
22	29·761	33·0	29·0	4·0	20·0	13·0	..	NNW	2 to 3	N	1·25	1·09	0·00	2·035	0	..
Feb. 6. 0	29·793	34·5	31·7	2·8	..	..	..	NW	1½ to 2½	..	..	..	..	..	0	Transit
2	29·797	35·2	32·2	3·0	..	..	..	NW	1½ to 3	..	..	..	..	..	1	..
4	29·797	35·4	32·3	3·1	21·5	13·9	..	NW	1 to 2	..	..	..	..	..	7	..
6	29·813	34·3	32·1	2·2	..	..	35·4	NW	½ to 2	..	..	..	..	..	3	..
8	29·843	32·0	31·7	0·3	..	..	24·7	NW	0 to 1½	..	..	..	..	..	0	New
10	29·859	30·5	29·2	1·3	20·5	10·0	———	NW	½ to 3	..	..	..	..	..	0	..
12	29·863	28·7	27·4	1·3	..	..	42·7	NW	0 to 1½	..	..	..	..	..	0	..
14	29·869	27·5	26·4	1·1	..	..	15·8	NW	..	..	..	..	..	..	0	..
16	29·866	26·7	25·8	0·9	19·5	7·2	———	NW	..	..	..	..	..	..	0	..
							35·0									
							35·0									
18	29·856	27·2	25·8	1·4	21·5	5·7	..	NW	..	..	..	..	..	..	0	..
20	29·870	25·2	24·4	0·8	19·5	5·7	..	NW	..	..	..	..	..	..	0	..
22	29·862	27·7	26·9	0·8	22·5	5·2	..	NW	..	NNW	5·52	1·09	0·00	2·035	8	..
Feb. 7. 0	29·873	31·5	30·5	1·0	..	..	..	NNW	..	..	..	..	..	..	10	..
2	29·864	33·5	31·7	1·8	..	..	..	N	..	..	..	..	..	..	9	Transit
4	29·865	33·1	31·7	1·4	25·5	7·6	34·6	N by W	..	..	..	..	..	..	2	..
6	29·871	32·1	31·4	0·7	..	..	23·7	N	..	..	..	..	..	..	10	..
8	29·891	27·5	27·2	0·3	..	..	———	N	..	..	..	..	..	..	1	..
10	29·898	26·2	26·2	0·0	26·0	0·2	41·5	NNE	..	..	..	..	..	..	0	..
12	29·895	25·5	25·0	0·5	..	..	15·4	NNE	..	..	..	..	..	..	0	..
14	29·906	25·4	24·8	0·6	..	..	———	N by W	..	..	..	..	..	..	0	..
16	29·930	26·0	25·4	0·6	24·0	2·0	34·5	N	..	..	..	..	..	..	9	..
18	29·942	25·0	24·7	0·3	..	..	34·5	NNW	..	..	..	..	..	..	0	..
20	29·955	25·2	25·2	0·0	..	..	..	N by W	..	..	..	..	..	..	2	..
22	29·976	27·4	26·9	0·5	23·5	3·9	..	N by E	..	N	2·14	1·09	0·00	2·035	3	..
Feb. 8. 0	29·977	32·0	30·7	1·3	..	..	..	NNW	..	..	..	..	..	..	10	..
2	29·965	34·0	31·7	2·3	..	..	..	NNE	..	..	..	..	..	..	10	Transit
4	29·982	33·0	31·7	1·3	26·0	7·0	34·4	NNE	..	..	..	..	..	..	10	..
							23·4									
							39·5									
							13·7									
							———									
6	29·985	31·0	30·7	0·3	..	..	34·0	NNE	..	..	..	..	..	..	4	..
8	30·004	29·8	28·2	1·6	..	..	33·8	NNE	..	..	..	..	..	..	1	..
10	30·003	28·7	27·8	0·9	26·0	2·7	..	NNE	..	..	..	..	..	..	9	..
12	30·011	29·5	28·7	0·8	..	..	..	ENE	..	..	..	..	..	..	10	In Equator

DEW POINT THERMOMETER.
Feb. 5d. 4h. The reading was higher than that of the Dry Thermometer, which is evidently erroneous: the temperature deduced from the Dry and Wet Bulb Thermometers is 36°·6. No use was made of this observation in subsequent calculations.

METEOR.
At 11h. 34m my attention was fixed by observing what appeared to be a star of the 2nd magnitude, where I had never seen one before; it was situated exactly at the intersection of two lines, the one passing through η Bootis and Arcturus, the other through ρ Bootis and ι Bootis; it continued thus stationary till 11h. 34m. 11s, when it proved to be a meteor, and in a moment it passed from its position above to just below α Coronæ Borealis, which was the only star visible in this constellation; vapour was below this point: just immediately before its motion it became as bright as Arcturus. I was much astonished, and thought it was a new star. At 11h. 39m. 20s another meteor appeared, of about the brightness of a star of the third magnitude, at a point a little below ρ Bootis, and passed a little below β Bootis; it did not leave any train of light or sparks.—G.

SOLAR HALO.
Feb. 8d, between 3h. 20m and 4h. 50m. This halo was in some respects the most remarkable that I ever saw. When the attention was directed successively upon points nearer and nearer to the Sun, it was most evident that the brightness of the sky increased gradually till within a small distance of the halo, when it increased very rapidly, and then ceased suddenly. The ring formed by the bright light included between the external bright light and the internal darkness was the halo: the circular disk of the sky (of which the Sun was the center) surrounded by the halo was very dark. There

REMARKS.	Observer.
Thin cirro-stratus and haze for 20° round the horizon: the zenith is free from cloud, but the rest of the sky is covered with a thin filmy cloud, shewing the blue sky above it.	L
Cirro-stratus in the N. and W. horizon: there is a slight haze towards the N.: the sky is very red in the W.; it is otherwise [cloudless.	
Cloudless.	
Overcast: the wind blowing in gusts to 1. At $10^h. 5^m$ the sky, for 20° S. and 40° N. of the zenith, became clear.	L
The sky within the last few minutes has been suddenly obscured; it was very nearly cloudless at $11^h. 50^m$, the only exception being a few fragments of dark scud near the eastern horizon.	H B
Cirro-stratus and dark scud.	
Cloudless.	
,,	
,, the wind blowing in gusts to 1½.	H B
,, ,,	L
Cloudless, with light scud towards the S.	
Cumuli in the N., E., and S.: there is scud floating in various directions: the wind blowing in gusts to 1.	L
Cirro-stratus and large masses of scud moving rapidly from the N.: there are also a few cumuli in the East.	H B
Cirro-stratus and fragments of scud principally near the horizon: the wind blowing in gusts to 1½.	
Cloudless.	
,,	
,,	H B
,,	G
,, a great many meteors have momentarily appeared in the E., their first appearance being very nearly in the prime vertical, and their motions have always been from S. to N., a little inclined downwards; none, however, of a fine kind has appeared. [not of any numerical extent.	
Cloudless.	
Cloudless, with the exception of a few lines of cloud near the horizon in the E., and a few small detached clouds to the N., but	G
Cirro-stratus round the horizon; the rest of the sky is covered with reticulated cirri.	L
A thin cirro-stratus covers the whole sky.	
A thin cirro-stratus, with a break towards the E. horizon.	
Cumuli near the horizon; scud near the zenith; clear blue sky elsewhere.	L
Within the previous half hour the sky has become quite covered with scud.	G
Vapour round the horizon: the stars have been shining with great brilliancy.	
Cloudless.	
Cloudless, but hazy round the horizon.	G
,, ,,	L
Overcast, with the exception of a small portion about the zenith.	
Cloudless, but hazy round the horizon.	
Cirro-stratus and haze towards the N. and W.: there is some brown-looking scud to the S.; elsewhere it is cloudless.	L
Cirro-stratus and vapour near the horizon: there are cirri in various directions.	H B
Overcast: cirro-stratus.	
,, ,, the place of the Sun is visible.	H B
,, ,, At $3^h. 45^m$ there was a very large halo round the Sun, but only three-quarters of it were visible, the other part being nearly in the horizon, and hidden by haze. At $4^h. 20^m$ there were cirri in lines, extending from the zenith to the Sun: the halo was still visible: there were a few cumuli low down in the western horizon, but they were almost hidden by haze and vapour. At $4^h. 40^m$ beautifully-mottled cirri towards the South, and in lines about the zenith, extending to the halo, which was not so well defined as before. At $4^h. 52^m$ the sky was quite hidden by cirro-stratus in the horizon, and the halo was invisible; its diameter was 41°.	L
Cirro-stratus round the horizon: it is clear about the zenith.	
Cloudy for 20° round the horizon; elsewhere it is clear.	
Clear only in the zenith; elsewhere it is overcast.	L
Cirro-stratus and scud: a few stars are visible.	H B

could be no question that the halo was formed in the manner of a caustic, that is to say, that it was formed by reflexion or refraction, of such a nature that the deviation of the rays, on changing gradually their angle of incidence upon the particle of water or air, came at length to a minimum (corresponding to the brilliant ray of the halo), and that, upon continuing the same change of the angle of incidence, the deviation increased again; or, that the general character of the formation of the halo was the same as that of the rainbow. I saw no colours, and cannot imagine that there could have been any bands of colour either broad or brilliant. Mr. Main informed me that he saw some colours, but does not remember their order. The lower part of the circle was cut off by dense haze near the horizon, and the circle was partially interrupted in several places by beams of shade proceeding from the Sun; evidently the shadows of clouds, which were more distant from the eye than the particles which caused the halo.—G.B.A.

Feb. $8^d. 3^h. 55^m$. I observed a halo around the Sun with a radius of 20°; and from its very perfect appearance, as well as its great distinctness, it attracted considerable attention: the day was fine, and the sky at the above time was generally covered with a very thin cirro-stratus, through which the Sun was shining. That which struck me most at the time was its perfect definition, the lower part of the circle being alone invisible, probably owing to the cirro-stratus being of a denser character, between the Sun and horizon. When I first saw it, the prismatic colours were distinctly visible. but I do not sufficiently recollect in what order they were; but of them the red was the most vivid. The colours remained visible until after $4^h. 40^m$, but they became gradually fainter, until at $4^h. 50^m$ a faint tinge of red was the only one visible; immediately afterwards the colour entirely disappeared, when a bright light was all that distinguished the halo from the neighbouring clouds. At $4^h. 25^m$ its appearance had altered considerably: at this time the upper semicircle only could be seen. After the colours had disappeared the halo gradually became less and less distinct, but at $5^h. 10^m$ it was still easily seen. At $5^h. 20^m$ a slight appearance only could be distinguished, and such that it would have been impossible to discover it had its place not been known; on looking again a few minutes afterwards it had wholly disappeared. This halo was the finest that I ever saw, and it made a very vivid impression on my memory.—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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Feb. 8. 14	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
22	29·990	28·5	27·2	1·3	..	..	..	SSE	..	SSE	1·66	1·09	0·00	2·040	0	..
Feb. 9. 0	..	..	..	..	..	..	..	SSE	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	SSE	..	..	..	..	..	..	..	..
4	29·896	31·5	30·2	1·3	..	..	32·6	SSE	..	SSE	0·68	..	..	..	4	Transit
6	..	..	..	..	..	..	28·3	SSE	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	—	SSE	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	50·0	SSE	..	..	..	..	..	..	..	..
12	29·798	30·4	29·3	1·1	..	..	..	SSE	..	..	..	..	..	..	10	..
14	29·764	30·4	29·5	0·9	..	..	—	SSE	..	..	..	..	..	..	10	..
16	29·742	29·2	28·7	0·5	26·0	3·2	33·8	SSE	..	..	..	..	..	..	10	..
18	29·699	28·8	28·5	0·3	26·0	2·8	33·5	SSE	..	..	..	..	..	..	10	..
20	29·666	29·5	28·7	0·8	26·5	3·0	..	ESE	..	..	..	..	..	..	10	..
22	29·663	31·5	30·7	0·8	28·5	3·0	..	ESE	..	S	3·90	1·09	0·00	2·040	10	..
Feb. 10. 0	29·635	31·2	30·7	0·5	..	..	..	SE	¼ constant	..	..	..	..	..	10	..
2	29·618	30·4	30·2	0·2	..	..	..	ESE	..	SSE	0·67	..	..	..	10	..
4	29·580	30·0	30·0	0·0	18·0	12·0	31·8	E by S	..	..	..	..	..	..	10	Transit
6	29·564	28·8	28·5	0·3	..	..	23·3	E by S	..	SE	0·65	..	..	..	10	..
8	29·554	27·8	27·7	0·1	..	..	—	E by N	..	..	..	..	..	..	10	..
10	29·559	26·6	26·3	0·3	25·5	1·1	33·9	ENE	..	..	..	..	..	..	10	..
12	29·573	25·6	25·6	0·0	..	..	20·0	ENE	¼ to ½	..	..	..	..	..	10	..
14	29·591	25·7	25·6	0·1	..	..	—	ENE	½ to 1	..	..	..	..	..	10	..
16	29·627	25·7	25·6	0·1	25·0	0·7	33·2	ENE	½ to 1	..	..	..	..	..	10	..
18	29·684	26·0	25·6	0·4	..	..	33·0	ENE	¼ constant	..	..	..	..	..	8	..
20	29·759	23·6	23·4	0·2	..	..	..	ENE	..	..	..	..	..	..	7	..
22	29·833	26·3	25·7	0·6	20·0	6·3	..	ENE	..	ESE	2·88	1·09	0·00	2·055	6	..
Feb. 11. 0	29·896	28·5	27·7	0·8	..	..	..	ENE	0 to ½	..	..	..	..	..	0	..
2	29·945	28·8	27·7	1·1	..	..	..	ENE	0 to ½	..	..	..	..	..	0	..
4	29·974	27·8	26·5	1·3	16·5	11·3	29·3	NE	½ constant	..	..	..	..	..	0	Transit
6	30·045	24·8	23·5	1·3	..	..	7·7	NNE	..	..	..	..	..	..	¼	..
8	30·102	21·3	20·7	0·6	..	..	—	NNE	..	..	..	..	..	..	1½	..
10	30·145	19·5	18·8	0·7	14·0	5·5	45·5	NNE	..	..	..	..	..	..	0	..
12	30·195	16·5	16·5	0·0	..	..	−0·5	ENE	..	..	..	..	..	..	0	..
14	30·211	13·6	13·8	−0·2	..	..	—	Calm	..	..	..	..	..	..	0	..
16	30·230	11·7	12·0	−0·3	..	..	32·0	Calm	..	..	..	..	..	..	0	..
18	30·277	12·5	12·4	0·1	..	..	32·0	Calm	..	..	..	..	..	..	0	..
20	30·297	8·8	8·9	−0·1	..	..	..	Calm	..	..	..	..	..	..	0	..
22	30·323	14·8	14·9	−0·1	..	..	..	Calm	..	E	1·50	1·09	0·00	2·055	2	..
Feb. 12. 0	30·352	24·5	23·4	1·1	19·5	5·0	..	SSW	..	..	..	..	..	..	3	..
2	30·336	27·1	26·0	1·1	22·0	5·1	..	SW	..	..	..	..	..	..	3	..
4	30·326	27·5	26·2	1·3	19·0	8·5	..	SSW	..	..	..	..	..	..	0	..
6	30·324	23·4	22·8	0·6	15·5	7·9	..	Calm	..	S	1·90	..	..	..	1	Transit
8	30·320	21·3	20·7	0·6	..	..	..	Calm	..	..	..	..	..	..	4	..

DRY THERMOMETER.

Feb. 11d, at 14h, 16h, 20h, and 22h. The readings were lower than those of the Wet Thermometer.

Feb. 11d. 22h to 24h. The reading increased 9°·7, being the greatest increase within two hours, between January 1d and April 2d.

DEW POINT THERMOMETER.

Feb. 11d, at 16h and 22h. No reading could be obtained, the mercury being in the black ball, or below 15°.

MINIMUM RADIATION THERMOMETER.

Feb. 9d. 22h. The index had not been set on Feb. 8d. 22h.

Feb. 12d. The reading was higher than that of the Minimum Free Thermometer.

REMARKS.	Observer.
Cloudless.	H B
Cirri and light clouds are in every direction. At $4^h.30^m$ a set of prismatic colours was visible at the distance of 22° from the Sun (in the horizontal direction); they were very distinct, and remained till $4^h.40^m$.	
Overcast.	
,, cirro-stratus.	
,, there is snow falling.	
,, the snow has ceased.	
,, cirro-stratus and scud.	H B
,, ,, there is a slight fall of snow.	L
Overcast: cirro-stratus and scud: there is a slight fall of snow.	
,, the snow still falling, but faster.	L
,, the snow still falling slightly.	H B
,, ,,	
,, ,,	
,, ,,	H B
,, ,,	D
,, ,,	
,, ,,	
The zenith and the parts around it clear: the snow has ceased falling.	
The sky in general is covered with fleecy clouds and scud: the part E. S. E. of the zenith is mostly clear.	D
Cirro-stratus towards the N. and round the horizon: there are quantities of light scud passing from the E.: about $21^h.40^m$ there were some cirro-cumuli to the S. of the zenith.	L
Cloudless.	
,,	
,,	L
There are a few lines of strati near the horizon in the N. W.	D
Cirro-stratus in the W. near the horizon.	
Cloudless.	
,,	D
,,	L
,,	
,,	
Cloudless, with the exception of cirro-stratus towards the N. and E. horizon.	L
Cloudless, with the exception of cirro-stratus and vapour towards the horizon.	H B
Cirro-cumuli and vapour: there are also light fleecy clouds near the Sun's place.	
Light cirri in various directions: cirro-stratus and scud near the horizon.	H B
Hazy towards the N. and round the horizon, but clear elsewhere.	L
Cirro-stratus extending along the N. and W. horizon; cloudless elsewhere: it is very red towards the W.	
Cirro-stratus and haze towards the N.: the stars are shining in the S. portion of the sky, but very few are visible in the N. portion. At $7^h.40^m$ a very fine and perfect halo was observed; its radius at $8^h.5^m$ was 23°; at $8^h.20^m$ it was rather indistinct; and at $8^h.45^m$ it had disappeared.	

REMARKABLY LOW READINGS OF THERMOMETERS AND GREAT DIFFERENCE OF LOCAL TEMPERATURE.—Feb. 11^d, at $20^h.10^m$, the reading of the Dry Thermometer was 7°·9; that of one at Dartmouth Terrace, Lewisham, the residence of Mr. Glaisher, was − 1°·5; and between $20^h.10^m$ and $20^h.40^m$, five thermometers at Dartmouth Terrace, all protected from radiation, read 0°, and one on the snow exposed to the sky, read −12°. At $20^h.45^m$, when Mr. Glaisher left his residence for the Observatory, the thermometer reading was 2°, and at $21^h.0^m$ he found the reading of the Dry Thermometer was 11°·5; that of one on flax cleared of snow was −12°·5, probably a point lower than has ever been seen in this climate before; one on long grass cleared of snow read − 6°; one on long grass under snow 26°; and one under long grass under snow 28°. At $22^h.0^m$ the reading of the Dry Thermometer at the Observatory was 14°·8; at Dartmouth Terrace it was 4°: at Feb. $12^d.0^h$ it was 21°; at Dartmouth Terrace it was 10°: at $0^h.40^m$ at the Observatory it was 25°; at Dartmouth Terrace it was 21°: at 2^h at the Observatory it was 27°·1; at Dartmouth Terrace it was 26°: at $3^h.20^m$ at the Observatory it was 27°·5, and this was the highest reading during the day; at Dartmouth Terrace it was 29°. The distance between the two places is nearly one mile; the Observatory being situated at the northern extremity of the table land forming Blackheath, and Dartmouth Terrace at nearly the S. S. W. extremity. (N. B. The times in this note are Greenwich Astronomical times.)

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Feb. 12. 10	30·327	21·7	21·1	0·6	15·0	6·7	31·1	Calm	..	..	..	..	..	..	10	..
12	30·315	23·5	22·7	0·8	..	..	15·3	SSE	..	..	..	..	..	..	10	..
14	30·291	25·3	24·3	1·0	19·5	5·8		S by E	..	..	..	..	..	..	10	..
16	30·259	26·0	24·7	1·3	21·3	4·7	44·5	S	..	..	..	..	..	..	10	..
18	30·223	25·3	24·2	1·1	20·0	5·3	18·6	S	..	..	..	..	..	..	7	..
20	30·176	27·5	26·6	0·9	22·5	5·0	..	S by W	..	..	..	..	..	..	10	..
22	30·145	30·6	29·5	1·1	25·0	5·6	..	S by W	½ to 1½	SSW	1·50	1·09	0·00	2·055	10	..
Feb. 13. 0	30·085	31·8	30·9	0·9	..	..	..	S by E	½ to 2½	..	..	..	..	..	10	..
2	30·026	30·6	30·3	0·3	..	..	..	S by E	½ to 2	..	..	..	..	..	10	..
4	29·914	30·8	30·6	0·2	28·5	2·3	39·1	S	1½ to 3½	..	..	..	..	..	10	..
6	29·843	32·0	31·8	0·2	..	..	29·5	S	1½ to 4½	..	..	..	..	..	10	Transit
8	29·787	33·1	32·2	0·9	..	..		S	½ to 2½	..	..	..	..	..	10	..
10	29·723	34·0	32·4	1·6	30·0	4·0	37·5	S	½ to 2	..	..	..	..	..	10	..
12	29·641	36·2	35·4	0·8	..	..	28·8	S	½ to 1	..	..	..	..	..	10	..
14	29·600	36·1	35·7	0·4	..	..		SSW	..	SW	5·28	..	..	..	10	..
16	29·575	36·1	35·7	0·4	35·0	1·1	32·0	SW	..	..	..	..	..	..	10	..
18	29·586	35·4	34·7	0·7	..	..	30·0	WSW	..	..	..	..	..	..	5	1st Qr.
20	29·584	37·0	36·3	0·7	..	..	..	NNW	..	W	0·22	..	..	..	10	..
22	29·596	38·7	36·5	2·2	35·5	3·2	..	NW	..	NNW	0·54	1·12	0·25	2·285	3	..
Feb. 14. 0	29·620	40·1	37·0	3·1	..	..	..	WNW	0 to ½	..	..	..	..	..	1	..
2	29·611	40·4	37·2	3·2	..	..	..	WNW	0 to 1	..	..	..	..	..	3	..
4	29·604	40·0	36·4	3·6	33·5	6·5	41·3	WNW	¼ to 2½	..	..	..	..	..	3	..
6	29·638	38·0	35·2	2·8	..	..	30·9	WNW	..	NW	3·43	..	..	..	3	..
8	29·666	36·5	34·2	2·3	..	..		WNW	..	..	..	..	..	..	10	Transit
10	29·704	36·3	34·2	2·1	32·0	4·3	46·5	NW	..	..	..	..	..	..	10	..
12	29·732	35·5	33·8	1·7	..	..	24·3	WNW	..	..	..	..	..	..	10	..
14	29·753	34·6	32·4	2·2	..	..		WNW	..	NNW	0·55	..	..	..	10	..
16	29·774	34·1	31·7	2·4	31·0	3·1	32·2	NW	..	..	..	..	..	..	8	..
18	29·804	32·5	30·2	2·3	..	..	32·2	NW	..	..	..	..	..	..	2	..
20	29·825	31·0	29·9	1·1	..	..	..	NW	..	..	..	..	..	..	0	..
22	29·856	32·5	30·7	1·8	24·5	8·0	..	NW	..	N	0·78	1·12	0·00	2·285	2	..
Feb. 15. 0	29·868	34·9	31·6	3·3	..	..	..	NW	..	..	..	..	..	..	7	..
2	29·852	36·8	32·0	4·8	..	..	38·3	NW	..	..	..	..	..	..	10	..
4	29·839	37·2	32·6	4·6	29·0	8·2	32·6	W by N	..	W	0·72	..	..	..	8	..
6	29·825	36·7	34·0	2·7	..	..		W by S	..	..	..	..	..	..	10	..
8	29·799	35·5	33·6	1·9	..	..	45·0	W by S	..	..	..	..	..	..	10	Transit
10	29·773	35·8	34·5	1·3	35·0	0·8	25·0	WSW	..	..	..	..	..	..	10	..
12	29·740	37·7	36·2	1·5	..	..		W by N	0 to ½	WNW	0·51	..	..	..	10	..
14	..	..	..	..	..	..	33·0	NW	0 to ½	..	..	..	..	..	0	..
16	..	..	..	..	..	..	32·8	NW	0 to 1	NW	1·05	..	..	..	10	Greatest dec. N. Apogee.
18	..	..	..	..	..	..		NNW	½ constant.	..	..	..	..	..	10	..
20	..	..	..	..	..	..	..	NNW	..	..	..	..	..	..	..	..
22	29·810	38·0	36·7	1·3	..	..	..	NNW	..	NNW	2·02	1·12	0·00	2·285	10	..
Feb. 16. 0	..	..	..	..	..	..	..	N by W	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..

BAROMETER.

Feb. 13d. 4h. The reading was 0in·112 less than that at the previous observation.

MAXIMUM RADIATION THERMOMETER.

Feb. 13d. 22h. The reading was lower than that of the Maximum Free Thermometer.

RAIN.

Feb. 13d. 22h. The amount of water in rain-gauge No. 2, and the increase in the reading of No. 3, were caused by the melting of snow.

REMARKS.	Observer.
Overcast, with the exception of a small break in the zenith: the Moon is visible through the clouds.	L
Overcast.	H B
,, cirro-stratus and scud: a few stars are occasionally seen.	
,, cirro-stratus: the clouds are low, as the reflexion of the London lights appears nearly in the horizon.	
At 17^h several of the larger stars were visible through a thin cirro-stratus, which covered the whole of the sky, and shortly afterwards it was nearly free from cloud near the zenith and for 30° round it: from $17^h. 25^m$ to $17^h. 50^m$ scarcely a star was to be seen: the sky at present is cloudless for about 30° above the N. horizon.	
Cirro-stratus and scud: the clouds in the S.E. are beautifully tinged with red.	H B
,,	L
Cirro-stratus and scud.	
Overcast: snow is falling.	L
,, ,, wind blowing in gusts to nearly 2.	H B
,, at $5^h. 40^m$ a shower of sleet commenced falling and has continued to the present time.	H B
,, a few drops of rain are falling: the wind blowing in gusts to $1\frac{1}{2}$.	D
,, ,, ,,	G
,, a thaw has begun and is proceeding rapidly.	D
,, ,,	
,,	
One half the sky is now clear: the stars shine but dimly.	
Overcast.	D
Cirri and light clouds.	H B
Cirro-stratus and haze towards the N. and W. horizon: hazy towards the S.	L
Fragments of loose scud floating in different parts of the sky: cumuli towards the S.: hazy towards the N.	L
Cumuli and haze: fragments of scud in various directions.	H B
Cumuli round the horizon: fragments of scud in various directions.	L
Overcast: cirro-stratus and scud: from $7^h. 30^m$ to the present time a beautifully coloured corona has been visible round the Moon: the diameter of the inner ring is 3°, and that of the exterior (which is very faint) 6°.	H B
Overcast: cirro-stratus and scud.	H B
,,	L
,,	
Overcast, excepting the portions about the zenith and a little to the N. and W. of it, which are clear.	
Overcast towards the N. and W.; elsewhere cloudless.	
Cirro-stratus and haze round the N. and W. horizon; clear elsewhere.	L
Light cirri in every direction: there are also a few cirro-cumuli near the Sun's place.	H B
Cirro-stratus and light clouds: there is a halo around the Sun, but its S. and W. sides are badly defined; its vertical and horizontal radii are each equal to 23°.	
Overcast: thin cirro-stratus and vapour: the halo is still visible.	H B
Cirro-stratus round the horizon; clear sky about the zenith, with mottled cirri near it: the halo has disappeared: a slight haze.	L
Overcast: a slight haze.	
Cirro-stratus and scud: the clouds move from the N. but the wind is West: the Moon's place is visible.	
Overcast.	L
Cirro-stratus and scud: the Moon is faintly visible.	H B
Overcast: cirro-stratus: a few small breaks in the clouds.	G

WIND.

Feb. $14^d. 4^h$. By examining the record of Osler's Anemometer, it appears that at this time the pressure increased suddenly from $\frac{1}{4}$ lb. to $2\frac{1}{2}$ lbs.; and at $4^h. 3^m$ it as suddenly decreased to $\frac{1}{4}$ lb. again.

TEMPERATURE OF THE WATER OF THE THAMES.

Feb. $12^d. 22^h$. The thermometers were not placed beneath the water on the day preceding.

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.	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.	RAIN. Stand of Rain-gauge No. 1. (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Feb. 16. 4	29·811	38·0	36·4	1·6	..	..	39·0	Calm	..	..	..	..	..	..	10	..
6	..	..	..	..	..	..	27·6	Calm	..	..	..	..	..	..	..	..
8	29·820	33·0	31·2	1·8	..	..	—	Calm	..	..	..	..	..	..	10	Transit
10	..	..	..	..	..	..	45·7	Calm	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	17·0	Calm	..	..	..	..	..	..	..	..
14	29·826	29·3	29·7	−0·4	28·0	1·3	—	Calm	..	..	..	..	..	..	0	..
16	29·831	29·0	29·9	−0·9	28·8	0·2	33·5	Calm	..	..	..	..	..	..	10	..
18	29·832	30·0	29·9	0·1	29·5	0·5	33·0	Calm	..	..	..	..	..	..	10	..
20	29·845	31·2	31·1	0·1	30·0	1·2	..	Calm	..	..	..	..	..	..	10	..
22	29·869	34·5	31·9	2·6	27·0	7·5	..	Calm	..	NE	1·10	1·12	0·00	2·285	10	..
Feb. 17. 0	29·879	37·1	32·3	4·8	..	..	..	Calm	..	..	..	..	..	..	9½	..
2	29·872	38·4	34·8	3·6	..	..	..	Calm	..	..	..	..	..	..	8	..
4	29·864	38·0	35·0	3·0	33·0	5·0	39·8	Calm	..	..	..	..	..	..	9¾	..
6	29·878	35·7	33·2	2·5	..	..	32·3	Calm	..	..	..	..	..	..	9½	..
8	29·883	32·5	30·9	1·6	..	..	—	Calm	..	..	..	..	..	..	6	..
10	29·891	32·5	32·1	0·4	29·5	3·0	62·5	Calm	..	..	..	..	..	..	4	Transit
12	29·906	34·0	31·8	2·2	..	..	21·7	Calm	..	..	..	..	..	..	9½	..
14	29·913	33·9	31·9	2·0	..	..	—	Calm	..	..	..	..	..	..	10	..
16	29·909	33·6	32·1	1·5	29·5	4·1	34·0	Calm	..	..	..	..	..	..	10	..
18	29·910	33·9	32·2	1·7	..	..	33·2	Calm	..	..	..	..	..	..	10	..
20	29·912	33·8	32·2	1·6	..	..	..	Calm	..	..	..	..	..	..	10	..
22	29·927	34·9	32·5	2·4	32·0	2·9	..	Calm	..	SSE	0·60	1·12	0·00	2·310	10	..
Feb. 18. 0	29·949	36·2	34·2	2·0	..	..	..	Calm	..	..	..	..	..	..	10	..
2	29·926	37·1	35·0	2·1	..	..	..	Calm	..	..	..	..	..	..	9½	..
4	29·928	36·0	33·6	2·4	32·0	4·0	39·8	Calm	..	..	..	..	..	..	3	..
6	29·927	33·0	31·3	1·7	..	.	28·2	Calm	..	..	..	..	..	..	4	..
8	29·937	32·1	31·8	0·3	..	..	—	Calm	..	..	..	..	..	..	8	..
10	29·945	32·0	30·8	1·2	29·0	3·0	61·2	Calm	..	..	..	..	..	..	10	Transit
12	29·955	31·3	30·7	0·6	..	..	16·8	Calm	..	..	..	..	..	..	10	..
14	29·951	30·1	30·1	0·0	..	..	—	Calm	..	..	..	..	..	..	10	..
16	29·943	29·0	29·4	−0·4	28·5	0·5	34·2	Calm	..	..	..	..	..	..	½	..
18	29·959	29·2	29·2	0·0	..	..	34·0	Calm	..	..	..	..	..	..	10	..
20	29·974	30·8	30·7	0·1	..	..	..	Calm	..	..	..	..	..	..	10	..
22	29·985	33·0	32·0	1·0	31·5	1·5	..	Calm	..	E	0·68	1·12	0·00	2·310	10	..
Feb. 19. 0	30·009	32·5	31·7	0·8	..	..	..	E by S	½ to 1	..	..	..	..	..	10	..
2	30·011	31·0	29·7	1·3	..	..	..	E by S	½ constant	..	..	..	..	..	10	..
4	30·015	29·7	28·7	1·0	25·5	4·2	..	E by S	½ constant	..	..	..	..	..	10	..
6	30·033	27·9	26·9	1·0	..	..	33·7	E by S	..	..	..	..	..	..	5	..
8	30·044	26·8	26·1	0·7	..	..	20·3	E by S	..	..	..	..	..	..	9¾	..
10	30·058	26·0	25·4	0·6	21·0	5·0	—	E by S	..	E	1·69	..	..	..	5	..
12	30·062	24·8	24·2	0·6	21·5	3·3	37·6 10·5	E by S	..	..	..	..	..	..	0	Transit
14	30·060	23·5	23·2	0·3	19·5	4·0	— 34·0	Calm	..	..	..	..	..	..	0	..
16	30·041	22·2	21·7	0·5	18·0	4·2	34·0	Calm	..	SE	0·08	..	..	..	0	..
18	30·050	21·2	20·7	0·5	..	..	..	Calm	..	..	..	..	..	..	0	..
20	30·058	20·8	20·2	0·6	16·0	4·8	..	Calm	..	..	..	..	..	..	0	..
22	30·074	24·3	23·0	1·3	15·0	9·3	..	Calm	..	SSE	0·07	1·12	0·00	2·310	0	..

DRY THERMOMETER.

Feb. 16d, at 14h and 16h; and 18d, at 16h. The readings were lower than those of the Wet Thermometer.

REMARKS.	Observer.
Overcast: cirro-stratus.	G
At 7^h the clouds became slightly broken and the Moon visible, imbedded in white clouds: at times the clouds round the Moon are tinged with red.	G
Cloudless.	H B
Overcast: cirro-stratus and scud.	
,, ,,	
,,	H B
,, the clouds are not of one uniform density.	D
Cirro-stratus and scud.	
Loose woolly cumuli are scattered over the greater part of the sky.	D
Cirro-stratus and scud: the clouds are broken in many places.	H B
,, ,,	
Fleecy clouds and scud: the sky towards the West is splendidly clear: there is a faint appearance of a corona round the Moon.	
Fleecy clouds: cirro-stratus and fragments of scud: the sky N. and W. of the zenith is clear: since the last observation the Moon has been surrounded by an imperfectly formed corona.	H B
The sky is nearly covered with large fleecy clouds, but the Moon is shining through them.	D
Overcast: cirro-stratus.	
,, ,,	
,, ,,	
,, ,,	D
,, ,,	H B
Overcast: cirro-stratus.	
Cirro-stratus and scud: breaks in the clouds towards the S. E. and N. E.	H B
Cumuli and fragments of scud in various directions: that part of the sky which is clear is of a dull blue colour, haze being [prevalent.	D
The S. portion of the sky is nearly covered with cirro-stratus and haze; every other part is clear.	
Fleecy clouds in every direction: the Moon is shining through them.	
Cirro-stratus: the Moon is visible.	D
Fleecy clouds cover the sky, except near the horizon, which is surrounded by cirro-stratus: very calm.	L
,, ,, ,, ,,	
Cloudy round the horizon; elsewhere cloudless: the stars appear dim, and the Moon has a ring round her, but it is not coloured: there seems to be a great deal of moisture in the atmosphere.	
Overcast: the sky became clouded about 17^h. 25^m.	
,, slight haze.	L
,, gloomy.	H B
Overcast: no change.	
,, ,,	
,, cirro-stratus and scud.	H B
Cirro-stratus and scud.	L
Fleecy clouds cover the sky, except the horizon, which is covered with cirro-stratus: there are a few breaks in different directions.	L
About one half the sky, and chiefly the S. portion, is covered with a white fleecy kind of scud, moving rather quickly from the E.: at times the sky has been nearly free from cloud: there is no upper cloud: the sky is of a whitish blue colour.	G
Shortly before this observation a few light clouds were scattered over the sky, but at present not one is visible: towards the S. the sky is rather hazy, and there appears to be a faint corona round the Moon.	H B
Cloudless.	
,,	
,,	
,,	H B
,,	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Feb. 20. 0	30·068	28·1	26·4	1·7	..	..	..	Calm	..	..	..	..	..	..	0	..
2	30·043	30·9	29·3	1·6	..	..	..	WSW	..	..	..	..	..	..	0	..
4	30·010	31·7	28·9	2·8	..	..	33·3	W by S	..	..	..	..	..	..	0	..
6	29·995	29·3	28·3	1·0	..	..	24·2	WSW	..	..	..	..	..	..	1	..
8	29·980	28·8	26·7	2·1	..	..	——	SW	..	..	..	..	..	..	10	..
10	29·971	26·1	25·4	0·7	..	..	54·9	WSW	..	..	..	..	..	..	1	..
12	29·943	27·6	26·6	1·0	..	..	15·3	WSW	..	..	..	..	..	..	10	Transit
14	29·919	28·5	27·4	1·1	..	..	——	WSW	..	..	..	..	..	..	10	..
16	29·890	29·6	28·3	1·3	..	..	33·8	WSW	..	..	..	..	..	..	10	..
18	29·871	30·0	28·9	1·1	..	..	33·5	WSW	..	..	..	..	..	..	10	..
20	29·839	27·9	27·3	0·6	..	..	..	W by S	..	..	..	..	..	..	0	..
22	29·837	31·8	30·5	1·3	..	..	..	W	..	WSW	2·98	1·12	0·00	2·310	0	..
Feb. 21. 0	29·835	36·4	32·1	4·3	..	..	..	Calm	..	..	..	..	..	..	0	..
2	29·805	37·2	32·7	4·5	..	..	..	Calm	..	..	..	..	..	..	0	..
4	29·752	38·4	34·3	4·1	..	..	40·3	Calm	..	..	..	..	..	..	0	..
6	29·719	34·5	31·8	2·7	..	..	27·4	Calm	..	..	..	..	..	..	¼	..
8	29·683	30·6	29·9	0·7	..	..	——	Calm	..	..	..	..	..	..	0	..
10	29·650	28·5	27·8	0·7	..	..	57·0	Calm	..	..	..	..	..	..	1	..
12	29·596	28·2	27·4	0·8	..	..	18·0	Calm	..	..	..	..	..	..	1	Transit
14	29·514	28·4	27·7	0·7	..	..	——	Calm	..	..	..	..	..	..	4	..
16	29·437	28·7	27·7	1·0	..	..	33·5	Calm	..	..	..	..	..	..	9	..
18	29·390	29·8	28·9	0·9	..	..	33·5	Calm	..	..	..	..	..	..	10	..
20	29·360	29·8	29·3	0·5	..	..	..	Calm	..	..	..	..	..	..	10	Full
22	29·364	32·0	31·7	0·3	..	..	..	Calm	..	SSE	2·55	1·12	0·00	2·310	10	..
Feb. 22. 0	29·349	33·5	32·0	1·5	..	..	..	Calm	..	..	..	..	..	..	10	..
2	29·335	34·7	32·4	2·3	..	..	..	Calm	..	..	..	..	..	..	10	..
4	29·335	34·7	33·4	1·3	..	..	36·1	Calm	..	..	..	..	..	..	10	..
6	29·331	33·0	32·1	0·9	..	..	32·1	Calm	..	..	..	..	..	..	10	..
8	29·332	32·3	32·0	0·3	..	..	——	Calm	..	..	..	..	..	..	10	..
10	29·328	32·3	32·1	0·2	..	..	40·0	Calm	..	..	..	..	..	..	10	..
12	29·331	31·7	31·9	−0·2	..	..	30·0	Calm	..	..	..	..	..	..	10	..
14	..	..	..	..	..	..	——	Calm	..	..	..	..	..	..	..	Transit
16	..	..	..	..	..	..	33·5	Calm	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	33·5	Calm	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
22	29·305	32·9	32·2	0·7	..	..	..	Calm	..	..	0·00	1·12	0·00	2·340	10	..
Feb. 23. 0	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	In Equator
2	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	41·8	NE	..	..	..	..	..	..	..	..
6	29·291	34·1	33·9	0·2	..	..	33·4	NNE	..	..	..	..	..	..	10	..
8	..	..	..	..	..	..	——	W by N	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	47·4	W by N	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	30·5	W by S	0 to ¾	..	..	..	..	..	..	..
14	29·395	34·7	33·8	0·9	..	..	——	W by S	0 to ½	..	..	..	..	..	0	Transit
							34·0									
16	29·402	35·6	34·6	1·0	..	..	33·8	W	½ to 1	..	..	..	..	..	9¾	..
18	29·434	36·4	35·4	1·0	..	..	..	W	..	..	..	..	..	..	10	..

TEMPERATURE OF THE DEW POINT.
From Feb. $20^{d}.4^{h}$ to $24^{d}.4^{h}$, no observations were taken.

DRY THERMOMETER.
Feb. $22^{d}.12^{h}$. The reading was lower than that of the Wet Thermometer.

WET THERMOMETER.
Feb. $20^{d}.8^{h}$. It seems probable that the reading is incorrect.

REMARKS.	Observer.
Cloudless.	D
,,	D
,,	H B
Cloudless, with the exception of scud and vapour near the N. horizon.	
Overcast: cirro-stratus and scud: the sky became clouded at 7^h. 30^m.	
Light fleecy clouds near the Moon's place and also near the southern horizon.	H B
Overcast: cirro-stratus.	D
,, ,,	
,, ,,	
,, ,,	
Cloudless: the clouds broke soon after the last observation, and at 19^h. 10^m none were visible.	D
,, hazy towards the N.	L
Cloudless: hazy.	
,,	L
Cloudless, with the exception of a few cirri about the place of the Sun; they are, however, of no numerical amount.	D
Cloudless, with the exception of a few cirri South-east of the zenith.	
Cloudless.	D
Cloudless, with the exception of a few light clouds scattered to the S.	G
,,	G
,, a lunar corona is visible.	H B
A few stars are shining in the zenith; elsewhere the sky is covered with cloud.	L
Overcast.	L
,, snow began to fall at 19^h. 30^m, and still continues falling.	D
Snow is falling.	H B
Overcast: cirro-stratus and scud.	
,, a light shower of sleet is falling.	H B
,, cirro-stratus and scud.	D
,,	H B
,,	G
,,	L
,,	
Overcast: snow is falling thickly in large flakes; some of them are unusully large.	D
Overcast: the snow ceased falling at 23^h. 10^m, and a thaw immediately commenced: a few breaks in the clouds occurred at 3^h. 10^m.	D
Cirro-stratus round the horizon in the S.; elsewhere clear. At 13^h. 52^m a beautifully perfect corona was observed round the Moon, encircled by three concentric rings of different colours, that nearest the Moon blue, the intermediate ring green, and the one outside yellow. It did not last five minutes.	L
Overcast, with the exception of a break towards the E. horizon: the clouds began to gather soon after the last observation.	
Overcast.	

RAIN.

Feb. 23^d. The increase in the reading of rain-gauge No. 3 was caused by 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. / of Rad. Therm. / of Therm. in Water of the Thames.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Feb. 23. 20	29·511	38·4	38·1	0·3	..	..	..	WNW	..	..	..	..	..	..	10	..
22	29·568	37·4	35·4	2·0	..	..	..	W by N	..	WSW	3·15	1·20	0·25	2·540	5	..
Feb. 24. 0	29·604	41·9	38·0	3·9	..	..	..	NW	1 to 2	..	..	..	..	..	7	..
2	29·638	43·5	38·5	5·0	..	..	..	N by W	½ to 1	N	0·24	..	..	..	10	..
4	29·693	42·5	38·2	4·3	35·0	7·5	44·1	N by W	..	NW	1·17	..	..	..	10	..
6	29·753	38·7	37·9	0·8	..	..	31·5	NE	..	E	0·24	..	..	..	10	..
8	29·840	35·5	33·8	1·7	..	..	—	ENE	..	NE	0·24	..	..	..	10	..
10	29·892	33·0	31·3	1·7	29·0	4·0	51·1	ESE	..	..	..	..	..	..	10	..
12	29·926	32·5	31·2	1·3	..	..	24·6	Calm	..	SE	0·24	..	..	..	10	..
14	29·961	32·0	30·6	1·4	..	..	—	Calm	..	..	..	..	..	..	10	Transit.
16	29·994	32·1	31·0	1·1	30·0	2·1	34·5	Calm	..	..	..	..	..	..	10	..
18	30·008	32·0	30·9	1·1	..	..	34·2	Calm	..	..	..	..	..	..	10	..
20	30·015	32·0	30·0	2·0	..	..	..	Calm	..	..	..	..	..	..	9½	..
22	30·028	34·0	32·1	1·9	31·0	3·0	..	Calm	..	S	0·23	1·20	0·00	2·540	10	..
Feb. 25. 0	30·025	38·6	37·2	1·4	..	..	..	Calm	..	..	..	..	..	..	9½	..
2	30·009	43·0	40·4	2·6	..	..	..	Calm	..	S	2·63	..	..	..	9	..
4	29·978	42·5	39·8	2·7	35·5	7·0	46·5	Calm	..	..	..	..	..	..	5	..
6	29·941	39·5	37·5	2·0	..	..	34·8	Calm	..	..	..	..	..	..	10	..
8	29·885	38·0	36·3	1·7	..	..	—	Calm	..	..	..	..	..	..	10	..
10	29·833	38·8	38·0	0·8	37·0	1·8	57·3	SSW	..	SW	1·14	..	..	..	10	..
12	29·735	39·5	39·2	0·3	..	..	32·9	SSW	½ to ¾	..	..	..	..	..	10	..
14	29·650	40·7	40·6	0·1	..	..	—	SSW	..	..	..	..	..	..	10	..
16	29·538	43·6	43·6	0·0	43·5	0·1	36·2	WSW	1 to 3	..	..	..	..	..	10	Transit.
18	29·480	45·5	45·4	0·1	..	..	34·8	WSW	1 to 3	..	..	..	..	..	10	..
20	29·504	42·1	40·8	1·3	..	..	..	NW	1 constant	..	..	..	..	..	6	..
22	29·513	41·8	39·5	2·3	36·5	5·3	..	NW	1 to 3	WNW	1·11	1·34	0·20	2·620	1	..
Feb. 26. 0	29·539	45·5	41·7	3·8	..	..	..	NW	1 to 3	..	..	..	..	..	6	..
2	29·529	47·2	41·5	5·7	..	..	..	NW	1½ to 4	..	..	..	..	..	9¼	..
4	29·544	47·1	40·8	6·3	34·0	13·1	..	NW	2 to 4	WNW	2·53	..	..	..	4	..
6	29·582	45·5	40·3	5·2	..	..	48·5	NW	2½ to 3½	..	..	..	..	..	6	..
8	29·641	43·8	40·0	3·8	..	..	35·4	NNW	1 to 2	NW	0·50	..	..	..	10	..
10	29·709	41·6	38·9	2·7	36·5	5·1	57·5	N by E	½ to 1	..	..	..	..	..	10	..
12	29·772	39·1	37·0	2·1	..	..	30·8	NNE	..	..	..	..	..	..	10	..
14	29·797	36·5	35·4	1·1	..	..	37·8	NE	..	..	..	..	..	..	8	..
16	29·815	35·2	34·2	1·0	33·0	2·2	36·0	Calm	..	..	..	..	..	..	10	Transit.
18	29·820	35·3	34·2	1·1	..	..	..	Calm	..	N	0·55	..	..	..	10	..
20	29·845	35·3	34·3	1·0	..	..	..	Calm	..	..	..	..	..	..	10	..
22	29·855	37·5	36·2	1·3	35·0	2·5	..	Calm	..	S	0·42	1·34	0·00	2·620	10	..
Feb. 27. 0	29·851	41·8	40·2	1·6	..	..	..	Calm	..	..	..	..	..	..	10	..
2	29·847	45·2	43·0	2·2	..	..	..	Calm	..	..	..	..	..	..	10	..
4	29·837	45·6	43·4	2·2	40·0	5·6	..	Calm	..	..	..	..	..	..	10	..
6	29·827	43·4	41·8	1·6	..	..	..	Calm	..	..	..	..	..	..	10	..

BAROMETER.

Feb. 25^{d}. At 16^{h} the reading was $0^{in}\cdot112$ less than that at 14^{h}.

MINIMUM THERMOMETER.

Feb. 26^{d}. 22^{h}. The reading was higher than that of the Dry Thermometer at 16^{h}, 18^{h}, and 20^{h}.

REMARKS.	Observer.
Overcast: slight haze. At $20^h. 5^m$ there was not more than one third of the N. part of the sky covered with cloud.	L
Cirro-stratus and vapour near the horizon: the rest of the sky, with the exception of the zenith and parts around for 2°, appears to be covered with a very thin cirro-stratus.	H B
Cumuli and scud, the latter moving rapidly from the N. W.	
Cirro-stratus and dark scud in every direction: the wind blowing in occasional gusts to 1 +.	H B
Overcast: cirro-stratus and scud.	L
,, cirro-stratus: a few drops of rain fell at $5^h. 42^m$: at $6^h. 10^m$ rain again began to fall.	
The rain mentioned in the last observation did not last more than ten minutes: the sky is now quite overcast and very dark.	
Overcast.	L
,, at $12^h. 30^m$ there was a strong light towards the N. (probably auroral).	H B
,,	
Overcast, but the clouds appear broken: at $16^h. 40^m$ there was a strong light, probably auroral, extending from W. N. W. to the N. N. W., at an altitude of 5°.	
Overcast.	
Cirro-cumuli, cirro-stratus, and scud.	H B
Overcast.	L
Breaks in the clouds towards the zenith, the sky being elsewhere covered with cirro-stratus and loose scud.	
Cirro-stratus round the horizon: the zenith, and the portion to the E. of it, is nearly covered with beautifully mottled cirri.	L
Cumuli and scud principally S. of the zenith, the N. being clear, with the exception of a few fragments of scud and cirri.	H B
Overcast: cirro-stratus and scud.	
,, ,, gloomy: rain began to fall at $8^h. 30^m$.	
,, ,, rain falling heavily.	H B
,, rain falling heavily.	D
,, ,,	
,, ,,	
,, a thin rain is falling.	
The sky about the zenith is clear: large masses of scud are in every other direction: the rain ceased falling soon after the last observation.	D
A few cirri and light clouds near the Sun's place; otherwise cloudless: wind blowing in gusts to 1 +.	H B
Cumuli and scud in every part of the sky: the wind blowing in occasional gusts to 1½.	H B
The sky is covered with cloud, with the exception of a small portion N. of the zenith, which is partially covered with cirri: cirro-stratus elsewhere: wind in frequent gusts to 1½.	L
Cumuli and scud.	D
The sky in the zenith and to the N. of it is clear; in the remaining portion there are fleecy cirro-strati: stratus in the N. W. and W. horizon: the wind blowing in occasional gusts to 2.	
Overcast: cirro-stratus: wind blowing in gusts to 1½.	
,, ,,	D
,, ,, clouds at a medium height.	G
About half an hour since the clouds appeared to be lighter in colour in some parts than in others; they frequently approached the earth, as the reflexion of the London lights gradually sank from being 8° high to less than 6°: at present the breaks are only to a small extent, but they appear in all directions, and several stars are visible.	
The breaks mentioned at the last observation continued but for a very short time, when the sky became again covered with cloud, still approaching the earth, as at the present time the reflected lights of London are only 3° high.	
The sky has been uniformly overcast, with the reflexion of the London lights at an elevation of 3° since the last observation.	
Overcast: low cirro-stratus. At $18^h. 20^m$ I found that the air was in motion from the S.; the change of direction must have been very sudden.	G
Overcast.	L
Overcast.	
,, cirro-stratus.	L
,, ,,	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Feb. 27. 8	29·822	41·8	40·4	1·4	..	..	47·9	Calm	..	..	..	..	..	..	10	..
10	29·828	39·2	38·4	0·8	37·0	2·2	35·1	Calm	..	..	..	..	..	..	10	..
12	29·817	37·8	37·2	0·6	..	..	——	E by S	..	..	..	..	..	..	10	..
14	29·815	37·5	37·1	0·4	..	..	50·7	E by N	..	..	..	..	..	..	10	..
16	29·794	37·3	36·7	0·6	35·0	2·3	30·5	ESE	½ to ¾	..	..	..	..	..	10	..
18	29·807	35·5	34·7	0·8	..	..	——	ESE	½ to 1	..	..	..	..	..	10	Transit
20	29·817	35·6	34·2	1·4	..	..	39·0	ESE	½ to 1	..	..	..	..	..	10	..
22	29·827	36·0	34·0	2·0	32·0	4·0	37·0	SE	½ to 4	ESE	2·67	1·34	0·00	2·690	10	..
Feb. 28. 0	29·844	36·6	33·9	2·7	..	..	..	SE	1 to 3	..	..	..	..	..	10	..
2	29·832	34·6	32·6	2·0	..	..	..	SE	1 to 1½	..	..	..	..	..	10	..
4	29·843	34·5	32·2	2·3	31·5	3·0	..	SE	½ to 1	..	..	..	..	..	10	..
6	29·836	32·9	32·1	0·8	..	..	38·4	ESE	0 to ½	ESE	1·55	..	..	..	6	..
8	29·846	32·0	29·7	2·3	..	..	29·7	ESE	½ to 1½	..	..	..	..	..	10	..
							—— 45·0									
10	29·847	30·8	30·8	0·0	28·5	2·3	24·3	ESE	½ to 1	..	..	..	..	..	1	..
12	29·838	29·7	28·8	0·9	..	..	——	ESE	¼ constant	..	..	1·34	0·00	2·690	2	..
14	29·826	30·0	28·9	1·1	..	..	39·0	ESE	..	..	..	..	..	..	9½	..
16	29·809	30·1	28·9	1·2	26·0	4·1	39·0	ESE	..	..	..	..	..	..	10	..
18	29·811	29·8	28·4	1·4	..	..	..	ESE	½ to 1	..	..	..	..	..	8	Transit
20	29·823	30·4	29·2	1·2	..	..	..	ESE	½ to 1	..	..	..	..	..	9	..
22	29·838	32·2	29·9	2·3	24·5	7·7	..	ESE	½ constant	E	3·58	1·34	0·00	2·690	7	3rd Qr.
Mar. 1. 0	29·839	35·5	32·1	3·4	..	..	..	SE	..	..	..	..	..	..	1	..
2	29·823	38·1	34·2	3·9	..	..	..	SE	..	..	..	..	..	..	7½	..
4	29·792	38·6	34·4	4·2	29·5	9·1	39·4	E	..	..	..	..	..	..	9	..
6	29·796	34·5	32·1	2·4	..	..	31·5	E by S	..	..	..	..	..	..	10	..
8	29·796	33·7	31·7	2·0	..	..	——	ESE	..	..	..	..	..	..	10	..
10	29·789	33·0	31·9	1·1	31·5	1·5	61·5	Calm	..	E	1·67	..	..	..	10	..
12	29·773	32·7	31·5	1·2	..	..	24·8	Calm	..	..	..	..	..	..	10	Greatest declination S.
14	..	..	..	..	..	..	——	Calm	..	NE	0·13	..	..	..	..	..
16	..	..	..	..	..	..	38·8	Calm	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	38·5	Calm	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	NE	..	..	..	..	..	..	..	Transit
22	29·762	37·7	34·7	3·0	..	..	..	ENE	..	NNE	0·12	1·34	0·00	2·690	7	..
Mar. 2. 0	..	..	..	..	..	..	..	NNE	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	NNE	..	..	..	..	..	..	..	..
4	29·751	39·0	36·3	2·7	..	..	42·0	NNE	..	..	..	..	..	..	10	..
6	..	..	..	..	..	..	35·1	NNE	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	——	NE	..	NE	1·83	..	..	..	..	..
10	..	..	..	..	..	..	60·8	NNE	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	31·5	NNE	..	..	..	..	..	..	..	..
14	29·723	35·5	34·9	0·6	..	..	——	W by N	..	..	..	..	..	..	10	..
16	29·679	34·6	34·2	0·4	34·5	0·1	38·7	W by S	..	..	..	..	..	..	10	..
18	29·626	35·3	35·0	0·3	..	..	38·7	W by S	..	..	..	..	..	..	10	..
20	29·570	37·6	37·3	0·3	..	..	..	WSW	..	..	..	..	..	..	10	Transit
22	29·502	39·4	39·1	0·3	39·5	-0·1	..	W by S	..	WSW	1·02	1·44	0·15	2·780	10	..
Mar. 3. 0	29·441	40·5	40·2	0·3	..	..	..	W by N	..	..	..	..	..	..	10	..
2	29·440	33·9	33·7	0·2	..	..	..	E by N	½ to 2	..	..	..	..	..	10	..

DEW POINT THERMOMETER.

March 2d. 22h. The reading was higher than that of the Dry Thermometer.

WIND.

Feb. 28d, at 14h and 16h. There was no pressure recorded by Osler's Anemometer, although the force by estimation was ¾ at both times.

REMARKS.	Observer.
Overcast: cirro-stratus: high clouds.	G
,, ,,	G
,, ,,	L
,, fine rain falling.	
,, the rain mentioned in the last observation was very slight, and did not last longer than four or five minutes.	
,,	
,,	L
,, cirro-stratus, and scud.	H B
Overcast: cirro-stratus: small breaks in the clouds towards the E.	
,, the clouds appear more dense than at the last observation.	H B
,,	L
Cirro-stratus for 20° round the horizon; the rest of the sky is partially covered with cirri and light clouds.	
The sky is overcast, with the exception of two small breaks, to no numerical extent, the one in the N. and the other in the E. horizon: the clouds in many places, however, seem thin, as some of the brightest stars are at times (in the zenith particularly) dimly visible: wind blowing in gusts to ½.	
Cloudy round the horizon, more particularly towards the West: wind blowing in gusts to ½.	L
Cirro-stratus and scud all round near the horizon: in the N. W. and S. E. cirro-status to a considerable extent.	H B
Cirro-stratus and scud cover nearly the whole of the sky.	
Overcast: cirro-stratus and scud cover nearly the whole of the sky.	
Cirro-stratus and scud: clear in and round the zenith.	
,, there is an extensive break in the clouds towards the N. E.	H B
The sky is clear about the zenith and to the W. of it; the remaining portion is covered with cirro-stratus and fleecy clouds.	L
Cirro-stratus extending along the W. to the S. E. horizon, the other parts of the sky cloudless.	L
A fleecy, woolly cloud forms a network over the greater part of the sky.	H B
Cirro-cumuli, cirro-stratus, and fragments of scud.	
Overcast: cirro-stratus and fragments of scud.	
,, ,,	H B
,, ,,	D
,, ,,	
Cumuli round nearly the whole of the horizon, except to the E.: there are fragments of loose scud in various parts of the sky.	L
Overcast: cirro-stratus and scud.	
,,	
,, a slight rain falling.	
,, ,,	
,, ,,	L
,, rain falling heavily.	H B
Overcast: rain has fallen without intermission since the last observation, and still continues.	
,, snow falling.	H B

RAIN.

Feb. 28d. 12h. The amount collected during the month of February in the rain-gauge No. 4 was 0in.93, and that by the Rev. G. Fisher, in a rain-gauge of the same construction at Greenwich Hospital Schools, during the same period, was 0in.88.

March 3d. The increase in rain-gauge No. 2 was caused by 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. of Rad. Therm. of Therm. in Water of the Thames.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Mar. 3. 4	29·538	32·2	32·0	0·2	31·0	1·2	40·6	ENE	1½ to 4	ENE	1·50	..	..	..	10	..
6	29·623	30·4	30·1	0·3	..	..	25·4	ENE	1 to 2	..	..	..	..	..	9	..
8	29·686	27·6	26·8	0·8	25·0	2·6	41·3	ENE	½ to 1	NE	1·33	..	..	..	0	Perigee
10	29·725	26·0	25·4	0·6	24·0	2·0	21·4	NE	½ to 1½	..	..	..	..	..	0	..
12	29·771	27·2	26·2	1·0	21·5	5·7		NE	½ to 1	..	..	..	..	..	10	..
14	29·786	26·4	25·0	1·4	19·0	7·4	37·6	E by N	¼ to 1	..	..	..	..	..	10	..
16	29·784	26·7	25·7	1·0	21·5	5·2	37·6	NE	..	ENE	0·45	..	..	..	10	..
18	29·795	26·4	25·6	0·8	22·5	3·9		NE	..	..	..	..	..	..	10	..
20		26·0	25·1	0·9	21·0	5·0	..	NE	..	..	..	..	..	..	10	..
22	29·796	28·3	27·3	1·0	22·0	6·3	..	ENE	0 to ½	NE	1·43	1·56	0·31	3·050	7	Transit
Mar. 4. 0	29·794	30·8	28·2	2·6	..	..	..	NE	..	..	..	..	..	..	8	..
2	29·785	31·4	29·7	1·7	..	..	..	NE	..	..	..	..	..	..	10	..
4	29·803	29·7	28·8	0·9	23·5	6·2	..	NE	..	NNE	0·74	..	..	..	8	..
6	29·797	27·0	26·3	0·7	21·5	5·5	32·5 / 23·5	ENE	..	..	..	..	..	..	½	..
8	29·808	24·6	24·3	0·3	22·0	2·6		ENE	..	..	..	..	..	..	0	..
10	29·813	24·9	24·3	0·6	21·0	3·9	51·8	NE	..	..	..	..	..	..	4	..
12	29·814	23·8	23·3	0·5	22·0	1·8	16·5	NNE	..	NE	0·61	..	..	..	1	..
14	29·809	26·5	25·8	0·7	25·0	1·5		NNE	..	..	..	..	..	..	10	..
16	29·798	26·4	26·1	0·3	25·0	1·4	36·5 / 36·5	NNE	..	..	..	..	..	..	10	..
18	29·814	26·7	26·3	0·4	25·8	0·9	..	NNE	..	..	..	..	..	..	10	..
20	29·829	26·5	26·2	0·3	26·5	0·0	..	NNE	..	..	..	..	..	..	10	..
22	29·862	28·5	28·2	0·3	25·8	2·7	..	NE	..	N	0·83	1·56	0·00	3·050	10	Transit
Mar. 5. 0	29·878	30·5	29·3	1·2	..	..	..	E by S	..	..	..	..	..	..	7	..
2	29·907	31·4	30·4	1·0	..	..	..	ENE	0 to ½	NE	0·39	..	..	..	7	..
4	29·932	27·8	27·1	0·7	23·5	4·3	31·9	ESE	..	ESE	0·39	..	..	..	9	..
6	29·935	26·8	25·7	1·1	21·5	5·3	18·1	ENE	..	..	..	..	..	..	9½	..
8	29·973	23·2	22·7	0·5	19·3	3·9		NE	..	..	..	..	..	..	0	..
10	30·005	21·3	21·2	0·1	19·0	2·3	49·0	ENE	..	..	..	..	..	..	1	..
12	30·018	19·6	19·4	0·2	17·8	1·8	11·5	NE	..	..	..	..	..	..	0	..
14	30·032	18·8	18·5	0·3	16·2	2·6		NNE	..	NNE	0·91	..	..	..	0	..
16	30·046	20·2	19·9	0·3	17·5	2·7	35·0 / 34·8	NE	..	..	..	..	..	..	10	..
18	30·058	21·0	20·7	0·3	18·0	3·0	..	ENE	..	..	..	..	..	..	10	..
20	30·090	21·5	20·8	0·7	15·0	6·5	..	E by N	..	..	..	..	..	..	10	..
22	30·130	25·3	24·6	0·7	20·0	5·3	..	E by N	..	NE	0·38	1·56	0·00	3·070	9¼	..
Mar. 6. 0	30·142	27·7	26·9	0·8	22·0	5·7	..	ENE	0 to ½	..	..	..	..	..	10	Transit
2	30·123	28·7	28·2	0·5	23·5	5·2	..	ENE	0 to ½	..	..	..	..	..	9¾	..
4	30·125	27·4	26·7	0·7	22·0	5·4	..	ENE	½ to 1	ENE	0·85	..	..	..	7	..
6	30·121	26·8	26·4	0·4	22·0	4·8	34·0 / 23·8	E by N	½ constant	..	..	..	..	..	10	..
8	30·134	25·8	25·1	0·7	22·0	3·8		E by N	..	..	..	..	..	..	10	..
10	30·150	24·3	23·8	0·5	21·0	3·3	41·6 / 19·7	E	..	..	..	..	..	..	4	..
12	30·146	26·0	25·2	0·8	22·5	3·5		E	..	..	..	..	..	..	10	..
14	30·137	27·3	26·7	0·6	24·0	3·3	35·2 / 33·8	ENE	..	..	..	..	..	..	10	..

BAROMETER.
March $3^d. 20^h$. The reading was inadvertently omitted.

OSLER'S ANEMOMETER.
March $3^d.3^h.40^m$. A gust of wind took place recording a pressure of 7 lbs.

REMARKS.	Observer.
Overcast: cirro-stratus and scud: fine snow falling.	L
Cirro-stratus and brown-looking scud: small breaks in the clouds in various directions, more especially near the zenith. At $6^h. 10^m$ about one third of the sky was covered with cloud; it cleared off very suddenly: wind in gusts to $\frac{3}{4}$.	
Cloudless.	
,,	L
Overcast: the sky is remarkably dark.	D
,, ,,	
,, cirro-stratus.	
,, ,,	
,, ,, a little snow is falling.	D
Cirro-cumuli, a few cumuli, and light fleecy clouds.	H B
Cirro-cumuli near the zenith and around for 20°: cumuli and fleecy clouds near the horizon in every direction.	
Overcast: cirro-stratus and dark scud.	H B
Extensive breaks in the clouds in the eastern part of the zenith, but the remainder of the sky is still covered.	D
A few small cumuli near the W. horizon, and a line of stratus near the S. horizon, are the only clouds visible; they have gradually disappeared within the last half hour: about $4^h. 30^m$ snow like a fine powder was falling: the air is very cold.	
Cloudless.	
The sky near the zenith is at present covered with a thin cloud: a few clouds are visible in various directions.	D
Cloudless, except a bank of cirro-stratus near the N. E. horizon, and a few fragments of scud S. of the zenith.	H B
About twenty minutes after the last observation the sky became covered with a thin cirro-stratus, which has been gradually increasing in density to the present time, so that the larger stars only are visible.	
Overcast: cirro-stratus and scud.	
,, light snow falling: a few stars are occasionally visible near the zenith.	
,, ,,	H B
,, ,,	L
Cumuli all round the horizon and in various directions; those towards the N. are beautifully white, and have very sharply-defined edges: scud passing over the zenith.	
Cumuli and scud in every direction.	L
Within the last few minutes the cirro-stratus has broken up, leaving the sky round the zenith nearly clear: snow, which was [falling previously, has now ceased.	H B
Cumuli, cirro-stratus, and scud.	
Cloudless: the Zodiacal light is very distinct this evening: it extends from Jupiter to the Pleiades.	
Cloudless, with the exception of fragments of scud near the S. and E. horizon.	H B
Cloudless.	G
Cloudless, but the sky is anything but bright.	
The sky continued cloudless, but not bright till $15^h. 10^m$: at $15^h. 15^m$ the sky was wholly covered with cloud, and within these five minutes the reading of a thermometer on raw wool increased from 5° to 20°: at present a few stars are visible near the horizon.	
Cloudy: at times, since 16^h, the sky has been cloudless.	
The clouds are now very much broken in every direction, and yet no part of the sky is free from cloud.	G
Cirro-stratus and scud: at $22^h. 10^m$ the clouds were much broken towards the N.	L
Cirro-stratus and scud cover the whole of the sky, except a small portion near the zenith, to no numerical amount.	
Fine cumuli towards the N.; elsewhere cirro-stratus and scud: a few small breaks to the N. of the zenith.	L
The zenith and East of it are generally clear; at other parts of the sky there are broken clouds of no definite modification.	G
A quantity of scud has passed from the E.: occasionally snow has fallen from the passing scud, as at the present time: the density of the clouds is remarkably different, being evidently much less in some parts than in others.	
The sky is covered with dark scud; at times portions of the sky have been clear, but to no great extent, or for any length of time.	
The greater part of the sky is free from cloud, but no part of it is bright: the clouds are unusually high, as the reflexion of the London lights is about 13° in height, and strongly marked: the clouds are very black.	G
Overcast: the reflexion of the London lights is very strongly defined, and is about 15° in height: the clouds seem to be thin, as stars occasionally appear and disappear.	L
Overcast.	

RAIN.

March $5^d. 22^h$. The increase in the reading of Crosley's rain-gauge was caused by 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. / of Rad. Therm. / of Therm. in Water of the Thames.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Mar. 6. 16	30·131	28·0	27·2	0·8	26·0	2·0	..	E	..	..	..	..	..	..	10	..
18	30·115	29·4	28·4	1·0	..	..	..	E	..	..	..	..	..	..	10	..
20	30·124	30·4	29·5	0·9	..	..	..	E	..	..	..	..	..	..	10	..
22	30·129	33·2	31·7	1·5	27·3	5·9	..	E	..	NE	2·02	1·56	0·00	3·070	8	..
Mar. 7. 0	30·124	34·7	32·0	2·7	..	..	..	E by N	0 to 1½	NE	0·08	..	..	..	5	Transit
2	30·099	35·6	32·2	3·4	..	..	..	ENE	0 to 1½	..	..	..	..	..	7	..
4	30·104	34·4	32·1	2·3	30·0	4·4	..	ENE	0 to 1½	..	..	..	..	..	10	..
6	30·085	33·6	31·9	1·7	..	..	37·5	ENE	0 to 1	..	..	..	..	..	10	..
8	30·092	31·0	30·7	0·3	..	..	28·2	ENE	..	ENE	1·14	..	..	..	½	..
10	30·094	31·0	30·9	0·1	29·8	1·2		NE	..	NE	0·31	..	..	..	10	..
12	30·084	29·1	28·7	0·4	..	..	51·6 22·8	ENE	..	ENE	0·15	..	..	..	0	..
14	30·035	29·8	29·3	0·5	..	..	35·0	NE	..	NE	0·58	..	..	..	10	..
16	29·998	29·6	29·1	0·5	27·5	2·1	33·8	NNE	..	..	..	..	..	..	1	..
18	29·978	31·3	31·0	0·3	..	..	..	NNE	..	..	..	..	..	..	10	..
20	29·988	31·7	31·5	0·2	..	..	..	ENE	..	..	..	..	..	..	10	New
22	30·019	34·0	32·2	1·8	32·0	2·0	..	E	..	E	0·34	1·56	0·00	3·070	10	In Equator
Mar. 8. 0	30·046	37·0	33·8	3·2	..	..	..	E by S	0 to 2	..	..	..	..	..	8	Transit
2	30·054	35·5	32·7	2·8	..	..		E by S	0 to 1	..	..	..	..	..	4	..
4	30·047	35·4	32·1	3·3	28·0	7·4	38·7	E	½ to 2	..	..	..	..	..	2	..
6	30·049	33·3	32·0	1·3	..	..	30·8	E by N	¼ constant	E	1·19	..	..	..	0	..
8	30·066	31·4	30·4	1·0	..	..	54·2	NE	½ constant	..	..	..	..	..	0	..
10	30·068	31·0	30·4	0·6	29·0	2·0	25·9	NE	½ constant	..	..	..	..	..	0	..
12	30·069	32·0	31·2	0·8	..	..		NE	1 to 3	..	..	..	..	..	10	..
14	..	..	..	..	..	..	34·5	NE	1 to 2	ENE	3·12	..	..	..	..	..
16	..	..	..	..	..	..	33·8	NE	½ to 1½	..	..	..	..	..	..	..
18	..	..	..	..	..	..		NE	½ to 2	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	NE	1 to 3	..	..	..	..	..	..	..
22	30·064	37·6	33·6	4·0	..	..	..	NE	1½ to 3½	NE	0·54	1·56	0·00	3·070	2	..
Mar. 9. 0	..	..	..	..	..	..	..	NE	1½ to 4½	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	NE	2½ to 4	..	..	..	..	..	..	Transit
4	..	..	..	..	..	..	41·4	NNE	1½ to 3	..	..	..	..	..	..	..
6	30·022	37·5	34·2	3·3	..	..	33·4	NNE	0 to 1	..	..	..	..	..	8	..
8	30·048	33·2	32·2	1·0	..	..		NNE	0 to 1	..	..	..	..	..	3	..
10	..	..	..	..	..	..	55·8	NNE	1 to 2	..	..	..	..	..	..	..
12	..	..	..	..	..	..	29·3	NNE	0 to 1	..	..	..	..	..	..	..
14	30·063	33·2	32·6	0·6	..	..		N by E	0 to 1	..	..	..	..	..	10	..
16	30·033	33·5	33·2	0·3	33·0	0·5	34·5	NNE	..	..	..	..	..	..	10	..
18	30·019	34·5	33·6	0·9	..	..	34·2	N by E	½ to 2	..	..	..	..	..	10	..
20	30·020	36·4	35·2	1·2	..	..	..	N by E	0 to ½	..	..	..	..	..	10	..
22	30·013	37·8	36·8	1·0	36·5	1·3	..	N by E	..	NE	5·07	1·56	0·00	3·070	10	..
Mar. 10. 0	29·994	39·2	38·2	1·0	..	..	..	N by W	..	..	..	..	..	..	10	..
2	29·951	41·5	40·5	1·0	..	..	..	N by E	½ to 1	NNE	1·04	..	..	..	10	Transit
4	29·911	42·0	38·7	3·3	35·8	6·2	..	N	½ to 2	N	0·22	..	..	..	9¾	..
6	29·908	38·5	36·0	2·5	..	..	..	N by E	0 to 1	..	..	..	..	..	9¾	..
8	29·930	36·9	35·1	1·8	..	..	..	NNE	0 to ½	NNE	1·12	..	..	..	10	..

MINIMUM FREE THERMOMETER.

March 9d. 22h. The reading was higher than that of the Dry Thermometer at 8h and at 14h.

REMARKS.	Observer.
Overcast.	L
,,	
,,	L
Cirro-stratus and scud, with a few cumuli towards the N. and N. W. horizon: the sky, extending from the S. E. to the N., to an altitude of 15°, is clear.	H B
Cumuli, cirro-strati, and scud; the latter in large quantities in every direction.	
Cirro-stratus and scud: there are breaks near the Sun's place, and in other directions.	H B
,,	L
,, the clouds, in many parts, are very thin.	
The clouds began to break soon after the last observation; it is now quite cloudless, except near the N. horizon: the stars, however, seem very dim.	
Overcast, but the cloud is thin, as the stars often appear and disappear in different parts of the sky: the reflexion of the London lights is about 11° above the horizon.	L
Cloudless: the stars are now shining brilliantly, but the sky since the last observation has been generally cloudy. At $12^h. 10^m$ the sky again became suddenly overcast.	D
Overcast: the clouds are thin and high, and the stars are occasionally shining in various directions.	
A few clouds are scattered in different parts of the sky, which is otherwise clear: the numerical extent of the clouds is very variable.	
Overcast: the amount of cloud has been variable since 16^h.	
,, a very fine snow was falling at 19^h.	D
Cirro-stratus and scud: breaks (to no numerical extent) towards the S.: the Sun is shining occasionally through the clouds.	H B
Cirro-stratus and scud, the latter moving rapidly from the East, leaving breaks more or less extensive; there is also a large cumulo-stratus near the N. horizon.	
Cumuli near the N. horizon, to an altitude of about 8°: scud near the Sun's place, and in various other directions.	H B
Cumuli and fragments of scud are scattered in different parts of the sky.	D
Cloudless.	
,,	
,,	D
Overcast: cirro-stratus and scud: the reflexion of the London lights appears to be about 5° high.	H B
Fine light cirri are scattered over the sky, but principally S. and S. E. of the zenith: the wind is blowing in gusts to 2.	
The sky is nearly covered with cirro-stratus.	
Cloudless, excepting cirro-stratus in large quantities near the S. E. and N. horizon.	
Overcast: cirro-stratus and scud: the clouds are very low, as the reflexion of the London lights appears to be in the horizon.	
,, a thin rain falling.	
,,	
,, cirro-stratus and scud.	H B
,, ,,	L
Overcast: cirro-stratus and scud.	
,, ,, wind blowing in gusts to ½.	L
Cirro-stratus and scud: breaks of small extent in various directions.	H B
,, ,,	
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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Mar. 10. 10	29·926	35·8	34·6	1·2	34·0	1·8	41·8	N by E	..	..	..	..	..	..	10	..
12	29·901	35·5	34·4	1·1	..	..	33·3	N by E	..	..	..	..	..	..	10	..
14	29·866	35·8	34·7	1·1	..	..	——	NNW	..	..	..	..	..	..	10	..
16	29·809	35·6	35·0	0·6	34·0	1·6	45·7	WSW	..	..	..	..	..	..	10	..
18	29·828	34·7	33·7	1·0	..	..	31·5	N	0 to ¾	..	..	..	..	..	10	..
20	29·843	32·8	32·2	0·6	..	..	35·0	N	0 to ½	..	..	..	..	..	10	..
22	29·859	34·4	32·7	1·7	30·5	3·9	35·0	N by W	..	N	1·99	1·58	0·02	3·100	3	..
Mar. 11. 0	29·849	36·0	32·2	3·8	..	..	..	N by W	0 to ¾	N	1·57	..	..	..	4	..
2	29·824	38·5	33·7	4·8	..	..	..	NNW	..	..	..	..	..	..	9¾	..
4	29·817	38·2	32·4	5·8	23·0	15·2	39·4	NNW	0 to ½	..	..	..	..	..	9¾	Transit
6	29·802	36·2	32·8	3·4	..	..	28·5	NNW	0 to ¾	..	..	..	..	..	4	..
8	29·814	32·5	31·9	0·6	..	..	—— 59·8	NNW	..	NNW	0·48	..	..	..	8½	..
10	29·808	31·8	30·6	1·2	27·0	4·8	20·3	NW	..	..	..	..	..	..	1¾	..
12	29·795	30·0	29·7	0·3	..	..	——	W by N	..	WNW	0·55	..	..	..	0	..
14	29·792	30·5	29·5	1·0	..	..	35·2	W by S	..	..	..	..	..	..	10	..
16	29·765	29·8	29·1	0·7	26·0	3·8	35·2	NNW	..	..	..	..	..	..	2	..
18	29·755	30·4	29·7	0·7	..	..		NW	..	..	..	..	..	..	10	..
20	29·753	30·7	30·0	0·7	..	..	..	NNW	..	..	..	..	..	..	10	..
22	29·748	32·0	31·1	0·9	28·5	3·5	..	N by W	..	N	0·45	1·58	0·00	3·100	9¾	..
Mar. 12. 0	29·732	33·8	31·6	2·2	..	..	..	N by W	..	..	..	..	..	..	10	..
2	29·701	33·1	31·5	1·6	..	..	..	NE	..	..	..	..	..	..	10	..
4	29·675	34·5	32·0	2·5	27·0	7·5	36·7	NNE	..	NNE	0·31	..	..	..	6	Transit
6	29·666	31·6	30·0	1·6	..	..	21·3	NE	..	..	..	..	..	..	7	..
8	29·672	28·4	28·3	0·1	..	..	——	Calm	..	..	..	..	..	..	3	..
10	29·662	26·3	26·3	0·0	26·0	0·3	54·2	Calm	..	E	0·79	..	..	..	2	..
12	29·649	26·6	26·7	–0·1	25·0	1·6	16·3	NNE	..	..	..	..	..	..	1	..
14	29·643	27·6	27·6	0·0	27·0	0·6	——	NE	½ to 1½	..	..	..	..	..	10	..
16	29·647	25·3	24·7	0·6	23·5	1·8	35·1	ENE	1 to 3½	..	..	..	..	..	10	..
18	29·645	23·5	22·7	0·8	19·0	4·5	35·1	ENE	1 to 2	..	..	..	..	..	10	..
20	29·668	22·5	21·7	0·8	17·0	5·5	..	ENE	½ to 3	..	..	..	..	..	10	..
22	29·691	21·7	20·7	1·0	15·0	6·7	..	NE	1½ to 2	ENE	1·78	1·58	0·00	3·100	10	..
Mar. 13. 0	29·687	22·9	21·7	1·2	15·0	7·9	..	NE	1 to 2	..	..	..	..	..	8	..
2	29·658	23·4	22·2	1·2	13·5	9·9	..	NE	½ to 2¼	..	..	..	..	..	4	..
4	29·630	23·4	21·7	1·7	..	..	..	NE	0 to 2	ENE	1·62	..	..	..	6	Transit
6	29·606	20·7	19·6	1·1	..	..	..	NNE	0 to 2½	..	..	..	..	..	5	..
8	29·612	19·8	18·4	1·4	..	..	24·8 13·1	NNE	..	..	..	..	..	..	8½	..
10	29·604	17·3	16·6	0·7	..	..	——	NNE	..	..	..	..	..	..	2	..
12	29·588	16·8	16·2	0·6	..	..	.. 7·5	NNE	..	..	..	..	..	..	2	..
							—— 35·0 34·5									
14	29·588	15·4	15·0	0·4	..	..	..	NE	..	..	..	..	..	..	0	..
							..									
16	29·563	14·8	14·4	0·4	..	..	..	NNE	..	..	..	..	..	..	0	..
18	29·559	14·0	13·5	0·5	..	..	..	NNE	..	..	..	..	..	..	0	..

DRY THERMOMETER.

March 12d. 12h. The reading was lower than that of the Wet Thermometer.

March 13d. The readings were very remarkable. At noon, Greenwich time, the reading was 23°, a circumstance without a parallel on record, so far as I can ascertain: the subsequent readings were not less remarkable. (See above.) During the night, common to the 13th and 14th days, the lowest reading of a thermometer placed on long grass was —0°·2; on flax, was —2°·0; and on raw wool was — 4°·2.—G.

TEMPERATURE OF THE DEW POINT.

March 13d, 4h to 10h, and 16h; and March 14d. 4h. The temperature of the Dew Point was lower than 15°, the mercury being in the black ball of the instrument.

REMARKS.	Observer.
Overcast: cirro-stratus and scud: the reflexion of the London lights is low at present.	H B
,,	L
,,	
,,	
,, at $16^h. 7^m$ a shower of rain began to fall, which lasted about a quarter of an hour: at present there are a few flakes of very fine snow falling.	
,, the snow still continues.	L
Cumuli, fragments of scud, and fleecy clouds are scattered over the sky.	H B
Cumuli, cumulo-strati, and large masses of scud.	
Cirro-stratus and masses of dark scud.	H B
Cirro-stratus and scud, with a few cumuli towards the E. horizon.	L
Cirro-stratus and scud to the W. and S.: cumuli along the N. and E. horizon: fragments of white scud are floating in various directions: at about $5^h. 33^m$ there was a fall of snow, which however did not last more than two minutes.	
Cirro-stratus and scud, with a break towards the S., and another towards the N.W.	
The sky has been partially clear since the last observation, and is now cloudy round the horizon; elsewhere cloudless.	L
Cloudless.	D
The sky became cloudy at about 13^h, and is now covered with one high uniform cloud: it is remarkably dark.	
Cloudy in the horizon; every other part is clear.	
Overcast: cirro-stratus.	
,, ,,	D
,, cirro-stratus and scud: breaks near the zenith.	H B
Cirro-stratus and scud: there are a few black cumuli near the N. horizon, and a large cumulo-stratus near the N.W. horizon.	
,, a thin snow or sleet is falling.	H B
Cumulo-strati and fragments of scud in every direction: a light snow falling.	D
Cirro-stratus and scud: the clear portions of the sky are scattered in various directions.	
Scud is scattered indiscriminately over the sky: the stars are not shining very brightly.	
Cirro-stratus in the N.W.; it is otherwise clear.	D
Cloudless, with the exception of some cirro-stratus near the horizon.	H B
The sky became overcast shortly after $12^h. 40^m$, and still continues: a light snow is falling.	
Overcast: cirro-stratus and scud: wind blowing in gusts to $1\frac{1}{2}$.	
,, ,,	
,, ,,	H B
,, ,,	L
Cirro-stratus and white scud floating in every direction.	
Cirro-stratus and scud round the horizon and in various parts of the sky.	L
Cumuli and scud scattered over the sky: the wind blowing in gusts to $1\frac{1}{2}$.	H B
Cirro-stratus, cumuli, and scud scattered over the sky.	
Cirro-stratus and scud: several stars are visible through the clouds: at $8^h. 10^m$ the numerical amount of cloud was about 3.	
Light fleecy clouds near the Moon's place and the W. horizon; it is otherwise cloudless: at $9^h. 50^m+$ a faint meteor passed between Castor and Pollux; its duration was scarcely half a second.	H B
A few light fleecy clouds towards the N.; otherwise the sky is clear and bright: this has been altogether a most extraordinary day; the cold has been great, and from the circumstance of the wind being from the N. E., and the degree of humidity small, the cold has been to the senses very severe,—decidedly the most painfully cold day this season; at present a thermometer on raw wool reads 4°, on flax 6°, on long grass 10°, on short grass 13°, in reflector 11°; under raw wool, flax, and long grass, all read 28°; and under short grass 23°.	G
The Moon was quite clear as she went below the horizon over London: the sky is cloudless: the reading of the thermometer on raw wool is now at 1°·5.	
Cloudless.	
,, it is bitterly cold; the reading of a thermometer on flax is +1°·5, that on raw wool is 1°·0. I believe that this day (March 13) is altogether without a parallel; I do not think there is any record of so low temperature at night, or of a temperature at noon of 22°, at a time so near the vernal equinox.	

MINIMUM THERMOMETER.
March $10^d. 22^h$. The reading was higher than that of the Dry Thermometer at 20^h.

OSLER'S ANEMOMETER.
March $11^d. 6^h. 10^m$. A sudden gust to 4 lbs. pressure took place.

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.	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.	RAIN. Stand of Rain-gauge No 1, (Osler's).	Reading of Rain-gauge No.2.	Stand of Rain-gauge No.3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Mar. 13. 20	29·571	16·7	16·1	0·6	..	..	..	N	..	..	..	..	..	..	0	..
22	29·560	23·8	21·9	1·9	15·0	8·8	..	NNE	..	NE	1·78	1·58	0·00	3·100	0	..
Mar. 14. 0	29·556	28·1	25·6	2·5	13·0	15·1	..	NNE	0 to ½	..	..	..	..	..	0	..
2	29·534	31·4	28·7	2·7	..	..	35·7	NNE	0 to ¼	..	..	..	..	..	0	..
4	29·518	32·0	29·4	2·6	23·0	9·0	20·4	NNE	0 to ¼	..	..	..	..	..	0	..
6	29·526	30·1	28·5	1·6	..	..	——	NE	..	..	..	..	..	..	0	Transit
8	29·530	25·4	24·2	1·2	..	..		NNE	..	..	..	..	..	..	0	..
10	29·537	24·0	23·2	0·8	..	..	..	NE	..	..	..	..	..	..	0	..
12	29·562	22·5	21·9	0·6	..	..	15·5	NNE	..	..	..	..	..	..	0	..
14	29·566	21·7	21·3	0·4	..	..	——	NE	..	..	..	..	..	..	0	..
16	29·578	21·0	20·6	0·4	15·0	6·0	34·0	N by E	..	..	..	..	..	..	0	..
18	29·594	21·6	20·9	0·7	..	..	34·0	NNE	..	..	..	..	..	..	2	..
20	29·616	24·4	23·8	0·6	..	..	..	NNE	..	..	..	..	..	..	9½	..
22	29·637	28·5	27·9	0·6	23·0	5·5	..	NNE	..	NE	2·58	1·58	0·00	3·100	9	..
Mar. 15. 0	29·640	30·5	28·2	2·3	..	..	..	NE	0 to 1½	..	..	..	..	..	8½	..
2	29·637	30·6	29·2	1·4	..	..	..	NE	1¾ to 2	..	..	..	..	..	10	Greatest declination N.
4	29·628	29·8	28·4	1·4	22·0	7·8	31·3	NE	2 constant	..	..	..	..	..	10	..
6	29·605	28·8	27·9	0·9	..	..	25·6	NE	2 to 3	..	..	..	..	..	10	Transit
8	29·605	28·2	27·3	0·9	..	..	——	NE	2 to 2½	..	..	..	..	..	10	..
10	29·591	28·1	27·2	0·9	24·0	4·1	35·3	NE	2 to 3	..	..	..	..	..	10	..
12	29·570	28·0	27·3	0·7	..	..	27·5	ENE	1½ to 5	..	..	..	..	..	10	Apogee
14	..	..	..	..	..	..	——	ENE	1 to 3	..	..	..	..	..	..	1st Qr.
16	..	..	..	..	..	..	33·3	ENE	2 to 4	..	..	..	..	..	..	..
18	..	..	..	..	..	..	33·3	NE	2½ to 4½	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	NE	3 to 3½	..	..	..	..	..	..	..
22	29·426	28·4	27·6	0·8	..	..	..	NE	4 to 5	ENE	6·93	1·58	0·00	3·100	10	..
Mar. 16. 0	..	..	..	..	..	..	..	NE	1¼ to 3½	E	1·28	..	..	..	..	..
2	..	..	..	..	..	..	..	NE	0 to 2	..	..	..	..	..	..	..
4	29·388	26·7	26·6	0·1	..	..	..	ENE	0 to ½	ENE	0·60	..	..	..	10	..
6	..	..	..	..	..	..	27·6	N by E	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	22·4	NNW	..	..	..	..	..	..	..	Transit
10	..	..	..	..	..	..	——	NNW	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	28·0	W by S	..	..	..	..	..	..	..	..
14	29·502	23·7	23·5	0·2	21·0	2·7	18·0	W	..	W	0·12	..	..	..	4	..
16	29·536	24·5	24·2	0·3	21·5	3·0	—— 32·1 32·1	NW	0 to ¾	..	..	..	..	..	3	..
18	29·590	24·6	24·2	0·4	21·0	3·6	..	NW	0 to 1	..	..	..	..	..	8	..
20	29·640	21·9	21·7	0·2	20·8	1·1	..	WSW	..	..	..	..	..	..	4	..
22	29·675	26·4	25·1	1·3	22·0	4·4	..	WNW	..	NW	1·97	1·58	0·00	3·100	3	..
Mar. 17. 0	29·667	30·5	29·4	1·1	..	..	36·5	W by N	..	..	..	..	..	..	3	..
2	29·633	33·1	31·0	2·1	..	..	20·7	NNW	..	..	..	..	..	..	0	..
4	29·619	35·0	31·7	3·3	20·0	15·0	—— 41·0	NW	..	NW	0·53	..	..	..	6	..
6	29·624	34·3	31·2	3·1	..	..	16·5	NNW	..	..	..	..	..	..	8	..
8	29·628	32·1	29·7	2·4	..	..	——	NW	..	..	..	..	..	..	5	Transit
10	29·633	28·1	26·8	1·3	21·5	6·6	32·0 32·0	WSW	..	..	..	..	..	..	7	..

MINIMUM FREE THERMOMETER.

March 16d. 22h. The reading was higher than that of the Dry Thermometer at 20h.

PRESSURES OF THE WIND AS SHEWN BY OSLER'S ANEMOMETER.

March 15d, at 14h. 35m, a gust to 6½ lbs.; at 22h. 30m a gust to 7 lbs.; and at 23h a gust to 5 lbs. were recorded.

RAIN.

March 17d. The increase in rain-gauge No. 3 was caused by the melting of snow.

REMARKS.	Observer.
Cloudless.	G
,,	L
Cloudless.	
Cloudless, with occasional gusts of wind to ½.	L
Cloudless.	G
,,	L
,,	L
,,	H B
,,	L
,,	
,,	
Cirro-stratus round the horizon; clear elsewhere.	
About half an hour since two-thirds of the sky were covered with various kind of cirri, which gradually formed themselves into cirro-stratus, and now cover every portion with the exception of parts adjacent to the N. horizon, which are mostly covered with cirri.	L
Light cirri and cirro-stratus cover nearly the whole of the sky.	H B
Cirro-stratus and scud: an extensive break towards the N.	
,, overcast.	H B
,,	L
Cirro-stratus and scud, with occasional breaks about the zenith, shewing blue sky and cirri above.	
Overcast.	
,,	L
Overcast, with gusts of wind to 2.	H B
Overcast: the wind is blowing in frequent gusts to 3, and the air is piercingly cold.	D
Cirro-stratus: the wind is blowing in gusts: snow falling very thickly.	D
Overcast till 13h.10m, when the clouds about the Moon's place became broken, and since that time several extensive breaks have taken place: there is a large quantity of scud continually passing over the sky from the W.: the stars appear dim.	H B
About ten minutes after the last observation the sky became suddenly overcast with cirro-stratus and scud: at the time of this observation it was almost free from cloud (the eastern portion of the sky excepted): at 16h. 5m it again became overcast.	
Cirro-stratus and scud.	
Cirro-stratus and scud near the horizon; a few cumuli in other directions.	H B
Cirro-stratus round the horizon; elsewhere pretty clear: hazy.	L
Cirro-stratus round the horizon; elsewhere pretty clear: hazy.	
A few light clouds towards the S. horizon, to no numerical amount; elsewhere cloudless: a slight haze towards the N.	L
Cirro-stratus and scud near the Sun's place and all round the horizon, a few light cirri towards the N.	H B
The sky is nearly covered with cirro-cumulus and cirro-stratus, with scud beneath.	
Cirro-stratus and vapour in every direction: a slight fog: at 8h. 15m a corona was visible round the Moon; it remained for two or three minutes.	
Cirro-stratus and vapour: the stars appear dim.	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Mar. 17. 12	29·646	27·4	26·0	1·4	21·5	5·9	..	W by N	..	WNW	1·02	..	..	..	4	..
14	29·632	25·6	24·7	0·9	20·0	5·6	..	W by S	..	..	..	..	..	..	7	..
16	29·611	22·6	22·2	0·4	19·5	3·1	..	WSW	..	..	..	..	..	..	1	..
18	29·585	21·0	21·1	–0·1	20·5	0·5	..	WSW	..	..	..	..	..	..	0	..
20	29·591	22·6	22·4	0·2	20·5	2·1	..	Calm	..	..	..	..	..	..	0	..
22	29·605	28·5	27·7	0·8	24·0	4·5	..	Calm	..	N	1·08	1·58	0·00	3·180	3	..
Mar. 18. 0	29·585	36·7	31·9	4·8	28·0	8·7	..	WNW	..	..	..	..	..	..	2	..
2	29·559	39·7	34·7	5·0	..	..	..	WNW	..	NW	0·31	..	..	..	10	..
4	29·537	37·6	34·1	3·5	29·0	8·6	41·5	N by W	..	..	..	..	..	..	10	..
6	29·536	35·3	33·3	2·0	..	..	30·2	N	..	..	..	..	..	..	9	..
8	29·554	32·5	31·5	1·0	..	..	——	NNE	..	..	..	..	..	..	10	Transit
10	29·571	31·4	31·7	–0·3	31·5	–0·1	60·7	Calm	..	..	..	..	..	..	10	..
12	29·568	30·1	30·7	–0·6	30·0	0·1	24·3	Calm	..	..	..	..	..	..	10	..
14	29·552	30·0	30·2	–0·2	..	..	——	Calm	..	..	..	..	..	..	10	..
16	29·547	30·3	30·2	0·1	30·0	0·3	32·1	Calm	..	..	..	..	..	..	10	..
18	29·548	30·2	30·1	0·1	..	..	32·1	Calm	..	..	..	..	..	..	10	..
20	29·568	31·2	30·9	0·3	..	..	..	Calm	..	..	..	..	..	..	10	..
22	29·595	33·9	32·0	1·9	32·0	1·9	..	Calm	..	NNW	1·07	1·58	0·00	3·180	10	..
Mar. 19. 0	29·606	36·5	34·1	2·4	..	..	..	NNW	..	..	..	..	..	..	8	..
2	29·610	41·4	35·7	5·7	..	..	..	N by W	..	..	..	..	..	..	7	..
4	29·646	39·8	36·0	3·8	32·0	7·8	..	N by W	..	..	..	..	..	..	10	..
6	29·676	38·6	35·4	3·2	..	..	42·9	N by W	..	..	..	..	..	..	8½	..
8	29·721	36·0	32·7	3·3	..	..	27·6	N by W	..	..	..	..	..	..		..
							——								3	
10	29·772	32·5	30·9	1·6	27·5	5·0	65·0	N	..	..	..	..	..	..	3	Transit
12	29·799	31·7	31·2	0·5	..	..	21·5	N by W	..	..	..	..	..	..	10	..
14	29·820	31·8	31·9	–0·1	..	..	——	N	..	..	..	..	..	..	8	..
16	29·846	30·5	30·6	–0·1	30·0	5·5	32·8	N	..	..	..	..	..	..	10	..
18	29·885	29·8	29·2	0·6	..	..	32·8	N	..	..	..	..	..	..	7	..
20	29·940	28·6	27·2	1·4	..	..	..	N	..	..	..	..	..	..	6	..
22	29·993	31·8	29·7	2·1	22·0	9·8	..	N	..	N	3·05	1·58	0·00	3·180	0	..
Mar. 20. 0	30·033	35·1	32·2	2·9	..	..	..	N by W	..	..	..	..	..	..	2	..
2	30·052	37·0	32·1	4·9	..	..	..	N by W	..	..	..	..	..	..	1½	..
4	30·081	37·8	32·1	5·7	19·0	18·8	40·5	N by W	..	..	..	..	..	..	3	..
6	30·117	36·1	32·0	4·1	..	..	24·6	N by W	..	..	..	..	..	..	3	..
8	30·172	33·5	31·2	2·3	..	..	——	N by W	..	N	1·90	..	..	..	0	..
10	30·226	33·2	30·7	2·5	25·0	8·2	61·0	NW	..	..	..	..	..	..	0	Transit
12	30·243	28·6	28·7	–0·1	..	..	16·5	Calm	..	..	..	..	..	..	0	..
14	..	..	..	..	..	..	——	WSW	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	34·0	SSW	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	33·0	SW	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
22	30·398	38·5	32·2	6·3	..	..	..	Calm	..	SW	0·50	1·58	0·00	3·180	0	..
Mar. 21. 0	30·410	41·0	34·0	7·0	..	..	..	W by S	..	..	..	..	..	..	0	..
2	30·399	42·0	37·2	4·8	..	..	..	WSW	..	..	..	..	..	..	0	..
4	30·393	43·2	36·7	6·5	..	..	..	SW	0 to ¼	..	..	..	..	..	1	..
6	30·410	39·3	35·0	4·3	..	..	..	SSW	..	..	..	..	..	..	9¾	..
8	..	..	..	..	..	..	..	SSW	..	..	..	..	..	..	..	..

DRY THERMOMETER.

March 17d. 18h; 18d. 10h, 12h, and 14h; 19d. 14h and 16h; and 20d. 12h. The readings were lower than those of the Wet Thermometer.

DEW POINT THERMOMETER.

March 18d. 10h. The reading was higher than that of the Dry Thermometer.

MINIMUM FREE THERMOMETER.

March 18d. 22h. The reading was higher than those of the Dry Thermometer at 12h and 14h.

REMARKS.	Observer.
Heavy vapour.	D
Fleecy clouds and vapour.	
Vapour near the horizon ; the sky otherwise clear.	
Cloudless.	
,,	D
Cirro-stratus round the horizon : heavy vapour.	L
Cumuli round the horizon : heavy vapour.	
Cirro-stratus covers the whole of the sky, except a small portion near the zenith, which is clear, but not to any numerical extent.	L
Overcast : cirro-stratus.	D
Fleecy clouds and scud.	D
Cirro-stratus : fleecy clouds and scud.	L
,, ,,	D
,, ,,	L
,, ,,	
Overcast.	
,,	
Cirro-stratus, scud, and vapour.	L
,, foggy.	H B
Cirro-stratus and scud : gloomy : there is a dense cumulo-stratus towards the N.	H B
Cumuli, cumulo-stratus, and scud.	L
Cirro-stratus, scud, and fleecy clouds.	
Cirro-stratus, scud, and fleecy clouds, with small breaks in every direction; an extensive one towards the W.	
Cirro-stratus around the horizon, fleecy clouds and scud in various parts, more particularly towards the N.: the sky about the place of the Moon is nearly clear.	L
A few thin clouds to the N. of the zenith ; within ten minutes after this observation the sky was covered with cloud.	G
Overcast.	G
The sky E. of the zenith is mostly clear, the remaining portion being still covered : a few small flakes of snow are falling.	D
Cirro-stratus and scud.	H B
,, an extensive break in the clouds in the N. E.	H B
Fleecy clouds and scud cover the greater portion of the North part of the sky, with cirro-stratus towards the W. : the South part of the sky is nearly clear.	L
Cloudless.	G
Particles of white scud are floating in various directions with some cumuli towards the N. horizon.	L
Light clouds and cumuli are scattered over the sky.	H B
Cumuli and loose scud in every direction, the former in masses near the N. and E. horizon.	L
Cumuli in various parts of the sky.	D
Cloudless.	H B
,, misty.	G
,, a dense fog.	H B
,,	
Cloudless.	
,,	
Cloudless, with the exception of a few cirri.	L
Cirri, cirro-stratus, and undefined clouds, cover the greater portion of the sky.	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.	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.	RAIN. Stand of Rain-gauge No. 1. (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3. (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Mar. 21. 10	..	..	..	..	..	..	46·0	SSW	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	34·8	SSW	..	..	..	..	..	..	..	Transit
14	30·376	35·7	34·2	1·5	..	..	62·2	SSW	0 to ¼	..	..	..	..	..	10	..
16	30·338	35·8	35·2	0·6	37·0	−1·2	31·1	SSW	..	..	..	..	..	..	10	..
18	30·316	38·5	37·7	0·8	..	..		SSW	½ to 1	..	..	..	..	..	10	..
20	30·290	40·0	39·3	0·7	..	..	36·0	SSW	1½ to 2	..	..	..	..	..	10	..
22	30·286	43·2	42·2	1·0	42·0	1·2	33·5	SSW	1 to 2	SW	5·77	1·62	0·03	3·245	10	..
Mar. 22. 0	30·282	44·5	43·7	0·8	..	..	..	SSW	0 to ½	..	..	..	..	..	10	..
2	30·244	47·7	46·4	1·3	..	..	..	SSW	0 to 2	..	..	..	..	..	10	..
4	30·233	47·6	46·3	1·3	45·0	2·6	49·7	SSW	½ to 2	SW	0·80	..	..	..	10	..
6	30·233	46·5	45·9	0·6	..	..	43·5	SSW	½ to 1½	..	..	..	..	..	10	..
8	30·227	45·2	44·7	0·5	..	..		SSW	½ to 2	..	..	..	..	..	10	In Equator
10	30·214	44·9	44·4	0·5	44·8	0·1	50·5	SSW	½ constant	..	..	..	..	..	10	..
12	30·204	44·2	44·0	0·2	..	..	44·1	SSW	½ to 1½	..	..	..	..	..	10	Transit
14	..	..	..	..	..	..		SSW	½ to 2	..	..	..	..	..	..	..
16	..	..	..	..	..	..	38·2	SSW	½ to 1½	..	..	..	..	..	..	..
18	..	..	..	..	..	..	34·8	SSW	½ to 1½	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	SSW	½ to 1	..	..	..	..	..	..	..
22	..	..	..	..	..	..	..	SSW	½ to 1	WSW	6·85	1·65	0·00	3·310	..	..
Mar. 23. 0	30·085	49·4	48·6	0·8	..	..	..	SSW	0 to ½	..	..	..	..	..	10	..
2	..	..	..	..	..	..	..	SSW	0 to 1	..	..	..	..	..	..	..
4	..	..	..	..	..	..	50·5	SSW	0 to ½	..	..	..	..	..	..	..
6	29·942	47·6	47·4	0·2	..	..	42·3	SSW	0 to ½	..	..	..	..	..	10	..
8	29·896	46·7	46·7	0·0	..	..		SSW	..	SW	3·12	..	..	..	10	Full
10	..	..	..	..	..	..	49·5	SSW	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	40·2	SW	0 to ½	WSW	0·90	..	..	..	..	Transit
14	29·722	46·5	46·6	−0·1	..	..		SW	½ constant	..	..	..	..	..	10	..
16	29·744	44·5	44·7	−0·2	44·0	0·5	40·0	WNW	..	..	..	..	..	..	10	..
18	29·829	42·4	42·2	0·2	..	..	36·2	N by W	1½ to 3	N	1·28	..	..	..	10	..
20	29·892	43·2	42·4	0·8	..	..	..	N by W	..	..	..	..	..	..	6	..
22	29·950	44·9	42·8	2·1	42·5	2·4	..	NNW	0 to ½	NW	0·40	2·03	0·55	3·840	10	..
Mar. 24. 0	29·980	48·2	43·9	4·3	..	..	..	WNW	..	..	..	..	..	..	6	..
2	29·984	51·2	44·9	6·3	..	..	..	N by W	..	NW	0·41	..	..	..	4	..
4	29·990	48·7	44·0	4·7	39·0	9·7	53·6	N by W	..	NNW	0·44	..	..	..	5	..
6	29·994	49·7	44·0	5·7	..	..	38·4	NNE	..	..	..	..	..	..	6	..
8	30·016	44·4	42·9	1·5	..	..		Calm	..	..	..	..	..	..	8	..
10	30·024	41·4	40·8	0·6	41·0	0·4	68·8	Calm	..	..	..	..	..	..	3	..
12	30·010	39·1	38·7	0·4	..	..	34·4	Calm	..	..	..	..	..	..	2	..
14	29·998	38·0	37·7	0·3	..	..		Calm	..	..	..	..	..	..	9	Transit
16	29·960	37·8	37·2	0·6	36·0	1·8	41·8	Calm	..	..	..	..	..	..	10	..
18	29·946	38·1	37·1	1·0	..	..	38·0	Calm	..	..	..	..	..	..	10	..
20	29·943	40·4	38·7	1·7	..	..	..	Calm	..	..	..	..	..	..	10	..
22	29·916	45·1	42·2	2·9	39·8	5·3	..	Calm	..	S	1·98	2·03	0·00	3·845	10	..
Mar. 25. 0	29·903	48·9	46·2	2·7	..	..	..	S	..	..	..	..	..	..	10	..
2	29·839	51·9	47·0	4·9	..	..	..	S by E	0 to ½	..	..	..	..	..	10	..
4	29·802	50·3	46·8	3·5	44·0	6·3	..	SSE	½ constant	..	..	..	..	..	10	..
6	29·778	46·0	44·8	1·2	..	..	..	SSE	..	S	1·64	..	..	..	10	..
8	29·737	45·5	44·8	0·7	..	..	..	Calm	..	..	..	..	..	..	10	..

DRY THERMOMETER.
March 23d. 14h and 16h. The readings were lower than those of the Wet Thermometer.

DEW POINT THERMOMETER.
March 21d. 16h. The reading was higher than that of the Dry Thermometer.

MINIMUM FREE THERMOMETER.
Mar. 24d. 22h. The reading was higher than those of the Dry Thermometer at 14h, 16h, and 18h.

REMARKS.	Observer.
Overcast: rain falling.	H B
,, ,,	
,,	
,, cirro-stratus and scud: wind blowing in gusts to 1½.	H B
,, ,,	L
Overcast: cirro-stratus and scud: a few drops of rain falling.	
,, wind blowing in gusts to ½: a fine rain falling.	L
,, wind blowing in gusts to 1+.	H B
,, a few drops of rain falling.	
,, ,,	
,, cirro-stratus and scud: a few drops of rain falling.	H B
,, ,, ,,	L
Overcast: cirro-stratus and scud: a slight rain falling.	D
,, , ,,	
,, ,, ,,	D
,, slight rain falling.	L
,, ,,	
,, ,,	
The N. portion of the sky, except near the horizon, is principally clear, cirro-stratus in the S. and all round the horizon: loose scud in various directions.	L
Overcast: cirro-stratus and scud.	H B
Cumuli and scud scattered in every direction.	
Cumuli, cumulo-strati, and scud: the cumulo-strati are near the N. and S. horizon: cumuli and scud in various directions.	H B
Cumuli towards the N., S., and E.: cirro-stratus and vapour towards the W.: loose scud in various directions.	L
Cumuli, cirro-stratus, and vapour towards the W.: scud floating in various directions.	
Cirro-stratus and loose scud.	
Cirro-stratus around the horizon: loose scud in various directions: the larger stars alone are visible, and they appear very dim.	L
Cirro-stratus and heavy vapour, chiefly N. E. of the zenith.	D
Fleecy clouds and cirro-stratus.	
Overcast: cirro-stratus.	
,, ,,	
,, ,,	D
,, cirro-stratus and scud.	H B
Overcast: cirro-stratus and scud.	
,, ,, cumuli near the N. horizon.	H B
,, cirro-stratus.	D
,, ,, rain falling.	
,, ,, the rain has ceased.	

MAXIMUM RADIATION THERMOMETER.
March 23d. The reading was lower than that of the Maximum Free Thermometer.

PRESSURE OF THE WIND BY OSLER'S ANEMOMETER.
March 22d. 1h. 40m. A sudden gust to 3½ lbs. took place.

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Mar. 25. 10	29·678	45·5	45·3	0·2	45·0	0·5	51·0 ..	SSE	..	..	..	..	..	..	10	..
12	29·641	45·1	45·0	0·1	..	..	43·7	S	..	..	..	..	..	..	10	..
14	29·613	44·2	44·2	0·0	..	..		SW	..	W	1·71	..	..	..	10	Transit
16	29·595	44·2	44·2	0·0	44·5	-0·3	..	WSW	..	..	..	..	..	..	10	..
18	29·609	44·1	44·1	0·0	..	..	42·6	W by N	..	..	..	..	..	..	10	..
20	29·660	44·6	42·7	1·9	..	..	44·0	WNW	½ constant.	NW	0·68	..	..	..	10	..
22	29·714	45·3	43·2	2·1	42·0	3·3	40·0	WNW	1 to 2	NNW	0·52	2·04	0·00	3·845	2	..
Mar. 26. 0	29·756	50·1	44·6	5·5	..	..	..	W by S	0 to 2½	..	..	..	..	..	8	..
2	29·777	50·1	44·2	5·9	..	..	..	W by N	⅓ to 1⅓	WNW	1·38	..	..	..	7	..
4	29·770	52·3	45·7	6·6	39·0	13·3		WSW	0 to 1½	..	..	..	..	..	6	..
6	29·776	50·4	45·1	5·3	..	..	54·7	WSW	½ to 2	W	1·30	..	..	..	7	..
used 8	29·817	45·1	41·2	3·9	..	..	~~37·6~~	WSW	½ to 1½	..	..	..	..	..	½	..
10	29·797	43·4	40·7	2·7	39·5	3·9	68·8	SW	0 to 1½	..	..	..	..	..	8	..
12	29·751	44·8	41·9	2·9	..	..	41·0	SW	2 to 5	..	..	..	..	..	10	..
14	29·711	45·7	43·4	2·3	..	..	45·0	SW	3 to 6	WSW	4·55	..	..	..	10	..
16	29·668	46·8	45·0	1·8	40·0	6·8	42·2	SW	4½ to 6	..	..	..	..	..	10	Transit
18	29·651	47·2	45·9	1·3	..	..		SW	4 to 4½	..	..	..	..	..	10	..
20	29·678	48·4	47·6	0·8	..	..	..	WSW	2 to 3½	..	..	..	..	..	10	..
22	29·717	52·7	49·0	3·7	49·0	3·7	..	WSW	2 to 4	W	1·12	2·04	0·00	3·845	10	..
Mar. 27. 0	29·751	53·9	51·3	2·6	..	..	..	WSW	½ to 1½	..	..	..	..	..	10	..
2	29·765	59·0	54·7	4·3	..	..	..	WSW	2 to 5	..	..	..	..	..	10	..
4	29·773	55·7	52·2	3·5	49·0	6·7	..	WSW	1½ to 4½	W	4·13	..	..	..	10	..
6	29·775	55·5	50·8	4·7	..	..	59·4	WSW	2 to 4	..	..	..	..	..	10	..
8	29·771	51·7	47·7	4·0	..	..	47·5	WSW	1 to 3	..	..	..	..	..	10	..
10	29·762	48·7	46·7	2·0	44·0	4·7	66·7	WSW	1½ to 4½	..	..	..	..	..	10	..
12	29·706	47·8	45·6	2·2	..	..	47·8	WSW	3 to 4½	..	..	..	..	..	10	..
14	29·653	47·8	45·2	2·6	..	..		WSW	1½ to 5½	WSW	5·73	..	..	..	10	..
16	29·587	47·5	45·4	2·1	44·0	3·5	46·0	WSW	2½ to 5	..	..	..	..	..	10	Transit
18	29·545	47·5	46·1	1·4	..	..	44·0	WSW	3 to 7	..	..	..	..	..	10	..
20	29·534	48·7	47·5	1·2	..	..	..	WSW	3 to 8	..	..	..	..	..	10	..
22	29·525	53·9	50·7	3·2	47·8	6·1	..	WSW	2½ to 5	W	0·96	2·04	0·00	3·880	8	..
Mar. 28. 0	29·539	54·6	47·7	6·9	..	..	..	WSW	4 to 9	..	..	..	..	..	4	..
2	29·544	54·9	47·8	7·1	..	..	..	WSW	4½ to 7	..	..	..	..	..	4	Perigee
4	29·594	53·2	45·7	7·5	43·0	10·2	..	WSW	3 to 7	W	4·18	..	..	..	7½	..
6	29·622	50·2	44·9	5·3	..	..	55·9 (40·4)	WSW	2½ to 4½	WSW	0·52	..	..	..	7	..
8	29·667	46·1	42·9	3·2	..	..	68·2	WSW	1 to 2½	..	..	..	..	..	½	..
10	29·694	44·1	41·4	2·7	40·0	4·1	35·4	WSW	1 to 2	..	..	..	..	..	0	..
12	29·749	42·1	39·6	2·5	..	..		WSW	½ to 1	..	..	..	..	..	0	..
14	29·773	40·9	38·8	2·1	..	..	47·0	WSW	½ to 1	W	2·42	..	..	..	0	..
16	29·795	39·8	37·7	2·1	36·0	3·8	45·0	WSW	0 to ½	..	..	..	..	..	0	..
18	29·837	39·4	37·3	2·1	..	..	..	WSW	½ to 1½	..	..	..	..	..	4	Greatest dec. S. Transit
20	29·890	41·6	39·2	2·4	..	..	..	WSW	0 to ½	..	..	..	..	..	0	..
22	29·934	46·1	40·8	5·3	36·0	10·1	..	WNW	2 to 3½	NW	0·80	2·04	0·00	3·880	4	..

DEW POINT THERMOMETER.

March 25d. 16. The reading was higher than that of the Dry Thermometer.

MINIMUM FREE THERMOMETER

March 28d. 22h. The reading was higher than those of the Dry Thermometer at 16h and 18h.

MINIMUM RADIATION THERMOMETER.

March 26d and 27d. The readings were higher than those of the Minimum Free Thermometer.

OSLER'S ANEMOMETER.

March 26d. 22h. 50m. A gust of wind recording a pressure of 7 lbs. took place.

REMARKS.	Observer.
Overcast: cirro-stratus: the air damp.	D
,, ,,	H B
,, ,, a light rain falling.	
,, ,, the rain has ceased.	
,, ,,	
,, ,,	H B
Cirro-stratus round the horizon: some light clouds are towards the S.; elsewhere it is cloudless: vapour towards the N. and W.	L
Fine rocky cumuli towards the S., also in the N. and W. horizon: white scud floating in various directions: vapour towards the N.	
Cumuli and light scud in every direction: there is a large break in the West.	L
Cumuli and cumulo-strati with fragments of scud in every direction: the amount of cloud is variable.	H B
Cumuli and scud of a dark colour.	
Cirro-stratus and fragments of scud near the N. W. horizon; cloudless in other directions.	
Cirro-stratus and scud: the reflexion of the London lights is very strong to-night, and rather higher than usual: the observer remarked a strong light on the clouds to the N. (probably auroral) at $10^h.30^m$.	H B
Cirro-stratus moderately high: wind blowing in gusts to 1½.	G
Cirro-stratus: wind blowing in gusts to 2½ and 3.	
,, wind blowing in gusts to 3.	
,, wind blowing in gusts: a few drops of rain falling.	
,, wind blowing in gusts to 2.	G
Cirro-stratus and scud: wind blowing in gusts to 2.	L
Cirro-stratus and scud: wind blowing in gusts to 2.	
,, wind blowing in gusts to 2½.	L
,, ,,	G
,, ,, the former less dense.	
Scud moving quickly from S. S. W.: there is but little upper cloud, yet the portions of clear sky are to no numerical extent, and even these portions appear dull.	
Cirro-stratus and scud: wind blowing in gusts to 2.	G
,, ,,	L
,, wind blowing in gusts to 2½ or 3.	
Overcast: wind blowing in gusts to 3½.	
,, ,,	
,, wind blowing in gusts to 3: a very fine rain is falling, which is scarcely perceptible from the Magnetic House, but on the top of the Observatory it is very sensible.	L
Cumuli and low scud moving rapidly from the W. cover nearly the whole of the sky: the upper clouds are composed of a few cirri and cirro-cumuli: the wind is blowing in frequent gusts to 2½ and upwards.	H B
Cumuli, cirro-stratus, and scud: the wind is blowing in frequent gusts to 3.	
Cumuli and scud scattered over the sky: there are a few cirro-cumuli near the Sun's place: wind blowing in gusts to 2½.	H B
Cumuli towards the N. and E. horizon: cirro-stratus and brown-looking scud towards the S. and W.; white scud also floating about in various parts of the sky: the sky to the N. of the zenith is nearly free from cloud: wind blowing in gusts to 3.	L
Cumuli and light scud are scattered in various directions: cirro-stratus towards the N. and W.: cirri a little S. of the zenith: the wind is blowing in gusts to 2½.	
Cloudy round the horizon from the N. E. to W.; clear elsewhere: the wind is blowing in gusts to 2.	
Cloudless, but the stars are not shining very brightly.	L
Cloudless: the wind is blowing in gusts to 1+.	D
,, the wind is blowing in gusts to 1.	
,,	
Fragments of scud in various parts of the sky: the wind is blowing in gusts to 1.	
Cloudless.	D
Cumuli and fragments of scud in every direction.	H B

PRESSURE OF WIND IN POUNDS ON THE SQUARE FOOT, AS RECORDED BY OSLER'S ANEMOMETER.

March 27^d. At 21^h a gust to 9 lbs.; between $27^d.22^h.50^m$ and $28^d.1^h.40^m$ there were frequent gusts to 10 lbs.; and after this time the recorded pressures are well represented by the ordinary observations.

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Mar. 29. 0	29·990	49·6	43·4	6·2	..	..	..	WNW	1 to 3½	NW	1·86	..	..	..	3	..
2	30·034	49·4	43·7	5·7	..	..	..	WNW	1½ to 2½	NNW	0·56	..	..	..	7	..
4	30·057	52·1	44·3	7·8	35·0	17·1	54·4	NW	½ to 2½	WNW	0·67	..	..	..	4	..
6	30·095	50·6	43·7	6·9	..	..	35·2	NNW	½ to 2	..	..	..	..	..	4	..
8	30·138	47·0	41·8	5·2	..	..		NW	..	..	..	..	..	..	0	..
10	30·167	44·2	40·3	3·9	37·0	7·2	66·3	W by N	..	..	..	..	..	..	0	..
12	30·192	39·5	37·0	2·5	..	..	28·8	WSW	..	..	..	..	..	..	0	..
14	..	..	..	..	..	..		WSW	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	46·8	SSW	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	45·8	Calm	..	..	..	..	..	..	..	Transit
20	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
22	30·157	48·1	44·2	3·9	..	..	..	SSW	..	SSW	0·98	2·04	0·00	3·880	10	..
Mar. 30. 0	..	..	..	..	..	..	..	SW	0 to ½	..	..	..	..	..	..	..
2	30·048	51·5	45·7	5·8	..	..	..	SSW	¼ to 1	SW	2·92	..	..	..	10	..
4	..	..	..	..	..	..	54·2	SSW	1 to 2	..	..	..	..	..	..	..
6	..	..	..	..	..	..	39·4	S by W	0 to 1	WSW	1·90	..	..	..	..	3rd Qr.
8	29·896	44·5	42·3	2·2	..	..		SSW	½ to 1	W	1·18	..	..	..	10	..
10	..	..	..	..	..	..	62·4	SW	1½ to 2	..	..	..	..	..	..	..
12	..	..	..	..	..	..	34·4	WSW	..	..	..	..	..	..	..	..
14	29·914	41·5	40·6	0·9	..	..		WSW	..	..	..	..	..	..	0	..
16	29·927	41·2	39·2	2·0	38·0	3·2	47·0	WSW	..	..	..	..	..	..	0	..
18	29·978	39·0	37·4	1·6	..	..	46·2	WSW	..	..	..	..	..	..	0	..
20	30·020	42·2	39·6	2·6	..	..	..	W by S	..	WNW	0·41	..	..	..	0	Transit
22	30·071	47·3	42·5	4·8	39·0	8·3	..	WNW	0 to ½	NW	0·25	2·04	0·00	3·905	0	..
Mar. 31. 0	30·088	52·3	45·4	6·9	..	..	..	NNW	..	..	..	..	..	..	0	..
2	30·113	54·6	46·2	8·4	34·0	20·6	..	NNW	..	..	..	..	..	..	0	..
4	30·102	55·5	46·6	8·9	32·3	23·2		N	..	..	..	..	..	..	½	..
6	30·112	53·0	45·7	7·3	..	..	57·9	N by W	..	NNW	0·63	..	..	..	2½	..
8	30·121	48·4	42·8	5·6	..	..	34·1	N by E	..	..	..	..	..	..	2	..
10	30·141	42·3	40·2	2·1	38·0	4·3		ESE	..	SE	0·51	..	..	..	1	..
12	30·196	39·2	37·5	1·7	..	..	74·3	Calm	..	..	..	2·04	0·00	3·905	0	..
14	30·174	37·3	36·3	1·0	..	..	28·5	Calm	..	..	..	..	..	..	0	..
16	30·169	35·8	35·0	0·8	32·0	3·8		Calm	..	..	..	..	..	..	0	..
18	30·167	34·7	34·0	0·7	..	..	47·0	Calm	..	..	..	..	..	..	2	..
20	30·183	37·5	36·6	0·9	..	..	46·2	Calm	..	..	..	..	..	..	8	Transit
22	30·185	38·5	37·6	0·9	36·0	2·5	..	Calm	..	ESE	0·64	2·04	0·00	3·905	10	..
Apr. 1. 0	30·165	43·2	40·7	2·5	..	..	..	E by N	..	..	..	..	..	..	6	..
2	30·142	45·0	42·1	2·9	..	..	..	ENE	..	..	..	..	..	..	2	..
4	30·114	45·1	42·5	2·6	41·5	3·6	48·2	ENE	..	E	1·63	..	..	..	9¼	..
6	30·098	40·8	39·2	1·6	..	..	33·6	ENE	..	..	..	..	..	..	8	..
8	30·089	37·2	36·3	0·9	..	..		E by N	..	..	..	..	..	..	10	..
10	30·080	36·4	36·0	0·4	36·0	0·4	67·8	E by N	..	..	..	..	..	..	2	..
12	30·064	36·0	35·7	0·3	..	..	24·9	Calm	..	ESE	0·80	..	..	..	6	..
14	30·033	35·8	35·7	0·1	..	..	46·5 46·0	Calm	..	..	..	..	..	..	5	..
16	30·018	35·2	35·0	0·2	34·5	0·7	..	Calm	..	..	..	..	..	..	6	..

MINIMUM FREE THERMOMETER.

March 30d. 22h. The reading was higher than that of the Dry Thermometer at 18h.

RAIN.

March 30d. It is strongly suspected that rain was received in the Library-gauge on 27d and 30d, and that it has been omitted to be recorded.

March 31d. 12h. The amount collected during the month of March in the rain-gauge No. 4 was 1in·51, 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·29.

REMARKS.	Observer.
Cumuli and light scud scattered over the sky: cirro-stratus and vapour near the horizon.	H B
Cumuli and light scud scattered in every direction: cirro-stratus round the horizon.	L
Cumuli and fragments of scud: wind blowing in gusts to $1\frac{1}{2}$.	D
,, ,,	
Cloudless.	
,,	D
,,	H B
Overcast: cirro-stratus.	
Overcast: cirro-stratus and scud.	
,, cirro-stratus: rain is falling.	
Cloudless.	
,,	
,,	
,,	H B
,,	L
Cloudless: the wind blowing in gusts to $\frac{1}{2}$.	
,,	L
Cloudless, with the exception of some cirro-stratus and vapour near the W. horizon.	H B
Cirro-stratus and vapour near the horizon, extending from N. to S.: light cirri in various other directions.	
Cirro-stratus and vapour near the horizon: a few light clouds are scattered in different parts of the sky: the air is nearly calm.	
Cirro-stratus near the W. horizon, otherwise the sky is cloudless.	H B
Cloudless.	L
,,	
,,	
Cirro-stratus towards the W., N., and E. horizon; elsewhere cloudless.	
Cirro-stratus round the horizon; the sky elsewhere is mostly covered with a sort of cirrus, forming a network, and shewing blue sky beyond: the zenith and its neighbourhood are the only parts free from it.	L
Overcast: cirro-stratus and scud.	H B
Cumuli, light scud, and fleecy clouds, principally S. and E. of the zenith, the sky N. of the zenith being nearly free from cloud.	
Light cirri scattered over the sky: cirro-stratus and haze near the horizon.	H B
Cirro-stratus and cirri, bordering on the cirro-stratus, cover nearly the whole of the sky, except a small portion near the eastern horizon.	L
Cirro-stratus covers the whole W. part of the sky, and the portion round the horizon: reticulated cirri about the zenith.	
Cirro-stratus and scud: the clouds seem high.	
Cloudy round the horizon; cloudless elsewhere.	L
At present no part of the sky is cloudless, and yet a few stars are visible at every part having an altitude greater than 20°: the lower portion of the atmosphere appears to be very thick and vapourish.	G
Within five minutes after the last observation there was not a single star visible, and in a short time afterwards many appeared; since that time the sky has several times been wholly obscured, and at intermediate times only partially so: at present many stars are visible, but none brightly.	
The appearance of the sky has constantly varied, as in the preceding two hours: at present many 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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Apr. 1. 18	30·008	34·6	34·4	0·2	..	..	..	Calm	..	..	..	..	..	..	1	..
20	30·005	39·0	37·7	1·3	..	..	..	Calm	..	..	..	..	..	..	3	..
22	29·997	43·4	41·9	1·5	40·5	2·9	..	Calm	..	E	0·90	2·04	0·00	3·905	3	Transit
Apr. 2. 0	29·990	48·3	45·6	2·7	..	..	..	ENE	..	..	..	..	..	..	7	..
2	29·979	53·4	46·8	6·6	..	..	..	ENE	..	..	..	..	..	..	1½	..
4	29·959	53·0	47·7	5·3	41·5	11·5	..	E by N	..	..	..	..	..	..	0	..
6	29·953	49·7	45·9	3·8	..	..	55·7 36·9	E by N	..	..	..	..	..	..	5	..
8	29·958	43·6	41·8	1·8	..	..	75·0	Calm	..	ESE	1·95	..	..	..	1	..
10	29·956	41·6	40·1	1·5	39·0	2·6	30·1	Calm	..	..	..	..	..	..	0	..
12	29·932	37·9	37·7	0·2	..	..		Calm	..	..	..	..	..	..	2	..
14	29·912	38·5	38·2	0·3	..	..	47·0	Calm	..	..	..	..	..	..	3	..
16	29·889	38·5	38·3	0·2	38·0	0·5	46·2	Calm	..	..	..	..	..	..	3½	..
18	29·877	37·5	37·5	0·0	..	..	..	Calm	..	..	..	..	..	..	2	..
20	29·862	42·9	42·4	0·5	..	..	..	Calm	..	..	..	..	..	..	2	..
22	29·866	54·2	49·6	4·6	46·0	8·2	..	Calm	..	SE	0·25	2·04	0·00	3·905	1	Transit
Apr. 3. 0	29·844	61·9	51·4	10·5	38·0	23·9	..	SSE	0 to ½	..	..	..	..	..	0	..
2	29·809	63·5	51·3	12·2	35·5	28·0		S by E	0 to ½	..	..	..	..	..	0	..
4	29·763	63·4	51·1	12·3	36·3	27·1	65·3	SSE	0 to ¼	..	..	..	..	..	¼	..
6	29·753	61·4	51·0	10·4	..	..	36·7	SSE	..	SSE	0·91	..	..	..	0	..
8	29·751	49·8	44·7	5·1	..	..		Calm	..	..	..	..	..	..	0	..
10	29·758	47·0	41·7	5·3	35·5	11·5	87·1	Calm	..	..	..	..	..	..	1	..
12	29·767	43·3	40·7	2·6	..	..	27·0	Calm	..	..	..	..	..	..	0	..
14	29·757	40·6	38·4	2·2	..	..		Calm	..	..	..	..	..	..	0	..
16	29·742	40·6	38·2	2·4	35·5	5·1	48·0	Calm	..	..	..	..	..	..	0	..
18	29·746	38·0	36·3	1·7	..	..	47·0	Calm	..	..	..	..	..	..	0	..
20	29·770	43·1	41·1	2·0	..	..	..	Calm	..	..	..	..	..	..	0	..
22	29·794	54·0	49·8	4·2	47·0	7·0	..	Calm	..	E	1·87	2·04	0·00	3·905	0	Transit
Apr. 4. 0	29·826	62·9	52·1	10·8	..	..	..	E	0 to ½	ESE	2·68	..	..	..	0	..
2	29·822	63·4	51·6	11·8	37·5	25·9	..	E by N	0 to 1	..	..	..	..	..	0	..
4	29·825	60·8	52·3	8·5	44·0	16·8	64·3	E	0 to ¼	..	..	..	..	..	0	In Equator
6	29·841	53·9	48·7	5·2	..	..	34·5	ESE	..	E	0·60	..	..	..	0	..
8	29·859	47·0	44·4	2·6	..	..		E	..	..	..	..	..	..	0	..
10	29·912	38·5	38·1	0·4	37·5	1·0	83·6	E by N	..	..	..	..	..	..	9	..
12	29·951	36·7	36·4	0·3	..	..	34·5	ENE	..	..	..	..	..	..	10	..
14	29·941	35·7	35·4	0·3	..	..		ENE	..	..	..	..	..	..	10	..
16	29·935	35·2	35·2	0·0	34·0	1·2	48·0	NE	..	..	..	..	..	..	10	..
18	29·940	34·9	34·9	0·0	..	..	47·5	NE	..	..	..	..	..	..	10	..
20	29·944	35·8	35·8	0·0	..	..	..	NE	..	..	..	..	..	..	10	..
22	29·935	39·2	37·7	1·5	37·5	1·7	..	NE	..	ESE	2·68	2·04	0·00	3·905	10	..
Apr. 5. 0	29·921	49·1	44·6	4·5	..	..	53·1	ENE	..	..	..	..	..	..	0	Transit
2	29·901	51·8	44·5	7·3	..	..	31·7	ENE	0 to 1	..	..	..	..	..	0	..
4	29·875	50·1	43·0	7·1	37·0	13·1	75·0	E by N	0 to ¼	..	..	..	..	..	0	..
6	29·872	45·4	40·3	5·1	..	..	26·5	ENE	0 to ½	E	1·88	..	..	..	0	..
8	29·878	41·2	38·4	2·8	..	..	48·8	ENE	..	..	..	..	..	..	0	..
10	29·878	37·6	35·4	2·2	33·2	4·4	48·5	NE by N	..	..	..	..	..	..	0	..

DRY THERMOMETER.

April 2d, between 20h and 22h, the reading increased 11°·3; on April 3d, between 6h and 8h, the reading decreased 11°·6; and it increased 10°·9 between 20h and 22h.

April 5d. 0h. The increase in the reading since the previous observation was 9°·9.

SOLAR HALO.

April 1d. 22h. A solar halo was visible; the sky S. E. of the zenith was nearly covered with a very thin cirro-stratus, and light cirri were scattered in other directions: the halo was very nearly a complete circle, a small part in the S. S. W. extremity being the only part

REMARKS.	Observer.
The sky has been principally free from cloud since 16^h.	G
Cirri scattered in different parts of the sky.	G
Light cirri and very thin cirro-stratus scattered over the sky: a solar halo is just visible; its diameter is 44°.	H B
Light cirri in various parts of the sky: cirro-stratus near the zenith and W.: the halo before mentioned disappeared at about 23^h.	
Light cirri in lines near the Sun's place and near the zenith: fleecy clouds in many parts of the sky.	H B
Cloudless, with the exception of a few cirri to no numerical extent.	G
Cirri in lines extending over the S. part of the sky, and cirro-stratus towards the N. and W. horizon: at $6^h.20^m$ an arc of a solar halo was observed, of about 30° in radius, the Sun being then in a dense cirro-stratus cloud; the part of the circumference visible varied from 120° to 90°, but at no time was it greater than 120°: it remained visible till 7^h: no colours were to be seen, except a slight tinge of red.	L and H B
A few dark, curled cirri to the N.; otherwise cloudless.	G
Cloudless.	G
Cirro-stratus all round the horizon, particularly in the S.; elsewhere cloudless.	H B
Cirro-stratus near the horizon, and to a considerable altitude near the northern part.	
Cirro-stratus near the horizon, and in other directions.	
Cirro-stratus near the horizon; otherwise cloudless.	
Cirri scattered over the sky in every direction: a slight fog.	H B
Cirri and light clouds to the W. and N. horizon; elsewhere cloudless.	L
A few light clouds towards the N. horizon, to no numerical extent; elsewhere cloudless.	
Some light clouds towards the E., to no numerical extent; elsewhere cloudless.	L
A few cirri and light clouds.	H B
Cloudless.	
,,	
Cloudless, excepting cirro-stratus near the S. and N. horizon.	H B
Cloudless.	D
,,	
,,	
,, there is a slight hoar frost.	
,,	D
,,	L
Cloudless.	
,,	
,,	L
,,	D
,,	
The stars are shining in the zenith; the sky is otherwise covered with cirro-stratus: the clouds have gathered since $9^h.3^m$.	D
Overcast.	L
,,	
,, a fine drizzling rain falling.	
,, ,, scarcely perceptible.	
,, the rain has ceased.	L
,, cirro-stratus and scud: a few minutes after the observation one-half of the sky became cloudless.	H B
Cloudless.	
,,	H B
,,	L
,,	
,,	
,,	L

broken. The most distinct portion of the halo was nearest to the zenith; the E. side was also very clear, but the clouds about the remaining part were much more dense, and consequently it was not there so easily seen, and was colourless: the northern half was very sharply defined, and was deeply coloured; the order being red (innermost), yellow, white, and a very light blue. It was most perfect at $22^h.15^m$; at $22^h.35^m$ the West side was invisible; at $22^h.50^m$ the North side only could be distinguished, and at that time a slight tinge of yellow was the only colour visible; at $23^h.0^m$ it had nearly disappeared, and at $23^h.5^m$ it had wholly so: from five instrumental measurements in the vertical plane, the vertical diameter appeared to be 43°; and from three similar measurements in the horizontal plane, the horizontal diameter appeared to be 44°. 3′.

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d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Apr. 5.12	29·869	36·5	35·2	1·3	..	..	..	NE	..	NE	0·83	..	..	..	0	..
14	..	..	..	..	..	..	..	NNE	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	NNE	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	NNE	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	NE	..	..	..	..	..	..	..	..
22	29·794	46·8	41·8	5·0	..	..	..	NE	..	ENE	0·45	2·04	0·00	3·905	0	..
Apr. 6. 0	29·802	49·2	43·0	6·2	..	..	..	NE	0 to ¼	..	..	..	..	..	0	Transit
2	..	..	..	..	..	..	..	ENE	0 to ¼	ENE	0·62	..	..	..	..	..
4	..	..	..	..	..	..	54·5	E by N	0 to 1	E	0·31	..	..	..	..	..
6	29·758	52·6	39·2	13·4	22·0	30·6	29·5	E by N	..	..	..	..	..	..	0	..
8	29·769	43·4	37·7	5·7	..	..	——	E by N	..	ESE	0·64	..	..	..	0	New
10	..	..	..	..	..	..	76·3	E by N	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	24·2	NNE	..	..	..	..	..	..	..	..
14	29·783	33·5	30·6	2·9	..	..	——	Calm	..	ENE	0·73	..	..	..	0	..
16	29·781	31·5	29·3	2·2	23·0	8·5	48·0	Calm	..	..	..	..	..	..	0	..
18	29·776	29·5	28·2	1·3	..	..	47·2	N by E	..	..	..	..	..	..	0	..
20	29·795	34·2	32·4	1·8	..	..	..	N by W	..	..	..	..	..	..	0	..
22	29·814	41·8	37·4	4·4	31·0	10·8	..	NNE	..	NNE	0·22	2·04	0·00	3·905	0	..
Apr. 7. 0	29·813	49·1	39·8	9·3	..	..	..	ENE	..	ENE	0·26	..	..	..	0	..
2	29·795	53·0	43·0	10·0	..	..	..	NE	..	..	..	..	..	..	0	Transit
4	29·748	51·3	45·1	6·2	39·0	12·3	56·7	E	..	..	..	..	..	..	0	..
6	29·720	46·9	43·2	3·7	..	..	30·5	Calm	..	ESE	0·94	..	..	..	0	..
8	29·710	41·1	39·7	1·4	..	..	——	Calm	..	..	..	..	..	..	0	..
10	29·698	37·3	36·7	0·6	36·0	1·3	82·5	Calm	..	SSE	0·67	..	..	..	½	..
12	29·662	35·4	34·8	0·6	..	..	26·5	Calm	..	..	..	..	..	..	0	..
14	29·615	33·7	33·7	0·0	..	..	——	Calm	..	S	0·32	..	..	..	0	..
16	29·544	31·5	31·4	0·1	31·0	0·5	49·2	Calm	..	..	..	..	..	..	0	..
18	29·488	31·7	31·6	0·1	..	..	47·8	Calm	..	..	..	..	..	..	4	..
20	29·463	37·0	35·8	1·2	..	..	..	WSW	..	..	..	..	..	..	10	..
22	29·427	40·9	40·0	0·9	40·0	0·9	..	SSW	..	SSW	0·38	2·04	0·00	3·910	10	..
Apr. 8. 0	29·407	43·5	42·7	0·8	..	..	..	WSW	..	..	..	..	..	..	10	..
2	29·384	51·5	46·2	5·3	..	..	..	WSW	0 to ¾	WSW	0·39	..	..	..	7+	Transit
4	29·346	49·8	43·8	6·0	36·5	13·3	5‸4	WSW	½ to 4½	..	..	..	..	..	7	..
							31·3									
6	29·335	49·6	43·4	6·2	..	..	——	W by N	..	WNW	1·41	..	..	..	2	..
8	29·325	44·0	40·0	4·0	..	..	71·3	WSW	..	..	..	..	..	..	3	..
10	29·301	40·2	36·1	4·1	31·0	9·2	22·2	WSW	..	..	..	..	..	..	0	..
12	29·269	37·1	33·7	3·4	..	..	——	Calm	..	..	..	..	..	..	0	..
14	29·191	34·3	33·0	1·3	..	..	48·5	Calm	..	..	..	..	..	..	0	..
16	29·134	32·6	31·5	1·1	30·0	2·6	47·0	Calm	..	..	..	..	..	..	0	..
18	29·052	32·1	31·4	0·7	..	..	..	Calm	..	..	..	..	..	..	0	..
20	28·985	35·0	34·6	0·4	..	..	..	NNE	..	..	..	..	..	..	10	..
22	28·915	41·7	40·0	1·7	39·0	2·7	..	NE	..	E	1·44	2·04	0·00	3·920	10	..
Apr. 9. 0	28·861	44·3	41·7	2·6	..	..	..	NNE	..	..	..	..	..	..	10	..
2	28·834	44·9	39·8	5·1	..	..	..	NNE	¾ to 2½	NNE	1·08	..	..	..	10	Transit
4	28·857	41·1	38·2	2·9	36·0	5·1	..	N	½ to 2	N	0·59	..	..	..	10	..
6	28·857	40·3	38·3	2·0	..	..	..	NNW	0 to ½	..	..	..	..	..	10	..
8	28·863	39·8	38·0	1·8	..	..	..	NNW	..	NNW	0·37	..	..	..	10	..

WIND.

April 8d. 20h. Immediately before this time the direction changed from S. to N.N.E.

REMARKS.	Observer.
Cloudless.	H B
,,	D
Cloudless.	
,,	
,,	D
,, a few meteors have been observed since 12^h.	H B
,,	
,,	
,,	H B
,,	L
Cloudless.	
,,	L
,,	H B
,,	
,,	
Cloudless, with the exception of cirro-stratus near the S.W. horizon.	H B
Cloudless.	D
,,	
,,	
Long lines of stratus in all parts of the sky; in the E. they are beautifully tinged with red: a hoar frost.	
Overcast: cirro-stratus: the clouds have been gradually becoming more and more dense since 18^h.	D
,, cirro-stratus and scud.	L
Overcast: cirro-stratus and scud: the clouds seem very dense: rain began to fall at about 22^h. 25^m, and continued falling till near the present time.	
Cumuli and loose scud in every direction: vapour towards the N.: clear about the zenith.	L
Cumulo-strati and nimbi: occasional light squalls of rain: at the present time large drops of rain are falling, and the wind is blowing in a very sudden squall to about 2.	D
Cumuli and haze: squally since the last observation.	
The sky S. of the zenith is partially covered with very thin cirro-stratus; the remaining portion is clear.	
Cloudless.	D
,,	L
,,	
,,	
,, the sky became covered soon after this observation.	
A thin cirro-stratus covers the whole of the sky: hazy towards the North.	L
Overcast, with cirro-stratus of different densities.	H B
Overcast: cirro-stratus and scud.	
,, ,,	H B
,, fine rain falling.	L
,, ,,	
,, cirro-stratus and scud: the rain has ceased.	

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Apr. 9. 10	28·883	39·0	37·8	1·2	35·0	4·0	45·7	WNW	..	..	..	..	..	..	10	..
12	28·885	38·0	37·5	0·5	..	..	36·6	WNW	..	..	..	..	..	..	10	..
14	28·883	37·5	36·7	0·8	..	..	50·4	WNW	..	..	..	..	..	..	10	..
16	28·869	37·2	35·6	1·6	33·0	4·2	32·1	W	..	W	0·83	..	..	..	10	..
18	28·871	37·2	36·0	1·2	..	..		W by N	..	..	..	..	..	..	10	..
20	28·877	38·4	37·1	1·3	..	..	47·5	W by N	..	..	..	..	..	..	10	..
22	28·899	40·0	38·1	1·9	37·0	3·0	46·5	NW by W	..	WNW	0·99	2·06	0·05	3·965	10	..
Apr. 10. 0	28·909	44·6	40·9	3·7	..	..	..	NNW	0 to 1½	..	..	..	..	..	10	..
2	28·937	44·2	40·3	3·9	..	..	..	WNW	0 to 1½	..	..	..	..	..	10	..
4	28·937	43·2	40·0	3·2	36·5	6·7	45·5	NW by W	½ to 3	..	..	..	..	..	10	Transit
6	28·957	43·4	40·2	3·2	..	..	35·5	N	½ to 2	..	..	..	..	..	10	..
8	28·979	39·5	38·4	1·1	..	..		N	0 to ½	..	..	..	..	..	10	..
10	29·009	39·2	37·7	1·5	36·0	3·2	48·8	NNW	0 to 1	..	..	..	..	..	10	..
12	29·005	37·5	36·4	1·1	..	..	34·5	NW	0 to ½	NW	4·09	..	..	..	10	..
14	28·996	36·2	35·4	0·8	..	..		WNW	½ to 1	..	..	..	..	..	10	..
16	28·987	36·9	36·0	0·9	35·0	1·9	..	WNW	1½ to 2½	N	0·41	..	..	..	10	..
18	29·019	37·4	36·2	1·2	..	..	..	N	½ to 1	..	..	..	..	..	10	..
20	29·100	37·9	37·0	0·9	..	..	..	NNE	1 to 2	NNE	0·50	..	..	..	10	..
22	29·217	40·6	39·2	1·4	38·0	2·6	..	ENE	1 to 3	NE	0·65	2·08	0·03	4·035	10	..
Apr. 11. 0	29·257	44·5	41·4	3·1	..	..	..	NE	0 to ½	NE	0·45	..	..	..	10	..
2	29·316	45·7	42·9	2·8	..	..	..	N by E	0 to ½	..	..	..	..	..	10	..
4	29·355	41·4	40·4	1·0	39·5	1·9	47·3	N by E	1 to 1½	N	1·78	..	..	..	10	Transit
6	29·408	42·3	40·5	1·8	..	..	36·6	N by E	½ to 1	..	..	..	..	..	10	..
8	29·482	40·6	38·7	1·9	..	..		N by E	1 to 1½	..	..	..	..	..	10	Greatest declination N.
10	29·519	37·4	36·1	1·3	35·0	2·4	59·2	N by W	..	..	..	..	..	..	1½	..
12	29·544	36·8	36·1	0·7	..	..	29·0	NNW	..	..	..	..	..	..	10	..
14	29·549	38·2	37·3	0·9	..	..		NNW	..	..	..	..	..	..	10	..
16	29·573	39·3	37·8	1·5	35·0	4·3	46·0	N by W	..	..	..	..	..	..	10	..
18	29·587	38·1	36·8	1·3	..	..	45·8	NW	..	..	..	..	..	..	10	..
20	29·621	39·1	37·3	1·8	..	..	..	NW by W	..	..	..	..	..	..	10	..
22	29·637	41·6	39·4	2·2	37·5	4·1	..	NNW	..	WNW	0·71	2·08	0·00	4·035	10	..
Apr. 12. 0	29·648	44·0	39·7	4·3	..	..	..	NW	..	..	..	..	..	..	10	..
2	29·649	45·7	40·8	4·9	..	..	..	W	..	..	..	..	..	..	10	..
4	29·628	49·6	43·8	5·8	35·5	14·1	51·6	NW	..	..	..	..	..	..	10	..
6	29·635	47·3	42·3	5·0	..	..	35·5	W by S	..	..	..	..	..	..	10	Transit
8	29·647	44·6	40·8	3·8	..	..		Calm	..	..	..	..	..	..	10	Apogee
10	29·663	43·8	41·2	2·6	39·0	4·8	62·9	W	..	..	..	..	..	..	10	..
12	29·680	41·0	40·5	0·5	..	..	32·1	W by S	..	..	..	..	..	..	10	..
14	..	..	..	..	..	..		W by S	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	45·8	W by S	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	45·8	W by S	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	W	..	..	..	..	..	..	..	..
22	29·644	48·5	45·7	2·8	..	..	..	W	..	WSW	3·02	2·08	0·01	4·050	10	..
Apr. 13. 0	..	..	..	..	..	..	..	SW	½ to 1½	..	..	..	..	..	..	..
2	29·550	48·2	45·2	3·0	..	..	..	WSW	½ to 2	..	..	..	..	..	10	..
4	29·422	46·8	45·7	1·1	..	..	..	SSW	½ to 2	..	..	..	..	..	10	..
6	29·380	46·7	45·5	1·2	..	..	..	SSW	2 to 3	..	..	..	..	..	10	..
8	29·230	47·5	46·2	1·3	..	..	..	SW	3 to 4½	SW	3·16	..	..	..	8	..

BAROMETER.

April 10d. Between 20h and 22h the reading increased 0in·117.

April 13d. From 2h to 8h the reading decreased 0in·320; after 8h the readings began to increase.

TEMPERATURE OF THE WATER OF THE THAMES.

April 10d. 22h. The instruments could not be read in consequence of a coal barge having floated against that part of the ship from which they are suspended.

REMARKS.	Observer.
Overcast: a few drops of rain falling.	L
,, ,, the clouds are very low.	G
,, ,,	
,, a few stars in the zenith have been visible.	
,, cirro-stratus.	
,, ,,	G
,, ,,	H B
Overcast: cirro-stratus: the Sun is occasionally visible through the clouds.	H B
,, cirro-stratus and scud.	L
,, an uniform dark sky: occasional slight squalls: gloomy.	G
,, ,, scud passing from N. N.W.: occasional slight rain: very gloomy: wind blowing in gusts to 1.	
,, cirro-stratus and scud: frequent showers of rain: a thin rain falling at present: scud passing from the N.	
,, dark uniform clouds cover the sky: it is remarkable that the difference between the temperature of the dew-point and that of the air is increasing.	G
Overcast: the wind continues blowing in gusts to 1 +.	H B
,, the wind continues blowing in gusts to 1½: rain falling in heavy drops; it commenced shortly after the last observation.	
,, the rain has ceased.	
,,	
,, a slight rain falling.	H B
,, cirro-stratus and scud.	L
Overcast: cirro-stratus and scud.	
,, ,,	L
,, rain is falling in large drops.	H B
,, cirro-stratus and scud.	
,, ,, a long narrow streak of red sky near the western horizon.	
Cloudless, with the exception of cirro-stratus and vapour near the horizon: at 9^h the sky was overcast.	H B
Overcast: the sky since the last observation has been partially clear.	D
,, a few drops of rain are falling.	
,,	
,, cirro-stratus.	
,, ,,	D
,, ,,	L
Overcast: cirrro-stratus and scud.	
,,	L
,,	D
,,	
,,	
,,	D
,, a slight rain is falling.	L
,, ,,	H B
Overcast: the wind blowing in gusts to 1.	
,, heavy rain falling.	
,, wind blowing in gusts to 1½.	
Dark scud is passing rapidly from the W., leaving extensive breaks of blue sky: the Moon is occasionally visible.	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Apr. 13. 10	..	..	..	..	..	..	49·8	WSW	1½ to 2	..	..	..	..	..	..	..
12	..	..	..	..	..	..	41·1	WSW	½ to 2	WSW	0·48	..	..	..	..	..
14	29·269	43·2	41·0	2·2	..	..	52·5	WSW	½ to 2½	..	..	..	..	..	10	..
16	29·264	42·1	40·3	1·8	38·0	4·1	38·3	WSW	1¼ to 2	..	..	..	..	..	¼	..
18	29·265	42·3	39·7	2·6	..	..		WSW	1½ to 2½	W	3·98	..	..	..	10	..
20	29·276	45·0	41·6	3·4	..	..	45·5	WSW	½ to 2½	..	..	..	..	..	10	..
22	29·298	44·1	42·9	1·2	41·8	2·3	45·5	W by S	1 to 4½	WNW	0·95	2·15	0·10	4·185	10	..
Apr. 14. 0	29·303	47·0	44·6	2·4	..	..	..	W by N	1 to 5	..	..	..	..	..	2	..
2	29·317	50·3	45·6	4·7	..	..	..	WNW	1 to 6	..	..	..	..	..	6	..
4	29·331	49·0	43·5	5·5	36·0	13·0	50·6	WNW	3½ to 7	..	..	..	..	..	10	..
6	29·375	46·4	42·0	4·4	..	..	40·3	WNW	3½ to 7	..	..	..	..	..	10	Transit
8	29·417	43·3	41·7	1·6	..	..	62·6	WNW	½ to 2½	NW	5·53	..	..	..	10	..
10	29·417	43·3	41·2	2·1	40·0	3·3	38·2	WNW	½ to 3½	..	..	..	..	..	10	1st Qr.
12	29·434	42·4	39·8	2·6	..	..	45·5	NW	1 to 5	..	..	..	..	..	10	..
14	29·454	41·6	39·3	2·3	..	..	45·5	NNW	1½ to 3½	..	..	..	..	..	10	..
16	29·473	40·7	39·2	1·5	38·5	2·2	..	NNW	2½ to 3½	..	..	..	..	..	10	..
18	29·488	40·8	39·7	1·1	..	..	..	NNW	3 to 4	..	..	..	..	..	10	..
20	29·497	42·0	40·6	1·4	..	..	..	N by W	5 to 7	..	..	..	..	..	10	..
22	29·574	42·5	41·4	1·1	40·0	2·5	..	N	7½ to 11	N	3·70	2·15	0·08	4·315	10	..
Apr. 15. 0	29·639	44·3	42·5	1·8	..	..	..	N by E	1 to 3½	..	..	..	..	..	10	..
2	29·735	42·6	41·4	1·2	..	..	..	N by E	2 to 3	..	..	..	..	..	10	..
4	29·800	42·6	41·1	1·5	39·5	3·1	44·7	NNE	1 to 1½	..	..	..	..	..	10	..
6	29·869	42·0	40·6	1·4	..	..	38·6	NNE	2 to 3	..	..	..	..	..	10	..
8	29·945	40·8	39·8	1·0	..	..		NNE	1½ to 2½	..	..	..	..	..	10	Transit
10	30·008	40·2	39·5	0·7	39·5	0·7	46·5	NNE	1 to 2	..	..	..	..	..	10	..
12	30·052	39·8	38·5	1·3	..	..	37·6	NNE	½ to 1	..	..	..	..	..	10	..
14	30·072	39·0	38·1	0·9	..	..		NNE	1 to 1½	..	..	..	..	..	10	..
16	30·070	39·7	38·8	0·9	37·5	2·2	45·0	NNE	1 to 1¼	..	..	..	..	..	10	..
18	30·101	39·4	38·6	0·8	..	..	45·0	N by E	1 constant.	..	..	..	..	..	10	..
20	30·148	39·4	39·0	0·4	..	..	..	N by E	1 to 1½	..	..	..	..	..	10	..
22	30·172	42·0	41·1	0·9	40·0	2·0	..	N by E	1 constant	NNE	7·77	2·15	0·00	4·325	10	..
Apr. 16. 0	30·176	43·7	42·4	1·3	..	..	..	N by E	1 to 1½	..	..	..	..	..	10	..
2	30·159	48·2	45·4	2·8	..	..	..	N	1 to 2	..	..	..	..	..	10	..
4	30·128	52·0	47·8	4·2	45·5	6·5	53·3	N	1 to 2½	..	..	..	..	..	8	..
6	30·125	48·5	45·3	3·2	..	..	37·5	N	..	..	..	..	..	..	4	..
8	30·148	45·2	43·4	1·8	..	..		N by E	..	..	..	..	..	..	10	Transit
10	30·159	41·6	40·6	1·0	39·5	2·1	68·2	NNE	..	NNE	3·21	..	..	..	9	..
12	30·154	39·7	38·9	0·8	..	..	33·9	NNE	..	..	..	..	..	..	0	..
14	30·140	39·0	38·4	0·6	..	..		NNE	..	..	..	..	..	..	0	..
16	30·147	38·0	37·4	0·6	37·0	1·0	45·2	NNE	..	..	..	..	..	..	0	..
18	30·167	39·0	38·2	0·8	..	..	45·0	NNE	..	..	..	..	..	..	0	..
20	30·183	44·7	42·4	2·3	..	..	..	NE	..	..	..	..	..	..	0	..
22	30·171	51·3	46·2	5·1	42·0	9·3	..	NE	..	NE	2·46	2·15	0·00	4·325	0	..

MINIMUM RADIATION THERMOMETER.

April 17d. The reading was higher than that of the Minimum Free Thermometer.

OSLER'S ANEMOMETER.

April 13d. 20h. 40m. A gust to 5 lbs. was recorded.

April 14d. At 3h a pressure of 10 lbs., and at 19h. 50m a pressure of 12 lbs. were recorded.

April 16d. 6h. The string of the pressure pencil was broken.

REMARKS.	Observer.
Overcast: clouds began to collect at $12^h. 40^m$: wind blowing in gusts to $\frac{3}{4}$.	L
Cloudy towards the N.; elsewhere it is clear: wind blowing in gusts to 1+.	
Cirro-stratus and scud: it has been alternately clear and cloudy since the last observation: wind blowing in gusts to $1\frac{1}{2}$.	
Cirro-stratus and scud: scud moving rapidly from the W.: wind blowing in gusts.	L
,, the wind is less violent: a heavy shower of rain fell about five minutes before this observation.	H B
Cumuli near the N., S. W., and S. S. E. horizon; cloudless in other directions: since the last observation several heavy showers of rain have fallen, especially one at about $23^h. 35^m$, which was accompanied with frequent gusts of wind to $2\frac{1}{2}$.	
Cumuli, cirro-stratus, and dense scud, the latter moving rapidly from the N. W.: the wind blowing in frequent gusts to $2\frac{1}{2}$ and upwards.	H B
Cumuli and cirro-stratus: there are breaks in the clouds S. of the zenith, but to no numerical amount: the wind is blowing in gusts to 3.	L
,, wind blowing in gusts to $2\frac{1}{2}$: squally.	
,, wind blowing in gusts: rain in squalls.	
The clouds began to disappear soon after the last observation, till three-quarters of the sky was clear: it has been partially clear several times: it is now quite overcast: a slight rain is falling: the wind blowing in gusts to 3.	L
Overcast: cirro-stratus and scud: violent squalls are continually occurring: the wind is blowing in gusts to $2\frac{1}{2}$: there was a violent squall about five minutes after this observation.	H B
The wind is not so violent as at the last observation; the gusts are more moderate, but more frequent: rain is falling slightly.	
Overcast: wind blowing in gusts to $2\frac{1}{2}$: rain is falling slightly.	
,, rain is falling slightly.	
,, wind blowing in gusts to 3: rain is falling heavily.	H B
,, cirro-stratus and scud: wind blowing in gusts to 3: squally.	L
Overcast: cirro-stratus and scud: wind blowing in gusts to 3: squally.	
,, slight rain is falling: wind blowing in gusts to 3.	L
,, cirro-stratus and scud: wind blowing in gusts to $2\frac{1}{2}$.	H B
,, ,, wind blowing in gusts to 2+.	
,, ,, wind blowing in gusts.	
,, ,, wind blowing in gusts to 2 and $2\frac{1}{2}$.	H B
,, one uniform cloud: wind blowing in gusts to 1+.	D
,, ,, wind blowing in gusts to 1.	
,, ,, ,,	
,, cirro-stratus.	
,, ,,	D
,, ,,	L
Overcast: cirro-stratus.	
,, ,, the Sun's place visible.	L
Cumulo-strati and fragments of scud: those portions of the sky which are free from clouds are remarkably clear.	D
Cumuli and scud.	D
Cirro-stratus and scud: the clouds in many places are thin: at $8^h. 5^m$ one-half of the sky was clear; the clouds disappeared very suddenly.	L
Cirro-stratus and scud.	D
Cloudless: the wind blowing in gusts to $\frac{3}{4}$ and to 1.	G
,,	
,, at times since 14^h a few white clouds have formed, which were soon dissipated.	
,,	
,,	G
,,	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Apr. 17. 0	30·166	56·7	49·9	6·8	..	..	..	NNE	1½ to 2½	E	1·35	..	..	..	2	..
2	30·122	58·0	49·7	8·3	..	..	..	NNE	2½ to 3	..	..	..	..	..	3	..
4	30·099	57·2	50·6	6·6	43·0	14·2	59·3	NNE	2 to 4	..	..	..	..	..	5	..
6	30·084	52·8	47·4	5·4	..	..	37·7	NNE	1½ to 3½	..	..	..	..	..	0	..
8	30·095	45·7	39·4	6·3	32·8	12·9		NNE	½ to 2	..	..	..	..	..	0	..
10	30·095	43·8	42·0	1·8	40·0	3·8	80·2	NNE	1 to 2	ENE	1·22	..	..	..	10	Transit
12	30·078	41·7	40·9	0·8	..	..	38·3	NNE	0 to 1¾	..	..	..	..	..	10	..
14	30·055	41·7	40·5	1·2	..	..	45·5	NNE	0 to ½	..	..	..	..	..	10	..
16	30·035	41·2	40·3	0·9	39·5	1·7	45·2	NNE	0 to 1¼	..	..	..	..	..	10	..
18	30·036	39·0	38·4	0·6	..	..		NNE	0 to ½	..	..	..	..	..	10	..
20	30·039	38·8	37·9	0·9	..	..	..	NNE	..	..	..	..	..	..	10	..
22	30·033	40·7	39·4	1·3	38·0	2·7	..	NNE	..	NE	2·74	2·15	0·00	4·325	10	..
Apr. 18. 0	30·015	48·0	44·6	3·4	..	..	..	NNE	½ to 1½	..	..	..	..	..	7	..
2	29·993	52·4	45·7	6·7	..	..	..	NNE	½ to 1	..	..	..	..	..	½	..
4	29·980	54·7	47·0	7·7	39·0	15·7	56·5	NE	1 to 2	..	..	..	..	..	½	..
6	29·972	52·8	46·0	6·8	..	..	38·6	NE	½ to 1	..	..	..	..	..	0	..
8	29·983	47·0	44·9	2·1	..	..		NE	..	NE	1·40	..	..	..	0	..
10	30·007	40·0	39·4	0·6	39·0	1·0	77·2	N by E	..	..	..	..	..	..	2	Transit
12	29·998	39·0	38·0	1·0	..	..	34·1	NNE	..	..	..	..	..	..	10	..
14	29·970	42·1	41·7	0·4	..	..	46·2	NE	..	..	..	..	..	..	10	..
16	29·946	43·4	43·5	–0·1	43·0	0·4	46·0	NNE	..	..	..	..	..	..	10	In Equator
18	29·960	40·0	40·0	0·0	..	..	..	N by E	½ to 1	..	..	..	..	..	10	..
20	29·965	40·6	39·5	1·1	..	..	..	N by E	0 to ½	..	..	..	..	..	10	..
22	29·957	47·6	44·7	2·9	42·0	5·6	..	NNE	½ to 1½	NNE	2·78	2·15	0·01	4·335	10	..
Apr. 19. 0	29·931	53·7	48·5	5·2	..	..	..	N by E	½ to 1½	..	..	..	..	..	0	..
2	29·901	57·7	50·8	6·9	..	..	..	N	½ to 1¼	..	..	..	..	..	0	..
4	29·864	58·1	51·1	7·0	42·0	16·1	60·2	N by E	½ to 1	..	..	..	..	..	¼	..
6	29·849	56·9	50·0	6·9	..	..	36·9	N by E	½ to 1½	..	..	..	..	..	0	..
8	29·877	49·5	45·8	3·7	..	..		NNE	½ to ¾	NNE	1·52	..	..	..	0	..
10	29·914	43·6	42·3	1·3	40·5	3·1	83·0	NNE	..	..	..	..	..	..	0	Transit
12	29·924	41·5	40·7	0·8	..	..	31·2	NE	..	NE	1·38	..	..	..	0	..
14	..	..	..	..	..	..		N by E	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	47·5	N	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	46·8	N by E	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	NNE	..	..	..	..	..	..	..	..
22	29·982	55·1	51·5	3·6	..	..	..	N by E	..	NNE	1·23	2·15	0·00	4·340	2	..
Apr. 20. 0	29·987	61·2	55·5	5·7	..	..	..	ENE	..	..	..	..	..	..	2	..
2	..	..	..	..	..	..		ENE	..	ESE	1·55	..	..	..	..	..
4	..	..	..	..	..	..	68·2	E	..	..	..	..	..	..	..	..
6	29·982	55·3	50·7	4·6	..	..	37·6	Calm	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..		Calm	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	86·6	Calm	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	32·0	Calm	..	..	..	..	..	..	..	Transit
14	30·003	40·7	39·5	1·2	..	..		Calm	..	..	..	..	..	..	0	..
16	29·986	39·2	37·2	2·0	33·0	6·2	48·0	Calm	..	..	..	..	..	..	½	..
18	29·991	37·8	36·5	1·3	..	..	47·0	Calm	..	..	..	..	..	..	0	..
20	30·009	45·3	43·2	2·1	..	..	..	Calm	..	..	..	..	..	..	0	..

DRY THERMOMETER.

April 18d. 16h. The reading was lower than that of the Wet Thermometer.

REMARKS.	Observer.
Cumuli round the horizon: loose scud in every direction.	L
Cumuli in various directions: fleecy clouds and particles of scud are moving rapidly from the N. E.	H B
Cumuli near the N.W. horizon: fleecy clouds and scud in various directions: the wind blowing in gusts to 2½.	H B
Cloudless.	G
Very nearly cloudless: a few linear clouds to no numerical amount a little above the S. horizon: the wind blowing in gusts to 2.	
A large mass of scud has passed from about due E. since a little after 9^h, and the sky at present is covered by scud: the change in the dew-point is remarkable. (See foot note.)	G
Overcast: scud passing quickly from the N. E.	L
,,	
,, the clouds look very black.	
,, ,,	
,, one cloud seems to cover the whole sky.	L
,, cirro-stratus and scud.	H B
At $22^h. 40^m$ the clouds began to break towards the N. N. E., and since that time several extensive breaks have taken place: there is still, however, a large quantity of white scud in every direction, and a few cumuli near the horizon.	
Cloudless, with the exception of a bank of linear cirrus extending from the S. S. E. to the S. W. horizon.	H B
,, ,, ,,	L
Cloudless.	
,,	
About a quarter of an hour after the last observation the sky was covered with a thin cirro-stratus, which is now confined to the N. portion of the sky: light scud is floating about in every direction.	L
Overcast: cirro-stratus and scud: the sky became overcast about 11^h.	H B
,, ,, slight rain is falling.	
,, ,, ,,	
,, thin rain is falling.	
,, cirro-stratus and scud.	H B
,, ,,	L
Loose scud in various directions, but to no numerical amount: cloudless.	
Cloudless.	L
Light clouds and haze around the Sun.	H B
Cloudless: hazy near the horizon.	
,, ,,	
,,	H B
,,	G
Cumuli towards the N. and loose scud in various parts of the sky; elsewhere cloudless.	L
Fine rocky cumuli in the N., and some white scud towards the S. horizon; elsewhere the sky is cloudless.	L
Cloudless.	G
,,	L
Cloudy towards the W.; clear elsewhere.	
Cloudless.	
Some linear clouds towards the S. horizon, to no numerical extent, are the only clouds visible.	L

April $17^d. 8^h$. In consequence of the difference in the readings of the Dry and Wet Bulb Thermometer being greater than it was at the previous observation, I took an observation of the temperature of the Dew Point, which confirmed the accuracy of the thermometrical reading, and exhibited a remarkable change in the hygrometrical condition of the air; shewing a great diminution in the amount of moisture at a time of the day when it is usually stationary, or increasing in amount.—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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d	h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Apr. 20.	22	29·988	53·9	47·8	6·1	41·8	12·1	..	E by N	..	ENE	1·02	2·15	0·00	4·340	0	..
Apr. 21.	0	29·960	58·9	51·1	7·8	..	..	..	NE	..	..	..	..	..	..	0	..
	2	29·923	61·2	52·7	8·5	..	..	..	NNE	..	ENE	0·48	..	..	..	0	..
	4	29·903	58·5	51·9	6·6	47·0	11·5	62·8	E	..	..	..	..	..	..	0	..
	6	29·891	53·5	48·9	4·6	..	..	38·8	E by S	..	..	..	..	..	..	½	..
	8	29·874	46·7	44·4	2·3	..	..	——	E	..	..	..	..	..	..	½	..
	10	29·896	41·8	41·2	0·6	40·0	1·8	84·1	E by N	..	..	..	..	..	..	0	..
	12	29·899	41·3	41·2	0·1	..	..	35·5	ENE	..	ESE	1·45	..	..	..	10	Transit
	14	29·881	40·5	40·3	0·2	..	..	——	ENE	..	..	..	..	..	..	10	..
	16	29·871	40·1	39·8	0·3	39·5	0·6	50·0	NE	..	..	..	..	..	..	10	..
	18	29·872	39·1	38·8	0·3	..	..	48·8	NNE	..	..	..	..	..	..	10	..
	20	29·872	39·7	39·5	0·2	..	..	..	NNE	..	..	..	..	..	..	10	Full
	22	29·874	43·7	42·9	0·8	42·0	1·7	..	NNE	..	NE	1·03	2·15	0·00	4·340	10	..
Apr. 22.	0	29·864	53·4	50·2	3·2	..	..	..	NE	..	..	..	..	..	..	0	..
	2	29·833	62·0	55·0	7·0	..	..	..	E by N	..	..	..	..	..	..	½	..
	4	29·811	62·6	54·3	8·3	49·0	13·6	64·3	ENE	..	ENE	0·35	..	..	..	0	..
	6	29·798	56·9	50·3	6·6	..	..	37·9	E by S	..	..	..	..	..	..	0	..
	8	29·805	50·0	45·8	4·2	..	..	——	ESE	..	..	..	..	..	..	½	..
	10	29·807	46·2	42·8	3·4	41·0	5·2	88·0	Calm	..	E	0·47	..	..	..	1	..
	12	29·808	43·8	41·8	2·0	..	..	32·5	Calm	..	..	..	..	..	..	0	..
	14	29·780	40·6	40·3	0·3	..	..	——	Calm	..	ESE	0·95	..	..	..	0	Transit
	16	29·751	38·9	38·7	0·2	39·0	−0·1	51·0	Calm	..	..	..	..	..	..	¼	..
	18	29·743	38·4	38·0	0·4	..	..	49·2	Calm	..	..	..	..	..	..	0	..
	20	29·735	45·8	43·7	2·1	..	..	..	Calm	..	..	..	..	..	..	0	..
	22	29·732	54·7	50·2	4·5	48·0	6·7	..	NE	..	ENE	0·22	2·15	0·00	4·340	0	..
Apr. 23.	0	29·709	63·3	55·9	7·4	..	..	..	ENE	..	..	..	..	..	..	½	..
	2	29·686	65·0	55·5	9·5	..	..	..	E by N	0 to ½	..	..	..	..	..	2	..
	4	29·634	63·5	55·1	8·4	46·5	17·0	67·3	E	0 to ½	..	..	..	..	..	2	..
	6	29·614	59·9	52·6	7·3	..	..	40·6	E by S	..	E	0·31	..	..	..	¾	..
	8	29·618	51·9	47·7	4·2	..	..	——	E by N	..	..	..	..	..	..	1	..
	10	29·622	46·2	44·5	1·7	43·0	3·2	91·0	E	..	..	..	..	..	..	0	..
	12	29·601	44·0	43·4	0·6	..	..	34·0	E by N	..	..	..	..	..	..	0	..
	14	29·582	40·9	40·7	0·2	..	..	——	E	..	..	..	..	..	..	1	Transit
	16	29·574	40·8	40·8	0·0	41·0	−0·2	52·0	Calm	..	..	..	..	..	..	10	..
	18	29·581	40·6	40·7	−0·1	..	..	50·2	NE	..	..	..	..	..	..	10	..
	20	29·595	44·5	44·2	0·3	..	..	..	NE	..	..	..	..	..	..	10	..
	22	29·620	52·0	50·4	1·6	48·5	3·5	..	E	..	ESE	1·12	2·15	0·00	4·340	10	..
Apr. 24.	0	29·613	62·7	56·5	6·2	..	..	..	SW	..	..	..	..	..	..	7	..
	2	29·605	65·9	57·7	8·2	..	..	70·3	SW	..	..	..	..	..	..	7	..
	4	29·594	65·7	56·0	9·7	45·0	20·7	47·4	SSW	..	..	..	..	..	..	4	..
	6	29·599	62·0	53·2	8·8	..	..	94·6 40·6	SSW	..	..	..	..	..	..	3	Perigee
	8	29·623	56·3	50·0	6·3	..	..	——	Calm	..	..	..	..	..	..	2	..
	10	29·646	52·2	48·2	4·0	44·0	8·2	53·0 51·0	Calm	..	..	..	..	..	..	2	..
	12	29·612	48·0	45·7	2·3	..	..	..	...	..	..	..	..	..	..	3	..

DRY THERMOMETER.

April 23d. 18h. The reading was lower than that of the Wet Thermometer.

April 24d. 0h. The reading was 10°·7 greater than that at the previous observation.

DEW POINT THERMOMETER.

April 22d and 23d, at 16h. The reading was higher than that of the Dry Thermometer.

OSLER'S ANEMOMETER.

April 24d. 10h. The clock stopped; the night was calm till about 18h, and up to that time the wind was light from the S. W.

REMARKS.	Observer.
Cloudless.	H B
Cloudless.	
Cloudless, except a few cumuli near the N. horizon.	H B
There are a few cirri towards the S. horizon, but to no numerical extent.	L
Cloudless, except a few light clouds towards the W.	
Cirri scattered over various parts of the sky.	
Cloudless.	L
Overcast: cirro-stratus.	D
,, ,, a damp air.	
,, ,, a damp air or slight fog.	
,, ,, a damp air.	
,, ,, ,,	D
,, cirro-stratus and scud: the clouds began to break at about $23^{h}. 40^{m}$.	H B
Cloudless.	L
Cloudless, excepting a few light clouds in the S. E.	H B
Cloudless.	D
,,	
A line of stratus is near the S. horizon, and a few small fragments of scud are in the W. and N.W.; the sky is otherwise clear.	
Thin white clouds are N. N.W. of the zenith, every other part of the sky being clear.	D
Cloudless.	H B
,,	
Cloudless, except a long narrow cloud extending from the Moon's place to the N.W.	
Cloudless.	
,,	H B
,,	L
Cirri and light clouds to the E. and S. horizon.	
Cumuli extending along the horizon from the N. E. to the N.W.: cirri and light clouds about the zenith and towards the W. horizon.	L
Rocky cumuli, extending along the horizon from the N. to the N. E., with linear cirri scattered in various directions.	H B
Light cirri near the N. N.W. horizon, and a few cumuli near the N. horizon.	
Cirro-stratus near the horizon in every direction.	H B
Cloudless.	G
A few lines of thin cloud are above the Moon, but to no numerical extent.	G
Strati in the S.: a faint corona is visible round the Moon.	D
A thick fog.	L
,, the signal-time-ball is almost invisible from the Magnetical Observatory.	L
Overcast: a slight fog.	H B
The sky is covered with a white cloud, of apparently varying density; near the place of the Sun the cloud is bright and thin: occasional faint gleams of Sunshine occur; and through very trifling breaks in the clouds a deep blue sky is seen, so that there does not seem to be any upper cloud: a few very minute drops of rain have been falling.	G
Cumuli extending from the S.W. to the S. E. horizon: white scud and light clouds are in every direction.	L
Cumuli, cumulo-strati, and large quantities of white scud: the upper cloud is a very light kind of cirrus.	H B
The N. half of the sky is about one-third covered with cumuli and cumulo-strati: detached cumuli and cirri are about and to the S. of the zenith.	L
Cirri are in all parts of the sky; the species of cirrus is very variable, there being specimens of comoid, cymoid, and linear, with a few cumuli in the N. E.	D
Red-coloured cirri are scattered over the sky in the E. and S. E.	H B
A good deal of scud scattered about the N.; the southern portion of the sky is generally clear, the West being tolerably bright, and the E. thick and vapourish.	G
A bank of cirro-stratus extending along the horizon from the S. S. E. to the N.; also a few light clouds in various directions.	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.	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.	RAIN. Stand of Rain-gauge No. 1. (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3. (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Apr. 24. 14	29·663	46·7	45·2	1·5	..	..	..	..	..	..	..	..	..	..	6	..
16	29·660	45·8	44·4	1·4	43·0	2·8	..	..	..	..	..	..	..	..	8	Transit
18	29·665	47·0	45·7	1·3	..	..	..	..	..	..	..	..	..	..	8	..
20	29·670	53·5	50·8	2·7	..	..	..	..	..	..	..	..	..	..	7	..
22	29·670	62·0	55·0	7·0	49·5	12·5	..	..	..	SW	3·27	2·15	0·00	4·345	2	..
Apr. 25. 0	29·656	64·1	55·7	8·4	..	..	..	S	..	..	..	..	..	..	3	Greatest declination S.
2	29·651	62·8	55·4	7·4	..	..	..	S	0 to 1	SSW	1·43	..	..	..	6	..
4	29·632	61·8	53·2	8·6	43·0	18·8	66·5	S	0 to ½	..	..	..	..	..	9	..
6	29·613	58·2	53·7	4·5	..	..	52·0	S	0 to 1	..	..	..	..	..	9	..
8	29·581	56·0	52·4	3·6	..	..	84·8	S	0 to ½	S	2·26	..	..	..	10	..
10	29·539	55·4	52·4	3·0	50·0	5·4	48·7	S by E	..	..	..	..	..	..	10	..
12	29·477	54·6	53·6	1·0	..	..		S by E	½ to 1½	..	..	..	..	..	10	..
14	29·402	53·6	52·9	0·7	..	..	54·5	S	½ to 1	SSW	1·06	..	..	..	10	..
16	29·338	52·2	51·8	0·4	51·5	0·7	52·0	S	½ to 1½	..	..	..	..	..	10	Transit
18	29·299	52·6	52·2	0·4	..	..		S	1 to 3	..	..	..	..	..	10	..
20	29·288	52·6	51·9	0·7	..	..	..	SSW	½ to 1½	..	..	..	..	..	10	..
22	29·319	53·6	52·6	1·0	51·8	1·8	..	SSW	1½ to 2½	SW	1·73	2·26	0·16	4·490	10	..
Apr. 26. 0	29·341	60·0	54·2	5·8	..	..	..	SSW	½ to 3	..	..	..	..	..	3	..
2	29·384	61·1	53·2	7·9	..	..	..	SSW	1½ to 4	..	..	..	..	..	3	..
4	29·377	54·0	51·5	2·5	49·5	4·5	61·8	SSW	1 to 3	..	..	..	..	..	6	..
6	29·391	54·9	49·2	5·7	..	..	47·5	SW	1 to 3½	SW	2·63	..	..	..	5	..
8	29·427	50·4	46·8	3·6	..	..		SSW	1 to 4	..	..	..	..	..	10	..
10	29·473	47·7	45·7	2·0	44·0	3·7	74·8	SSW	½ to 2	..	..	..	..	..	0	..
12	29·480	47·5	45·4	2·1	..	..	47·8	SSW	0 to 1	..	..	..	..	..	3	..
14	..	..	..	..	..	..		SSW	0 to ½	..	..	..	..	..	..	..
16	..	..	..	..	..	..	55·0	S by W	0 to 1	..	..	..	..	..	..	..
18	..	..	..	..	..	..	52·8	S by W	0 to ½	WSW	1·35	..	..	..	..	..
20	..	..	..	..	..	..	..	S by W	1 to 2	..	..	..	..	..	..	Transit
22	29·518	53·7	51·0	2·7	..	..	..	S by W	1 to 3	SW	4·74	2·26	0·00	4·510	10	..
Apr. 27. 0	..	..	..	..	..	..	..	SSW	3 to 4½	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	SSW	3 to 5	..	..	..	..	..	..	..
4	29·515	58·4	52·8	5·6	..	..	58·6	SSW	2 to 4½	..	..	..	..	..	7	..
6	..	..	..	..	..	..	47·5	SSW	½ to 2	SW	4·94	..	..	..	..	..
8	29·555	51·5	48·8	2·7	..	..		S by W	½ constant	..	..	..	..	..	10	..
10	..	..	..	..	..	..	..	S by W	..	SSW	0·47	..	..	..	..	..
12	..	..	..	..	..	..	42·4	S by W	..	..	..	..	..	..	..	..
14	29·553	47·1	46·6	0·5	..	..		S by W	..	..	..	..	..	..	2	..
16	29·536	46·7	46·2	0·5	46·0	0·7	54·8	S by W	..	..	..	..	..	..	10	..
18	29·534	47·4	46·7	0·7	..	..	53·0	S by E	..	..	..	..	..	..	10	Transit
20	29·528	50·5	49·3	1·2	..	..	..	S by E	..	..	..	..	..	..	9	..
22	29·525	56·3	51·7	4·6	46·0	10·3	..	SSE	..	SSE	0·44	2·26	0·00	4·510	9	..
Apr. 28. 0	29·513	60·5	53·4	7·1	..	..	62·6	S by E	..	..	..	..	..	..	10	..
2	29·520	56·5	53·3	3·2	..	..	49·9	S by E	0 to 1	..	..	..	..	..	10	..
4	29·506	55·9	53·2	2·7	49·0	6·9		S by E	..	..	..	..	..	..	10	..
6	29·519	56·1	54·0	2·1	..	..	72·8	S	..	..	..	..	..	..	10	..
8	29·552	54·4	53·0	1·4	..	..	49·5	S by E	..	..	..	..	..	..	10	..
10	29·573	52·4	51·3	1·1	50·0	2·4	55·0	S by W	..	..	..	..	..	..	10	..
12	29·597	50·8	50·0	0·8	..	..	53·5	S by W	..	..	..	..	..	..	10	3rd Qr.

MINIMUM FREE THERMOMETER.

April 24d and 27d, at 22h. The readings were higher than those of the Dry Thermometer at 14h, 16h, and 18h.

OSLER'S ANEMOMETER.

April 25d. 21h. 40m. A gust recording a pressure of 4½ lbs. took place.

April 26d at 1h, a gust to 5½ lbs.; and on April 27d, at 3h and 3h. 10m, gusts of 7 lbs. pressure on the square foot were recorded.

REMARKS.	Observer.
The southern portion of the sky and part of the N. is covered with cirro-stratus and fleecy clouds.	L
Cirro-stratus and fleecy clouds.	
,,	
Cirro-stratus and fleecy clouds cover the S. half of the sky and part of the N.	L
There are a few light clouds near the W. horizon, and also fleecy clouds and cumuli towards the E. and S.E. horizon.	H B
Cumuli are scattered in all directions.	D
Cumuli and white scud in every direction.	H B
Reticulated cirri thinly spread over the whole sky, with the exception of a break near the E. horizon, which shews the blue sky beyond, but not in sufficient quantity to affect the notation.	L
Cirro-stratus and fleecy clouds.	
Cirro-stratus and scud: wind blowing in gusts to ½.	
Overcast: the reflexion of the London lights is about 13° above the horizon.	L
,, the sky looks remarkably black, and there is every appearance of rain; the air is very mild to the senses.	D
,, rain is falling.	
,, ,,	
,, ,,	
,, ,,	D
,, cirro-stratus and scud: occasional drops of rain are falling.	H B
Cumuli and cirro-strati all round the horizon, light scud in various directions.	L
Cumuli round the horizon: light scud in various directions: wind blowing in gusts to 1½.	L
Cumulo-stratus and scud: a shower of rain fell between $3^h. 30^m$ and $3^h. 55^m$.	D
Cumuli and cumulo-strati.	
Cirro-stratus and scud: wind blowing in gusts to 1½.	
A small quantity of scud of no numerical amount near the W. horizon, is the only cloud visible.	D
Cirro-stratus near the horizon in every direction, but more especially near the N.W., where it extends to an altitude of 25°: the stars appear dim: wind blowing in gusts to 1.	H B
Overcast: cirro-stratus and scud: wind blowing in gusts to 2.	
Cirro-stratus and scud: the Sun is shining frequently through the clouds.	H B
Cirro-stratus and scud, with a few small breaks, but to no numerical extent.	D
Cirro-stratus near the horizon: the stars appear dim.	H B
Overcast: cirro-stratus and scud.	
,, ,,	
Cirro-stratus and scud: breaks in the clouds in various parts of the sky.	H B
,, ,,	L
Cirro-stratus and scud: breaks in the clouds in various directions.	L
Overcast: cirro-stratus and scud.	
Cirro-stratus and scud.	
,,	
Cirro-stratus and scud, the latter of various densities.	G
Overcast: one uniform dense stratus.	D
,, ,,	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Apr. 28. 14	29·619	50·6	49·7	0·9	..	..	..	SSW	..	SSW	1·36	..	..	..	10	..
16	29·644	50·2	49·5	0·7	48·0	2·2	..	SSW	..	..	..	..	..	..	10	..
18	29·698	50·4	49·0	1·4	..	..	..	SW	..	SW	1·59	..	..	..	10	..
20	29·742	53·5	52·4	1·1	..	..	..	WSW	..	..	..	..	..	..	10	Transit
22	29·771	57·3	51·5	5·8	47·5	9·8	..	NNW	..	W	0·75	2·26	0·00	4·520	9	..
Apr. 29. 0	29·799	59·8	53·9	5·9	..	..	..	WSW	..	..	..	..	..	..	10	..
2	29·812	61·9	54·6	7·3	..	..	..	WSW	..	..	..	..	..	..	10	..
4	29·816	64·2	56·1	8·1	47·3	16·9	64·9	SW	..	..	..	..	..	..	6	..
6	29·831	59·0	53·5	5·5	..	..	48·7	SW	..	WSW	1·92	..	..	..	10	..
8	29·863	53·2	50·8	2·4	..	..	——	SW	..	..	..	..	..	..	10	..
10	29·883	51·1	48·8	2·3	46·0	5·1	80·4	SSW	..	..	..	..	..	..	10	..
12	29·895	50·2	48·8	1·4	..	..	47·0	SW	..	..	..	..	..	..	10	..
14	29·896	50·1	48·9	1·2	..	..	——	SSW	..	..	..	..	..	..	10	..
16	29·884	49·4	48·4	1·0	47·5	1·9	55·0	SSW	..	..	..	..	..	..	10	..
18	29·898	50·4	49·4	1·0	..	..	54·0	SSW	..	..	..	..	..	..	10	..
20	29·918	53·3	52·1	1·2	..	..	..	SSW	..	..	..	..	..	..	10	Transit
22	29·929	55·9	54·2	1·7	52·5	3·4	..	SSW	..	SW	2·58	2·26	0·00	4·520	10	..
Apr. 30. 0	29·934	57·2	54·9	2·3	..	..	..	SW	0 to 1½	..	..	..	..	..	10	..
2	29·943	56·4	54·7	1·7	..	..	..	SSW	0 to ½	..	..	..	..	..	10	..
4	29·904	57·8	56·0	1·8	54·5	3·3	..	SSW	0 to 1¼	..	..	..	..	..	10	..
6	29·878	57·0	55·1	1·9	..	..	60·2	SSW	½ to 2	..	..	..	..	..	10	..
8	29·867	54·9	53·3	1·6	..	..	51·7	SSW	1 to 3½	..	..	..	..	..	10	..
10	29·840	54·1	52·4	1·7	50·0	4·1	——	SW	½ to 3½	..	..	..	..	..	10	..
12	29·834	53·0	51·9	1·1	..	..	69·5	SW	½ to 3	..	..	2·26	0·00	4·520	10	..
14	29·794	52·6	51·7	0·9	..	..	48·7	SW	1 to 2	..	..	..	..	..	10	..
16	29·779	52·4	51·7	0·7	51·0	1·4	——	SW	½ to 1½	SW	5·86	..	..	..	10	..
18	29·790	51·1	50·8	0·3	..	..	55·0	SW	½ constant	..	..	..	..	..	0	..
20	29·791	56·2	52·8	3·4	..	..	54·2	SW	1 to 2	..	..	..	..	..	4	Transit
22	29·790	59·5	54·4	5·1	51·0	8·5	..	WSW	½ to 3½	WSW	2·28	2·26	0·00	4·520	5	..
May 1. 0	29·774	62·1	55·0	7·1	..	..	..	SW	2½ to 4½	..	..	..	..	..	3	..
2	29·750	63·9	55·4	8·5	..	..	..	WSW	2 to 3	..	..	..	..	..	6	..
4	29·738	63·3	55·7	7·6	50·0	13·3	..	SW	1½ to 3	..	..	..	..	..	5	..
6	29·707	59·3	53·5	5·8	..	..	..	SW	1½ to 3½	..	..	..	..	..	5	..
8	29·711	54·5	50·9	3·6	..	..	67·5 48·5 ——	SSW	½ to 1½	..	..	..	..	..	10	..
10	29·705	51·7	49·6	2·1	..	..	79·8 44·5	SW	¼ to ½	..	..	..	..	..	10	In Equator
12	29·672	51·5	49·8	1·7	..	..	——	SW	0 to ½	..	..	..	..	..	10	..
14	29·659	51·3	49·7	1·6	..	..	55·8 54·8	SW	½ to 1½	..	..	..	..	..	10	..
16	29·652	49·9	48·4	1·5	47·0	2·9	..	WSW	½ to 1	WSW	6·58	..	..	..	7	..
18	29·666	48·9	47·4	1·5	..	..	..	WSW	1 to 1½	..	..	..	..	..	4	..
20	29·702	52·7	49·8	2·9	..	..	..	WSW	0 to ½	..	..	..	..	..	7	..
22	29·720	56·7	51·9	4·8	47·0	9·7	..	WSW	½ to 1½	W	1·22	2·26	0·00	4·525	9	Transit
May 2. 0	29·721	59·5	52·3	7·2	..	..	..	WSW	½ to 2	..	..	..	..	..	8	..
2	29·708	62·8	54·7	8·1	..	..	..	WSW	½ to 2	WSW	1·92	..	..	..	3	..

DEW POINT THERMOMETER.

May 1d. 10h. The observation was omitted by inadvertence.

MINIMUM FREE THERMOMETER.

April 30d. 22h. The reading was higher than that of the Dry Thermometer at 18h.

RAIN.

April 30d. 12h. The amount collected during the month of April in the rain-gauge No. 4 was 0in·55, 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 0in·58.

REMARKS.	Observer.
Overcast: one uniform dense stratus.	L
,,	
,,	
,,	L
Cirro-stratus and scud: the Sun's place visible.	H B
Overcast: cirro-stratus and scud.	
,, cirro-stratus, scud, and cumuli near the N. horizon.	
Cumuli, a few cirro-cumuli, and large quantities of white scud.	
Cumulo-stratus and scud.	
Overcast: cumulo-stratus and scud.	
Overcast: stratus and scud.	H B
Overcast: stratus.	D
,, ,,	
,, ,,	
,, ,,	
,, ,,	D
,, ,,	L
Cirro-stratus and scud: wind blowing in gusts to ½.	
,,	L
Overcast: cirro-stratus.	D
,, ,,	
,, ,,	D
,, ,, wind blowing in gusts to 2.	H B
,, ,, wind blowing in gusts.	G
Cirro-stratus and scud: the clouds are low: a very thin rain is falling.	
,, ,, ,,	
The sky continued as before till 17ʰ. 45ᵐ, and between that time and the present the sky has become cloudless.	
Cloudless in very many parts of the sky: a great deal of cymoid cirrus of a fine kind in various places, and a large quantity of the curved cirrus everywhere.	G
Cumuli near the horizon, cirro-cumuli near the zenith and around, and fragments of light scud moving with great rapidity from the W. S. W.: wind blowing in gusts to 2: the sky became overcast in less than ten minutes after this observation.	H B
Large cumuli near the horizon, and a few cirro-cumuli near the zenith: wind blowing in gusts to 1½.	
Fine cirro-cumuli N. E. of the zenith: cumuli in large masses, and fragments of scud in various directions: wind in gusts to 1½	H B
Cirro-cumuli around the zenith: dense scud to the N.: wind blowing in gusts to 1½.	G
The S. and E. portions of the sky are free from cloud; every other part of the sky is covered with a white cirro-stratus, becoming thinner as it approaches the clear sky, between which and the cirro-stratus the clouds are a small kind of cirro-cumuli: wind blowing in gusts to 2.	
Since 6ʰ the clouds have been increasing in amount and in density: the sky has been wholly covered with cirro-stratus and a quick moving scud for some time.	
The sky is covered with a uniform black cloud: the wind is cold and blows in occasional gusts from 1½ to 2.	G
Overcast: cirro-stratus: the wind blowing in gusts to 1.	H B
,, ,, the wind blowing in gusts to 1½: at 13ʰ a slight rain fell for a short time, and a few stars near the zenith were visible afterwards.	
Cirro-stratus, scud, and light clouds: a shower of rain fell between this and the last observation.	
Cirri and cirro-cumuli principally S. of the zenith: cirro-stratus and light scud near the horizon.	
Cumuli, cirro-stratus, and heavy scud.	H B
Cumuli and cumulo-strati towards the N. and E. horizon; cirro-stratus and scud elsewhere.	L
Cumuli and cumulo-strati towards the N. and E. horizon; cirro-stratus and scud elsewhere.	
Cumuli to the N. and E.: light clouds towards the S., and in various directions.	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
May 2. 4	29·703	54·7	51·3	3·4	47·0	7·7	..	SW	1½ to 2	..	..	..	..	..	10	..
6	29·719	57·0	49·4	7·6	..	..	68·1 41·6	W by N	0 to 2	WNW	0·70	..	..	..	2	..
8	29·750	52·5	47·6	4·9	..	..	——	WSW	0 to 1½	..	..	..	..	..	1	..
10	29·795	48·7	45·7	3·0	43·5	5·2	85·7	WSW	..	..	..	..	..	..	1	..
12	29·819	45·3	43·8	1·5	..	..	37·9	WSW	..	..	..	..	..	..	0	..
14	29·832	43·0	42·3	0·7	..	..	——	WSW	..	..	..	..	..	..	0	..
16	29·849	42·2	41·5	0·7	40·0	2·2	55·8	WSW	..	..	..	..	..	..	9	..
18	29·856	43·7	42·7	1·0	..	..	55·0	SW	..	..	..	..	..	..	10	..
20	29·870	47·5	45·5	2·0	..	..	..	WSW	..	..	..	..	..	..	10	..
22	29·852	52·4	48·3	4·1	42·8	9·6	..	WSW	0 to 1	W	2·96	2·26	0·00	4·535	10	Transit
May 3. 0	29·819	57·4	51·4	6·0	..	..	..	WSW	2 to 2½	SW	1·34	..	..	..	10	..
2	29·784	58·4	51·7	6·7	..	..		WSW	1 to 2	..	..	..	..	..	8	..
4	29·764	59·3	50·5	8·8	48·0	11·3	60·4	SSW	0 to 1	..	..	..	..	..	10	..
6	29·728	56·1	48·4	7·7	..	..	40·2	WSW	1 to 3½	..	..	..	..	..	8	..
8	29·733	52·7	47·8	4·9	..	..	——	WSW	½ to 1½	WSW	1·58	..	..	..	8	..
10	29·741	48·3	47·0	1·3	45·5	2·8	76·8	WSW	..	..	..	..	..	..	7	..
12	29·748	47·0	45·7	1·3	..	..	34·0	WSW	..	..	..	..	..	..	2	..
14	..	..	..	..	..	..	——	WSW	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	55·0	WSW	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	54·5	SSW	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..
22	29·709	51·3	46·3	5·0	..	..	..	W by N	½ to 1½	SW	1·10	2·26	0·00	4·575	5	..
May 4. 0	..	..	..	..	..	..	..	W	½ to 1	..	..	..	..	..	..	Transit
2	29·675	54·6	46·2	8·4	..	..	..	NNW	2 to 2½	..	..	..	..	..	9	..
4	..	..	..	..	..	..	..	NNW	½ to 1½	..	..	..	..	..	..	..
6	..	..	..	..	..	..	57·4	NNW	..	NW	1·95	..	..	..	..	..
8	29·680	45·0	43·5	1·5	..	..	41·0	N by E	0 to ½	..	..	..	..	..	10	..
10	29·685	43·5	41·7	1·8	..	..	—— 71·2	NNW	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	34·5 ——	NNW	..	..	..	..	..	..	..	..
14	29·698	43·0	41·2	1·8	..	..	54·8	NNW	..	..	..	..	..	..	10	..
16	29·710	42·5	40·6	1·9	38·5	4·0	53·8	NNW	..	..	..	..	..	..	9	..
18	29·743	42·8	41·0	1·8	..	..		N by W	..	..	..	..	..	..	9½	..
20	29·759	45·6	43·2	2·4	..	..	..	N by W	..	..	..	..	..	..	9	..
22	29·762	48·2	43·9	4·3	40·0	8·2	..	N by W	½ to 1	NNW	2·45	2·26	0·00	4·600	9	..
May 5. 0	29·739	52·2	45·5	6·7	..	..	..	N by W	..	..	..	..	..	..	10	Transit
2	29·706	51·3	45·4	5·9	..	..	..	W	..	..	..	..	..	..	10	..
4	29·684	45·9	44·2	1·7	42·5	3·4	54·4	ENE	..	..	..	..	..	..	10	..
6	29·686	44·7	43·2	1·5	..	..	36·4	N	..	..	..	..	..	..	10	..
8	29·693	42·5	40·8	1·7	..	..	——	N	..	..	..	..	..	..	9	..
10	29·713	39·8	38·8	1·0	37·8	2·0	70·2	NNW	..	..	..	..	..	..	0	..
12	29·730	40·1	39·0	1·1	..	..	30·5	NNW	..	..	..	..	..	..	0	..
14	29·712	37·5	37·2	0·3	..	..	——	W by N	..	..	..	..	..	..	0	..
16	29·703	39·5	38·4	1·1	37·0	2·5	54·0	NNW	..	..	..	..	..	..	10	..
18	29·702	39·5	38·7	0·8	..	..	53·0	WSW	..	..	..	..	..	..	10	..
20	29·690	40·9	40·3	0·6	..	..	..	WSW	..	..	..	..	..	..	10	..
22	29·676	47·1	43·7	3·4	38·0	9·1	..	WSW	..	N	1·75	2·26	0·12	4·685	10	New

OSLER'S ANEMOMETER.
May 2d. 4h. 10m. A gust of wind recording a pressure of 4½ lbs. on the square foot.

OSLER'S RAIN-GAUGE.
May 5d. 4h. See foot note on page 70.

REMARKS.	Observer.
Heavy electrical cumulo-strati: rain and a little hail are falling in a heavy squall: there was a peal of thunder shortly before and another immediately after the observation.	H B
Cirro-stratus near the N. horizon: cirri and a few cumuli in various directions.	
Cirro-stratus and scud principally to the N. of the zenith and near the horizon.	
Cirro-stratus and scud principally towards the W. horizon.	H B
Cloudless.	L
,,	
Clear about the zenith; cloudy elsewhere.	
A thin cirro-stratus covers the whole sky.	
,, one uniform cloud.	L
Overcast: cirro-stratus and scud.	H B
Overcast: cirro-stratus and scud: the wind blowing in gusts to $\frac{3}{4}$ and 1.	
Cumuli and scud: the wind blowing in gusts to 1: breaks in the clouds to the N. of the zenith.	H B
Cirro-stratus and scud: a shower of rain has just fallen; it lasted about four minutes.	L
Cirro-stratus and fleecy clouds: breaks in the clouds to the N. of the zenith.	
Cirro-stratus and scud, with small breaks in every direction.	
Rain began to fall at about $9^h. 10^m$, and ceased at $9^h. 40^m$: partially clear N. of the zenith.	L
Cirro-stratus and scud near the S. horizon.	H B
Cumulo-strati and scud: the N. portion of the sky is nearly clear: a heavy shower of rain fell between $22^h. 55^m$ and $23^h. 5^m$.	D
The sky, with the exception of a very small portion, is covered with white cumulo-strati.	D
The sky is gloomy, with a few black clouds in various directions.	G
The sky is nearly cloudless, but the atmosphere still looks dense. At the setting of the Sun the clouds near him were edged with gold colour, those at a small distance were tinged with orange, and those more distant with a reddish yellow, the Sun being principally behind a dark slate-coloured cloud.	G
Overcast: cirro-stratus and scud: the sky was nearly clear about half an hour since.	H B
Cirro-stratus and scud: the clouds are broken near the eastern horizon and also near the zenith.	
,,	
,,	H B
Cirro-stratus, cumulo-stratus, and scud, with a break in the clouds towards the W.	L
Cirro-stratus, cumulo-stratus, and scud.	
Cirro-stratus and scud: very black towards the N.W.: rain was falling between $2^h. 30^m$ and 3^h.	L
,, there is a black nimbus S. of the zenith, from which a few drops of rain are falling: the wind must have changed suddenly to E. S. E., as at $3^h. 40^m$ it was W.	H B
Overcast: cirro-stratus and scud.	
Cirro-stratus and scud: there are breaks in the clouds in various places.	
Cloudless.	H B
,,	D
,,	
Overcast: cirro-stratus.	
,, ,,	
,, ,,	D
Cirro-stratus and scud, with occasional breaks in the clouds.	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
May 6. 0	29·649	45·2	42·2	3·0	..	..	..	WSW	..	..	..	..	..	..	10	Transit
2	29·622	47·9	43·1	4·8	..	..	53·0	WSW	..	..	..	..	..	..	10	..
4	29·581	49·5	44·8	4·7	40·0	9·5	40·6	NNE	..	..	..	..	..	..	10	..
6	29·561	47·1	43·7	3·4	..	..		E by S	..	..	..	..	..	..	10	..
8	29·548	42·5	41·1	1·4	..	..	60·5	Calm	..	..	..	..	..	..	10	..
10	29·550	41·6	40·7	0·9	39·5	2·1	39·8	Calm	..	..	..	..	..	..	10	..
12	29·545	41·0	40·7	0·3	..	..		Calm	..	..	..	..	..	..	10	..
14	29·532	40·9	40·8	0·1	..	..	53·0	W by S	..	..	..	..	..	..	10	..
16	29·511	41·5	41·2	0·3	40·5	1·0	53·0	WNW	..	..	..	..	..	..	10	..
18	29·520	41·8	41·4	0·4	..	..		NNE	..	NNE	0·87	..	..	..	10	..
20	29·530	43·8	42·7	1·1	..	..	..	N by E	..	..	..	..	..	..	5	..
22	29·521	44·5	42·4	2·1	40·5	4·0	..	N	..	N	0·36	2·47	0·14	4·815	10	..
May 7. 0	29·508	47·6	45·2	2·4	..	..	..	NNW	..	..	..	..	..	..	10	..
2	29·508	50·1	44·6	5·5	..	..	..	NNW	..	NNW	1·22	..	..	..	10	Transit
4	29·504	41·3	40·7	0·6	40·0	1·3	..	NNW	..	..	..	..	..	..	10	..
6	29·485	41·0	40·0	1·0	..	..	50·7	N by W	..	..	..	..	..	..	10	..
8	29·477	40·0	39·0	1·0	..	..	38·0	NNW	..	..	..	..	..	..	10	..
10	29·467	39·8	38·8	1·0	38·0	1·8	62·1	NW	..	..	..	..	..	..	10	..
12	29·446	39·4	38·9	0·5	..	..	35·4	SSW	..	..	..	..	..	..	10	..
14	29·417	39·2	38·6	0·6	..	..	52·0	SW	..	..	..	..	..	..	10	..
16	29·381	38·7	38·4	0·3	38·0	0·7	52·0	WSW	..	..	..	..	..	..	10	..
18	29·365	39·2	39·1	0·1	..	..		SW	..	..	..	..	..	..	10	..
20	29·360	42·2	41·2	1·0	..	..	..	SSW	..	..	..	..	..	..	10	..
22	29·328	42·5	41·2	1·3	39·8	2·7	..	SW	..	WSW	0·55	2·57	0·16	4·980	10	..
May 8. 0	29·321	47·1	44·4	2·7	..	..	..	SSW	..	..	..	..	..	..	10	..
2	29·311	46·8	45·6	1·2	..	..	..	SSW	..	..	..	..	..	..	10	Transit
4	29·300	47·8	45·4	2·4	43·0	4·8	53·7	SSW	..	..	..	..	..	..	10	..
6	29·281	46·4	42·4	4·0	..	..	39·4	S by E	..	..	..	..	..	..	10	..
8	29·283	43·5	42·2	1·3	..	..		S by W	..	..	..	..	..	..	10	..
10	29·306	42·3	41·7	0·6	40·5	1·8	68·6	SSW	..	..	..	..	..	..	10	..
12	29·296	42·0	41·4	0·6	..	..	36·0	Calm	..	..	..	..	..	..	9	..
14	29·300	40·4	40·2	0·2	..	..		Calm	..	..	..	..	..	..	8	..
16	29·309	40·5	40·2	0·3	40·0	0·5	52·0	Calm	..	..	..	..	..	..	10	Greatest declination N.
18	29·328	41·2	41·0	0·2	..	..	52·0	Calm	..	..	..	..	..	..	10	..
20	29·354	44·4	44·0	0·4	..	..	..	Calm	..	..	..	..	..	..	10	..
22	29·380	48·2	46·2	2·0	41·5	6·7	..	Calm	..	SSW	1·75	2·57	0·00	4·995	10	..
May 9. 0	29·386	49·5	47·3	2·2	..	..	..	N	..	..	..	..	..	..	10	..
2	29·379	56·1	48·7	7·4	..	..	..	WNW	..	..	..	..	..	..	9½	..
4	29·367	52·5	47·3	5·2	38·5	14·0	..	NNE	..	..	..	..	..	..	10	Transit
6	29·362	51·2	47·0	4·2	..	..	..	N by E	..	..	..	..	..	..	7	..
8	29·354	47·3	45·4	1·9	..	..	..	..	..	..	..	..	..	..	3	..

RAIN.

May 6d. 22h. No rain was registered by Osler's Anemometer, either on the sheet which was removed at this time or on the preceding sheet: on examination it was found that the string connecting the registering-pencil with the rain cylinder was not clamped. Rain to the amount of 0in·17 was found in the cylinder; at the time of the last register there was 0in·20 collected: since that time the cylinder must have emptied itself once, so that the whole quantity of rain fallen is 0in·21; the reading 2in·26 has therefore been increased by 0in·21: the instrument was left in good working order.

REMARKS.	Observer.
Cirro-stratus and scud: a remarkable gloom has prevailed since 23^h; it commenced towards the W. and has gradually increased towards the N. E., where it remains at present.	L
Cirro-stratus and scud: the gloom has mostly disappeared; there is still a little about the E. and N. E.	L
,,	D
Overcast: cirro-stratus: rain began to fall at $6^h. 3^m$.	
,, ,, rain has been falling without intermission since the last observation.	
,, a thin rain is falling.	D
,, a fine rain is falling.	L
,, the rain has ceased.	
Overcast, with occasional drops of fine rain.	
Cirro-stratus and scud.	
Cumuli all round the horizon: loose scud and bright clouds in every direction.	L
Overcast: cirro-stratus and scud.	H B
Overcast: cirro-stratus and scud.	
,, cirro-stratus: a large nimbus near the zenith.	H B
,, stratus: rain is falling.	L
Cirro-stratus and scud: rain is falling occasionally.	
About one-third of a solar halo was visible at $6^h. 32^m$, but was too faint to allow its measurement to be taken; it lasted about ten minutes: at present the sky is covered with cirro-stratus, scud, and fleecy clouds about the zenith, where they are very thin: since the last observation rain has fallen at intervals; it has now ceased.	
Overcast, but the cloud is thin, as stars (about the zenith particularly) are occasionally visible.	
A steady rain is falling.	L
A slight rain is falling.	G
A very thin rain has been falling nearly ever since 14^h, but it has now ceased.	
No rain has fallen since 16^h; the sky has continued overcast: cirro-stratus.	
Overcast: cirro-stratus, but of different densities, that near the place of the Sun being less dense than at other parts; there is a general tendency towards a dispersion of the clouds.	G
Overcast: cirro-stratus and scud: a few drops of rain falling occasionally.	H B
Cirro-stratus and scud: cumulo-strati towards the W. and N.W. horizon.	L
Overcast: cirro-stratus and scud: a heavy shower of rain fell about $1^h. 35^m$, during which some electricity was shewn.	H B
,, ,, a light rain falling.	G
,, a light rain falling: very dark clouds about.	
,, cirro-stratus and scud.	
,, cirro-stratus: it is very dark.	G
Cirro-stratus and scud: a few stars are visible in the E. and S.: there is a slight rain falling.	H B
,, several stars are visible.	
Overcast: cirro-stratus and scud.	
,, ,,	
,, ,,	H B
Cirro-stratus and scud: very black towards the N. and W.	L
Overcast.	
,, cirro-stratus, cumulo-stratus, and scud, with a few small breaks in the clouds about the zenith.	L
Cirro-stratus and scud: there are a few breaks in the clouds S. of the zenith, but not of sufficient extent to affect the notation: very dull and gloomy.	H B
The appearance of the sky has changed considerably since the previous observation: at $4^h. 40^m$ + a few large drops of rain fell, and shortly afterwards the clouds became broken in many places; at present there are cirro-cumuli near the zenith and for some degrees around; clear sky S. of the zenith, and cirro-stratus and haze near the horizon. At $6^h. 5^m$ a part of a solar halo was observed, but it disappeared before any measures could be taken; its radius was about 20°.	
Cirro-stratus and vapour near the W. and N. horizon; light clouds are scattered over other parts of the sky.	

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
May 9. 10	29·359	45·5	43·9	1·6	41·0	4·5	..	..	..	..	..	..	..	..	6	..
12	29·353	41·0	40·1	0·9	..	..	57·6 35·1	..	..	..	..	..	..	..	0	..
14	29·333	39·4	38·8	0·6	..	..		..	..	..	..	..	..	..	0	..
16	29·328	36·9	36·7	0·2	36·5	0·4	81·5	..	..	..	..	..	..	..	0	..
18	29·325	35·0	35·0	0·0	..	..	29·5	..	..	..	..	..	..	..	0	..
20	29·332	43·8	42·4	1·4	..	..	51·8 51·8	..	..	..	..	..	..	..	3	..
22	29·335	53·0	49·4	3·6	46·5	6·5	..	..	..	N	0·58	2·57	0·00	5·000	3	..
May 10. 0	29·336	53·0	48·4	4·6	..	..	..	..	..	..	..	..	..	..	9	..
2	29·333	54·6	49·7	4·9	..	..	..	..	..	..	..	..	..	..	8	Apogee
4	29·329	53·6	48·8	4·8	43·5	10·1	..	N by E	..	..	..	..	..	..	5	Transit
6	29·340	53·1	49·6	3·5	..	..	59·3 34·4	N	..	..	..	..	..	..	5	..
8	29·385	48·0	45·3	2·7	..	..	85·0	E by N	..	..	..	..	..	..	5	..
10	29·435	44·7	43·4	1·3	41·5	3·2	32·5	ENE	..	..	..	..	..	..	9	..
12	29·465	42·7	42·5	0·2	..	..	51·8 51·8	Calm	..	..	..	..	..	..	0	..
14	..	..	..	..	..	..		Calm	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	N	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	N by E	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	N by E	..	..	..	..	..	..	..	..
22	..	..	..	..	..	..	..	N by E	..	NNE	2·17	2·57	0·00	5·005	..	..
May 11. 0	29·706	48·3	45·9	2·4	..	..	..	NNE	..	..	..	..	..	..	10	..
2	..	..	..	..	..	..	..	N by E	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	~~67·8~~	WSW	..	..	..	..	..	..	..	Transit
6	29·729	53·9	50·1	3·8	..	..	45·6	W by N	..	WNW	0·53	..	..	..	10	..
8	..	..	..	..	..	..		WSW	..	..	..	..	..	..	..	..
10	29·758	47·0	45·3	1·7	..	..	75·6	WSW	..	..	..	..	..	..	1	..
12	..	..	..	..	..	..	42·4	WSW	..	..	..	..	..	..	..	..
14	29·709	46·0	44·9	1·1	..	..		WSW	..	..	..	..	..	..	10	..
16	29·668	45·2	44·2	1·0	43·5	1·7	51·8	WSW	..	..	..	..	..	..	10	..
18	29·645	45·7	44·6	1·1	..	..	51·8	WSW	0 to ½	..	..	..	..	..	10	..
20	29·642	47·0	46·7	0·3	..	..	..	WSW		..	..	..	..	..	10	..
22	29·611	51·4	50·4	1·0	49·5	1·9	..	W by S	..	WSW	2·77	2·61	0·06	5·065	10	..
May 12. 0	29·619	50·0	49·0	1·0	..	..	..	NW	..	..	..	..	..	..	10	..
2	29·620	51·4	46·2	5·2	..	..	59·1	..	..	NW	0·85	..	..	..	10	..
4	29·631	54·7	46·0	8·7	38·0	16·7	44·0	..	..	..	..	..	..	..	3	..
6	29·674	53·2	47·0	6·2	..	..		..	..	..	..	..	..	..	3	Transit
8	29·719	50·0	46·5	3·5	..	..	72·3	..	..	..	..	..	..	..	6	..
10	29·772	48·5	45·4	3·1	44·0	4·5	38·3	..	..	..	..	..	..	..	8	..
12	29·788	47·8	44·5	3·3	..	..	51·8	..	..	NNW	1·73	..	..	..	9¾	..
14	29·808	45·0	42·8	2·2	..	..	51·8	..	..	..	..	..	..	..	0	..
16	29·832	44·4	42·7	1·7	40·0	4·4	..	..	..	NW	1·32	..	..	..	9	..

MINIMUM THERMOMETER.

May 9d. 16h. The reading was higher than that of the Dry Thermometer at 18h.
May 11d. 22h. The reading was higher than that of the Dry Thermometer at 16h.

OSLER'S ANEMOMETER.

May 9d. 10h. The chain had slipped from the spikes of the clock barrel, and in attempting to place it on the spikes it was broken; it was sent to Mr. Bennett for repair.
May 10d. 2h. 15m. The links of the chain had been adjusted, and the instrument was set going at this time.
May 12d. At 22h it was found that the traversing-board had moved irregularly since 2h.

REMARKS.	Observer.
Light clouds and scud scattered over the sky: cirro-stratus near the horizon: at $9^h. 35^m$ heavy cumulo-strati were very prevalent, but they disappeared in less than ten minutes afterwards: at $8^h. 40^m$ the sky was cloudless.	H B
Cloudless: near the surface of the earth there appears to be a slight mist.	D
,,	
,,	
,, there is a slight fog.	
Fragments of cloud are scattered in various directions over the sky: the fog here has disappeared, but in the town and lower parts of the Park it is very dense; Greenwich Hospital and the Royal Naval Asylum are both quite invisible from the roof of the Observatory.	D
Cumuli towards the N.; in the S. cumuli and cumulo-strati: there are light clouds in various dirctions.	L
Cirro-stratus and scud: fine specimens of cumulo-stratus towards the N. and W.	L
Large cumulo-strati in the S. E. and N. E., from which quarter low mutterings of thunder were occasionally heard; cumuli, scud, and light clouds in other directions: rain began to fall heavily at $2^h. 10^m$, and ceased three minutes afterwards.	H B
Cumuli near the horizon in the S.; small fragments of undefined clouds are scattered over every other part of the sky.	D
The N. portion of the sky nearly clear; a dense cumulo-stratus, however, in the N.E.: several large cumulo-strati S. of the zenith, and a few cumuli near the horizon in the W.: at $4^h. 25^m$ there was a slight shower of rain.	
Loose scud in every direction: in the W. horizon there is a very large nimbus, the edges of which are remarkably well defined: at $6^h. 6^m$ and $6^h. 8^m$ deep mutterings of thunder were heard from the clouds in the S.S.W.	D
The zenith and a portion of the southern sky are clear; the remainder is covered with scud: all the N. portion is covered with cumulo-stratus.	G
Cloudless.	L
Overcast: cirro-stratus and scud.	H B
The sky is covered with large masses of scud: there is no upper cloud.	
Cumulo-strati extending along the horizon from N. to W.: cloudless in other parts.	H B
Overcast.	L
,, rain is falling.	
,, the rain has ceased.	
,,	L
,, cirro-stratus and scud.	H B
Overcast: cirro-stratus and scud: slight rain has been falling: at $23^h. 5^m$ a heavy shower of rain fell: the reading of Crosley's Gauge after the shower was 5 ·160, and that on the Library 0 ·13.	
Overcast: cirro-stratus, nimbi, and scud: dull and gloomy.	H B
Cirri, bordering on the cirro-stratus, to the S. of the zenith: light clouds and cumuli are in various directions. [gusts to ½.	L
Cumulo-strati towards the W.: cumuli and light clouds are around the horizon and in various directions: the wind blowing in	
Cumulo-stratus extending along the W. horizon: there are light clouds in every direction.	
The sky to the N. of the zenith is covered with cirro-stratus: about the zenith and a little to the S. of it is clear: there is a break in the clouds about the place of the Moon.	L
Nearly overcast, with cirro-stratus and vapour: the Moon's place is visible.	H B
Cloudless.	
Cirro-stratus and scud: the sky has been alternately clear and cloudy since the last observation.	

RAIN.

May $9^d. 22^h$. The increase in rain-gauge No. 3 was caused by deposition of moisture.

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.	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.	RAIN. Stand of Rain-gauge No. 1. (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
May 12. 18	29·871	46·5	44·2	2·3	..	..	..	..	..	..	..	..	..	..	7	..
20	29·901	50·1	47·1	3·0	..	..	..	..	..	..	..	..	..	..	5	..
22	29·935	53·5	48·6	4·9	42·5	11·0	..	..	..	N	1·08	2·68	0·13	5·170	9	..
May 13. 0	29·958	54·0	48·1	5·9	..	..	..	NNW	½ to 1½	..	..	..	..	..	8	..
2	29·968	54·5	47·7	6·8	..	..	..	N	0 to 1	..	..	..	..	..	6	..
4	29·967	57·1	49·3	7·8	39·5	17·6	..	N	½ to 2	..	..	..	..	..	10	..
6	29·990	52·0	48·9	3·1	..	..	..	N	0 to ¼	..	..	..	..	..	10	Transit
8	30·010	49·0	45·9	3·1	..	..	59·7 44·6	N	½ to 2	..	..	..	..	..	4	..
10	30·050	46·9	45·0	1·9	43·0	3·9	78·0 42·0	N	0 to ½	..	..	..	..	..	10	..
12	30·066	46·3	44·7	1·6	..	..	51·8 51·8	N by E	½ to 1	..	..	..	..	..	9	..
14	30·071	45·1	43·6	1·5	..	..		N by E	½ to 1½	..	..	..	..	..	9	..
16	30·090	45·3	43·8	1·5	42·0	3·3	..	N by E	..	..	..	..	..	..	10	..
18	30·108	45·8	44·8	1·0	..	..	..	N by E	½ to 1	..	..	..	..	..	10	..
20	30·127	49·6	47·4	2·2	..	..	..	N by E	½ to 1½	..	..	..	..	..	6	..
22	30·148	55·3	50·4	4·9	47·0	8·3	..	N by E	1 to 2	N	5·68	2·68	0·00	5·175	7	..
May 14. 0	30·157	56·8	50·5	6·3	..	..	..	NNE	..	..	..	..	..	..	8	..
2	30·164	56·9	51·1	5·8	..	..	..	N	0 to 1	..	..	..	..	..	10	1st Qr.
4	30·160	58·0	51·6	6·4	44·0	14·0	61·5 41·4	N by E	½ to 1½	..	..	..	..	..	9	..
6	30·176	55·6	49·8	5·8	..	..		NNE	½ to 1½	..	..	..	..	..	9	Transit
8	30·177	50·9	47·1	3·8	..	..	83·5 31·0	NNE	..	NNE	1·04	..	..	..	3	..
10	30·187	46·2	43·8	2·4	42·0	4·2		Calm	..	..	..	..	..	..	0	..
12	30·180	44·0	42·5	1·5	..	..		Calm	..	..	..	..	..	..	½	..
14	30·166	42·6	41·8	0·8	..	..		Calm	..	..	..	..	..	..	10	..
16	30·145	42·6	41·7	0·9	40·0	2·6	52·0 52·0	Calm	..	..	..	..	..	..	10	..
18	30·150	42·6	41·7	0·9	..	..		Calm	..	..	..	..	..	..	10	..
20	30·165	48·5	46·8	1·7	..	..	..	Calm	..	..	..	..	..	..	10	..
22	30·166	53·0	49·9	3·1	46·0	7·0	..	N	..	N	1·22	2·68	0·00	5·180	8	..
May 15. 0	30·153	57·1	51·7	5·4	..	..	..	N by W	..	..	..	..	..	..	10	..
2	30·152	60·0	54·0	6·0	..	..	..	N by W	0 to ¼	..	..	..	..	..	7	..
4	30·141	60·9	53·2	7·7	45·0	15·9	64·6 46·4	N	0 to ¼	..	..	..	..	..	10	..
6	30·142	57·1	52·0	5·1	..	..		N	..	..	..	..	..	..	10	..
8	30·142	52·1	50·2	1·9	..	..		NNE	..	N	1·18	..	..	..	10	Transit
10	30·151	49·8	49·2	0·6	48·5	1·3	76·8 42·2	NNE	..	..	..	..	..	..	10	..
12	30·134	49·7	48·8	0·9	..	..		N by W	..	..	..	..	..	..	10	..
14	30·137	49·5	48·3	1·2	..	..		N by W	..	..	..	..	..	..	10	..
16	30·134	47·8	47·0	0·8	46·5	1·3	53·0 52·2	N by E	..	..	..	..	..	..	10	..
18	30·158	46·1	44·7	1·4	..	..		NNE	..	..	..	..	..	..	10	..
20	30·170	50·5	48·0	2·5	..	..	..	N by E	..	..	..	..	..	..	10	..
22	30·183	54·7	51·1	3·6	46·5	8·2	..	N by W	..	NNE	0·90	2·68	0·00	5·180	10	..
May 16. 0	30·177	56·4	54·0	2·4	..	..	..	N by E	..	..	..	..	..	..	10	..
2	30·165	58·1	54·0	4·1	..	..	..	N by E	..	..	..	..	..	..	10	In Equator
4	30·147	56·8	53·2	3·6	50·0	6·8	..	N by E	..	..	..	..	..	..	10	..
6	30·132	55·5	53·0	2·5	..	..	..	N by E	..	N	1·80	..	..	..	10	..
8	30·119	53·5	51·6	1·9	..	..	..	N by E	..	..	..	..	..	..	10	Transit

MINIMUM FREE THERMOMETER.
May 15d. 22h. The reading was higher than that of the Dry Thermometer at 18h.

OSLER'S ANEMOMETER.
May 12d. 22h. It was found that the traversing board had moved irregularly.

REMARKS.	Observer.
Cumuli, cirro-stratus, and scud.	H B
Cumuli, scud, and light clouds are to the N. of the zenith.	H B
Cirro-stratus, cumulo-stratus, and scud.	L
Cumuli towards the N.; cirro-stratus and light clouds are in the other portions of the sky.	
Cumuli towards the N. and W.: there are light clouds in various directions.	L
Overcast: cumulo-stratus, cirro-stratus, and scud.	H B
,, cirro-stratus and scud: a shower of rain fell about $5^h. 10^m$.	
Cirro-stratus and scud all round the horizon, the latter being very dark near the western horizon, and in large quantities near the eastern horizon: there are cirro-cumuli extending from 20° above the N. horizon to about 43° S. of the zenith: the appearance of the sky and the amount of cloud are momentarily changing: a few drops of rain have fallen occasionally since the last observation.	
Overcast: cirro-stratus and scud: the Moon is visible at times between the clouds.	H B
A few stars are shining in different parts of the sky, and the Moon is occasionally visible: the cloud is mostly cirro-stratus, but a few fleecy clouds are scattered in different directions.	D
The sky is covered with cirro-stratus, with the exception of the zenith.	
Overcast: cirro-stratus.	
,, ,, the wind blowing in gusts to $\frac{3}{4}$. [density.	
The sky N.W. of the zenith is nearly free from cloud, but the remaining part is covered with cirro-stratus, which is of very unequal	D
Detached masses of cumuli to the N. of the zenith: the S. part of the sky is mostly covered with cirro-stratus and light clouds.	L
Cirro-strati and detached masses of cumuli are in all directions: there are cirro-stratus and loose scud S. of the zenith.	
Cumulo-stratus, cirro-stratus, and scud of various densities cover the whole sky.	L
Cumulo-strati and scud.	D
Cirro-strati and vapour: the Sun is shining through a thin cirro-stratus, and a halo is faintly visible; about one-third only of the circle is discernible; the radius is 21°.	
Lines of stratus N.W. of the zenith; they are extending in a parallel direction from S.W. to N.E.	
Cloudless.	D
A narrow streak of stratus along the W. horizon; otherwise cloudless.	L
Overcast: the clouds began to collect soon after the last observation.	
,,	
,, a few drops of rain fell about $17^h. 10^m$.	
A thin cirro-stratus covers the whole sky.	L
A thin cirro-stratus and scud: breaks in the clouds near the zenith, and in various other places.	H B
Overcast: cirro-stratus and scud.	
Cirro-cumuli, with light clouds and scud beneath: there are a few cumuli near the N. and S. horizon.	H B
Cirro-stratus and scud.	L
Overcast: cirro-stratus and scud.	
,, rain began to fall about $6^h. 45^m$, and ceased at $7^h. 45^m$.	
,, a thin fine rain has been falling occasionally since the last observation; it has now ceased.	L
,, cirro-stratus and scud.	H B
,, ,,	
,, ,,	
,, ,,	
,, ,,	H B
,, ,,	L
Overcast: cirro-stratus.	
,, ,,	
,, ,,	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
May 16. 10	30·117	51·7	50·7	1·0	48·8	2·9	59·6	Calm	. .	. .	. .	. .	. .	. .	10	. .
12	30·102	51·0	50·1	0·9	. .	. .	49·1	Calm	. .	. .	. .	. .	. .	. .	10	. .
14	30·067	52·0	49·9	2·1	. .	. .	——	WNW	. .	WNW	0·62	. .	. .	. .	10	. .
16	30·038	49·7	47·8	1·9	46·0	3·7	73·5	W by N	. .	. .	. .	. .	. .	. .	10	. .
18	30·023	49·0	47·2	1·8	. .	. .	44·5	WSW	. .	. .	. .	. .	. .	. .	10	. .
20	30·013	51·3	48·6	2·7	. .	. .	——	NNW	. .	. .	. .	. .	. .	. .	10	. .
							53·0									
22	29·999	53·5	50·8	2·7	48·5	5·0	52·8	NNW	. .	NNW	0·60	2·68	0·00	5·180	10	. .
May 17. 0	29·996	54·8	51·4	3·4	. .	. .	. .	N by E	. .	. .	. .	. .	. .	. .	10	. .
2	29·987	58·0	55·0	3·0	. .	. .	. .	N	. .	NW	0·11	. .	. .	. .	10	. .
4	29·995	49·4	48·4	1·0	48·0	1·4	57·8	N by E	0 to ½	. .	. .	. .	. .	. .	10	. .
6	29·998	47·8	45·8	2·0	. .	. .	36·4	NNE	. .	NNE	0·90	. .	. .	. .	10	. .
8	30·005	47·5	44·6	2·9	. .	. .	——	NNE	. .	. .	. .	. .	. .	. .	6	. .
10	30·025	42·5	41·0	1·5	39·0	3·5	65·7	NNE	. .	. .	. .	. .	. .	. .	0	Transit
12	30·015	39·8	38·9	0·9	. .	. .	30·9	N by W	. .	. .	. .	. .	. .	. .	0	. .
14	. .	. .	. .	. .	. .	. .	——	N by W	. .	. .	. .	. .	. .	. .	. .	. .
16	. .	. .	. .	. .	. .	. .	53·8	N by W	. .	. .	. .	. .	. .	. .	. .	. .
18	. .	. .	. .	. .	. .	. .	53·0	W	. .	. .	. .	. .	. .	. .	. .	. .
20	. .	. .	. .	. .	. .	. .	. .	W	. .	. .	. .	. .	. .	. .	. .	. .
22	. .	. .	. .	. .	. .	. .	. .	N by E	½ to 1	N	1·57	2·68	0·00	5·205	. .	. .
May 18. 0	. .	. .	. .	. .	. .	. .	. .	N by W	0 to ½	. .	. .	. .	. .	. .	. .	. .
2	29·899	52·2	46·2	6·0	. .	. .	. .	NNW	¼ to ½	. .	. .	. .	. .	. .	6	. .
4	29·805	53·1	46·2	6·9	. .	. .	56·5	NNW	. .	. .	. .	. .	. .	. .	10	. .
6	29·769	52·3	47·2	5·1	. .	. .	43·2	NNW	. .	. .	. .	. .	. .	. .	10	. .
8	29·746	47·2	45·5	1·7	. .	. .	——	NNE	. .	. .	. .	. .	. .	. .	10	. .
10	29·755	46·8	45·4	1·4	. .	. .	76·7	N	. .	. .	. .	. .	. .	. .	. .	Transit
12	. .	. .	. .	. .	. .	. .	39·9	N	. .	N	2·35	. .	. .	. .	. .	. .
14	29·704	43·2	42·4	0·8	. .	. .	——	NNW	. .	. .	. .	. .	. .	. .	10	. .
16	29·685	43·5	42·2	1·3	40·0	3·5	53·5	NNW	. .	. .	. .	. .	. .	. .	10	. .
18	29·683	44·2	42·9	1·3	. .	. .	52·8	NW	. .	. .	. .	. .	. .	. .	9	. .
20	29·687	46·9	44·0	2·9	. .	. .	. .	NNW	. .	. .	. .	. .	. .	. .	7	. .
22	29·680	49·2	45·8	3·4	40·8	8·4	. .	NW	. .	NNW	1·08	2·72	0·08	5·280	10	. .
May 19. 0	29·672	52·2	46·1	6·1	. .	. .	. .	N by W	0 to 1	. .	. .	. .	. .	. .	7	. .
2	29·665	52·1	46·6	5·5	. .	. .	. .	NNW	0 to 1½	N	0·62	. .	. .	. .	8	. .
4	29·659	51·5	45·2	6·3	42·0	9·5	55·3	NNW	½ constant	. .	. .	. .	. .	. .	10	. .
6	29·666	50·2	45·7	4·5	. .	. .	39·2	NNW	½ to 2	NNW	0·71	. .	. .	. .	8	. .
8	29·673	46·3	43·5	2·8	. .	. .	——	N	. .	. .	. .	. .	. .	. .	10	. .
10	29·681	42·4	41·0	1·4	40·0	2·4	76·5	NNW	. .	. .	. .	. .	. .	. .	1	Transit
12	29·684	43·2	41·7	1·5	. .	. .	33·9	N by W	. .	. .	. .	. .	. .	. .	10	. .
14	29·687	41·9	40·8	1·1	. .	. .	——	N	. .	. .	. .	. .	. .	. .	9	. .
16	29·689	39·1	38·7	0·4	38·0	1·1	53·2	N by W	. .	. .	. .	. .	. .	. .	0	. .
18	29·698	40·0	39·4	0·6	. .	. .	52·5	N by W	. .	. .	. .	. .	. .	. .	6	. .
20	29·718	45·2	43·8	1·4	. .	. .	. .	N	. .	. .	. .	. .	. .	. .	10	. .
22	29·733	49·3	46·1	3·2	43·0	6·3	. .	N by E	. .	N	3·00	2·72	0·00	5·280	7	. .
May 20. 0	29·725	53·5	48·8	4·7	. .	. .	. .	N	½ to 1	. .	. .	. .	. .	. .	9½	. .
2	29·706	56·0	49·2	6·8	. .	. .	. .	N	½ to 1	. .	. .	. .	. .	. .	9	. .
4	29·716	53·3	47·1	6·2	38·0	15·3	. .	N by W	½ to 2½	. .	. .	. .	. .	. .	10	. .

MINIMUM FREE THERMOMETER.

May 16d. 22h. The reading was higher than that of the Dry Thermometer at 18h.

May 19d. 22h. The reading was higher than that of the Dry Thermometer at 16h.

REMARKS.	Observer.
Overcast: cirro-stratus and scud.	H B
,, cirro-stratus: the Moon has been occasionally visible since 10^h.	D
,, ,,	
,, ,,	D
,, ,,	G
,, ,, at $18^h. 45^m$ the wind suddenly changed from W. to N., and all the clouds moved from the N.: the Sun was visible for a short time.	
Overcast: cirro-stratus.	G
Overcast: cirro-stratus.	L
,, ,, rain has been falling in showers since the last observation; it ceased about $1^h. 25^m$.	L
,, cirro-stratus and scud: rain has been falling between $2^h. 30^m$ and 4^h.	D
,, cirro-stratus.	
The zenith and the sky for about 20° around it is clear, the remaining portion is nearly covered with a thin cirro-stratus.	
Cloudless.	D
,,	L
Cumuli and scud.	H B
Overcast: cirro-stratus and scud.	
,, ,,	
,, a shower of rain fell about fifteen minutes since.	
,, a shower of rain fell about ten minutes since.	H B
Overcast: rain has been falling in occasional showers since $9^h. 25^m$.	L
,,	
Cirro-stratus and scud, with a break in the clouds about the zenith.	
Cumuli, cumulo-strati, and light clouds in every direction: breaks in the clouds N. of the zenith.	L
Overcast: cirro-stratus and dark scud.	H B
Cumuli and white scud generally prevail: there is an extensive break in the clouds towards the N. N. E., where a few cirri are [visible.	
Cumulo-stratus towards the western horizon, and cirro-stratus and scud in various directions: cirro-cumuli are scattered over a large portion of the sky to the North.	H B
Cirro-stratus, cumulo-stratus, and scud.	L
Cirro-stratus and scud: breaks in the clouds about the zenith.	
,,	
A bank of cirro-stratus along the N. horizon, and fleecy clouds to the S.; the other portion of the sky is cloudless.	L
Overcast: rain began to fall about five minutes since, and continues falling.	H B
Cirro-stratus, scud, and light clouds: the greater part of the sky was clear about 13^h.	
Cloudless, with the exception of a few lines of cirro-stratus near the S. E. horizon, but to no numerical extent.	
Cirro-stratus and scud generally cover the sky, the N.W. portion of which is clear.	
Overcast: cirro-stratus and scud.	H B
Mostly clear N. of the zenith: cumuli, cumulo-stratus, and cirro-stratus, scattered in all the other directions.	L
Cirro-stratus, scud, and fleecy clouds.	
Cumuli and cumulo-strati round the horizon; cirro-stratus elsewhere, and a break in the clouds towards the W.: a heavy shower of rain fell about $0^h. 30^m$.	L
Overcast: cumulo-stratus, cirro-stratus, and scud: a few drops of rain fell about $3^h. 45^m$.	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
May 20. 6	29·718	48·5	46·5	2·0	..	..		NE	..	..	..	..	..	..	10	..
8	29·706	46·7	44·5	2·2	..	..	59·6	N by W	..	..	..	..	..	..	10	..
10	29·718	43·6	42·7	0·9	43·0	0·6	42·1	N	..	..	..	..	..	..	10	..
12	29·674	42·2	41·4	0·8	..	..		WSW	..	..	..	..	..	..	10	Transit
14	29·650	42·4	41·4	1·0	..	..	77·0	W	..	..	..	..	..	..	10	..
16	29·634	42·6	42·2	0·4	41·5	1·1	39·3	NNW	..	..	..	..	..	..	10	..
18	29·634	42·5	41·7	0·8	..	..		N by W	..	..	..	..	..	..	6	..
20	29·639	46·9	44·7	2·2	..	..	52·8	N	½ to 1	..	..	..	..	..	9	..
22	29·631	48·5	45·5	3·0	42·0	6·5	52·2	N by W	½ to ¾	N	3·65	2·75	0·07	5·365	10	..
May 21. 0	29·609	49·5	45·7	3·8	..	..	..	N	..	..	..	..	..	..	10	..
2	29·565	45·0	44·7	0·3	..	..	..	WNW	..	..	..	..	..	..	10	..
4	29·467	47·1	47·1	0·0	47·0	0·1		NW	0 to ½	..	..	..	..	..	10	Full
6	29·452	49·7	48·6	1·1	..	..	51·6	N	½ to 2	N	2·48	..	..	..	10	..
8	29·440	48·2	47·0	1·2	..	..	43·2	N by W	1 to 3	..	..	..	..	..	10	..
10	29·400	47·4	46·2	1·2	45·0	2·4	57·7	N	3 to 5	NNW	1·07	..	..	..	10	..
12	29·380	44·1	42·7	1·4	..	..	40·1	N	4 to 9	..	..	..	..	..	10	Transit
14	29·426	43·5	42·2	1·3	..	..	52·0	NE	3 to 8	NE	0·83	..	..	..	10	..
16	29·474	43·5	42·5	1·0	41·0	2·5	51·5	NNE	1 to 2	..	..	..	..	..	8	..
18	29·505	45·3	44·3	1·0	..	..		NNE	½ to 1	..	..	..	..	..	9	..
20	29·544	47·5	45·9	1·6	..	..	..	NNE	1 to 2	..	..	..	..	..	9	..
22	29·564	50·5	47·6	2·9	45·5	5·0	..	NNE	1½ to 3	NNE	2·12	2·93	0·35	5·685	7	..
May 22. 0	29·570	55·2	49·6	5·6	..	..	..	NNE	½ to 2½	..	..	..	..	..	5	..
2	29·567	56·0	50·4	5·6	..	..	..	N by E	0 to 2½	NNE	1·82	..	..	..	6	..
4	29·590	55·2	50·2	5·0	44·0	11·2	59·6	N	½ to 2	..	..	..	..	..	9	..
6	29·600	53·5	48·7	4·8	..	..	42·2	N	½ to 2	..	..	..	..	..	8	..
8	29·630	50·1	47·0	3·1	..	..	81·6	N by W	½ to 1½	..	..	..	..	..	½	Perigee
10	29·656	45·8	44·7	1·1	42·5	3·3	38·5	N by W	0 to ½	..	..	..	..	..	½	Greatest declination S.
12	29·649	43·1	42·5	0·6	..	..		N by W	½ constant.	..	..	..	..	..	3	..
14	29·644	43·1	42·4	0·7	..	..	52·0	N by W	¼ to ½	..	..	..	..	..	10	Transit
16	29·644	42·5	41·7	0·8	40·0	2·5	51·8	N by W	¼ to ½	..	..	..	..	..	10	..
18	29·645	42·3	41·2	1·1	..	..	..	NNW	¼ to 1	..	..	..	..	..	10	..
20	29·663	43·5	42·4	1·1	..	..	..	NNW	¼ to ½	..	..	..	..	..	10	..
22	29·677	46·4	44·5	1·9	41·0	5·4	..	NNW	¼ to ½	N	3·80	2·94	0·02	5·715	10	..
May 23. 0	29·680	53·6	49·0	4·6	..	..	..	N	1 to 2	..	..	..	..	..	9½	..
2	29·675	57·1	51·1	6·0	..	..	..	N	½ to 2½	..	..	..	..	..	9	..
4	29·674	57·0	51·1	5·9	42·0	15·0	60·8	N	½ to 1	..	..	..	..	..	10	..
6	29·677	52·3	48·7	3·6	..	..	45·0	N by E	½ constant	..	..	..	..	..	10	..
8	29·696	47·2	46·8	0·6	..	..		N by W	..	..	..	..	..	..	10	..
10	29·703	46·0	45·3	0·7	44·5	1·5	75·0	N by W	..	..	..	..	..	..	10	..
12	29·693	45·0	44·3	0·7	..	..	43·5	N	..	N	2·70	..	..	..	10	..
14	29·690	45·1	44·4	0·7	..	..		N by W	..	..	..	..	..	..	10	..
16	29·687	45·0	44·3	0·7	43·5	1·5	52·8	N by W	..	..	..	..	..	..	10	Transit
18	29·691	45·5	44·4	1·1	..	..	52·0	NNW	..	..	..	..	..	..	10	..
20	29·689	46·0	45·4	0·6	..	..	..	W by S	..	..	..	..	..	..	10	..
22	29·693	47·3	46·2	1·1	43·0	4·3	..	N by W	..	NW	0·42	2·98	0·08	5·785	10	..
May 24. 0	29·700	51·7	49·4	2·3	..	..	..	WNW	..	..	..	..	..	..	10	..

OSLER'S ANEMOMETER.

May 21d. 11h. 40m. A pressure of 10 lbs. was recorded at this time.

May 22d. At 2h. 40m a gust of 4 lbs. occurred; and at 4h. 10m a gust of 4½ lbs. was recorded.

REMARKS.	Observer.
Overcast: cirro-stratus and scud: rain has fallen in gentle showers since the last observation.	H B
,, ,, a shower has just commenced.	
,, rain falling steadily since 8h. 20m.	H B
,, cirro-stratus: rain ceased falling at 11h. 35m.	D
,, ,,	
,, ,, rain is falling.	
Cirro-stratus and scud: there are clear portions of the sky in every direction.	
,, the clouds are of various densities.	D
,, ,,	L
Overcast: cirro-stratus and scud: wind blowing in occasional gusts to ½.	
,, ,, rain falling heavily.	L
,, cirro-stratus: rain falling heavily.	D
,, cirro-stratus and scud: rain falling slightly.	
Large masses of scud are passing over from the N., and the appearance of the sky is very unsettled: since 6h rain has fallen slightly, and has not yet ceased.	
Overcast: rain still falling: the wind blowing in gusts to 2.	D
,, squally: the wind blowing in gusts to 3.	L
,, the wind blowing in gusts to 3.	
Clear towards the E.; the other portion of the sky is cloudy.	
Cirro-stratus and scud: there are breaks in the clouds in various directions.	
,, there are breaks in the clouds towards the N.	L
Cirro-stratus near the N. W. horizon; cirro-stratus and brownish looking scud in other directions: the wind blowing in gusts to 1.	H B
A large cumulo-stratus in the S. E., and white scud and cumuli in various directions, principally to the N. E. of the zenith: wind blowing in gusts to 1.	
Cumulo-stratus near the horizon: white scud in the N., N. E., and S. E., moving with great rapidity from the N. E.; a few scattered cumuli are in other directions: a shower of rain fell at 1h. 45m, which lasted two or three minutes.	H B
Cumulo-strati towards the W.; cirro-stratus and scud in other directions: wind blowing in gusts to 1.	L
Cumulo-strati and cumuli towards the W.: clear about the zenith: cirro-stratus towards the S.	
A few cumuli and light clouds towards the W. and S., and some mottled cirri near the zenith; in other parts the sky is cloudless.	
A bank of cirro-stratus along the N. horizon; a few cirri about the zenith; the other parts cloudless.	L
Light clouds and scud, the latter passing rapidly over the Moon.	H B
Overcast: cirro-stratus and scud.	
,, ,,	
,, ,,	
,, ,,	H B
Cirro-stratus, cumulo-stratus, and haze towards the N.: the clouds about the zenith are very thin and appear to be breaking up.	L
Cumuli towards the N., and cirro-stratus and scud in other parts.	
Cumuli, cumulo-strati, and cirro-strati in all directions.	L
Cumuli, cirro-strati, and scud.	H B
Overcast: cirro-stratus and scud.	
,, rain falling heavily.	
,,	H B
,, ,,	
,, cirro-stratus.	D
,, ,,	
,, ,,	D
,, ,,	G
,, ,,	G
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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
May 24. 2	29·690	52·2	49·2	3·0	..	..	..	W by N	..	..	..	..	..	..	10	..
4	29·680	56·0	51·6	4·4	48·0	8·0	..	W by S	..	SSW	1·28	..	..	..	10	..
6	29·677	49·8	48·1	1·7	..	..	..	W	..	..	..	..	..	..	10	..
8	29·681	47·5	46·8	0·7	..	..	58·1 45·4	Calm	..	..	..	..	..	..	10	..
10	29·689	46·6	45·8	0·8	45·0	1·6	74·0 41·8	Calm	..	..	..	..	..	..	10	..
12	29·688	45·5	44·5	1·0	..	..	——	Calm	..	..	..	..	..	..	10	..
14	..	..	..	..	..	..	52·8	Calm	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	52·0	Calm	..	..	..	..	..	..	..	Transit
18	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
22	29·662	49·3	48·2	1·1	..	..	..	Calm	..	E	0·22	3·03	0·07	5·895	10	..
May 25. 0	..	..	..	..	..	..	..	ENE	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	E by N	..	E	0·57	..	..	..	..	..
4	..	..	..	..	..	..	55·4	ESE	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	45·8	Calm	..	..	..	..	..	..	..	..
8	29·579	48·8	48·2	0·6	..	..	——	Calm	..	..	..	..	..	..	10	..
10	..	..	..	..	..	..	60·4	Calm	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	42·7	Calm	..	..	..	..	..	..	..	..
14	29·513	47·0	46·9	0·1	..	..	——	Calm	..	..	..	..	..	..	10	..
16	29·491	46·0	45·9	0·1	45·5	0·5	52·8	Calm	..	..	..	..	..	..	10	..
18	29·479	45·8	45·7	0·1	..	..	52·0	Calm	..	..	..	..	..	..	10	Transit
20	29·494	47·2	47·0	0·2	..	..	..	Calm	..	..	..	..	..	..	10	..
22	29·487	53·6	51·7	1·9	50·0	3·6	..	Calm	..	WSW	0·60	3·26	0·25	6·130	7	..
May 26. 0	29·491	53·9	51·6	2·3	..	..	..	WSW	..	..	..	..	..	..	10	..
2	29·502	51·0	50·2	0·8	..	..	..	WSW	..	..	..	..	..	..	10	..
4	29·503	55·9	51·9	4·0	48·0	7·9	59·6	WSW	..	..	..	..	..	..	9	..
6	29·517	52·2	51·0	1·2	..	..	38·4	WSW	..	..	..	..	..	..	8	..
8	29·535	51·8	49·5	2·3	..	..	——	Calm	..	..	..	..	..	..	10	..
10	29·560	47·5	46·5	1·0	45·0	2·5	82·5	Calm	..	..	..	..	..	..	1	..
12	29·578	44·0	43·7	0·3	..	..	32·7	Calm	..	SW	1·21	..	..	..	½	..
14	29·595	42·0	41·7	0·3	..	..	——	Calm	..	..	..	..	..	..	0	..
16	29·605	39·8	39·7	0·1	39·5	0·3	53·2	Calm	..	..	..	..	..	..	0	..
18	29·628	39·4	39·3	0·1	..	..	52·5	Calm	..	..	..	..	..	..	10	Transit
20	29·642	46·4	46·2	0·2	..	..	..	Calm	..	..	..	..	..	..	7	..
22	29·651	58·4	55·4	3·0	53·5	4·9	..	ENE	..	S	0·47	3·34	0·08	6·220	7	..
May 27. 0	29·655	59·0	55·9	3·1	..	..	..	ENE	..	..	..	..	..	..	8	..
2	29·654	64·1	58·4	5·7	..	..	68·2	ENE	0 to 1¼	..	..	..	..	..	7	..
4	29·634	66·5	59·8	6·7	53·0	13·5	49·4	ENE	0 to ½	..	..	..	..	..	6	..
6	29·615	65·1	59·4	5·7	..	..	89·2	ENE	..	ENE	1·76	..	..	..	2	..
8	29·632	60·1	57·1	3·0	..	..	43·5	NE	..	..	..	..	..	..	1	..
10	29·659	54·4	53·1	1·3	52·0	2·4	——	NNE	..	..	..	..	..	..	1	..
12	29·657	50·6	49·7	0·9	..	..	54·2 53·2	NNE	..	NE	0·34	..	..	..	1	..
14	29·639	49·0	48·6	0·4	..	..	..	NNE	..	..	..	..	..	..	2	..
16	29·645	48·3	48·2	0·1	48·0	0·3	..	NNE	..	..	..	..	..	..	8	..

DRY THERMOMETER.

May 26d. 22h. The reading had increased 12°·0 since the previous observation.

REMARKS.	Observer.
Cirro-stratus and scud.	L
Cirro-stratus of unequal density: the clouds near the place of the Sun are very thin, and there is a faint shadow cast by the Sun.	D
Overcast: cirro-stratus: since 4^h the sky has been covered with cirro-stratus and a few nimbi, though the place of the Sun has been visible nearly the whole time: a little rain fell about $5^h.30^m$, and a few drops are now falling.	
Cirro-stratus and scud: there are a few clear breaks in the clouds of no numerical amount S. E. of the zenith: rain was falling between 6^h and 7^h, but it ceased at the latter time: the breaks first appeared at $7^h.20^m$ in the S., and since that time the clouds in that direction have been of far less density than those in the other portions of the sky.	
Cirro-stratus and scud: the clouds are lighter in the N. E. than in any other direction.	D
Overcast.	L
,, rain is falling.	H B
Overcast: rain is falling.	D
,, ,,	L
,, the rain has ceased.	
,, rain is falling.	
,, occasional drops of fine rain.	L
Cumuli, cirro-strati, and scud: extensive breaks in the clouds in various directions.	H B
Overcast: cirro-stratus and scud.	
,, rain falling steadily; it ceased in five minutes.	H B
Cumulo-stratus, cirro-stratus, and scud, with a break in the clouds about the zenith.	L
Cumuli and light clouds towards the S.; in other parts cirro-stratus and scud: there are a few small breaks in various directions.	
Cirro-stratus and scud of different densities.	
A bank of cirro-stratus extending along the N. and N.W. horizon: lines of cirri crossing the sky from N. to W.; in other parts cloudless.	L
Lines of cirro-stratus and vapour extending along the N. horizon; hazy in other directions: deposition of moisture.	H B
Cloudless.	
,, a dense fog arose shortly after this observation.	
Overcast: foggy.	
Cirro-stratus and fog; the latter has cleared off considerably within the last hour.	H B
Cumuli, cirri, and light clouds in every part of the sky.	L
Cirro-stratus towards the N.; cumuli and cumulo-strati all round the horizon: there is an extensive break in the clouds a little S. of the zenith.	
Cumuli and light clouds in every direction.	L
Cumuli near the N. horizon; several fine specimens of cirro-cumuli near the zenith and extending to the N. E.; and cirri, both linear and plumose, in various directions.	H B
Cumuli, light clouds, and scud; there are also a few linear cirri.	
Linear cirri in various parts of the sky, which is otherwise cloudless.	
With the exception of cirro-stratus and vapour near the N. and S. horizon, the sky is cloudless.	H B
Cirro-stratus near the horizon in the N.; there is also a patch of cloud S. E. of the zenith; and several flashes of sheet lightning have been visible in the S. E.	D
Cirro-stratus in the S.; and frequent flashes of sheet lightning from the S. E. since the last observation.	
The greater part of the sky is covered with a thin stratus; the zenith is clear.	

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.	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.	RAIN. Stand of Rain-gauge No.1, (Osler's).	RAIN. Reading of Rain-gauge No.2.	RAIN. Stand of Rain-gauge No.3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
May 27. 18	29·652	51·1	51·1	0·0	..	..	..	NE	..	NNE	0·82	..	..	..	10	Transit
20	29·653	56·1	54·6	1·5	..	..	..	ENE	..	..	..	..	..	..	10	3rd Qr.
22	29·685	54·8	54·2	0·6	54·0	0·8	..	E by N	..	ENE	0·80	3·36	0·00	6·270	10	..
May 28. 0	29·685	59·7	58·0	1·7	..	..	..	ENE	..	..	..	..	..	..	10	..
2	29·687	59·2	57·4	1·8	..	..	..	ENE	..	..	..	..	..	..	10	..
4	29·659	63·0	59·8	3·2	58·0	5·0	64·4	ENE	..	..	..	..	..	..	8	..
6	29·634	60·3	57·8	2·5	..	..	46·1	ENE	..	..	..	..	..	..	10	..
8	29·633	57·6	56·3	1·3	..	..	78·1	NE	..	ENE	1·16	..	..	..	$9\frac{3}{4}$	..
10	29·640	54·9	53·8	1·1	53·5	1·4	50·0	N by E	..	..	..	..	..	..	10	..
12	29·634	51·6	51·4	0·2	..	..		NNE	..	..	..	..	..	..	10	..
14	29·615	51·8	51·2	0·6	..	..	55·0	NNE	..	NE	0·96	..	..	..	10	..
16	29·591	51·2	51·0	0·2	50·0	1·2	54·2	N by E	..	..	..	..	..	..	10	In Equator
18	29·580	50·0	50·0	0·0	..	..		N by E	..	..	..	..	..	..	10	..
20	29·574	51·5	51·2	0·3	..	..	..	N by E	..	..	..	..	..	..	10	Transit
22	29·573	52·4	52·0	0·4	52·0	0·4	..	N by E	..	NNE	1·34	3·40	0·04	6·280	10	..
May 29. 0	29·563	53·6	53·5	0·1	..	..	..	N by E	..	NNE	0·44	..	..	..	10	..
2	29·551	54·5	54·2	0·3	..	..	..	N by W	..	..	..	..	..	..	10	..
4	29·548	52·5	51·9	0·6	50·5	2·5	54·5	N by W	..	..	..	..	..	..	10	..
6	29·544	51·6	50·6	1·0	..	..	48·5	N	0 to $\frac{1}{2}$	..	..	..	..	..	10	..
8	29·535	50·0	49·3	0·7	..	..		N	..	..	..	..	..	..	10	..
10	29·554	48·8	48·6	0·2	47·5	1·3	56·5	N by W	..	..	..	..	..	..	10	..
12	29·550	48·4	48·4	0·0	..	..	47·8	N	..	..	..	..	..	..	10	..
14	29·545	48·8	48·8	0·0	..	..		N	..	..	..	..	..	..	10	..
16	29·540	49·6	49·7	–0·1	49·0	0·6	55·0	N	..	..	..	..	..	..	10	..
18	29·564	49·5	49·2	0·3	..	..	54·2	N	0 to $\frac{1}{2}$	..	..	..	..	..	10	..
20	29·609	50·0	49·0	1·0	..	..		N	$\frac{1}{2}$ constant	..	..	..	..	..	10	Transit
22	29·652	52·1	50·9	1·2	50·0	2·1	..	N	$\frac{1}{2}$ to $1\frac{1}{2}$	N	4·12	3·73	0·33	6·585	10	..
May 30. 0	29·695	61·8	56·8	5·0	..	..	..	N by E	$\frac{1}{2}$ to $1\frac{1}{2}$	..	..	..	..	..	6	..
2	29·731	63·3	58·0	5·3	..	..	..	N	1 to $1\frac{1}{2}$	N	2·48	..	..	..	10	..
4	29·773	62·4	57·2	5·2	53·0	9·4	64·2	N by E	$\frac{1}{2}$ to 1	..	..	..	..	..	4	..
6	29·812	61·4	55·2	6·2	..	..	44·9	N	0 to $1\frac{1}{2}$	..	..	..	..	..	$1\frac{1}{2}$	..
8	29·868	55·6	51·2	4·4	..	..		N by E	..	..	..	..	..	..	1	..
10	29·916	48·5	46·2	2·3	44·0	4·5	85·0	N by E	..	..	..	..	..	..	0	..
12	29·956	45·5	44·7	0·8	..	..	35·0	N by E	..	..	..	..	..	..	0	..
14	29·981	45·6	44·7	0·9	..	..		N by E	..	..	..	..	..	..	10	..
16	30·000	45·0	44·2	0·8	44·0	1·0	56·0	N	..	..	..	..	..	..	10	..
18	30·018	45·8	44·7	1·1	..	..	54·5	NNE	..	..	..	..	..	..	10	..
20	30·046	48·1	46·8	1·3	..	..	..	NNE	..	..	..	..	..	..	10	..
22	30·069	52·6	50·0	2·6	47·0	5·6	..	NNE	..	NNE	0·54	3·73	0·00	6·585	0	Transit
May 31. 0	30·067	59·5	55·6	3·9	..	..	68·1	NNE	..	..	..	..	..	..	0	..
2	30·058	63·8	57·9	5·9	..	..	47·1	NNW	..	NW	0·38	..	..	..	0	..
4	30·048	64·1	56·3	7·8	47·0	17·1		NNW	..	..	..	..	..	..	0	..
6	30·044	61·8	56·8	5·0	..	..	87·4	SSW	..	..	..	..	..	..	$9\frac{1}{2}$	..
8	30·051	57·0	52·8	4·2	..	..	36·0	Calm	..	..	..	..	..	..	9	..
10	30·064	54·5	50·7	3·8	47·0	7·5		Calm	..	..	..	..	..	..	10	..
12	30·074	52·5	49·4	3·1	..	..	56·0	Calm	..	..	..	3·73	0·00	6·585	10	..
14	..	..	..	..	..	..	55·5	Calm	..	..	..	..	..	..	..	..

DRY THERMOMETER.

May 29d. 16h. The reading was lower than that of the Wet Thermometer.

MINIMUM FREE THERMOMETER.

May 27d. 22h. The reading was higher than that of the Dry Thermometer at 14h and 16h.

May 28d. 22h. The reading was lower than that of the Minimum Reduction Thermometer taken at this time; it is probable that the latter is in error to the amount of 5°; and if so, the reading would have been 45°·0.

May 29d. 22h. The reading was higher than that of the Dry Thermometer at 12h.

REMARKS.	Observer.
Overcast: rain has been falling heavily for some time between this and the last observation.	D
,, cirro-stratus and scud.	D
,, ,, a few drops of rain have fallen at intervals.	L
Overcast: a few drops of rain have fallen occasionally.	
,, ,,	L
Cirro-stratus and scud, with a few breaks in the clouds near the zenith, and in the S. W.	D
Overcast.	
Cirro-stratus and scud: the clouds are high, and are much more dense in some directions than in others: there are a few small breaks in various parts of the sky.	D
Overcast: cirro-stratus and scud.	H B
,, ,,	H B
,,	L
,,	
,, fine rain is falling.	
,, fine rain is falling occasionally.	L
,, a thin rain is falling.	H B
Overcast: a heavy shower of rain is falling, which commenced about five minutes since: the reading of Crosley's Gauge at $23^h. 5^m$ was $6^{in}{\cdot}350$.	
Overcast: a very light rain is falling.	H B
,,	L
,,	
,,	
,, rain has just commenced falling.	L
,, a slight rain is falling.	H B
,, the rain has ceased.	
,, a few drops of rain falling.	
,, the rain has ceased.	
,,	H B
,, rain is falling.	L
Cirro-stratus and fleecy clouds towards the W.: cirro-cumuli and light clouds towards the E. and S.	
Cumuli and light clouds are in all parts of the sky.	L
Cumuli and fleecy clouds are in all parts of the sky.	H B
Cumuli in many parts of the sky, and light clouds with a curious haze near the Sun's place.	
Light cirri are scattered over various parts of the sky.	H B
Cloudless.	G
,,	G
Overcast.	L
,,	D
,,	D
,, cirro-stratus and scud of different densities.	H B
Cloudless.	G
Cloudless.	L
,, a dense haze, particularly near the W. horizon.	H B
,, ,,	L
Overcast, with the exception of a few breaks in the sky S. of the zenith.	H B
Cirro-stratus and scud.	D
Scud and dark fleecy clouds cover the sky.	G
A few stars are visible through the clouds, but no part of the sky is cloudless.	

RAIN.

May $31^d. 12^h$. The amount collected during the month of May in the rain-gauge No. 4 was $2^{in}{\cdot}21$, 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 $2^{in}{\cdot}16$.

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.	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.	RAIN. Stand of Rain-gauge No.1, (Osler's).	RAIN. Reading of Rain-gauge No.2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
May 31. 16	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
22	30·018	65·9	60·0	5·9	..	..	..	Calm	..	SSW	0·28	3·73	0·00	6·585	9	Transit
June 1. 0	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	N by W	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	69·5	SW	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	50·8	S by W	..	..	..	..	..	..	..	..
8	29·943	62·6	58·9	3·7	..	..		Calm	..	..	..	..	..	..	10	..
10	..	..	..	..	..	..	92·2	Calm	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	45·2	Calm	..	..	..	..	..	..	..	..
14	29·905	52·5	51·7	0·8	..	..		Calm	..	..	..	..	..	..	2	..
16	29·882	51·4	50·2	1·2	..	..	57·2	Calm	..	..	..	..	..	..	7	..
18	29·865	52·4	51·4	1·0	..	..	56·5	Calm	..	..	..	..	..	..	3	..
20	29·865	59·8	55·7	4·1	..	..	..	Calm	..	..	..	..	..	..	0	..
22	29·829	68·6	61·8	6·8	54·0	14·6	..	Calm	..	SSW	2·18	3·73	0·00	6·585	4	Transit
June 2. 0	29·793	72·0	64·4	7·6	..	..	..	..	..	..	..	..	..	..	7	..
2	29·747	75·0	65·3	9·7	..	..	..	..	..	SSW	0·44	..	..	..	2	..
4	29·703	75·4	64·5	10·9	56·0	19·4		..	..	..	..	..	..	..	9	..
6	29·675	69·5	62·7	6·8	..	..	77·2	..	..	..	..	..	..	..	9¾	..
8	29·662	64·7	60·3	4·4	..	..	50·6	..	..	..	..	..	..	..	5	..
10	29·640	57·0	56·7	0·3	56·0	1·0		..	..	..	..	..	..	..	10	..
12	29·593	55·7	55·2	0·5	..	..	100·0	..	..	..	..	..	..	..	2	..
14	29·558	53·5	53·5	0·0	..	..	45·2	..	..	..	..	..	..	..	½	..
16	29·527	51·9	51·9	0·0	52·0	−0·1		..	..	..	..	..	..	..	4	..
18	29·515	49·9	49·7	0·2	..	..	59·0	..	..	..	..	..	..	..	0	..
20	29·503	58·5	57·7	0·8	..	..	57·8	..	..	..	..	..	..	..	3	..
22	29·474	71·2	64·2	7·0	59·0	12·2	..	..	..	SW	0·45	..	0·00	6·585	5	..
June 3. 0	29·446	73·0	66·7	6·3	..	..	..	..	..	..	..	..	..	..	8	Transit
2	29·407	69·8	65·2	4·6	..	..	76·7 45·8	..	..	..	..	..	..	..	7	..
4	29·360	69·4	63·4	6·0	58·0	11·4		..	..	..	..	..	..	..	8	..
6	29·317	64·7	58·8	5·9	..	..	99·8	..	..	..	..	..	..	..	3	..
8	29·312	56·3	53·3	3·0	..	..	41·0	..	..	SW	3·13	..	..	..	9	..
10	29·281	55·0	52·7	2·3	51·5	3·5		..	..	..	..	..	.	..	10	..
12	29·253	53·8	53·7	0·1	..	..	60·0	..	..	..	..	..	..	..	10	..
14	29·270	48·6	48·3	0·3	..	..	58·0	..	..	..	..	..	..	..	0	..
16	29·311	46·8	45·8	1·0	45·0	1·8	..	..	..	..	..	..	..	..	0	..
18	29·344	47·7	46·8	0·9	..	..	..	..	..	..	..	..	..	..	9¾	..
20	29·388	50·1	48·7	1·4	..	..	..	..	..	..	..	..	..	..	10	..
22	29·418	56·6	52·5	4·1	48·0	8·6	..	..	..	WSW	..	2·52	0·13	6·815	8	..
June 4. 0	29·430	54·7	52·4	2·3	..	..	..	..	..	..	..	..	..	..	10	Transit
2	29·424	60·0	56·5	3·5	..	..	..	..	..	..	..	..	..	..	6	..
4	29·426	59·1	55·0	4·1	52·5	6·6	..	..	..	SW	2·88	..	..	..	7	..
6	29·442	56·5	54·3	2·2	..	..	..	..	..	..	..	..	..	..	7	..

DRY THERMOMETER.

June 2d. 22h. The reading had increased 12°·7 since the previous observation; and 21°·3 since 18h.

DEW POINT THERMOMETER.

June 1d. 16h. The reading was inadvertently omitted.

June 2d. 16h. The reading was higher than that of the Dry Thermometer.

OSLER'S ANEMOMETER.

June 2d. 0h. The clock-chain was removed for the purpose of having its links made equal in length.

REMARKS.	Observer.
Cirro-stratus and scud: the Sun is occasionally shining through the clouds.	D
The sky has been nearly covered with dense but detached portions of cloud.	D
Cloudy towards the N., the other portions of the sky being clear.	L
The greater part of the sky is covered with a thin cirro-stratus.	
Cirri and light clouds are in various directions.	
Some light clouds are about the zenith and towards the N., but not sufficient in amount to affect the notation.	L
Cirro-cumuli and a few cirri are the principal clouds: cirro-stratus and haze near the horizon.	H B
Cirro-cumuli near the zenith, cumuli and light clouds S. of the zenith, with cirro-stratus and vapour near the horizon: the Sun is frequently obscured by cumuli.	
Cumuli near the horizon in every direction; there are also a few linear cirri N. of the zenith.	H B
Cumulo-stratus, cirro-stratus and, scud in every direction.	L
Cumulo-stratus, cirro-stratus, and scud in every direction.	
Cirro-stratus and light clouds: the sky is clear towards the S.	
Cirro-stratus and scud.	L
Cloudless, with the exception of a bank of cirro-stratus near the E. horizon.	H B
Cirro-stratus and vapour near the horizon; the sky is otherwise cloudless.	
Cirro-cumuli near the zenith and around it: cirro-stratus and vapour near the horizon, with light scud scattered over the sky.	
Cloudless, but hazy near the horizon: a dense fog.	
Cirro-cumuli towards the E. and S. S. E., with a few cirri scattered about: the sky N. of the zenith is almost clear, except near the horizon, which is covered with cirro-stratus and haze.	H B
Light clouds towards the W.: cumuli in all directions, with a few cirro-cumuli a little W. of the zenith.	L
Cumuli and light clouds cover the greater part of the sky: there are breaks in the clouds towards the N.W.: between $0^h.52^m$ and $1^h.13^m$ a heavy shower of rain fell; the readings of the Dry and Wet Thermometers after the shower were $61^\circ{\cdot}3$ and $59^\circ{\cdot}8$; the temperature therefore fell nearly 12° during the shower: the amount of rain registered by Crosley's Gauge is $0^{in}.14$, and by the Library gauge $0^{in}.13$.	
Large masses of cumuli and light clouds are in all directions: there are a few cirro-cumuli S. of the zenith.	L
Cumulo-strati, cumuli, and masses of dark scud: about $4^h.20^m$ a heavy shower of rain fell.	H B
Light cirri are scattered over the sky in every direction.	
Cirro-stratus and scud.	
,, drops of rain are falling: the wind is blowing in gusts to 1, and occasionally to 1½.	H B
Overcast: rain is falling heavily.	D
The rain continued falling till 13^h, since which time the clouds have been gradually dispersing, and at present not a particle of cloud is visible.	
Cloudless.	
Fleecy clouds are in every direction.	
Overcast: cirro-stratus and scud.	D
Cumuli all around the horizon: there are fleecy and light clouds in all parts of the sky.	L
Overcast: cirro-stratus: heavy rain has just begun to fall.	
Cumuli towards the N.: there are light clouds in all parts of the sky.	L
Cumulo-strati, cirro-strati, and scud: the appearance of the sky is continually changing, and there are frequent showers of rain.	D
Cumulo-strati, nimbi, and scud: the appearance of the sky is continually changing, and there are frequent showers of rain.	

RAIN.

June $3^d.22^h$. The amount of rain collected by rain-gauge No. 2 is only $0^{in}.13$; yet this is the amount stated in the remarks at $3^d.0^h$ as having fallen in a shower at that time: it is possible that the reading at 22^h should have been $0^{in}.26$, the observer at 0^h having thrown the then collected water away.

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
June 4. 8	29·466	53·9	51·3	2·6	..	..	62·7	..	..	..	..	..	..	..	7	..
10	29·492	51·1	50·1	1·0	49·0	2·1	49·3	..	..	SSW	1·33	..	..	..	7	..
12	29·508	49·7	48·9	0·8	..	..	—	..	..	..	..	..	..	..	10	..
14	29·502	50·3	49·7	0·6	..	..	79·3	..	..	..	..	..	..	..	10	New
16	29·485	52·0	51·4	0·6	50·0	2·0	41·4	..	..	..	..	..	..	..	10	..
18	29·490	53·1	53·0	0·1	..	..	—	..	..	..	..	..	..	..	10	..
20	29·487	56·0	55·1	0·9	..	..	60·0	..	..	..	..	..	..	..	10	..
22	29·479	58·9	56·7	2·2	55·8	3·1	58·0	..	..	SW	0·98	..	0·08	6·945	10	Greatest declination N.
June 5. 0	29·485	62·1	58·6	3·5	..	..	..	SSW	1 to 2½	..	..	..	..	..	10	..
2	29·491	64·2	60·2	4·0	..	..	..	SSW	1½ to 3½	..	..	..	..	..	8	Transit
4	29·484	64·5	60·4	4·1	58·5	6·0	67·5	SSW	1½ to 3	SW	3·08	..	..	..	8	..
6	29·488	61·2	58·7	2·5	..	..	55·7	SSW	1½ to 3	..	..	..	..	..	9½	..
8	29·462	60·9	56·5	4·4	..	..	—	SSW	1 to 4½	..	..	..	..	..	2	..
10	29·447	58·6	55·3	3·3	53·0	5·6	79·3	S	½ to 2½	..	..	..	..	..	2	..
12	29·398	60·5	56·8	3·7	..	..	52·3	S	1½ to 2½	..	..	..	..	..	9½	..
14	29·392	57·2	56·3	0·9	..	..	—	SSW	1½ to 3	SSW	1·18	..	..	..	10	..
16	29·393	57·5	56·2	1·3	55·0	2·5	60·0 58·5	SSW	1½ to 3½	..	..	..	..	..	10	..
18	29·413	56·4	53·8	2·6	..	..		SSW	1 to 1½	..	..	..	..	..	2	..
20	29·449	58·0	55·0	3·0	..	..	..	SSW	1½ to 3½	..	..	..	..	..	6	..
22	29·484	62·7	58·1	4·6	53·0	9·7	..	SW	3 to 4½	SW	3·60	3·73	0·06	6·975	3	..
June 6. 0	29·520	66·3	59·9	6·4	..	..	..	SSW	3 to 5	..	..	..	..	..	3	..
2	29·550	63·6	59·0	4·6	..	..	..	SSW	1 to 4½	..	..	..	..	..	9	Transit
4	29·575	62·5	59·2	3·3	55·0	7·5	67·7	S by W	1 to 3	..	..	..	..	..	10	..
6	29·600	62·6	59·2	3·4	..	..	51·6	SSW	½ to 1½	..	..	..	..	..	7	..
8	29·643	57·6	55·7	1·9	..	..	—	SSW	..	SW	4·10	..	..	..	2	..
10	29·687	53·8	52·7	1·1	51·0	2·8	82·5	SSW	..	..	..	..	..	..	9	..
12	29·706	53·1	52·3	0·8	..	..	48·5	Calm	..	..	..	..	..	..	10	Apogee
14	29·717	53·2	52·3	0·9	..	..	—	Calm	..	..	..	..	..	..	10	..
16	29·737	52·2	51·8	0·4	51·5	0·7	60·0	Calm	..	..	..	..	..	..	6	..
18	29·765	53·5	53·0	0·5	..	..	59·0	Calm	..	..	..	..	..	..	10	..
20	29·773	59·7	56·2	3·5	..	..		Calm	..	..	..	..	..	..	3	..
22	29·758	63·3	59·2	4·1	51·5	11·8	..	Calm	..	SSW	1·46	3·73	0·00	6·975	5	..
June 7. 0	29·746	66·1	63·3	2·8	..	..	..	S by W	½ constant	SW	0·12	..	..	..	9½	..
2	29·723	63·2	61·1	2·1	..	..	..	S by W	..	..	..	..	..	..	10	Transit
4	29·684	64·8	63·0	1·8	56·0	8·8	..	S by E	½ to 1½	..	..	..	..	..	8	..
6	29·639	60·6	59·2	1·4	..	..	..	S by E	..	..	..	..	..	..	10	..
8	29·602	56·1	56·1	0·0	..	..	68·7 47·3	Calm	..	..	..	..	..	..	10	..
10	29·614	52·7	51·8	0·9	51·0	1·7	— 86·6 43·0 —	SSW	1 to 3½	S	1·75	..	..	..	6	..
12	29·636	49·8	48·2	1·6	..	..	60·2	SSW	½ to 2	..	..	..	..	..	9½	..
14	..	..	..	..	..	..	59·0	SSW	¼ to 1½	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	SSW	1½ to 2	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	SSW	1½ to 4	SW	3·23	..	..	..	..	..
20	..	..	..	..	..	..	..	SW	1½ to 4½	..	..	..	..	..	..	..
22	29·719	54·4	53·2	1·2	..	..	..	SW	2 to 4	WSW	1·47	4·06	0·34	7·335	10	..

OSLER'S ANEMOMETER.

June 4d. 22h. The instrument was set to work at this time: the amount of rain which had fallen whilst the instrument was not at work was 0in·36 by Crosley's gauge: it is probable that Osler's rain-gauge emptied itself about once in the time; and if so, all subsequent readings ought to be increased by 0in·24: this is taken into account in the Abstracts.

June 5d, at 5h. 10m a gust to 5 lbs; at 12h. 50m a gust to 5½ lbs.; and at 20h. 50m the pressure was 6½ lbs.

June 7d, at 19h and at 19h. 20m, the pressures amounted to 5 lbs. on the square foot.

REMARKS.	Observer.
Cirro-stratus and scud: the N. E. portion of the sky is nearly clear; there are also large clear breaks in the clouds in various [directions.	D
A large part of the N. portion of the sky is clear; in every other part it is cloudy.	D
Overcast: a few stars are occasionally visible through the clouds.	L
,,	
,, a few drops of rain falling.	
,, ,,	
,,	L
,, cirro-stratus and dense scud: at $22^{h}. 40^{m}$ a heavy shower of rain fell.	H B
Overcast: cirro-stratus and dense scud.	
Cirro-stratus and dense scud: there are breaks towards the E. and E. N. E.: wind blowing in gusts to 1 and $1\frac{1}{2}$.	H B
,, there are breaks towards the S.: wind blowing in gusts to 1.	L
Cirro-stratus and dense scud towards the S. E.: rain has been falling occasionally since the last observation: it has now ceased.	
Cirro-stratus towards the S., and light clouds to the W.; in other parts the sky is clear.	
Cirro-stratus towards the N. and W.; the sky is otherwise clear: wind blowing in gusts to 1.	L
Cirro-stratus and dark moving scud: stars are occasionally visible: wind blowing in gusts to $1\frac{1}{2}$ and 2.	H B
Overcast: cirro-stratus and dense scud: rain has fallen in frequent heavy showers since the last observation: wind blowing in gusts to 2 and upwards.	
Overcast: rain has fallen in frequent heavy showers since the last observation: wind blowing in gusts to 1+.	
Cirri and fragments of loose scud: wind blowing in gusts to $\frac{3}{4}$ and $1\frac{1}{2}$.	
Cirri, cirro-cumuli, and scud: wind blowing in gusts to $1\frac{1}{2}$.	H B
Cumuli to the N., and light clouds in every part of the sky: wind blowing in gusts to $1\frac{1}{2}$.	L
Cumuli all around the horizon: clear about the zenith: light clouds in various parts of the sky.	
Cirro-stratus and large masses of loose scud in every direction: the wind blowing in gusts to $1\frac{1}{2}$.	L
Overcast: cirro-stratus and dense scud: the wind blowing to gusts to 2.	H B
Cumuli, cirro-stratus, and dense scud: there are extensive breaks in the clouds N. of the zenith.	
Cirri and a few fragments of scud.	
Cirro-stratus and scud, with a few breaks in the clouds.	H B
Overcast: cirro-stratus.	D
,, ,,	
Clear in the zenith, and also in several other parts of the sky.	D
The sky is wholly covered with scud.	G
The scud has nearly all passed to the E.: blue sky in the zenith and around it: near the horizon ill-formed cumulo-stratus: loose scud passing from the W. S. W.	G
Cumuli, cirro-cumuli, and light scud in all portions of the sky.	L
Cumuli round the horizon; cirro-stratus and fleecy clouds in other directions.	
Cirro-stratus, cumulo-stratus, and scud.	
Cumuli all around the horizon: cirro-stratus and scud.	L
Overcast: cirro-stratus and scud.	D
,, ,, rain began falling at $6^{h}. 20^{m}$, and continued, with the exception of a few minutes at $7^{h}. 25^{m}$, to the present time.	
From 8^{h} until $9^{h}. 5^{m}$ rain was falling, at which time it ceased, and the clouds near the horizon in the S. W. became much broken: the clear portion of the sky has greatly increased since $9^{h}. 30^{m}$, and strong gusts of wind are frequent: at present the zenith and its neighbourhood are quite free from cloud, but the appearance of the sky is momentarily changing, and is very unsettled.	D
Occasionally clear about the zenith; elsewhere cloudy.	L
Overcast: the wind blowing in frequent gusts to 2.	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 22^h. of Free Therm. / of Rad. Therm. / of Therm. in Water of the Thames.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
June 8. 0	..	..	..	..	..	..	..	SW	1½ to 2½	SW	0·88	..	..	..	..	..
2	..	..	..	..	..	..	..	WSW	1 to 1½	..	..	..	..	..	..	..
4	29·902	56·6	53·2	3·4	..	..	61·1	WSW	½ to 1	..	..	..	..	..	10	Transit
6	..	..	..	..	..	..	45·8	WSW	½ constant	..	..	..	..	..	..	..
8	30·003	53·4	51·2	2·2	..	..		WSW	..	..	..	..	..	..	1	..
10	..	..	..	..	..	..	68·2	WSW	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	44·8	SSW	..	..	..	..	..	..	..	..
14	30·136	46·8	46·7	0·1	..	..		SSW	..	..	..	..	..	..	½	..
16	30·167	46·3	46·2	0·1	46·0	0·3	59·0	SSW	..	..	..	..	..	..	8	..
18	30·194	46·3	46·2	0·1	..	..	59·0	SSW	..	..	..	..	..	..	0	..
20	30·228	54·0	52·2	1·8	..	..	..	WSW	..	..	..	..	..	..	0	..
22	30·231	57·5	55·1	2·4	51·3	6·2	..	WSW	..	WSW	2·98	4·06	0·00	7·335	9	..
June 9. 0	30·250	61·8	56·4	5·4	..	..	..	WSW	..	..	..	..	..	..	10	..
2	30·256	66·5	60·2	6·3	..	..	..	WSW	..	..	..	..	..	..	6	..
4	30·245	67·7	63·9	3·8	49·5	18·2	69·9	WSW	..	..	..	..	..	..	4	Transit
6	30·235	66·7	63·4	3·3	48·0	18·7	55·8	WSW	..	..	..	..	..	..	2	..
8	30·239	60·3	58·4	1·9	48·0	12·3		W by S	..	W	1·10	..	..	..	2	..
10	30·267	55·5	52·0	3·5	49·0	6·5	94·0	WSW	..	..	..	..	..	..	½	..
12	30·266	50·6	49·2	1·4	..	..	..	SSW	..	..	..	..	..	..	0	..
14	30·263	48·2	47·2	1·0	..	..		SSW	..	..	..	..	..	..	½	..
16	30·264	46·5	45·9	0·6	45·0	1·5	59·0	SW	..	..	..	..	..	..	1	..
18	30·258	47·5	46·7	0·8	..	..	59·0	SSW	..	..	..	..	..	..	½	..
20	30·262	56·0	53·7	2·3	..	..	..	Calm	..	..	..	..	..	..	1	..
22	30·257	63·9	57·9	6·0	57·2	6·7	..	Calm	..	SW	0·50	4·06	0·00	7·345	0	..
June 10. 0	30·232	69·1	62·3	6·8	..	..	..	SSW	..	..	..	..	..	..	0	..
2	30·201	72·2	63·0	9·2	..	..	..	N by W	..	..	..	..	..	..	0	..
4	30·162	73·4	64·4	9·0	51·8	21·6		N	..	..	..	..	..	..	0	Transit
6	30·139	71·0	62·5	8·5	..	..	77·7	Calm	..	..	..	..	..	..	0	..
8	30·141	64·6	59·5	5·1	56·0	8·6	48·8	Calm	..	..	..	..	..	..	0	..
10	30·161	57·8	54·8	3·0	53·0	4·8	105·0	Calm	..	..	..	..	..	..	1	..
12	30·152	54·0	52·3	1·7	..	..	39·5	Calm	..	..	..	..	..	..	2	..
14	30·141	51·2	50·8	0·4	..	..		Calm	..	..	..	..	..	..	¼	..
16	30·128	48·9	48·8	0·1	49·0	−0·1	60·0	Calm	..	..	..	..	..	..	0	..
18	30·117	49·8	49·6	0·2	..	..	59·2	Calm	..	..	..	..	..	..	0	..
20	30·118	61·1	57·8	3·3	..	..	..	Calm	..	..	..	..	..	..	0	..
22	30·115	68·3	61·2	7·1	56·0	12·3	..	Calm	..	ENE	0·54	4·06	0·00	7·345	0	..
June 11. 0	30·101	72·3	64·6	7·7	..	..	..	NNE	..	..	..	..	..	..	0	..
2	30·086	73·6	64·2	9·4	..	..	..	NNE	..	ENE	0·80	..	..	..	0	..
4	30·054	73·6	63·9	9·7	55·5	18·1	75·9	NNE	..	..	..	..	..	..	0	..
6	30·040	70·6	63·3	7·3	..	..	52·8	ENE	..	..	..	..	..	..	0	Transit
8	30·039	66·1	59·6	6·5	..	..		ENE	..	..	..	..	..	..	0	..
10	30·041	60·9	57·2	3·7	55·5	5·4	107·4	Calm	..	..	..	..	..	..	0	..
12	30·055	56·3	54·4	1·9	..	..	44·2	Calm	..	..	..	..	..	..	0	..
14	30·043	54·2	52·7	1·5	..	..		Calm	..	..	..	..	..	..	0	..
16	30·037	52·1	51·4	0·7	..	..	61·0	Calm	..	..	..	..	..	..	10	..
18	30·037	54·8	53·5	1·3	53·0	1·8	60·2	Calm	..	..	..	..	..	..	10	..
20	30·050	61·0	59·2	1·8	..	..	..	Calm	..	..	..	..	..	..	10	..
22	30·052	65·5	62·0	3·5	61·0	4·5	..	Calm	..	E	1·11	4·06	0·00	7·345	10	..

DRY THERMOMETER.

June 10^d. Between 18^h and 20^h the reading increased 11°·3.

DEW POINT THERMOMETER.

June 10^d. 16^h. The reading was higher than that of the Dry Thermometer.

June 11^d. 16^h. The reading which should have been taken at this time was inadvertently omitted: the instrument was read at the following observation.

MINIMUM FREE THERMOMETER.

June 9^d. 22^h. The reading was higher than that of the Dry Thermometer at 10^h, 12^h, 14^h, 16^h, and 18^h.

June 11^d. 22^h. The reading was higher than that of the Dry Thermometer at 16^h.

RAIN.—June 9^d. The increase in rain-gauge No. 3 was caused by deposition of moisture.

REMARKS.	Observer.
Overcast: cirro-stratus and scud.	H B
Light cirri are scattered about the sky, with cirro-stratus near the W. horizon: the clouds became broken since 8^h.	H B
Cloudless, with the exception of some lines of cloud towards the N.	L
Clear about the N. horizon; cirro-stratus and light fleecy clouds in other parts of the sky.	
Cloudless: hazy towards the N.	
,, ,,	L
Cirro-stratus and vapour.	H B
Cirro-stratus and vapour: a single break in the clouds near the place of the Sun, but to no numerical extent.	
Cumuli: a few cirro-cumuli and fragments of loose cloud, of a fleecy kind, cover the sky: there is a large quantity of cirro-stratus near the N. horizon.	H B
Reticulated cirri about the zenith: cumuli, cumulo-strati, and haze towards the N: there is loose scud in various parts of the sky.	L
Cumuli and haze to the N.; linear cirri S. of the zenith; and cumuli about the S. horizon.	
Cirro-stratus and haze to the N., with light clouds to the S.	
A few light clouds towards the N. and N.W.; the other portions of the sky are cloudless: hazy towards the N.	L
Cirro-stratus and haze near the horizon, but to no numerical extent. The new Comet in Auriga is distinctly visible to the naked eye.	H B
Cloudless, with the exception of a few lines of cirro-stratus near the horizon. The Comet became obscured by clouds and vapour [at about 13^h.	
Cirro-stratus and vapour near the horizon.	
Light cirri scattered over the sky.	
Lines of cirri and cirro-strati.	H B
Cloudless: haze towards the N.	L
Cloudless: haze towards the N.	
,, ,,	L
,,	H B
,,	
,, hazy near the Sun's place.	
Cloudless, excepting a few lines of cirro-stratus near the N. N. W. horizon.	H B
Cirro-stratus near the N. horizon, and also in fragments S. E. of the zenith.	D
A large bank of stratus in the N. horizon. The Comet became visible at $13^h. 50^m$; it had been previously obscured by stationary clouds for upwards of two hours.	
Cloudless.	
,,	
,,	D
,,	L
A few light clouds a little S. of the zenith, but to no numerical extent.	
Cloudless.	L
,,	D
,,	
,,	
,,	D
,, a slight haze towards the N.	L
,, ,,	
A thin cirro-stratus covers the whole sky.	
,,	L
,,	
A thin cirro-stratus covers the whole sky, through which the Sun is occasionally shining.	H B

NEW COMET.

June 8. Shortly after $10^h. 40^m$ a large Comet was observed a short distance W. of Capella, and about one-third of the distance between that star and β Aurigæ. The Comet was as bright as a star of the third magnitude, and a tail of some degrees in length was visible to the naked eye: by the help of a common hand telescope it formed a very beautiful object, the nucleus being planetary and exceedingly bright: the tail was decidedly longer on one side than the other, by about two degrees: the locality from which I first observed it was Peckham Road, near Camberwell.—D.

Day and Hour, Göttingen Astronomical Reckoning.	Baro-meter Cor-rected.	Dry Ther-mom.	Wet Ther-mom.	Wet Ther-mom. below Dry.	Dew Point.	Dew Point below Dry Ther-mom.	Max. and Min. as read at 22h. of Free Therm. / of Rad. Therm. / of Therm. in Water of the Thames.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		..
June 12. 0	30·046	75·0	68·1	6·9	..	..	..	NNE	..	..	..	..	..	..	0	..
2	30·036	80·0	71·4	8·6	..	..	..	NNE	..	..	..	..	..	..	0	..
4	30·038	80·7	71·5	9·2	66·0	14·7	..	NNE	..	..	..	..	..	..	0	..
6	30·028	76·7	68·5	8·2	62·0	14·7	82·7	ENE	..	..	..	..	..	..	0	Transit
8	30·024	70·7	65·9	4·8	62·0	8·7	57·9	E by S	..	..	..	..	..	..	0	..
10	30·062	64·8	63·0	1·8	62·0	2·8	——	Calm	..	..	..	..	..	..	0	In Equator
12	30·044	59·5	59·4	0·1	..	..	111·5 51·7	Calm	..	..	..	..	..	..	0	..
14	30·029	60·3	60·0	0·3	..	..	—— 62·5	Calm	..	..	..	..	..	..	0	..
16	30·022	58·0	58·1	−0·1	57·5	0·5	61·5	Calm	..	..	..	..	..	..	3	1st Qr.
18	30·029	59·7	59·2	0·5	..	..	..	Calm	..	..	..	..	..	..	10	..
20	30·046	61·5	61·0	0·5	..	..	..	N	..	..	..	..	..	..	10	..
22	30·059	65·3	64·0	1·3	62·0	3·3	..	N by W	..	ENE	1·12	4·06	0·00	7·345	10	..
June 13. 0	30·044	75·8	70·7	5·1	..	..	..	N by E	..	..	..	..	..	..	0	..
2	30·027	83·2	74·7	8·5	70·0	13·2	..	NNE	..	..	..	..	..	..	1	..
4	30·012	81·6	73·7	7·9	68·5	13·1	..	..	..	ENE	0·21	..	..	..	1	..
6	30·000	77·7	70·2	7·5	67·0	10·7	..	ESE	..	..	..	..	..	..	¼	..
8	39·008	70·7	67·6	3·1	65·3	5·4	..	ESE	..	..	..	..	..	..	2	Transit
10	30·015	65·0	64·0	1·0	64·0	1·0	86·0 60·1	Calm	..	..	..	..	..	..	1	..
12	30·034	63·1	62·1	1·0	..	..	—— 111·8 55·5	Calm	..	..	..	..	..	..	5	..
14	30·009	61·6	61·3	0·3	..	..	—— 64·8 63·0	Calm	..	..	..	..	..	..	2	..
16	30·005	61·4	60·9	0·5	60·5	0·9	..	N	..	..	..	..	..	..	9	..
18	29·994	62·0	61·1	0·9	..	..	..	NNW	..	..	..	..	..	..	3	..
20	30·017	63·4	62·4	1·0	..	..	..	N by E	..	..	..	..	..	..	9	..
22	30·019	69·2	66·7	2·5	66·0	3·2	..	N	..	ESE	0·62	4·06	0·00	7·345	10	..
June 14. 0	29·989	78·7	70·3	8·4	..	..	..	NNE	..	..	..	..	..	..	4	..
2	29·973	81·0	70·9	10·1	..	..	..	NNE	..	..	..	..	..	..	8	..
4	29·945	81·2	72·0	9·2	65·0	16·2	84·0	Calm	..	..	..	..	..	..	2	..
6	29·924	80·8	70·6	10·2	64·0	16·8	55·8	N by W	..	..	..	..	..	..	½	..
8	29·941	71·2	65·9	5·3	..	..	——	Calm	..	..	..	..	..	..	3	Transit
10	29·959	65·2	62·8	2·4	60·5	4·7	115·6	Calm	..	..	..	..	..	..	0	..
12	29·956	62·1	60·6	1·5	..	..	49·4	Calm	..	..	..	..	..	..	0	..
14	..	..	..	..	..	..	——	Calm	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	66·0	Calm	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	64·0	Calm	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
22	29·911	71·4	66·2	5·2	..	..	..	Calm	..	N	0·88	4·06	0·00	7·345	1	..
June 15. 0	..	..	..	..	..	..	..	E	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	SE	..	SE	0·73	..	..	..	..	..
4	29·853	77·3	68·2	9·1	..	..	..	E by N	..	..	..	..	..	..	0	..
6	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	Transit

DRY THERMOMETER.

June 12d. 16h. The reading was lower than that of the Wet Thermometer.

June 13d. 0h. The increase in the reading in the previous two hours was 10°·5, and in the following two hours it was 7°·4.

OSLER'S ANEMOMETER.

June 12d. 19h. It was found that the chain was off the clock barrel; the instrument was set right at this time.

REMARKS.	Observer.
Cloudless: hazy near the horizon.	H B
A single cumulus towards the N. horizon.	H B
Cloudless, except a few detached cumuli towards the N.	L
Cloudless.	
,,	
,,	L
Cloudless, except a bank of cirro-stratus near the N. horizon, but to no numerical amount. The place of the Comet is visible to the naked eye.	H B
Cloudless, but very hazy: several flashes of lightning have been seen since the last observation, principally issuing from the S.S.W.	
Cirro-stratus and vapour.	
Overcast: foggy.	
,, very foggy.	H B
Stratus: foggy.	L
Cloudless: a dense haze.	
Cumuli towards the N., although almost obscured by haze.	L
Cumuli towards the N.E., N., and N.N.W.	H B
A few light clouds near the horizon.	
Cirro-stratus ranging along the W. horizon, in which the Sun is enveloped: cumuli and particles of scud near the horizon, and in other parts of the sky.	
Cirro-stratus and a cumulo-stratus near the N. and N.W. horizon: at $9^h. 46^m$ there was a flash of lightning issuing from a cloud in the N.W.	H B
The sky S. and S.E. of the zenith is covered with cloud, and lines of stratus are near the horizon in the N. and E.: since the last observation vivid flashes of sheet lightning have been visible from behind clouds in the S.E.; some of them were remarkably brilliant, and illuminated every object: between $11^h. 30^m$ and $11^h. 50^m$ about twelve brilliant flashes were noticed: at $11^h. 55^m$ a rumbling of thunder in the S.E.; and at $12^h. 4^m$ a flash of lightning was visible in the N.E.	D
Fragments of scud are scattered in various directions: flashes of lightning have been visible since 12^h, but the interval of time between each flash was much greater, and the flashes were much less vivid than those which were seen previously to 12^h.	
Cirro-stratus and scud: the clouds have been increasing gradually since 14^h.	D
Scud to the S.: some fine cirro-cumuli near the zenith: cloudless near the N.	G
Patches of blue sky in different directions: since 18^h the whole sky has become covered with cirro-stratus and scud curled up, and of a very stormy appearance.	G
Cumuli and cumulo-strati towards the N.; cirro-stratus and scud in other portions of the sky.	L
Cumuli, fleecy clouds, and scud about the horizon.	
Cumuli towards the horizon: cirro-cumuli a little N. of the zenith, and cirro-stratus and scud to the S. and E.	
Cumuli round the horizon, and light clouds scattered in various parts of the sky.	L
A few small cumuli near the horizon in the N.W. and S.S.E. are the only clouds visible.	D
Cumuli and haze to the N.: light clouds are in various directions.	L
Cloudless, but very hazy.	D
,,	
A few cirro-cumuli are S. and W. of the zenith: hazy.	
Cloudless.	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
June 15. 10	..	..	..	..	..	..	80·8	Calm	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	58·9	Calm	..	..	..	..	..	..	..	..
14	29·769	60·0	59·4	0·6	..	..	103·4	Calm	..	..	..	..	..	..	7	..
16	29·740	58·5	58·0	0·5	57·0	1·5	54·0	Calm	..	..	..	..	..	..	10	..
18	29·732	61·0	59·4	1·6	..	..		Calm	..	..	..	..	..	..	10	..
20	29·731	65·0	63·4	1·6	..	..	67·0	Calm	..	..	..	..	..	..	10	..
22	29·718	69·0	66·4	2·6	65·0	4·0	65·5	Calm	..	SSW	0·61	4·06	0·00	7·345	10	..
June 16. 0	29·701	71·5	67·9	3·6	..	..	..	Calm	..	..	..	..	..	..	10	..
2	29·688	72·2	68·2	4·0	..	..	..	Calm	..	..	..	..	..	..	10	..
4	29·679	71·5	67·2	4·3	65·0	6·5	74·2	Calm	..	..	..	..	..	..	10	..
6	29·674	70·8	65·7	5·1	..	..	56·5	Calm	..	..	..	..	..	..	7	..
8	29·673	69·2	65·6	3·6	..	..		Calm	..	..	..	..	..	..	2	..
10	29·686	64·7	62·5	2·2	60·0	4·7	88·0	Calm	..	..	..	..	..	..	9	Transit
12	29·683	61·8	59·4	2·4	..	..	50·5	Calm	..	..	..	..	..	..	10	..
14	29·684	60·0	57·9	2·1	..	..		Calm	..	..	..	..	..	..	10	..
16	29·676	56·5	55·7	0·8	55·0	1·5	67·0	Calm	..	..	..	..	..	..	4	..
18	29·681	59·8	57·8	2·0	..	..	66·2	Calm	..	..	..	..	..	..	9	..
20	29·699	64·5	61·2	3·3	..	..	..	Calm	..	..	..	..	..	..	9	..
22	29·702	70·2	65·2	5·0	61·0	9·2	..	Calm	..	SW	1·46	4·06	0·00	7·345	9½	..
June 17. 0	29·705	62·8	62·4	0·4	..	..	..	SW	..	..	..	..	..	..	10	..
2	29·685	66·0	65·1	0·9	..	..	..	NNE	..	..	..	..	..	..	10	..
4	29·654	73·5	70·7	2·8	68·5	5·0	76·0	Calm	..	..	..	..	..	..	7	..
6	29·652	72·0	68·4	3·6	..	..	59·4	Calm	..	..	..	..	..	..	9½	..
8	29·663	66·0	64·4	1·6	..	..		Calm	..	..	..	..	..	..	10	..
10	29·655	62·4	61·3	1·1	60·5	1·9	91·7	Calm	..	..	..	..	..	..	4	Transit
12	29·645	61·0	60·5	0·5	..	..	56·2	Calm	..	ESE	0·50	..	..	..	10	..
14	29·631	60·1	59·8	0·3	..	..		Calm	..	..	..	..	..	..	10	..
16	29·612	60·0	59·7	0·3	59·5	0·5	67·0	Calm	..	..	..	..	..	..	10	..
18	29·615	60·8	60·1	0·7	..	..	66·5	Calm	..	..	..	..	..	..	10	..
20	29·618	61·6	61·2	0·4	..	..	..	Calm	..	..	..	..	..	..	10	..
22	29·623	59·3	59·5	−0·2	59·0	0·3	..	W by N	..	WSW	0·18	4·39	0·50	7·795	10	..
June 18. 0	29·663	57·5	57·0	0·5	..	..	..	WSW	..	..	..	..	..	..	10	..
2	29·645	58·0	57·4	0·6	..	..	..	W by S	..	..	..	..	..	..	10	..
4	29·660	62·7	60·3	2·4	59·5	3·2	..	WSW	½ to 1½	..	..	..	..	..	9	..
6	29·666	63·8	59·6	4·2	..	..	64·8 47·2	WSW	½ constant	..	..	..	..	..	3	..
8	29·695	60·1	56·2	3·9	..	..	72·0 41·5	W by S	½ constant	..	..	..	..	..	4	..
10	29·732	55·0	53·4	1·6	50·0	5·0		WSW	..	..	..	..	..	..	1	..
12	29·752	51·2	50·5	0·7	..	..	67·0	SSW	..	SW	1·63	..	..	..	0	Transit
14	29·763	49·0	48·6	0·4	..	..	66·0	WSW	..	..	..	..	..	..	0	..
16	29·760	47·6	47·7	−0·1	47·3	0·3	..	WSW	..	..	..	..	..	..	0	..
18	29·792	50·0	50·0	0·0	..	..	..	WSW	..	..	..	..	..	..	3	..
20	29·819	53·4	53·0	0·4	..	..	..	WSW	..	..	..	..	..	..	10	Greatest declination S.
22	29·751	58·6	57·0	1·6	54·5	4·1	..	WSW	..	WNW	1·29	4·47	0·02	7·840	10	..
June 19. 0	29·860	65·7	59·5	6·2	..	..	..	WSW	..	..	..	..	..	..	2	..
2	29·860	68·5	61·3	7·2	..	..	..	N by W	..	..	..	..	..	..	4	..

BAROMETER.
June 19d. 0h. The reading had increased 0in·109 since the previous observation.

DRY THERMOMETER.
June 17d. 22h and 18d. 16h. The readings were lower than those of the Wet Thermometer.

MINIMUM FREE THERMOMETER.
June 15d. 22h. The reading was higher than that of the Dry Thermometer at 16h.
June 17d. 22h. The reading was higher than that of the Dry Thermometer at 22h.

REMARKS.	Observer.
Clear about the zenith; cloudy in other parts.	L
Overcast: cirro-stratus.	
,, ,,	
,,	L
,, cirro-stratus of different densities.	H B
Overcast: cirro-stratus of different densities.	
,, cirro-stratus and scud.	H B
,, ,,	L
Cirro-stratus and scud in different portions of the sky, and cirro-cumuli and fleecy clouds S. of the zenith.	
A beautiful bank of cirro-cumuli a little W. of the zenith, and fleecy clouds in various parts of the sky.	
Cirro-stratus and scud.	L
Overcast: cirro-stratus and scud.	H B
,, ,, a few stars are visible occasionally.	
Cirro-stratus and light clouds, principally cirro-cumuli.	
Cumuli, cirro-stratus, and scud.	
Cirro-stratus and scud, and light clouds: breaks in the clouds near the zenith.	H B
Cirro-stratus, cumulo-stratus, and scud: hazy towards the N.	L
Overcast: rain began falling heavily at $22^h. 20^m$, and has continued falling steadily.	
,, cirro-stratus: a few cumulo-strati N. of the zenith: rain ceased falling at $1^h. 5^m$.	L
Cumuli, cirro-stratus, and fragments of scud: a heavy shower of rain fell at $3^h. 30^m +$.	H B
Cirro-stratus, dark cumulo-stratus, and scud: mutterings of thunder have been heard since the last observation.	
Cumulo-stratus, nimbi, and scud: rain began to fall at $7^h. 20^m$, but has now ceased: thunder frequently heard since 6^h.	
Cirro-stratus, a few cirro-cumuli, and a large quantity of scud and vapour: the Moon is occasionally surrounded by a coloured ring.	H B
Cirro-stratus and scud: the clouds are much broken near the place of the Moon.	D
Overcast: cirro-stratus.	
,, ,,	
,, ,,	
,, ,, the morning is very dark and gloomy.	D
,, ,, rain is falling heavily.	H B
Overcast: rain is falling in few but large drops.	L
,, rain is falling heavily.	L
Cumulo-stratus, cirro-stratus, and scud: the sky remained overcast until about five minutes previous to the observation; at present the breaks in the clouds are S.W. of the zenith, and to all appearances the sky has a tendency to become clear.	D
Since 4^h about one-half of the sky has been covered with ill-defined cumuli and cumulo-strati; several small fragments of scud have passed over from the S.W.; at present cumuli are near the N. horizon, and are also scattered over the sky in various directions.	
Dark cirro-strati S. E. of the zenith: the sky in the N. and W. is clear: between $7^h. 15^m$ and $7^h. 35^m$ very dense nimbi passed over but no rain fell: a faint muttering of thunder was heard in the N. E. at $7^h. 30^m$.	D
Cloudless, except a few stratus clouds under and to the W. of the Moon.	G
Cloudless.	G
,,	L
Cloudless, but hazy near the horizon.	H B
Cirro-stratus and vapour.	H B
Overcast: stratus: the Sun is occasionally visible through the clouds.	D
A thin film of cloud covers the whole of the sky, but the Sun is shining through it.	G
Cloudless, except a thin film of cloud near the N.	L
Cumuli, cirro-stratus, and haze.	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.	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.	RAIN. Stand of Rain-gauge No. 1. (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3. (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
June 19. 4	29·864	68·7	61·0	7·7	53·5	15·2	..	NNW	..	..	..	..	..	..	7	..
6	29·870	66·9	59·7	7·2	..	..	72·3	NNW	..	..	..	..	..	..	4	..
8	29·888	63·3	60·0	3·3	..	..	49·4	N by E	..	..	..	..	..	..	4	..
10	29·919	60·5	58·4	2·1	57·0	3·5	——	S by W	..	..	..	..	..	..	8	..
12	29·936	57·2	56·0	1·2	..	..	94·6	Calm	..	..	..	..	..	..	9	Transit Full
14	29·935	55·0	54·0	1·0	..	..	46·6	Calm	..	..	..	..	..	..	3	..
16	29·948	52·2	52·2	0·0	52·0	0·2	——	Calm	..	..	..	..	..	..	0	..
18	29·957	52·7	52·6	0·1	..	..	67·0	Calm	..	..	..	..	..	..	0	Perigee
20	29·977	60·8	59·2	1·6	..	..	65·8	Calm	..	..	..	..	..	..	0	..
22	29·985	66·0	62·6	3·4	61·0	5·0	..	NE	..	ESE	0·43	4·47	0·00	7·840	4	..
June 20. 0	29·990	71·4	64·1	7·3	..	..	..	NE	..	..	..	..	..	..	3	..
2	29·978	71·6	64·6	7·0	..	..	..	NNE	..	..	..	..	..	..	2	..
4	29·975	70·4	63·0	7·4	52·0	18·4	..	ENE	..	..	..	..	..	..	2	..
6	29·980	66·7	60·0	6·7	..	..	..	Calm	..	..	..	..	..	..	2	..
8	29·990	61·3	58·2	3·1	..	..	75·9	Calm	..	..	..	..	..	..	4	..
10	30·011	56·6	54·4	2·2	..	..	50·9	Calm	..	..	..	..	..	..	3	..
12	30·010	55·6	54·3	1·3	..	..	——	Calm	..	NE	0·55	..	..	..	9	..
							102·5									
14	29·998	53·0	52·4	0·6	..	..	42·8	Calm	..	..	..	..	..	..	6	Transit
							——									
							67·0									
							66·0									
16	29·982	51·0	50·7	0·3	50·0	1·0	..	Calm	..	..	..	..	..	..	2	..
18	29·987	52·0	51·6	0·4	..	..	..	Calm	..	..	..	..	..	..	3	..
20	29·993	62·0	59·8	2·2	..	..	..	Calm	..	..	..	..	..	..	6	..
22	29·982	67·8	62·0	5·8	54·0	13·8	..	NE	..	ESE	0·46	4·47	0·00	7·840	0	..
June 21. 0	29·968	71·1	63·9	7·2	..	..	..	ENE	..	..	..	..	..	..	3	..
2	29·943	73·2	65·7	7·5	..	..	..	ENE	..	ENE	0·71	..	..	..	6	..
4	29·908	71·9	64·9	7·0	57·0	14·9	75·1	E by N	..	..	..	..	..	..	2	..
6	29·884	67·2	61·9	5·3	58·0	9·2	53·4	ENE	..	..	..	..	..	..	4	..
8	29·871	64·6	59·6	5·0	..	..	——	E by N	..	..	..	..	..	..	2	..
10	29·876	57·6	55·7	1·9	54·5	3·1	108·0	E	..	..	..	..	..	..	2	..
12	29·890	54·5	53·2	1·3	..	..	43·2	E by S	..	..	..	..	..	..	½	..
14	..	..	..	..	..	..	——	NE	..	..	..	..	..	..	..	Transit
16	..	..	..	..	..	..	67·0	NNE	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	66·2	NNE	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	NNE	..	..	..	..	..	..	..	..
22	29·835	66·0	61·8	4·2	..	..	..	NE	..	NNE	0·62	4·47	0·00	7·840	10	..
June 22. 0	..	..	..	..	..	..	..	NE	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	ENE	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	76·9	NNE	0 to ½	NNE	0·56	..	..	..	..	..
6	..	..	..	..	..	..	49·4	ENE	..	..	..	..	..	..	..	..
8	29·848	64·5	61·7	2·8	..	..	——	E by S	..	..	..	..	..	..	3	..
10	..	..	..	..	..	..	105·7	N by E	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	42·0	N	½ constant	..	..	..	..	..	..	..
14	29·926	52·0	49·4	2·6	..	..	——	N by E	½ to 1	..	..	..	..	..	7	..
16	29·945	51·0	48·4	2·6	46·0	5·0	67·0	N	..	..	..	..	..	..	0	Transit
18	29·977	50·6	50·0	0·6	..	..	66·0	N by E	1 constant	..	..	..	..	..	½	..
20	30·001	56·5	53·5	3·0	..	..	..	NNE	..	..	..	..	..	..	1	..
22	30·010	58·5	52·7	5·8	46·3	12·2	..	NNW	..	N	2·38	4·47	0·00	7·840	7	..

DEW POINT THERMOMETER.
June 20d. 10h. Observation omitted.

REMARKS.	Observer.
Cumuli, cirro-stratus, and haze.	L
Cumuli and a dense haze.	D
Cumuli and scud.	H B
With the exception of a break in the N.W. the sky is covered by clouds, chiefly scud.	G
Cirro-stratus, fleecy clouds, and scud, with a break in the clouds a little W. of the Moon.	L
Cirro-stratus and fleecy clouds.	
Cloudless: hazy.	
,, ,,	
,, ,,	L
Cumuli and scud.	H B
Cirro-strati near the N. and N.W. horizon, and cumuli and fleecy clouds in various directions.	
Cumuli and light clouds: the clear sky is of a deep blue colour.	H B
Cumuli to the N.W. and S. horizon; the other portions of the sky are cloudless.	L
Cumuli to the N. and S. horizon: there are light clouds about the zenith.	
Dark cirro-stratus and cumulo-stratus to the N., and a few cirri about the zenith.	
Cirro-stratus and scud.	L
Fleecy clouds and scud generally cover the sky: several stars are visible in and around the zenith, where there are a few breaks, but not to any extent.	H B
A dense mass of cirro-stratus and dark scud near the S. horizon, and extending upwards for many degrees: the sky became clear about $12^h.20^m$, and remained so for about an hour, when clouds came up, and about a quarter of an hour since the whole sky was very nearly covered: there is a singularly formed cirrus cloud extending from the E. to the W. at present visible.	
Cirro-stratus and haze near the horizon, and a few cirro-cumuli and light clouds near the zenith.	
Light cirri scattered over the sky.	
Cumuli and light clouds.	H B
Cloudless.	L
Cumuli all round the horizon, and loose scud in various directions.	
,, ,,	L
Light cirri and a few cumuli.	H B
Cirri and light clouds are in every direction.	
Cirri and light clouds principally near the S. S. E. horizon.	
Cirro-stratus and light clouds near the S. horizon.	H B
A few cirri, clouds, and haze near the N. horizon; in other directions it is cloudless.	G
Overcast: cirro-stratus and scud.	L
Cumuli to the N. and E.; cloudless in other parts.	
Cirro-stratus and wild looking scud: the clouds are continually varying, the sky being at times completely overcast.	
A few light clouds are about the zenith, but to no numerical extent.	
A few light clouds to the S.	
A few cumuli are towards the N. horizon.	L
Cumuli and scud nearly cover the sky: a large nimbus covers the Sun.	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
June 23. 0	30·008	62·8	55·2	7·6	..	..	..	NNW	..	..	..	..	..	..	6	..
2	29·998	65·3	59·1	6·2	..	..	..	NNW	..	..	..	..	..	..	5	..
4	29·989	68·7	58·2	10·5	46·0	22·7	72·3	NW	..	NW	1·30	..	..	..	1	..
6	29·977	66·3	55·7	10·6	..	..	52·5	NNW	..	..	..	..	..	..	3	..
8	29·981	64·7	57·4	7·3	..	..	—	NNW	..	..	..	..	..	..	8	..
10	29·989	61·0	56·5	4·5	52·5	8·5	92·0	NNW	..	..	..	..	..	..	10	..
12	29·983	59·9	57·6	2·3	..	..	46·5	W by S	..	..	..	..	..	..	10	..
14	29·957	56·2	55·3	0·9	..	..	—	W by S	..	..	..	..	..	..	0	..
16	29·947	52·7	52·6	0·1	52·5	0·2	66·5	WSW	..	..	..	..	..	..	½	Transit
18	29·935	54·1	53·1	1·0	..	..	66·0	Calm	..	..	..	..	..	..	2	..
20	29·915	61·6	59·3	2·3	..	..	..	Calm	..	..	..	..	..	..	0	..
22	29·888	67·0	61·9	5·1	58·5	8·5	..	WSW	..	WSW	1·18	4·47	0·00	7·840	2	..
June 24. 0	29·838	69·5	63·2	6·3	..	..	..	W by S	1 to 2½	..	..	..	..	..	7	..
2	29·765	66·0	61·6	4·4	..	..	..	W by S	1½ to 2½	..	..	..	..	..	10	..
4	29·721	67·8	63·0	4·8	58·0	9·8	..	W by S	1 to 4	..	..	..	..	..	7	..
6	29·680	59·4	58·8	0·6	..	..	..	W by S	½ to 2½	..	..	..	..	..	9	..
8	29·668	58·5	54·7	3·8	..	..	73·5	WSW	½ to 4	WSW	2·39	..	..	..	8	..
							52·4									
							—									
							95·5									
							45·9									
							—									
10	29·669	55·4	53·2	2·2	51·0	4·4	66·0	WSW	½ constant	..	..	..	..	..	¼–	..
							65·8									
12	29·664	53·2	51·9	1·3	..	..	..	WSW	½ constant	..	..	..	..	..	3	..
14	29·664	53·5	52·6	0·9	..	..	..	WSW	..	..	..	..	..	..	10	..
16	29·654	52·4	51·7	0·7	50·5	1·9	..	WSW	..	..	..	..	..	..	6	..
18	29·656	54·0	52·7	1·3	..	..	..	WSW	½ to 1½	..	..	..	..	..	5	Transit
20	29·669	57·3	54·1	3·2	..	..	..	W by N	1 to 3	..	..	..	..	..	8	..
22	29·677	60·1	53·2	6·9	47·5	12·6	..	W by N	1 to 2	W	3·91	4·61	0·23	8·025	9	In Equator
June 25. 0	29·692	63·3	54·4	8·9	..	..	..	W by S	½ to 2½	..	..	..	..	..	6	..
2	29·688	62·0	54·2	7·8	..	..	..	WSW	1 to 2	..	..	..	..	..	10	..
4	29·686	63·7	55·2	8·5	47·5	16·2	..	WSW	½ to 2	..	..	..	..	..	8	..
6	29·686	62·0	55·2	6·8	..	..	67·7	WSW	½ to 1	..	..	..	..	..	10	..
							52·9									
							—									
8	29·690	58·6	53·2	5·4	..	..	86·3	WSW	..	..	..	..	..	..	10	..
10	29·696	55·7	53·5	2·2	51·5	4·2	50·5	SW	..	..	..	..	..	..	10	..
12	29·659	54·6	53·8	0·8	..	..	—	SSW	..	..	..	..	..	..	10	..
14	29·632	52·9	52·5	0·4	..	..	65·2	Calm	..	..	..	..	..	..	10	..
16	29·617	53·2	52·9	0·3	53·0	0·2	65·0	Calm	..	..	..	..	..	..	10	..
18	29·639	53·0	52·9	0·1	..	..	..	N by W	..	WNW	1·26	..	..	..	10	Transit
20	29·649	56·7	54·4	2·3	..	..	..	N by W	..	..	..	..	..	..	10	..
22	29·667	60·5	55·0	5·5	49·0	11·5	..	N by W	..	NW	1·82	4·71	0·13	8·145	5	..

OSLER'S ANEMOMETER.

June 24ᵈ, at 3ʰ. 50ᵐ and at 4ʰ. 10ᵐ, gusts to 5 lbs. took place.

REMARKS.	Observer.
Cumuli and scud.	H B
Cumuli in detached masses in various parts of the sky, and fragments of scud and fleecy clouds in every direction.	H B
A few detached cumuli are scattered over the sky.	L
Cumuli round the horizon, a few cirro-cumuli a little N. of the zenith, and light clouds in various parts of the sky.	
A bank of cirro-stratus towards the W., cumuli and scud to the N., and fleecy clouds towards the S.	
Overcast: cirro-stratus and scud.	L
,, ,, a few drops of rain fell about ten minutes since.	D
Cloudless.	
A few fragments of scud are in various directions.	
Cirri and other light clouds.	
Cloudless.	D
Cirri in lines scattered over the sky, with a few light clouds and cumuli.	H B
Cumuli and large masses of scud; the upper clouds are cirro-cumuli, and a few light cirri: the wind is blowing occasionally to $\frac{3}{4}$.	
Overcast: heavy nimbi and scud: rain began to fall about five minutes since and ceased shortly afterwards: the wind blowing in gusts to $\frac{3}{4}$ and 1.	H B
The sky has been covered since 2^h with large cumulo-strati and nimbi: a shower of rain fell at $3^h.30^m$, which continued only a few minutes: the wind is blowing frequently to 1 and $1\frac{1}{2}$.	D
Cumulo-stratus, cirro-stratus, and scud: several dense nimbi have passed over the zenith since 4^h: at $5^h.10^m$ rain began falling heavily; it continued falling nearly without intermission until $5^h.52^m$: there is a large break in the clouds at present near the horizon in the N.W. and W.: the wind is blowing in gusts to $1\frac{1}{2}$.	
The break mentioned above soon increased, and at $6^h.20^m$ the sky was nearly clear; it remained so but a very short time, for at $6^h.45^m$ every part of the sky was again covered with dense cumulo-strati; since the latter time, the amount of cloud has been continually varying, and at present the horizon generally is clear, the remainder of the sky being covered with one mass of cirro-stratus: at $6^h.10^m$ a most beautiful double rainbow was visible in the E., the internal arc had the prismatic colours more than usually distinct, but the external arc was imperfect; the distance between the two was 15°: wind in gusts to $1\frac{1}{2}$.	
A few cirri S.E. of the zenith: since $8^h.10^m$ the sky has been nearly clear, a few cirri being the only clouds visible: the wind is blowing in gusts to $1\frac{1}{2}$.	D
The amount of cloud noted refers principally to a large bank of cirro-stratus and dark scud near the N.N.W. horizon: the wind is blowing frequently in gusts to 1.	H B
The sky has remained generally overcast since the last observation, with the exception of a few breaks in the clouds which occurred about 13^h, and then only for three or four minutes: a few stars are occasionally visible between the clouds.	
Cirro-stratus and fragments of dark scud are scattered in every direction.	
Cumuli, fragments of scud, and fleecy clouds: the wind is blowing in occasional gusts to $\frac{3}{4}$.	
Cirro-stratus, cumuli, and scud: the amount of cloud is continually changing: wind in occasional gusts to 1+.	H B
Cirro-stratus, cumulo-stratus, and scud: wind in occasional gusts to 1.	L
Cirro-stratus, cumulo-stratus, and scud: the wind is blowing in gusts to $1\frac{1}{2}$.	
,, the wind is blowing in gusts to 1+.	L
Cumulo-stratus near the S.E. horizon, and cirro-stratus in various parts of the sky: there is an immense quantity of scud distributed over the sky: the wind is blowing in frequent gusts to 1+.	H B
Overcast, cirro-stratus, cumulo-stratus, and scud: the wind is blowing in gusts to 1+: at $6^h.18^m$ a very faint halo was observed round the Sun, whose semidiameter (approximately measured) was equal to 24°; the part near the horizon was invisible, and no part was sufficiently distinct to obtain an accurate measurement.	
Overcast: cirro-stratus and scud.	
,, ,, a few drops of rain are falling.	H B
,, ,, fine rain has just begun to fall.	L
,, rain is falling; it has continued incessantly since the last observation.	
,, rain is falling.	
,, ,,	
,, the Sun's place is visible: rain ceased falling about $18^h.40^m$.	L
Cumuli, scud, and light clouds.	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
June 26. 0	29·691	64·1	55·3	8·8	..	..	..	WNW	..	..	..	..	..	..	3	..
2	29·696	65·2	55·6	9·6	..	..	..	WNW	..	..	..	..	..	..	2	..
4	29·712	66·0	56·2	9·8	41·0	25·0	..	W by S	..	..	..	..	..	..	2	3rd Qr.
6	29·727	63·7	55·4	8·3	..	..	69·8	W	..	..	..	..	..	..	2	..
8	29·734	61·1	53·2	7·9	..	..	50·5	N by W	..	NW	1·10	..	..	..	0	..
10	29·745	55·7	51·4	4·3	47·0	8·7	——	Calm	..	..	..	..	..	..	3	..
12	29·740	51·1	49·0	2·1	..	..	88·7	Calm	..	..	..	..	..	..	7	..
							40·5									
							——									
14	29·710	49·6	48·7	0·9	..	..	65·0	Calm	..	..	..	..	..	..	1	..
16	29·680	50·9	49·2	1·7	47·5	3·4	64·8	Calm	..	..	..	..	..	..	10	..
18	29·665	52·9	51·1	1·8	..	..	..	Calm	..	..	..	..	..	..	10	..
20	29·646	57·3	55·5	1·8	..	..	..	S by W	..	..	..	..	..	..	10	Transit
22	29·613	57·5	55·9	1·6	55·0	2·5	..	S by W	..	SW	0·50	4·71	0·00	8·150	10	..
June 27. 0	29·581	58·0	57·2	0·8	..	..	..	SSW	..	..	..	..	..	..	10	..
2	29·553	58·5	56·9	1·6	..	..	..	SSW	½ to 1	..	..	..	..	..	10	..
4	29·501	57·3	56·4	0·9	55·5	1·8	61·9	SW	..	..	..	..	..	..	10	..
6	29·449	58·4	57·0	1·4	..	..	56·6	SW	0 to 1	..	..	..	..	..	10	..
8	29·393	57·9	56·4	1·5	..	..	——	SW	½ to 2	SSW	3·62	..	..	..	10	..
10	29·344	57·9	56·9	1·0	56·0	1·9	63·7	S by W	0 to 2½	..	..	..	..	..	10	..
12	29·280	56·6	56·5	0·1	..	..	54·3	S by W	0 to ½	..	..	..	..	..	10	..
14	29·214	56·5	56·5	0·0	..	..	——	S by W	¼ constant	..	..	..	..	..	10	..
16	29·157	57·0	56·7	0·3	56·5	0·5	64·8	SSW	½ to 1	..	..	..	..	..	10	..
18	29·134	57·3	56·7	0·6	..	..	64·2	SSW	..	..	..	..	..	..	10	..
20	29·124	58·5	57·3	1·2	..	..	..	SSW	..	..	..	..	..	..	10	Transit
22	29·133	58·7	57·8	0·9	57·5	1·2	..	SW	..	SW	1·98	4·77	0·09	8·250	10	..
June 28. 0	29·137	64·3	62·2	2·1	..	..	..	SW	½ to 4½	..	..	..	..	..	9½	..
2	29·186	63·3	60·4	2·9	..	..	..	WNW	½ to 3	WSW	0·53	..	..	..	10	..
4	29·308	59·6	55·7	3·9	52·0	7·6	..	WNW	1½ to 5	WNW	0·38	..	..	..	10	..
6	29·406	55·7	52·4	3·3	..	..	65·7	WNW	½ to 2½	..	..	..	..	..	10	..
8	29·471	54·8	51·5	3·3	..	..	43·8	W by N	½ to 3	NW	2·25	..	..	..	10	..
10	29·561	52·0	49·6	2·4	46·5	5·5	——	WSW	..	..	..	..	..	..	3	..
							81·2									
							35·8									
							——									
12	29·619	50·0	47·6	2·4	..	..	64·0	WSW	..	..	..	..	..	..	½	..
14	..	..	..	..	..	..	63·2	W by S	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	NNW	..	..	..	..	..	..	..	Transit
22	29·785	59·9	54·9	5·0	..	..	..	W by S	..	WNW	1·10	4·84	0·10	8·395	7	..
June 29. 0	29·790	61·6	54·6	7·0	..	..	70·9	WSW	..	..	..	..	..	..	8	..
2	29·806	65·3	58·6	6·7	..	..	50·6	SW	..	WNW	0·44	..	..	..	6	..
4	..	..	..	..	..	..	——	WSW	..	SW	2·76	..	..	..	..	..
6	..	..	..	..	..	..	98·0	SW	½ to 1½	..	..	..	..	..	..	..
8	29·810	59·4	57·6	1·8	..	..	43·7	SSW	..	SSW	0·84	..	..	..	8	..
							——									
10	..	..	..	..	..	..	63·0	SSW	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	63·0	S	..	..	..	..	..	..	..	..

BAROMETER.

June 28d. Between 2h and 4h the reading increased 0in·122.

MINIMUM FREE THERMOMETER.

June 26d. 22h and 27d. 22h. The readings were higher than those of the Dry Thermometer at 14h.

REMARKS.	Observer.
Cumuli and fleecy clouds are scattered over the sky: the wind is blowing in gusts to $\frac{3}{4}$.	H B
The prevailing clouds are cumuli, which are scattered in every part of the sky; there are also a few linear cirri.	H B
Cumuli scattered in various directions.	L
,,	
A few linear cirri are about the zenith, but to no numerical amount.	
Cirro-stratus to the N., the other portions of the sky are cloudless.	L
Cirro-stratus covers every portion of the sky with the exception of that part in the neighbourhood of the zenith: the sky since 10^h has been generally clear: between 8^h and 9^h some fine specimens of cirrus were visible; nearly every species were discernible, more particularly the comoid and cymoid; several of these were most perfect in their character.	D
Cirro-stratus in the N. near the horizon: a corona is visible round the Moon.	
The sky is covered with one uniform cloud.	
Overcast: cirro-stratus.	
,, ,,	D
,, rain is falling.	H B
Overcast: rain is falling heavily.	H B
,, a few drops of rain are occasionally falling.	L
,, ,,	D
,, very gloomy.	
,, ,, the wind is blowing in gusts.	
,, ,, the wind is blowing in gusts to 2.	D
,, a thin drizzling rain is falling.	H B
,, a slight rain is falling.	
,, ,, the wind is blowing in gusts to 1.	
,, cirro-stratus and scud: the wind is blowing in gusts to 1+.	
,, ,, the wind is blowing in gusts to 1.	H B
,, ,, a fine rain is falling: the wind is blowing in gusts to $\frac{3}{4}$.	L
Cirro-stratus and scud, with a break towards the S.: a heavy shower of rain fell about $22^h. 55^m$: the wind is blowing in gusts to $1\frac{1}{2}$.	
Cirro-stratus and scud: a heavy shower of rain fell soon after the last observation: there have been frequent breaks in the clouds to the N., and at one time the north half of the sky was nearly free from cloud: a thick drizzling rain is now falling: the wind is blowing in gusts to $1\frac{1}{2}$ and 2.	L
Overcast: cirro-stratus and heavy scud: the wind is blowing in gusts to $2\frac{1}{2}$.	H B
,, cirro-stratus and scud: the wind is blowing in gusts to 2 and $2\frac{1}{2}$.	
Cirro-stratus and scud: there are a few breaks in the clouds in various places: the wind is blowing in gusts to 2.	
About three quarters of an hour since the clouds cleared off rather suddenly, leaving only a few fragments of cirro-stratus and scud near the horizon, with some scattered cirri: at present there is an extensive bank of cirro-stratus and dense scud towards the N. horizon, and more or less near the horizon in other directions: the wind is blowing in occasional gusts to $\frac{3}{4}$.	H B
A narrow line of cirro-stratus to the N.; the other parts of the sky are cloudless: the wind is blowing in gusts to $\frac{1}{2}$.	L
Cirro-stratus and large quantities of scud are S. of the zenith, with several cumuli near the horizon.	H B
Cirro-stratus, cumuli, and scud; a few cirri are also visible to the N. of the zenith.	
Cumuli and white scud are the prevailing clouds; the upper clouds are cirri with a few cirro-cumuli.	
Cirro-stratus, scud, and cirro-cumuli: at about 6^h a shower of rain fell, during which a fine double rainbow was visible.	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
June 29. 14	29·791	53·0	52·8	0·2	..	..	..	S by W	..	..	..	..	..	..	10	..
16	29·766	54·0	53·3	0·7	53·0	1·0	..	S by W	½ constant	..	..	..	..	..	10	..
18	29·748	53·8	53·2	0·6	..	..	..	S by W	..	..	..	..	..	..	10	..
20	29·733	57·7	56·9	0·8	..	..	..	S	½ to 1	..	..	..	..	..	10	..
22	29·732	59·3	57·7	1·6	56·0	3·3	..	S by W	..	SW	0·38	4·84	0·01	8·415	10	Transit
June 30. 0	29·736	65·2	59·6	5·6	..	..	..	WSW	1 to 1½	..	..	..	..	..	9	..
2	29·742	67·0	59·2	7·8	..	..	70·8	WSW	1 to 2	..	..	..	..	..	9	..
4	29·755	66·2	59·4	6·8	52·0	14·2	53·0	WSW	1 to 1½	W	0·98	..	..	..	10	..
6	29·743	63·3	59·2	4·1	..	..	——	WSW	..	..	..	..	..	..	10	..
8	29·741	59·0	55·5	3·5	..	..	90·0	SSW	..	..	..	..	..	..	9¾	..
10	29·744	55·0	52·9	2·1	51·5	3·5	48·4	S by W	..	..	..	..	..	..	10	..
12	29·722	53·1	52·3	0·8	..	..	——	S by W	..	..	..	4·84	0·00	8·415	5	..
14	29·670	55·0	54·2	0·8	..	..	63·0	SSW	..	..	..	..	..	..	10	..
16	29·646	55·9	54·7	1·2	53·5	2·4	63·0	SSW	..	..	..	..	..	..	10	..
18	29·616	57·4	55·8	1·6	..	..	..	SSW	..	..	..	..	..	..	10	..
20	29·544	58·8	58·1	0·7	..	..	..	SSW	1 to 1½	..	..	..	..	..	10	..
22	29·491	61·0	60·2	0·8	60·0	1·0	..	SSW	2 to 3	SW	3·82	..	..	..	10	Transit
July 1. 0	29·453	61·8	60·5	1·3	..	..	..	SW	4 to 6	..	..	..	..	..	10	..
2	29·459	67·1	61·4	5·7	..	..	..	WSW	4 to 8	..	..	..	..	..	3	..
4	29·463	67·5	59·1	8·4	51·5	16·0	69·9	WSW	4 to 7	..	..	..	..	..	½	..
6	29·474	63·0	57·4	5·6	..	..	52·3	WSW	3 to 6	SW	0·95	..	..	..	7	..
8	29·512	58·7	54·9	3·8	..	..	——	..	..	..	..	..	..	..	8	..
10	29·535	56·5	53·7	2·8	51·5	5·0	83·0	..	..	..	..	..	..	..	7	..
12	29·550	56·1	53·4	2·7	..	..	46·6	..	..	..	..	..	..	..	9	..
14	29·562	55·0	52·8	2·2	..	..	——	..	..	..	..	..	..	..	8	..
16	29·588	52·8	51·4	1·4	50·0	2·8	63·0	SW	1 to 1½	..	..	..	..	..	3	..
18	29·629	53·1	51·8	1·3	..	..	62·8	SW	..	..	..	..	..	..	3	..
20	29·681	58·5	55·6	2·9	..	..	..	SW	½ to 1	..	..	..	..	..	10	..
22	29·707	62·5	57·5	5·0	52·5	10·0	..	SW	..	WSW	6·38	4·93	0·14	8·540	10	Transit
July 2. 0	29·725	63·3	58·4	4·9	..	..	..	SW	..	..	..	..	..	..	10	..
2	29·734	64·7	59·7	5·0	..	..	..	SSW	..	..	..	..	..	..	10	..
4	29·742	58·9	57·7	1·2	57·5	1·4	67·6	S by W	..	..	..	..	..	..	10	..
6	29·716	58·4	56·9	1·5	..	..	55·6	S by E	..	..	..	..	..	..	10	Greatest declination N.
8	29·700	57·9	57·0	0·9	..	..	——	SSE	..	..	..	..	..	..	10	..
10	29·682	56·3	55·8	0·5	55·5	0·8	79·2	SSE	..	..	..	..	..	..	5	..
12	29·643	55·7	55·5	0·2	..	..	50·2	Calm	..	..	..	..	..	..	½	..
14	29·622	55·5	55·5	0·0	..	..	——	Calm	..	..	..	..	..	..	10	..
16	29·578	56·5	56·7	-0·2	56·0	0·5	62·8	Calm	..	..	..	..	..	..	10	..
18	29·577	60·0	59·7	0·3	..	..	62·2	Calm	..	..	..	..	..	..	6	..
20	29·562	71·7	68·7	3·0	..	..	..	Calm	..	..	..	..	..	..	1	..
22	29·568	74·5	70·7	3·8	70·0	4·5	..	Calm	..	S	1·26	4·98	0·07	8·640	5	..
July 3. 0	29·564	76·3	68·6	7·7	..	..	..	S by E	0 to ½	..	..	..	..	..	10	Transit
2	29·540	79·5	71·1	8·4	..	..	..	S by W	½ to 1½	S	1·54	..	..	..	3	..

DRY THERMOMETER.

July 2d. 16h. The reading was lower than that of the Wet Thermometer.

MAXIMUM FREE THERMOMETER.

July 2d. 22h. The reading is evidently erroneous; the index is 7° in length, and it seems probable that the reading at the wrong end was taken: as the temperature at the time was higher than at any other time in the previous 24 hours, the reading of the Dry Thermometer, viz. 74°·5, has been used in the Abstracts.

MINIMUM FREE THERMOMETER.

July 2d. 22h. The reading was higher than that of the Dry Thermometer at 14h.

REMARKS.	Observer.
Overcast: at 11h. 40m the sky was clear, with the exception of a small bank of cirro-stratus towards the W., which gradually increased, and at 12h. 0m it was quite overcast, and has remained so to the present time: wind blowing in gusts to $\frac{3}{4}$.	L
Overcast, with occasional drops of rain since the last observation: the wind is blowing in gusts to 1.	
Overcast: rain has been occasionally falling.	
,, the wind is blowing in gusts to 1.	L
,, cirro-stratus and scud: the wind is blowing in gusts to $\frac{3}{4}$.	H B
Rocky cumuli near the N. horizon, and cirro-stratus, scud, and fleecy clouds are in other directions: an extensive break in the clouds towards the N. N. E. in which a few cirri are scattered: a shower of rain fell about 22h. 50m, and lasted three or four minutes.	
The sky is principally covered with fleecy clouds, cumuli, and scud.	H B
Overcast: cirro-stratus, cumulo-stratus, and scud.	L
Cirro-stratus, scud, and fleecy clouds.	L
,, there is a clear break in the clouds in the S. horizon.	D
Overcast, with the exception of a few small breaks in the clouds.	H B
Clear in the N. and N.W.; the sky is elsewhere covered with cloud.	D
The sky became overcast soon after the last observation, and has continued so.	
Overcast: cirro-stratus and scud.	
,, ,,	
,, rain is falling; it began about an hour since.	D
,, rain is falling: wind blowing in gusts to $1\frac{1}{2}$.	H B
Overcast: squally: the wind blowing in gusts to 2.	L
Cumuli and light clouds all round the horizon; in other parts the sky is clear.	L
Cumuli near the N. horizon; every other part of the sky is clear: the wind is blowing a gale, and in frequent gusts to $2\frac{1}{2}$.	D
Large cumulo-strati in all directions: since 4h the sky has been generally clear: heavy gusts of wind.	D
Cirro-stratus and scud, with an upper cloud, consisting of cirri, mottled and reticulated: the wind is blowing in gusts.	L
Cirro-stratus and scud, with breaks in the clouds in various directions.	L
Cirro-stratus and heavy vapour: the wind is blowing in gusts to $2\frac{1}{2}$.	H B
Cirro-stratus: the amount of cloud is continually changing, alternately clear and cloudy during the night: the wind is blowing in gusts [to 2.	
Cirro-stratus and brownish scud, principally S. of the zenith, near the horizon: wind blowing in gusts to 1.	
Several modifications of the cirrus cloud are visible: cirro-stratus near the horizon.	
Overcast: cirro-stratus and scud.	H B
Cirro-stratus and scud, with a few cumuli towards the N.: the cloud in many places is thin, and the Sun casts a faint shadow through the clouds.	L
Cirro-stratus and scud: the wind is blowing in gusts to $\frac{1}{2}$.	
Overcast: cirro-stratus and scud: a shower of rain fell about 0h. 50m.	L
,, ,, rain is falling steadily.	H B
,, ,, rain ceased about 5h.	
,, ,,	
An extensive bank of cirro-stratus near the N. horizon, and also in fragments in other directions: light clouds of the cirro-cumuli kind near the zenith and around: the amount of cloud has been very variable during the last hour.	H B
Cloudless, except a bank of cirro-stratus towards the N. horizon.	L
Cirro-stratus and scud: the sky became gradually overcast after 12h. 40m.	
Overcast: heavy vapour, with great deposition of moisture.	
Cirro-stratus, scud, and fleecy clouds, with a few cirro-cumuli about the zenith.	
A few cumuli and light clouds to the N. and W.	L
Cumulo-strati near the horizon, cumuli and fleecy clouds in other directions: mutterings of thunder heard occasionally: about 21h several peals of thunder were heard, and shortly afterwards a heavy shower of rain fell.	H B
Cirro-stratus, cumulo-stratus, and scud: the wind is blowing in gusts to $\frac{3}{4}$ and 1.	
Cumuli and fleecy clouds, principally in the E.: at 0h. 20m drops of rain began falling, and shortly afterwards a heavy shower fell, which ceased at 0h. 32m.	H B

PRESSURE OF THE WIND AS SHEWN BY OSLER'S ANEMOMETER.

July 1d. 1h. 20m. The pressure was 9 lbs. At 6h the clock stopped.

RAIN.

June 30d. 12h. The amount collected during the month of June in the rain-gauge No. 4 was 1in·89, 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°·87.

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
July 3. 4	29·561	79·4	68·9	10·5	62·0	17·4	..	S by W	½ to 2½	..	..	..	..	..	½	..
6	29·601	72·7	67·0	5·7	..	..	80·5	SSW	½ to 3	..	..	..	..	..	5	..
8	29·661	67·8	62·5	5·3	..	..	53·0	SSW	1 to 4	..	..	..	..	..	½	..
10	29·723	60·2	56·9	3·3	53·0	7·2	—	SW	0 to ½	..	..	..	..	..	½	..
12	29·751	54·7	51·8	2·9	..	..	102·0	SW	..	..	..	..	..	..	0	..
14	29·792	54·0	50·8	3·2	..	..	46·8	SSW	..	..	..	..	..	..	9½	..
16	29·799	54·0	52·3	1·7	50·5	3·5	—	SSW	..	..	..	..	..	..	10	Apogee
18	29·839	55·2	53·4	1·8	..	..	63·0	SSW	..	..	..	..	..	..	10	..
20	29·885	60·6	58·1	2·5	..	..	63·0	SSW	..	..	..	..	..	..	9½	..
22	29·911	64·3	60·0	4·3	55·5	8·8	..	WSW	..	SW	3·42	4·98	0·00	8·655	10	..
July 4. 0	29·941	65·8	61·0	4·8	..	..	..	SSW	..	..	..	..	..	..	9	Transit
2	29·947	68·8	61·0	7·8	..	..	..	S by W	..	..	..	..	..	..	7	..
4	29·939	69·4	60·8	8·6	55·0	14·4	73·1 52·6	SSW	..	..	..	..	..	..	5	..
6	29·942	66·9	58·8	8·1	..	..	—	SSW	..	..	..	..	..	..	¾	New
8	29·966	62·6	57·5	5·1	..	..	94·6	SSW	..	..	..	..	..	..	4	..
10	29·991	58·3	55·4	2·9	53·0	5·3	45·8	SSW	..	..	..	..	..	..	10	..
12	30·021	56·4	55·0	1·4	..	..	—	S	..	..	..	..	..	..	10	..
14	30·018	54·8	54·2	0·6	..	..	64·0	Calm	..	..	..	..	..	..	8	..
16	30·023	52·0	51·8	0·2	51·5	0·5	63·2	Calm	..	..	..	..	..	..	1	..
18	30·061	55·0	54·4	0·6	..	..	..	Calm	..	..	..	..	..	..	10	..
20	30·073	57·9	56·4	1·5	..	..	..	Calm	..	..	..	..	..	..	7	..
22	30·108	64·7	60·0	4·7	56·0	8·7	..	Calm	..	SW	2·15	4·98	0·00	8·665	0	..
July 5. 0	30·102	71·3	63·4	7·9	..	..	..	S by E	..	..	..	..	..	..	2	..
2	30·101	73·8	63·7	10·1	..	..	..	S by E	..	..	..	..	..	..	2	Transit
4	30·075	72·5	63·0	9·5	55·0	17·5	..	E by N	..	..	..	..	..	..	4	..
6	30·053	68·3	61·2	7·1	..	..	77·4 55·0	E	..	..	..	..	..	..	5	..
8	30·058	62·9	58·1	4·8	..	..	— 103·3	E by S	..	..	..	..	..	..	4	..
10	30·056	58·4	54·8	3·6	52·0	6·4	46·5	Calm	..	..	..	..	..	..	10	..
12	30·041	56·2	54·2	2·0	..	..	—	Calm	..	..	..	..	..	..	10	..
14	..	..	..	..	..	..	64·5	Calm	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	64·2	Calm	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	ENE	..	..	..	..	..	..	..	..
22	29·952	67·0	63·4	3·6	..	..	..	E by N	..	E	1·86	4·98	0·00	8·655	7	..
July 6. 0	..	..	..	..	..	..	..	ESE	..	ESE	0·96	..	..	..	..	..
2	..	..	..	..	..	..	77·8	NNE	..	..	..	..	..	..	..	Transit
4	..	..	..	..	..	..	63·9	N	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..		N	..	..	..	..	..	..	..	..
8	29·839	67·9	66·0	1·9	..	..	—	Calm	..	..	..	..	..	..	0	..
10	..	..	..	..	..	..	103·6	Calm	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	58·0	Calm	..	..	..	..	..	..	..	..
14	29·803	66·5	64·9	1·6	..	..	— 66·0 65·0	Calm	..	..	..	..	..	..	5	..
16	29·813	64·6	63·7	0·9	61·0	3·6	..	SSW	..	..	..	..	..	..	4	..

MINIMUM FREE THERMOMETER.

July 4d. 22h. The reading was higher than that of the Dry Thermometer at 16h.

OSLER'S ANEMOMETER.

July 3d. 7h. 15m. The pressure was 5 lbs.

REMARKS.	Observer.
A few cumuli and light clouds to the N. and W. horizon; clear in other parts of the sky: the wind is blowing in gusts to $\frac{3}{4}$.	L
Cumulo-stratus, cirro-stratus, and light clouds: the wind is blowing in gusts to 1.	
A few cumuli to the N., and cymoid cirri a little W. of the zenith; the wind is blowing in gusts to 1 +.	
A small bank of cirro-stratus near the N. horizon, and a few cirri a little S. of the zenith.	L
Cloudless.	D
A few stars are shining N.W. of the zenith; the sky is otherwise covered with cirro-stratus.	
Overcast: rain was falling between $14^h. 30^m$ and $14^h. 50^m$.	
,,	
A few breaks have appeared in the clouds within the last few minutes, and the Sun is occasionally shining.	D
A few cumuli towards the N.; cirro-stratus, scud, and fleecy clouds in other directions: the clouds about the zenith are thin.	L
Cumuli towards the horizon in the N. and W.: cirro-stratus and scud with a break in the clouds between the zenith and western horizon.	
Cumuli and cumulo-strati round the horizon, cirro-cumuli about the zenith, and cirro-stratus and light clouds in other directions; there are breaks in the clouds towards the N. and W.	L
Cumuli in all directions.	D
A few cumuli are near the N. horizon; and cirri, to no numerical amount, are scattered E. of the zenith.	
Light clouds, but principally cirri.	
Overcast: cirro-stratus.	D
,, ,, rain is falling steadily.	H B
Cirro-stratus and scud: the rain ceased about $12^h. 30^m$.	
Cloudless, with the exception of a bank of cirro-stratus near the N. horizon: the amount of cloud is variable.	
The sky became overcast shortly after the last observation, and has continued so to the present time.	
The prevailing clouds are cumuli and large masses of white scud: the Sun is shining occasionally.	H B
A few cumuli near the S. horizon, but to no numerical extent: there are gentle airs.	L
Detached cumuli in every direction.	
The only clouds are cumuli, which are all round the horizon, and scattered in every direction.	
The same as the last observation.	L
The sky is principally covered with cirri of different densities, and a few cumuli and cirro-strati near the horizon; several fine specimens of the cirrus cloud were visible shortly after this observation.	H B
Cirri (of which there are some very fine specimens) scattered over the sky: cirro-stratus near the Sun's place, and near the horizon.	
Cirro-stratus and scud.	H B
Overcast: some stars are occasionally visible about the zenith.	L
Cumuli and scud.	D
A few cumuli are to the N., but to no numerical extent.	L
Cloudy to the S., and about the zenith: there have been continual flashes of lightning since $9^h. 40^m$, proceeding from a cumulo-stratus cloud in the S., which gradually moved to the N. N. E.; the flashes still continue, but are not so frequent as they were about an hour since.	
Cumuli to the N. and N. E.: cirro-stratus and scud about the zenith and to the S.: a few flashes of lightning are occasionally seen from clouds in the N. horizon.	

SOLAR HALO.

July 5^d, at $5^h. 40^m$ an arc of a solar halo was noticed, the Sun being then in a cirro-stratus cloud. At $5^h. 45^m$ the halo was nearly perfect, with the exception of the part near the horizon, which was obscured by cumuli. I took several measures with the instrument and found its vertical semidiameter from a mean of four observations to be $21\frac{3}{4}^\circ$, and its horizontal semidiameter from four measures $23\frac{1}{4}^\circ$; the upper side was more distinct than any other part, and exhibited the usual colours very vividly. At $6^h. 11^m$ I saw a very bright mock Sun, at about $23\frac{1}{2}^\circ$ or 24° to the East of the true Sun and in the same horizontal line. At $6^h. 19^m$ I again took some measures of the vertical semidiameter, and found it was $21\frac{1}{2}^\circ$ and 22°. At $6^h. 27^m$ the mock Sun was visible for a minute. The whole disappeared before $6^h. 35^m$.—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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
July 6. 18	29·840	64·2	63·6	0·6	..	..	..	SSW	..	..	..	..	..	..	8	..
20	29·831	69·3	66·2	3·1	..	..	..	Calm	..	..	..	..	..	..	½	..
22	29·822	75·5	67·0	8·5	64·0	11·5	..	Calm	..	WSW	0·92	4·99	0·03	8·690	1	..
July 7. 0	29·842	79·9	67·2	12·7	..	..	..	WSW	..	..	..	..	..	..	1	..
2	29·849	80·5	69·2	11·3	..	..	..	WSW	..	..	..	..	..	..	2	Transit
4	29·855	80·5	70·5	10·0	61·0	19·5	83·3	WSW	..	..	..	..	..	..	1	..
6	29·839	77·5	69·8	7·7	..	..	57·5	SW	..	..	..	..	..	..	2	..
8	29·836	72·2	64·7	7·5	..	..		SW	..	..	..	..	..	..	6	..
10	29·861	64·5	60·2	4·3	56·0	8·5	109·1	WSW	..	..	..	..	..	..	1	..
12	29·861	63·5	59·7	3·8	..	..	50·5	Calm	..	..	..	..	..	..	8	..
14	29·831	60·2	57·2	3·0	..	..	67·8	Calm	..	..	..	..	..	..	10	..
16	29·830	58·8	56·7	2·1	..	..	66·2	Calm	..	..	..	..	..	..	10	..
18	29·821	57·9	55·4	2·5	..	..		Calm	..	..	..	..	..	..	10	..
20	29·825	60·2	57·6	2·6	..	..		SSW	..	..	..	..	..	..	10	..
22	29·837	60·9	58·9	2·0	57·5	3·4	..	Calm	..	SW	2·56	4·99	0·00	8·705	10	..
July 8. 0	29·841	68·0	62·0	6·0	..	..	..	WSW	..	..	..	..	..	..	10	..
2	29·829	73·0	64·2	8·8	..	..	..	WSW	..	..	..	..	..	..	5	..
4	29·834	69·3	60·7	8·6	56·0	13·3	..	SW	..	..	..	..	..	..	4	Transit
6	29·838	66·2	58·7	7·5	..	..	..	WSW	..	..	..	..	..	..	3	..
8	29·841	62·0	56·7	5·3	..	..	..	SW	..	..	..	..	..	..	3	..
							75·1 54·8									
10	29·861	56·6	54·2	2·4	53·0	3·6	94·0	SSW	..	..	..	..	..	..	0	..
12	29·850	55·5	53·8	1·7	..	..	47·2	SSW	..	..	..	..	..	..	2	..
14	29·833	55·4	53·7	1·7	..	..	66·2 66·0	SSW	..	..	..	..	..	..	9	..
16	29·827	56·0	54·2	1·8	52·0	4·0	..	SW	..	..	..	..	..	..	7	..
18	29·853	57·9	55·4	2·5	..	..	..	SW	..	..	..	..	..	..	9	..
20	29·870	59·4	56·2	3·2	..	..	..	SW	½ to 1½	..	..	..	..	..	10	..
22	29·900	65·8	59·0	6·8	55·0	10·8	..	WSW	1 to 1½	SW	5·55	4·99	0·00	8·705	8	..
July 9. 0	29·902	64·8	57·2	7·6	..	..	..	WSW	¼ to ½	..	..	..	..	..	8	..
2	29·898	60·6	57·3	3·3	..	..	..	W by S	..	W	0·97	..	..	..	10	..
4	29·891	69·3	60·0	9·3	53·0	16·3	70·1	SW	1 to 2	..	..	..	..	..	6	Transit
6	29·874	64·5	57·5	7·0	..	..	54·5	SSW	1 to 1½	..	..	..	..	..	10	..
8	29·862	59·7	54·2	5·5	..	..	85·4	SSW	½ to 1	..	..	..	..	..	10	..
10	29·857	56·8	53·1	3·7	51·8	5·0	50·5	SSW	..	..	..	..	..	..	10	..
12	29·837	55·0	53·4	1·6	..	..		SSW	..	..	..	..	..	..	10	..
14	29·793	54·7	53·2	1·5	..	..	66·0	SSW	..	..	..	..	..	..	10	..
16	29·753	55·0	53·7	1·3	53·0	2·0	65·2	SSW	0 to ½	..	..	..	..	..	10	..
18	29·730	54·7	54·0	0·7	..	..		SSW	0 to ½	..	..	..	..	..	10	In Equator
20	29·709	56·0	55·5	0·5	..	..	..	SSW	..	..	..	..	..	..	10	..
22	29·680	58·7	57·7	1·0	57·5	1·2	..	SSW	1 to 2	SW	4·01	5·00	0·10	8·815	10	..

DEW POINT THERMOMETER.
July 7d. 16h. The observation was inadvertently omitted.

REMARKS.	Observer.
Cirro-stratus and scud, with an extensive break in the clouds to the W.: at $16^h.35^m$ heavy rain began to fall, accompanied by low rumblings of distant thunder, but no electricity was exhibited; the rain ceased at about $16^h.50^m$: there were a few flashes of lightning from clouds in the E.	L
A few light clouds in the E. horizon.	L
Light clouds, chiefly cirri, in various directions.	H B
Cirri and cirro-cumuli S. of the zenith; other light clouds in various directions.	
Cumuli near the S. E. horizon, and light clouds in other directions: mutterings of thunder have been heard since the last observation: at $1^h.30^m$ the reading of the dry thermometer was 81°·8.	H B
Light and fleecy clouds to the S. and E. horizon.	L
Light and fleecy clouds, principally N. of the zenith.	
Light clouds and scud in every direction.	
A bank of cirro-stratus a little W. of the zenith, and another extending from the N. W. to the W. horizon.	L
Clear in and near the zenith; the remainder of the sky is covered with cirro-stratus: flashes of sheet lightning have been visible in the S. E. since 10^h, at intervals of three or four minutes.	D
Overcast: cirro-stratus, with occasional flashes of lightning.	
,, cirro-stratus: a slight shower of fine rain fell about twenty minutes since.	
,, ,,	
,, ,,	D
,, cirro-stratus and scud: a light rain has fallen since the last observation.	H B
Overcast: cirro-stratus and scud.	H B
Fine rocky cumuli in every direction, with some loose masses of white scud about the zenith: the wind is blowing in gusts to $\frac{1}{2}$.	L
Large white cumuli are scattered over every part of the sky; there are also some linear cirri: the wind is blowing in gusts to $\frac{3}{4}$.	D
Cumuli and light clouds: linear and comoid cirri have been prevalent since 4^h.	
Cirro-cumuli and cirri are scattered over the sky: the clouds have been very beautiful since the last observation: at $6^h.30^m$ one line of cirrus extended from the N. to the S. horizon, passing through the zenith; it was about 5° in breadth, and there was not the slightest appearance of a break in it; there have also been some fine specimens of the comoid cirrus: during the afternoon almost every kind of fine weather cloud has been noticed.	D
Cloudless.	H B
Cloudless, except cirro-stratus and vapour near the S. E. horizon: at $11^h.40^m$ the sky suddenly became overcast, but continued so only for a short time.	
Nearly overcast (cirro-stratus and vapour) with the exception of a break in the clouds near the S. E. horizon, where Jupiter and a few stars are visible.	
The sky is generally covered with cirro-stratus and large quantities of scud, which is moving with great rapidity from the S. W.	
Cirro-stratus, and large quantities of low scud: cirro-cumuli near the zenith and around it.	
Overcast: cirro-stratus and scud: a shower of rain fell at $19^h.10^m$, but continued only for a few minutes; heavy drops of rain fell afterwards.	H B
Cumuli, cumulo-strati, cirro-stratus, and scud: breaks in the clouds about the zenith, and S. of it.	L
Cirro-stratus, cumulo-stratus, and scud, with an extensive break in the clouds to the N.: a few drops of rain fell about $22^h.35^m$.	L
Cirro-stratus, cumulo-stratus, and scud: rain is falling: there have been several slight showers since 0^h.	D
Cirro-cumuli near the zenith and around it: cumuli and scud in various directions: heavy cumulo-stratus near the N. and N. W. horizon: the wind is blowing in gusts to $1\frac{1}{2}$.	H B
Cumulo-stratus, cirro-stratus, and scud: the wind is blowing in gusts to $1\frac{1}{2}$.	
Cirro-stratus and scud: the wind is blowing in gusts to 1.	
,, frequent gusts of wind to $\frac{3}{4}$: drops of rain are falling: it has fallen in slight showers since the last observation.	H B
Overcast: a few drops of rain are occasionally falling.	L
,,	
,,	
,, rain is falling steadily.	
,, ,, it has rained incessantly since the last observation.	L
,, ,,	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
July 10. 0	29·673	60·4	59·1	1·3	..	..	..	SSW	½ to 1	..	..	..	..	..	10	..
2	29·655	61·0	59·2	1·8	..	..	..	SSW	½ to 1	..	..	..	..	..	10	..
4	29·635	62·5	60·2	2·3	58·0	4·5	65·7	SSW	½ constant	..	..	..	..	..	10	..
6	29·614	59·2	57·9	1·3	..	..	55·0	SSW	½ constant	..	..	..	..	..	10	Transit
8	29·589	58·7	56·9	1·8	..	..	——	SSW	½ constant	..	..	..	..	..	2	..
10	29·588	56·0	54·8	1·2	54·0	2·0	71·5	SSW	..	..	..	..	..	..	8	..
12	29·560	56·1	54·8	1·3	..	..	49·2	SSW	..	..	..	..	..	..	10	..
14	29·522	56·2	55·2	1·0	..	..	——	SSW	..	..	..	..	..	..	10	..
16	29·493	56·0	55·1	0·9	54·5	1·5	65·0	SSW	..	..	..	..	..	..	10	..
18	29·471	56·4	55·8	0·6	..	..	65·0	SSW	..	..	..	..	..	..	10	..
20	29·458	61·6	59·2	2·4	..	..	..	SSW	..	..	..	..	..	..	10	..
22	29·443	63·3	61·0	2·3	60·0	3·3	..	SSW	..	SW	3·32	5·01	0·00	8·815	10	..
July 11. 0	29·426	63·2	61·2	2·0	..	..	..	SSW	..	..	..	..	..	..	9	..
2	29·430	61·5	58·8	2·7	..	..	..	W	..	..	..	..	..	..	10	..
4	29·451	61·6	59·7	1·9	58·0	3·6	71·9	N by W	..	..	..	..	..	..	9	..
6	29·484	57·2	56·2	1·0	..	..	48·0	WNW	¼ to ½	..	..	..	..	..	10	Transit
8	29·540	55·0	54·1	0·9	..	..	—— 94·2	NNW	½ to 1¼	N	0·92	..	..	..	10	..
10	29·597	53·4	52·4	1·0	51·5	1·9	40·0	NW	½ to 2½	..	..	..	..	..	10	..
12	29·641	51·8	49·2	2·6	..	..	——	WNW	½ to 1	..	..	..	..	..	10	..
14	29·667	50·8	48·0	2·8	..	..	64·5 64·0	WNW	½ to 1½	..	..	..	..	..	10	..
16	29·703	49·3	47·0	2·3	45·0	4·3	..	W	..	..	..	..	..	..	10	..
18	29·742	48·5	46·3	2·2	..	..	..	W	..	..	..	..	..	..	9	..
20	29·781	52·6	49·2	3·4	..	..	..	W by N	¼ to ½	..	..	..	..	..	6	..
22	29·796	56·6	51·2	5·4	48·0	8·6	..	NW	¼ to ½	NW	2·91	5·20	0·30	9·215	8	..
July 12. 0	29·818	60·3	53·2	7·1	..	..	..	NW	½ to 1	NW	0·75	..	..	..	8	..
2	29·833	62·0	54·2	7·8	..	..	..	W	½ constant	..	..	..	..	..	9	..
4	29·840	61·4	53·4	8·0	44·0	17·4	65·4	W	½ constant	WNW	0·35	..	..	..	10	1st Qr.
6	29·850	58·9	52·7	6·2	..	..	52·0	W by S	½ to 1½	..	..	..	..	..	10	..
8	29·872	56·2	52·1	4·1	..	..	——	W by S	..	..	..	..	..	..	9	Transit
10	29·891	54·0	51·4	2·6	50·0	4·0	83·2	W by S	..	..	..	..	..	..	9½	..
12	29·896	51·8	50·4	1·4	..	..	44·5	WSW	..	..	..	..	..	..	10	..
14	..	..	..	..	..	..	——	WSW	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	63·8	WSW	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	63·5	WSW	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..
22	29·820	57·5	56·7	0·8	..	..	..	SW	..	SW	0·91	5·26	0·06	9·275	10	..
July 13. 0	..	..	..	..	..	..	71·1	SSW	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	55·4	SW	..	..	..	..	..	..	..	..
4	29·766	66·5	64·2	2·3	..	..	——	WSW	..	..	..	..	..	..	8	..
6	..	..	..	..	..	..	85·4	WSW	0 to ½	..	..	..	..	..	..	..
8	..	..	..	..	..	..	47·7	W by S	½ to 1	..	..	..	..	..	..	Transit
10	29·751	59·2	55·5	3·7	..	..	——	W by S	..	..	..	..	..	..	3	..
12	..	..	..	..	..	..	63·0	WSW	..	..	..	..	..	..	..	..
14	29·755	55·5	54·8	0·7	..	..	63·0	WSW	..	..	..	..	..	..	10	..

OSLER'S ANEMOMETER.
July 11d. 8h. 20m. A gust of 3½ lbs. was recorded.

REMARKS.	Observer.
Overcast: cirro-stratus and nimbi.	H B
,, a very light rain is falling.	H B
,, the Sun's place is occasionally visible through the clouds.	L
,, a few drops of rain have fallen at intervals since the last observation.	
Brown looking scud to the N. and W. horizon: light clouds to the S. floating in various directions, which began to disperse slowly [after 6^h.	
Cirro-stratus and scud, with a few breaks in the clouds towards the N.	L
Overcast: cirro-stratus.	D
,, ,,	
,, ,,	
,, ,, a few drops of rain are falling.	
,, ,, the place of the Sun is occasionally visible.	D
,, nimbi and scud: a heavy shower of rain commenced falling at $22^h. 5^m$, and ceased three minutes afterwards; another shower fell at about $22^h. 35^m$.	H B
Cumuli near the N. and N. W. horizon; cirro-stratus and scud in other directions, with breaks in the clouds N. of the zenith.	H B
Overcast: cirro-stratus and cumulo-stratus: heavy looking cumulo-strati to the N. horizon: several claps of thunder have been heard since the last observation, and the electrical instruments have just begun to be slightly affected: immediately after this observation heavy rain began to fall, which ceased shortly before $2^h. 40^m$, but afterwards again commenced falling heavily.	L
Cumulo-strati and scud: the appearance of the sky is very unsettled and threatening: the clouds in the N. W. are very dense.	D
Overcast: rain is falling; it commenced falling slightly immediately after the last observation, and between $4^h. 50^m$ and the present time it has continued to fall heavily.	
Overcast: rain has been falling without intermission since 6^h.	
,, the rain ceased falling at $9^h. 45^m$: so that it continued without intermission for nearly five hours.	D
,, Crosley's Gauge reads $9^{in}.210$; and therefore the quantity of rain which has fallen since 22^h is $0^{in}.36$: the wind is blowing in gusts to 1.	H B
Overcast: shortly after the last observation several stars North of the zenith became visible, but they remained so only for a few minutes: the wind is blowing in gusts to 2.	
Overcast: cirro-stratus and scud.	
Cirro-stratus, cumuli, and scud: breaks in the clouds near the N. W. horizon.	
Cirro-stratus and scud: extensive breaks in the clouds in every direction: the amount of cloud is very variable.	H B
Cumulo-strati, and detached cumuli and scud in every direction: the wind is blowing in gusts to 1.	L
Cirro-stratus, cumulo-stratus, and scud: a few linear cirri are about the zenith.	
,, ,, the amount of cloud is continually changing.	L
Overcast: cirro-stratus, cumulo-stratus, and scud.	H B
,, cumulo-stratus and scud: the sky is very dull and gloomy: mutterings of thunder are heard occasionally.	
Cirro-stratus and scud: there is an extensive break in the clouds in the N. E.	
Cirro-stratus, scud, and vapour: break in the clouds in the E.	H B
Overcast: a few stars are occasionally visible about the zenith.	L
,, cirro-stratus and scud: a thin rain is falling.	H B
The sky remained overcast till $3^h. 20^m$, when the clouds broke in several directions; shortly after this it became almost overcast, and remained so till nearly $6^h. 30^m$.	
Linear and other varieties of cirrus scattered S. of the zenith: fine cirro-cumuli to the N. and near the zenith, and cirro-stratus and fragments of dark scud near the horizon.	H B
Overcast.	L

SOLAR HALO.

July $13^d. 7^h$. An arc of a Solar halo was visible, which was very distinctly coloured, especially near the northern part; its radius was about 23°: from $7^h. 13^m$ to $7^h. 17^m$ a very fine mock Sun was visible to the West of the true Sun, and at about 24° distance from him: from $7^h. 40^m$ to $7^h. 50^m$ another mock Sun was observed to the North of the true Sun, and at the same distance as the one before-mentioned: the Sun during these times was in a very thin cirro-stratus cloud.

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
July 13. 16	29·746	55·4	54·8	0·6	54·0	1·4	..	SW	..	..	..	..	..	..	10	..
18	29·741	55·7	54·9	0·8	..	..	..	WSW	..	..	..	..	..	..	10	..
20	29·760	58·8	55·9	2·9	..	..	..	NW	..	NW	2·63	..	..	..	9½	..
22	29·771	61·6	55·7	5·9	52·0	9·6	..	NW	0 to 3½	WNW	0·21	5·26	0·00	9·280	10	..
July 14. 0	29·788	61·7	56·2	5·5	..	..	..	NW	0 to ½	..	..	..	..	..	10	..
2	29·797	63·5	57·7	5·8	..	..	..	WNW	0 to ½	WNW	0·98	..	..	..	10	..
4	29·802	63·8	58·4	5·4	55·0	8·8	68·0	NNW	½ to 2	..	..	..	..	..	5	..
6	29·839	64·0	57·7	6·3	..	..	50·1	NNW	½ to 2	..	..	..	..	..	2	..
8	29·893	56·9	54·7	2·2	..	..	—	N	..	..	..	..	..	..	10	Transit
10	29·922	54·0	53·3	0·7	52·0	2·0	83·4	NNW	..	..	..	..	..	..	10	..
12	29·936	53·7	53·6	0·1	..	..	44·5	Calm	..	..	..	..	..	..	10	..
14	29·951	51·4	50·9	0·5	..	..	—	..	..	..	..	..	..	..	9	..
16	29·935	49·8	49·1	0·7	48·5	1·3	63·0	..	..	..	..	..	..	..	10	..
18	29·951	50·6	49·8	0·8	..	..	63·0	..	..	..	..	..	..	..	10	..
20	29·954	53·7	52·2	1·5	..	..	..	..	..	..	..	..	..	..	10	..
22	29·951	58·7	54·5	4·2	50·0	8·7	..	..	..	N	1·19	5·26	0·05	9·360	10	..
July 15. 0	29·948	60·8	52·7	8·1	..	..	..	NW	..	..	..	..	..	..	8	..
2	29·949	57·8	52·8	5·0	..	..	..	NNW	..	..	..	..	..	..	10	..
4	29·938	58·3	52·5	5·8	46·5	11·8	..	W by S	..	..	..	..	..	..	10	..
6	29·923	60·0	54·5	5·5	..	..	63·5	N	..	..	..	..	..	..	9	..
8	29·931	56·0	51·4	4·6	..	..	57·6	N by W	..	..	..	..	..	..	10	..
10	29·957	51·9	50·2	1·7	49·0	2·9	—	Calm	..	..	..	..	..	..	10	Transit
12	29·943	50·4	49·4	1·0	..	..	78·5 40·0	ENE	..	..	..	..	..	..	3	..
14	29·932	48·5	47·4	1·1	..	..	— 62·8	SW	..	..	..	..	..	..	5	..
16	29·927	48·2	47·5	0·7	46·5	1·7	62·5	WSW	..	..	..	..	..	..	3	..
18	29·932	47·9	47·0	0·9	..	..	..	WSW	..	..	..	..	..	..	0	..
20	29·924	53·5	51·1	2·4	..	..	..	W	..	..	..	..	..	..	1	..
22	29·935	57·9	54·2	3·7	49·0	8·9	..	NW	..	NW	1·38	5·26	0·00	9·370	8	..
July 16. 0	29·922	63·3	56·0	7·3	..	..	..	..	..	..	..	..	..	..	8	..
2	29·915	69·3	59·6	9·7	..	..	..	..	..	..	..	..	..	..	9	..
4	29·895	65·8	56·7	9·1	50·0	15·8	..	..	..	..	..	..	..	..	5	..
6	29·885	67·3	57·6	9·7	..	..	72·2 55·5	WNW	..	WNW	0·65	..	..	..	4	..
8	29·885	61·0	56·9	4·1	..	..	— 96·7	SSW	..	..	..	..	..	..	8	Greatest declination S.
10	29·894	57·0	55·2	1·8	54·0	3·0	50·6	S by W	..	..	..	..	..	..	7	Transit
12	29·900	56·4	53·0	3·4	..	..	—	SW	..	..	..	..	..	..	10	..
14	29·885	56·0	53·4	2·6	..	..	62·8	SSW	..	..	..	..	..	..	10	..
16	29·874	55·3	54·2	1·1	53·0	2·3	62·2	SSW	..	..	..	..	..	..	10	..
18	29·868	56·7	55·7	1·0	..	..	..	SSW	..	..	..	..	..	..	10	..
20	29·875	58·5	57·7	0·8	..	..	..	SSW	..	..	..	..	..	..	10	..
22	29·864	61·0	59·7	1·3	59·0	2·0	..	SW	..	WSW	1·57	5·30	0·05	9·420	10	..
July 17. 0	29·864	64·0	62·3	1·7	..	..	..	WSW	½ constant	..	..	..	..	..	10	..
2	29·859	64·7	62·6	2·1	..	..	..	SW	½ to 1½	..	..	..	..	..	10	..
4	29·865	70·0	66·0	4·0	62·0	8·0	..	SW	½ constant	SW	1·38	..	..	..	7	..
6	29·871	70·0	61·9	8·1	..	..	..	WSW	½ constant	..	..	..	..	..	2	..
8	29·895	63·8	58·4	5·4	..	..	..	WSW	½ constant	..	..	..	..	..	10	..

MINIMUM FREE THERMOMETER.

July 14d. 22h and 16d. 22h. The readings were higher than those of the Dry Thermometer at 16h.

OSLER'S ANEMOMETER.

July 14d. 19h. 30m. The clock stopped without any apparent cause; the links of the chain were all on the spikes of the barrel, and everything appeared in good working order: the clock was set going again at this time: the air was calm during the whole of the night.

July 15d. 23h. 45m. The clock was taken down and sent to Mr. Bennett for repair.

July 16d. The clock was returned by Mr. Bennett, and the instrument was put in action at 4h. 25m.

REMARKS.	Observer.
Overcast.	L
,,	
Cirro-stratus, cumulo-stratus, and scud, with a small break in the clouds W. of the zenith: the wind is blowing in gusts to ½.	L
Overcast: nimbi, cirro-stratus, and scud: drops of rain are falling.	H B
Nimbi and scud: drops of rain are falling.	
Overcast: cirro-stratus and scud, with breaks in the clouds near the W. horizon.	H B
Cirro-stratus, cumulo-stratus, and scud.	L
Cumulo-stratus to the N. and W. horizon, with light scud in various directions.	
Cirro-stratus and scud.	
Overcast: rain is falling: there have been occasional showers of rain since the last observation.	L
,, several showers of rain have fallen since 10^h.	D
A few stars are shining near the zenith.	
Overcast: cirro-stratus.	
,, ,,	
,, ,,	D
,, cirro-stratus and scud.	H B
[near the horizon.	
The principal clouds at present covering the sky are cirro-cumuli, and a few fleecy clouds: cumuli are in considerable quantities	
Cirro-stratus and scud.	H B
,, a thin rain is falling.	D
Cirro-stratus and scud, with cumuli and cirro-cumuli.	H B
Cirro-stratus and scud, with cumuli.	L
Cirro-stratus and scud.	L
The clouds suddenly cleared off within the last half-hour, and at present the only part of the sky covered with cloud is near the S. horizon: vapour and cirro-stratus are near the N. horizon: the sky N. of zenith became covered shortly after this observation.	H B
Fragments of cirro-stratus are scattered over the sky in every direction, and in other directions vapour and stratus are near the horizon, the motion of the clouds being from W. S. W.	
Cirro-cumuli S. of the zenith: fleecy clouds and scud N. of the zenith.	
Cloudless: a thin fog.	
Cirro-stratus and vapour near the horizon.	H B
Cirro-stratus, cumuli, and light clouds are in every direction: hazy.	L
Cirro-stratus, cumuli, and haze: cirri are about the zenith.	
Dark cirro-stratus about the zenith: cumuli and haze to the N.: detached cumuli and light clouds are in various parts of the sky.	L
Cumuli, cirro-stratus, and a few cirri.	H B
Cumuli near the horizon in every direction, and a cumulo-stratus near the N. horizon: a few light cirri are also in various directions.	
The upper clouds are cirri chiefly of the cymoid modification, with cirro-stratus and fragments of dark scud beneath: blackish coloured cumuli are near the place of the Sun.	
Cirri near and around the zenith for about 20°; cirro-stratus and scud are in the other parts of the sky.	H B
Overcast: cirro-stratus and scud: at $10^h.30^m$ an arc of a lunar halo was observed; it was rather faint, the upper part alone	L
,, a few drops of rain fell soon after this observation. [being visible.	
,,	
,,	
,, rain was falling at $18^h.40^m$, and still continues.	L
,, rain is still falling.	H B
Overcast: rain is falling heavily.	
,, ,,	
Comoid cirri and cirro-cumuli about the zenith, with some very fine specimens of cumuli and cumulo-strati in various directions.	
Comoid cirri and cirro-cumuli about the zenith, with some very fine specimens of cumuli.	
A thin cirro-stratus covers the whole sky.	

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.	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.	RAIN. Stand of Rain-gauge No. 1. (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3. (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d	h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
July 17.	10	29·921	60·2	56·0	4·2	52·0	8·2	72·0	WSW	..	..	..	..	..	..	10	..
	12	29·932	57·4	54·3	3·1	..	..	55·6	W by S	..	..	..	..	..	..	10	Transit
	14	29·938	55·0	53·4	1·6	..	..	87·2	W by S	..	..	..	..	..	..	10	..
	16	29·940	55·2	53·9	1·3	53·0	2·2	51·3	WSW	..	..	..	..	..	..	10	..
	18	29·960	55·5	54·7	0·8	..	..		Calm	..	..	..	..	..	..	9	..
	20	29·976	58·5	56·6	1·9	..	..	63·0	Calm	..	..	..	..	..	..	10	..
	22	29·979	63·7	60·4	3·3	57·0	6·7	63·0	Calm	..	W	1·78	5·30	0·14	9·525	10	..
July 18.	0	29·989	68·5	62·7	5·8	..	..	..	Calm	..	..	..	..	..	..	6	..
	2	29·974	71·6	63·9	7·7	..	..	..	WSW	..	..	..	..	..	..	4	..
	4	29·976	71·5	64·2	7·3	59·0	12·5	75·3	SW	..	..	..	..	..	..	2	Perigee
	6	29·964	69·0	61·4	7·6	..	..	44·8	WSW	..	..	..	..	..	..	6	..
	8	29·968	65·9	61·9	4·0	..	..		N	..	..	..	..	..	..	8	..
								111·6									
	10	29·980	60·7	58·2	2·5	57·0	3·7	44·2	WSW	..	..	..	..	..	..	7	..
	12	29·969	58·8	56·9	1·9	..	..		Calm	..	..	..	..	..	..	6	Transit
	14	29·959	55·2	54·7	0·5	..	..	64·2	Calm	..	..	..	..	..	..	0	..
	16	29·947	52·4	52·0	0·4	52·0	0·4	63·2	Calm	..	..	..	..	..	..	0	..
	18	29·948	51·2	51·1	0·1	..	..	..	Calm	..	..	..	..	..	..	0	Full
	20	29·949	60·4	58·6	1·8	..	..	..	Calm	..	..	..	..	..	..	0	..
	22	29·949	69·0	61·5	7·5	56·0	13·0	..	NE	..	WSW	0·92	5·30	0·00	9·525	0	..
July 19.	0	29·944	73·0	64·9	8·1	..	..	..	NNE	½ constant	..	..	..	..	..	4	..
	2	29·932	70·6	64·5	6·1	..	..	..	ENE	..	..	..	..	..	..	4	..
	4	29·913	69·8	62·9	6·9	56·5	13·3		NE	0 to ½	..	..	..	..	..	7	..
	6	29·902	66·1	60·0	6·1	..	..	78·1	NNE	..	..	..	..	..	..	2	..
	8	29·916	60·5	56·9	3·6	..	..	53·2	NE	..	NE	1·08	..	..	..	1	..
	10	29·926	55·8	54·0	1·8	53·0	2·8	107·0	Calm	..	..	..	..	..	..	7	..
								44·0									
	12	29·937	56·7	54·8	1·9	..	..		NE	..	..	..	..	..	..	10	..
	14	..	..	..	..	..	..		NE	..	..	..	..	..	..	..	Transit
	16	..	..	..	..	..	..	65·0	N by E	..	..	..	..	..	..	..	..
	18	..	..	..	..	..	..	64·0	N by E	..	..	..	..	..	..	..	..
	20	..	..	..	..	..	..	..	NNE	0 to ½	..	..	..	..	..	..	..
	22	29·926	61·5	57·5	4·0	..	..	..	N by E	½ to 2	NNE	1·36	5·30	0·00	9·525	9	..
July 20.	0	29·927	59·5	56·2	3·3	..	..	..	N by E	½ constant	..	..	..	..	..	10	..
	2	29·922	62·5	57·7	4·8	..	..	..	NNE	..	..	..	..	..	..	10	..
	4	..	..	..	..	..	..	65·2	N by E	..	..	..	..	..	..	..	..
	6	29·879	61·0	56·9	4·1	..	..	55·0	N by E	..	..	..	..	..	..	10	..
	8	..	..	..	..	..	..		N by W	..	N	1·50	..	..	..	..	..
	10	..	..	..	..	..	..	76·6	NNW	..	..	..	..	..	..	..	..
	12	..	..	..	..	..	..	55·8	WSW	..	..	..	..	..	..	..	..
	14	29·809	54·5	54·5	0.0	..	..		W by S	..	..	..	..	..	..	10	Transit
	16	29·783	55·6	55·7	-0·1	55·5	0·1	64·0	Calm	..	..	..	..	..	..	10	..
	18	29·784	56·7	56·6	0·1	..	..	63·8	Calm	..	..	..	..	..	..	10	..
	20	29·788	59·0	58·7	0·3	..	..	..	Calm	..	..	..	..	..	..	10	..
	22	29·817	63·4	61·7	1·7	60·0	3·4	..	Calm	..	WSW	0·38	5·43	0·35	9·790	10	..
July 21.	0	29·816	66·7	64·2	2·5	..	..	..	NE	..	..	..	..	..	..	8	..
	2	29·826	68·5	64·7	3·8	..	..	..	ENE	..	..	..	..	..	..	9	..

DRY THERMOMETER.

July 20d. 16h. The reading was lower than that of the Wet Thermometer.

MINIMUM FREE THERMOMETER.

July 17d. 22h. The reading was higher than that of the Dry Thermometer at 14h, 16h, and 18h.

MINIMUM RADIATION THERMOMETER.

July 20d. The reading was higher than that of the Minimum Free Thermometer.

REMARKS.	Observer.
Overcast: cirro-stratus and scud.	L
,, cirro-stratus and scud, the Moon being visible.	D
,, cirro-stratus and scud.	
,, cirro-stratus.	
Cirro-stratus: there are several clear breaks in the clouds W. of the zenith.	
Overcast: cirro-stratus.	D
,, cirro-stratus and scud.	H B
Cumuli and cirro-cumuli S. of the zenith, with cirro-stratus and vapour near the horizon.	
Cirro-cumuli, with fleecy clouds and vapour, near to and N. of the zenith; the S. part of the sky is cloudless.	H B
Cumuli in various parts of the sky.	D
Cumuli and cumulo-strati.	
A dense cumulo-stratus has been in the zenith for the last half hour, but at present it seems as if it were passing off towards the S.; in the other portions of the sky the prevailing clouds are cumuli and cumulo-strati.	
Large loose fragments of scud are scattered over the sky, but they are much more dense near the Moon than in other directions.	D
Cumuli and fleecy clouds are scattered over the sky: there is a dense bank of cloud very near the place of the Moon.	H B
Cloudless: at $12^h.40^m$ the clouds above mentioned cleared off.	
,, hazy near the horizon, with a light fog.	
Cloudless, but hazy, with a low fog in the Park.	
Cloudless, but hazy.	H B
Cloudless.	L
Cumuli and light scud are in every part of the sky.	
,,	L
Cumulo-strati, cumuli, and scud.	H B
Cumuli and fleecy clouds, the former being near the N. horizon.	
Cumuli and light clouds, the former being near the N. horizon, and extending to the W., a little above the place of the Sun.	
Cirro-stratus and scud: the amount of cloud at $9^h.30^m$ was scarcely 2, but shortly after clouds came up from the N. E., and rapidly extended in every part of the sky.	H B
Overcast: cirro-stratus and scud.	L
Cirro-stratus, cumulo-stratus, and scud, with a break in the clouds to the N. W. of the zenith: wind in gusts to ½.	
Cirro-stratus and scud.	
,,	
,, a few drops of rain are falling.	
Overcast: rain began to fall heavily about 10^h, and still continues.	L
,, rain is falling.	
,,	
,, occasional drops of rain.	L
,, some parts of the sky are lighter than others.	G
Extensive breaks in the clouds in various parts of the sky.	D
Cirro-stratus and scud.	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
July 21. 4	29·823	71·7	64·0	7·7	58·0	13·7	..	ENE	..	..	..	..	..	..	7	..
6	29·803	68·3	63·5	4·8	..	..	..	ENE	..	..	..	..	..	..	1	..
8	29·815	61·9	59·5	2·4	..	..	72·8	Calm	..	..	..	..	..	..	4	..
10	29·830	57·5	56·4	1·1	55·0	2·5	56·0	Calm	..	..	..	..	..	..	½	..
12	29·837	57·5	56·7	0·8	..	..	——	Calm	..	..	..	..	..	..	9¾	..
							98·0									
							49·0									
14	29·826	57·3	56·3	1·0	..	..	——	ENE	..	..	..	..	..	..	10	..
16	29·821	56·6	55·8	0·8	55·5	1·1	64·2	ENE	..	..	..	..	..	..	10	Transit
18	29·822	56·0	55·5	0·5	..	..	64·0	ENE	..	..	..	..	..	..	5	..
20	29·822	62·6	59·8	2·8	..	..	..	NE	..	..	..	..	..	..	2	..
22	29·809	66·3	61·3	5·0	56·0	10·3	..	NE by N	..	E	1·22	5·43	0·00	9·795	7	..
July 22. 0	29·803	70·5	65·6	4·9	..	..	..	NE by N	..	..	..	..	..	..	6	..
2	29·796	72·3	65·7	6·6	..	..	..	NNE	..	..	..	..	..	..	6	..
4	29·779	69·6	64·8	4·8	62·0	7·6	..	E	..	..	..	..	..	..	9	..
6	29·773	67·6	63·8	3·8	..	..	76·6	NE	..	..	..	..	..	..	3	..
8	29·773	63·7	61·7	2·0	..	..	56·1	ENE	..	..	..	..	..	..	4	In Equator
10	29·788	60·4	59·2	1·2	58·0	2·4	106·5	N by E	..	..	..	..	..	..	10	..
							54·5									
12	29·800	58·2	57·3	0·9	..	..	——	N	..	..	..	..	..	..	10	..
14	29·807	56·5	56·4	0·1	..	..	64·8	N	..	..	..	..	..	..	10	..
16	29·779	56·5	56·2	0·3	56·0	0·5	64·8	N by E	..	..	..	..	..	..	10	Transit
18	29·775	56·2	55·8	0·4	..	..	..	N	..	..	..	..	..	..	10	..
20	29·785	56·4	55·7	0·7	..	..	..	N	..	..	..	..	..	..	10	..
22	29·787	56·0	55·3	0·7	55·5	0·5	..	N by W	..	NNE	2·10	5·46	0·05	9·860	10	..
July 23. 0	29·806	56·8	55·9	0·9	..	..	..	N	..	..	..	..	..	..	10	..
2	29·802	58·9	57·0	1·9	..	..	..	NNE	..	..	..	..	..	..	10	..
4	29·797	57·6	57·0	0·6	56·0	1·6	59·6	N by E	..	..	..	..	..	..	10	..
6	29·790	57·0	56·2	0·8	..	..	52·8	N by E	..	..	..	..	..	..	10	..
8	29·783	56·0	54·6	1·4	..	..	——	NNE	..	NNE	0·35	..	..	..	10	..
10	29·803	54·8	53·4	1·4	52·0	2·8	82·0	NNE	..	..	..	..	..	..	10	..
12	29·805	53·7	52·2	1·5	..	..	49·0	NNE	..	..	..	..	..	..	10	..
14	29·795	53·0	52·0	1·0	..	..	——	N	..	..	..	..	..	..	10	..
16	29·790	52·7	51·3	1·4	50·0	2·7	64·0	NNE	..	..	..	..	..	..	10	Transit
18	29·789	53·3	52·2	1·1	..	..	64·0	N by E	..	..	..	..	..	..	10	..
20	29·790	55·5	53·5	2·0	..	..	..	N by E	..	..	..	..	..	..	10	..
22	29·804	57·0	54·5	2·5	52·0	5·0	..	N by E	..	N	0·68	5·52	0·08	9·950	10	..
July 24. 0	29·812	57·5	54·7	2·8	..	..	..	N by W	..	..	..	..	..	..	10	..
2	29·814	62·0	58·2	3·8	..	..	..	NNE	..	..	..	..	..	..	10	..
4	29·811	60·5	57·1	3·4	52·0	8·5	63·0	N by E	..	..	..	..	..	..	10	..
6	29·811	59·0	56·6	2·4	..	..	55·0	N by E	..	..	..	..	..	..	10	..
8	29·807	57·5	55·7	1·8	..	..	——	Calm	..	..	..	..	..	..	10	..
10	29·812	56·1	54·3	1·8	53·0	3·1	73·0	Calm	..	..	..	..	..	..	10	..
12	29·809	55·8	54·2	1·6	..	..	48·5	Calm	..	..	..	..	..	..	10	..
14	29·806	55·2	54·2	1·0	..	..	——	Calm	..	..	..	..	..	..	9½	..
16	29·803	54·5	53·9	0·6	53·0	1·5	63·8	Calm	..	..	..	..	..	..	10	..
18	29·813	55·7	55·2	0·5	..	..	63·8	Calm	..	..	..	..	..	..	10	Transit
20	29·818	58·5	57·2	1·3	..	..	..	Calm	..	..	..	..	..	..	10	..
22	29·830	60·2	58·6	1·6	57·5	2·7	..	Calm	..	NNE	0·29	5·52	0·00	9·950	10	..

MINIMUM FREE THERMOMETER.

July $22^d.22^h$. The reading was higher than that of the Dry Thermometer at 22^h.

July $23^d.22^h$ and $24^d.22^h$. The readings were higher than those of the Dry Thermometer at 16^h.

REMARKS.	Observer.
Cumuli, with fleecy clouds and scud.	L
Cumuli and light clouds towards the N. horizon: a few cirri a little S. of the zenith.	
Cirro-stratus and fleecy clouds extending from the N. horizon, nearly to the zenith.	
Cirro-stratus along the N. horizon.	L
The sky has been generally clear since the last observation: at about 11h. 30m the clouds began to increase, and within a few minutes every part of the sky became covered: at present it is overcast, except a small break in the clouds through which α Lyræ is shining.	D
Overcast: cirro-stratus.	
,, ,,	
The clouds have been decreasing since 17h; at present only half of the sky is covered.	
In the horizon, but chiefly in the N, W., and S., ill-defined cumuli are prevalent; nearly every other part of the sky is clear.	D
Cumuli, fleecy clouds, and scud.	T D
Cumuli, fleecy clouds, and scud.	
,,	T D
Cumuli, cirro-stratus, and loose fragments of scud, with a large clear break in the N. and S. horizon.	D
Cirri and light clouds; the greatest quantity of cloud being in the N.	
Various kinds of cirrus: since the last observation the cymoid-cirrus has been very beautiful: the clouds are more dense near the N. horizon than in any other part, and are of the stratus character.	
Overcast: cirro-stratus: at 8h. 50m the dense clouds which had been for some time in the N. suddenly spread themselves over the sky.	D
A thin small rain is falling.	G
A thick small rain has been falling nearly continually since 12h.	
Rain has continued since 14h.	
Rain still falling.	
The rain ceased falling between 18h. 20m and 19h. 45m; it is again falling.	G
Cirro-stratus covers the sky.	T D
A few drops of rain are falling occasionally.	L
Overcast: rain is falling heavily.	T D
,, rain is falling, but not so heavily as at 2h.	T D
,, cirro-stratus.	G
,, ,,	G
,, ,,	L
,, ,,	D
,,	L
,,	L
,, ,,	T D
,, ,,	T D
,,	G
Overcast: cirro-stratus.	D
,,	L
,,	L
,,	T D
,,	D
,, ,,	D
,,	L
A few stars are occasionally visible about the zenith.	
Overcast.	
,,	
,,	L
,,	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.	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.	RAIN. Stand of Rain-gauge No. 1. (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3. (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
July 25. 0	29·836	65·1	60·9	4·2	..	..	..	Calm	..	..	..	..	..	..	10	..
2	29·826	64·4	61·2	3·2	..	..	..	Calm	..	..	..	..	..	..	10	..
4	29·822	65·6	61·2	4·4	57·5	8·1	69·3	Calm	..	..	..	..	..	..	10	..
6	29·811	63·7	60·8	2·9	..	..	57·6	Calm	..	..	..	..	..	..	10	..
8	29·823	60·5	58·4	2·1	..	..	—	Calm	..	..	..	..	..	..	10	..
10	29·841	59·3	57·7	1·6	56·5	2·8	87·5	Calm	..	..	..	..	..	..	10	..
12	29·840	58·8	57·6	1·2	..	..	53·0	Calm	..	..	..	..	..	..	10	..
14	29·823	58·5	57·6	0·9	..	..	—	Calm	..	..	..	..	..	..	10	..
16	29·818	57·4	56·7	0·7	56·0	1·4	63·5	Calm	..	..	..	..	..	..	10	3rd Qr.
18	29·812	57·9	57·1	0·8	..	..	63·5	Calm	..	..	..	..	..	..	10	Transit
20	29·816	59·5	58·4	1·1	..	..	..	Calm	..	..	..	..	..	..	10	..
22	29·827	60·2	59·3	0·9	58·0	2·2	..	Calm	..	ENE	0·28	5·52	0·00	9·950	10	..
July 26. 0	29·818	65·9	62·8	3·1	..	..	..	Calm	..	..	..	..	..	..	10	..
2	29·810	67·0	62·4	4·6	..	..	..	Calm	..	..	..	..	..	..	10	..
4	29·801	67·6	62·6	5·0	59·5	8·1	69·8	WSW	..	..	..	..	..	..	10	..
6	29·792	67·7	61·6	6·1	..	..	54·4	WSW	..	..	..	..	..	..	7	..
8	29·790	62·1	58·4	3·7	..	..	—	SW	..	SSW	0·92	..	..	..	3	..
10	29·806	58·6	55·9	2·7	54·0	4·6	.. 47·5	SW	..	..	..	..	..	..	½	..
12	29·807	55·5	53·5	2·0	..	..	—	WSW	..	..	..	..	..	..	2	..
14	..	..	..	..	..	..	63·8	SW	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	63·5	SW	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..		SW	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	Transit
22	29·750	60·2	59·2	1·2	..	..	..	Calm	..	SW	1·83	5·52	0·00	9·950	10	..
July 27. 0	29·734	64·4	60·9	3·5	..	..	..	WSW	½ to 1½	..	..	..	..	..	10	..
2	29·708	66·2	60·7	5·5	..	..	..	WSW	1 to 1½	..	..	..	..	..	10	..
4	..	..	..	..	..	..	..	SW	1 to 2	..	..	..	..	..	..	..
6	..	..	..	..	..	..	50·7	SW	1½ to 2	..	..	..	..	..	..	..
8	..	..	..	..	..	..	—	SW	..	SW	1·98	..	..	..	..	..
10	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	46·7	SW	..	..	..	..	..	..	..	..
14	29·646	52·0	51·7	0·3	..	..	—	SW	..	..	..	..	..	..	½	..
16	29·637	51·0	50·8	0·2	51·0	0·0	63·0	WSW	..	..	..	..	..	..	10	..
18	29·646	51·8	51·9	−0·1	..	..	62·8	WSW	..	..	..	..	..	..	10	..
20	29·632	52·8	52·5	0·3	..	..	..	WSW	..	..	..	..	..	..	10	Transit
22	29·621	59·1	57·5	1·6	56·0	3·1	..	W by S	..	WSW	1·75	5·54	0·03	9·985	9	..
July 28. 0	29·591	65·6	58·6	7·0	..	..	..	WSW	..	..	..	..	..	..	7	..
2	29·557	65·6	59·3	6·3	..	..	..	S	..	SW	0·40	..	..	..	9	..
4	29·538	60·2	56·5	3·7	54·5	5·7	70·1	WSW	..	..	..	..	..	..	10	..
6	29·504	58·9	55·4	3·5	..	..	47·3	WSW	..	..	..	..	..	..	10	..
8	29·487	56·7	54·2	2·5	..	..	—	WSW	..	..	..	..	..	..	10	..
10	29·471	52·5	51·4	1·1	50·0	2·5	75·0	S by W	..	..	..	..	..	..	2	..
12	29·453	49·5	49·2	0·3	..	..	38·5	Calm	..	..	..	..	..	..	2	..
14	29·423	48·5	48·5	0·0	..	..	—	Calm	..	..	..	..	..	..	1	..
16	29·424	48·0	47·9	0·1	48·0	0·0	63·0 63·0	Calm	..	..	..	..	..	..	10	..
18	29·425	49·2	49·0	0·2	..	..	..	W by S	..	..	..	..	..	..	10	..

MAXIMUM FREE THERMOMETER.
July 27d. 22h. The reading was omitted by inadvertence.

MINIMUM FREE THERMOMETER.
July 25d. 22h. The reading was higher than that of the Dry Thermometer at 16h.

MAXIMUM RADIATION THERMOMETER.
July 26d and 27d. The instrument was out of order.

REMARKS.	Observer.
Cirro-stratus and scud: the clouds are of different densities.	D
Overcast: cirro-stratus and scud.	
,, the clouds are of different densities.	D
,,	L
Cirro-stratus and scud: the clouds are of different densities.	
Overcast.	L
,,	D
,,	
,,	
,,	
,,	D
,, a thin rain was falling a short time before this observation.	L
Overcast: cirro-stratus.	T D
,, ,,	L
Cirro-stratus: the place of the Sun has been occasionally visible during the last half hour.	D
Clear portions of the sky became visible soon after 4^h, but at present about three-fourths of the sky is covered.	
The amount of cloud has been gradually decreasing since 6^h; there are only a few scattered clouds in various parts of the sky, which are more dense near the N. and N.W. horizon.	
A few fragments of cloud are scattered in different parts of the sky: there is a great haze in the horizon.	D
Some clouds are in the N. and also in the W., which appear to be increasing in density and amount in the W.; every other part of the sky is cloudless.	G
Overcast: cirro-stratus and scud: slight rain has been falling at intervals.	D
Overcast.	
,,	D
A few light clouds are in various parts of the sky.	L
Overcast: vapour.	
,, vapour, almost amounting to a fog.	
,, the vapour has almost cleared off.	L
Overcast, with the exception of parts of the sky in and near the zenith, which are clear.	D
Cumuli and scud.	
Cumulo-strati and scud: the sky is clear in various parts: rain began to fall immediately after this observation.	D
Cirro-stratus and scud: the cloud is much thinner in some parts than in others.	L
,, cumulo-strati towards the N. horizon.	
,, ,,	
Dark cirro-stratus to the N., and in various other parts.	L
A few dark loose clouds about the S. are at present covering the Planets, and are also in a few other places.	G
A few dark clouds to the S.; otherwise cloudless: there have been many small meteors within the last half hour, nearly all appearing near the zenith and moving in different directions; no train was left by any one: this is the first fine clear night that has been for some time.	
The sky has been covered during the preceding half hour by a thin dark cloud, the Moon being visible occasionally through it.	
Overcast: cirro-stratus: a fog or very thick mist.	

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
July 28. 20	29·443	51·0	50·7	0·3	..	..	..	Calm	..	..	..	..	..	..	1	..
22	29·468	58·3	54·7	3·6	51·0	7·3	..	N by W	..	NW	0·59	5·54	0·00	10·000	8	Transit
July 29. 0	29·484	59·8	54·8	5·0	..	..	..	WNW	0 to ½	..	..	..	..	..	7	..
2	29·516	58·9	54·0	4·9	..	..	..	NNW	1 to 1½	..	..	..	..	..	9	..
4	29·569	60·6	54·9	5·7	50·0	10·6	..	N by W	½ to 1½	..	..	..	..	..	9	..
6	29·602	60·3	53·6	6·7	..	..	64·6 44·6	NW	0 to ½	NW	1·63	..	..	..	3	..
8	29·636	56·2	52·7	3·5	..	..	86·4 34·0	W by N	..	..	..	..	..	..	5	..
10	29·662	54·7	52·2	2·5	50·0	4·7	62·0	W by S	..	..	..	..	..	..	10	.. Greatest declination N.
12	29·691	50·6	49·7	0·9	..	..	62·0	W by S	0 to ¼	..	..	..	..	..	0	
14	29·696	47·3	46·5	0·8	..	..		W by S	..	..	..	..	..	..	0	..
16	29·690	45·0	44·6	0·4	44·5	0·5	..	SW	..	..	..	..	..	..	0	..
18	29·687	47·1	46·6	0·5	..	..	..	WSW	..	..	..	..	..	..	0	..
20	29·675	57·6	55·0	2·6	..	..	..	WSW	0 to ¼	..	..	..	..	..	7	..
22	29·661	63·5	58·0	5·5	54·0	9·5	..	WSW	0 to ½	WSW	1·67	5·54	0·00	10·000	7	Transit
July 30. 0	29·649	66·0	58·2	7·8	..	..	..	SW	0 to ¾	..	..	..	..	..	10	..
2	29·636	60·6	55·6	5·0	..	..	..	SW	½ to 1½	..	..	..	..	..	10	..
4	29·607	55·5	54·6	0·9	54·0	1·5	68·0	SW	..	SW	1·03	..	..	..	10	..
6	29·556	55·5	54·6	0·9	..	..	49·9	SSW	0 to ½	..	..	..	..	..	10	..
8	29·499	55·5	54·6	0·9	..	..	—	SSW	½ to 1	..	..	..	..	..	10	..
10	29·462	55·5	54·6	0·9	54·0	1·5	..	S by W	½ to 3	SSW	1·89	..	..	..	10	..
12	29·457	55·0	54·7	0·3	..	..	46·2	SW	½ constant	..	..	..	..	..	3	..
14	29·465	51·0	51·0	0·0	..	..	—	S	..	..	..	..	..	..	0	..
16	29·454	50·2	50·2	0·0	50·0	0·2	62·0	S	..	..	..	..	..	..	0	..
18	29·452	50·5	50·4	0·1	..	..	61·8	S	..	..	..	..	..	..	0	..
20	29·460	56·4	56·0	0·4	..	..	..	SW	..	..	..	..	..	..	9	..
22	29·457	54·7	54·3	0·4	53·5	1·2	..	SW	..	SW	1·08	5·64	0·16	10·195	8	Transit Apogee
July 31. 0	29·437	64·2	59·3	4·9	..	..	..	SSW	0 to 3	..	..	..	..	..	7	..
2	29·444	66·5	59·9	6·6	..	..	..	SW	½ to 3	..	..	..	..	..	7	..
4	29·454	64·5	58·2	6·3	54·0	10·5	..	SW	1 to 2½	..	..	..	..	..	4	..
6	29·453	60·8	55·5	5·3	..	..	73·4	SW	½ to 2	SW	2·95	..	..	..	2	..
8	29·461	56·0	52·7	3·3	..	..	52·0	SSW	..	..	..	..	..	..	½	..
10	29·482	53·7	51·8	1·9	49·0	4·7	—	SSW	½ constant	..	..	..	..	..	0	..
12	29·491	52·7	51·2	1·5	..	..	..	S by W	..	..	..	5·64	0·00	10·195	0	..
14	29·494	52·8	51·2	1·6	..	..	46·6	SSW	..	..	..	..	..	..	0	..
16	29·502	51·7	50·4	1·3	49·0	2·7	— 62·0 61·5	SSW	..	..	..	..	..	..	5	..
18	29·522	53·0	51·9	1·1	..	..	..	SSW	..	SSW	0·92	..	..	..	3	..
20	29·536	58·0	55·4	2·6	..	..	..	SW	½ to 1	..	..	..	..	..	2	..
22	29·536	62·2	57·6	4·6	54·0	8·2	..	SW	½ to 2	SW	0·95	5·64	0·00	10·220	10	..

DRY THERMOMETER.

July 29d. The increase in the reading between 18h and 20h was 10°·5.

MINIMUM FREE THERMOMETER.

July 31d. 22h. The reading was higher than that of the Dry Thermometer at 16h.

OSLER'S ANEMOMETER.

July 30d. 9h. 15m. A sudden gust of 4½ lbs. was recorded.

July 31d. 2h. 50m and 3h. Gusts of nearly 5 lbs. were recorded.

REMARKS.	Observer.
At $18^h. 40^m$ the fog was so thick that the Astronomical Observatory was not visible from the Magnetic Observatory: at $19^h. 20^m$ the sky began to clear, and at present a thick mist appears in the distance: the sky is at present nearly cloudless, there being only scattered white clouds here and there: previously to the appearance of the fog the sky was overcast.	G
Cirro-stratus, cumulo-stratus, and scud: the amount of cloud is continually varying.	L
A large bank of cumulo-stratus is in the N., and large detached portions are scattered over the other part of the sky: cirro-stratus and light scud are in various directions.	T D
Cirro-stratus, cumulo-stratus, fleecy clouds, and scud.	T D
The sky is nearly covered with thin light clouds and scud; the Sun however shines through the clouds.	G
The amount of cloud has been variable; at times nearly the whole sky has been covered, and at other times less than half: at present there are clouds and scud to the S. and W. with a small portion of cirrus N. of the zenith; the remaining portion is clear.	
The amount of the clouds has been constantly varying since 6^h: at present the zenith and the greater part of the S. is clear, with trifling exceptions: the remainder of the sky is covered near the horizon by a light slate-coloured cloud, and above that by a kind of cirro-cumulus and scud.	
Rain fell at $8^h. 50^m$, since which time the sky has been overcast.	G
Cloudless; the clouds disappeared soon after the last observation.	D
,,	
,,	
,,	
The sky is about three-fourths covered with fleecy clouds; they first appeared at about $18^h. 30^m$.	D
Cumuli and cumulo strati are in every direction, and linear cirri cover the zenith.	L
Cirro-stratus, cumulo-stratus, and scud.	
Overcast: cirro-stratus, and scud.	L
,, ,, rain is falling, it commenced about an hour since.	D
,, rain is falling slightly.	
,, a few drops of rain are falling.	
,, rain is falling: the temperature has been stationary from 4^h up to this time: the wind is blowing in gusts to $1\frac{1}{2}$.	D
The sky was quite overcast ten minutes since, but at present the N. part is quite cloudless: dark cirro-strati are scattered about [the S.: the clouds are rapidly dispersing.	L
Cloudless.	
,,	
,,	
Cirro-stratus, fleecy clouds, and scud, with a break in the clouds to the S. horizon.	L
Cumulo-stratus and scud: the clouds are very dense, and the appearance of the sky is very unsettled: during the last hour heavy showers of rain have been falling.	D
Cumulo-stratus and scud: at about $23^h. 10^m$ a heavy shower of rain fell.	
Massive cumuli and cumulo-strati are scattered over the sky in every direction: the wind is blowing in gusts occasionally to $1\frac{1}{2}$.	D
Detached cumuli and light clouds are in every direction: the wind is blowing in gusts to $1\frac{1}{2}$.	L
Cumuli on the N. and S. horizon, with light clouds here and there.	
Light clouds on the N. horizon.	
Cloudless.	L
,,	G
At $13^h. 43^m$ the sky was cloudless; by $13^h. 45^m$ it was covered by an unusually black cloud; and it is now cloudless again.	
The sky has been covered by dark clouds for a few minutes, which in a very short time passed southward, leaving the sky cloudless for some time, when the same phenomenon again occurred; at present nearly all the N. portion of the sky is cloudy, and the greater part of the S. clear.	
The same phenomena of occasional clouds have prevailed since the observation at 16^h, but the sky has been principally clear; at present the N. is nearly cloudless except cirri scattered about.	
The horizon is thick all round, and cirri are scattered in different directions; the sky is otherwise cloudless.	G
A thin cirro-stratus covers the sky: the upper arc of a solar halo was seen at $21^h. 40^m$, and disappeared about ten minutes after this observation; the semidiameter as measured by the instrument was 22°.	L

MAXIMUM RADIATION THERMOMETER.

July 30^d. The instrument was found out of order.

RAIN.

July $31^d. 12^h$. The amount collected during the month of July in the rain-gauge No. 4 was $1^{in}.85$, 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 $1^{in}.91$.

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Aug. 1. 0	29·542	65·6	60·0	5·6	..	..	..	SW	0 to 1½	..	..	..	..	..	8	Transit
2	29·549	64·2	58·7	5·5	..	..	..	SW	0 to 1	..	..	..	..	..	9	..
4	29·537	65·2	58·9	6·3	54·5	10·7	67·1	SW	0 to 1	..	..	..	..	..	7	..
6	29·521	62·4	56·7	5·7	..	..	43·2	SW	0 to ½	SW	1·88	..	..	..	9	..
8	29·506	59·3	55·0	4·3	..	..		Calm	..	..	..	..	..	..	1	..
10	29·513	53·0	52·7	0·3	..	..	..	Calm	..	..	..	..	..	..	1	..
12	29·457	52·4	51·3	1·1	..	..	..	Calm	..	..	..	..	..	..	7	..
14	29·424	53·8	52·9	0·9	..	..	61·2	Calm	..	..	..	..	..	..	10	..
16	29·370	53·1	52·9	0·2	53·0	0·1	61·2	Calm	..	..	..	..	..	..	5	..
18	29·347	55·1	54·9	0·2	..	..		Calm	..	..	..	..	..	..	8	..
20	29·318	57·6	55·2	2·4	..	..	..	Calm	..	..	..	..	..	..	10	..
22	29·279	58·7	57·7	1·0	56·5	2·2	..	Calm	..	SSW	0·35	5·69	0·07	10·290	10	..
Aug. 2. 0	29·246	58·5	57·7	0·8	..	..	..	S by W	..	..	..	..	..	..	10	Transit
2	29·233	63·0	60·0	3·0	..	..	.. ..	SW	..	..	..	..	..	..	10	..
4	29·220	57·9	56·6	1·3	55·5	2·4	62·8	W by N	..	..	..	..	..	..	10	..
6	29·255	56·1	55·8	0·3	..	..	49·0	W by S	..	..	..	..	..	..	10	..
8	29·308	55·5	55·1	0·4	..	..	..	W	0 to ½	..	..	..	..	..	10	..
10	29·367	54·8	54·4	0·4	54·0	0·8	47·0	WSW	½ constant	..	..	..	..	..	10	..
12	29·418	54·5	53·9	0·6	..	..	61·5	WSW	½ to 1½	..	..	..	..	..	10	..
14	..	..	..	..	..	..	61·0	SW	¼	..	..	..	..	..	..	..
16	..	..	..	..	..	..		SSW	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	SSW	..	..	..	..	..	..	..	New
20	..	..	..	..	..	..	..	SSW	½ constant	..	..	..	..	..	..	
22	29·534	62·8	59·7	3·1	..	..	..	WSW	½ to ¾	..	..	6·34	0·89	11·125	9½	..
Aug. 3. 0	..	..	..	..	..	..	..	SW	0 to ½	..	..	..	..	..	..	Transit
2	..	..	..	..	..	..	..	SW	0 to 1	..	..	..	..	..	..	..
4	..	..	..	..	..	..	68·2	WSW	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	57·0	SW	½ to 1	..	..	..	..	..	..	..
8	29·586	58·2	55·2	3·0	..	..		SSW	0 to 1	..	..	..	..	..	10	..
10	..	..	..	..	..	..	..	SSW	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	45·5	SSW	..	..	..	..	..	..	..	..
14	29·594	53·8	53·2	0·6	..	..		SSW	..	..	..	..	..	..	10	..
16	29·574	54·3	53·4	0·9	52·0	2·3	61·0	SSW	..	..	..	..	..	..	10	..
18	29·582	55·6	54·7	0·9	..	..	61·0	SSW	..	..	..	..	..	..	10	..
20	29·593	60·0	58·2	1·8	..	..	..	SSW	..	..	..	..	..	..	3	..
22	29·591	63·8	60·4	3·4	57·6	6·2	..	SW	1 to 2	..	..	6·34	0·00	11·135	9	..
Aug. 4. 0	29·600	64·8	60·8	4·0	..	..	71·8	SSW	½ to 3	..	..	..	..	..	9½	..
2	29·600	66·2	61·8	4·4	..	..	56·0	SSW	½ to 2	..	..	..	..	..	9½	Transit
4	29·594	67·2	62·5	4·7	58·0	9·2	..	SSW	0 to ½	..	..	..	..	..	8	..
6	29·591	64·5	60·6	3·9	..	..	51·0	SSW	..	..	..	..	..	..	9½	..
8	29·587	60·5	58·2	2·3	..	..		Calm	..	..	..	..	..	..	7	..
10	29·588	58·5	57·4	1·1	56·0	2·5	61·1	Calm	..	..	..	..	..	..	10	..
12	29·594	57·0	56·4	0·6	..	..	61·1	Calm	..	..	..	..	..	..	5	..

TEMPERATURE OF THE DEW POINT.
Aug. 1d. 10h. No observation was taken.

MAXIMUM FREE THERMOMETER.
Aug. 2d. 22h. The reading was lower than that of the Dry Thermometer at 2h.

MINIMUM FREE THERMOMETER.
Aug. 3d. 22h. The reading was higher than that of the Dry Thermometer at 14h, 16h, and 18h, and by a larger amount than is customary: it is probable that the reading is 5° in error; if so it should be 52°·0: the latter reading has been used in the Abstracts.

REMARKS.	Observer.
Cumulo-stratus and fleecy clouds cover the sky, except a small break in the clouds about the zenith. [22½°.	T D
Cirro-stratus and fleecy clouds: a solar halo was occasionally visible between $1^h.50^m$ and $2^h.35^m$: at $2^h.20^m$ its semidiameter was	T D
There are fine white rocky cumuli to the N.; cirro-cumuli, cirri, and small portions of white scud which are moving from the S.W. to the S.; dark cumulo-stratus and ill defined cumuli to the E. and W.	G
With the exception of a small portion of blue sky to the S., the whole is covered with cumulo-strati, ill defined cumuli, and scud. Cirri are scattered in various directions.	
Nearly cloudless: there is a solitary cloud in the N. and in the W.: the horizon is thick all round.	G
The eastern portion of the sky is nearly clear, but in every other part not a star is visible: since the last observation the sky has	D
Overcast. [been generally clear.	
Fragments of scud are scattered in every direction: rain was falling soon after the last observation.	
Cirro-stratus and scud.	
Overcast: cirro-stratus and scud: a slight rain is falling.	D
,, rain is falling.	T D
Overcast: rain is falling.	T D
,, fine rain has been falling at intervals since the last observation: at $2^h.10^m$ heavy rain has just begun to fall, and the wind is blowing in gusts to 1.	L
Overcast: heavy rain has been frequently falling since 2^h: at the present time it is descending in torrents.	D
,, rain falling: between $4^h.10^m$ and $4^h.45^m$ a thunder storm passed over the Observatory, and some of the flashes of lightning were remarkably vivid: rain was falling in torrents until about $4^h.26^m$, when it comparatively ceased, but not wholly so until $5^h.15^m$; it again began to fall at $5^h.40^m$.	
Overcast: rain has been falling without intermission since the last observation.	
,, cirro-stratus and scud: the rain has ceased falling.	D
,, wind blowing in gusts to 1.	L
The sky has been generally covered with nimbi; at present a portion of blue sky is in the N.	G
Overcast.	G
,,	L
,,	
,, the cloud is thin in many places: immediately after this observation a shower of rain fell which lasted about ten minutes.	
Cumuli to the N. E. and S.: light scud is floating in every direction, and a few cirro-cumuli are about the zenith.	L
Dark cumuli and scud cover the sky.	T D
Cumuli and scud, and a small break in the clouds in the W.: rain is falling.	
Cumuli and scud, and fleecy clouds: small detached portions of blue sky are seen in the zenith and the S.	T D
Cumuli to the N. and the W.: cirro-stratus and light clouds: the wind blowing in gusts to ½.	L
,, dark cirro-stratus about the zenith, and light clouds to the S.	
Cirro-strati, fleecy clouds, and some fine specimens of cirro-cumuli.	
Overcast: a few drops of rain are falling.	L
Several stars became visible soon after 10^h, and since that time there have been occasionally a great number seen, and at other times only a few: the appearance of the sky is constantly changing from quantities of dark cloud frequently passing from the S.W., at times in long lines, and at others in masses; at present the zenith and the parts round it are clear: there are dark clouds near the horizon in the S. and also in the N. E.	G

MINIMUM RADIATION THERMOMETER.

Aug. $1^d.22^h$. The instrument was out of order.

OSLER'S ANEMOMETER.

Aug. 3^d. From 3^h to $3^h.20^m$ there were frequent gusts recording pressures of 3 lbs.

WHEWELL'S ANEMOMETER.

Aug. $1^d.23^h$. The instrument was taken down and sent to be repaired.

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Aug. 4. 14	29·559	56·2	55·6	0·6	..	..	..	Calm	..	..	..	..	..	..	9	..
16	29·531	56·0	55·2	0·8	54·0	2·0	..	Calm	..	..	..	..	..	..	10	..
18	29·527	57·0	56·6	0·4	..	..	..	Calm	..	..	..	..	..	..	10	..
20	29·521	61·2	59·7	1·5	..	..	..	Calm	..	..	..	..	..	..	10	..
22	29·511	64·4	62·7	1·7	60·0	4·4	..	S	..	..	..	6·34	0·00	11·135	10	..
Aug. 5. 0	29·499	63·3	62·5	0·8	..	..	..	S	..	..	..	..	..	..	10	..
2	29·495	68·8	65·2	3·6	..	..	..	S by W	..	..	..	..	..	..	8	Transit
4	29·495	69·2	63·2	6·0	60·0	9·2	73·1	S by W	..	..	..	..	..	..	8	..
6	29·506	67·0	62·4	4·6	..	..	57·0	SSW	..	..	..	..	..	..	5	..
8	29·538	60·7	58·7	2·0	..	..		SSW	..	..	..	..	..	..	4	..
10	29·546	57·5	56·7	0·8	..	..	..	Calm	..	..	..	..	..	..	8	..
12	29·566	56·6	56·2	0·4	..	..	52·3	SW	..	..	..	..	..	..	10	..
14	29·567	57·5	56·7	0·8	..	..	61·8	W by N	..	..	..	..	..	..	10	..
16	29·590	57·4	56·6	0·8	56·0	1·4	61·8	W by N	..	..	..	..	..	..	10	..
18	29·632	56·7	55·3	1·4	..	..		W by N	½ constant	..	..	..	..	..	10	..
20	29·659	57·4	55·4	2·0	..	..	..	WNW	1 ,,	..	..	..	..	..	10	..
22	29·686	64·0	58·6	5·4	54·0	10·0	..	NW	1 ,,	..	..	6·34	0·00	11·150	9	..
Aug. 6. 0	29·698	66·4	58·4	8·0	..	..	..	WNW	½ to 1	..	..	..	..	..	2	In Equator
2	29·707	69·8	61·2	8·6	..	..	..	W by N	½ to 1½	..	..	..	..	..	8	..
4	29·705	65·8	61·7	4·1	59·0	6·8	71·4	WSW	0 to ½	..	..	..	..	..	7	Transit
6	29·692	62·5	60·2	2·3	..	..	52·5	WSW	..	..	..	..	..	..	8	..
8	29·689	59·3	58·5	0·8	..	..		WSW	..	..	..	..	..	..	7	..
10	29·690	57·2	56·6	0·6	56·0	1·2	..	WSW	..	..	..	..	..	..	2	..
12	29·681	54·5	53·7	0·8	..	..	47·0	WSW	..	..	..	..	..	..	2	..
14	29·674	52·5	51·7	0·8	..	..		WSW	..	..	..	..	..	..	0	..
16	29·654	51·7	51·4	0·3	51·0	0·7	62·0	W by S	..	..	..	..	..	..	2	..
18	29·640	53·7	53·2	0·5	..	..	62·0	WSW	..	..	..	..	..	..	10	..
20	29·637	55·8	55·2	0·6	..	..	..	W by S	..	..	..	..	..	..	10	..
22	29·624	61·6	58·7	2·9	56·0	5·6	..	W	..	..	..	6·39	0·05	11·240	9	..
Aug. 7. 0	29·610	64·8	60·4	4·4	..	..	..	WSW	..	..	..	..	..	..	9	..
2	29·621	59·0	57·7	1·3	..	..	..	WSW	0 to ¾	..	..	..	..	..	10	..
4	29·612	62·5	59·4	3·1	57·0	5·5	..	N by W	..	..	..	..	..	..	9	Transit
6	29·636	58·0	57·2	0·8	..	..	67·9 49·2	W	..	..	..	..	..	..	5	..
8	29·652	55·6	54·6	1·0	..	..		WSW	..	..	..	..	..	..	1	..
10	29·679	54·8	53·4	1·4	52·5	2·3	..	WSW	..	..	..	..	..	..	10	..
12	29·691	53·4	52·7	0·7	..	..	45·0	WSW	..	..	..	..	..	..	10	..
14	29·683	53·2	52·4	0·8	..	..	..	WSW	..	..	..	..	..	..	10	..
16	29·696	49·3	49·1	0·2	49·0	0·3	..	WSW	..	..	..	..	..	..	0	..
18	29·713	49·2	48·9	0·3	..	..	..	WSW	..	..	..	..	..	..	1	..

TEMPERATURE OF THE DEW POINT.

Aug. 5d. 10h. The observation was omitted by inadvertence.

MINIMUM FREE THERMOMETER.

Aug. 5d. 22h. The reading was higher than that of the Dry Thermometer at 12h and 18h.

Aug. 6d. 22h. The reading was higher than that of the Dry Thermometer at 16h.

THERMOMETERS IN THE WATER OF THE THAMES.

Aug. 7d. The thermometers were removed, on account of repairs which were needed to the side of the ship.

REMARKS.	Observer.
The same variations in the appearance of the sky have continued to take place; at present it is almost wholly covered.	G
Cloudy: a few stars have been occasionally visible since 14^h.	
Overcast: the clouds appear to be of different densities.	
The sky is still covered with a thin cloud; occasionally blue patches of sky are visible.	G
Overcast: a fine drizzling rain was falling a few minutes before the observation.	L
Cirro-stratus, cumulo-stratus, and scud: a shower of rain has fallen since the last observation.	T D
Cirro-strati, cumuli, and scud, with a break a little N of the zenith: fine rain has just begun to fall; it lasted only five minutes.	L
Clear in the zenith: fine white large rocky cumuli all round the horizon, and cirri scattered about the sky.	G
Fine rocky cumuli have prevailed since the observation at 4^h, and blue sky has been general: cirri have been prevalent; all of which exist at present.	
Cumuli, cirri, and clear sky.	
With the exception of a portion of the S. sky, the whole is covered by an uniform cloud and thin cirro-stratus.	G
Overcast: cirro-stratus.	D
,, ,,	
,, ,,	
,, ,,	
,, ,, a thin rain was falling at 19^h.	D
Cirro-stratus and fleecy clouds: there are a few cirro-cumuli N. of the zenith.	T D
Cumuli and light scud: the wind is blowing in gusts to ½.	T D
Cumuli all round the horizon: cirro-stratus and light clouds in every direction.	L
Nimbi, cumulo-strati, and ill-defined cumuli are equally scattered over the sky: a shower of rain has just fallen.	D
Cumulo-strati, nimbi, and scud: some of the clouds N. of the zenith are densely black: rain has begun to fall.	
Cirro-stratus and scud.	
Scud is prevalent in the S., but the sky in every other part is clear.	D
Cirro-stratus to the N. horizon, and S.W. of the zenith.	L
Cloudless.	
Cirro-stratus to the N. horizon and in various other directions.	
Cirro-stratus and scud: rain began to fall soon after the last observation, and lasted about half an hour: at $18^h.10^m$ it again [began to fall.	
Overcast: cirro-stratus and scud.	L
Cumuli and scud: a small break in the zenith and in the S.	T D
Cumulo-stratus and scud.	
Rain is falling heavily, with claps of thunder: since the last observation the clouds have had a very dense appearance, their modification being generally cumulo-stratus and nimbus: at $0^h.40^m$ a clap of thunder was heard S. E. of the zenith, and from that time until the present peals of thunder have been frequently audible: rain was falling between 1^h and $1^h.35^m$; and within the last few minutes it has again begun to fall, but much more heavily.	T D
Cumulo-strati to the N., and a large nimbus extending from the zenith: rain is falling.	L
Cumulo-strati to the N. and W. horizon: fleecy clouds W. of the zenith and in various other directions: vapour is prevalent, and a few cirro-cumuli are about the zenith.	
Light clouds in various parts of the sky, and cirro-cumuli about the zenith.	
Overcast: cirro-stratus and scud.	L
At $10^h.50^m$ the sky was cloudless, and continued very nearly so till $11^h.40^m$, at which time one-third of the northern portion became overcast within one minute; the sky remained in this state till $11^h.56^m$, when the remainder, except a small portion near the S. horizon, became suddenly overcast.	G
The sky has been overcast since the last observation.	
At $14^h.15^m$ the clouds became broken: between $14^h.15^m$ and 17^m two meteors appeared immediately below Mars, and moved towards the horizon; from that time the clouds diminished till about $14^h.40^m$, at which time the sky was cloudless, and it has remained so.	
A few white clouds, of the cirro-cumuli character, to the N.; with that exception the sky is free from clouds.	

OSLER'S ANEMOMETER.

Aug. $6^d.5^h.40^m$. A gust to 3 lbs. was recorded.

Aug. $8^d.19^h$. The chain was found off the spikes of the barrel: it was placed on at this time.

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Aug. 7. 20	29·724	56·2	54·2	2·0	..	..	..	W	..	..	..	..	..	..	7	..
22	29·729	61·5	57·6	3·9	55·0	6·5	..	W by S	..	..	..	6·47	0·15	11·395	8	..
Aug. 8. 0	29·728	62·4	58·1	4·3	..	..	..	W	0 to ½	..	..	..	..	..	8	..
2	29·725	64·3	58·2	6·1	..	..	..	WNW	..	..	..	..	..	..	9	..
4	29·706	66·2	58·4	7·8	54·0	12·2	..	WNW	0 to ½	..	..	..	..	..	6	Transit
6	29·721	66·3	59·9	6·4	..	..	..	W by S	½ constant	..	..	..	..	..	5	..
8	29·725	60·5	56·7	3·8	..	..	68·9 55·6	WSW	..	..	..	..	..	..	7	..
10	29·715	56·1	54·2	1·9	54·0	2·1	.. 50·5	..	..	..	..	..	..	..	8	..
12	29·686	56·5	55·4	1·1	..	..	..	..	..	..	..	..	..	..	10	..
14	29·643	55·9	54·8	1·1	..	..	..	..	..	..	..	..	..	..	10	..
16	29·554	55·6	55·4	0·2	55·5	0·1	..	..	..	..	..	..	..	..	10	..
18	29·471	58·0	57·7	0·3	..	..	..	..	..	..	..	..	..	..	10	..
20	29·438	60·1	59·3	0·8	..	..	..	..	..	..	..	..	..	..	10	..
22	29·405	61·0	60·2	0·8	58·5	2·5	..	SSW	1 to 2	..	..	6·49	0·30	11·665	10	..
Aug. 9. 0	29·344	66·2	63·5	2·7	..	..	..	SW by S	1 to 3	..	..	..	..	..	3	..
2	29·311	64·5	62·2	2·3	..	..	..	SW	1 to 3½	..	..	..	..	..	10	..
4	29·343	59·4	58·0	1·4	57·0	2·4	..	W	1 to 4	..	..	..	..	..	9	..
6	29·385	60·2	55·6	4·6	..	..	68·4 52·0	W by S	0 to ¾	..	..	..	..	..	6	Transit
8	29·412	57·7	53·3	4·4	..	..	..	W by S	½ to 1½	..	..	..	..	..	6	..
10	29·439	54·0	52·8	1·2	52·0	2·0	48·5	WSW	½ constant	..	..	..	..	..	8½	..
12	29·439	53·7	51·9	1·8	..	..	64·0 61·2	WSW	0 to 1	..	..	..	..	..	10	..
14	..	..	..	..	..	..		WSW	0 to 1	..	..	..	..	..	..	..
16	..	..	..	..	..	..		WSW	0 to 1	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	WSW	0 to ½	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	WSW	¼ to 2½	..	..	..	..	..	..	..
22	29·413	58·5	55·4	3·1	..	..	..	WSW	0 to 2½	..	..	6·49	0·00	11·685	10	..
Aug. 10. 0	..	56·7	54·9	1·8	..	..	..	WSW	½ to 1½	..	..	..	..	..	10	..
2	..	..	..	..	..	..	..	WSW	½ to 2	..	..	..	..	..	..	..
4	..	..	..	..	..	..	61·8	WSW	0 to ½	..	..	..	..	..	..	..
6	29·442	58·3	55·9	2·4	..	..	54·2	WSW	0 to ½	..	..	..	..	..	10	Transit
8	29·452	58·0	55·0	3·0	..	..		WSW	½ to 2	..	..	..	..	..	10	..
10	..	..	..	..	..	..	..	WSW	½ to 1½	..	..	..	..	..	..	..
12	..	..	..	..	..	..	52·7	WSW	½ constant	..	..	..	..	..	..	1st Qr.
14	29·454	55·7	53·9	1·8	..	..		WSW	½ to 1	..	..	..	..	..	10	..
16	29·456	56·0	53·7	2·3	52·0	4·0	61·8	WSW	0 to ½	..	..	..	..	..	10	..
18	29·480	54·0	53·4	0·6	..	..	60·5	WSW	..	..	..	..	..	..	10	..
20	29·494	57·8	56·6	1·2	..	..	..	WSW	0 to ½	..	..	..	..	..	10	..
22	29·510	62·4	58·7	3·7	56·0	6·4	..	WSW	..	..	..	6·51	0·05	11·735	7	..
Aug. 11. 0	29·525	60·3	58·2	2·1	..	..	..	WSW	0 to ½	..	..	..	..	..	8	..

MAXIMUM FREE THERMOMETER.

Aug. 10d. 22h. The reading was lower than that of the Dry Thermometer at 22h.

MINIMUM FREE THERMOMETER.

Aug. 10d. 22h. The reading was higher than that of the Dry Thermometer at 18h.

REMARKS.	Observer.
The white cirro-cumuli have been becoming larger and spreading everywhere since 18^h; and at present the sky is covered, excepting a portion in the East, which is partially covered with small white cumuli.	G
Cumuli and scud, with a large nimbus in the zenith.	T D
Cumulo-strati, nimbi, and fleecy clouds.	T D
Cumulo-stratus, cirro-stratus, and fleecy clouds.	T D
Cumuli and cumulo-strati: clear in and around the zenith.	G
Clear in and around the zenith; cirro-cumuli, cumuli, and cumulo-strati are scattered over the other part of the sky.	
The clearest portion of the sky is that above the setting Sun, and to the right and left of it; all other parts of the sky are more or less covered with a loose kind of cirro-cumuli, except near the horizon, where cumuli are changing into cumulo-strati: the sunset is fine, the detached clouds around the Sun being tinged with gold colour.	
The appearance of the sky has been very variable since 8^h; at times a large portion of it has been clear, and at other times nearly the whole has been covered with cloud: about three-fourths of the sky are now covered; a few minutes since about half that quantity of cloud existed: at $10^h. 2^m. 10^s$ a meteor appeared a little E. of the zenith, and moved towards the S.; the portion of the sky along its track was clouded; the meteor was therefore below the clouds.	G
The sky was clouded over shortly after 10^h, and has continued overcast since: rain has begun to fall within these last few minutes.	D
Overcast: a thin misty rain is falling.	
,, rain falling heavily.	
,, the rain has ceased falling.	
,, the sky has been covered throughout the night with one uniform dense stratus.	D
,, a fine rain is falling.	L
Cumuli round the horizon: light scud is principally S. of the zenith, moving rapidly from the S. W.: wind in gusts to 2.	
Cirro-stratus and scud, with a break in the clouds towards the W. horizon, but to no numerical extent: wind in gusts to 2.	L
The sky is covered with cirro-stratus and scud, except a break near the W. horizon: wind blowing in gusts to 2: rain has been occasionally falling since 2^h.	D
Fleecy clouds and detached portions of scud are in all directions: since the last observation the sky has been about half covered with clouds: wind blowing in gusts to 1.	
Fragments of scud are scattered in every part of the sky: in the N. a large bank of cirro-stratus extends 8° from the horizon.	
A portion of the sky S. E. of the zenith is the only part free from clouds; in all other directions cirro-stratus and scud cover it: a little rain fell at 9^h: at $10^h. 5^m$ the sky became quite overcast.	D
Cirro-stratus and scud, with occasional breaks in the clouds about the zenith; at present the sky is quite overcast.	L
Overcast: cirro-stratus and scud: rain is falling: wind blowing in gusts to 1.	
Overcast: cirro-stratus and scud: wind blowing in gusts to 1.	
,, ,, rain has been falling occasionally till about 5^h.	L
,, cirro-stratus: wind blowing in gusts to 1.	G
Cirro-stratus and scud.	L
,,	
,, rain was falling at about $16^h. 40^m$, and ceased at about 17^h.	
Cirro-stratus and scud, with a few small breaks in the clouds about the zenith, but to no numerical extent.	L
Cirro-stratus and scud.	T D
Cirro-stratus and scud.	

OSLER'S ANEMOMETER.

Aug. $8^d. 22^h$. The traversing-board was found completely blocked up at the extremity of the table, which circumstance took place most likely several hours previously; hence the reason that so small a quantity of rain is registered: the links of the chain were off the clock-barrel.

Aug. $9^d. 1^h$. A gust to 7 lbs. was 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. of Rad. Therm. of Therm. in Water of the Thames.	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.	RAIN. Stand of Rain-gauge No. 1. (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3. (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Aug. 11. 2	29·534	66·0	59·7	6·3	..	..	..	WSW	0 to 1	..	..	..	..	..	8	..
4	29·558	57·0	55·0	2·0	53·0	4·0	..	NNW	0 to 2	..	..	..	..	..	10	..
6	29·560	59·2	58·0	1·2	..	..	..	WSW	..	..	..	..	..	..	7	..
8	29·599	57·2	56·4	0·8	..	..	69·1	WSW	..	..	..	..	..	..	9	Transit
10	29·619	55·0	54·2	0·8	53·0	2·0	54·4	WSW	..	..	..	..	..	..	9	..
12	29·637	54·8	54·1	0·7	..	..	——	W by S	..	..	..	..	..	..	10	..
							..									
							48·5									
							——									
14	29·649	54·5	54·0	0·5	..	..	61·2	WSW	..	..	..	..	..	..	10	..
							61·0									
16	29·661	54·5	54·1	0·4	54·0	0·5	..	Calm	..	..	..	..	..	..	10	..
18	29·675	54·4	54·0	0·4	..	..	..	Calm	..	..	..	..	..	..	10	..
20	29·692	57·0	55·2	1·8	..	..	..	NW	..	..	..	..	..	..	7	..
22	29·736	58·4	55·2	3·2	53·0	5·4	..	NNW	..	..	..	6·51	0·25	12·005	10	..
Aug. 12. 0	29·764	59·0	56·6	2·4	..	..	..	N	..	..	..	..	..	..	10	..
2	29·789	58·3	55·2	3·1	..	..	..	NNW	..	..	..	..	..	..	10	..
4	29·797	62·3	58·4	3·9	54·0	8·3	62·9	N by W	..	..	..	..	..	..	10	..
6	29·805	60·6	56·3	4·3	..	..	51·0	NNW	..	..	..	..	..	..	10	..
8	29·820	57·5	55·2	2·3	..	..	——	Calm	..	..	..	..	..	..	10	Transit
10	29·842	56·6	54·6	2·0	53·5	3·1	..	Calm	..	..	..	..	..	..	10	..
12	29·862	55·5	54·3	1·2	..	..	48·5	Calm	..	..	..	..	..	..	10	..
14	29·859	54·8	53·8	1·0	..	..	——	Calm	..	..	..	..	..	..	10	..
16	29·851	54·5	53·8	0·7	53·0	1·5	60·9	NNE	..	..	..	..	..	..	10	Greatest declination S.
18	29·853	52·0	51·4	0·6	..	..	60·9	Calm	..	..	..	..	..	..	10	..
20	29·883	52·5	51·3	1·2	..	..	..	N	..	..	..	..	..	..	10	..
22	29·913	52·5	51·6	0·9	51·0	1·5	..	NNE	..	..	..	6·51	0·00	12·030	10	..
Aug. 13. 0	29·923	54·9	53·2	1·7	..	..	..	N	..	..	..	..	..	..	10	..
2	29·925	58·5	54·9	3·6	..	..	..	N by W	..	..	..	..	..	..	10	..
4	29·911	60·2	55·2	5·0	51·0	9·2	62.2	W by S	..	..	..	..	..	..	5	..
6	29·904	61·7	55·8	5·9	..	..	50·2	W by S	..	..	..	..	..	..	4	..
8	29·890	56·9	54·2	2·7	..	..	——	SSW	..	..	..	..	..	..	10	..
10	29·888	55·4	54·6	0·8	54·5	0·9	..	W by N	..	..	..	..	..	..	10	Transit
12	29·894	53·7	51·4	2·3	..	..	44·2	WNW	..	..	..	..	..	..	10	..
14	29·875	51·6	50·4	1·2	..	..	——	W	..	..	..	..	..	..	3	..
16	29·858	50·2	49·4	0·8	48·0	2·2	60·0	WSW	..	..	..	..	..	..	8	..
18	29·853	51·2	50·2	1·0	..	..	60·0	WSW	..	..	..	..	..	..	10	..
20	29·849	54·0	52·4	1·6	..	..	..	WSW	..	..	..	..	..	..	10	..
22	29·829	57·0	54·5	2·5	54·0	3·0	..	NNW	..	..	..	6·54	0·02	12·065	10	..
Aug. 14. 0	29·811	58·9	55·0	3·9	..	..	..	..	..	..	..	..	..	..	10	..
2	29·798	57·0	53·7	3·3	..	..	..	..	..	..	..	..	..	..	10	..
4	29·776	58·1	53·5	4·6	50·0	8·1	..	..	..	..	..	..	..	..	10	..
6	29·751	58·3	53·4	4·9	..	..	..	..	..	..	..	..	..	..	10	..
8	29·740	56·8	52·9	3·9	..	..	..	..	..	..	..	..	..	..	10	..

DIRECTION OF THE WIND BY OSLER'S ANEMOMETER.

Aug. 13d, at 9h. 40m it was S. S. W; at 9h. 55m it was N. N. W; and at 9h. 58m it changed to W. by N.

REMARKS.	Observer.
Dark heavy looking clouds extending from the N. W. to the N. E. horizon, from which frequent claps of thunder are heard: a fine blue sky in the S., with light scud, in small detached portions, scattered over it: at $23^h.\,55^m$ a heavy shower of rain fell: the appearance of the sky is very variable.	T D
Overcast: cirro-stratus, cumulo-stratus, and scud: several peals of thunder were heard previously to this observation: rain was falling at $3^h.\,45^m$, and ceased at about $3^h.\,52^m$: heavy rain commenced falling soon after 4^h, accompanied with thunder.	L
Cirro-stratus and haze to the N., extending to the zenith: the sky S. of the zenith is partly clear.	
Stratus and heavy looking clouds to the S.: cirro-stratus to the N.: the clouds are broken a little N. of the zenith.	
Cirro-stratus and fleecy clouds: a few stars are shining a little S. of the zenith, and the Moon's place is occasionally visible.	L
Cirro-stratus, scud, and vapour: there are a few breaks near the S. E. horizon, but to no numerical extent: α Lyræ, α Cygni, and other zenith stars are occasionally seen through the clouds: at about $10^h.\,32^m$ a faint meteor was observed passing from α Ophiuchi to the S., where it was lost in the clouds; and another, at about $10^h.\,35^m$, was seen passing from the square of Pegasus to the N.	H B
Overcast: cirro-stratus and scud: meteors have been attentively looked for during the last two hours, but only two have been seen; one at $12^h.\,29^m.\,52^s$ passing through Sagittarius to the S. horizon, and the other at $12^h.\,41^m.\,57^s$ passing from 10° South of the zenith to α Aquilæ.	
Overcast: cirro-stratus and scud.	
,, ,,	
Cirro-strati, cumuli, and scud.	H B
Overcast: cirro-stratus.	T D
Overcast: cirro-stratus: a few drops of rain fell at $23^h.\,35^m$.	T D
,, very gloomy: the aspect of the sky has not varied during the morning.	T D
Cirro-stratus and scud: a few breaks occurred near the Sun's place shortly before this observation.	H B
,, the clouds are broken in many places.	
Overcast: cirro-stratus.	
,, ,,	H B
,, ,, a few drops of rain fell about a quarter of an hour since.	D
,,	
,,	
,, ,,	
,, ,,	D
,, at 21^h rain commenced falling, and continued until within a few minutes previously to this observation, when it ceased, but the sky retains a gloomy appearance.	T D
Overcast: cirro-stratus.	T D
,, cirro-stratus and scud: there is a slight haze to the N.	L
Cumulo-strati are scattered in all directions: the clouds broke about an hour since: it is very hazy.	D
Cumuli and a dense haze.	
Cirro-stratus and scud: a few drops of rain fell at $7^h.\,30^m$.	
Overcast: rain has been falling during the last hour, but it has now ceased.	D
,, a few stars are occasionally shining in the zenith.	L
Cloudy to the N.: dark clouds are scattered in various directions; but in the clear parts of the sky only the larger stars are [visible, on account of haze.	
Clear to the S.: hazy.	
Cirro-stratus, fleecy clouds, and scud.	
Overcast: cirro-stratus and scud.	L
Cirro-stratus: gloomy.	H B
Cirro-stratus: the Sun is faintly visible.	
Overcast: rain is falling in heavy drops.	H B
,, gloomy.	L
,, wind blowing in gusts to ½.	
, ,,	

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Aug. 14. 10	29·733	55·3	51·9	3·4	50·0	5·3	59·7	..	..	..	..	..	..	..	10	Transit
12	29·706	53·6	51·2	2·4	..	..	52·2	..	..	..	..	..	..	..	10	..
14	29·665	52·8	50·6	2·2	..	..	—	..	..	..	..	..	..	..	10	..
16	29·619	52·4	50·8	1·6	50·0	2·4	..	..	..	..	..	..	..	..	10	..
18	29·614	52·5	50·8	1·7	..	..	44·2	..	..	..	..	..	..	..	7	..
20	29·609	53·1	51·7	1·4	..	..	59·9	..	..	..	..	..	..	..	10	..
22	29·612	56·2	53·4	2·8	51·0	5·2	59·9	..	..	..	..	6·54	0·00	12·065	10	..
Aug. 15. 0	29·613	57·0	54·7	2·3	..	..	..	NNW	..	..	..	..	..	..	10	..
2	29·622	59·4	56·2	3·2	..	..	..	N by W	0 to 1½	..	..	..	..	..	10	..
4	29·608	58·3	54·6	3·7	51·0	7·3	..	NNW	..	..	..	..	..	..	9¾	..
6	29·612	59·6	54·2	5·4	..	..	61·1	NNW	..	..	..	..	..	..	4	..
							47·0									
8	29·647	54·5	51·0	3·5	..	..	—	N by W	..	N	1·63	..	..	..	8	..
10	29·666	50·5	48·2	2·3	45·8	4·7	..	NNW	..	..	..	..	..	..	0	Perigee
12	29·677	50·0	47·7	2·3	..	..	39·5	NW	..	NW	0·97	..	..	..	0	Transit
14	29·676	47·7	46·1	1·6	..	..	—	W	..	..	..	..	..	..	10	..
16	29·677	48·3	46·8	1·5	45·5	2·8	59·9	WNW	..	..	..	..	..	..	10	..
18	29·685	47·2	45·6	1·6	..	..	59·9	NW by N	..	..	..	..	..	..	2	..
20	29·705	50·7	48·2	2·5	..	..	..	NNW	0 to ½	..	..	..	..	..	3	..
22	29·728	54·2	51·9	2·3	50·0	4·2	..	NNW	½ constant	NNW	1·00	6·54	0·00	12·100	6	..
Aug. 16. 0	29·744	58·3	53·5	4·8	..	..	..	N by W	0 to ¼	..	..	..	..	..	10	..
2	29·760	55·8	51·7	4·1	..	..	..	NNW	..	NW	0·07	..	..	..	10	..
4	29·757	59·3	53·0	6·3	48·0	11·3	60·0	N by W	..	..	..	..	..	..	8	..
							46·8									
6	29·757	56·6	52·6	4·0	..	..	—	Calm	..	..	..	..	..	..	10	..
8	29·775	53·1	50·2	2·9	..	..	..	Calm	..	..	..	..	..	..	10	..
10	29·804	49·2	47·3	1·9	45·5	3·7	39·8	Calm	..	WNW	1·35	..	..	..	8	..
12	29·811	49·0	47·7	1·3	..	..	—	Calm	..	..	..	..	..	..	10	Transit
14	..	..	..	..	..	..	58·5	Calm	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	58·5	Calm	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..		Calm	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
22	29·783	56·7	53·0	3·7	..	..	..	Calm	..	SW	0·95	6·54	0·00	12·100	10	..
Aug. 17. 0	..	..	..	..	..	..	..	SSW	..	..	..	..	..	..	..	..
2	29·761	59·6	55·3	4·3	..	..	..	SSW	..	..	..	..	..	..	10	Full
4	..	..	..	..	..	..	64·2	SSW	..	..	..	..	..	..	..	..
6	29·709	60·1	56·6	3·5	..	..	46·9	WSW	..	SW	2·46	..	..	..	7	..
8	..	..	..	..	..	..	—	SSW	..	..	..	..	..	..	..	..
10	29·712	54·7	52·4	2·3	..	..	..	Calm	..	..	..	..	..	..	7	..
12	..	..	..	..	..	..	43·3	Calm	..	..	..	..	..	..	..	..
14	29·684	48·5	47·7	0·8	..	..	—	Calm	..	..	..	..	..	..	0	Transit
16	29·676	47·5	47·2	0·3	47·0	0·5	58·8	Calm	..	..	..	..	..	..	0	..
18	29·663	48·0	47·7	0·3	..	..	58·5	Calm	..	..	..	..	..	..	8	..
20	29·659	54·5	52·9	1·6	..	..	..	Calm	..	..	..	..	..	..	8	..
22	29·641	61·6	58·1	3·5	56·5	5·1	..	SSW	..	SSW	2·60	6·54	0·00	12·100	10	..
Aug. 18. 0	29·620	65·6	59·9	5·7	..	..	..	SW	..	..	..	..	..	..	7	..
2	29·597	67·3	60·6	6·7	..	..	..	SSW	½ constant	..	..	..	..	..	6	..
4	29·585	66·5	59·9	6·6	52·0	14·5	..	SSW	..	SW	1·50	..	..	..	8	..

OSLER'S ANEMOMETER.

Aug. 14d. 22h. The links of the clock-chain were found off the spikes of the barrel, and the traversing board was found at the end of the table.

WHEWELL'S ANEMOMETER.

Aug. 15d. 0h. The instrument was again put up, and the index was set at 1in·50.

REMARKS.	Observer.
Overcast: wind blowing in gusts to ½.	L
,,	H B
,,	
,,	
The sky is principally covered with a brownish coloured cirro-stratus, with white scud moving quickly from the W.	
Overcast: cirro-stratus and dark scud: the wind is blowing in gusts to ¾.	H B
,,	L
Overcast.	
,, very black to the W.: at the present time, $2^h. 5^m$, heavy rain has just begun to fall.	L
Breaks in the clouds near the N. horizon; elsewhere overcast.	H B
Shortly after the last observation the clouds cleared off in several directions; and at present the prevailing clouds are cirro-stratus, fragments of scud, and a few cumuli.	
Cirro-stratus and scud; the latter moving rapidly from the N.	
Cloudless, but hazy near the horizon.	H B
Cloudless.	D
The sky has again become overcast: the place of the Moon is scarcely visible.	
Overcast: cirro-stratus.	D
About twenty minutes since the clouds became broken near the horizon in the N. W.: there are only a few scattered clouds here and there.	G
Detached grey clouds are scattered principally near the W. horizon; the remainder of the sky is clear.	G
Cumuli round the horizon: the sky N. of the zenith is principally clear: cirro-stratus and fleecy clouds are in other directions.	L
Cirro-stratus and scud: a few cumuli and light clouds are in various directions.	
Overcast: cirro-stratus and scud.	L
Cirro-stratus and fleecy clouds cover the greater part of the sky, but there are a few considerable breaks in the clouds in and near the zenith, which reveal a clear blue sky.	D
Overcast: cirro-stratus and scud.	
,, cirro-stratus.	
The sky is chiefly covered with thin fleecy clouds, but the large stars and the Moon are visible through them.	D
Cirro-stratus and fleecy clouds cover the sky.	L
Cirro-stratus and scud.	H B
Cirro-stratus and scud.	
Cirro-strati, scud, and cumuli near the horizon.	
	H B
Fleecy clouds, cirro-strati, cumuli, and scud.	
	L
Cloudless.	
,,	
Fleecy clouds and scud.	
Cirro-stratus, fleecy clouds, and scud.	L
Overcast: cirro-stratus and scud.	H B
Cumuli and scud are distributed over the sky, with a few cirro-cumuli near the zenith.	
Cumuli, scud, and fleecy clouds are generally prevalent, the former in large projecting masses: the upper clouds are linear cirri.	H B
Cumuli, fleecy clouds, and scud: breaks about and to the S. of the zenith.	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 22^h. of Free Therm. / of Rad. Therm. / of Therm. in Water of the Thames.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Aug. 18. 6	29·545	63·5	57·0	6·5	..	..	70·7	SSW	..	..	..	..	..	..	3	..
8	29·518	58·2	54·4	3·8	..	..	53·2	Calm	..	..	..	..	..	..	10	..
10	29·513	54·7	53·5	1·2	52·0	2·7		Calm	..	ENE	1·10	..	..	..	10	..
12	29·461	53·0	52·4	0·6	..	..	...	Calm	..	..	..	..	..	..	10	..
14	29·389	53·0	52·7	0·3	..	..	51·8	Calm	..	..	..	..	..	..	10	Transit
16	29·317	54·6	54·5	0·1	55·0	-0·4		NE	..	..	..	..	..	..	10	..
18	29·270	55·0	54·9	0·1	..	..		ENE	..	..	..	..	..	..	10	..
20	29·231	57·5	57·2	0·3	..	..	59·0	Calm	..	..	..	..	..	..	10	In Equator
22	29·161	61·5	60·9	0·6	60·8	0·7	58·2	Calm	..	S	0·58	6·64	0·30	12·380	10	..
Aug. 19. 0	29·090	61·7	61·4	0·3	..	..	..	S by E	..	..	..	..	..	..	10	..
2	29·029	62·8	62·5	0·3	..	..	..	S	..	..	..	..	..	..	10	..
4	28·988	63·0	61·1	1·9	60·5	2·5	..	SW	1 to 2½	..	..	..	..	..	9½	..
6	29·051	54·8	53·3	1·5	..	..	65·6 49·0	WSW	3 to 6	..	..	..	..	..	10	..
8	29·170	54·0	52·2	1·8	..	..	...	WSW	1½ to 2½	..	..	..	..	..	10	..
10	29·230	52·5	51·4	1·1	50·0	2·5	45·0	WSW	2	..	..	..	..	..	8	..
12	29·260	52·5	50·8	1·7	..	..	59·5	WSW	2½ to 4	..	..	..	..	..	6	..
14	29·306	50·7	49·5	1·2	..	..	59·0	WSW	2 to 3	..	..	..	..	..	3	Transit
16	29·343	50·0	49·0	1·0	48·5	1·5	..	WSW	1 constant	..	..	..	..	..	3	..
18	29·371	50·0	48·8	1·2	..	..	..	WSW	1½ to 3	..	..	..	..	..	0	..
20	29·387	54·1	52·0	2·1	..	..	..	WSW	1½ to 3½	..	..	..	..	..	0	..
22	29·428	59·0	54·4	4·6	51·0	8·0	..	WSW	2 to 4½	..	..	7·07	0·40	12·780	2	..
Aug. 20. 0	29·466	59·5	54·2	5·3	..	..	..	WSW	1 to 3½	..	..	..	..	..	10	..
2	29·499	62·7	55·8	6·9	..	..	..	WSW	1½ to 6	..	..	..	..	..	7	..
4	29·537	62·9	56·3	6·6	50·0	12·9	63·7	WSW	½ to 4	..	..	..	..	..	9½	..
6	29·565	59·4	53·8	5·6	..	..	47·3	WSW	1 to 3½	..	..	..	..	..	7	..
8	29·605	54·8	51·4	3·4	..	..		WSW	0 to ½	..	..	..	..	..	0	..
10	29·642	52·0	49·9	2·1	48·3	3·7	...	WSW	0 to ½	..	..	..	..	..	0	..
12	29·662	50·2	48·7	1·5	..	..	40·9	WSW	..	..	..	..	..	..	0	..
14	29·677	49·0	48·1	0·9	..	..		..	..	..	..	..	..	..	0	..
16	29·708	47·7	47·0	0·7	46·0	1·7	58·5	..	..	..	..	..	..	..	0	Transit
18	29·730	46·7	46·4	0·3	..	..	58·0	..	..	..	..	..	..	..	½	..
20	29·768	52·5	51·7	0·8	..	..	..	WSW	..	..	..	..	..	..	0	..
22	29·786	59·0	53·9	5·1	49·0	10·0	..	WSW	0 to ½	..	..	7·07	0·00	12·780	1	..
Aug. 21. 0	29·803	60·5	54·3	6·2	..	..	..	W	..	..	..	..	..	..	8	..
2	29·817	62·7	55·7	7·0	..	..	66·2	WSW	0 to ½	..	..	..	..	..	5	..
4	29·831	63·7	55·9	7·8	49·0	14·7	43·9	WSW	..	..	..	..	..	..	1½	..
6	29·851	62·2	55·1	7·1	..	..		WSW	..	..	..	..	..	..	2	..
8	29·898	55·7	52·8	2·9	..	..	...	N by W	..	..	..	..	..	..	5	..
10	29·944	54·5	52·0	2·5	50·0	4·5	40·0	N by W	..	..	..	..	..	..	10	..
12	29·963	49·3	48·2	1·1	..	..		W by S	..	..	..	..	..	..	0	..
14	29·990	46·5	45·8	0·7	..	..	58·8	SSW	..	..	..	..	..	..	0	..
16	30·014	45·5	45·0	0·5	..	..	58·2	Calm	..	..	..	..	..	..	1	Transit
18	30·038	44·4	44·3	0·1	..	..	..	Calm	..	..	..	..	..	..	½	..

BAROMETER.
Aug. 19^d. Between 6^h and 8^h the reading increased $0^{in}\cdot119$.

DEW POINT THERMOMETER.
Aug. 18^d. 16^h. The reading was higher than that of the Dry Thermometer.
Aug. 21^d. 16^h. The observation was omitted by inadvertence.

MINIMUM FREE THERMOMETER.
Aug. 18^d. 22^h. The reading was higher than that of the Dry Thermometer at 12^h and 14^h.
Aug. 20^d. 22^h. The reading was higher than that of the Dry Thermometer at 18^h.

REMARKS.	Observer.
Cumuli near the N. horizon, and fleecy clouds in various directions: a few cirro-cumuli are about the zenith.	L
Cirro-stratus and scud.	
Overcast: rain is falling heavily.	L
,, ,,	G
,, rain is falling slightly.	
Slight rain continued falling till about ten minutes since, when it began to fall heavily.	
Rain is falling slightly.	
,,	G
Overcast: rain is falling slightly.	H B
Overcast: rain is falling heavily; it has continued without intermission since 23^{h}. 10^{m}.	H B
,, rain is falling.	L
Rain continued falling till after 3^{h}, at which time it ceased, and for half an hour following the sky was nearly cloudless, and the Sun shone brightly: a large mass of white cloud and scud now nearly covers the whole sky, but the small clear portion, a little N.W. of the zenith, exhibits a deep blue sky.	G
The wind increased in strength to 2 almost immediately after 4^{h}, and the barometer reading began to increase; the strength of the wind has continued steady at 2 from that time to the present, with occasional gusts to 2½: the sky has continued covered with large quantities of cloud, all moving from the W.	
No change since the last observation.	
Within the last hour the clouds have become broken about the zenith; there still remains a large quantity of cloud moving quickly from the W.: there does not appear to be any upper cloud.	G
Light clouds are scattered over the sky in every direction, and there are also some fragments of scud in rapid motion from the S.W.: the wind is blowing steadily at the strength 2.	H B
Fleecy clouds of no definite modification, extending from the place of the Moon to the horizon: since the last observation the amount of cloud has been constantly changing, varying from 3 to 6.	
Light clouds are scattered over the sky S. of the zenith, and in large quantities near the place of Jupiter.	
Cloudless.	
,,	H B
Cumuli round the horizon: light clouds and detached cumuli here and there: wind blowing in gusts to 2 and occasionally to 2½.	L
Cirro-stratus and scud: wind blowing in gusts to 2.	
The N. portion of the sky is nearly covered with cloud: cumuli near the S. horizon, and loose masses of scud in all directions.	L
Overcast, with the exception of a few breaks, principally near the zenith.	H B
Cirro-stratus, with a few cumuli, and large quantities of scud moving rapidly from the W.	
Cloudless: hazy.	
A few light clouds are in the S. E., but to no numerical extent: the sky in other directions is splendidly clear.	H B
Cloudless.	L
,,	
,,	
There are a few light clouds a little S. of the zenith.	
There are a few light clouds on the S. horizon, but to no numerical extent.	L
Cumuli near the S. horizon, and in other directions.	H B
The sky is mostly covered with cirro-stratus and scud, the only part clear being near the S. and S. E. horizon.	
Cumuli and fleecy clouds principally S. of the zenith.	H B
Cumuli and light clouds to the S.	L
Cumulo-strati to the N., with cumuli and light clouds in various directions.	
Clouds principally S. of the zenith: a dark cumulo-stratus to the W. horizon: the clouds move from the N. E.	
Overcast.	L
At about 10^{h}. 20^{m} the clouds began to break; and by 10^{h}. 40^{m} the sky was cloudless, and has remained so since that time.	G
Cloudless.	
A small quantity of cloud appeared about twenty minutes since, and continues to the S.: the sky is misty in some parts.	
A few small clouds are scattered about the sky.	

OSLER'S ANEMOMETER.

Aug. 19^{d}. 5^{h}. A gust of wind to 7½ lbs. was recorded.

Aug. 20^{d}. 19^{h}. 30^{m}. The chain was found off the spikes of the clock-barrel, and the registering pencils were off the sheet.

Aug. 21^{d}. 19^{h}. The clock stopped, the weight having come in contact with a wheel.

WHEWELL'S ANEMOMETER.

Aug. 19^{d}. 5^{h}. The Anemometer being found broken was sent to the maker for repair.

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Aug. 21. 20	30·069	50·5	49·6	0·9	..	..	..	Calm	..	..	..	..	..	..	0	..
22	30·084	59·9	54·6	5·3	51·8	8·1	..	Calm	..	..	..	7·07	0·00	12·780	0	..
Aug. 22. 0	30·103	66·0	59·0	7·0	..	..	..	SW	..	..	..	..	..	..	1	..
2	30·091	67·7	59·4	8·3	..	..	..	SW	..	..	..	..	..	..	2	..
4	30·093	66·5	58·5	8·0	49·5	17·0	71·2	WSW	..	..	..	..	..	..	5	..
6	30·087	64·5	58·5	6·0	..	..	50·0	WSW	..	..	..	..	..	..	4	..
8	30·096	56·7	53·6	3·1	..	..	—	SSW	..	..	..	..	..	..	2	..
10	30·104	51·5	50·2	1·3	49·0	2·5	..	SSW	..	..	..	..	..	..	0	..
12	30·087	50·5	49·6	0·9	..	..	47·0	..	..	..	..	..	..	..	2	..
14	30·077	50·6	49·9	0·7	..	..	—	..	..	..	..	..	..	..	5	..
16	30·061	49·8	49·2	0·6	48·8	1·0	59·0	..	..	..	..	..	..	..	9	..
18	30·044	51·5	50·5	1·0	..	..	58·5	SSW	..	..	..	..	..	..	8	Transit
20	30·038	56·5	55·0	1·5	..	..	..	SSW	..	..	..	..	..	..	9	..
22	30·032	61·2	57·9	3·3	55·0	6·2	..	SSW	..	..	..	7·07	0·00	12·780	10	..
Aug. 23. 0	30·000	66·6	60·5	6·1	..	..	..	..	..	..	..	..	..	..	10	..
2	29·981	67·5	60·1	7·4	..	..	..	SW	½ to 1½	..	..	..	..	..	10	..
4	29·953	65·1	58·8	6·3	50·0	15·1	69·9	SW	½ constant	..	..	..	..	..	10	..
6	29·918	63·5	56·7	6·8	..	..	52·8	SW	½ to 1	..	..	..	..	..	7	..
8	29·906	56·6	52·0	4·6	..	..	—	SW	..	..	..	..	..	..	3	..
10	29·900	53·5	51·2	2·3	49·5	4·0	..	Calm	..	..	..	..	..	..	8	..
12	29·879	52·4	50·9	1·5	..	..	47·5	SW	..	..	..	..	..	..	2	..
14	..	..	..	..	..	..	—	Calm	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	59·2	Calm	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	58·8	Calm	..	..	..	..	..	..	..	Transit
20	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
22	29·873	61·9	58·9	3·0	..	..	..	W	..	..	..	7·12	0·00	12·885	6	..
Aug. 24. 0	29·882	64·2	59·9	4·3	..	..	..	WSW	..	..	..	..	..	..	5	..
2	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	71·2	Calm	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	49·9	Calm	..	..	..	..	..	..	..	..
8	29·888	62·2	59·1	3·1	..	..	—	SSW	..	..	..	..	..	..	5	3rd Qr.
10	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	44·8	Calm	..	..	..	..	..	..	..	..
14	29·913	51·7	51·4	0·3	..	..	—	Calm	..	..	..	..	..	..	0	..
16	29·869	49·6	49·6	0·0	49·0	0·6	59·5	Calm	..	..	..	..	..	..	0	..
18	29·899	49·5	49·6	-0·1	..	..	59·2	Calm	..	..	..	..	..	..	1	Transit
20	29·901	56·2	55·0	1·2	..	..	..	Calm	..	..	..	..	..	..	5	..
22	29·892	62·6	58·6	4·0	57·0	5·6	..	SW	..	..	..	7·12	0·00	12·890	6	..
Aug. 25. 0	29·856	66·9	61·3	5·6	..	..	72·2	SW	½ to 2	..	..	..	..	..	8	..
2	29·816	68·7	61·4	7·3	..	..	52·8	SW	½ to 1½	..	..	..	..	..	3	..
4	29·805	65·8	60·5	5·3	57·0	8·8	—	SW	½ to 1¾	..	..	..	..	..	10	..
6	29·776	63·8	59·7	4·1	..	..	..	SW	½ constant	..	..	..	..	..	8	..
8	29·757	60·5	57·8	2·7	..	..	47·5	Calm	..	..	..	..	..	..	9	..
10	29·735	57·3	55·9	1·4	54·0	3·3	—	Calm	..	..	..	..	..	..	4	..
							60·0									
12	29·727	58·2	56·4	1·8	..	..	59·5	SW	..	..	..	..	..	..	10	..

DRY THERMOMETER.

Aug. 24d. 18h. The reading was lower than that of the Wet Thermometer.

MINIMUM FREE THERMOMETER.

Aug. 23d. 22h. The reading was higher than that of the Dry Thermometer at 12h.

Aug. 24d. 22h. The reading was higher than that of the Dry Thermometer at 16h and 18h.

OSLER'S ANEMOMETER.

Aug. 22d. 11h. The clock stopped; it was set going at 16h. 55m.

Aug. 23d. 0h. 10m. It was found at this time that the traversing board was not clamped to the cord by which it is carried.

REMARKS.	Observer.
Cloudless.	G
,,	H B
Cumuli round the horizon.	L
Cumuli round the horizon, and detached masses in various directions.	
Fine white rocky cumuli nearly equally distributed all over the sky; a fine deep blue sky elsewhere.	L
The appearance of the sky is much the same as at the last observation, except that the portions of clear sky are larger, and there [are also a few cirri.	G
Some cloud continues near and all round the horizon; otherwise the sky is cloudless.	
Cloudless.	G
Light clouds near the horizon in the N. W., N., and S. E. to a considerable altitude.	H B
Light clouds in various directions. A halo of 46° diameter has been visible round the Moon since $12^h.40^m$.	
Cirro-stratus, scud, and vapour: a few of the larger stars are visible.	
Cirro-stratus and scud.	
,, A solar halo of 44° diameter was visible from $19^h.45^m$ to $20^h.10^m$.	H B
A thin cirro-stratus covers the sky. At $21^h.35^m$ a solar halo was visible, the diameter of which was 46°; at $22^h.5^m$ it was still visible, but not so distinctly as before; at $22^h.8^m$ it became very indistinct.	L
Thin cirro-stratus and linear cirri cover the sky. A faint solar halo is visible, the radius of which is 23°.	
,, the halo is not visible at present.	L
Cirro-stratus and scud.	H B
Cirro-stratus and scud, with cirro-cumuli near the zenith.	
Cirro-stratus and fragments of scud, principally near the N. and S. horizon.	
Cirro-stratus and scud: the larger stars are visible through the clouds.	H B
Cirro-stratus and fleecy clouds to the N.	L
More than half of the sky is covered with quickly moving scud, of nearly the same density as cloud.	G
The appearance of the sky is much the same as before, except that the scud is flowing into cumuli.	
The sky has been very variable with respect to the amount of cloud; at times less than three-tenths were cloudy; at present about one-half is cloudy and misty. A solar halo was visible between 5^h and 6^h, whose radius was 23°.	G
Cloudless.	L
,,	
A few light clouds are to the N.	
Fine reticulated cirri E. of the zenith, extending from the N. to the S. horizon; a few cumuli to the N., the part of the sky W. of the zenith being clear.	L
Massive cumuli near the N. horizon, cirro-cumuli near the zenith, and light fleecy clouds S. of the zenith.	H B
Cumuli and scud.	
Cumuli near the S. and N. horizon: the sky is of a deep blue colour.	H B
Cirro-stratus and scud.	L
Cirro-stratus and scud, with breaks in various directions: some very fine specimens of cirro-cumuli about the zenith.	
Cirro-stratus and fleecy clouds, with a break to the S.	
Cloudy all around the horizon; the quantity N. of the zenith is constantly varying: at present it is cloudy as high as Polaris. At $10^h.10^m$ the sky N. of the zenith is now wholly covered with cloud.	L
Occasionally a few stars are visible about the zenith, also the constellation Aquila and the planet Mars are frequently seen, so that the clouds must be very thin; they appear to consist of quickly moving scud: the night is very close and warm.	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Aug. 25. 14	29·720	56·0	55·7	0·3	..	..	..	WSW	..	..	..	..	..	..	5	..
16	29·724	52·0	51·9	0·1	52·0	0·0	..	SW	..	..	..	..	..	..	0	..
18	29·738	51·3	50·9	0·4	..	..	..	SW	..	..	..	..	..	..	0	..
20	29·753	55·8	54·4	1·4	..	..	..	SW	..	..	..	..	..	..	2	Transit Greatest dec. N.
22	29·760	61·9	58·2	3·7	54·0	7·0	..	WSW	½ to 1½	..	..	7·14	0·00	12·905	10	..
Aug. 26. 0	29·769	64·6	58·9	5·7	..	..	..	WSW	½ to 2½	..	..	..	..	..	5	..
2	29·775	67·7	61·4	6·3	..	..	..	W by S	½ to 1½	..	..	..	..	..	4	..
4	29·794	68·3	60·2	8·1	52·5	15·8	..	WSW	0 to 1½	..	..	..	..	..	4	..
6	29·817	65·0	58·5	6·5	..	..	70·4	W	..	..	..	..	..	..	8	..
8	29·849	61·0	56·2	4·8	..	..	48·5	W by N	..	..	..	..	..	..	0	..
							——									
							..									
10	29·867	55·8	54·2	1·6	52·5	3·3	43·2	WSW	..	..	..	..	..	..	0	..
12	29·912	53·0	51·9	1·1	..	..	——	WSW	..	..	..	..	..	..	0	..
14	29·922	49·8	49·6	0·2	..	..	60·8	SW	..	..	..	..	..	..	0	..
16	29·922	49·5	49·2	0·3	49·5	0·0	60·0	WSW	..	..	..	..	..	..	0	..
18	29·939	48·5	48·5	0·0	..	..	..	WSW	..	..	..	..	..	..	½	..
20	29·968	53·2	52·2	1·0	..	..	..	W by S	..	..	..	..	..	..	8	Transit
22	29·975	58·0	54·3	3·7	50·0	8·0	..	W	..	..	..	7·14	0·00	12·910	10	..
Aug. 27. 0	29·988	61·6	56·6	5·0	..	..	..	NW	½ constant	..	..	..	..	..	9½	..
2	29·998	62·7	57·7	5·0	..	..	..	N by W	½ to 1	..	..	..	..	..	10	..
4	30·008	61·3	56·6	4·7	54·0	7·3	63·7	N	1 constant	..	..	..	..	..	10	..
6	30·002	60·8	56·5	4·3	..	..	52·2	N by W	½ constant	..	..	..	..	..	10	..
8	30·037	57·6	54·9	2·7	..	..	——	N by W	..	..	..	..	..	..	3	..
10	30·066	53·8	52·0	1·8	51·0	2·8	70·1	N by W	..	..	..	..	..	..	0	..
12	30·070	52·0	51·4	0·6	..	..	43·7	N by W	½ to 2	..	..	..	..	..	10	Apogee
14	30·067	52·0	50·2	1·8	..	..	——	N by W	½ to 1½	..	..	..	..	..	10	..
16	30·069	52·2	50·7	1·5	50·0	2·2	60·8	N	..	..	..	..	..	..	10	..
18	30·077	52·7	51·4	1·3	..	..	60·0	N	½ constant	..	..	..	..	..	10	..
20	30·113	54·0	52·7	1·3	..	..	..	N	½ to 1	..	..	..	..	..	10	Transit
22	30·111	59·9	57·0	2·9	55·0	4·9	..	N by E	½ to 2	..	..	7·14	0·00	12·910	10	
Aug. 28. 0	30·112	65·8	61·6	4·2	..	..	..	N	0 to ½	..	..	..	..	..	9	..
2	30·109	66·8	61·2	5·6	..	..	..	N by E	0 to 1	..	..	..	..	..	9½	..
4	30·126	65·7	60·9	4·8	56·0	9·7	..	N by E	0 to ¾	..	..	..	..	..	8	..
6	30·135	63·2	58·9	4·3	..	..	69·1	NE	0 to ¼	NNE	1·76	..	..	..	2	..
8	30·161	57·3	55·0	2·3	..	..	48·8	NNE	..	..	..	..	..	..	1	..
10	30·188	52·7	52·0	0·7	51·0	1·7	——	N by E	..	..	..	..	..	..	0	..
12	30·198	50·5	50·0	0·5	..	..	88·8	N by E	..	..	..	..	..	..	0	..
							43·0									
							——									
14	30·190	48·8	48·7	0·1	..	..	60·8	N by E	..	ENE	0·94	..	..	..	0	..
16	30·176	49·3	49·1	0·2	48·0	1·3	59·8	N by E	..	..	..	..	..	..	7	..
18	30·186	48·2	48·0	0·2	..	..	..	N by E	..	..	..	..	..	..	10	..
20	30·191	52·0	51·4	0·6	..	..	..	N by E	..	..	..	..	..	..	10	Transit
22	30·197	58·6	55·8	2·8	53·0	5·6	..	N by E	..	N	1·17	7·14	0·00	12·910	0	

MINIMUM FREE THERMOMETER.

Aug. 25d. 22h. The reading was higher than that of the Dry Thermometer at 16h and 18h.

Aug. 27d. 22h. The reading was higher than that of the Dry Thermometer at 12h and 14h.

OSLER'S ANEMOMETER.

Aug. 26d. 18h. The clock chain was found off the spikes of the barrel; at 22h the spikes were again found off the barrel and the pencils were off the sheet.

REMARKS.	Observer.
The sky has been principally cloudy since the last observation, with a very slight rain falling; at present it is about one-half clear: the clouds are scattered in all parts of the sky.	G
Cloudless.	
,,	
Some white, loose, fleecy clouds have come up from the S. W., and are at present in that quarter, at some height above the horizon.	G
Dark cumuli and scud are scattered over the whole horizon: the wind is blowing in frequent gusts to $\frac{3}{4}$.	T D
A bank of white cumuli extending from the S. to the N. E. horizon; detached portions are also scattered over the other parts of the sky.	T D
Cumuli, cumulo-strati, and haze to the N.: detached cumuli in various directions: the wind is blowing in frequent gusts to $\frac{3}{4}$ and 1.	L
Cumuli and cirro-stratus near the horizon all around: a fine deep blue sky.	G
The amount of cloud has been slowly but gradually increasing since 4^h, the character however remaining the same.	
The clouds since 6^h have gradually diminished till near Sun-set, at which time the clouds near the Sun were cumulo-strati with thin edges beautifully coloured with gold, and of a general shining appearance at a distance far from him; at present there are a few detached clouds about the sky, but to no numerical extent.	
Cloudless.	G
,,	H B
,, deposition of moisture.	
,, several meteors have been seen during the night.	
Stratus near the N. horizon: a slight fog in the Park.	
Cirro-stratus and vapour near the horizon; cirri and light clouds in other directions. At $20^h. 20^m$ a very faint halo was seen, whose radius was from 22° to 23°; no measures with the instrument could be taken.	H B
Cirro-stratus and scud: haze to the N.: the wind is blowing in gusts to $\frac{1}{2}$.	L
Cumulo-strati and cirro-strati, with light thin clouds about the zenith.	
Cumulo-strati and cirro-strati, with occasional breaks in the zenith.	L
Cirro-strati, cumuli, and scud, with breaks in the clouds to the N.	H B
Cirro-stratus, cumulo-stratus, and scud.	
Cumuli and scud are scattered over the sky.	
Cloudless.	H B
Overcast, the sky became so ten minutes since.	L
,, a few stars are occasionally visible about the zenith: the wind is blowing in gusts to $\frac{3}{4}$.	
,, the wind is blowing in gusts to $\frac{3}{4}$ and 1 occasionally.	
,, the wind is blowing in gusts to 1.	
,, the wind is blowing in gusts to $\frac{3}{4}$.	L
,, cirro-stratus and heavy scud, the latter passing rapidly from the N. N. E.	H B
Cirro-stratus and scud.	
,, a few breaks in the clouds to the E.	H B
Detached cumuli, cirro-strati, and scud: a few breaks in the clouds to the N.: the wind is blowing in gusts to $\frac{1}{2}$.	L
Cumuli round the horizon, and a few light clouds in various directions.	
A bank of cirro-stratus, extending from the N. to the W. horizon.	
Cloudless.	L
Cloudless till about ten minutes since, when the sky became overcast, but at present it is cloudless again.	G
Cloudless.	
Since 14^h the sky has been alternately wholly covered with a thin cloud, and then cloudless; this has occurred several times; the cloud appears to be without motion, and it would seem that it forms or is dissipated as a cold or warm current of air passes; at present it is covered, excepting a space near the E. horizon.	
The sky has been generally cloudy since 16^h.	
Overcast; but the cloud seems thin.	G
A few light clouds are near the W. horizon.	H B

WHEWELL'S ANEMOMETER.
Aug. $27^d. 23^h$. The instrument was returned from the maker.

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Aug. 29. 0	30·172	63·7	58·7	5·0	..	..	..	N by E	0 to ¼	..	..	..	..	..	0	..
2	30·152	67·7	61·4	6·3	..	..	..	N by E	½ to 1½	..	..	..	..	..	½	..
4	30·143	68·4	60·9	7·5	..	..	71·7	NNE	½ to 1½	..	..	..	..	..	0	..
6	30·143	66·2	59·4	6·8	..	..	44·0	NNE	½ to ¾	..	..	..	..	..	0	..
8	30·152	58·2	54·7	3·5	..	..	—	N by E	..	..	..	..	..	..	0	..
10	30·156	53·4	51·3	2·1	50·0	3·4	97·5	..	..	..	..	..	..	..	0	..
12	30·154	50·0	49·0	1·0	..	..	34·0	..	..	..	..	..	..	..	0	..
14	30·146	47·6	47·0	0·6	..	..	—	..	..	..	..	..	..	..	0	..
16	30·159	45·5	45·2	0·3	45·0	0·5	60·8	..	..	..	..	..	..	..	0	..
18	30·181	45·5	44·9	0·6	..	..	60·2	..	..	..	..	..	..	..	10	..
20	30·189	49·5	48·7	0·8	..	..	..	..	..	..	..	..	..	..	8	..
22	30·204	59·0	55·4	3·6	50·0	9·0	..	..	..	NNE	3·35	7·14	0·00	12·910	0	Transit
Aug. 30. 0	30·193	64·7	59·9	4·8	..	..	..	N by E	..	..	..	..	..	..	1	..
2	30·170	69·4	61·7	7·7	..	..	..	N by E	0 to ½	..	..	..	..	..	0	..
4	30·162	69·4	62·5	6·9	58·0	11·4	73·9	N by E	0 to ½	..	..	..	..	..	0	..
6	30·158	66·5	61·7	4·8	..	..	51·0	N by E	..	..	..	..	..	..	0	..
8	30·172	59·5	56·8	2·7	..	..	—	N by E	..	..	..	..	..	..	2	..
10	30·184	53·8	53·2	0·6	53·0	0·8	98·0	NNE	..	..	..	..	..	..	½	..
12	30·208	52·8	52·7	0·1	..	..	42·0	NE	..	..	..	..	..	..	0	..
14	..	..	..	..	..	..	—	N by E	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	60·8	N by E	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	60·5	N by E	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	N by E	..	..	..	..	..	..	..	..
22	30·193	59·8	57·8	2·0	..	..	..	N by E	..	N	2·68	7·14	0·00	12·910	3	..
Aug. 31. 0	..	..	..	..	..	..	..	N by E	..	..	..	..	..	..	..	Transit
2	..	..	..	..	..	..	..	NNE	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	77·8	Calm	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	54·2	Calm	..	..	..	..	..	..	..	..
8	30·162	64·0	62·2	1·8	..	..	—	NNE	..	..	..	..	..	..	3	..
10	..	..	..	..	..	..	104·1	N by E	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	51·7	NNE	..	..	..	..	..	..	..	..
14	30·176	55·0	53·7	1·3	..	..	—	NE	..	..	..	..	..	..	10	..
16	30·154	54·5	54·2	0·3	54·0	0·5	61·0	NE	..	..	..	..	..	..	10	..
18	30·156	54·0	53·4	0·6	..	..	61·0	NE	..	..	..	..	..	..	10	..
20	30·160	55·0	54·2	0·8	..	..	..	NNE	..	..	..	..	..	..	10	..
22	30·164	56·2	55·0	1·2	54·5	1·7	..	NE	..	NNE	2·18	7·14	0·00	12·910	10	..
Sep. 1. 0	30·156	58·1	56·4	1·7	..	..	..	NNE	..	..	..	..	..	..	10	Transit
2	30·121	65·9	61·3	4·6	..	..	..	NE	..	..	..	..	..	..	3	..
4	30·099	67·0	61·1	5·9	55·0	12·0	70·0	NE	..	E	1·57	..	..	..	1	..
6	30·077	62·6	59·2	3·4	..	..	49·4	Calm	..	..	..	..	..	..	1	..
8	30·097	55·0	53·8	1·2	..	..	—	Calm	..	..	..	..	..	..	10	..
10	30·105	54·6	53·7	0·9	52·0	2·6	95·8 40·5	Calm	..	..	..	..	..	..	10	New
12	30·094	51·8	51·1	0·7	..	..	—	ENE	..	..	..	..	..	..	10	..
14	30·089	50·8	49·2	1·6	..	..	61·8	ENE	..	..	..	..	..	..	9¾	..
16	30·072	50·5	49·1	1·4	48·0	2·5	60·8	NNE	..	..	..	..	..	..	10	..
18	30·066	49·2	48·2	1·0	..	..	..	NNE	..	..	..	..	..	..	5	..
20	30·067	53·9	52·5	1·4	..	..	..	NNE	..	..	..	..	..	..	9½	..
22	30·072	58·8	55·7	3·1	52·0	6·8	..	ENE	..	NE	0·73	7·14	0·00	12·910	10	..

DEW POINT THERMOMETER.

Aug. 29d. 4h. No observation was taken.

MINIMUM FREE THERMOMETER.

Aug. 31d. 22h and Sep. 1d. 22h. The readings were higher than those of the Dry Thermometer at 18h.

OSLER'S ANEMOMETER.

Aug. 29d. 8h. 45m. The clock stopped.

REMARKS.	Observer.
Cloudless.	L
A few light clouds are near the W. horizon.	L
Cloudless.	G
Cloudless, with the exception of a few clouds of no numerical extent.	G
Cloudless.	L
,,	H B
,,	
,,	H B
,,	L
Overcast.	T D
The sky is covered with thin clouds, excepting a break in the E. horizon.	T D
Cloudless.	G
A few thin clouds are scattered about the sky, but principally to the S.	G
Cloudless.	L
,,	L
,,	T D
Cirri in the N.W. horizon; the remainder of the sky is clear.	T D
Cirro-stratus of a very thin character the N. horizon; the stars in that direction appear dim.	H B
Cloudless.	G
Cirro-stratus to the S., and light clouds in various parts of the sky.	L
The morning was principally cloudless, but during the afternoon a small quantity of cloud was prevalent.	G
Overcast.	L
,,	
,,	
,,	L
,, a very thin rain is falling.	H B
Overcast.	
Overcast till 1^h, after that time the clouds became broken; at present the prevailing clouds are large masses of scud in the E. and N. W., and a few cumuli near the N. horizon.	H B
A few detached cumuli and light clouds in various parts of the sky.	L
A few cumuli near the W. horizon.	
Cirro-stratus and scud.	
The sky has been occasionally clear since the last observation; it is now quite overcast. The reflexion of the London lights is about 10° above the horizon. At $10^h. 5^m$ the sky became again cloudless.	L
Overcast: the greater part of the sky was clear at about $11^h. 35^m$, but before $11^h. 45^m$ scarcely a star was visible.	H B
Nearly overcast with cirro-stratus and scud, and a few stars are visible round the zenith.	
Overcast: no change.	
Cirro-stratus, scud, and light clouds.	
Cirro-stratus and scud: the sky was perfectly clear at 19^h.	H B
Overcast.	L

RAIN.

Aug. $31^d. 12^h$. The amount collected during the month of August in the rain-gauge No. 4, was $3^{in}\cdot10$, 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 $2^{in}\cdot88$.

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Sep. 2. 0	30·067	60·2	57·4	2·8	..	..	..	ENE	..	..	..	..	..	..	10	Transit
2	30·062	59·6	56·7	2·9	..	..	..	ENE	..	..	..	..	..	..	10	..
4	30·034	62·4	58·7	3·7	54·0	8·4	67·2	Calm	..	..	..	..	..	..	10	..
6	30·023	60·5	57·5	3·0	..	..	49·7	Calm	..	ENE	0·47	..	..	..	10	In Equator
8	30·042	58·3	54·8	3·5	..	..	——	Calm	..	..	..	..	..	..	10	..
10	30·052	56·4	54·2	2·2	53·0	3·4	88·0	NE	..	..	..	..	..	..	10	..
12	30·067	55·4	53·7	1·7	..	..	42·5	Calm	..	..	..	..	..	..	10	..
14	30·072	52·2	51·4	0·8	..	..	——	Calm	..	..	..	..	..	..	10	..
16	30·068	49·3	48·9	0·4	49·0	0·3	60·2	Calm	..	..	..	..	..	..	10	..
18	30·065	50·8	49·3	1·5	..	..	60·2	Calm	..	..	..	..	..	..	10	..
20	30·076	53·0	50·7	2·3	..	..	..	NE	..	..	..	..	..	..	10	..
22	30·091	57·2	53·2	4·0	50·0	7·2	..	NE	..	NE	1·90	7·14	0·00	12·920	10	..
Sep. 3. 0	30·082	59·8	55·9	3·9	..	..	..	NE	..	..	..	..	..	..	10	..
2	30·078	58·5	54·5	4·0	..	..	..	ENE	..	..	..	..	..	..	10	Transit
4	30·067	59·3	55·3	4·0	52·0	7·3	62·7	NNE	..	..	..	..	..	..	10	..
6	30·060	57·2	53·9	3·3	..	..	43·4	Calm	..	..	..	..	..	..	10	..
8	30·078	54·4	51·9	2·5	..	..	——	Calm	..	..	..	..	..	..	10	..
10	30·092	53·0	50·4	2·6	48·0	5·0	79·5	Calm	..	..	..	..	..	..	10	..
12	30·096	52·1	49·6	2·5	..	..	36·5	Calm	..	..	..	..	..	..	10	..
14	30·098	50·7	48·6	2·1	..	..	——	Calm	..	..	..	..	..	..	10	..
16	30·082	46·5	45·6	0·9	44·5	2·0	60·0	Calm	..	..	..	..	..	..	4	..
18	30·075	43·4	43·1	0·3	..	..	59·8	Calm	..	..	..	..	..	..	5	..
20	30·087	49·6	48·2	1·4	..	..	..	Calm	..	..	..	..	..	..	10	..
22	30·104	54·6	50·7	3·9	45·0	9·6	..	NNE	..	NE	1·57	7·14	0·00	12·920	9	..
Sep. 4. 0	30·099	57·8	52·2	5·6	..	..	..	NE	..	..	..	..	..	..	9	..
2	30·085	59·0	54·2	4·8	..	..	..	NNE	..	..	..	..	..	..	10	Transit
4	30·071	57·5	53·6	3·9	49·0	8·5	62·6	Calm	..	..	..	..	..	..	10	..
6	30·060	56·0	52·8	3·2	..	..	44·8	Calm	..	..	..	..	..	..	10	..
8	30·062	54·0	51·7	2·3	..	..	——	Calm	..	..	..	..	..	..	10	..
10	30·064	51·0	49·4	1·6	47·5	3·5	75·5	Calm	..	..	..	..	..	..	0	..
12	30·066	49·0	48·0	1·0	..	..	37·6	Calm	..	..	..	..	..	..	10	..
14	30·048	49·7	47·9	1·8	..	..	——	Calm	..	..	..	..	..	..	10	..
16	30·024	45·8	44·9	0·9	43·0	2·8	59·2	Calm	..	..	..	..	..	..	8	..
18	30 015	46·2	45·0	1·2	..	..	59·0	NE	..	..	..	..	..	..	10	..
20	30·015	51·4	48·9	2·5	..	..	..	N by E	..	..	..	..	..	..	10	..
22	30·022	56·7	51·8	4·9	45·8	10·9	..	NNE	..	NNE	2·43	7·14	0·00	12·920	10	..
Sep. 5. 0	30·015	58·7	53·7	5·0	..	..	..	NE	..	..	..	..	..	..	10	..
2	30·005	60·0	53·9	6·1	..	..	..	NE	0 to 1½	..	..	..	..	..	9	..
4	29·997	57·0	51·9	5·1	45·0	12·0	63·4	NNE	0 to 1	..	..	..	..	..	10	Transit
6	30·003	55·3	50·9	4·4	..	..	52·0	NNE	0 to ¼	..	..	..	..	..	9½	..
8	30·017	52·7	49·2	3·5	..	..	——	NNE	..	NE	1·80	..	..	..	10	..
10	30·026	52·0	49·0	3·0	46·0	6·0	84·0	..	..	..	..	..	..	..	10	..
12	30·033	51·5	49·6	1·9	..	..	49·5	..	..	..	..	..	..	..	10	..
14	30·026	51·7	50·0	1·7	..	..	——	..	..	..	..	..	..	..	10	..
16	30·024	51·4	50·8	0·6	50·0	1·4	58·5	..	..	..	..	..	..	..	10	..
18	30·037	50·9	50·7	0·2	..	..	58·5	..	..	..	..	..	..	..	10	..
20	30·044	52·9	52·2	0·7	..	..	..	NE	..	..	..	..	..	..	10	..
22	30·062	57·2	53·0	4·2	50·0	7·2	..	ENE	½ to 1½	ENE	1·07	7·14	0·03	12·975	4	..
Sep. 6. 0	30·060	60·0	54·0	6·0	..	..	..	E by N	½ to 1½	..	..	..	..	..	1½	..

MINIMUM FREE THERMOMETER.

Sep. 2d. 22h. The reading was higher than that of the Dry Thermometer at 16h.

Sep. 5d. 22h. The reading was higher than that of the Dry Thermometer at 12h, 14h, 16h, and 18h.

OSLER'S ANEMOMETER.

Sep. 5d. 19h. The chain was found off the spikes of the clock-barrel and the pencils were off the sheet.

REMARKS.	Observer.
Overcast.	L
,,	L
Cirro-stratus, cumulo-stratus, and scud, with a few small breaks in the clouds.	H B
Overcast.	
,, cirro-stratus, cumulo-stratus, and scud.	
,, The reflexion of the London lights is unusually strong at present.	H B
,, cirro-stratus.	G
,, cirro-stratus, except a break in the clouds in the E.	
The sky has been occasionally cloudless since 12^h; it is now wholly covered with dark cloud.	
Overcast.	
,, cirro-stratus.	G
,, ,,	L
Overcast.	
,,	L
,,	G
,,	
,,	G
,,	D
,,	
,, one uniform cloud.	
The clouds have become gradually thinner since 15^h; at present there is much vapour.	
Cirro-stratus and haze.	
Overcast: cirro-stratus.	D
Cirro-stratus, cumulo-stratus, and scud, with a break towards the E. horizon.	L
Cirro-stratus and scud, with a break about the zenith.	
Overcast: cirro-stratus and scud.	L
,, cirro-stratus.	D
,, ,,	
,, ,,	
Cloudless, but the stars look very small.	D
The sky became covered with cloud at about $10^h. 30^m$, and has remained so ever since: at $12^h. 10^m$ most of the sky N. of the zenith [became clear.	L
Overcast.	
The amount of cloud is continually varying; at present the sky in and about the zenith is almost the only part clear.	
Overcast.	
,,	L
,, cirro-stratus, fleecy clouds, and scud.	H B
Overcast: cirro-stratus, fleecy clouds, and scud.	
Cumuli, cirro-stratus, and white scud.	H B
Cumuli, cirro-stratus, and white scud: the wind is blowing in gusts to ½.	L
Cirro-stratus and white scud, with a break a little S. of the zenith.	
Overcast: the wind is blowing in gusts to ½.	
,, ,, very dark. The reflexion of the London lights is about 15° above the horizon.	L
,,	H B
,, slight rain.	
,, rain continues falling.	
,, ,,	
,, the rain has ceased.	H B
Cumuli, fleecy clouds, and scud.	L
A few cumuli and light clouds to the S.	

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Sep. 6. 2	30·047	61·0	54·0	7·0	..	..	..	ENE	1 to 1½	..	..	..	..	..	0	..
4	30·021	58·9	52·5	6·4	40·5	18·4	64·2	ENE	¼ to ¾	..	..	..	..	..	0	Transit
6	30·033	55·8	51·2	4·6	..	..	44·2	ENE	½ constant	..	..	..	..	..	1	..
8	30·031	50·6	48·2	2·4	..	..		Calm	..	ENE	1·16	..	..	..	½	..
10	30·039	48·5	46·8	1·7	45·0	3·5	89·4	Calm	..	..	..	..	..	..	0	..
12	30·034	46·9	46·0	0·9	..	..	37·7	Calm	..	..	..	..	..	..	0	..
14	..	..	..	..	..	..		Calm	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..		Calm	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	58·8	Calm	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	58·2	Calm	..	..	..	..	..	..	..	..
22	30·027	60·9	57·0	3·9	..	..	..	ENE	..	NE	1·76	7·14	0·00	12·975	½	..
Sep. 7. 0	30·028	62·5	57·2	5·3	..	..	..	ENE	½ to 2	..	..	..	..	..	0	..
2	30·021	65·4	56·3	9·1	..	..	..	E by N	½ to 1½	..	..	..	..	..	0	..
4	..	..	..	..	..	..		E by N	½ constant	..	..	..	..	..	..	..
6	..	..	..	..	..	..	68·5	ENE	½ constant	ENE	1·99	..	..	..	..	Transit
8	..	..	..	..	..	..	42·7	Calm	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..		Calm	..	..	..	..	..	..	..	..
12	29·993	47·0	46·7	0·3	..	..	90·0	Calm	..	..	..	..	..	..	0	..
14	29·994	44·2	44·3	−0·1	..	..	34·0	Calm	..	..	..	..	..	..	0	..
16	29·997	42·4	42·2	0·2	42·0	0·4		Calm	..	..	..	..	..	..	0	..
18	29·998	45·8	46·0	−0·2	..	..	58·8	Calm	..	..	..	..	..	..	10	..
20	30·003	50·2	50·3	−0·1	..	..	58·2	N by E	..	..	..	..	..	..	10	..
22	30·023	54·8	54·4	0·4	53·0	1·8	..	N by E	..	N	0·27	7·14	0·00	12·980	10	..
Sep. 8. 0	30·019	61·8	58·5	3·3	..	..	..	Calm	..	..	..	..	..	..	0	..
2	29·996	67·0	60·9	6·1	..	..	..	Calm	..	..	..	..	..	..	0	..
4	29·987	68·1	60·0	8·1	52·0	16·1	..	Calm	..	..	..	..	..	..	1	..
6	29·982	62·6	58·3	4·3	..	..	71·6	Calm	..	..	..	..	..	..	4	Transit
8	29·986	57·0	53·6	3·4	..	..	42·3	N by E	..	..	..	..	..	..	0	..
							99·2									
10	30·002	51·6	50·9	0·7	50·0	1·6	36·0	Calm	..	..	..	..	..	..	0	..
12	30·005	47·0	47·0	0·0	..	..		Calm	..	..	..	..	..	..	0	..
14	30·003	45·5	45·4	0·1	..	..	59·0	Calm	..	..	..	..	..	..	0	..
16	29·991	43·0	42·9	0·1	43·0	0·0	58·2	NNW	..	..	..	..	..	..	0	..
18	29·983	42·8	42·7	0·1	..	..	..	WNW	..	..	..	..	..	..	0	1st Qr.
20	29·983	45·4	45·2	0·2	..	..	..	Calm	..	..	..	..	..	..	0	..
22	29·979	58·9	55·4	3·5	52·5	6·4	..	Calm	..	..	0·00	7·14	0·00	12·985	0	..
Sep. 9. 0	29·965	67·6	60·2	7·4	..	..	..	SW	..	..	..	..	..	..	0	Greatest declination S.
2	29·930	70·4	61·9	8·5	..	..	..	Calm	..	..	..	..	..	..	0	..
4	29·908	70·8	62·2	8·6	53·0	17·8	73·5	Calm	..	..	..	..	..	..	0	..
6	29·888	67·2	59·9	7·3	..	..	46·2	Calm	..	..	..	..	..	..	0	Transit
8	29·891	59·3	56·2	3·1	..	..		S by W	..	..	..	..	..	..	0	..
10	29·892	54·2	52·4	1·8	51·0	3·2	99·2	SSW	..	..	..	..	..	..	0	..
12	29·887	52·0	50·3	1·7	..	..	39·6	Calm	..	..	..	..	..	..	0	..
14	29·898	50·0	48·6	1·4	..	..		SW	..	..	..	..	..	..	0	..
16	29·883	47·5	46·9	0·6	46·5	1·0	59·0	Calm	..	..	..	..	..	..	0	..
18	29·894	46·3	45·8	0·5	..	..	58·8	Calm	..	..	..	..	..	..	0	..
20	29·916	48·4	47·6	0·8	..	..	..	Calm	..	..	..	..	..	..	1	..
22	29·950	58·8	57·0	1·8	55·0	3·8	..	N by E	..	SW	2·31	7·14	0·00	12·985	10	..

DRY THERMOMETER.

Sep. 7d. 14h, 18h, and 20h. The readings were lower than those of the Wet Thermometer.

Sep. 8d. Between 20h and 22h the increase in the readings was 13°·5: this was the greatest difference in the readings within two hours during the year.

Sep. 9d. 22h. The reading increased 10°·4 since the previous observation.

MINIMUM FREE THERMOMETER.

Sep. 7d. 22h. The reading was higher than that of the Dry Thermometer at 16h.

REMARKS.	Observer.
Cloudless.	L
,,	H B
Cumuli near the N., N.W., and S. horizon.	
Cloudless, excepting a few fragments of scud near the S.W. horizon, and cirro-stratus in other directions.	
Cloudless.	H B
,,	D
Cloudless, except a few light cumuli scattered over the sky.	
Cloudless.	
,,	
Cloudless.	
,,	
,, a great deposition of moisture.	
Overcast: stratus or fog; the sky became covered at $17^h. 30^m$.	
Since 18^h the fog has considerably increased in density: at $19^h. 30^m$ the Astronomical Observatory was invisible from the Magnetic Observatory; every thing is dripping with moisture.	D
Overcast: a thin fog.	L
The clouds have gradually dispersed since 22^h; at present it is quite cloudless.	
A few cirri a little N. of the zenith, but to no numerical extent.	L
Linear cirri in the N. W.	D
Linear cirri and haze: the Sun, which is shining through a dense haze, has the appearance of a bright vermilion coloured ball.	
A few small clouds, but to no numerical extent, are scattered in the N. W., but the horizon is hazy all round: about sunset there were several long lines of cirri in various directions, which were coloured with a most beautiful red tint by the setting Sun.	
Cloudless.	D
,,	L
Cloudless, with a slight haze.	
,, hazy.	
,, a thin fog.	
,, a slight haze.	L
,, a slight fog.	H B
Cloudless.	
,, hazy.	H B
Cloudless, with a slight haze to the N.	L
,,	
,,	
Cloudless.	L
,,	H B
,, hazy.	
,,	
,,	
Cirro-stratus and vapour.	H B
Stratus and haze.	L

OSLER'S ANEMOMETER.

Sep. $9^d. 19^h$. The chain was found off the spikes of the clock-barrel, and was put right at the same time: and on 10^d, at $3^h. 35^m$, the chain was again found off the spikes, and was immediately set right.

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.	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.	RAIN. Stand of Rain-gauge No. 1. (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3. (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Sep. 10. 0	29·952	65·3	62·0	3·3	..	..	..	NNE	..	..	..	..	..	..	10	..
2	29·957	69·2	65·2	4·0	..	..	..	NE	..	..	..	..	..	..	10	..
4	29·948	64·3	61·9	2·4	60·3	4·0	71·0	ENE	..	..	..	..	..	..	10	..
6	29·950	61·2	58·5	2·7	..	..	52·4	NE	..	..	..	..	..	..	10	..
8	29·966	58·0	55·4	2·6	..	..	——	NE	..	..	..	..	..	..	10	Transit
10	29·969	56·4	54·4	2·0	53·0	3·4	88·5	NE	..	..	..	..	..	..	10	..
12	29·985	53·7	52·4	1·3	..	..	50·3	NE	..	..	..	..	..	..	10	..
14	29·969	52·2	51·4	0·8	..	..	——	NNE	..	..	..	..	..	..	10	..
16	29·945	52·4	50·8	1·6	50·0	2·4	59·0	NNE	..	..	..	..	..	..	10	..
18	29·938	52·3	50·1	2·2	..	..	59·0	NNE	..	..	..	..	..	..	10	..
20	29·943	52·8	51·2	1·6	..	..	..	NE	..	..	..	..	..	..	10	..
22	29·926	55·5	53·2	2·3	51·0	4·5	..	NE	..	NE	2·52	7·14	0·00	12·985	10	..
Sep. 11. 0	29·904	57·5	55·9	1·6	..	..	..	NNE	..	..	..	..	..	..	10	..
2	29·880	60·6	57·4	3·2	..	..	..	NE	..	..	..	..	..	..	10	..
4	29·857	60·0	56·4	3·6	53·0	7·0	..	ENE	..	..	..	..	..	..	10	..
6	29·839	58·7	55·3	3·4	..	..	62·9	ENE	0 to ½	..	..	..	..	..	9¾	..
8	29·859	57·0	54·0	3·0	..	..	53·4	Calm	..	..	..	..	..	..	10	Transit
10	29·850	55·5	54·2	1·3	53·0	2·5	——	Calm	..	..	..	..	..	..	10	..
12	29·847	54·9	54·1	0·8	..	..	84·5 50·0	Calm	..	..	..	..	..	..	10	..
14	29·828	55·0	54·2	0·8	..	..	——	Calm	..	..	..	..	..	..	10	..
16	29·819	55·8	55·3	0·5	55·0	0·8	58·8	Calm	..	..	..	..	..	..	10	..
18	29·821	52·5	52·4	0·1	..	..	58·8	Calm	..	..	..	..	..	..	10	..
20	29·824	53·9	53·1	0·8	..	..	..	Calm	..	..	..	..	..	..	1	..
22	29·830	62·5	58·5	4·0	56·0	6·5	..	ENE	..	ENE	2·48	7·14	0·00	12·985	½	..
Sep. 12. 0	29·834	63·7	58·2	5·5	..	..	..	E by N	½ constant	..	..	..	..	..	3	..
2	29·837	65·3	59·4	5·9	..	..	..	E by S	0 to ½	ESE	1·22	..	..	..	3	..
4	29·834	62·6	56·8	5·8	51·5	11·1	..	ESE	0 to ½	..	..	..	..	..	0	..
6	29·833	59·8	55·7	4·1	..	..	68·4	ENE	..	..	..	..	..	..	0	Perigee
8	29·840	54·0	51·8	2·2	..	..	45·9	Calm	..	..	..	..	..	..	0	..
10	29·848	50·9	50·0	0·9	49·0	1·9	——	Calm	..	..	..	..	..	..	0	Transit
12	29·849	48·3	48·2	0·1	..	..	92·1 39·5	Calm	..	..	..	..	..	..	6	..
14	29·839	47·0	47·0	0·0	..	..	——	Calm	..	..	..	..	..	..	0	..
16	29·820	45·7	45·8	−0·1	46·0	−0·3	59·4	Calm	..	..	..	..	..	..	0	..
18	29·811	45·2	45·6	−0·4	..	..	59·4	Calm	..	..	..	..	..	..	10	..
20	29·821	49·0	49·2	−0·2	..	..	..	Calm	..	..	..	..	..	..	0	..
22	29·814	56·0	55·1	0·9	54·5	1·5	..	Calm	..	E	1·05	7·14	0·00	12·990	4	..
Sep. 13. 0	29·797	61·8	57·5	4·3	..	..	..	E by S	..	..	..	..	..	..	6	..
2	29·754	65·8	59·7	6·1	..	..	68·5	Calm	..	..	..	..	..	..	3	..
4	29·729	64·3	59·2	5·1	55·0	9·3	54·4	Calm	..	..	..	..	..	..	2	..
6	29·701	59·3	56·3	3·0	..	..	——	ESE	..	..	..	..	..	..	1	..
8	29·695	54·0	52·7	1·3	..	..	94·0	Calm	..	SE	1·80	..	..	..	2	..
10	29·664	53·8	52·2	1·6	51·0	2·8	51·0	Calm	..	..	..	..	..	..	10	Transit
12	29·620	54·0	52·7	1·3	..	..	—— 59·0	Calm	..	..	..	..	..	..	10	..
14	..	..	..	..	..	..	59·0	Calm	..	..	..	..	..	..	..	..

DRY THERMOMETER.

Sep. 12d. 16h, 18h, and 20h. The readings were lower than those of the Wet Thermometer.

DEW POINT THERMOMETER.

Sep. 12d. 16h. The reading was higher than that of the Dry Thermometer.

MINIMUM FREE THERMOMETER.

Sep. 10d. 22h. The reading was higher than that of the Dry Thermometer at 14h and 18h.

Sep. 11d. 22h. The reading was higher than that of the Dry Thermometer at 18h.

Sep. 12d. 22h. The reading was higher than that of the Dry Thermometer at 16h and 18h.

REMARKS.	Observer.
Overcast: stratus: the fog has nearly disappeared.	L
Cirro-stratus and scud: the cloud is very thin in many places.	L
Overcast: the clouds are heavier N. of the zenith than in any other direction.	H B
,, cirro-stratus.	
,, ,,	
,, ,,	H B
,, ,,	G
,, ,, a few slight drops of rain have been falling.	
,,	
,,	
,, ,,	G
,, ,,	L
Overcast: cirro-stratus.	
,, ,,	
,, ,,	L
Cirro-stratus: the clouds are beginning to break in several directions.	H B
Overcast: the clouds are thinner in some places than in others.	G
Overcast, but the Moon's place has occasionally been seen; and at present the cloud has a tendency to break in many places, and the whole mass is moving from the E.	G
Cirro-stratus: since the last observation the sky has been frequently clear: at 11h very few clouds were visible; but since 11h. 30m the sky has been generally overcast.	D
Overcast: cirro-stratus.	
,, ,,	
,, ,,	
The clouds began to break at 19h. 25m, since which time they have been gradually dispersing; at present there are several loose fragments of cloud in the S., and with that exception the sky is clear.	D
There are a few cumuli and light clouds towards the S. horizon.	L
Cumuli and light clouds are in various parts of the sky.	L
Cumuli and fleecy clouds.	H B
Two very small cumuli, of no numerical extent, near the N. horizon, are the only clouds visible.	D
Cloudless.	
,,	
,,	D
At 11h. 45m the sky was nearly covered with cloud, since which time they have been gradually decreasing to 1, till about five minutes since, when they again began to collect; the character of cloud is white scud, which is moving quickly from the E.	L
Cloudless.	
,, a thin mist.	
Overcast, and a thick fog: the Astronomical Observatory is invisible from the Magnetic Observatory.	
A thick fog, but there does not appear to be any cloud above.	L
The fog has cleared off considerably within the last twenty minutes: fleecy clouds are scattered over the sky, with cirro-stratus near the horizon.	H B
The sky is principally covered with large white cumuli and considerable quantities of scud: the fog has totally disappeared.	
Cumuli, scud, and fleecy clouds.	H B
Cumuli and scud.	L
A few cumuli near the W. horizon.	
Cirro-stratus and fleecy clouds principally E. of the zenith.	
The clouds began to collect soon after the last observation, but the sky has been occasionally clear; it is at present quite covered with cirro-stratus and fleecy clouds.	L
Overcast: cirro-stratus.	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Sep. 13. 16	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
22	29·472	56·5	56·0	0·5	..	..	..	WSW	..	SW	0·40	7·14	0·00	12·995	10	..
Sep. 14. 0	29·466	58·0	57·5	0·5	..	..	..	WSW	..	..	..	..	..	..	10	..
2	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..
4	29·387	61·5	56·4	5·1	..	..	..	WSW	..	..	..	..	..	..	10	..
6	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..
8	29·377	53·2	51·4	1·8	..	..	65·7	SSW	..	..	..	..	..	..	4	..
10	..	..	..	..	..	..	46·1	SSW	..	SW	2·08	..	..	..	..	..
12	..	..	..	..	..	..		SSW	..	..	..	..	..	..	..	Transit
14	29·302	47·1	46·7	0·4	..	..	78·0 40·7	Calm	..	..	..	..	..	..	3	..
16	29·273	46·3	46·4	–0·1	46·5	–0·2	59·0 58·5	Calm	..	..	..	..	..	..	9	..
18	29·253	47·4	47·2	0·2	..	..	..	Calm	..	..	..	..	..	..	10	..
20	29·236	50·7	49·7	1·0	..	..	..	Calm	..	..	..	..	..	..	10	..
22	29·245	51·1	49·8	1·3	48·5	2·6	..	E by S	..	SE	0·41	7·16	0·08	13·110	10	..
Sep. 15. 0	29·277	54·3	52·8	1·5	..	..	..	N by E	..	..	..	..	..	..	10	..
2	29·321	53·3	51·9	1·4	..	..	..	N	..	..	..	..	..	..	10	..
4	29·370	52·8	51·4	1·4	50·0	2·8	..	N by W	..	..	..	..	..	..	10	..
6	29·416	52·3	51·6	0·7	..	..	56·6	SW	..	..	..	..	..	..	9½	In Equator
8	29·467	50·6	50·1	0·5	..	..	45·8	SW	..	..	..	..	..	..	9½	..
10	29·497	50·5	49·6	0·9	48·5	2·0		SW	..	..	..	..	..	..	9	Full
12	29·537	47·2	46·9	0·3	..	..	66·5 43·3	WSW	..	..	..	..	..	..	0	Transit
14	29·555	47·5	47·2	0·3	..	..		WSW	..	..	..	..	..	..	7	..
16	29·563	45·5	45·4	0·1	45·0	0·5	58·0 57·8	WSW	..	..	..	..	..	..	6	..
18	29·577	47·5	47·3	0·2	..	..	..	SW	..	..	..	..	..	..	9	..
20	29·589	51·6	51·0	0·6	..	..	..	SW	..	..	..	..	..	..	10	..
22	29·592	57·0	55·2	1·8	53·5	3·5	..	WSW	..	SW	3·34	7·16	0·05	13·170	9	..
Sep. 16. 0	29·569	58·4	56·1	2·3	..	..	..	S by W	..	..	..	..	..	..	10	..
2	29·510	56·3	55·8	0·5	..	..	..	S	..	..	..	..	..	..	10	..
4	29·429	55·8	55·7	0·1	..	..	..	S by E	..	..	..	..	..	..	10	..
6	29·360	58·8	57·5	1·3	..	..	63·8	SSW	½ to 1½	..	..	..	..	..	10	..
8	29·379	61·5	60·7	0·8	..	..	56·0	SW	1 to 2	..	..	..	..	..	10	..
10	29·386	60·8	60·4	0·4	60·0	0·8		SW	1 to 2	..	..	..	..	..	10	..
12	29·385	61·0	60·0	1·0	..	..	68·3 55·8	SW	1 to 2½	..	..	..	..	..	10	..
14	29·392	61·0	60·4	0·6	..	..	58·0	SW	1½ to 2½	..	..	..	..	..	10	Transit
16	29·385	60·7	60·3	0·4	60·0	0·7	57·5	SSW	¾ to 2	..	..	..	..	..	10	..
18	29·366	61·0	60·4	0·6	..	..	..	SSW	½ to 1½	..	..	..	..	..	10	..
20	29·378	61·8	61·3	0·5	..	..	..	SSW	1½ to 3	..	..	..	..	..	10	..
22	29·380	63·1	61·8	1·3	61·0	2·1	..	S by W	2 to 4½	SW	6·75	7·41	0·39	13·465	10	..
Sep. 17. 0	29·349	61·9	61·6	0·3	..	..	..	SSW	2 to 4	..	..	..	..	..	10	..
2	29·340	64·1	62·9	1·2	..	..	..	SSW	½ to 4	..	..	..	..	..	10	..

DRY THERMOMETER.

Sep. 14d. 16h. The reading was lower than that of the Wet Thermometer.

DEW POINT THERMOMETER.

Sep. 14d. 16h. The reading was higher than that of the Dry Thermometer.

Sep. 16d. 4h. No observation was taken.

MAXIMUM FREE THERMOMETER.

Sep. 15d. 22h. The reading was less than that of the Dry Thermometer at 22h.

REMARKS.	Observer.
Overcast: rain is falling heavily.	D
Overcast: cirro-stratus and fleecy clouds, with a small break to the W. horizon, but to no numerical extent.	
Cirro-stratus, cumulo-stratus, and scud, with occasional showers of rain.	D
About one-half of the sky is covered with a dark cirro-stratus, chiefly to the N.; the S. portion of the sky being nearly cloudless.	G
Light clouds are near the horizon in the N. and W. S.W. to a considerable extent: the Moon is surrounded by an imperfectly-formed halo, whose radius, from a mean of several measures, is $22\frac{1}{2}°$; the part near the horizon is invisible.	H B
The clouds mentioned in the last note rapidly extended, and within less than twenty minutes afterwards the greatest part of the sky was covered; they have passed into cirro-stratus, which at present covers all the sky, with the exception of a small portion in the S. E.	
Cirro-stratus and scud.	
Overcast, with rain falling.	H B
,,	D
Overcast, and rain falling.	
,,	D
Overcast.	H B
Cirro-stratus and scud: the clouds are broken around the zenith and near the N. N.W. horizon.	
,,	
Shortly after the last observation the greater part of the sky became clear, and at $9^h. 10^m$ it was nearly cloudless; at present every part is overcast, except a small portion near the S. horizon.	H B
The sky remained overcast only for a short time, and it has been nearly cloudless till the present time.	G
Almost immediately after 12^h a few white clouds appeared in the S., and since that time they have been gradually collecting.	
The appearance of the sky has been variable, being at times nearly cloudless and at others a great portion of it being covered with white cloud, which is at present moving quickly from the N.W.: the wind on the earth's surface is from the W.	
The sky is nearly wholly covered by cirro-stratus clouds.	
Overcast: cirro-stratus.	G
Cirro-stratus and scud: there are breaks in the clouds a little to the N. of the zenith: the Sun is occasionally visible.	H B
Overcast: rain is falling.	
,, ,,	H B
,, a steady heavy rain has been falling without intermission.	G
,, the rain is not quite so heavy as before. [gusts to $1\frac{1}{2}$ and 2.	
The rain has ceased falling: the sky is covered with dark cloud, which is moving from the S.W.: the wind is blowing in frequent	
Rain has been falling occasionally since the last observation.	G
The sky is covered with thin cirro-stratus and scud: Jupiter and the Moon are visible through the clouds: since $10^h. 30^m$ a lunar halo has been visible; the upper portion of the arc was frequently well defined; its radius, both horizontally and vertically, was 21°, but to the eye its appearance was decidedly elliptical: wind in gusts to $1\frac{1}{2}$.	D
Overcast: cirro-stratus and scud: a thin rain is falling: the scud is passing over with great rapidity.	
The same.	
Overcast: cirro-stratus and scud.	
,, ,,	D
,, ,, ,,	H B
Overcast: rain is falling.	
,, rain is falling occasionally: wind blowing in gusts to 2.	H B

MINIMUM FREE THERMOMETER.

Sep. $13^d. 22^h$. The reading was higher than that of the Dry Thermometer at 8^h, 10^h, and 12^h.
Sep. $15^d. 22^h$. The reading was higher than that of the Dry Thermometer at 16^h.
Sep. $16^d. 22^h$. The reading was higher than that of the Dry Thermometer at 4^h.

OSLER'S ANEMOMETER.

Sep. $15^d. 22^h$. The chain was found off the spikes of the barrel, and was put right at the same time.
Sep. $16^d. 23^h$. A pressure of 6·5 lbs. was recorded.
Sep. $17^d. 1^h$. A gust to 6 lbs. was 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. / of Rad. Therm. / of Therm. in Water of the Thames.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Sep. 17. 4	29·320	64·0	62·1	1·9	60·5	3·5	..	SW	¾ to 3	..	..	..	..	..	10	..
6	29·311	62·1	59·9	2·2	..	..	..	SSW	2¾ to 3	..	..	..	..	..	8	..
8	29·309	61·6	59·4	2·2	..	..	64·6 / 56·0	SSW	1½ to 5½	..	..	..	..	..	5	..
10	29·304	59·6	57·8	1·8	56·5	3·1		SSW	2½ to 5	..	..	..	..	..	1	..
12	29·303	58·5	57·0	1·5	..	..	68·6 / 53·0	SSW	½ to 1	SW	7·40	..	..	..	2	..
14	29·284	57·5	57·7	−0·2	..	..		SSW	0 to 3	..	..	..	..	..	10	Transit
16	29·272	56·4	55·9	0·5	55·5	0·9	58·2	SSW	0 to 3	..	..	..	..	..	3	..
18	29·251	55·5	55·2	0·3	..	..	58·2	SSW	0 to 2	..	..	..	..	..	5	..
20	29·220	58·2	57·0	1·2	..	..	..	SSW	3 constant	..	..	..	..	..	7	..
22	29·178	61·8	58·4	3·4	56·0	5·8	..	SSW	5 to 7	SSW	2·17	7·89	0·66	14·015	10	..
Sep. 18. 0	29·160	57·4	57·2	0·2	..	..	..	SSW	2½ to 7	..	..	..	..	..	10	..
2	29·171	62·0	59·5	2·5	..	..	..	SSW	2½ to 5½	..	..	..	..	..	4	..
4	29·201	61·9	59·0	2·9	55·0	6·9	..	SW	2 to 4	..	..	..	..	..	6	..
6	29·248	59·0	57·7	1·3	..	..	..	SW	½ to 1½	..	..	..	..	..	10	..
8	29·308	56·6	56·0	0·6	..	..	63·8	SW	½ to 2	..	..	..	..	..	10	..
10	29·367	54·1	53·2	0·9	52·5	1·6	49·7	SW	½ to 2	SW	3·43	..	..	..	5	..
12	29·397	52·5	51·7	0·8	..	..	74·0 / 50·5	WSW	0 to 1½	..	..	..	..	..	0	..
14	29·432	51·2	49·8	1·4	..	..		WSW	½ to 2	..	..	..	..	..	1	..
16	29·454	50·3	49·4	0·9	48·0	2·3	58·5	WSW	1½ to 2	WSW	4·54	..	..	..	0	Transit
18	29·485	50·0	49·5	0·5	..	..	58·0	WSW	1 to 2	..	..	..	..	..	1	..
20	29·538	51·0	49·0	2·0	..	..	..	WSW	1½ to 3	..	..	..	..	..	1	..
22	29·603	56·3	51·3	5·0	47·5	8·8	..	W by S	1½ to 3½	W	1·17	7·92	0·04	14·075	1	..
Sep. 19. 0	29·644	57·7	49·8	7·9	..	..	..	W by S	1 to 4½	..	..	..	..	..	4	..
2	29·695	58·7	50·5	8·2	..	..	..	W by S	2 to 5	..	..	..	..	..	2	..
4	29·745	59·3	51·0	8·3	45·0	14·3	62·3 / 40·4	W by S	½ to 2½	..	..	..	..	..	6	..
6	29·792	55·6	49·1	6·5	..	..		W by S	..	W	2·75	..	..	..	1	..
8	29·840	48·3	45·7	2·6	..	..	81·8	WSW	..	..	..	..	..	..	0	..
10	29·865	46·0	44·4	1·6	43·0	3·0	34·8	WSW	..	..	..	..	..	..	0	..
12	29·890	44·8	43·7	1·1	..	..		SW	..	..	..	..	..	..	0	..
14	29·894	43·5	42·7	0·8	..	..	58·2	SW	..	SW	1·30	..	..	..	0	..
16	29·882	41·4	41·0	0·4	40·5	0·9	57·2	SSW	..	..	..	..	..	..	0	Transit
18	29·880	41·4	40·7	0·7	..	..	..	Calm	..	..	..	..	..	..	0	..
20	29·881	46·7	45·2	1·5	..	..	..	Calm	..	..	..	..	..	..	7	..
22	29·859	56·0	52·6	3·4	50·5	5·5	..	S by W	..	S	0·61	7·92	0·00	14·075	¼	..
Sep. 20. 0	29·824	61·5	55·9	5·6	..	..	..	S by W	..	..	..	..	..	..	7	..
2	29·793	60·3	56·0	4·3	..	..	..	S	..	..	..	..	..	..	10	..
4	29·747	60·5	55·4	5·1	52·0	8·5	..	S by W	0 to ½	..	..	..	..	..	8	..
6	29·701	57·5	54·6	2·9	..	..	..	S	..	S	3·40	..	..	..	6	..
8	29·649	55·3	53·5	1·8	..	..	..	S by E	..	..	..	..	..	..	10	..

DRY THERMOMETER.

Sep. 17d. 14h. The reading was lower than that of the Wet Thermometer.

MINIMUM FREE THERMOMETER.

Sep. 17d. 22h. The reading was higher than that of the Dry Thermometer at 18h.

Sep. 18d. The reading was lower than that of the Radiating Minimum Thermometer.

OSLER'S ANEMOMETER.

Sep. 17d, at 23h. 20m, a gust to 8 lbs.; and on 18d, at 0h. 10m, a gust to 9 lbs. was recorded.

REMARKS.	Observer.
Overcast: cirro-stratus and scud: rain has continued falling since the last observation: wind blowing in gusts to 2.	D
Large masses of scud are continually passing over from the S.W.: since $4^h.30^m$ the amount of cloud has been continually changing: wind blowing in gusts to 2.	
The appearance of the sky is very variable; at times it is nearly covered with dense masses of dark scud, and at other times but few clouds are visible: wind blowing in strong gusts.	
Fragments of scud are in various directions: the sky has been nearly clear since 8^h: a gale of wind is blowing.	D
The wind has subsided since the last observation, the gusts at present seldom exceeding $1\frac{1}{2}$; at present there are fleecy clouds and	H B
Heavy rain is falling, with occasional gusts of wind to 2: the appearance of the sky has been very changeable. [scud.	
The appearance of the sky continues very variable; at times the amount of cloud is scarcely equal to one-tenth, and in a few moments after the sky becomes wholly covered: the prevailing cloud is white scud, which moves rapidly from the S.W.	
Cirro-stratus and dark scud: a heavy shower of rain fell about $17^h.12^m$.	
Cirro-stratus, dark scud, and fleecy clouds nearly cover the sky.	H B
Overcast: cirro-stratus and dark scud: the wind is blowing in frequent gusts to 3.	D
Overcast: cirro-stratus and dark scud: the wind is blowing in frequent gusts to 3, with rain falling.	
Large fleecy clouds and dense masses of scud are passing over the sky with great rapidity: wind in gusts to $2\frac{1}{2}$.	D
The appearance of the sky is nearly the same as at the last observation: wind in gusts to 2.	H B
Overcast: cirro-stratus and scud.	
,, rain commenced falling heavily about twenty minutes since.	
Cirro-stratus and dark scud are in the S.E. to a considerable altitude, through which the Moon is occasionally visible; there is also a large quantity of cloud near the N. and N.W. horizon.	H B
Cloudless at present: frequent quantities of white scud pass rapidly from the S.W., and on passing the Moon a corona appears around her, exhibiting at times the prismatic colours very beautifully.	G
The sky is nearly free from cloud; and since 12^h scud has frequently passed as before.	
Cloudless: the gale continues.	
A little scud is scattered about the sky: the Moon and Jupiter are shining beautifully: the gale continues: there are gusts of wind occasionally to 2, but of short duration.	
Much scud has passed since 18^h; at present there is very little, and the sky is nearly cloudless: at the time of the Sun rising there was a bank of cloud extending from the E. to the W. by S.: the wind too at this time appeared to be stronger.	G
Cumuli in every direction, and near the horizon: fleecy clouds and fragments of scud are in various parts of the sky: the wind blowing in gusts to 2.	H B
Large cumuli are in every direction, and fragments of scud are passing over from the W.: since the last observation the wind has been blowing in frequent gusts to $2\frac{1}{2}$.	
Cumuli are near the N. horizon, and in various other parts of the sky: fleecy clouds and scud are passing rapidly, as before: the wind blowing in frequent gusts to $2\frac{1}{2}$.	H B
Cumuli and scud are equally distributed over the sky.	G
A few detached cumuli are scattered about the sky.	
Cloudless.	
,,	G
,,	D
,,	
,,	
,,	
Fleecy clouds and scud: the clouds began to collect at about $18^h.30^m$.	D
Cloudless, with the exception of a few light cirri near the W. horizon.	H B
Cumuli, cirro-stratus, and scud. The Sun is surrounded by a halo whose radius is 22°; its northern and eastern extremities are distinctly coloured.	
Overcast: cirro-stratus and scud: the wind is blowing in occasional gusts to $\frac{3}{4}$ and 1.	H B
Cirro-stratus and haze. A very faint solar halo is visible.	D
Cirro-stratus and fleecy clouds, except in the S. and S. E. of the zenith, which is clear.	
Overcast: cirro-stratus.	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Sep. 20. 10	29·595	56·8	54·3	2·5	53·0	3·8	62·9	S by E	..	..	..	..	..	..	10	..
12	29·563	54·7	54·2	0·5	..	..	55·0	S by W	½ constant	SSW	1·10	..	..	..	10	..
14	..	..	..	..	..	..	81·0	S by W	½ constant	..	..	..	..	..	..	..
16	..	..	..	..	..	..	51·5	S by W	..	..	..	..	..	..	..	Transit
18	..	..	..	..	..	..		S by W	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	57·2	S by W	..	..	..	..	..	..	..	..
22	29·442	58·8	56·7	2·1	..	..	57·2	S by W	..	S	0·18	7·99	0·08	14·155	10	..
Sep. 21. 0	29·424	60·6	58·2	2·4	..	..	..	S by E	1 to ½	..	..	..	..	..	10	..
2	..	..	..	..	..	..	..	S	1½ to 3	S	1·00	..	..	..	..	..
4	29·312	60·0	56·9	3·1	..	..	60·9	SSW	½ to 1	..	..	..	..	..	3	..
6	..	..	..	..	..	..	49·9	S by W	½ to 1½	SSW	0·92	..	..	..	..	..
8	..	..	..	..	..	..		S	½ to 1	..	..	..	..	..	..	..
10	..	..	..	..	..	..	69·0	S by W	..	S	0·94	..	..	..	..	..
12	29·174	53·8	53·9	-0·1	..	..	45·3	WSW	½ to 2½	..	..	..	..	..	10	..
14	29·266	51·0	50·7	0·3	..	..		WSW	½ constant	SW	1·04	..	..	..	10	..
16	29·349	51·3	50·2	1·1	49·5	1·8	57·2	W by N	2 to 4	..	..	..	..	..	10	..
18	29·440	50·7	49·5	1·2	..	..	57·0	W	1½ to 2½	WSW	0·59	..	..	..	8	Transit
20	29·542	49·8	48·7	1·1	..	..	..	W	½ constant	..	..	..	..	..	0	..
22	29·612	55·0	50·8	4·2	47·0	8·0	..	W	0 to 2	W	2·04	8·58	0·79	14·805	0	..
Sep. 22. 0	29·663	55·3	50·2	5·1	..	..	..	WSW	..	..	..	..	..	..	4	..
2	29·695	60·1	54·4	5·7	..	..	..	WSW	..	..	..	..	..	..	4	..
4	29·725	57·5	51·9	5·6	45·0	12·5	62·2	WSW	..	..	..	..	..	..	5	Greatest declination N.
6	29·758	54·5	50·2	4·3	..	..	43·7	Calm	..	SW	1·56	..	..	..	4	..
8	29·800	50·0	48·1	1·9	..	..	83·5	Calm	..	..	..	..	..	..	8	..
10	29·812	50·3	48·7	1·6	48·0	2·3	38·5	Calm	..	..	..	..	..	..	7	..
12	29·842	47·8	47·2	0·6	..	..		Calm	..	..	..	..	..	..	10	..
14	29·839	46·7	46·2	0·5	..	..	57·0	Calm	..	..	..	..	..	..	10	..
16	29·845	45·5	45·2	0·3	45·0	0·5	56·8	N	..	..	..	..	..	..	10	..
18	29·867	44·2	43·8	0·4	..	..		N	..	..	..	..	..	..	10	Transit
20	29·897	43·7	43·4	0·3	..	..	..	N by E	..	..	..	..	..	..	9	..
22	29·938	49·5	47·3	2·2	46·0	3·5	..	N by E	..	N	0·78	8·58	0·00	14·805	10	..
Sep. 23. 0	29·971	53·5	50·2	3·3	..	..	..	N	0 to 1	..	..	..	..	..	10	..
2	30·001	54·7	49·8	4·9	..	..	..	N by E	..	..	..	..	..	..	10	3rd Qr.
4	30·033	52·3	48·6	3·7	44·0	8·3	56·1	N by E	..	..	..	..	..	..	10	..
6	30·059	50·3	46·5	3·8	..	..	33·4	N by E	..	..	..	..	..	..	10	..
8	30·120	44·6	42·4	2·2	..	..		N by E	..	..	..	..	..	..	10	..
10	30·133	41·7	39·7	2·0	37·0	4·7	72·5	N	..	..	..	..	..	..	5	..
12	30·127	38·4	37·2	1·2	..	..	27·7	Calm	..	..	..	..	..	..	0	..
14	30·125	36·5	35·8	0·7	..	..	57·0	Calm	..	..	..	..	..	..	0	..
16	30·124	35·4	34·9	0·5	34·0	1·4	56·0	Calm	..	..	..	..	..	..	0	..
18	30·125	35·3	34·7	0·6	..	..		N by W	..	..	..	..	..	..	0	Transit
20	30·144	36·8	35·7	1·1	..	..	..	Calm	..	..	..	..	..	..	0	..
22	30·132	47·8	44·4	3·4	40·0	7·8	..	Calm	..	NNE	2·14	8·58	0·00	14·805	½	..
Sep. 24. 0	30·118	54·0	48·5	5·5	..	..	..	N by E	..	..	..	..	..	..	2	..
2	30·084	53·1	47·7	5·4	..	..	..	Calm	..	..	..	..	..	..	3	..
4	30·050	54·0	48·8	5·2	40·5	13·5	..	Calm	..	NE	1·10	..	..	..	3	Apogee.
6	30·044	49·6	46·3	3·3	..	..	..	Calm	..	..	..	..	..	..	1	..

BAROMETER.
Sep. 21d. Between 18h and 20h the reading increased 0in·102.

DRY THERMOMETER.
Sep. 21d. 12h. The reading was lower than that of the Wet Thermometer.

MINIMUM FREE THERMOMETER.
Sep. 20d. 12h. The reading was higher than that of the Dry Thermometer at 12h.
Sep. 21d. 22h. The reading was higher than that of the Dry Thermometer at 20h.

REMARKS.	Observer.
Overcast: cirro-stratus.	H B
,, ,, rain falling.	D
Overcast: cirro-stratus and scud.	D
Overcast: cirro-stratus and scud.	L
At $0^h. 10^m$ rain began to fall, and continued to increase in amount till $2^h. 40^m$, when it fell in torrents; at $2^h. 50^m$ a quarter of an inch had fallen; at $3^h. 10^m$ it ceased, and since that time the greater part of the sky has been free from clouds.	L
Overcast: rain is falling.	H B
,, ,, wind in gusts to 1.	
,,	
The clouds are broken in many places to the N. of the zenith, with occasional gusts of wind to 1.	
Cloudless: the wind blowing in occasional gusts to 1: a slight fog prevails.	H B
,,	D
Cumuli are scattered in all parts of the sky.	
,, ,,	D
Cumuli to the N. of the zenith; linear cirri and light fleecy clouds are in other directions.	H B
Cirro-stratus and dark scud extending from the N.N.W. to the N.N.E., with fine specimens of cirrus, both linear and cymoid, to the S. of the zenith.	
Dark scud along the N. horizon: cirro-stratus covers nearly the whole of the sky.	
Cirro-stratus covers the whole sky, through which the larger stars alone are visible.	H B
Cirro-stratus covers the whole sky: Mars, Jupiter, and the Moon's place are just visible, and occasionally a few of the larger stars [near the zenith.	G
Cirro-stratus, the Moon's place alone being visible.	
Cirro-stratus, the Moon being faintly visible.	
Cirro-stratus and scud, the latter moving from the E: the Moon visible.	
Cirro-stratus and scud: a great haze prevails.	G
,, the fog is clearing off.	H B
Cirro-stratus and scud.	
,,	H B
,,	G
The sky is generally covered with cirro-stratus and scud, being thinner in some places than in others, and thinner principally near [the place of the Sun.	
The larger stars are occasionally visible through the clouds.	G
Nearly the whole of the N. portion of the sky is cloudless, and nearly the whole of the S. overcast, the portion near the zenith being clear; the clouds have been nearly in this state during the last hour and a quarter.	L
Cloudless.	D
,,	
,,	
,, a white frost.	
,, ,,	D
Cloudless, with the exception of cirro-stratus near the horizon.	H B
Cumuli and fleecy clouds are scattered over the sky.	
Cumuli and fleecy clouds S. of the zenith, and also a few near the N. and N. N. W. horizon.	H B
Fleecy clouds and a few cirri are in various parts of the sky.	D
Cirri to the E. of the zenith.	

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Sep. 24. 8	30·029	44·6	42·8	1·8	..	..	58·6	Calm	..	..	..	..	..	..	0	..
10	30·000	42·8	41·7	1·1	40·0	2·8	40·4	Calm	..	..	..	..	..	..	0	..
12	29·961	41·2	40·6	0·6	..	..	——	Calm	..	..	..	..	..	..	0	..
14	29·912	42·8	41·8	1·0	..	..	87·2	Calm	..	..	..	..	..	..	0	..
16	29·820	42·0	41·2	0·8	40·5	1·5	33·3	Calm	..	..	..	..	..	..	0	..
18	29·815	43·0	42·7	0·3	..	..	——	Calm	..	SE	0·40	..	..	..	10	..
20	29·759	49·1	47·2	1·9	..	..	56·0	Calm	..	..	..	..	..	..	8	Transit
22	29·724	52·7	50·6	2·1	48·5	4·2	55·0	S	..	S	0·30	8·58	0·00	14·805	10	..
Sep. 25. 0	29·686	54·2	52·0	2·2	..	..	..	S by W	0 to ½	..	..	..	..	..	10	..
2	29·656	57·5	55·9	1·6	..	..	..	S by W		..	..	..	..	..	10	..
4	29·620	58·4	56·7	1·7	55·0	3·4	60·7	SSW	..	..	..	..	..	..	10	..
6	29·605	56·5	55·6	0·9	..	..	44·2	SSW	..	..	..	..	..	..	9	..
8	29·606	55·2	54·3	0·9	..	..	——	SSW	..	..	..	..	..	..	10	..
10	29·599	54·6	54·0	0·6	53·5	1·1	70·5	SSW	..	..	..	..	..	..	10	..
12	29·582	53·9	53·7	0·2	..	..	40·4	SSW	..	SSW	1·15	..	..	..	10	..
14	29·559	52·5	50·8	1·7	..	..	——	W	..	..	..	..	..	..	10	..
16	29·562	48·0	47·7	0·3	47·0	1·0	55·2	W by S	..	..	..	..	..	..	7	..
18	29·571	44·8	44·7	0·1	..	..	54·8	W by S	..	SW	0·45	..	..	..	1	..
20	29·610	45·3	45·3	0·0	..	..	..	SW	..	..	..	..	..	..	0	Transit
22	29·638	51·9	49·4	2·5	47·0	4·9	..	W by S	..	WSW	0·95	8·58	0·00	14·805	0	..
Sep. 26. 0	29·650	57·2	51·8	5·4	..	..	..	WSW	..	..	..	..	..	..	3	..
2	29·662	56·8	50·4	6·4	..	..	..	W by S	..	..	..	..	..	..	3	..
4	29·689	60·1	51·6	8·5	45·8	14·3	60·5	W	0 to ½	NW	1·45	..	..	..	6	..
6	20·729	54·4	49·7	4·7	..	..	43·0	W	..	..	..	..	..	..	1	..
8	29·781	49·5	47·1	2·4	..	..	——	W by S	..	..	..	..	..	..	0	..
10	29·818	46·1	44·9	1·2	44·0	2·1	80·7	WSW	..	..	..	..	..	..	0	..
12	29·849	44·4	43·5	0·9	..	..	39·5	SW	..	..	..	..	..	..	0	..
14	29·852	43·6	43·2	0·4	..	..	——	SW	..	..	..	..	..	..	0	..
16	29·841	44·8	44·4	0·4	44·0	0·8	55·0	SW	..	..	..	..	..	..	8	..
18	29·829	47·3	46·2	1·1	..	..	54·2	SSW	..	..	..	..	..	..	10	..
20	29·808	50·1	48·8	1·3	..	..	..	SSW	..	..	..	..	..	..	10	..
22	29·791	53·0	51·7	1·3	50·5	2·5	..	SSW	½ constant	SW	1·42	8·58	0·01	14·810	10	Transit
Sep. 27. 0	29·743	57·0	54·3	2·7	..	..	..	SSW	1 to 2	..	..	..	..	..	10	..
2	29·699	55·4	54·0	1·4	..	..	..	SSW	1½ to 3	..	..	..	..	..	10	..
4	29·668	57·5	56·3	1·2	55·5	2·0	..	SW	1½ to 3	..	..	..	..	..	10	..
6	29·659	58·5	57·2	1·3	..	..	..	SW	1 to 2	SW	1·38	..	..	..	10	..
8	29·668	58·9	57·8	1·1	..	..	59·2	SW	½ to 1	..	..	..	..	..	10	..
10	29·677	59·2	58·1	1·1	57·0	2·2	48·7 ——	WSW	1 to 2	..	..	..	..	..	10	..
12	29·702	55·5	54·9	0·6	..	..	72·7 46·4	WSW	½ constant	..	..	..	..	..	1	..
14	..	..	..	..	..	..	——	WSW	..	WSW	2·07	..	..	..	..	..
16	..	..	..	..	..	..	54·8	SW	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	54·0	SW	..	W	1·00	..	..	..	..	..
20	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..
22	29·754	56·5	53·4	3·1	..	..	..	WSW	½ constant	WSW	1·82	8·58	0·01	14·820	½	Transit
Sep. 28. 0	29·738	59·8	54·5	5·3	..	..	..	WSW	0 to 2	..	..	..	..	..	1	..

OSLER'S ANEMOMETER.

Sep. 27d. At 2h. 20m, a gust to 6lbs. pressure on the square foot took place.

REMARKS.	Observer.
Cloudless.	D
Cloudless, but a thick haze is near and all round the horizon.	G
Cloudless: at $12^h. 5^m$ some dark clouds suddenly formed to the S., obscuring one-third part of the sky.	
,,	G
,,	H B
Overcast: cirro-stratus,	H B
Overcast, except a large clear break in the E. S. E. horizon, extending to the S.	D
Overcast: cirro-stratus.	D
Overcast: cirro-stratus and scud.	G
Overcast, but the clouds are thinner in some places than in others.	G
Overcast: rain is falling slightly.	H B
The clouds are broken in many places: a brownish scud is passing rapidly across the sky.	H B
Overcast: cirro-stratus.	D
,, ,,	D
,, ,,	H B
,, ,,	
About an hour since a few stars became visible, and have remained so to the present time: cirro-stratus and fragments of scud are generally distributed over the sky.	
Cloudless, except a considerable quantity of scud near the S. E. horizon, with cirro-stratus in other parts of the sky.	
Cloudless: hazy.	H B
,, ,,	D
Cumuli and a dense haze.	
,,	D
Light clouds and cirro-stratus are scattered over the sky.	H B
Light clouds are scattered over the sky.	
Cloudless: hazy.	
,,	H B
,,	D
,,	
The stars are shining in the zenith, but the remainder of the sky is nearly overcast; the cloud however is very thin, as Jupiter, the Moon, and some of the larger stars are visible.	
Overcast.	
,,	D
,,	H B
Overcast: cirro-stratus and scud: the wind blowing in gusts to $1\frac{1}{2}$.	
,, ,, the wind blowing in gusts to 2.	H B
,, cirro-stratus: a thin rain is falling.	D
,, ,, the wind blowing in gusts to $1\frac{1}{2}$.	
,, the sky is unusually dark.	
,, ,, a few stars have been occasionally shining in the zenith: five minutes after the observation every particle of cloud had disappeared; the great contrast between a black cloudy sky and a perfectly cloudless one, in so short a time, was very striking.	D
The sky continued perfectly cloudless till $11^h. 25^m$; at this time a few clouds appeared in the N., but (to the present time) they have not increased; every other part of the sky is cloudless.	G
A few cumuli near the N. horizon, and fragments of scud are scattered over the sky.	H B
There are fleecy clouds, scud, and a few cumuli.	

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Sep. 28. 2	..	..	..	..	..	..	..	WSW	0 to 1	..	..	..	..	..	..	..
4	29·736	59·0	53·7	5·3	..	..	..	WSW	½ to 1½	..	..	..	..	..	6	..
6	29·760	55·2	50·9	4·3	..	..	63·1	WSW	..	WSW	0·87	..	..	..	2	..
8	..	..	..	..	..	..	42·1	WSW	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	——	WSW	..	..	..	..	..	..	..	..
12	29·813	44·6	44·0	0·6	..	..	81·4	WSW	..	W	0·21	..	..	..	0	..
14	29·815	43·7	43·3	0·4	..	..	37·5	WSW	..	..	..	..	..	..	0	..
16	29·818	42·8	42·5	0·3	42·0	0·8	——	WSW	..	..	..	..	..	..	0	..
18	29·825	42·5	42·4	0·1	..	..	55·0	WSW	..	..	..	..	..	..	10	..
20	29·837	45·0	44·5	0·5	..	..	54·0	WSW	..	..	..	..	..	..	7	..
22	29·845	51·1	49·4	1·7	47·0	4·1	..	WSW	..	WSW	3·13	8·60	0·04	14·865	8	Transit
Sep. 29. 0	29·830	56·1	51·3	4·8	..	..	..	SW	..	..	..	..	..	..	9	..
2	29·789	57·7	52·8	4·9	..	..	..	WSW	½ to 1	..	..	..	..	..	10	..
4	29·764	53·8	51·1	2·7	48·0	5·8	59·7	SW	..	..	..	..	..	..	10	..
6	29·729	51·1	50·0	1·1	..	..	48·9	SSW	..	SW	1·41	..	..	..	10	..
8	29·709	49·6	49·3	0·3	..	..	——	S by W	..	..	..	..	..	..	10	..
10	29·661	49·0	48·7	0·3	48·5	0·5	70·2	Calm	..	..	..	..	..	..	10	..
12	29·624	48·7	48·6	0·1	..	..	48·0	Calm	..	..	..	..	..	..	10	..
14	29·603	49·3	49·3	0·0	..	..	——	Calm	..	..	..	..	..	..	10	In Equator
16	29·573	49·2	49·2	0·0	49·0	0·2	54·5	Calm	..	..	..	..	..	..	10	..
18	29·568	49·5	49·6	–0·1	..	..	53·8	Calm	..	..	..	..	..	..	10	..
20	29·596	50·5	50·6	–0·1	..	..	..	W	..	..	..	..	..	..	10	..
22	29·601	51·2	51·2	0·0	50·8	0·4	..	WSW	..	WSW	0·88	8·60	0·00	14·865	10	..
Sep. 30. 0	29·607	54·7	53·7	1·0	..	..	..	WSW	..	..	..	..	..	..	9	Transit
2	29·594	58·3	55·3	3·0	..	..	..	WSW	½ constant	..	..	..	..	..	8	..
4	29·582	58·1	54·8	3·3	52·0	6·1	..	WSW	½ to 1	..	..	..	..	..	10	..
6	29·595	55·6	54·1	1·5	..	..	60·5	WSW	½ constant	..	..	..	..	..	9	..
							43·2									
							——									
8	29·625	51·6	50·5	1·1	..	..	74·6	W by S	..	..	..	..	..	..	4	..
							40·5									
10	29·669	49·2	48·0	1·2	47·0	2·2	——	WSW	..	..	..	..	..	..	2	..
12	29·714	47·7	47·1	0·6	..	..	54·0	WSW	..	..	..	8·60	0·00	14·865	0	..
14	29·742	46·5	46·1	0·4	..	..	53·5	WSW	..	..	..	..	..	..	0	..
16	29·762	45·5	44·8	0·7	44·0	1·5	..	WSW	..	..	..	..	..	..	0	..
18	29·785	43·9	43·3	0·6	..	..	..	SW	..	..	..	..	..	..	0	..
20	29·823	46·7	45·8	0·9	..	..	..	WSW	..	..	..	..	..	..	8	..
22	29·845	53·5	51·6	1·9	50·0	3·5	..	SW by W	..	WSW	5·17	8·60	0·00	14·870	9	..
Oct. 1. 0	29·850	58·1	53·3	4·8	..	..	60·2	SW	..	..	..	..	..	..	3	Transit New
2	29·828	59·2	54·0	5·2	..	..	49·5	SW	..	..	..	..	..	..	9	..
							——									
4	29·812	58·0	53·8	4·2	50·0	8·0	79·3	SSW	..	SW	1·50	..	..	..	10	..
6	29·798	54·8	52·0	2·8	..	..	44·2	S by W	..	..	..	..	..	..	10	..
8	29·784	50·9	49·4	1·5	..	..	——	Calm	..	..	..	..	..	..	0	..
10	29·769	50·1	49·3	0·8	48·5	1·6	54·0	Calm	..	..	..	..	..	..	10	..
12	29·740	52·1	51·5	0·6	..	..	53·5	Calm	..	SSW	0·68	..	..	..	10	..
14	29·682	53·0	53·0	0·0	..	..		Calm	..	..	..	..	..	..	10	..

DRY THERMOMETER.

Sep. 29d. 18h and 20h. The readings were lower than those of the Wet Thermometer.

MINIMUM FREE THERMOMETER.

Sep. 29d. 22h. The reading was higher than that of the Dry Thermometer at 12h.

RAIN.

Sep. 30d. 12h. The amount collected during the month of September in the rain-gauge No. 4 was 2in·12, 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·07.

REMARKS.	Observer.
Cumuli near the S. E. horizon, and fleecy clouds distributed over the sky: a shower of rain fell at 2^h.	H B
Light clouds are scattered about the sky, with cirro-stratus near the horizon.	
Cloudless.	
,,	
,,	
Overcast: cirro-stratus.	
The sky is generally covered with a thin cirro-stratus, through which the Sun is occasionally visible: there is an extensive portion of clear sky near the S. W. horizon: hazy.	H B
Cirro-stratus and haze: the Sun is shining through the clouds. At $22^h. 40^m$ a solar halo was observed whose radius was $22\frac{1}{2}°$.	D
The sky is nearly covered with a thin cirro-stratus. The halo still continues.	
Overcast: cirro-stratus. The halo has now disappeared.	D
,, rain is falling slightly.	H B
,, ,,	
,, ,,	
,, rain still continues.	H B
,, the rain has ceased, and the clouds appear high.	G
,, a thin rain is falling.	
,, very dark.	
,, a thick small rain is falling.	
,,	G
,, cirro-stratus.	H B
Blue sky is visible in many places N. of the zenith; elsewhere it is covered with cirro-stratus: fragments of a very light scud are passing over from the W. S. W.	
Cirro-stratus and dark scud: breaks in the clouds in every direction.	H B
Overcast: cirro-stratus and scud, the latter moving from the W.	G
A small portion of the sky, a little above the horizon in the N. W., is clear; the whole of the remainder of the sky is covered by a thin cirro-stratus and scud, but in some parts this is sufficiently thin to allow many small portions of blue sky to be visible; it would seem, therefore, that there is no upper cloud.	
The sky continued overcast till $7^h. 40^m$, at which time a few stars became visible; and at present the zenith and the parts around it for 60° are free from cloud; the stars however look dull and watery.	
Cloudless, except a few clouds round the horizon.	G
Cloudless.	D
,,	
,,	
,,	
The sky is nearly covered with a thin veil of cloud, and the Sun is shining through it. At 21^h a solar halo became visible.	D
The sky continues nearly covered with cirro-stratus. A fine solar halo is visible, its vertical radius being equal to $23\frac{1}{2}°$, and its horizontal diameter equal to 46°, the northern and western extremities being beautifully coloured; the breadth of the ring is 1°.	H B
Cirri and light clouds are scattered over the sky. The halo disappeared about $23^h. 0^m$.	
Cirro-stratus and fragments of scud, with cumuli beneath, cover nearly the whole of the sky. An arc of a solar halo was visible at $1^h. 35^m$ for a few minutes.	H B
Overcast: cirro-stratus and scud.	D
,, ,,	
The clouds have been gradually dispersing since 6^h, and at present the sky is cloudless, but the stars do not shine very brightly.	
Overcast: the sky remained clear till $9^h. 30^m$.	D
,, very dark.	H B
,, a shower of rain fell at $13^h. 10^m$.	

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Oct. 1. 16	29·630	56·5	56·6	–0·1	56·0	0·5	..	SSW	½ constant	SW	0·71	..	..	..	10	..
18	29·619	57·2	57·0	0·2	..	..	..	SSW	½ constant	..	..	..	..	..	10	..
20	29·617	58·5	57·7	0·8	..	..	..	SSW	½ to 1	..	..	..	..	..	10	..
22	29·648	59·6	58·4	1·2	57·5	2·1	..	SW	1 to 2	WSW	1·62	8·60	0·01	14·885	10	..
Oct. 2. 0	29·637	63·1	60·3	2·8	..	..	..	SW	½ to 1½	..	..	..	..	..	10	..
2	29·626	64·3	61·4	2·9	..	..	..	SSW	½ to 1	..	..	..	..	..	10	Transit
4	29·610	62·1	60·2	1·9	58·0	4·1	66·3	SSW	..	..	..	..	..	..	10	..
6	29·604	61·4	60·0	1·4	..	..	59·2	SSW	..	SW	3·12	..	..	..	10	..
8	29·602	60·3	59·5	0·8	..	..	——	S by W	..	..	..	..	..	..	9½	..
10	29·593	60·9	60·7	0·2	60·3	0·6	75·5	SSW	..	..	..	..	..	..	10	..
12	29·583	61·1	60·4	0·7	..	..	57·5	SSW	½ constant	..	..	..	..	..	8	..
14	29·553	61·7	60·7	1·0	..	..	——	Calm	..	..	..	..	..	..	10	..
16	29·527	60·7	60·2	0·5	59·0	1·7	54·5	Calm	..	..	..	..	..	..	10	..
18	29·512	60·3	59·8	0·5	..	..	54·0	Calm	..	..	..	..	..	..	10	..
20	29·497	60·2	59·5	0·7	..	..	..	Calm	..	..	..	..	..	..	10	..
22	29·495	61·2	60·9	0·3	60·5	0·7	..	SSW	½ constant	SSW	2·07	8·63	0·04	14·925	10	..
Oct. 3. 0	29·450	64·2	63·6	0·6	..	..	..	S by W	1 to 1½	..	..	..	..	..	10	..
2	29·406	65·1	63·4	1·7	..	..	..	S by W	..	S	0·80	..	..	..	10	Transit
4	29·375	67·1	64·2	2·9	62·0	5·1	..	SSW	½ to 1½	..	..	..	..	..	8	..
6	29·357	65·0	62·7	2·3	..	..	67·6	SSW	½ to 1½	..	..	..	..	..	9	..
8	29·400	61·4	59·5	1·9	..	..	50·5	SSW	½ constant	..	..	..	..	..	10	..
							—— 71·2									
10	29·418	58·0	57·5	0·5	57·5	0·5	45·5	SSW	..	SSW	0·44	..	..	..	7	..
12	29·448	53·0	52·8	0·2	..	..	——	SW	..	..	..	..	..	..	0	..
14	29·452	50·6	50·6	0·0	..	..	55·0	Calm	..	..	..	..	..	..	0	..
16	29·448	50·3	50·3	0·0	50·5	–0·2	55·0	Calm	..	S	0·60	..	..	..	0	..
18	29·442	50·6	50·4	0·2	..	..	..	Calm	..	..	..	..	..	..	6	..
20	29·454	53·3	52·8	0·5	..	..	..	SSW	..	..	..	..	..	..	6	..
22	29·467	58·0	54·5	3·5	52·0	6·0	..	SW	..	SW	2·86	8·65	0·04	14·975	7	..
Oct. 4. 0	29·476	59·5	54·7	4·8	..	..	..	SSW	0 to 2	..	..	..	..	..	9	..
2	29·457	61·4	54·2	7·2	..	..	..	SW	0 to 2½	..	..	..	..	..	4	..
4	29·444	59·3	53·4	5·9	..	..	62·8	SW	0 to 1½	..	..	..	..	..	10	Transit
6	29·432	55·6	52·3	3·3	..	..	48·2	SW	1 to 4½	SW	4·37	..	..	..	10	..
8	29·423	54·3	52·3	2·0	..	..	——	SW	1½ to 2½	..	..	..	..	..	6	..
10	29·417	53·3	51·2	2·1	49·5	3·8	78·4	SW	1½ to 3½	..	..	..	..	..	0	..
12	29·433	54·1	51·9	2·2	..	..	45·6	WSW	2 to 2½	WSW	1·16	..	..	..	8	..
14	..	..	..	..	..	..	——	W by S	1 to 2	..	..	..	..	..	..	..
16	..	..	..	..	..	..	55·0	W by N	½ to 1	WNW	0·79	..	..	..	..	..
18	..	..	..	..	..	..	55·0	NNW	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	N	..	..	..	..	..	..	..	..
22	29·816	51·4	47·2	4·2	..	..	..	N by W	..	NW	0·53	8·65	0·01	15·000	8	..
Oct. 5. 0	29·828	50·3	46·8	3·5	..	..	56·7	WNW	..	..	..	..	..	..	8	..
2	29·844	52·8	46·7	6·1	..	..	33·3	W by N	..	..	..	..	..	..	3	Transit
4	..	..	..	..	..	..	——	Calm	..	..	..	..	..	..	..	..
6	29·872	46·8	43·2	3·6	..	..	76·5	Calm	..	..	..	..	..	..	1	..
8	..	..	..	..	..	..	27·9 ——	Calm	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	55·0	Calm	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	54·5	Calm	..	..	..	..	..	..	..	..

DRY THERMOMETER.
Oct. 1d. 16h. The reading was lower than that of the Wet Thermometer.

DEW POINT THERMOMETER.
Oct. 3d. 16h. The reading was higher than that of the Dry Thermometer; and on Oct. 4d. 4h no observation was taken.

MINIMUM FREE THERMOMETER.
Oct. 3d. 22h. The reading was higher than that of the Dry Thermometer at 16h.

REMARKS.	Observer.
Overcast.	H B
,, dark scud is passing continually from the S. S. W.: wind in gusts to 1.	
Cirro-stratus and scud: wind in gusts to $1\frac{1}{2}$.	H B
Overcast: cirro-stratus and scud: a damp misty air: wind in gusts to 1.	D
Overcast: cirro-stratus and scud.	
,, ,,	D
,, ,,	H B
,, ,,	
Cirro-stratus and scud: several stars are visible in the E.	
Overcast: cirro-stratus and scud: slight showers of rain have frequently fallen since 8^h: wind in gusts to 1.	H B
A few stars have been visible in the zenith.	G
Overcast: the stars visible at 12^h continued so only for a few minutes.	
,, a little rain has been falling since 14^h.	
,, cirro-stratus.	
,, ,,	G
,, rain was falling shortly before this observation.	H B
Overcast: cirro-stratus and scud.	H B
,, ,, a shower of rain fell at $0^h. 45^m$.	D
Cirro-stratus and scud.	D
,, every part of the sky is covered, except a small portion in the S. E.: the wind blowing in gusts to $1\frac{1}{2}$.	H B
Overcast: cirro-stratus: shortly after the last observation most peculiarly coloured clouds were observed near the N. horizon: the sky was covered with dense masses of scud, moving very rapidly from the S. S. W., their extremities being tinged with various colours.	G
A few stars are shining about the zenith and near the horizon in the N. N. E.; the remainder of the sky is covered by cloud.	G
Cloudless: the sky has been generally clear since 10^h.	D
,,	
,,	
Cirro-stratus and scud.	
The western part of the sky is clear, but in every other part a thin cirro-stratus prevails.	D
The sky is principally covered with cirri, light clouds, and scud.	H B
Nearly overcast: cirro-stratus and dense scud. At $22^h. 30^m$ a solar halo was visible, but it disappeared in about fifteen minutes.	
Cumuli and fleecy clouds are scattered over the sky: the wind blowing in gusts to $1\frac{1}{2}$ and 2.	H B
A slight rain fell, soon after which the sky was partially clear for a short time, but at present it is cloudy.	D
Overcast: cirro-stratus and scud: the wind is blowing in gusts to 2.	
Cirro-stratus and scud.	
Cloudless: a shower of rain fell at about 9^h.	D
Cirro-stratus and scud: Jupiter and several stars in the S. E. are visible.	H B
Cumuli and a dense haze.	D
Cumuli and a dense haze.	
,,	
Cloudless, with the exception of a few clouds near the S. horizon.	D

OSLER'S ANEMOMETER.

Oct. 3^d, at $5^h. 10^m$, a pressure to $3\frac{1}{2}$ lbs.; and on Oct. 4^d, at $2^h. 40^m$ and at 13^h, gusts to $4\frac{1}{2}$ lbs. were 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. / of Rad. Therm. / of Therm. in Water of the Thames.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Oct. 5. 14	29·856	36·8	36·7	0·1	..	..	..	Calm	..	..	..	..	..	..	0	..
16	29·831	33·8	33·7	0·1	33·5	0·3	..	Calm	..	..	..	..	..	..	0	..
18	29·798	33·7	33·6	0·1	..	..	..	Calm	..	..	..	..	..	..	0	..
20	29·771	37·2	37·2	0·0	..	..	..	Calm	..	..	..	..	..	..	2	..
22	29·742	45·8	45·2	0·6	44·5	1·3	..	Calm	..	NW	0·04	8·65	0·00	15·000	10	..
Oct. 6. 0	29·683	51·3	48·2	3·1	..	..	..	E	0 to 1½	..	..	..	..	..	10	..
2	29·598	51·4	47·5	3·9	..	..		E	½ to 2	E	0·81	..	..	..	10	..
4	29·518	48·5	47·7	0·8	47·0	1·5	52·6	ENE	..	..	..	..	..	..	10	Transit Greatest dec. S.
6	29·441	48·0	48·0	0·0	..	..	47·2	ENE	½ constant	ENE	0·48	..	..	..	10	..
8	29·378	49·0	49·0	0·0	..	..	56·0	NE	½ constant	..	..	..	..	..	10	..
10	29·331	50·0	50·2	-0·2	50·0	0·0	47·0	Calm	..	NE	0·59	..	..	..	10	..
12	29·310	50·3	50·5	-0·2	..	..		Calm	..	..	..	..	..	..	10	..
14	29·271	50·3	50·5	-0·2	..	..	54·0	Calm	..	..	..	..	..	..	10	..
16	29·250	50·3	50·5	-0·2	50·5	-0·2	54·0	Calm	..	..	..	..	..	..	10	..
18	29·252	48·3	48·5	-0·2	..	..		Calm	..	..	..	..	..	..	10	..
20	29·288	47·2	47·4	-0·2	..	..	..	WSW	..	..	..	..	..	..	10	..
22	29·335	47·2	47·0	0·2	46·0	1·2	..	WSW	..	WSW	1·56	8·95	0·39	15·310	10	..
Oct. 7. 0	29·354	50·3	49·2	1·1	..	..	..	SW	0 to 1	..	..	..	..	..	10	..
2	29·366	54·0	50·9	3·1	..	..	..	SSW	..	..	..	..	..	..	9	..
4	29·360	55·0	50·6	4·4	47·0	8·0	55·9	SW	..	..	..	..	..	..	8	..
6	29·382	51·2	49·0	2·2	..	..	41·1	Calm	..	..	..	..	..	..	7	Transit
8	29·380	46·0	45·2	0·8	..	..		Calm	..	WSW	1·12	..	..	..	2	..
10	29·388	43·9	43·5	0·4	42·5	1·4	67·8	..	..	..	..	..	..	..	0	..
12	29·377	42·5	42·2	0·3	..	..	38·0	..	..	..	..	..	..	..	0	..
14	29·368	41·8	41·7	0·1	..	..		..	..	..	..	..	..	..	0	..
16	29·357	43·5	43·4	0·1	43·0	0·5	53·8	..	..	..	..	..	..	..	8	..
18	29·348	44·0	43·9	0·1	..	..	53·8	..	..	..	..	..	..	..	10	..
20	29·349	45·5	45·4	0·1	..	..	..	..	..	..	..	..	..	..	10	..
22	29·326	50·4	49·7	0·7	50·0	0·4	..	..	..	SW	1·23	8·95	0·04	15·330	9	..
Oct. 8. 0	29·300	53·8	51·9	1·9	..	..	..	S by W	..	..	..	..	..	..	10	1st Qr.
2	29·256	55·6	52·7	2·9	..	..	..	S	..	..	..	..	..	..	9	..
4	29·221	54·8	52·0	2·8	49·0	5·8	58·1	S by W	..	..	..	..	..	..	3	..
6	29·184	50·2	47·0	3·2	..	..	41·0	S	..	S	1·65	..	..	..	8	Transit Perigee
8	29·124	51·2	49·0	2·2	..	..		S by E	..	..	..	..	..	..	10	..
10	29·092	52·5	51·4	1·1	51·0	1·5	72·0	S	..	..	..	..	..	..	10	..
12	29·105	51·9	50·2	1·7	..	..	35·5	WSW	..	..	..	..	..	..	9¾	..
14	29·137	48·2	46·9	1·3	..	..		W by S	..	..	..	..	..	..	7	..
16	29·176	45·1	44·2	0·9	43·5	1·6	53·5	WSW	..	WSW	0·76	..	..	..	2	..
18	29·185	42·0	41·7	0·3	..	..	53·5	Calm	..	..	..	..	..	..	0	..
20	29·204	44·4	43·5	0·9	..	..	..	Calm	..	..	..	..	..	..	7	..
22	29·205	49·0	47·8	1·2	46·0	3·0	..	Calm	..	S	0·74	8·95	0·00	15·335	10	..
Oct. 9. 0	29·205	49·8	49·0	0·8	..	..	50·1	Calm	..	..	..	..	..	..	10	..
2	29·189	49·7	49·2	0·5	..	..	40·4	Calm	..	..	..	..	..	..	10	..
4	29·177	50·4	50·3	0·1	49·8	0·6		SSW	..	..	..	..	..	..	10	..
6	29·198	47·1	47·1	0·0	..	..	55·2	W by S	..	..	..	..	..	..	10	..
8	29·239	44·8	44·5	0·3	..	..	41·7	SW	..	..	..	..	..	..	3	Transit
10	29·270	42·5	42·2	0·3	41·5	1·0	53·0	SSW	..	..	..	..	..	..	0	..
12	29·295	41·4	41·1	0·3	..	..	52·5	SW	..	..	..	..	..	..	0	..

DRY THERMOMETER.

Oct. 6d, at 10h, 12h, 14h, 16h, 18h, and 20h, the readings were lower than those of the Wet Thermometer.

DEW POINT THERMOMETER.

Oct. 6d. 16h. The reading was higher than that of the Dry Thermometer.

OSLER'S ANEMOMETER.

Oct. 7d. 22h. The clock was found to have stopped at 8h. 10m, and was immediately set going.

REMARKS.	Observer.
Cloudless.	H B
,,	
,, very foggy.	
Cirro-stratus extending all along the N. horizon, with a few streaks of cirri S. of the zenith: foggy.	H B
Cirro-stratus and haze.	T D
Overcast: cirro-stratus.	T D
,, cirro-stratus and scud: there is every appearance of approaching rain.	D
,, rain is falling heavily.	H B
,, ,,	
,, rain is falling lightly.	
,, rain is falling.	H B
,, a thick damp fog.	G
,, ,,	
,, a thick fog, with rain falling.	
,, a heavy rain has been falling since the last observation.	
,, the rain ceased falling soon after 18^h: at about 19^h the wind began to blow from the S.W, with the strength of $\frac{1}{2}$; since that time it has been less strong but more constant: a thick mist.	G
Overcast.	L
Overcast: the Sun's place is visible.	
Cumuli to the S. and S. E. horizon: cirro-stratus and light clouds, with a break a little N. of the zenith.	L
Detached cumuli are scattered over the sky, with cumulo-stratus near the horizon.	G
A portion of the N. sky is clear; all the S. is covered by scud.	
Cloudless, with the exception of a few clouds near the horizon.	
Cloudless.	G
,, a slight haze.	L
,, ,,	
A few stars are shining about the zenith.	
Overcast.	
,, a few drops of rain fell about ten minutes before this observation.	L
Cirro-stratus and scud: drops of rain are falling.	H B
Cirro-stratus and scud.	
,, an extensive break near the S. E. horizon.	H B
Cumuli near the N. horizon, with detached masses to the S.: reticulated cirri about the zenith: fleecy clouds are in various directions.	L
The sky is nearly covered with thin fleecy clouds, shewing blue sky above: there is a break in the clouds to the N. and N. E.	
Overcast.	
,, the wind is blowing in gusts to $\frac{1}{2}$.	L
Cirro-stratus, scud, and vapour: several stars are visible.	H B
The sky is nearly covered with cirro-stratus of various densities, through which several of the larger stars are visible.	
Cirro-stratus and scud near the horizon in the S. E., S., and W.: the sky became clear about twenty minutes since.	
Cloudless.	
Cirro-stratus and scud are in every direction.	H B
Cirro-stratus and scud with occasional small rain.	L
Cirro-stratus: rain is falling.	
Overcast: rain is still falling:	L
,, rain is falling.	H B
,, cirro-stratus and scud.	
Light clouds are in every part of the sky.	
Cloudless.	H B
,,	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Oct. 9. 14	29·310	42·3	41·7	0·6	..	..	..	SSW	..	..	..	..	..	..	0	..
16	29·313	43·6	43·3	0·3	43·0	0·6	..	SSW	..	..	..	..	..	..	0	..
18	29·313	44·2	43·7	0·5	..	..	..	SSW	..	..	..	..	..	..	10	..
20	29·337	45·9	45·4	0·5	..	..	..	SSW	..	..	..	..	..	..	10	..
22	29·338	46·2	45·9	0·3	45·0	1·2	..	SSW	..	SSW	3·15	9·28	0·43	15·785	9	..
Oct. 10. 0	29·339	50·2	47·9	2·3	..	..	..	S by W	0 to ½	..	..	..	..	..	10	..
2	29·348	54·8	50·7	4·1	..	..	..	SSW	0 to 1	..	..	..	..	..	4	..
4	29·352	51·0	48·8	2·2	47·0	4·0	..	SSW	..	SSW	1·28	..	..	..	8	..
6	29·363	50·1	47·7	2·4	..	..	56·0	Calm	..	..	..	..	..	..	¼	..
8	29·361	45·6	44·4	1·2	..	..	43·9	Calm	..	..	..	..	..	..	0	Transit
10	29·356	44·8	43·8	1·0	42·5	2·3	71·5 39·1	Calm	..	..	..	..	..	..	2	..
12	29·316	44·7	43·9	0·8	..	..	52·5	Calm	..	..	..	..	..	..	7	..
14	29·274	46·2	45·9	0·3	..	..	52·0	Calm	..	S	0·47	..	..	..	10	..
16	29·249	49·0	48·9	0·1	49·0	0·0	..	Calm	..	..	..	..	..	..	10	..
18	29·253	49·0	49·0	0·0	..	..	..	Calm	..	..	..	..	..	..	10	..
20	29·292	49·8	49·7	0·1	..	..	..	Calm	..	..	..	..	..	..	10	..
22	29·325	52·2	52·4	–0·2	52·5	–0·3	..	Calm	..	SSE	0·80	9·53	0·30	16·085	10	..
Oct. 11. 0	29·368	52·5	51·4	1·1	..	..	..	SSW	..	..	..	..	..	..	10	..
2	29·416	54·4	52·0	2·4	..	..	..	W by N	..	..	..	..	..	..	9¾	..
4	29·484	53·0	50·8	2·2	49·0	4·0	55·8	N	..	N	1·75	..	..	..	8	..
6	29·559	51·0	48·2	2·8	..	..	39·4	N by W	..	..	..	..	..	..	3	..
8	29·635	46·3	45·2	1·1	..	..		NW	..	..	..	..	..	..	0	..
10	29·689	43·7	42·9	0·8	42·0	1·7	60·2	W by S	..	..	..	..	..	..	0	Transit
12	29·735	41·6	41·2	0·4	..	..	37·0	WSW	..	..	..	..	..	..	0	..
14	..	..	..	..	..	..		WSW	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	52·0	WSW	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	51·0	WSW	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..		WSW	..	..	..	..	..	..	..	..
22	29·962	46·5	45·7	0·8	..	..	..	WSW	..	WSW	1·30	9·53	0·00	16·090	6	..
Oct. 12. 0	29·985	50·0	47·9	2·1	..	..	..	Calm	..	..	..	..	..	..	3	..
2	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
4	30·019	53·8	48·9	4·9	..	..	..	Calm	..	..	..	..	..	..	2	..
6	..	..	..	..	..	..	57·1	Calm	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	43·4	Calm	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..		Calm	..	..	..	..	..	..	..	Transit
12	..	..	..	..	..	..	67·8	Calm	..	..	..	..	..	..	..	..
14	30·122	44·5	43·3	1·2	..	..	37·5	Calm	..	..	..	..	..	..	8	In Equator
16	30·123	46·4	45·4	1·0	44·8	1·6	51·0 51·0	Calm	..	..	..	..	..	..	9	..
18	30·141	49·4	48·9	0·5	..	..	..	Calm	..	..	..	..	..	..	10	..
20	30·170	51·0	50·2	0·8	..	..	..	Calm	..	..	..	..	..	..	9	..
22	30·198	57·2	54·7	2·5	53·5	3·7	..	S by W	..	SSW	1·95	9·53	0·00	16·090	7	..

DRY THERMOMETER.
Oct. 10d. 22h. The reading was lower than that of the Wet Thermometer.

DEW POINT THERMOMETER.
Oct. 10d. 22h. The reading was higher than that of the Dry Thermometer.

MAXIMUM FREE THERMOMETER.
Oct. 12d. 22h. The reading was lower than that of the Dry Thermometer at 22h.

OSLER'S ANEMOMETER.
Oct. 12d. 19h. 40m. The pencils were found quite off the sheet, and the chain off the spikes of the clock-barrel.

REMARKS.	Observer.
Cloudless: between $12^h.25^m$ and $13^h.10^m$ the sky was generally overcast, but soon after the latter time the clouds again dispersed.	D
Cloudless: the sky has been generally overcast since 14^h: at about 15^h a shower of rain fell.	
Overcast: cirro-stratus and scud: a thin rain is falling.	
,, ,,	D
Cirro-stratus and scud, with a break in the clouds to the N.W.	L
Overcast: cirro-stratus and scud.	
Cirro-stratus and scud, with cumuli near the horizon: the wind is blowing in gusts to ½.	L
Cirro-stratus and scud: at this time a slight shower of rain is falling: there are several well formed cumulo-strati near the horizon in the S. S. W. and S. E.	D
There are a few cumulo-strati near the E. horizon, which are of a most beautiful yellow colour, caused by the setting Sun; the sky is otherwise clear.	
Cloudless.	
Cirro-stratus N.W. of the zenith: there is a very thin mist or veil of cloud over the southern portion of the sky, but the Moon and stars are visible through it. A faint lunar halo has been visible since 9^h, whose radius is 22°: there has also been a corona visible from the same time.	D
Thin cirro-stratus and vapour: the sky is clear for some distance round the zenith, but especially to the S. of it. The halo disappeared at about $11^h.45^m$.	L
Overcast: a few stars are occasionally visible about the zenith.	
,, rain has been falling occasionally since the last observation.	
,, rain began to fall soon after 16^h, and has continued ever since.	
,, rain is falling.	L
,, rain is still falling, but slightly.	H B
Overcast: cirro-stratus and scud: very gloomy: a slight fog prevails.	
Nearly overcast, with cirro-stratus and scud: gloomy.	H B
Cumuli and cumulo-strati W. of the zenith: the eastern part of the sky is mostly covered with cirri in lines.	L
Hazy to the N.: fine cumulo-strati of a copper colour in the E.: cirro-stratus in the W. horizon.	
A thick fog, the larger stars alone being visible.	
Cloudless: the fog is not so thick as at the last observation.	L
,, a slight fog.	H B
Hazy to the N.: a kind of thin cirro-stratus is spread over the eastern portion of the sky, shewing blue sky above. A very faint solar halo is visible, but too indistinct for measurement.	L
Cirro-stratus and haze.	
Cumuli and haze to the N.; cloudless elsewhere.	L
At $8^h.30^m$ a halo was visible round the Moon.	H B
Cirro-stratus more or less dense in every part of the sky. The Moon is occasionally surrounded by a halo; one of these occurred at $12^h.10^m$, and another a few minutes before this observation, but they were too faint for measurement.	
The sky at present is nearly overcast with cirro-stratus and scud; Jupiter and a few of the brighter stars in Orion alone being visible.	
Overcast: cirro-stratus.	
Cirro-cumuli in the zenith, a few light cirri around it, and cirro-stratus and scud in other directions.	H B
Cirro-stratus E. of the zenith, with cirri in various directions.	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Oct. 13. 0	30·217	62·2	56·4	5·8	..	..	..	S by W	0 to 1	..	..	..	..	..	5	..
2	30·214	61·4	55·2	6·2	..	..	..	S by W	0 to 1	..	..	..	..	..	0	..
4	30·227	59·3	53·9	5·4	48·5	10·8	62·5	SSW	..	..	..	..	..	..	0	..
6	30·251	54·0	51·3	2·7	..	..	45·7	Calm	..	..	..	..	..	..	0	..
8	30·275	49·8	48·3	1·5	..	..	——	Calm	..	SSW	1·17	..	..	..	0	..
10	30·310	47·5	46·7	0·8	46·5	1·0	81·2	Calm	..	..	..	..	..	..	0	..
12	30·318	47·1	46·5	0·6	..	..	40·5	Calm	..	..	..	..	..	..	0	Transit
14	30·334	49·0	47·9	1·1	..	..	——	Calm	..	..	..	..	..	..	0	..
16	30·323	47·2	46·8	0·4	46·5	0·7	51·5	Calm	..	..	..	..	..	..	0	..
18	30·335	46·2	46·0	0·2	..	..	50·8	Calm	..	..	..	..	..	..	0	..
20	30·347	47·4	46·7	0·7	..	..	..	Calm	..	..	..	..	..	..	0	..
22	30·364	55·5	51·7	3·8	50·0	5·5	..	Calm	..	S	1·40	9·53	0·00	16·095	0	..
Oct. 14. 0	30·351	61·0	54·7	6·3	..	..	..	SSW	..	..	..	..	..	..	0	..
2	30·332	61·5	54·0	7·5	..	..	..	SSW	..	..	..	..	..	..	0	..
4	30·307	59·8	52·7	7·1	47·5	12·3	62·7	S by W	..	..	..	..	..	..	0	..
6	30·299	52·9	49·1	3·8	..	..	45·7	Calm	..	..	..	..	..	..	0	..
8	30·295	48·6	46·8	1·8	..	..	——	Calm	..	..	..	..	..	..	0	..
10	30·274	49·6	47·7	1·9	46·0	3·6	83·2	Calm	..	..	..	..	..	..	0	..
12	30·252	48·0	46·7	1·3	..	..	40·2	Calm	..	..	..	..	..	..	0	Transit
14	30·207	47·7	47·2	0·5	..	..	——	Calm	..	..	..	..	..	..	0	..
16	30·176	47·7	46·9	0·8	46·0	1·7	51·0	Calm	..	..	..	..	..	..	1	..
18	30·149	46·5	45·5	1·0	..	..	50·8	S by W	..	..	..	..	..	..	½	..
20	30·152	49·5	47·4	2·1	..	..	..	S by W	..	..	..	..	..	..	6	..
22	30·124	54·0	50·7	3·3	48·0	6·0	..	SSW	..	SSW	1·84	9·53	0·00	16·095	8	Full.
Oct. 15. 0	30·102	60·1	54·2	5·9	..	..	..	S by W	..	..	..	..	..	..	3	..
2	30·043	64·0	55·5	8·5	..	..	..	S by W	..	..	..	..	..	..	5	..
4	30·005	59·3	53·4	5·9	50·0	9·3	65·8	S by W	..	..	..	..	..	..	8	..
6	29·994	54·8	51·2	3·6	..	..	52·6	SW	..	..	..	..	..	..	9½	..
8	29·978	53·5	50·8	2·7	..	..	——	SSW	..	..	..	..	..	..	10	..
10	29·953	52·8	51·4	1·4	50·0	2·8	84·8	SSW	..	..	..	..	..	..	10	..
12	29·945	54·2	53·1	1·1	..	..	48·5	SSW	..	SSW	2·48	..	..	..	10	Transit
14	29·914	54·3	53·8	0·5	..	..	——	SW	..	..	..	..	..	..	10	..
16	29·912	54·8	54·9	−0·1	54·3	0·5	51·5	W by S	..	..	..	..	..	..	10	..
18	29·915	54·4	54·6	−0·2	..	..	51·0	W by N	..	..	..	..	..	..	10	..
20	29·959	53·0	51·2	1·8	..	..	..	N by W	..	..	..	..	..	..	10	..
22	29·986	53·5	51·5	2·0	49·0	4·5	..	NW	..	NW	0·73	9·53	0·00	16·100	8	..
Oct. 16. 0	30·013	56·0	51·5	4·5	..	..	..	NW	..	..	..	..	..	..	10	..
2	30·009	57·0	50·9	6·1	..	..	..	NW	..	NW	1·69	..	..	..	4	..
4	30·010	58·0	52·7	5·3	49·0	9·0	58·5	W	..	..	..	..	..	..	6	..
6	30·020	52·9	48·9	4·0	..	..	40·2	WNW	..	..	..	..	..	..	1	..
8	30·054	49·8	46·9	2·9	..	..	——	W by N	..	..	..	..	..	..	0	..
10	30·066	45·6	43·9	1·7	42·5	3·1	62·5	W by S	..	..	..	..	..	..	0	..
12	30·066	42·1	41·2	0·9	..	..	36·0	WSW	..	..	..	..	..	..	0	Transit
14	30·042	41·0	40·3	0·7	..	..	——	SSW	..	..	..	..	..	..	9	..
16	30·047	42·1	41·2	0·9	40·0	2·1	51·5	W by S	..	..	..	..	..	..	10	..
18	30·024	44·6	43·4	1·2	..	..	51·2	WSW	½ constant	..	..	..	..	..	10	..
20	30·024	47·7	46·3	1·4	..	..	..	SW	½ constant	..	..	..	..	..	10	..
22	30·024	50·8	48·9	1·9	47·0	3·8	..	SW	1 to 1½	SSW	1·28	9·53	0·00	16·105	10	..

DRY THERMOMETER.
Oct. 15d. 16h and 18h. The readings were lower than those of the Wet Thermometer.

REMARKS.	Observer.
Cirro-stratus and fleecy clouds are scattered round the whole horizon.	T D
Cloudless.	T D
,,	H B
,,	
,,	
,, A very faint corona has been visible round the Moon since 9h; its diameter is about 5°.	H B
,,	D
,,	
,,	
,,	
,,	D
,,	L
Cloudless.	
,,	L
,,	D
,,	
,,	
,,	D
,,	L
,,	
Cloudless, with the exception of a few fleecy clouds to the N.	
A few fleecy clouds are about the place of the Moon.	
Fleecy clouds and cirro-cumuli.	L
The sky is principally covered with cirro-cumuli, and also with cirro-stratus and scud, to an altitude of 10°.	H B
Several fine specimens of cirri and cirro-cumuli have been visible since 22h: cirro-stratus and fleecy clouds near the horizon.	
Cirro-stratus, fleecy clouds, and scud, extending from the N. horizon to a considerable altitude: a few cirro-cumuli near the zenith, and cirri to the S. of the zenith.	H B
Cirro-stratus, fleecy clouds, and a few cirro-cumuli near the zenith.	L
Cirro-stratus and fleecy clouds.	
,,	
Overcast.	L
,, cirro-stratus and fleecy clouds.	H B
,, cirro-stratus.	
,, ,, rain falling slightly.	
,, ,, the rain has ceased.	
,, ,, foggy.	H B
Cirro-stratus and cumuli to the N.: cirri in various directions: there is a glory round the Sun: foggy.	L
Cumuli to the N.; a thin cirro-stratus covers the rest of the sky: foggy towards the N.	
,, cirro-stratus round the horizon: cumulo-strati in the W. The upper part of a solar halo was visible a short time since.	L
Cumulo-stratus near the N.W. and S. E. horizon, and cumuli in various directions: fleecy clouds and scud are very prevalent.	H B
Cirro-stratus and vapour near the horizon: a thin fog.	
Cloudless: hazy.	
,,	H B
,,	D
Thin cirro-stratus. A perfect lunar halo is visible, its diameter, both horizontal and vertical, being 43°: the cloud is very thin, as nearly all the larger stars are shining through it.	
Cirro-stratus and scud. The halo is still visible.	
Overcast: cirro-stratus. The halo disappeared at about 16h. 30m.	
,, ,,	D
,, ,,	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.	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.	RAIN. Stand of Rain-gauge No. 1. (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3. (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Oct. 17. 0	29·985	54·0	51·2	2·8	..	..	..	SSW	½ to 1½	..	..	..	..	..	10	..
2	29·962	54·7	51·4	3·3	..	..	..	SSW	½ to 1	..	..	..	..	..	10	..
4	29·915	54·0	51·1	2·9	49·5	4·5	57·3	SSW	½ to 1	..	..	..	..	..	10	..
6	29·911	54·0	51·2	2·8	..	..	53·6	SW	1½ to 3	..	..	..	..	..	10	..
8	29·911	55·1	52·8	2·3	..	..	—	WSW	1½ to 3	WSW	3·16	..	..	..	10	..
10	29·926	56·1	54·3	1·8	53·5	2·6	62·5	WSW	1½ to 2	..	..	..	..	..	10	..
12	29·930	55·2	54·0	1·2	..	..	49·2	WSW	½ to 1	W	2·64	..	..	..	10	..
14	29·944	56·0	54·7	1·3	..	..	—	WSW	½ to 2½	..	..	..	..	..	10	Transit
16	29·962	56·8	55·2	1·6	54·0	2·8	51·5	WSW	½ constant	..	..	..	..	..	10	..
18	29·976	55·2	53·9	1·3	..	..	51·2	WSW	1 to 2	WSW	0·76	..	..	..	10	..
20	29·993	53·8	51·5	2·3	..	..	..	WSW	1 to 2	..	..	..	..	..	0	..
22	30·022	56·5	52·4	4·1	49·5	7·0	..	W by S	1 to 3½	W	1·11	9·53	0·00	16·105	10	..
Oct. 18. 0	30·030	57·0	52·3	4·7	..	..	..	WSW	0 to 1	..	..	..	..	..	10	..
2	30·023	58·4	52·3	6·1	..	..	..	W by S	0 to 1	W	4·22	..	..	..	10	..
4	30·023	57·8	52·4	5·4	..	..	58·8	WSW	0 to ½	..	..	..	..	..	8	..
6	30·035	54·5	51·4	3·1	..	..	49·5	WSW	..	..	..	..	..	..	1	..
8	30·056	52·7	50·7	2·0	..	..	—	WSW	½ to 1½	..	..	..	..	..	4	..
10	30·077	51·7	50·7	1·0	50·0	1·7	70·7	WSW	0 to ½	..	..	..	..	..	10	..
12	30·107	53·0	51·8	1·2	..	..	46·8	WSW	..	..	..	..	..	..	10	..
14	..	..	..	..	..	..	—	SSW	..	..	..	..	..	..	..	Transit
16	..	..	..	..	..	..	51·8	SSW	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	51·8	WSW	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..
22	30·147	54·7	53·3	1·4	..	..	..	WSW	..	WSW	2·35	9·53	0·00	16·105	8	..
Oct. 19. 0	30·151	57·0	54·9	2·1	..	..	..	SW	0 to ½	..	..	..	..	..	10	..
2	..	..	..	..	..	..	..	SW	½ to 1	..	..	..	..	..	..	..
4	30·095	56·3	54·5	1·8	..	..	58·3	SW	..	..	..	..	..	..	10	..
6	30·071	54·9	53·0	1·9	..	..	51·4	SW	..	..	..	..	..	..	10	..
8	..	..	..	..	..	..	—	SW	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	69·5	SW	..	..	..	..	..	..	..	Greatest declination N.
12	..	..	..	..	..	..	52·5	SW	0 to 1	..	..	..	..	..	..	..
14	29·975	51·8	50·9	0·9	..	..	—	SW	½ to 3	..	..	..	..	..	10	..
16	29·943	51·3	50·5	0·8	..	..	51·8	SW	0 to 1	..	..	..	..	..	10	Transit
18	29·921	51·0	50·1	0·9	..	..	51·8	SW	0 to 1½	..	..	..	..	..	10	..
20	29·914	51·1	50·5	0·6	..	..	..	SW	0 to 1	..	..	..	..	..	10	..
22	29·917	53·5	52·0	1·5	51·0	2·5	..	SW	0 to ½	WSW	7·38	9·53	0·00	16·105	10	..
Oct. 20. 0	29·919	56·8	53·7	3·1	..	..	..	W	1 to 3	..	..	..	..	..	10	..
2	29·918	57·2	48·7	8·5	..	..	..	W	½ to 3	..	..	..	..	..	1	..
4	29·917	55·0	46·7	8·3	37·5	17·5	58·6	W by S	1 to 2	WNW	1·85	..	..	..	¼	..
6	29·957	50·9	44·8	6·1	..	..	39·9	W by S	0 to ½	..	..	..	..	..	1	..
8	30·005	47·5	43·4	4·1	..	..	—	W by S	..	..	..	..	..	..	0	..
10	30·020	46·5	42·7	3·8	39·0	7·5	73·0	W by S	½ to 1	..	..	..	..	..	0	..
12	30·044	43·0	41·0	2·0	..	..	32·5	WSW	..	..	..	..	..	..	0	..
14	30·054	42·7	40·7	2·0	..	..	—	W by S	..	..	..	..	..	..	0	Transit
16	30·080	42·6	40·3	2·3	38·0	4·6	51·5	W	..	..	..	..	..	..	0	..
18	30·108	41·1	39·4	1·7	..	..	51·5	W by S	..	..	..	..	..	..	0	..
20	30·137	41·5	39·8	1·7	..	..	..	W by S	..	..	..	..	..	..	0	..
22	30·176	44·8	42·5	2·3	40·0	4·8	..	WSW	..	W	2·25	9·53	0·00	16·105	0	..
Oct. 21. 0	30·192	50·2	46·2	4·0	..	..	..	NW	0 to ½	..	..	..	..	..	2	..

DEW POINT THERMOMETER.

Oct. 18d. 4h. The observation was omitted by inadvertence.

Oct. 19d. 16h. No observation was taken.

MINIMUM FREE THERMOMETER.

Oct. 19d. 22h. The reading was higher than that of the Dry Thermometer at 14h, 16h, 18h, and 20h; and lower than that of the Radiation Minimum Thermometer as read at the same time.

REMARKS.	Observer.
Cirro-stratus and scud.	L
Overcast: cirro-stratus and scud.	L
,, ,,	D
,, cirro-stratus: the wind blowing in gusts to 1.	
,, ,,	
,, ,,	D
Cirro-stratus and scud: the Moon is visible through the clouds.	L
Overcast: cirro-stratus.	
,, ,,	
,, cirro-stratus and scud moving quickly from the W. [from the W.	
The clouds began to disperse soon after the last observation; the clouds at present consist of light scud, which is passing quickly	L
Overcast: cirro-stratus and scud, the latter moving rapidly from the W.: the wind blowing in frequent gusts to 1½.	H B
Cirro-stratus and scud.	
,, there are a few small breaks in the clouds around the zenith, but to no numerical extent.	H B
Cirro-stratus and reticulated cirri are scattered over the greater part of the sky.	L
Cirro-stratus along the N. horizon.	
Cirro-stratus round the horizon, with cirri in lines in various parts of the sky.	
Overcast: the Moon is visible through the clouds.	L
Overcast, the Moon and Jupiter being visible through the clouds.	H B
Cirro-stratus and scud, with a few cirro-cumuli near and around the zenith.	
Overcast: cirro-stratus and scud.	
,, ,, rain falling slightly.	
,, ,,	
,, ,, the wind blowing in gusts to 1½.	
,, ,, ,,	
,, ,, rain falling slightly.	
,, rain falling slightly.	H B
,,	L
Cumuli to the N. W., with cirro-stratus and scud in other directions: occasional breaks in the clouds N. of the zenith.	
Cloudless, with the exception of cumuli and haze to the N. horizon.	L
A few cumuli near the S. S. E. horizon: the wind blowing in gusts to 1½ and 2.	H B
Cirro-stratus, scud, and haze, near the horizon.	
Cloudless.	
Cloudless, but very hazy, especially near the N. horizon.	H B
Cloudless.	D
,,	
,,	
,,	
,,	D
Cloudless, but hazy towards the N.	L
Detached cumuli and light 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. of Rad. Therm. of Therm. in Water of the Thames.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Oct. 21. 2	30·203	51·8	46·2	5·6	..	..	..	NW	0 to ½	..	..	..	..	..	8	..
4	30·205	51·3	45·8	5·5	41·0	10·3	53·6	NW	..	..	..	..	..	..	4	..
6	30·221	49·0	44·7	4·3	..	..	38·4	NW	..	NW	1·28	..	..	..	0	..
8	30·247	45·6	43·1	2·5	..	..	——	WSW	..	..	..	..	..	..	7	..
10	30·262	45·4	43·0	2·4	41·0	4·4	65·6	W by S	..	..	..	..	..	..	9	..
12	30·259	45·0	43·2	1·8	..	..	32·8	W by S	..	..	..	..	..	..	10	..
14	30·246	43·5	42·4	1·1	..	..	——	SSW	..	..	..	..	..	..	10	..
16	30·255	42·0	41·2	0·8	40·0	2·0	51·0	SW	..	..	..	..	..	..	5	..
18	30·264	39·5	39·0	0·5	..	..	51·0	SW by S	..	..	..	..	..	..	0	Transit
20	30·290	41·3	40·9	0·4	..	..		SSW	..	..	..	..	..	..	8	..
22	30·304	46·3	45·4	0·9	43·0	3·3	..	WSW	..	WSW	1·08	9·53	0·00	16·105	10	..
Oct. 22. 0	30·312	50·3	48·1	2·2	..	..	..	W by S	..	..	..	..	..	..	10	..
2	30·307	53·7	47·6	6·1	..	..	..	NW	..	NW	0·55	..	..	..	9	Apogee
4	30·315	52·8	47·0	5·8	40·0	12·8	54·1	WNW	..	..	..	..	..	..	10	..
6	30·336	51·2	47·2	4·0	..	..	46·2	NNW	..	..	..	..	..	..	10	..
8	30·362	47·8	46·0	1·8	..	..	——	..	..	..	..	..	..	..	10	..
10	30·396	47·5	46·2	1·3	43·5	4·0	57·0	..	..	WNW	0·40	..	..	..	10	..
12	30·405	47·5	45·9	1·6	..	..	43·0	..	..	..	..	..	..	..	10	..
14	30·400	48·6	44·7	3·9	..	..	——	..	..	..	..	..	..	..	10	..
16	30·389	47·8	44·9	2·9	41·0	6·8	51·0	..	..	..	..	..	..	..	10	..
18	30·389	46·4	44·2	2·2	..	..	51·0	..	..	..	..	..	..	..	10	Transit
20	30·425	46·5	44·4	2·1	..	..	..	..	..	..	..	..	..	..	10	3rd Qr.
22	30·445	47·3	45·2	2·1	43·0	4·3	..	..	..	W	0·50	9·53	0·00	16·105	10	..
Oct. 23. 0	30·430	50·6	45·4	5·2	..	..	..	SSW	..	..	..	..	..	..	9¾	..
2	30·412	51·2	45·9	5·3	..	..	..	SW	..	..	..	..	..	..	2	..
4	30·392	49·9	45·6	4·3	39·0	10·9	53·9	Calm	..	..	..	..	..	..	2	..
6	30·399	43·3	41·2	2·1	..	..	33·0	Calm	..	..	..	..	..	..	½	..
8	30·400	40·2	38·9	1·3	..	..	——	Calm	..	..	..	..	..	..	0	..
10	30·410	37·5	36·5	1·0	35·0	2·5	58·0	Calm	..	..	..	..	..	..	0	..
12	30·380	37·1	36·4	0·7	..	..	25·5	Calm	..	..	..	..	..	..	0	..
14	30·366	33·5	33·4	0·1	..	..	——	Calm	..	..	..	..	..	..	0	..
16	30·334	35·2	34·8	0·4	34·5	0·7	50·2	Calm	..	..	..	..	..	..	10	..
18	30·310	37·0	36·8	0·2	..	..	50·2	Calm	..	..	..	..	..	..	10	..
20	30·302	38·0	37·6	0·4	..	..	..	Calm	..	..	..	..	..	..	10	Transit
22	30·300	42·3	41·8	0·5	41·0	1·3	..	Calm	..	SSW	1·25	9·53	0·00	16·105	10	..
Oct. 24. 0	30·270	52·2	48·4	3·8	..	..	..	Calm	..	..	..	..	..	..	7	..
2	30·218	53·8	48·9	4·9	..	..	..	Calm	..	..	..	..	..	..	1	..
4	30·157	52·5	48·5	4·0	42·0	10·5	55·8	Calm	..	..	..	..	..	..	0	..
6	30·118	46·1	44·2	1·9	..	..	34·2	Calm	..	S	1·10	..	..	..	0	..
8	..	..	..	..	..	..	——	..	..	..	..	..	..	..	..	..
10	30·063	40·4	39·7	0·7	38·5	1·9	73·0	Calm	..	..	..	..	..	..	0	..
12	30·044	38·4	38·3	0·1	..	..	28·2	Calm	..	..	..	..	..	..	0	..
14	30·028	36·0	35·8	0·2	..	..	——	Calm	..	..	..	..	..	..	1	..
16	30·023	37·4	37·2	0·2	37·0	0·4	50·0	Calm	..	..	..	..	..	..	10	..
18	30·026	37·3	37·0	0·3	..	..	50·0	Calm	..	..	..	..	..	..	0	Transit
20	30·065	38·5	38·5	0·0	..	..	..	W by S	..	..	..	..	..	..	10	..
22	30·101	43·5	43·7	-0·2	43·0	0·5	..	SSW	..	WSW	0·32	9·53	0·00	16·110	0	..
Oct. 25. 0	30·116	48·3	47·5	0·8	..	..	..	W by S	..	..	..	..	..	..	0	..
2	30·136	52·0	49·2	2·8	..	..	..	N by W	..	N	0·88	..	..	..	10	..

DRY THERMOMETER.

Oct. 24d. 22h. The reading was lower than that of the Wet Thermometer.

Oct. 24d. 8h. The observations were omitted.

OSLER'S ANEMOMETER.

Oct. 22d. After 6h the clock stopped, and at 22h the chain was found off the spikes of the clock-barrel.

REMARKS.	Observer.
Cumuli, cumulo-strati, and light scud.	L
Cumuli and cumulo-strati : very hazy.	D
Cloudless, but very hazy.	
Heavy vapour : the stars that are visible shine but dimly.	
,, ,,	D
Overcast : cirro-stratus and fleecy clouds.	L
,, ,,	
Overcast, with the exception of the sky N. of the zenith, which is quite clear.	
Cloudless.	
Cirro-stratus, fleecy clouds, and scud : foggy to the N.	L
Nearly overcast with cirro-stratus and scud : a few breaks appear in various parts of the sky.	H B
Overcast : cirro-stratus and scud.	
The clouds are broken S. E. of the zenith, and also in the N.	H B
Overcast : cirro-stratus.	L
,, ,,	
,,	L
,, a slight fog.	G
,, ,,	G
,,	D
,, cirro-stratus and scud.	H B
,, the Moon is occasionally visible.	H B
,, foggy.	L
,, ,,	L
Overcast, with the exception of a few breaks N. of the zenith.	H B
Cirro-stratus, cumuli, and haze towards the N.	L
Cirro-stratus and haze near the horizon, and a few cumuli scattered over the sky.	H B
Cloudless, with the exception of a bank of cloud in the N. and N.W. near the horizon.	D
Cloudless.	L
,,	G
,, hazy.	H B
,,	
Overcast : cirro-stratus and scud.	
,, ,, foggy.	
,, ,, ,,	H B
,, foggy.	L
Cumuli and fleecy clouds.	
Cumuli and fleecy clouds towards the S.	L
Cloudless.	H B
,,	
,,	H B
,,	D
A few clouds are visible in the E. with a slight fog.	
Overcast : slight fog.	
Cloudless : the fog has nearly disappeared.	
A dense fog prevails.	D
Cloudless : hazy.	L
Cloudless : a thin fog.	
A thin cirro-stratus covers the sky.	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Oct. 25. 4	30·160	51·4	48·5	2·9	46·0	5·4	53·7	Calm	..	..	..	..	..	..	5	..
6	30·188	46·6	45·5	1·1	..	..	31·4	Calm	..	..	..	..	..	..	4	..
8	30·216	42·8	42·3	0·5	..	..	——	Calm	..	..	..	..	..	..	0	..
10	30·230	40·9	40·9	0·0	41·0	−0·1	66·6	Calm	..	..	..	..	..	..	0	..
12	30·230	42·8	42·7	0·1	..	..	28·7	Calm	..	..	..	..	..	..	0	..
14	..	..	..	..	..	..	——	Calm	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	49·5	Calm	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	49·2	Calm	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	Transit
22	30·221	37·6	37·7	−0·1	..	..	..	Calm	..	SW	0·23	9·53	0·00	16·110	10	..
Oct. 26. 0	30·210	41·6	41·4	0·2	..	..	..	SW by S	..	..	..	..	..	..	1	..
2	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	47·0	SW	..	SW	3·47	..	..	..	..	..
6	..	..	..	..	..	..	37·9	..	..			..	..	..	..	..
8	..	..	..	..	..	..	——	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	57·7	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	34·5	..	..	..	..	..	..	..	..	..
14	30·076	39·7	38·2	1·5	..	..	——	..	..	WSW	0·45	..	..	..	3	..
16	30·043	40·2	39·0	1·2	38·0	2·2	49·2	..	..	..	..	..	..	..	10	..
18	30·025	42·5	41·2	1·3	..	..	49·2	..	..	..	..	..	..	..	10	..
20	30·022	43·2	42·0	1·2	..	..	..	..	..	..	..	..	..	..	10	Transit
22	30·001	47·5	45·7	1·8	43·0	4·5	..	..	..	W	0·13	9·53	0·00	16·110	10	In Equator
Oct. 27. 0	29·990	52·0	48·2	3·8	..	..	..	WSW	½ to 2½	..	..	..	..	..	9	..
2	29·977	51·5	47·7	3·8	..	..	..	WSW	0 to 1	..	..	..	..	..	10	..
4	29·955	51·2	47·4	3·8	45·0	6·2	52·9	WSW	0 to 1	..	..	..	..	..	10	..
6	29·970	47·5	45·4	2·1	..	..	44·0	SW	..	..	..	..	..	..	8	..
8	29·974	47·5	45·4	2·1	..	..	——	SW	..	W	1·40	..	..	..	10	..
10	29·972	47·0	45·0	2·0	44·0	3·0	62·0	SW	..	..	..	..	..	..	10	..
12	29·953	47·3	45·2	2·1	..	..	40·5	SW by W	0 to ½	..	..	..	..	..	10	..
14	29·938	45·7	44·7	1·0	..	..	——	WSW	..	..	..	..	..	..	0	..
16	29·940	44·2	43·7	0·5	43·0	1·2	48·2	SW	..	..	..	..	..	..	1	..
18	29·938	46·1	45·7	0·4	..	..	47·5	SW	..	..	..	..	..	..	10	..
20	29·961	46·8	46·7	0·1	..	..	..	SW by W	0 to ½	..	..	..	..	..	4	..
22	29·968	51·0	50·0	1·0	49·0	2·0	..	WSW	..	WSW	4·85	9·53	0·00	16·120	10	Transit
Oct. 28. 0	29·972	55·3	53·7	1·6	..	..	..	WSW	..	..	..	..	..	..	3	..
2	29·951	56·0	53·0	3·0	..	..	..	WSW	..	WSW	1·97	..	..	..	8	..
4	29·939	54·1	52·2	1·9	50·3	3·8	57·8	SSW	..	..	..	..	..	..	10	..
6	29·945	52·1	50·7	1·4	..	..	49·3	SSW	..	..	..	..	..	..	10	..
8	29·943	51·8	50·6	1·2	..	..	——	Calm	..	SW	0·88	..	..	..	10	..
10	29·945	51·5	50·2	1·3	48·5	3·0	70·1	Calm	..	..	..	..	..	..	10	..
12	29·935	50·5	49·3	1·2	..	..	45·3	Calm	..	..	..	..	..	..	10	..
14	29·926	49·7	48·2	1·5	..	..	——	Calm	..	..	..	..	..	..	10	..
16	29·913	49·6	47·4	2·2	46·5	3·1	48·2	Calm	..	..	..	..	..	..	10	..
18	29·882	49·1	47·7	1·4	..	..	47·5	Calm	..	..	..	..	..	..	10	..
20	29·872	49·7	48·1	1·6	..	..	..	Calm	..	..	..	..	..	..	10	..
22	29·864	51·2	47·9	3·3	44·5	6·7	..	Calm	..	SSW	0·40	9·53	0·00	16·120	½	..
Oct. 29. 0	29·849	54·0	49·4	4·6	..	..	..	S by W	..	..	..	..	..	..	0	Transit
2	29·813	54·5	49·9	4·6	..	..	..	S by W	..	..	..	..	..	..	2	..
4	29·775	52·6	48·6	4·0	45·5	7·1	..	Calm	..	SSW	0·79	..	..	..	2	..

DRY THERMOMETER.

Oct. 25^d 22^h. The reading was lower than that of the Wet Thermometer.

DEW POINT THERMOMETER.

Oct. 25^d. 10^h. The reading was higher than that of the Dry Thermometer.

MAXIMUM FREE THERMOMETER.

Oct. 26^d. 22^h. The reading was lower than that of the Dry Thermometer at 22^h.

MINIMUM FREE THERMOMETER.

Oct. 28^d. 22^h. The reading was higher than that of the Dry Thermometer at 18^h.

REMARKS.	Observer.
The sky is about half covered with detached portions of irregularly formed cloud.	D
Light clouds and fragments of scud are in every direction.	
Cloudless.	
,,	D
,, a thin fog.	L
A dense fog has been prevalent since midnight.	D
A few light clouds are scattered over the sky: the fog disappeared soon after the last observation; at 23^h there was none whatever.	D
Cloudy round the horizon.	L
Overcast.	
,,	
,, cirro-stratus.	L
,, ,,	H B
Cirro-stratus and scud principally cover the sky, with a few cirro-cumuli round the zenith.	
Overcast: cirro-stratus and scud.	H B
,, ,,	L
Cirro-stratus and scud: the sky S. of the zenith is clear.	
Overcast.	
,, a few stars are occasionally visible about the zenith.	L
,, cirro-stratus.	H B
Cloudless.	
Cloudless, except fragments of scud and cirro-stratus near the horizon.	
Overcast: cirro-stratus. [S. of the zenith.	
Cirro-stratus and fragments of scud are near the horizon in every direction, with light clouds and cirro-cumuli around and to the	H B
Overcast: cirro-stratus and fleecy clouds.	L
Cirro-stratus and fleecy clouds are round the horizon.	
Cirro-stratus and fleecy clouds, with breaks in the clouds N. of the zenith.	L
Overcast.	H B
,, cirro-stratus and scud.	
,, ,,	
,, ,,	H B
,,	D
,,	
,,	
,,	
Overcast, with clouds of unequal density.	D
Cloudless, with the exception of a few small cumuli near the N. horizon, and fragments of scud in various directions.	H B
A few light clouds are to the N., but to no numerical extent.	L
Reticulated cirri and light clouds are W. of the zenith.	L
Cirri and other light clouds cover the sky.	D

OSLER'S ANEMOMETER.

Oct. 26^d. The register on the paper was several hours in error, and the chain was found off the spikes of the clock-barrel.

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.	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.	RAIN. Stand of Rain-gauge No. 1. (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3. (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Oct. 29. 6	29·763	45·8	44·8	1·0	..	..	..	Calm	..	..	..	..	..	..	0	..
8	29·750	44·2	43·7	0·5	..	..	55·2	Calm	..	..	..	..	..	..	0	..
10	29·732	47·0	45·8	1·2	44·5	2·5	44·4	Calm	..	S	0·71	..	..	..	9	..
12	29·743	44·7	44·2	0·5	..	..	——	Calm	..	..	..	..	..	..	0	..
14	29·736	46·0	45·5	0·5	..	..	74·2	Calm	..	..	..	..	..	..	10	..
16	29·722	49·5	48·9	0·6	48·0	1·5	38·8	Calm	..	..	..	..	..	..	0	..
18	29·735	46·6	46·4	0·2	..	..	——	Calm	..	..	..	..	..	..	0	..
20	29·768	48·3	48·2	0·1	..	..	50·0	Calm	..	..	..	..	..	..	2	..
							48·0									
22	29·785	52·8	52·2	0·6	51·5	1·3	..	Calm	..	SSW	1·12	9·53	0·00	16·120	10	..
Oct. 30. 0	29·820	56·8	55·8	1·0	..	..	..	Calm	..	..	..	..	..	..	9	Transit
2	29·821	58·6	56·6	2·0	..	..	..	Calm	..	..	..	..	..	..	4	..
4	29·843	58·7	56·9	1·8	54·0	4·7	60·8	Calm	..	..	..	..	..	..	10	..
6	29·871	56·5	55·4	1·1	..	..	49·7	Calm	..	..	..	..	..	..	10	..
8	29·899	55·2	54·7	0·5	..	..	——	Calm	..	..	..	..	..	..	10	..
10	29·915	51·2	51·2	0·0	51·0	0·2	78·0	Calm	..	..	..	..	..	..	5	..
12	29·945	49·0	49·4	–0·4	..	..	46·5	Calm	..	..	..	..	..	..	7	New
14	29·962	50·4	50·7	–0·3	..	..	——	Calm	..	..	..	..	..	..	9	..
16	29·968	50·6	50·8	–0·2	50·3	0·3	49·0	Calm	..	..	..	..	..	..	10	..
18	29·976	50·5	50·0	0·5	..	..	48·0	Calm	..	..	..	..	..	..	10	..
20	30·000	50·1	48·7	1·4	..	..	..	Calm	..	..	..	..	..	..	10	..
22	30·028	50·2	48·2	2·0	46·0	4·2	..	Calm	..	WSW	0·83	9·53	0·00	16·120	10	..
Oct. 31. 0	30·045	52·0	49·0	3·0	..	..	..	Calm	..	..	..	..	..	..	10	Transit
2	30·037	53·8	49·7	4·1	..	..	..	Calm	..	..	..	..	..	..	10	..
4	30·036	53·0	49·1	3·9	45·8	7·2	54·9	Calm	..	..	..	..	..	..	10	..
6	30·041	51·5	48·9	2·6	..	..	38·1	Calm	..	..	..	..	..	..	10	..
8	30·053	48·8	47·1	1·7	..	..	——	Calm	..	..	..	..	..	..	6	..
10	30·065	47·1	45·9	1·2	43·8	3·3	58·0	Calm	..	..	..	..	..	..	7	..
12	30·071	46·5	45·8	0·7	..	..	31·5	Calm	..	..	..	9·53	0·00	16·120	9¾	..
14	30·069	42·6	42·2	0·4	..	..	——	Calm	..	..	..	..	..	..	0	..
16	30·060	42·4	41·7	0·7	41·0	1·4	..	Calm	..	..	..	..	..	..	8	..
18	30·060	39·9	39·4	0·5	..	..	..	Calm	..	..	..	..	..	..	0	..
20	30·067	39·0	38·8	0·2	..	..	..	Calm	..	..	..	..	..	..	4	..
22	30·075	43·7	43·0	0·7	41·0	2·7	..	Calm	..	N	0·55	9·53	0·00	16·120	10	..
Nov. 1. 0	30·070	49·6	47·0	2·6	..	..	..	Calm	..	..	..	..	..	..	0	..
2	30·042	53·5	49·2	4·3	..	..	..	Calm	..	..	..	..	..	..	0	Transit
4	30·019	52·0	49·1	2·9	46·0	6·0	54·6	Calm	..	..	..	..	..	..	0	..
6	30·022	46·1	45·4	0·7	..	..	37·9	Calm	..	..	..	..	..	..	0	..
8	30·027	43·1	42·6	0·5	..	..	——	Calm	..	..	..	..	..	..	0	..
10	30·039	40·3	40·2	0·1	40·0	0·3	75·5	Calm	..	..	..	..	..	..	0	..
12	30·030	40·5	40·7	–0·2	..	..	33·0	Calm	..	..	..	..	..	..	9	..
14	..	..	..	..	..	..	——	Calm	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	49·2	Calm	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	48·0	Calm	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..
22	30·100	43·3	42·6	0·7	..	..	..	Calm	..	NE	0·90	9·53	0·00	16·120	10	..
Nov. 2. 0	30·105	47·2	45·8	1·4	..	..	..	NE	..	..	..	..	..	..	3	..
2	..	..	..	..	..	..	..	NE	..	..	..	..	..	..	..	Transit
4	30·110	49·5	46·7	2·8	..	..	..	NE	..	..	..	..	..	..	10	..

DRY THERMOMETER.

Oct. 30d. 12h, 14h, and 16h; and Nov. 1d. 12h. The readings were lower than those of the Wet Thermometer.

MINIMUM FREE THERMOMETER.

Oct. 29d. 22h. The reading was higher than that of the Dry Thermometer at 8h.

Oct. 30d. 22h. The reading was higher than that of the Dry Thermometer at 12h.

REMARKS.	Observer.
Cloudless.	
,,	D
Overcast: the clouds have all collected since $9^h. 30^m$.	
Cloudless.	D
Overcast.	L
Cloudless.	
,,	
Cirro-stratus round the horizon: the clouds are continually varying in quantity: the night has been alternately clear and cloudy throughout.	
Cirro-stratus and scud: a shower of rain fell at $21^h. 40^m$, which lasted about ten minutes.	L
Cirro-strati, cirro-cumuli, and scud: a shower of rain fell at $22^h. 45^m$.	H B
Fleecy clouds and cirro-stratus, the former generally diffused over the sky, and the latter principally S. of the zenith.	H B
Overcast: cirro-stratus and fleecy clouds: hazy towards the N.	L
,, cirro-stratus.	
,, ,,	
Cloudy round the horizon, and clear in and around the zenith.	L
Nearly overcast, with cirro-stratus of different densities.	H B
Cirro-stratus and scud.	
Overcast: foggy.	
,,	
,,	H B
,, dense cirro-stratus.	L
Overcast: dense cirro-stratus.	
,, ,,	L
,, ,,	H B
,, ,,	
Thin cirro-stratus and vapour.	
Cirro-stratus and vapour, which nearly covers the sky.	H B
Overcast: a few stars are visible in the zenith.	D
Cloudless; the stars however do not appear very bright.	
Cirro-stratus and heavy vapour.	
Cloudless.	
Cirro-stratus and fleecy clouds: a slight fog.	D
,, ,,	L
Cloudless.	L
,,	T D
,,	
,,	
,,	
,,	T D
Thin cirro-stratus: clear about the zenith.	L
The sky is covered with closely packed white cumulo-strati: the Sun occasionally gleams through the clouds.	G
The zenith and the parts round it for 60° are clear, but fleecy clouds prevail near the horizon.	
The sky continued clear for a short time only, when it became quite overcast, and it has remained so to the present time.	G

RAIN.

Oct. $31^d. 12^h$. The amount collected during the month of October in the rain-gauge No. 4, was $1^{in}\cdot38$, 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 $1^{in}\cdot32$.

THERMOMETERS IN WATER OF THE THAMES.

Oct. $31^d. 22^h$. The indexes of both instruments were found far from their proper places.

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Nov. 2. 6	..	..	..	..	..	..	52·1	NE	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	32·9	Calm	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..		Calm	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	67·5	Calm	..	..	..	..	..	..	..	Greatest declination S.
14	30·151	41·5	40·5	1·0	..	..	28·5	Calm	..	..	..	..	..	..	0	..
16	30·149	40·5	39·0	1·5	37·0	3·5		Calm	..	..	..	..	..	..	0	..
18	30·152	37·0	36·7	0·3	..	..	49·5	Calm	..	..	..	..	..	..	0	..
20	30·189	35·8	35·8	0·0	..	..	48·0	Calm	..	..	..	..	..	..	0	..
22	30·213	40·8	40·0	0·8	38·5	2·3		Calm	..	NE	1·50	9·53	0·00	16·120	0	Perigee
Nov. 3. 0	30·220	50·0	46·5	3·5	..	..	..	E	..	..	..	..	..	..	4	..
2	30·216	50·0	45·5	4·5	..	..	..	E by N	..	..	..	..	..	..	2	..
4	30·206	46·7	43·7	3·0	39·0	7·7	50·1	E by N	..	..	..	..	..	..	2	Transit
6	30·210	42·0	40·2	1·8	..	..	26·6	E	..	..	..	..	..	..	1	..
8	30·226	37·2	37·0	0·2	..	..		Calm	..	..	..	..	..	..	0	..
10	30·246	35·8	35·9	–0·1	35·0	0·8	67·5	Calm	..	..	..	..	..	..	0	..
12	30·232	34·7	34·7	0·0	..	..	25·5	Calm	..	..	..	..	..	..	0	..
14	30·215	33·5	33·6	–0·1	..	..		Calm	..	..	..	..	..	..	0	..
16	30·191	28·5	29·2	–0·7	29·0	–0·5	49·0	Calm	..	..	..	..	..	..	0	..
18	30·156	28·3	28·6	–0·3	..	..	47·0	Calm	..	..	..	..	..	..	½	..
20	30·153	30·4	29·7	0·7	..	..	..	Calm	..	..	..	..	..	..	0	..
22	30·153	32·0	31·4	0·6	31·0	1·0	..	Calm	..	E	1·75	9·53	0·00	16·125	0	..
Nov. 4. 0	30·108	39·8	39·2	0·6	..	..	..	E	..	..	..	..	..	..	0	..
2	30·065	48·5	45·0	3·5	..	..	..	ESE	..	..	..	..	..	..	0	..
4	30·008	47·1	43·6	3·5	39·5	7·6	47·9	S by E	..	..	..	..	..	..	0	Transit
6	29·976	41·5	38·3	2·2	..	..	31·0	ESE	..	..	..	..	..	..	0	..
8	29·934	40·1	36·9	3·2	..	..		E by S	..	..	..	..	..	..	0	..
10	29·915	37·0	35·4	1·6	33·5	3·5	58·0	Calm	..	..	..	..	..	..	0	..
12	29·878	34·0	33·7	0·3	..	..	25·5	Calm	..	..	..	..	..	..	0	..
14	29·827	32·8	31·2	1·6	..	..		Calm	..	..	..	..	..	..	0	..
16	29·796	31·5	31·2	0·3	31·0	0·5	48·0	Calm	..	..	..	..	..	..	0	..
18	29·752	35·5	34·7	0·8	..	..	46·5	Calm	..	..	..	..	..	..	0	..
20	29·742	35·5	35·2	0·3	..	..	..	Calm	..	..	..	..	..	..	0	..
22	29·733	43·0	42·0	1·0	41·0	2·0	..	SE	..	E	1·90	9·53	0·00	16·140	0	..
Nov. 5. 0	29·710	53·4	50·9	2·5	..	..	..	S by W	..	..	..	..	..	..	10	..
2	29·678	56·0	52·4	3·6	..	..	..	S	..	..	..	..	..	..	0	..
4	29·669	53·6	50·7	2·9	48·0	5·6	56·1	S	..	..	..	..	..	..	0	Transit
6	29·671	51·0	48·7	2·3	..	..	41·6	S by W	..	..	..	..	..	..	7	..
8	29·663	50·5	47·8	2·7	..	..		S by E	..	..	..	..	..	..	7	..
10	29·668	51·8	49·2	2·6	..	..	65·5	S by E	1 to 3	..	..	..	..	..	10	..
12	29·628	53·2	49·7	3·5	..	..	26·0	S by W	1 to 2	..	..	..	..	..	10	..
14	29·615	51·5	49·2	2·3	..	..		S	..	..	..	..	..	..	10	..
16	29·592	51·5	49·9	1·6	48·0	3·5	47·5	S by W	..	..	..	..	..	..	10	..
18	29·579	51·0	49·7	1·3	..	..	46·0	Calm	..	..	..	..	..	..	10	..
20	29·567	50·2	49·2	1·0	..	..	..	Calm	..	..	..	..	..	..	10	..
22	29·549	52·8	50·9	1·9	49·7	3·1	..	Calm	..	S	3·70	9·53	0·00	16·140	6	..
Nov. 6. 0	29·508	57·0	52·6	4·4	..	..	..	S	..	..	..	..	..	..	8	..
2	29·448	60·3	54·2	6·1	..	..	..	SE	..	..	..	..	..	..	5	..
4	29·369	55·5	51·4	4·1	49·0	6·5	..	E by S	..	..	..	..	..	..	6	..

DRY THERMOMETER.

Nov. 3d. 10h, 14h, 16h, and 18h. The readings were lower than those of the Wet Thermometer.

Nov. 5d. 0h. The reading had increased 10°·4 since the previous observation.

DEW POINT THERMOMETER.

Nov. 3d. 16h. The reading was higher than that of the Dry Thermometer.

Nov. 5d. 10h. No observation was taken.

REMARKS.	Observer.
	L
Cloudless.	
,,	
,,	
,,	L
,,	T D
Fleecy clouds are scattered over the sky.	
Light cirri are scattered over the sky in several directions, but the greater part of the sky is clear.	T D
A few cirri and light clouds are to the E. of the zenith.	L
A few light clouds are scattered in different parts of the sky.	
Cloudless.	
,, a slight haze.	L
,,	H B
,,	
,,	
Cloudless, with the exception of cirro-stratus along the N. horizon.	
Cloudless: foggy.	H B
,, ,,	T D
Cloudless: the fog is not so dense as at the last observation.	
,,	T D
,,	H B
,,	
,,	
,,	H B
,,	T D
,,	
,,	
,,	
,,	T D
Cloudless, except a few light clouds to the N., but to no numerical extent.	L
Overcast: thin cirro-stratus.	
,,	L
,,	T D
Large masses of dark cumuli nearly cover the sky, with a clear break in the S. W. horizon.	
Cumuli and scud.	
Overcast: the wind blowing in gusts to $\frac{3}{4}$.	T D
,,	L
,,	
,,	
,,	
,, cirro-stratus and fleecy clouds.	L
Cirro-stratus and fleecy clouds.	T D
Cirro-stratus and fleecy clouds.	
Fleecy clouds and scud.	T D
Cirro-stratus and reticulated cirri, apparently forming into cirro-stratus. The arc of a solar halo is visible, but too indistinct for measurement.	L

MAXIMUM FREE THERMOMETER.

Nov. 4^d. 22^h. The reading was lower than that of the Dry Thermometer at 2^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.	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.	RAIN. Stand of Rain-gauge No. 1. (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3. (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Nov. 6. 6	29·334	52·2	49·2	3·0	..	..	59·6	ESE	..	..	..	..	..	..	8	Transit 1st Quarter
8	29·285	52·5	49·9	2·6	..	..	49·1	SSE	0 to ½	..	..	..	..	..	10	..
10	29·245	51·0	50·5	0·5	50·0	1·0	——	SSE	½ constant	..	..	..	..	..	10	..
12	29·215	53·9	53·0	0·9	..	..	79·0	S	½ to 2½	..	..	..	..	..	10	..
14	29·250	54·6	52·7	1·9	..	..	46·3	SSW	1 to 2½	..	..	..	..	..	10	..
16	29·292	52·8	50·7	2·1	50·0	2·8	——	SSW	½ constant	..	..	..	..	..	10	..
18	29·330	50·1	48·9	1·2	..	..	47·8	S by W	½ to 1	..	..	..	..	..	2	..
20	29·392	48·6	47·7	0·9	..	..	46·5	S by W	½ constant	..	..	..	..	..	3	..
22	29·429	51·7	49·7	2·0	47·0	4·7	..	S by W	½ to 1	S	5·50	9·53	0·05	16·240	0	..
Nov. 7. 0	29·443	53·5	50·2	3·3	..	..	..	S by E	0 to ¼	..	..	..	..	..	10	..
2	29·425	55·2	51·7	3·5	..	..	..	S by E	¼ to 1½	..	..	..	..	..	10	..
4	29·395	54·0	50·3	3·7	47·5	6·5	55·5	S by E	½ to 3	..	..	..	..	..	10	..
6	29·435	53·2	50·0	3·2	..	..	52·1	S by E	½ to 4	S	2·64	..	..	..	10	..
8	29·419	52·9	50·2	2·7	..	..	——	S by E	..	..	..	..	..	..	10	Transit
10	29·405	54·1	51·0	3·1	49·0	5·1	62·0	Calm	..	..	..	..	..	..	10	..
12	29·376	53·5	51·6	1·9	..	..	48·7	Calm	..	..	..	..	..	..	10	..
14	29·360	54·4	52·2	2·2	..	..	——	Calm	..	..	..	..	..	..	10	..
16	29·341	54·5	51·7	2·8	49·0	5·5	48·0	S by E	..	..	..	..	..	..	10	..
18	29·334	52·5	50·7	1·8	..	..	47·0	S	½ constant	..	..	..	..	..	10	..
20	29·329	53·2	50·9	2·3	..	..	..	SSE	½ to 1	..	..	..	..	..	8½	..
22	29·366	54·0	51·6	2·4	50·0	4·0	..	S by E	½ to 1	SSE	3·00	9·53	0·00	16·260	10	..
Nov. 8. 0	29·368	56·0	53·4	2·6	..	..	..	S	..	..	..	..	..	..	10	..
2	29·355	56·7	53·2	3·5	..	..	..	S by W	..	..	..	..	..	..	10	..
4	29·341	55·4	52·6	2·8	50·0	5·4	57·9	S by E	..	..	..	..	..	..	9	..
6	29·346	52·3	50·2	2·1	..	..	46·3	S by E	..	..	..	..	..	..	8	..
8	29·351	52·9	50·5	2·4	..	..	——	S by E	..	..	..	..	..	..	10	Transit
10	29·356	54·0	51·6	2·4	49·7	4·3	62·0	S by E	..	..	..	..	..	..	10	..
12	29·344	51·5	50·2	1·3	..	..	44·0	S by E	..	..	..	..	..	..	10	..
14	..	..	..	..	..	..	——	S by E	½ constant	..	..	..	..	..	..	..
16	..	..	..	..	..	..	48·0	S by E	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	48·0	S by E	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	S by E	..	..	..	..	..	..	..	In Equator
22	29·374	54·5	52·7	1·8	..	..	..	..	..	S	2·76	9·53	0·00	16·265	7	..
Nov. 9. 0	29·417	55·4	52·8	2·6	..	..	..	S by E	..	..	..	..	..	..	2	..
2	..	..	..	..	..	..	..	S by E	..	..	..	..	..	..	..	..
4	29·405	53·3	50·7	2·6	..	..	57·6	S by E	..	..	..	..	..	..	5	..
6	..	..	..	..	..	..	46·6	SSE	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	——	S by E	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	76·2	SSE	..	..	..	..	..	..	..	Transit
12	..	..	..	..	..	..	43·0	SSE	..	..	..	..	..	..	..	..
14	29·339	48·0	47·6	0·4	..	..	——	Calm	..	..	..	..	..	..	8	..
16	29·317	46·7	46·4	0·3	45·0	1·7	48·0	Calm	..	..	..	..	..	..	2	..
18	29·300	48·0	47·7	0·3	..	..	48·0	Calm	..	..	..	..	..	..	10	..
20	29·300	47·0	46·7	0·3	..	..	..	Calm	..	..	..	..	..	..	6	..
22	29·281	49·4	47·8	1·6	47·0	2·4	..	Calm	..	S	3·20	9·53	0·00	16·290	5	..
Nov. 10. 0	29·266	51·7	50·2	1·5	..	..	..	S by E	..	..	..	..	..	..	7	..
2	29·249	52·4	51·2	1·2	..	..	..	S	..	..	..	..	..	..	8	..
4	29·262	51·4	50·0	1·4	48·0	3·4	..	S by W	..	..	..	..	..	..	9½	..
6	29·278	48·8	47·7	1·1	..	..	..	S	..	..	..	..	..	..	10	..

MAXIMUM FREE THERMOMETER.

Nov. 6d. 22h. The reading was lower than that of the Dry Thermometer at 2h.

MINIMUM FREE THERMOMETER.

Nov. 6d. 22h. The reading was higher than that of the Dry Thermometer at 20h.

REMARKS.	Observer.
Thin cirro-stratus: clear about the zenith. There is a corona around the Moon. At $6^h.35^m$ a part of a faint lunar halo became [visible.	L
Overcast, with slight rain falling occasionally: wind blowing in gusts to $\frac{1}{2}$.	
Overcast, with slight rain falling.	L
,,	H B
Overcast: wind blowing in gusts to 2.	
,, a thin drizzling rain falling: at $16^h.8^m$ rain commenced falling heavily, and continued so till $16^h.40^m$.	
Cirro-stratus and fragments of dark scud are scattered over the sky: the wind is blowing in occasional gusts to $1\frac{1}{2}$.	
Cirro-stratus and scud principally in S. E.	H B
Cloudless.	T D
Overcast: cirro-stratus: wind blowing in occasional gusts to $\frac{3}{4}$.	T D
,, ,, wind blowing in occasional gusts to 1.	L
,, cirro-stratus and scud.	H B
,, rain is falling: wind blowing in occasional gusts to $1\frac{1}{2}$.	
,, cirro-stratus and dark scud.	
,, cirro-stratus: drops of rain are falling.	H B
,, dense cirro-stratus.	T D
Densely overcast.	
Overcast.	
,, rain falling heavily: wind blowing in gusts to $\frac{3}{4}$.	
,, heavy masses of dark scud all round the horizon, with a small clear break in the zenith.	T D
,, rain in squalls: wind blowing in gusts to $\frac{3}{4}$ and 1.	L
Overcast: cirro-stratus.	
,, ,,	L
Cirro-stratus and scud.	T D
Cirro-stratus and scud, and a bank of cumulo-stratus extending from the N. W. to the S. W. horizon.	
Overcast: cirro-stratus and scud: the Moon's place is scarcely visible.	
,, ,,	T D
,,	L
Light cirri and fleecy clouds scattered over the sky.	T D
Detached cumuli round the horizon.	G
Cumuli and light cirri: clear in the zenith and N. E. horizon.	L
Cirro-stratus and scud: clear about the zenith.	
Cloudy to the N. horizon; clear elsewhere.	
Overcast: rain has just commenced falling.	
Dense cirro-stratus coming up from the S.: cloudy round the horizon: clear in and around the zenith.	L
Light fleecy clouds and detached fragments of cirri.	T D
Overcast.	
Cumulo-strati in the S. horizon: dark scud in the zenith and other parts of the sky: a few drops of rain are falling at intervals.	T D
Dense cirro-stratus, fleecy clouds, and scud, with a few small breaks towards the E. horizon.	L
Overcast: cirro-stratus and fleecy clouds.	

OSLER'S ANEMOMETER.

Nov. $8^d.20^h.30^m$. The clock was found stopped, and the chain was off the spikes of the clock-barrel.

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Nov. 10. 8	29·282	44·8	43·9	0·9	..	..	..	Calm	..	..	..	..	..	..	7	..
10	29·279	44·0	42·2	1·8	39·0	5·0	..	Calm	..	..	..	..	..	..	2	Transit
							54·1									
							40·9									
12	29·268	42·5	41·7	0·8	..	..	—	Calm	..	SSE	1·90	..	..	..	4	..
							68·5									
							35·5									
14	29·241	43·5	42·7	0·8	..	..	—	Calm	..	..	..	..	..	..	3	..
16	29·218	43·6	43·4	0·2	43·0	0·6	48·2	Calm	..	..	..	..	..	..	0	..
18	29·187	41·4	41·3	0·1	..	..	48·0	Calm	..	..	..	..	..	..	0	..
20	29·158	41·8	41·6	0·2	..	..	..	ENE	..	..	..	..	..	..	4	..
22	29·154	44·7	43·9	0·8	43·2	1·5	..	ENE	..	E	1·20	9·53	0·01	16·310	8	..
Nov. 11. 0	29·116	47·0	46·0	1·0	..	..	..	..	..	..	..	..	..	..	10	..
2	29·070	47·0	46·7	0·3	..	..	..	..	..	..	..	..	..	..	10	..
4	29·029	48·1	48·2	−0·1	48·3	−0·2	50·1	..	..	E	0·92	..	..	..	10	..
6	29·030	49·6	49·2	0·4	..	..	43·4	..	..	..	..	..	..	..	9½	..
8	29·087	47·8	47·2	0·6	..	..	—	..	..	..	..	..	..	..	10	..
10	29·151	46·9	46·3	0·6	46·0	0·9	49·5	..	..	..	..	..	..	..	10	Transit
12	29·197	46·8	46·2	0·6	..	..	41·0	..	..	..	..	..	..	..	10	..
14	29·219	46·3	45·7	0·6	..	..	—	..	..	..	..	..	..	..	10	..
16	29·246	44·3	43·7	0·6	43·0	1·3	48·0	..	..	SSW	1·18	..	..	..	7	..
18	29·280	44·8	44·2	0·6	..	..	48·0	..	..	..	..	..	..	..	10	..
20	29·321	43·8	43·4	0·4	..	..	..	..	..	..	..	..	..	..	8	..
22	29·375	45·3	45·0	0·3	44·0	1·3	..	..	..	WSW	1·55	9·53	0·00	16·345	5	..
Nov. 12. 0	29·406	48·3	47·2	1·1	..	..	..	..	..	..	..	..	..	..	3	..
2	29·421	50·5	48·2	2·3	..	..	..	..	..	..	..	..	..	..	4	..
4	29·443	50·0	47·8	2·2	45·0	5·0	..	..	..	..	..	..	..	..	9	..
6	29·489	46·0	45·1	0·9	..	..	51·6	..	..	..	..	..	..	..	8	..
8	29·521	44·4	43·7	0·7	..	..	35·4	..	..	..	..	..	..	..	8	..
							—									
10	29·543	46·3	44·6	1·7	43·0	3·3	65·5	..	..	..	..	..	..	..	9½	..
12	29·547	42·5	41·9	0·6	..	..	31·5	..	..	..	..	..	..	..	0	Transit
14	29·547	38·8	38·7	0·1	..	..	—	..	..	..	..	..	..	..	10	..
							48·0									
16	29·569	38·3	38·2	0·1	38·0	0·3	47·5	..	..	..	..	..	..	..	6	..
18	29·587	36·5	36·2	0·3	..	..	..	..	..	..	..	..	..	..	0	..
20	29·607	35·6	35·2	0·4	..	..	..	..	..	..	..	..	..	..	1	..
22	29·636	39·8	38·9	0·9	38·2	1·6	..	..	..	N	0·55	9·53	0·00	16·350	0	..
Nov. 13. 0	29·653	43·7	43·2	0·5	..	..	48·1	..	..	..	..	..	..	..	4	..
2	29·661	48·0	45·9	2·1	..	..	38·6	..	..	..	..	..	..	..	2	..
4	29·689	47·3	45·7	1·6	41·0	6·3	—	..	..	..	..	..	..	..	9	..
6	29·728	45·0	43·7	1·3	..	..		..	..	..	..	..	..	..	10	..
8	29·754	45·0	43·8	1·2	..	..	61·5	..	..	..	..	..	..	..	10	..
10	29·798	44·6	43·5	1·1	42·0	2·6	34·8	..	..	..	..	..	..	..	10	..
12	29·828	44·0	43·0	1·0	..	..	—	..	..	..	..	..	..	..	10	Transit
14	29·843	42·2	41·8	0·4	..	..	47·0	..	..	..	..	..	..	..	10	Full
16	29·858	41·8	41·5	0·3	41·3	0·5	47·0	..	..	..	..	..	..	..	10	..

DRY THERMOMETER.

Nov. 11d. 4h. The reading was lower than that of the Wet Thermometer.

DEW POINT THERMOMETER.

Nov. 11d. 4h. The reading was higher than that of the Dry Thermometer.

REMARKS.	Observer.
Fleecy clouds to the S. of the zenith: cloudy towards the horizon in the N. W.; clear elsewhere.	L
The sky at intervals has been quite covered with cloud. Two meteors have been seen; one small one, at $6^h.55^m$, passed by α Cygni, in the direction of E. to W., its duration being about one second; and the other at $9^h.4^m$, passed S. from α Pegasi.	L
The sky is partly covered with fleecy clouds and scud, which have collected during the last half hour: rocky cumuli are rising up from the S. horizon, and the clouds in some places are very dark. A meteor was observed at $11^h.38^m$, passing through Ursa Minor to the horizon.	H B
Fleecy clouds and scud: a few breaks in the clouds occurring at short intervals.	
Cloudless, but hazy.	
Cloudless.	
Cirro-stratus and scud cover nearly one half of the sky.	H B
Cirro-stratus and scud.	T D
Overcast: rain is falling slightly.	
,, rain is falling.	T D
,, a thin drizzling rain is falling.	H B
Cirro-stratus and scud in rapid motion. The Moon is occasionally surrounded by a corona; at $5^h.50^m$ it was most beautifully coloured.	
Overcast: cirro-stratus and scud.	
,, ,,	H B
,, cirro-stratus.	T D
,, ,,	
Cirro-stratus and scud: the Moon's place is visible, and there is a clear break near the S. E. horizon.	
Overcast.	
Cirro-stratus and scud scattered over the sky.	T D
Cirro-stratus round the horizon, with light clouds in various directions.	L
Cirro-stratus to the N., with fleecy clouds and cirri S. of the zenith, and light clouds in various directions.	L
Cirro-stratus and haze round the horizon in every direction; a few cumuli are also visible near the N. horizon: light clouds of a fleecy texture and a few cirri are in and around the zenith.	H B
Cirro-stratus, the Sun shining faintly through it.	T D
Heavy masses of cirro-cumuli and dark scud passing across the Moon.	
At $6^h.50^m$ the clouds suddenly disappeared, and the sky became beautifully clear, but at $7^h.40^m$ clouds came up from the N. W.; it is now nearly covered with cirro-stratus and scud.	
Overcast: cirro-stratus and scud, with a few small breaks in the clouds.	T D
Cloudless: foggy.	L
A dense fog: the Astronomical Observatory is quite invisible from the Magnetic Observatory: a thin cirro-stratus covers the sky, the Moon being scarcely visible.	
The sky N. of the zenith is principally clouded; the rest of the sky is partially covered with thin cirro-stratus. The Moon has a corona around her: the fog is less dense.	
Cloudless, but hazy. Three meteors have been observed: one, faint and small, at $11^h.56^m$, passing from Capella to β Aurigæ; at $16^h.27^m$, one passing from about 5° N. of Castor to 5° S. of it; and the other crossing the zenith at $17^h.5^m$.	
Cirro-stratus near the horizon in the S. and E.; cloudless elsewhere: hazy to the N.	L
Cloudless: a thin mist prevails.	T D
Light cirri and fleecy clouds.	
Light fleecy clouds are in the zenith, and a few detached portions in the S. E. horizon.	T D
Cirro-stratus and fleecy clouds: small breaks in the clouds in every direction.	L
Overcast: cirro-stratus and fleecy clouds: foggy.	
,, ,, a slight fog.	
Cirro-stratus and fleecy clouds: foggy: a few small breaks are in the zenith, but to no numerical extent.	L
Overcast: cirro-stratus and fog.	H B
,, ,,	
,, cirro-stratus and scud.	

OSLER'S ANEMOMETER.

Nov. $11^d.1^h$. The chain connecting the travelling-board with the clock was sent to Mr. Bennett for the purpose of soldering the links; it was returned on Nov. 19^d, but the machine acted as badly afterwards as it had done before: it was in consequence wholly taken down, with the intention of substituting another clock-movement which should drive the board without the intervention of a chain, and the necessary alteration was not finished during the remainder of the year.

Day and Hour, Göttingen Astronomical Reckoning.	Baro-meter Cor-rected.	Dry Ther-mom.	Wet Ther-mom.	Wet Ther-mom. below Dry.	Dew Point.	Dew Point below Dry Ther-mom.	Max. and Min. as read at 22h. of Free Therm. / of Rad. Therm. / of Therm. in Water of the Thames.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Nov. 13. 18	29·885	41·6	41·2	0·4	..	..	..	..	..	..	..	..	..	..	10	..
20	29·905	42·2	42·0	0·2	..	..	..	..	..	..	..	..	..	..	10	..
22	29·939	43·0	42·7	0·3	42·0	1·0	..	..	..	NW	0·65	9·53	0·00	16·355	10	..
Nov. 14. 0	29·948	44·5	44·2	0·3	..	..	..	..	..	..	..	..	..	..	10	..
2	29·890	44·4	44·0	0·4	..	..	..	..	..	..	..	..	..	..	10	..
4	29·912	45·0	44·5	0·5	43·3	1·7	45·6	..	..	..	..	..	..	..	10	..
6	29·925	44·2	43·7	0·5	..	..	33·9	..	..	..	..	..	..	..	10	..
8	29·904	41·8	41·7	0·1	..	..		..	..	..	..	..	..	..	9½	..
10	29·900	39·0	39·2	−0·2	39·3	−0·3	46·5	..	..	..	..	..	..	..	5	..
12	29·894	34·9	34·8	0·1	..	..	31·0	..	..	..	..	..	..	..	0	..
14	29·865	34·8	34·7	0·1	..	..		..	..	..	..	..	..	..	7	Transit
16	29·846	37·5	37·2	0·3	36·0	1·5	47·0	..	..	..	..	..	..	..	10	..
18	29·828	41·9	41·6	0·3	..	..	46·5	..	..	..	..	..	..	..	9	..
20	29·821	43·0	42·6	0·4	..	..	..	..	..	..	..	..	..	..	10	..
22	29·818	44·3	44·0	0·3	43·0	1·3	..	..	..	SSE	0·33	9·53	0·00	16·360	10	..
Nov. 15. 0	29·806	46·0	45·8	0·2	..	..	..	..	..	..	..	..	..	..	10	..
2	29·774	49·3	48·9	0·4	..	..	..	..	..	..	..	..	..	..	7	..
4	29·759	49·1	48·1	1·0	46·5	2·6		..	..	..	..	..	..	..	4	..
6	29·752	46·9	45·9	1·0	..	..	51·1	..	..	..	..	..	..	..	6	..
8	29·746	47·6	46·7	0·9	..	..	44·1	..	..	..	..	..	..	..	9	..
10	29·729	47·5	46·5	1·0	45·0	2·5	55·0	..	..	..	..	..	..	..	9	..
12	29·696	46·3	45·9	0·4	..	..	43·0	..	..	..	..	..	..	..	1	..
14	..	..	..	..	..	..		..	..	..	..	..	..	..	..	Transit
16	..	..	..	..	..	..	46·8	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	46·2	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Greatest declination N.
22	29·501	50·0	48·7	1·3	..	..	..	..	..	S	3·77	9·53	0·05	16·410	9½	..
Nov. 16. 0	29·466	50·5	49·2	1·3	..	..	..	..	..	..	..	..	..	..	10	..
2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..
6	29·209	50·3	50·2	0·1	..	..	51·9	..	..	..	..	..	..	..	10	..
8	..	..	..	..	..	..	41·0	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	52·0	..	..	..	..	..	..	..	..	..
12	29·145	46·0	44·9	1·1	..	..	38·3	..	..	..	..	..	..	..	10	..
14	29·146	44·7	43·7	1·0	..	..	46·8	..	..	S	4·20	..	..	..	5	Transit
16	29·149	41·5	40·7	0·8	40·0	1·5	46·0	..	..	..	..	..	..	..	2	..
18	29·185	42·5	42·2	0·3	..	..		..	..	..	..	..	..	..	10	..
20	29·228	42·5	41·9	0·6	..	..	..	..	..	..	..	..	..	..	9	..
22	29·290	43·8	42·8	1·0	41·0	2·8	..	..	..	SW	1·85	9·53	0·10	16·545	9	..
Nov. 17. 0	29·328	47·3	45·1	2·2	..	..	54·8	..	..	..	..	..	..	..	5	..
2	29·357	49·5	45·7	3·8	..	..	41·6	..	..	..	..	..	..	..	10	..
4	29·387	48·5	45·2	3·3	41·0	7·5	57·5	..	..	..	..	..	..	..	4	..
6	29·430	44·7	41·9	2·8	..	..	39·0	..	..	..	..	..	..	..	1	..
8	29·447	42·2	40·2	2·0	..	..		..	..	..	..	..	..	..	0	..
10	29·467	42·2	40·7	1·5	38·0	4·2	47·0	..	..	..	..	..	..	..	9½	..
12	29·441	41·8	40·6	1·2	..	..	46·0	..	..	..	..	..	..	..	10	..

DRY THERMOMETER.

Nov. 14d. 10h. The reading was lower than that of the Wet Thermometer.

REMARKS.	Observer.
Overcast: cirro-stratus and scud.	H B
,, ,,	H B
,, cirro-stratus.	T D
Overcast: cirro-stratus: a thin fog prevails.	
,, ,, a fog prevails, but of greater density than at the preceding observation.	T D
,, ,, a thin fog.	H B
,, ,,	
The clouds are broken in various places. The Moon is visible, being occasionally surrounded by a coloured corona.	
Cirro-stratus and light clouds: a dense fog. The Moon is now surrounded by a finely coloured corona.	H B
Cloudless: a dense fog. The Moon is now surrounded by a finely coloured corona.	T D
Cirro-stratus and light clouds: a dense fog.	
Cirro-stratus covers the sky, through which the Moon is faintly visible: the fog still prevails.	
Cirro-stratus and fleecy clouds: the fog has disappeared.	
Overcast: cirro-stratus.	T D
,, ,, a thin misty rain is falling.	L
Overcast: a thin misty rain is falling occasionally.	
Cirro-stratus, fleecy clouds, and light scud: there have been occasional light showers of rain since the last observation.	L
Beautifully formed cirri are scattered over the sky.	T D
Dense cirro-stratus extending from the N.W. horizon to S.; the rest of the sky is covered with cirro-cumuli and fleecy clouds.	
Since the last observation the sky became covered with dense cirro-stratus, which continued till 7^h, when the clouds became broken in several directions; at present masses of detached cirro-stratus and scud nearly cover the sky.	
Cirro-stratus and fleecy clouds: the wind blowing in gusts to ½.	T D
Cirro-stratus towards the horizon in the S. and E.: a few light clouds are scattered over the sky. At $12^h. 7^m$ a beautiful double corona was seen around the Moon as some fleecy clouds passed her; within a short time afterwards clouds came up from the S., and the sky became overcast.	L
Cirro-stratus and scud moving quickly, with a few breaks about the zenith: the wind blowing in gusts to 1.	G
Overcast: cirro-stratus and scud.	
Rain falling in dashing showers: the wind blowing in gusts to 1½.	
Overcast. The Moon is visible through the clouds: a halo is occasionally visible around her, whose diameter is 44°: at $11^h. 37^m$ a double corona formed round the Moon, which continued for forty seconds.	G
Cirro-stratus and fleecy clouds, with breaks in every direction.	L
Cloudless, except a few fleecy clouds to the S.W.	
Overcast, with rain falling.	
Cirro-stratus and scud, but clear about the zenith.	L
Cirro-stratus and scud.	T D
Cirri, light scud, and fleecy clouds.	
Cirro-stratus and dense masses of scud: the wind blowing in gusts to 1½.	T D
Cirro-stratus and light clouds: breaks in the clouds in every direction.	L
Cloudless, with the exception of a bank of cirro-stratus to the N. and W. horizon.	
Cloudless.	
Thin cirro-stratus covers the sky, except a small portion about the zenith.	L
Cirro-stratus of various densities covers the sky: the Moon and the planet Jupiter are the only objects visible. At $11^h. 20^m$ a faint and imperfect lunar halo was visible, which continued to $12^h. 20^m$.	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.	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.	RAIN. Stand of Rain-gauge No. 1. (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3. (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Nov. 17. 14	29·378	43·7	42·1	1·6	..	..	..	..	..	..	..	..	..	..	10	..
16	29·288	45·0	44·7	0·3	44·5	0·5	..	..	..	..	..	..	..	..	10	Transit
18	29·161	47·0	46·3	0·7	..	..	..	..	..	..	..	..	..	..	10	..
20	29·089	50·2	49·7	0·5	..	..	..	..	..	..	..	..	..	..	10	..
22	29·108	54·4	53·2	1·2	51·8	2·6	..	..	..	SW	7·35	9·53	0·13	16·685	9	..
Nov. 18. 0	29·115	56·3	54·7	1·6	..	..	..	..	..	..	..	..	..	..	10	..
2	29·164	54·7	50·7	4·0	..	..	..	..	..	..	..	..	..	..	10	..
4	29·220	51·9	48·8	3·1	47·0	4·9		..	..	..	..	..	..	..	10	..
6	29·267	50·5	48·0	2·5	..	..	56·6	..	..	..	..	..	..	..	9½	..
8	29·308	47·8	46·5	1·3	..	..	44·9	..	..	W	2·90	..	..	..	0	..
10	29·330	46·6	45·4	1·2	44·0	2·6	57·0	..	..	..	..	..	..	..	0	..
12	29·337	45·8	44·6	1·2	..	..	42·5	..	..	..	..	..	..	..	0	..
14	29·280	46·5	45·8	0·7	..	..		..	..	..	..	..	..	..	8	..
16	29·223	50·5	49·5	1·0	48·2	2·3	46·5	..	..	WSW	1·22	..	..	..	10	Transit
18	29·155	52·0	50·8	1·2	..	..	46·2	..	..	..	..	..	..	..	10	..
20	29·090	53·5	53·0	0·5	..	..	..	..	..	..	..	..	..	..	10	..
22	28·993	55·5	55·2	0·3	54·0	1·5	..	..	..	SW	4·48	9·53	0·01	16·720	10	Apogee
Nov. 19. 0	28·965	56·0	55·7	0·3	..	..	..	SSW	..	..	..	..	..	..	10	..
2	28·965	53·5	51·9	1·6	..	..	..	SW	..	..	..	..	..	..	10	..
4	28·982	52·5	50·6	1·9	48·5	4·0	57·1	SW	..	..	..	..	..	..	7	..
6	28·995	51·5	48·8	2·7	..	..	46·4	SW	..	..	..	..	..	..	5	..
8	29·004	50·5	48·1	2·4	..	..	57·5	..	..	..	..	..	..	..	0	..
10	28·987	49·5	47·6	1·9	45·0	4·5	44·0	..	..	..	..	..	..	..	0	..
12	28·973	50·0	47·9	2·1	..	..		..	..	SW	5·80	..	..	..	2	..
14	28·965	49·5	46·0	3·5	..	..	46·5	..	..	..	..	..	..	..	1	..
16	28·968	48·7	45·7	3·0	44·0	4·7	46·5	..	..	..	..	..	..	..	7	..
18	28·988	47·8	45·5	2·3	..	..		..	..	..	..	..	..	..	2	Transit
20	29·021	47·0	45·2	1·8	..	..	..	..	..	..	..	..	..	..	9	..
22	29·039	47·7	44·6	3·1	42·0	5·7	..	..	..	WSW	3·38	9·53	0·07	16·835	1	..
Nov. 20. 0	29·064	50·7	47·7	3·0	..	..	..	..	..	..	..	..	..	..	0	..
2	29·054	51·7	48·4	3·3	..	..	..	..	..	..	..	..	..	..	7	..
4	29·017	47·3	46·5	0·8	45·0	2·3	..	..	..	..	..	..	..	..	10	..
6	29·074	44·8	44·4	0·4	..	..	52·1	..	..	..	..	..	..	..	5	..
8	29·126	44·6	44·2	0·4	..	..	40·1	..	..	..	..	..	..	..	10	..
10	29·215	42·0	41·5	0·5	41·0	1·0	62·7	..	..	..	..	..	..	..	2	..
12	29·270	41·5	40·2	1·3	..	..	35·0	..	..	SSW	1·15	..	..	..	0	..
14	29·316	41·2	39·7	1·5	..	..		..	..	..	..	..	..	..	0	..
16	29·334	41·5	39·9	1·6	38·5	3·0	48·0, 46·8	..	..	..	..	..	..	..	2	..
18	29·358	41·0	39·7	1·3	..	..	..	..	..	..	..	..	..	..	10	Transit
20	29·386	40·5	39·4	1·1	..	..	..	..	..	..	..	..	..	..	4	..
22	29·403	42·3	41·2	1·1	40·0	2·3	..	..	..	WSW	4·90	9·53	0·19	17·000	4	..
Nov. 21. 0	29·419	46·6	44·7	1·9	..	..	..	..	..	..	..	..	..	..	5	..
2	29·373	46·8	45·1	1·7	..	..	..	..	..	..	..	..	..	..	10	..
4	29·333	45·7	44·1	1·6	42·8	2·9	..	..	..	..	..	..	..	..	10	..
6	29·297	42·5	42·2	0·3	..	..	..	..	..	..	..	..	..	..	10	..

BAROMETER.

Nov. 17d. Between 16h and 18h the reading decreased 0in·127.

REMARKS.	Observer.
Overcast: cirro-stratus: the Moon is faintly visible.	H B
,, rain is falling.	
,, the rain has ceased: the wind is blowing in occasional gusts to 2.	
,, cirro-stratus and scud in rapid motion.	H B
Cirro-stratus and scud passing rapidly across the sky.	T D
Cirro-stratus and scud.	
,,	T D
Overcast: cirro-stratus and scud.	H B
Cirro-stratus and scud: several stars are visible near and around the zenith.	
Cloudless.	
,,	H B
,,	T D
Cirro-stratus and masses of scud cover nearly the whole of the sky, the Moon's place being scarcely visible.	
Cirro-stratus and scud: at 15^h rain commenced falling, and continued till within twenty minutes previously to this observation: the wind blowing in gusts to 1½.	
Cirro-stratus and scud: during the last hour the wind has risen in gusts to 4.	
,, a thin rain is falling.	T D
Overcast: cirro-stratus and scud: a thin rain is falling: the wind blowing in gusts to 3.	L
Overcast: heavy rain is falling: the wind blowing in gusts to 3.	
Cirro-stratus and scud: there are a few badly formed cirri in the N.W. horizon: the wind blowing in gusts to 2.	L
,, there is a large clear break in the N.W. horizon: the wind blowing in gusts to 2½.	T D
Cirri, cumuli, and light scud: the wind blowing in gusts to 2.	
Cloudless: the wind blowing in gusts to 1½. [in the S. and E.	
,, the wind blowing in gusts to 2: several flashes of lightning were noticed between $7^h.10^m$ and $9^h.40^m$ near the horizon	T D
Cirro-stratus and light scud S. of the zenith moving quickly from the S.W.	L
Light scud in various directions moving quickly from the S.W.	
Cirro-stratus and fleecy clouds: clear W. of the zenith.	
Cloudy towards the horizon in the S., and light scud in various other parts of the sky.	
Cirro-stratus and scud, with a few breaks in the clouds N. of the zenith.	L
Cirro-stratus in lines in the E. S. E.; fragments of scud and light clouds are in other directions: the wind blowing in gusts to 1.	H B
Cloudless.	
Cirro-stratus and scud are scattered in every direction.	H B
Overcast: cirro-stratus: rain is occasionally falling.	L
Clear round the zenith: detached clouds are scattered in different directions.	G
At $6^h.55^m$ rain commenced falling heavily, and continued till $7^h.40^m$: the sky is quite covered with cirro-stratus: the rain has ceased.	T D
Cloudy in the N. and W. horizon: the wind blowing in occasional gusts to ¾ and 1.	L
Cloudless.	H B
,,	
The sky remained cloudless until $15^h.35^m$, after which time fleecy clouds came up from the S.W. and covered the Moon, which as they passed caused her frequently to be surrounded by a corona.	
Overcast: cirro-stratus and scud.	
Cirro-stratus near the horizon, and fragments of scud scattered over the sky.	H B
Fleecy clouds and light scud around the horizon.	L
Cumuli to the N.: reticulated cirri about the zenith, and light clouds in various parts of the sky.	L
Overcast: cirro-stratus.	T D
,, ,, a few drops of rain are falling.	H B
,, rain is falling heavily.	

RAIN.

Nov. 17^d. From this time to the end of the year Osler's gauge was not in use: the numbers inserted on the opposite page at 22^h on each day should be omitted.

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in	in.		
Nov. 21. 8	29·276	39·4	38·4	1·0	..	..	47·8	..	..	..	..	..	..	..	10	..
10	29·269	38·2	38·0	0·2	38·0	0·2	34·6	..	..	..	..	..	..	..	10	..
12	29·273	38·9	38·7	0·2	..	..	——	..	..	..	..	..	..	..	10	..
14	29·291	41·2	40·7	0·5	..	..	50·0	..	..	..	..	..	..	..	10	..
16	29·315	39·6	39·1	0·5	38·0	1·6	31·0	..	..	..	..	..	..	..	5	..
18	29·355	37·4	36·7	0·7	..	..	——	..	..	..	..	..	..	..	7	Transit 3rd Quarter
20	29·411	35·5	34·7	0·8	..	..	48·0	..	..	..	..	..	..	..	3	..
22	29·484	35·0	34·5	0·5	34·0	1·0	46·0	..	..	WNW	2·42	..	0·74	17·750	2	..
Nov. 22. 0	29·509	38·8	37·7	1·1	..	..	..	..	..	..	..	..	..	..	9	..
2	29·523	43·0	40·0	3·0	..	..	..	..	..	..	..	..	..	..	4	..
4	29·532	42·2	40·1	2·1	37·8	4·4	47·8	..	..	SW	0·30	..	..	..	3	..
6	29·558	38·0	36·6	1·4	..	..	29·1	..	..	..	..	..	..	..	4	..
8	29·575	37·4	36·3	1·1	..	..	——	..	..	..	..	..	..	..	1½	..
10	29·571	37·5	36·2	1·3	34·0	3·5	44·6 26·7	..	..	..	..	..	..	..	5	..
12	29·589	34·0	33·2	0·8	..	..	——	..	..	WNW	0·27	..	..	..	2	..
14	..	..	..	..	..	..	47·0	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	45·5	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Transit
22	29·741	32·8	31·9	0·9	..	..	..	..	..	NNW	2·06	..	0·00	17·750	3	..
Nov. 23. 0	29·761	37·7	34·7	3·0	..	..	..	..	..	..	..	..	..	..	0	..
2	29·792	40·8	37·2	3·6	..	..	..	..	..	..	..	..	..	..	0	..
4	29·841	40·0	36·7	3·3	..	..	~~40·9~~	..	..	..	..	..	..	..	0	..
6	..	..	..	..	..	..	31·1	..	..	..	..	..	..	..	..	..
8	29·880	33·2	31·7	1·5	..	..	——	..	..	NW	2·35	..	..	..	0	In Equator
10	29·881	32·0	31·0	1·0	..	..	46·5	..	..	..	..	..	..	..	0	..
12	..	..	..	..	..	..	24·0	..	..	..	..	..	..	..	..	..
14	29·868	34·2	33·2	1·0	..	..	——	..	..	..	..	..	..	..	3	..
16	29·818	36·0	34·7	1·3	33·0	3·0	..	..	..	..	..	..	..	..	10	..
18	29·818	35·8	35·2	0·6	..	..	..	..	..	..	..	..	..	..	10	..
20	29·869	37·0	35·7	1·3	..	..	..	..	..	..	..	..	..	..	10	Transit
22	29·928	37·6	36·2	1·4	35·0	2·6	..	..	..	N	2·57	..	0·08	17·765	10	..
Nov. 24. 0	29·953	39·4	37·0	2·4	..	..	..	..	..	..	..	..	..	..	1	..
2	29·968	40·2	36·6	3·6	..	..	..	..	..	..	..	..	..	..	0	..
4	29·990	37·3	34·4	2·9	30·0	7·3	..	..	..	..	..	..	..	..	2	..
6	30·040	36·2	33·0	3·2	..	..	41·6	..	..	NW	1·00	..	..	..	½	..
8	30·049	33·0	31·0	2·0	..	..	31·1	..	..	..	..	..	..	..	0	..
10	30·074	31·0	30·0	1·0	27·0	4·0	——	..	..	..	..	..	..	..	10	..
12	30·051	32·0	30·6	1·4	..	..	53·0	..	..	..	..	..	..	..	10	..
14	30·041	32·7	31·2	1·5	..	..	21·7	..	..	..	..	..	..	..	10	..
16	30·009	35·3	32·9	2·4	31·0	4·3	——	..	..	..	..	..	..	..	7	..
18	29·959	36·1	34·2	1·9	..	..	..	..	..	..	..	..	..	..	8	..
20	29·934	40·0	38·1	1·9	..	..	..	..	..	..	..	..	..	..	10	Transit
22	29·922	42·4	41·2	1·2	39·2	3·2	..	..	..	SW	2·90	..	0·00	17·765	10	..
Nov. 25. 0	29·889	44·4	44·0	0·4	..	..	..	..	..	..	..	..	..	..	10	..
2	29·848	47·2	47·0	0·2	..	..	..	..	..	..	..	..	..	..	10	..

MAXIMUM FREE THERMOMETER.

Nov. 23d. 22h. The reading was lower than that of the Dry Thermometer at 2h.

Nov. 24d. 22h. The reading was lower than that of the Dry Thermometer at 22h.

MINIMUM FREE THERMOMETER.

Nov. 24d. 22h. The reading was higher than that of the Dry Thermometer at 10h.

DREADNOUGHT MAXIMUM AND MINIMUM THERMOMETERS.

Nov. 23d. The thermometers appearing to be out of order were taken away by Mr. Glaisher to be examined.

REMARKS.	Observer.
Overcast: rain is falling heavily.	H B
,, rain still falling heavily.	H B
,, rain falling.	T D
,, the rain has ceased.	
Cirro-stratus and light clouds, the Moon and stars being visible.	
Cumuli, cirri, and fleecy clouds: the Moon is shining very brightly.	
Cirri and fleecy clouds: a thin fog.	T D
Cirro-stratus round the horizon, the sky in other places being clear: a slight fog prevails.	L
Cirro-stratus covers the greater part of the sky, it being clear about the zenith: foggy. An arc of a solar halo, tinged with the prismatic colours, was observed; its radius was 22°.	
Cumulo-strati W. of the zenith, detached cumuli in various parts of the sky, and cirri scattered about the zenith.	L
Detached cirri and cumuli in various parts of the sky.	T D
A bank of cumuli extends from the N. W. to the S. W. horizon, the remaining part of the sky being clear.	
Since the last observation the sky became quite covered with cloud, which has now dispersed, leaving the sky nearly cloudless: at $6^h. 40^m$ a very vivid flash of lightning was observed in the S. W.	
Thin cirro-stratus in several directions: the stars appear bright in the zenith: several flashes of lightning have been seen during the evening, near the horizon in the S. W.	T D
Cloudy in the N. horizon; in other parts cloudless: a thin fog.	L
Cirro-stratus and haze: foggy.	H B
Cloudless, but hazy: the fog is clearing off.	
Cloudless.	H B
,, a thin haze.	T D
,,	H B
,,	H B
Mostly cloudy S. of the zenith: clear elsewhere.	L
Overcast.	
Overcast, with slight rain falling at intervals.	
Overcast.	L
Overcast, with slight rain falling at intervals.	T D
Cloudless, except a few fleecy clouds in the zenith.	
Cloudless.	T D
A few cumuli and light clouds towards the W. horizon.	L
Hazy round the horizon, and a few clouds in the S. horizon.	
Hazy round the horizon; otherwise cloudless.	
Overcast: at $9^h. 10^m$ the sky became suddenly clouded.	L
,, at $11^h. 34^m$ a meteor was observed about 10° below Jupiter, taking a westerly direction: the sky is now overcast with [thin cirro-stratus.	H B
Overcast, with thin cirro-stratus.	
Cirro-stratus and scud in every part of the sky.	
Cirro-stratus and scud near the horizon.	
Overcast: cirro-stratus and scud.	H B
,, cirro-stratus.	T D
Overcast: cirro-stratus: rain is falling.	
,, ,, ,,	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Nov. 25. 4	29·856	47·2	46·9	0·3	46·5	0·7	50·9	..	..	..	..	..	..	..	10	..
6	29·889	43·2	43·0	0·2	..	..	40·3	..	..	..	..	..	..	..	3	..
8	29·895	42·3	41·5	0·8	..	..	——	..	..	..	..	..	..	..	9¾	..
10	29·898	40·9	40·0	0·9	39·0	1·9	51·0	..	..	SW	4·95	..	..	..	2	..
12	29·887	42·2	41·2	1·0	..	..	39·0	..	..	..	..	..	..	..	5	..
14	29·844	44·1	42·8	1·3	..	..	——	..	..	..	..	..	..	..	10	..
16	29·791	46·2	45·2	1·0	44·0	2·2	..	..	..	..	..	..	..	..	10	..
18	29·738	48·0	47·0	1·0	..	..	..	..	..	..	..	..	..	..	10	..
20	29·720	49·5	48·5	1·0	..	..	..	..	..	..	..	..	..	..	10	..
22	29·703	50·7	49·7	1·0	49·0	1·7	..	..	..	WSW	2·55	..	0·04	17·830	10	Transit
Nov. 26. 0	29·692	52·6	51·5	1·1	..	..	..	..	..	..	..	..	..	..	10	..
2	29·695	53·0	51·9	1·1	..	..	..	..	..	..	..	..	..	..	10	..
4	29·711	53·4	52·0	1·4	50·3	3·1	53·6	..	..	..	..	..	..	..	10	..
6	29·717	53·0	51·7	1·3	..	..	49·9	..	..	..	..	..	..	..	10	..
8	29·732	52·5	49·7	2·8	..	..	——	..	..	SW	4·10	..	..	..	10	..
10	29·750	52·6	49·2	3·4	46·0	6·6	53·6	..	..	..	..	..	..	..	10	..
12	29·753	52·2	48·9	3·3	..	..	44·3	..	..	..	..	..	..	..	10	..
14	29·750	51·8	48·7	3·1	..	..	——	..	..	..	..	..	..	..	8	..
16	29·785	51·5	49·2	2·3	47·0	4·5	..	..	..	..	..	..	..	..	10	..
18	29·801	51·2	49·2	2·0	..	..	..	..	..	..	..	..	..	..	10	..
20	29·841	50·2	48·4	1·8	..	..	..	..	..	..	..	..	..	..	10	..
22	29·867	51·5	49·3	2·2	47·5	4·0	..	..	..	SSW	6·25	..	0·00	17·830	10	Transit
Nov. 27. 0	29·872	53·3	49·9	3·4	..	..	..	..	..	..	..	..	..	..	8½	..
2	29·844	53·5	49·7	3·8	..	..	..	..	..	..	..	..	..	..	10	..
4	29·825	52·5	49·4	3·1	47·0	5·5	54·1	..	..	..	..	..	..	..	10	..
6	29·817	51·0	48·9	2·1	..	..	47·4	..	..	WSW	1·50	..	..	..	10	..
8	29·798	50·3	48·7	1·6	..	..	——	..	..	..	..	..	..	..	10	..
10	29·772	49·7	48·5	1·2	47·0	2·7	56·6	..	..	..	..	..	..	..	10	..
12	29·740	48·5	48·2	0·3	..	..	45·0	..	..	..	..	..	..	..	10	..
14	29·691	48·7	47·6	1·1	..	..	——	..	..	SW	1·80	..	..	..	10	..
16	29·649	49·0	46·7	2·3	44·5	4·5	..	..	..	..	..	..	..	..	10	..
18	29·603	48·3	46·7	1·6	..	..	..	..	..	..	..	..	..	..	10	..
20	29·570	47·5	45·7	1·8	..	..	..	..	..	..	..	..	..	..	10	..
22	29·555	47·3	45·7	1·6	44·0	3·3	..	..	..	SSW	3·00	..	0·00	17·830	10	..
Nov. 28. 0	29·514	49·1	47·0	2·1	..	..	..	..	..	..	..	..	..	..	7½	Transit
2	29·475	50·7	48·2	2·5	..	..	..	..	..	..	..	..	..	..	9	..
4	29·448	50·0	48·4	1·6	47·0	3·0	..	..	..	..	..	..	..	..	9½	..
6	29·453	50·2	48·6	1·6	..	..	52·3 44·8	..	..	..	..	..	..	..	9¾	..
8	29·454	50·3	49·4	0·9	..	..	——	..	..	..	..	..	..	..	10	..
10	29·463	51·7	49·6	2·1	48·0	3·7	56·2 39·0	..	..	..	..	..	..	..	10	..
12	29·472	51·9	49·6	2·3	..	..	——	..	..	..	..	..	..	..	10	..
14	29·501	48·5	47·7	0·8	..	..	..	..	..	..	..	..	..	..	9½	..
16	29·528	48·0	47·2	0·8	46·0	2·0	..	..	..	..	..	..	..	..	5	..
18	29·552	45·5	44·8	0·7	..	..	..	..	..	..	..	..	..	..	2	..
20	29·594	46·1	45·4	0·7	..	..	..	..	..	..	..	..	..	..	5	..
22	29·645	48·9	47·7	1·2	..	..	..	..	..	SSW	6·10	..	0·02	17·865	10	..
Nov. 29. 0	29·645	51·3	49·6	1·7	..	..	..	..	..	..	..	..	..	..	10	Transit New

MINIMUM FREE THERMOMETER.
Nov. 27d. 22h. The reading was higher than that of the Dry Thermometer at 22h.

TEMPERATURE OF THE DEW POINT.
Nov. 28d. 22h. The observation was omitted by inadvertence.

REMARKS.	Observer.
Overcast: cirro-stratus and scud: the rain has ceased.	H B
Cirro-stratus and scud all round the horizon: foggy.	
Cirro-stratus: the planet Jupiter and a few stars are the only objects visible.	
Cirro-stratus near the horizon, especially in the W.	H B
Cirro-stratus in the W. horizon to an altitude of 70°: the stars in the zenith and other parts of the sky look dim and watery.	T D
Overcast: dense cirro-stratus.	
,, cirro-stratus: rain has just begun to fall.	
Cirro-stratus: rain falling at intervals: the wind blowing in gusts to 3.	
Cirro-stratus and scud flying rapidly across the sky: the rain has ceased falling: the wind blowing in gusts to $2\frac{1}{2}$.	T D
Overcast: cirro-stratus and scud: the wind blowing in gusts to 1.	L
Overcast: cirro-stratus and scud, the latter moving quickly from the W. S. W.	
,, the wind blowing in gusts to $1\frac{1}{2}$ and 2.	L
,, the wind blowing in gusts to 2.	T D
,, the wind blowing in gusts to 4, with rain falling at intervals.	
,, the wind blowing in gusts to $3\frac{1}{2}$.	
,, ,,	T D
,, the wind blowing in gusts to $2\frac{1}{2}$.	L
Cloudy, except round the zenith, which is clear: the wind blowing in gusts to 3.	
Overcast: the wind blowing in gusts to $2\frac{1}{2}$ and 3.	
,, the wind blowing in gusts to 3.	
,, cirro-stratus towards the S.: at 19^h it was nearly cloudless.	L
,, cirro-stratus: the wind blowing in gusts to 2.	T D
Cirro-stratus and large masses of dark scud all over the sky, with small breaks, through which a fine blue sky is visible.	
Cirro-stratus and scud.	T D
Overcast: cirro-stratus and fleecy clouds: the wind blowing in gusts to $1\frac{1}{2}$.	L
,, the wind blowing in gusts to $1\frac{1}{2}$.	
,, ,,	
,, the wind blowing in gusts to 1.	L
,, cirro-stratus.	H B
,, ,,	
,, ,,	
,, ,,	
,, cirro-stratus and scud.	H B
,, ,,	T D
Scud and fleecy clouds; there are a few small breaks in the clouds, through which a fine blue sky is visible.	
Cirro-stratus, scud, and fleecy clouds, with a few small breaks.	T D
During the last five minutes the sky has become suddenly covered with a dark scud, which is coming up from the S.S.W., and leaving occasionally small breaks.	H B
Overcast, except in the S. S. E., where the planet Jupiter and a few stars are visible.	
,, with rain falling.	H B
Overcast: occasionally a few stars have been visible in the W.: about twenty minutes since a flash of lightning was observed in the E.S.E.	G
Overcast: cirro-stratus.	B A G
Nearly overcast: occasional drops of rain.	L
Cloudy from the E. horizon to S. W.; the other portions of the sky are clear.	T D
Cloudless, except in the N. W.	T D
Cirro-stratus near the horizon in every direction, with large masses of scud scattered over the sky.	H B
Overcast, with occasional gleams of sunshine.	G
Overcast: a few drops of rain are occasionally falling.	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Nov. 29. 2	29·609	51·3	50·1	1·2	..	..	..	..	..	..	..	..	..	..	10	..
4	29·580	50·5	50·0	0·5	49·0	1·5	52·6	..	..	..	..	..	..	..	10	..
6	29·570	50·5	49·7	0·8	..	..	36·1	..	..	..	..	..	..	..	10	..
8	29·554	51·6	50·2	1·4	..	..		..	..	..	..	..	..	..	10	..
10	29·588	44·0	43·7	0·3	43·0	1·0	54·0	..	..	..	..	..	..	..	10	..
12	29·614	41·2	40·9	0·3	..	..	32·3	..	..	..	..	..	..	..	10	..
14	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..		..	..	..	..	..	..	..	..	Greatest declination S.
22	29·800	39·4	38·5	0·9	..	..	..	..	..	SW	1·30	..	0·35	18·230	0	..
Nov. 30. 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Transit
4	29·851	44·4	42·2	2·2	..	..	49·3	..	..	SW	1·47	..	..	..	0	..
6	29·865	43·5	41·7	1·8	..	..	39·8	..	..	..	..	..	..	..	0	..
8	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	55·0	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	36·3	..	..	..	..	..	0·00	18·230	..	..
14	29·736	46·5	43·2	3·3	..	..		..	..	..	..	..	..	..	10	..
16	29·712	47·0	44·1	2·9	41·0	6·0	..	..	..	WSW	5·53	..	..	..	10	..
18	29·672	47·7	45·1	2·6	..	..	..	..	..	..	..	..	..	..	10	Perigee
20	29·645	47·3	46·6	0·7	..	..	..	..	..	..	..	..	..	..	10	..
22	29·663	48·8	48·4	0·4	48·0	0·8	..	..	..	W	0·30	..	0·01	18·240	10	..
Dec. 1. 0	29·720	48·3	46·2	2·1	..	..	..	..	..	..	..	..	..	..	1	..
2	29·753	49·0	44·0	5·0	..	..	..	..	..	..	..	..	..	..	0	Transit
4	29·790	45·5	43·0	2·5	40·0	5·5	49·5	..	..	W	2·50	..	..	..	3	..
6	29·825	42·8	40·7	2·1	..	..	41·8	..	..	..	..	..	..	..	0	..
8	29·845	43·0	40·5	2·5	..	..		..	..	..	..	..	..	..	3	..
10	29·877	42·5	40·2	2·3	37·0	5·5	57·0	..	..	..	..	..	..	..	8	..
12	29·874	43·0	40·9	2·1	..	..	37·0	..	..	..	..	..	..	..	9	..
14	29·862	43·3	41·2	2·1	..	..		..	..	..	..	..	..	..	10	..
16	29·844	43·0	41·4	1·6	39·0	4·0	..	..	..	..	..	..	..	..	10	..
18	29·843	44·5	42·2	2·3	..	..	..	..	..	..	..	..	..	..	8	..
20	29·851	43·6	41·7	1·9	..	..	..	..	..	..	..	..	..	..	1	..
22	29·851	44·0	42·2	1·8	40·0	4·0	..	..	..	WSW	4·10	..	0·00	18·255	1	..
Dec. 2. 0	29·833	47·9	45·1	2·8	..	..	..	..	..	..	..	..	..	..	0	..
2	29·784	49·8	46·5	3·3	..	..	..	..	..	..	..	..	..	..	7	..
4	29·695	47·3	45·4	1·9	..	..	50·8	..	..	..	..	..	..	..	8	Transit
6	29·627	46·2	45·0	1·2	..	..	37·0	..	..	..	..	..	..	..	2	..
8	29·562	46·3	45·0	1·3	..	..		..	..	..	..	..	..	..	10	..
10	29·503	47·8	46·3	1·5	45·0	2·8	61·5	..	..	..	..	..	..	..	10	..
12	29·392	44·3	44·1	0·2	..	..	31·8	..	..	WSW	3·10	..	..	..	10	..
14	29·345	44·1	43·4	0·7	..	..		..	..	..	..	..	..	..	10	..
16	29·301	40·0	40·0	0·0	40·0	0·0	..	..	..	..	..	..	..	..	10	..
18	29·301	41·1	39·2	1·9	..	..	..	..	..	..	..	..	..	..	10	..
20	29·326	37·2	35·9	1·3	..	..	..	..	..	..	..	..	..	..	9¾	..
22	29·343	37·5	36·2	1·3	34·0	3·5	..	..	..	SW	4·20	..	0·23	18·455	5	..
Dec. 3. 0	29·330	38·3	37·2	1·1	..	..	..	..	..	..	..	..	..	..	8	..

BAROMETER.

Dec. 2d. Between 10h and 12h the reading decreased 0in·111.

DEW POINT THERMOMETER.

Dec. 2d. 4h. No observation was taken.

RAIN.

Nov. 30d. 12h. The amount collected during the month of November in the rain-gauge No. 4 was 2in·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 2in·37.

REMARKS.	Observer.
Overcast: a thin rain is falling.	T D
,, a few drops of rain are falling.	L
,,	H B
Rain falling very fast.	G
,,	T D
Cloudless.	
Cloudless.	T D
Cloudless, but very hazy, especially about the horizon.	H B
Cirro-stratus: rain began to fall at $11^h. 45^m$, and ceased at 12^h: the wind blowing in gusts to $1\frac{1}{2}$.	T D
,, the wind blowing in gusts to 2.	
,, heavy rain has begun falling: the wind blowing in gusts to $3\frac{1}{2}$ and 4.	
Cirro-stratus and scud: a thin rain is falling: the wind blowing in gusts to $2\frac{1}{2}$.	T D
Overcast: cirro-stratus and scud: a thick drizzling rain is falling: the wind blowing in gusts to $1\frac{1}{2}$: at $22^h. 15^m$ the rain ceased, and there is a small break in the N. horizon.	L
A few light clouds are scattered over the sky: the wind blowing in gusts to $1\frac{1}{2}$.	
Cloudless.	L
Light cirri in the zenith, and haze in the horizon.	T D
Cloudless.	
Hazy in the S., with cirro-stratus in the W.: the stars in the zenith are very bright.	
The sky is nearly covered with cirro-stratus.	T D
Cloudy, except round the zenith, which is clear.	L
Overcast.	
,,	
Clear round the zenith.	
A bank of dark cirro-stratus is towards the S. horizon, the sky in other parts being clear.	L
The sky is quite clear, except a few detached cirri in the S.W.	T D
Cloudless.	
Cirro-stratus all round the horizon, and fleecy clouds in the zenith.	T D
Cirro-stratus and cirri, forming into cirro-stratus, cover the greater part of the sky: clear a little S. of the zenith.	L
Overcast: cirro-stratus towards the S.	
,,	L
,, a thin rain is falling at intervals.	T D
,, rain is falling heavily, and in occasional squalls.	H B
,, the rain has ceased falling.	
,, a slight rain: about a quarter of an hour since a very heavy squall of rain occurred: the wind blowing in gusts to $1\frac{1}{2}$ [and 2.	
Cirro-stratus and scud: the wind blowing in gusts to $1\frac{1}{2}$.	
Overcast, except a small portion in the S. E., which is clear.	H B
Cirro-stratus all round the horizon, with lines of cirri and fleecy clouds in the zenith.	T D
Cirro-stratus and scud: a heavy shower of rain fell at $22^h. 50^m$.	

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.	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.	RAIN. Stand of Rain-gauge No. 1. (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3. (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Dec. 3. 2	29·322	40·6	38·1	2·5	..	..	..	..	..	..	..	..	..	..	5	..
4	29·294	37·6	35·9	1·7	34·8	2·8	40·3	..	..	W	3·40	..	..	..	6	Transit
6	29·300	37·5	35·7	1·8	..	..	32·2	..	..	..	..	..	..	..	10	..
8	29·360	34·7	34·5	0·2	..	..	—	..	..	..	..	..	..	..	10	..
10	29·438	34·5	33·7	0·8	32·0	2·5	41·2	..	..	WSW	1·60	..	..	..	1	..
12	29·492	33·5	32·4	1·1	..	..	28·2	..	..	..	..	..	..	..	0	..
14	29·533	32·7	31·5	1·2	..	..	—	..	..	..	..	..	..	..	0	..
16	29·539	33·2	31·7	1·5	29·0	4·2	..	..	..	..	..	..	..	..	5	..
18	29·543	35·4	33·7	1·7	..	..	..	..	..	..	..	..	..	..	6	..
20	29·593	36·0	34·2	1·8	..	..		..	..	..	..	..	..	..	0	..
22	29·643	36·2	34·9	1·3	32·5	3·7	..	..	..	W	1·50	..	0·00	18·475	0	..
Dec. 4. 0	29·659	40·2	38·0	2·2	..	..	..	..	..	..	..	..	..	..	1	..
2	29·671	41·8	39·4	2·4	..	..	..	..	..	..	..	..	..	..	6	..
4	29·658	40·0	38·2	1·8	36·0	4·0	51·0	..	..	..	..	..	..	..	0	..
6	29·629	38·0	36·5	1·5	..	..	37·0	..	..	..	..	..	..	..	4	Transit
8	29·587	40·6	38·7	1·9	..	..	—	..	..	SSW	3·20	..	..	..	10	..
10	29·492	41·7	41·2	0·5	40·0	1·7	51·0	..	..	..	..	..	..	..	10	..
12	29·330	46·2	46·0	0·2	..	..	32·0	..	..	..	..	..	..	..	10	..
14	29·245	48·6	48·4	0·2	..	..	—	..	..	..	..	..	..	..	10	..
16	29·248	50·3	49·9	0·4	49·0	1·3	44·0	..	..	SW	1·10	..	..	..	10	..
18	29·248	49·0	47·7	1·3	..	..	42·0	..	..	..	..	..	..	..	0	..
20	29·326	46·5	43·7	2·8	..	..	..	..	..	..	..	..	..	..	3	..
22	29·398	45·0	41·7	3·3	38·0	7·0	..	..	..	WSW	1·70	..	0·40	18·795	0	..
Dec. 5. 0	29·410	45·9	41·9	4·0	..	..	..	..	..	..	..	..	..	..	0	..
2	29·416	47·5	43·0	4·5	..	..	..	..	..	..	..	..	..	..	2	..
4	29·400	45·7	42·5	3·2	38·0	7·7	48·0	..	..	..	..	..	..	..	6	..
6	29·413	43·5	41·2	2·3	..	..	39·0	..	..	..	..	..	..	..	0	Transit
8	29·402	44·5	42·1	2·4	..	..	—	..	..	..	..	..	..	..	10	..
10	29·391	42·5	41·7	0·8	41·0	1·5	54·8	..	..	..	..	..	..	..	0	..
12	29·393	41·5	39·9	1·6	..	..	32·6	..	..	WSW	3·50	..	..	..	5	..
14	29·382	40·5	39·0	1·5	..	..	—	..	..	..	..	..	..	..	1	..
16	29·375	39·0	37·7	1·3	35·0	4·0	43·8	..	..	..	..	..	..	..	1	1st Qr.
18	29·354	39·5	37·9	1·6	..	..	42·0	..	..	..	..	..	..	..	3	..
20	29·350	38·8	37·5	1·3	..	..		..	..	..	..	..	..	..	10	..
22	29·367	40·6	39·1	1·5	37·0	3·6	..	..	..	W	3·50	..	0·00	18·800	7	..
Dec. 6. 0	29·385	43·5	41·6	1·9	..	..	..	..	..	..	..	..	..	..	4	..
2	29·348	45·3	42·0	3·3	..	..	..	..	..	SW	2·30	..	..	..	5	In Equator
4	29·346	43·6	40·3	3·3	37·0	6·6	45·3	..	..	..	..	..	..	..	¼	..
6	29·368	39·0	37·1	1·9	..	..	36·0	..	..	..	..	..	..	..	0	..
8	29·390	37·5	36·2	1·3	..	..	—	..	..	..	..	..	..	..	0	Transit
10	29·395	37·7	36·4	1·3	35·0	2·7	55·5	..	..	SSW	0·82	..	..	..	0	..
12	29·409	36·8	35·5	1·3	..	..	29·5	..	..	..	..	..	..	..	0	..
14	..	..	..	..	..	..	—	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	43·0	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	41·2	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	29·557	38·7	37·7	1·0	..	..	..	..	..	WSW	1·68	..	0·00	18·800	8	..
Dec. 7. 0	29·571	39·2	38·0	1·2	..	..	..	..	..	..	..	..	..	..	7	..
2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

MAXIMUM FREE THERMOMETER.

Dec. $3^{d}. 22^{h}$. The reading was lower than that of the Dry Thermometer at 2^{h}.

BAROMETER.

Dec. 4^{d}. Between 10^{h} and 12^{h} the reading decreased $0^{in}\cdot162$.

RAIN.

Dec. $4^{d}. 22^{h}$. The reading was set down $18^{in}\cdot895$, but this, from all the subsequent readings, appears to be in error; it is altered conjecturally to $18^{in}\cdot795$.

REMARKS.	Observer.
Cirri and fleecy clouds, with fine blue sky in the W.	T D
Cirri and light clouds are in every part of the sky.	H B
Overcast: cirro-stratus and scud.	
,, rain mixed with sleet is falling slightly.	
Cirro-stratus near the horizon; the sky is otherwise cloudless. A very faint aurora is visible.	H B
Cloudless: the aurora is very bright.	T D
,, the aurora has become very faint.	
Thin cirro-stratus in the zenith and N. W.: the aurora has now disappeared.	
Dark clouds round the horizon: the stars in the zenith appear bright.	
Cloudless: a hoar frost.	T D
,,	L
A few cirri and light clouds are to the W. horizon.	
Cirro-stratus and reticulated cirri are in every part of the sky.	L
Cloudless: hazy in the horizon.	T D
Cirro-stratus in the S. W., and light clouds in the zenith.	
Overcast: rain has just begun to fall.	
,, rain falling heavily.	T D
,, ,, the wind is blowing in gusts to 1.	L
,, ,, ,,	
,, the wind is blowing in gusts to 1½.	
Cloudless: ,,	
Fleecy clouds and loose scud in every part of the sky: the wind is blowing in gusts to 1½.	L
Cloudless: hazy in the horizon.	T D
Cloudless.	
Cumuli in the N. horizon, extending to the S. W.	T D
The sky W. of the zenith is mostly covered with cirro-stratus and cirri.	L
Cloudless: the wind is blowing in gusts to ½.	
Overcast: the sky became clouded at $7^h. 30^m$: the wind is blowing in gusts to ¾ and 1.	
Cloudless.	L
The sky is one-half covered with cloud, the eastern side being clear: several flashes of lightning have been visible in the W. [since 10^h.	H B
Cirro-stratus near the W. and S. S. E. horizon.	
Cirro-stratus near the horizon in every part.	
Cirro-stratus and scud, principally near the S. horizon.	
Overcast: cirro-stratus and scud.	H B
Cirro-stratus and scud, principally in the zenith, and dark clouds in the N. W. horizon.	T D
Light cirri and fleecy clouds are scattered over the sky.	
Cirri, scud, and fleecy clouds.	T D
Cloudless, excepting a few fleecy clouds near the S. E. horizon.	H B
Cloudless.	
,,	
,,	H B
,,	L
Cirro-stratus and fleecy clouds are scattered in every part of the sky: hazy.	
Badly formed cumuli towards the S., with cirro-stratus and haze: clear about the zenith.	L

DREADNOUGHT MAXIMUM AND MINIMUM THERMOMETERS.

Dec. 3^d. The instruments were reinstated.

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Dec. 7. 4	..	..	..	..	..	..	..	..	..	WNW	1·70	..	..	..	..	..
6	..	..	..	..	..	..	42·0	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	29·3	..	..	..	..	..	..	..	..	Transit
10	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	43·0	..	..	..	..	..	..	..	..	..
14	29·965	30·2	29·2	1·0	..	..	27·0	..	..	..	..	..	..	..	0	..
16	30·013	30·5	29·6	0·9	27·0	3·5		..	..	..	..	..	..	..	0	..
18	30·029	30·5	29·7	0·8	..	..	42·0	..	..	..	..	..	..	..	0	..
20	30·044	30·8	30·7	0·1	..	..	40·0	..	..	..	..	..	..	..	0	..
22	30·072	32·5	32·0	0·5	31·0	1·5	..	..	..	SW	1·65	..	0·00	18·000	0	..
Dec. 8. 0	30·066	40·5	38·0	2·5	..	..	..	..	..	..	..	..	..	..	8	..
2	30·033	42·7	40·2	2·5	..	..	..	..	..	..	..	..	..	..	9	..
4	30·008	44·0	41·7	2·3	39·0	5·0	50·5	..	..	..	..	..	..	..	10	..
6	29·973	44·0	43·7	0·3	..	..	33·5	..	..	..	..	..	..	..	10	Transit
8	29·944	46·0	45·7	0·3	..	..		..	..	..	..	..	..	..	10	..
10	29·918	47·5	47·2	0·3	47·5	0·0	50·5	..	..	..	..	..	..	..	10	..
12	29·886	49·8	49·4	0·4	..	..	29·0	..	..	..	..	..	..	..	10	..
14	29·908	49·5	49·2	0·3	..	..		..	..	..	..	..	..	..	10	..
16	29·922	49·0	48·5	0·5	48·0	1·0	41·8	..	..	..	..	..	..	..	10	..
18	29·950	48·0	47·0	1·0	..	..	39·5	..	..	..	..	..	..	..	1	..
20	29·996	45·0	43·2	1·8	..	..	..	..	..	..	..	..	..	..	0	..
22	30·027	44·8	42·4	2·4	40·0	4·8	..	..	..	SSW	4·45	..	0·10	18·860	5	..
Dec. 9. 0	30·047	45·7	43·2	2·5	..	..	..	..	..	..	..	..	..	..	6	..
2	30·037	46·5	44·2	2·3	..	..	..	..	..	..	..	..	..	..	7	..
4	30·045	45·7	43·2	2·5	41·0	4·7	47·3	..	..	..	..	..	..	..	8	..
6	30·047	43·5	40·4	3·1	..	..	35·0	..	..	..	..	..	..	..	2	..
8	30·066	40·8	38·6	2·2	..	..		..	..	W	1·10	..	..	..	8	..
10	30·088	41·8	39·0	2·8	35·0	6·8	49·5	..	..	..	..	..	..	..	0	Transit
12	30·094	40·1	38·2	1·9	..	..	28·0	..	..	..	..	..	..	..	0	..
14	30·097	38·6	36·9	1·7	..	..		..	..	..	..	..	..	..	3	..
16	30·101	36·7	35·5	1·2	34·5	2·2	42·0	..	..	..	..	..	..	..	0	..
18	30·128	35·5	34·5	1·0	..	..	39·8	..	..	..	..	..	..	..	0	..
20	30·158	35·8	34·5	1·3	..	..	..	..	..	..	..	..	..	..	10	..
22	30·204	39·6	37·9	1·7	35·7	3·9	..	..	..	WNW	3·55	..	0·00	18·860	0	..
Dec. 10. 0	30·215	41·5	39·5	2·0	..	..	..	..	..	..	..	..	..	..	0	..
2	30·214	43·0	40·2	2·8	..	..	..	..	..	..	..	..	..	..	5	..
4	30·219	42·2	38·6	3·6	33·5	8·7	48·0	..	..	..	..	..	..	..	3	..
6	30·235	37·5	36·5	1·0	..	..	36·0	..	..	..	..	..	..	..	7	..
8	30·208	37·0	36·0	1·0	..	..		..	..	..	..	..	..	..	6	..
10	30·192	36·8	35·9	0·9	34·5	2·3	48·0	..	..	..	..	..	..	..	9	Transit
12	30·155	37·2	36·2	1·0	..	..	28·0	..	..	..	..	..	..	..	8	..
14	30·098	39·0	37·7	1·3	..	..	41·5	..	..	..	..	..	..	..	10	..
16	30·024	41·5	40·6	0·9	39·9	1·6	39·5	..	..	..	..	..	..	..	10	..
18	29·952	43·5	43·0	0·5	..	..		..	..	..	..	..	..	..	10	..
20	29·846	46·0	45·2	0·8	..	..	..	..	..	..	..	..	..	..	10	..
22	29·786	47·6	46·8	0·8	45·0	2·6	..	..	..	WSW	4·35	..	0·00	18·865	10	..
Dec. 11. 0	29·763	51·0	49·2	1·8	..	..	..	..	..	..	..	..	..	..	10	..

BAROMETER.

Dec. 10d. Between 18h and 20h the reading decreased 0in·106.

AMOUNT OF RAIN.

Dec. 10d. The increase in rain-gauge No. 3 was caused by deposition of moisture.

REMARKS.	Observer.
Cloudless.	T D
,,	
,,	
,, hoar frost.	T D
,,	L
Cirro-stratus, fleecy clouds, and scud, with small breaks in every part of the sky.	
Cirro-stratus and fleecy clouds, with small breaks towards the N.	L
Overcast: cirro-stratus: a few drops of rain are occasionally falling.	T D
,, a thick misty rain is falling.	
,, ,,	
,, ,,	
,, a slight rain is falling: the wind is blowing in gusts to ½.	T D
,,	L
,,	
There are a few clouds towards the S.	L
Cloudless: the wind is blowing in gusts to ½.	T D
Light cirri and scud around the horizon, with fleecy clouds in the zenith.	
A thin cirro-stratus around the horizon; fleecy clouds and light scud cover the rest of the sky.	
A thin cirro-stratus around the horizon, with a few detached cumuli in the zenith.	T D
Cirro-stratus and cirri are scattered in every part of the sky.	L
A thin cirro-stratus towards the S.: hazy. The Moon has a corona round her.	
Cirro-stratus and fleecy clouds: clear in the S. W.	
Cloudless.	L
,, At $11^h. 45^m$ a bright meteor was observed near Castor, taking a south-easterly direction, which disappeared in about half a second.	H B
Fleecy clouds cover a large portion of the sky about Polaris, and in the S. E.	
Cloudless.	
,,	H B
Overcast: cirro-stratus.	T D
Cloudless: a thick haze all round the horizon.	
Cloudless: a thick haze still prevails.	
Cirro-stratus extending from the N.W. to the S.E. horizon; detached cumuli and dark masses of low scud are passing at a low elevation.	T D
Cirro-stratus all round the horizon, the sky being hazy.	H B
Cirro-stratus and vapour: foggy.	
Light fleecy clouds are in every direction. At $7^h. 40^m$ the Moon was surrounded by a beautiful corona and coloured ring; this phenomenon was observed several times during the evening as fleecy clouds were passing her.	
Cirro-stratus and fleecy clouds. A fine corona with two concentric coloured rings is now visible round the Moon.	H B
Thin cirro-stratus and light fleecy clouds through which the Moon and stars are visible. A fine lunar halo is visible.	T D
Overcast: thin cirro-stratus.	
,, dense cirro-stratus.	
,, ,, the wind is blowing in gusts to 2.	
Cirro-stratus and scud: the wind is blowing in gusts to 1½.	T D
Thin cirro-stratus and scud passing quickly from the N.W.	L
Overcast: the wind is blowing in gusts to 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 22^h. of Free Therm., of Rad. Therm., of Therm. in Water of the Thames.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Dec. 11. 2	29·733	47·2	42·2	5·0	..	..	..	..	..	..	..	..	..	..	0	..
4	29·741	45·0	40·4	4·6	35·0	10·0	..	..	..	..	..	..	..	..	5	..
6	29·765	44·3	39·7	4·6	..	..	52·1	..	..	WNW	0·18	..	..	..	0	..
8	29·807	43·4	38·7	4·7	..	..	36·5	..	..	..	..	..	..	..	9	..
10	29·853	41·5	37·2	4·3	32·5	9·0	52·0 30·0	..	..	..	..	..	..	..	4	..
12	29·906	39·5	35·5	4·0	..	..		..	..	..	..	..	..	..	0	Transit
14	29·940	38·4	35·0	3·4	..	..	41·5	..	..	NW	5·38	..	..	..	0	..
16	30·002	37·3	34·5	2·8	30·0	7·3	39·8	..	..	..	..	..	..	..	0	..
18	30·026	36·5	34·0	2·5	..	..	..	..	..	NNW	0·82	..	..	..	0	..
20	30·073	36·5	34·2	2·3	..	..	..	..	..	..	..	..	..	..	5	..
22	30·109	37·8	35·8	2·0	33·0	4·8	..	..	..	N	0·92	..	0·00	18·870	7	..
Dec. 12. 0	30·150	40·6	38·3	2·3	..	..	..	..	..	..	..	..	..	..	9	..
2	30·159	41·5	38·8	2·7	..	..	..	..	..	..	..	..	..	..	6	..
4	30·200	38·8	37·5	1·3	35·0	3·8	42·0	..	..	..	..	..	..	..	3	..
6	30·242	38·2	36·7	1·5	..	..	28·0	..	..	N	1·60	..	..	..	10	..
8	30·274	36·0	34·7	1·3	..	..		..	..	..	..	..	..	..	2	..
10	30·296	32·7	31·7	1·0	30·0	2·7	49·5	..	..	..	..	..	..	..	0	..
12	30·328	32·1	31·2	0·9	..	..	24·5	..	..	..	..	..	..	..	0	Transit
14	30·334	29·5	30·2	–0·7	..	..		..	..	..	..	..	..	..	0	..
16	30·338	29·5	30·2	–0·7	30·0	–0·5	40·8	..	..	..	..	..	..	..	0	..
18	30·347	28·7	29·7	–1·0	..	..	38·5	..	..	..	..	..	..	..	0	..
20	30·346	29·0	29·9	–0·9	..	..	..	..	..	..	..	..	..	..	10	..
22	30·358	31·0	31·0	0·0	31·7	–0·7	..	..	..	W	0·85	..	0·00	18·870	10	..
Dec. 13. 0	30·348	31·7	31·8	–0·1	..	..	..	..	..	..	..	..	..	..	10	..
2	30·315	32·0	32·0	0·0	..	..	..	..	..	..	..	..	..	..	0	..
4	30·285	32·8	32·0	0·8	30·0	2·8	34·5	..	..	W	0·45	..	..	..	3	Greatest declination N.
6	30·287	33·2	32·0	1·2	..	..	30·0	..	..	..	..	..	..	..	8	..
8	30·292	33·0	32·0	1·0	..	..		..	..	WNW	0·50	..	..	..	10	Full
10	30·283	32·9	32·0	0·9	30·0	2·9	36·0	..	..	..	..	..	..	..	10	..
12	30·292	32·3	31·8	0·5	..	..	25·5	..	..	W	0·70	..	..	..	9	Transit
14	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	40·0	..	..	WSW	0·60	..	..	..	..	..
18	..	..	..	..	..	..	37·8	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	30·224	35·2	34·2	1·0	..	..	..	..	..	SW	0·40	..	0·00	18·870	10	..
Dec. 14. 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	30·094	41·6	41·2	0·4	..	..	50·3	..	..	..	..	..	..	..	10	..
6	30·061	43·7	43·0	0·7	..	..	35·7	..	..	..	..	..	..	..	10	..
8	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	50·0	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	34·3	..	..	..	..	..	..	..	..	..
14	29·805	47·8	46·2	1·6	..	..		..	..	..	..	..	..	..	10	Transit
16	29·728	48·0	46·2	1·8	44·0	4·0	40·0	..	..	..	..	..	..	..	10	..
18	29·674	48·6	46·7	1·9	..	..	37·8	..	..	..	..	..	..	..	10	..
20	29·641	48·7	47·7	1·0	..	..	..	..	..	..	..	..	..	..	10	..
22	29·662	49·5	47·9	1·6	49·0	0·5	..	..	..	WSW	7·95	..	0·00	18·870	10	..

DRY THERMOMETER.
Dec. 12^d. 14^h, 16^h, 18^h, and 20^h. The readings were lower than those of the Wet Thermometer.

DEW POINT THERMOMETER.
Dec. 12^d. 16^h and 22^h. The readings were higher than those of the Dry Thermometer.

MAXIMUM FREE THERMOMETER.
Dec. 13^d. 22^h. The reading was lower than that of the Dry Thermometer at 22^h.

REMARKS.	Observer.
At 0^h. 10^m rain was falling heavily and in squalls: the wind suddenly changed to N. by W. and blew in gusts to 2: at 2^h a few mottled cirri were a little S. of the zenith, but to no numerical extent.	L
Cumuli and scud: the wind is blowing in gusts to 2.	T D
A thin haze around the horizon: the wind is blowing in gusts to 4.	
Cumuli and cumulo-strati, with large masses of dark scud floating beneath: there are a few clear breaks in the zenith through which the stars are visible: the wind is blowing in gusts to 3½.	
Cumuli extending from the S.W. to the E., with small detached fragments of scud in the zenith. A finely coloured corona was visible round the Moon since the last observation: the wind is blowing in gusts to 4.	T D
Cloudless: the wind is blowing in gusts to 3.	L
,, ,,	
,, the wind is blowing in gusts to 2½.	
,, the wind is blowing in gusts to 3.	
Cirro-stratus and large masses of scud: the clouds are moving from the N. N. E.: the wind is blowing in gusts to 1½.	L
Thin cirro-stratus covers the sky, excepting a clear break in the S.: the wind is blowing in gusts to 2.	T D
Almost every part of the sky is covered with cirro-stratus. A faint solar halo is visible, whose vertical radius is 22°.	H B
Cirri and cirro-stratus near the Sun's place: part of a halo is visible at the distance of 22° above the Sun.	H B
Cirro-stratus and fleecy clouds W. of the zenith.	L
Overcast: cirro-stratus and fleecy clouds.	
Fleecy clouds towards the E. and S. E. horizon.	
Cloudless.	L
,,	H B
,,	
,,	
,,	
Overcast: cirro-stratus: foggy.	H B
A dense fog, the Astronomical Observatory not being visible from the Magnetic Observatory.	T D
Overcast: a dense fog.	L
Cloudless: the fog is not so dense as at the last observation.	L
Cirro-stratus all round the horizon with light cirri scattered over the sky: a dense fog.	H B
Nearly overcast with cirro-stratus and fog: Jupiter and a few stars are visible.	
Overcast: cirro-stratus and fog.	
,, ,,	H B
Cumuli and cumulo-strati, with a few clear breaks in the zenith. A finely coloured corona is visible around the Moon.	T D
Overcast: cirro-stratus.	T D
Overcast.	H B
,,	T D
Cirro-stratus and scud: the wind is blowing in gusts to 2½.	
,, the wind is blowing in gusts to 3½.	
,, ,,	
Cirro-stratus: the wind is blowing in gusts to 2: rain has just begun to fall.	T D
Overcast: a thin drizzling rain is falling.	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.	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.	RAIN. Stand of Rain-gauge No. 1. (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3. (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Dec. 15. 0	29·689	50·2	46·4	3·8	..	..	..	..	..	..	..	..	..	..	10	..
2	29·711	49·5	44·6	4·9	..	..	..	..	..	..	..	..	..	..	9	..
4	29·721	46·5	42·6	3·9	39·0	7·5	51·3	..	..	WNW	2·40	..	..	..	5	..
6	29·740	44·2	41·2	3·0	..	..	42·0	..	..	..	..	..	..	..	9	..
8	29·739	44·0	40·7	3·3	..	..	—	..	..	..	..	..	..	..	10	..
10	29·738	41·7	39·5	2·2	37·0	4·7	51·8	..	..	..	..	..	..	..	8	..
12	29·739	42·7	40·0	2·7	..	..	38·5	..	..	..	..	..	..	..	9	..
14	29·698	43·6	41·0	2·6	..	..	—	..	..	..	..	..	..	..	10	Transit
16	29·680	44·0	41·4	2·6	38·0	6·0	..	..	..	..	..	..	..	..	10	..
18	29·642	44·2	42·2	2·0	..	..	38·5	..	..	..	..	..	..	..	10	..
20	29·649	45·2	42·9	2·3	..	..	..	..	..	..	..	..	..	..	10	..
22	29·649	47·3	44·2	3·1	40·5	6·8	..	..	..	W	3·90	..	0·00	18·910	10	..
Dec. 16. 0	29·660	48·7	45·2	3·5	..	..	..	..	..	..	..	..	..	..	8	..
2	29·656	50·5	44·5	6·0	..	..	..	..	..	..	..	..	..	..	7	..
4	29·680	48·0	43·4	4·6	40·0	8·0	51·5	..	..	..	..	..	..	..	6	..
6	29·686	46·5	42·7	3·8	..	..	45·0	..	..	..	..	..	..	..	10	..
8	29·689	46·5	42·7	3·8	..	..	—	..	..	..	..	..	..	..	10	..
10	29·674	45·5	43·2	2·3	40·0	5·5	55·5	..	..	..	..	..	..	..	10	..
12	29·670	45·5	43·6	1·9	..	..	41·5	..	..	NNW	2·40	..	..	..	10	Apogee
14	29·686	46·1	44·2	1·9	..	..	—	..	..	..	..	..	..	..	10	..
16	29·689	46·3	43·9	2·4	42·0	4·3	..	..	..	..	..	..	..	..	10	Transit
18	29·699	45·5	43·7	1·8	..	..	39·8	..	..	..	..	..	..	..	10	..
20	29·714	44·9	42·7	2·2	..	..	..	..	..	..	..	..	..	..	10	..
22	29·727	44·2	41·9	2·3	39·0	5·2	..	..	..	W	2·50	..	0·00	18·910	10	..
Dec. 17. 0	29·699	44·5	43·4	1·1	..	..	..	..	..	..	..	..	..	..	10	..
2	29·660	44·3	43·2	1·1	..	..	..	..	..	..	..	..	..	..	10	..
4	29·585	43·5	43·2	0·3	42·5	1·0	45·5	..	..	..	..	..	..	..	10	..
6	29·537	44·0	43·9	0·1	..	..	43·8	..	..	W	0·92	..	..	..	10	..
8	29·514	43·5	43·7	-0·2	..	..	—	..	..	..	..	..	..	..	10	..
10	29·475	45·7	45·2	0·5	44·5	1·2	46·0	..	..	..	..	..	..	..	10	..
12	29·436	44·8	44·2	0·6	..	..	42·5	..	..	..	..	..	..	..	10	..
14	29·383	44·0	43·7	0·3	..	..	—	..	..	..	..	..	..	..	10	..
16	29·338	44·0	43·7	0·3	43·0	1·0	42·0	..	..	..	..	..	..	..	10	Transit
18	29·270	44·0	43·9	0·1	..	..	40·0	..	..	..	..	..	..	..	10	..
20	29·219	44·3	44·2	0·1	..	..	..	..	..	..	..	..	..	..	10	..
22	29·191	45·8	45·8	0·0	45·5	0·3	..	..	..	SSW	0·33	..	0·13	19·001	10	..
Dec. 18. 0	29·162	48·3	47·7	0·6	..	..	..	..	..	..	..	..	..	..	10	..
2	29·147	48·4	48·2	0·2	..	..	..	..	..	..	..	..	..	..	10	..
4	29·161	47·5	47·6	-0·1	47·0	0·5	49·7	..	..	..	..	..	..	..	10	..
6	29·190	47·0	47·0	0·0	..	..	37·0	..	..	..	..	..	..	..	10	..
8	29·240	44·0	44·0	0·0	..	..	—	..	..	N	1·65	..	..	..	10	..
10	29·282	43·2	42·6	0·6	42·0	1·2	49·6	..	..	..	..	..	..	..	10	..
12	29·314	41·0	40·4	0·6	..	..	34·5	..	..	..	..	..	..	..	10	..
14	29·322	40·0	38·7	1·3	..	..	—	..	..	..	..	..	..	..	10	..
16	29·325	39·0	36·8	2·2	34·0	5·0	41·8	..	..	NNW	1·30	..	..	..	10	Transit
18	29·304	38·0	35·8	2·2	..	..	40·8	..	..	..	..	..	..	..	10	..
20	29·288	36·5	35·4	1·1	..	..	..	..	..	..	..	..	..	..	10	..
22	29·199	37·0	35·9	1·1	34·0	3·0	..	..	..	SW	1·55	..	0·23	19·215	10	..

BAROMETER.
From Dec. 18d. 22h to 19d. 4h. The readings decreased considerably.

DRY THERMOMETER.
Dec. 17d. 8h and 18d. 4h. The readings were lower than those of the Wet Thermometer.

MAXIMUM FREE THERMOMETER.
Dec. 17d. 22h. The reading was lower than that of the Dry Thermometer at 10h and 22h.

REMARKS.	Observer.
Overcast: thin cirro-stratus.	L
Cirro-stratus and loose scud, with a few breaks in the clouds about the zenith.	L
Detached cumuli in the zenith, and a thick haze in the horizon.	T D
Overcast: thin cirro-stratus: a few stars are visible in the zenith.	
Cumuli, cumulo-strati, and masses of dark scud.	
At $8^h.40^m$ the sky became clear, but is now covered with a thin cirro-stratus, except near the Moon, where it is clear.	
The whole of the sky is covered with a loose cirro-stratus; the Moon however is visible.	T D
Overcast.	L
,,	
,, cirro-stratus and fleecy clouds.	
,, the wind is blowing in gusts to $\frac{3}{4}$.	L
Cirro-stratus and scud.	T D
Cumuli, scud, and fleecy clouds.	T D
The sky is generally covered with cirri and cirro-stratus; there are also a few cumuli near the W. N.W. horizon: the wind is blowing in occasional gusts to 2.	H B
Cirri, cirro-stratus, and fleecy clouds are in all parts of the sky: the wind is blowing in occasional gusts to $1\frac{1}{2}$.	L
Overcast: the wind is blowing in gusts to 1.	
,, ,,	
,, ,,	L
,, cirro-stratus and scud.	H B
,, ,,	
,, ,,	
,, ,,	
,, ,,	H B
,,	T D
Overcast.	
,,	T D
,, a thin rain is falling.	H B
,, cirro-stratus and scud.	
,, cirro-stratus.	H B
,, ,,	G
,, ,,	G
,,	L
,, a few drops of rain are falling.	T D
,,	T D
,, rain is falling.	H B
,, rain is falling slightly.	G
Overcast: rain is slightly falling.	L
,, ,,	T D
,, the rain has ceased.	L
,, rain is again falling.	T D
,, rain falling heavily: the wind is blowing in gusts to $\frac{3}{4}$ and 1.	H B
,, rain is falling.	G
,,	T D
,,	
,,	
,,	
,,	T D
,, cirro-stratus: the wind is blowing in gusts to $\frac{3}{4}$.	L

MINIMUM FREE THERMOMETER.

Dec. $15^d.22^h$. The reading was higher than that of the Dry Thermometer at 10^h.
Dec. $16^d.22^h$. The reading was higher than that of the Dry Thermometer at 20^h and 22^h.
Dec. $18^d.22^h$. The reading was higher than that of the Dry Thermometer at 20^h.

MAXIMUM RADIATION THERMOMETER.

Dec. 18^d and 19^d. The readings were lower than those of the Maximum Free Thermometer.

DREADNOUGHT MAXIMUM THERMOMETER.

Dec. $15^d.22^h$ and $16^d.22^h$. The readings were not taken; no reason was assigned for the omission.

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.	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.	RAIN. Stand of Rain-gauge No. 1. (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3. (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Dec. 19. 0	29·082	40·8	40·2	0·6	..	..	..	..	..	..	..	..	..	..	10	..
2	28·969	45·0	44·4	0·6	..	..	..	..	..	..	..	..	..	..	10	..
4	28·867	48·0	46·7	1·3	45·0	3·0	49·0	..	..	SSW	1·20	..	..	..	9½	..
6	28·856	41·5	40·8	0·7	..	..	37·0	..	..	..	..	..	..	..	8	..
8	28·848	39·5	38·2	1·3	..	..		..	..	SW	1·32	..	..	..	0	..
10	28·831	38·4	37·2	1·2	35·8	2·6	45·0	..	..	..	..	..	..	..	0	..
12	28·794	38·8	37·4	1·4	..	..	34·0	..	..	..	..	..	..	..	8	..
14	28·763	37·4	35·9	1·5	..	..		..	..	WNW	0·08	..	..	..	0	..
16	28·710	37·2	35·7	1·5	33·0	4·2	43·0	..	..	..	..	..	..	..	2	..
18	28·659	38·5	36·9	1·6	..	..	41·0	..	..	..	..	..	..	..	2	Transit
20	28·663	38·0	36·5	1·5	..	..	..	..	..	..	..	..	..	..	4	..
22	28·672	38·0	36·2	1·8	34·5	3·5	..	..	..	WSW	5·65	..	0·12	19·355	0	..
Dec. 20. 0	28·690	41·1	38·9	2·2	..	..	..	..	..	..	..	..	..	..	10	..
2	28·691	43·0	39·7	3·3	..	..	..	..	..	..	..	..	..	..	7	..
4	28·738	39·7	38·7	1·0	37·0	2·7	43·7	..	..	..	..	..	..	..	10	..
6	28·779	37·6	36·7	0·9	..	..	36·4	..	..	..	..	..	..	..	2	..
8	28·845	37·2	36·7	0·5	..	..		..	..	W	1·67	..	..	..	2	..
10	28·892	36·8	35·4	1·4	34·0	2·8	47·2	..	..	..	..	..	..	..	10	..
12	28·953	37·6	36·6	1·0	..	..	31·3	..	..	WNW	1·30	..	..	..	10	..
14	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	42·5	..	..	..	..	..	..	..	..	In Equator
18	..	..	..	..	..	..	41·0	..	..	NW	1·25	..	..	..	..	Transit
20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	29·280	37·9	34·8	3·1	..	..	..	..	..	N	2·28	..	0·04	19·400	10	..
Dec. 21. 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	~~37·5~~	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	29·5	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	39·0	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	25·5	..	..	..	..	..	..	..	..	3rd Qr.
14	29·697	31·4	29·2	2·2	..	..		..	..	NW	2·80	..	..	..	9	..
16	29·679	31·4	29·4	2·0	24·5	6·9	41·8	..	..	..	..	..	..	..	10	..
18	29·630	29·5	28·4	1·1	..	..	40·0	..	..	..	..	..	..	..	10	Transit
20	29·575	30·5	29·7	0·8	..	..	..	..	..	..	..	..	..	..	10	..
22	29·501	32·6	31·2	1·4	28·5	4·1	..	..	..	NNW	3·70	..	0·00	19·400	10	..
Dec. 22. 0	29·299	33·3	31·9	1·4	..	..	..	..	..	..	..	..	..	..	10	..
2	29·163	36·7	36·2	0·5	..	..	..	..	..	SW	1·65	..	..	..	10	..
4	29·062	41·7	40·7	1·0	41·0	0·7	43·5	..	..	..	..	..	..	..	10	..
6	29·009	42·0	41·8	0·2	..	..	29·9	..	..	..	..	..	..	..	10	..
8	28·940	43·5	42·7	0·8	..	..		..	..	WSW	2·08	..	..	..	10	..
10	28·875	40·5	40·0	0·5	38·5	2·0	43·7	..	..	..	..	..	..	..	10	..
12	28·855	40·7	38·9	1·8	..	..	34·5	..	..	..	..	..	..	..	10	..
14	28·837	37·0	35·5	1·5	..	..		..	..	NW	3·08	..	..	..	10	..
16	28·847	36·7	35·5	1·2	35·0	1·7	41·0	..	..	..	..	..	..	..	5	..
18	28·854	38·5	35·9	2·6	..	..	38·5	..	..	..	..	..	..	..	0	..
20	28·910	40·0	37·9	2·1	..	..	..	..	..	..	..	..	..	..	10	Transit
22	28·993	40·0	36·6	3·4	32·0	8·0	..	..	..	N	0·84	..	0·00	19·400	5	..

BAROMETER.

*Dec. 21d. Between 22h and 24h the decrease in the reading was 0in·202, being the largest difference in the readings within two hours during the year.

Dec. 22d. 0h to 4h. The reading decreased considerably.

MINIMUM RADIATION THERMOMETER.

Dec. 22d. The reading was higher than that of the Minimum Free Thermometer.

REMARKS.	Observer.
Overcast: the wind is blowing in gusts to 2: rain is falling in occasional squalls.	L
,, the wind is blowing in gusts to $1\frac{1}{2}$: rain is falling occasionally.	L
Cirro-stratus and scud: the wind is blowing in gusts to $1\frac{1}{2}$ and 2.	T D
,, heavy squalls of wind and rain have frequently occurred since the last observation.	
Cloudless: the wind is blowing in gusts to $1\frac{1}{2}$.	
,, ,,	T D
Cirro-stratus and scud.	L
Cloudless: the wind is blowing in gusts to 2.	
A few clouds are S. of the zenith.	
Fleecy clouds towards the S. and about the place of the Moon, which has a beautifully coloured corona round her.	
Fleecy clouds N. of the zenith, and cirro-stratus towards the S. horizon: the wind is blowing in gusts to $\frac{3}{4}$.	L
Cloudless: the wind is blowing in gusts to 1.	T D
Overcast: cirro-stratus and scud.	H B
Cirro-stratus and scud, fragments of which are continually passing from the W.: the upper clouds are cirro-cumuli and light cirri: the wind is blowing in gusts to 2.	H B
Overcast: cirro-stratus and scud: the wind is blowing in gusts to $1\frac{1}{2}$.	L
Cirro-stratus round the horizon.	
Cloudy round the horizon.	
Overcast.	L
,, at $11^h. 40^m$ rain mixed with sleet was falling: at the present time it is still falling, but not so heavily.	H B
Overcast: a gale of wind: the wind is blowing in frequent gusts to 3 and 3 +. (For additional observations see the Section of Extraordinary Observations.)	
Nearly overcast with cirro-stratus.	
Overcast: cirro-stratus.	
,, A faint lunar halo is now visible.	H B
,, cirro-stratus and scud.	T D
,, at $21^h. 40^m$ sleet began falling.	
Overcast: snow is falling fast.	L
,, rain is falling.	H B
,, the wind is blowing in gusts to $1\frac{1}{2}$.	
,, rain is falling slightly.	
,, rain is still falling.	H B
,, rain is falling: the wind is blowing in gusts to 3.	I.
,, the wind is blowing in gusts to 2: a few stars are occasionally visible about the zenith.	
,, ,, occasional squalls of wind and rain.	
Clear N. of the zenith: the wind is blowing in gusts to $2\frac{1}{2}$.	
Cloudless: the wind is blowing in gusts to $2\frac{1}{2}$.	L
Overcast, with rain falling in squalls: the wind is blowing in gusts to $3\frac{1}{2}$.	
Detached scud and cumuli are scattered over the sky: the wind is blowing in gusts to $2\frac{1}{2}$: at $21^h. 10^m$ a very heavy shower of hail fell.	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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Dec. 23. 0	29·081	40·5	37·2	3·3	..	..	..	..	..	..	..	..	..	..	10	..
2	29·183	41·3	39·2	2·1	..	..	..	..	..	..	..	..	..	..	10	..
4	29·276	42·5	39·5	3·0	37·0	5·5	43·5	..	..	..	..	..	..	..	10	..
6	29·395	41·6	38·4	3·2	..	..	34·6	..	..	..	..	..	..	..	3	..
8	29·483	40·7	38·0	2·7	..	..	——	..	..	NNW	1·46	..	..	..	7	..
10	29·589	40·0	38·0	2·0	36·0	4·0	43·5	..	..	..	..	..	..	..	9	..
12	29·664	38·5	36·9	1·6	..	..	31·6	..	..	..	..	..	..	..	0	..
14	29·727	37·3	35·7	1·6	..	..	——	..	..	..	..	..	..	..	0	..
16	29·776	36·3	35·2	1·1	33·2	3·1	40·5	..	..	..	..	..	..	..	0	..
18	29·827	35·4	34·5	0·9	..	..	38·2	..	..	..	..	..	..	..	0	..
20	29·903	36·0	35·2	0·8	..	..	..	..	..	..	..	..	..	..	10	Transit
22	29·976	35·0	34·4	0·6	32·5	2·5	..	..	..	N	2·02	..	0·00	19·400	2	..
Dec. 24. 0	30·034	37·5	36·7	0·8	..	..	..	..	..	..	..	..	..	..	1	..
2	30·052	39·9	38·5	1·4	..	..	..	..	..	..	..	..	..	..	0	..
4	30·069	39·5	37·8	1·7	35·0	4·5	40·8	..	..	..	..	..	..	..	0	..
6	30·084	36·2	35·2	1·0	..	..	32·0	..	..	..	..	..	..	..	0	..
8	30·107	33·2	32·8	0·4	..	..	——	..	..	..	..	..	..	..	0	..
10	30·134	32·3	31·8	0·5	31·0	1·3	52·5	..	..	..	..	..	..	..	0	..
12	30·134	31·8	31·4	0·4	..	..	27·7	..	..	..	..	..	..	..	3	..
14	..	..	..	..	..	..	——	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	39·0	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	37·5	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22	30·092	39·7	38·4	1·3	..	..	..	..	..	N	0·62	..	0·00	19·400	10	Transit
Dec. 25. 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2	30·094	42·6	42·2	0·4	..	..	..	..	..	..	..	..	..	..	10	..
4	..	..	..	..	..	..	48·0	..	..	..	..	..	..	..	..	..
6	30·131	42·7	42·2	0·5	..	..	37·4	..	..	NNW	1·80	..	..	..	10	..
8	..	..	..	..	..	..	——	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	48·0	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	33·8	..	..	..	..	..	..	..	..	..
14	30·157	37·0	36·9	0·1	..	..	——	..	..	N	1·30	..	..	..	10	..
16	30·113	39·5	39·2	0·3	39·0	0·5	39·0	..	..	..	..	..	..	..	10	..
18	30·056	44·0	44·0	0·0	..	..	37·2	..	..	..	..	..	..	..	10	..
20	30·002	45·7	45·7	0·0	..	..	..	..	..	..	..	..	..	..	10	..
22	29·979	47·8	47·4	0·4	47·0	0·8	..	..	..	WSW	1·65	..	0·00	19·685	10	Transit
Dec. 26. 0	29·935	48·5	46·5	2·0	..	..	..	..	..	..	..	..	..	..	9	..
2	29·849	48·7	46·5	2·2	..	..	..	..	..	..	..	..	..	..	10	..
4	29·772	48·5	45·8	2·7	44·0	4·5	49·5	..	..	..	..	..	..	..	10	..
6	29·707	48·0	46·5	1·5	..	..	38·8	..	..	..	..	..	..	..	10	..
8	29·670	49·0	47·9	1·1	..	..	——	..	..	..	..	..	..	..	10	..
10	29·609	47·5	45·7	1·8	44·0	3·5	50·8	..	..	..	..	..	..	..	10	..
12	29·663	44·5	40·9	3·6	..	..	31·4	..	..	NNW	3·55	..	..	..	2	..
14	29·689	42·0	39·0	3·0	..	..	——	..	..	..	..	..	..	..	0	..
16	29·757	41·5	38·2	3·3	33·0	8·5	39·0	..	..	..	..	..	..	..	10	..
18	29·830	39·0	35·7	3·3	..	..	37·5	..	..	..	..	..	..	..	2	..
20	29·924	39·0	35·4	3·6	..	..	..	..	..	..	..	..	..	..	0	..
22	29·980	39·0	35·9	3·1	31·5	7·5	..	..	..	WNW	3·05	..	0·00	19·715	4	..
Dec. 27. 0	30·002	42·8	39·2	3·6	..	..	..	..	..	..	..	..	..	..	3	Transit

BAROMETER.

Dec. 23d. From 0^h to 10^h the readings increased considerably.

MINIMUM FREE THERMOMETER.

Dec. 24d. 22^h. The reading was higher than that of the Dry Thermometer at 12^h.

Dec. 25d. 22^h. The reading was higher than that of the Dry Thermometer at 14^h.

REMARKS.	Observer.
Overcast: cirro-stratus and scud: the wind is blowing in gusts to 3.	H B
,, rain is falling: the wind is blowing in gusts to 3.	H B
,, slight rain is falling: the wind is blowing in gusts to 4.	L
Dark masses of scud are in every part of the sky.	
Clear towards the N.: the wind is blowing in gusts to $3\frac{1}{2}$.	
Small breaks in the clouds are in every part of the sky: the wind is blowing in gusts to 3.	L
Cloudless: the wind is blowing in gusts to $3\frac{1}{2}$.	T D
,, the wind is blowing in gusts to $2\frac{1}{2}$.	
,,	
,,	
Overcast: cirro-stratus.	T D
Fragments of light cloud and a few cumuli are near the S. W. horizon.	H B
A few light clouds are S. of the zenith.	
Cloudless.	H B
,, hazy in the horizon.	T D
,, hazy.	
,,	
,,	T D
Cirro-stratus to a considerable altitude all round the horizon.	H B
Overcast: cirro-stratus: a thick misty rain has just commenced falling.	T D
Overcast: the clouds are slightly broken in the zenith.	
,, a thin rain is falling.	T D
,, the air is damp and foggy.	H B
,, the fog has disappeared.	
,,	
,,	H B
,,	L
Cirro-stratus and large masses of scud: the wind is blowing in gusts to $\frac{3}{4}$.	
Overcast: the wind is blowing in gusts to 1.	L
,, cirro-stratus and scud: the wind is blowing in gusts to $2\frac{1}{2}$.	H B
,, a few drops of rain have fallen: the wind is blowing in gusts to 3.	
,, a few drops of rain have fallen since 6^h: the wind is blowing in gusts to 3.	
,, cirro-stratus and scud: the reflexion of the London lights is very strong: the gusts of wind are not so frequent as at 8^h.	H B
Cloudy towards the S. horizon: the sky has been alternately clear and cloudy since the last observation: the wind is in frequent [gusts to 4.	L
Cloudless: the wind is blowing in gusts to $3\frac{1}{2}$.	
Overcast.	
A few clouds are in the N. and S. horizon: the wind is blowing in gusts to 3.	
Cloudless.	L
Cirri and haze in the horizon, the zenith being clear.	T D
Light fleecy clouds in the zenith and S. E. horizon; the remaining portion of the sky is clear.	

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	Reading of Rain-gauge No. 2.	Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in.	in.		
Dec. 27. 2	29·991	44·5	40·6	3·9	..	..	..	..	..	..	..	..	..	..	3	..
4	29·955	43·8	41·2	2·6	38·0	5·8	51·3	..	..	..	..	..	..	..	8½	..
6	29·892	43·5	41·2	2·3	..	..	39·2	..	..	..	..	..	..	..	10	..
8	29·811	46·0	42·7	3·3	..	..		..	..	..	..	..	..	..	10	Greatest declination S.
10	29·682	46·6	44·7	1·9	41·0	5·6	51·0	..	..	..	..	..	..	..	10	..
12	29·629	47·7	46·2	1·5	..	..	38·0	..	..	..	..	..	..	..	10	..
14	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	41·8	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	38·2	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..
22	29·395	49·2	48·9	0·3	..	..	..	..	..	..	..	..	0·11	19·850	10	..
Dec. 28. 0	29·370	50·0	49·9	0·1	..	..	..	..	..	..	..	..	..	..	10	Transit
2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	51·8	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	30·4	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	51·4	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	26·5	..	..	..	..	..	..	..	..	New
14	29·778	33·6	32·6	1·0	..	..		..	..	..	..	..	..	..	0	..
16	29·838	32·2	31·2	1·0	29·0	3·2	41·8	..	..	..	..	..	..	..	0	..
18	29·867	31·2	30·5	0·7	..	..	39·5	..	..	..	..	..	..	..	0	..
20	29·889	31·3	31·0	0·3	..	..	..	..	..	..	..	..	..	..	0	..
22	29·913	32·4	31·9	0·5	29·5	2·9	..	..	..	..	..	..	0·33	19·850	5	..
Dec. 29. 0	29·906	37·1	34·7	2·4	..	..	..	..	..	..	..	..	..	..	3	..
2	29·854	39·7	37·4	2·3	..	..	..	..	..	..	..	..	..	..	10	Transit
4	29·799	42·5	40·6	1·9	38·0	4·5	52·5	..	..	..	..	..	..	..	10	Perigee
6	29·740	43·0	41·1	1·9	..	..	32·4	..	..	..	..	..	..	..	10	..
8	29·693	46·0	44·7	1·3	..	..		..	..	..	..	..	..	..	10	..
10	29·674	49·0	48·4	0·6	48·0	1·0	53·0	..	..	..	..	..	..	..	10	..
12	29·669	51·2	49·1	2·1	..	..	31·4	..	..	..	..	..	..	..	10	..
14	29·649	50·6	48·9	1·7	..	..		..	..	..	..	..	..	..	10	..
16	29·635	51·1	49·0	2·1	47·0	4·1	43·0	..	..	..	..	..	..	..	10	..
18	29·623	51·4	50·5	0·9	..	..	40·0	..	..	..	..	..	..	..	10	..
20	29·612	51·5	50·2	1·3	..	..	..	..	..	..	..	..	..	..	10	..
22	29·588	52·0	51·1	0·9	50·0	2·0	..	..	..	..	..	..	0·00	20·130	10	..
Dec. 30. 0	29·574	52·8	51·6	1·2	..	..	..	..	..	..	..	..	..	..	10	..
2	29·547	54·0	52·6	1·4	..	..	..	..	..	..	..	..	..	..	6	Transit
4	29·590	52·7	47·0	5·7	42·0	10·7	55·5	..	..	..	..	..	..	..	4	..
6	29·647	49·2	44·5	4·7	..	..	34·5	..	..	..	..	..	..	..	4	..
8	29·731	46·6	43·2	3·4	..	..		..	..	..	..	..	..	..	0	..
10	29·846	44·0	40·0	4·0	35·0	9·0	57·6	..	..	..	..	..	..	..	0	..
12	29·917	41·7	38·6	3·1	..	..	27·5	..	..	..	..	..	..	..	0	..
14	29·975	39·7	37·5	2·2	..	..		..	..	..	..	..	..	..	0	..
16	30·001	36·5	34·9	1·6	33·0	3·5	44·0	..	..	..	..	..	..	..	0	..
18	29·995	36·2	34·7	1·5	..	..	41·2	..	..	..	..	..	..	..	0	..
20	30·035	34·7	33·4	1·3	..	..	..	..	..	..	..	..	..	..	½	..
22	30·002	37·4	36·2	1·2	34·0	3·4	..	..	..	..	..	..	0·00	20·130	6	..
Dec. 31. 0	29·972	43·4	42·0	1·4	..	..	..	..	..	..	..	..	..	..	8	..

BAROMETER.

Dec. 27d. 10h. The reading was 0in·129 less than it was at 8h.

Dec. 30d. At 10h the reading was 0in·115 greater than at the previous observation.

MAXIMUM RADIATION THERMOMETER.

Dec. 27d and 28d. The reading each day was lower than that of the Maximum Free Thermometer.

REMARKS.	Observer.
Light cirri and fleecy clouds are scattered in different parts of the sky.	T D
Cirro-stratus covers the greater part of the sky.	T D
Overcast: cirro-stratus: the wind is blowing in frequent gusts to 1, and occasionally to 1½, and is increasing.	G
,, the wind is blowing in frequent gusts to 2½ and 3, with occasional drops of rain falling.	
,, cirro-stratus: the wind is blowing in frequent gusts to 4½: rain was falling between $8^h.10^m$ and $8^h.40^m$.	G
,, ,, the wind is blowing in frequent gusts to 3½ and 4.	T D
A gale of wind has been blowing all night, the gusts being frequently to 3, and occasionally to 5; at present the gusts are to 3, with rain falling.	G
Rain in dashing showers has been falling nearly continually since the last observation.	G
Cloudless.	T D
,,	
,,	
,, a hoar frost.	T D
Cirri and other light clouds are in every part of the sky.	H B
Cirro-stratus nearly all round the horizon with a few cirro-cumuli.	
Overcast: cirro-stratus and scud.	H B
,, a few drops of rain are falling.	T D
,, rain falling at intervals: the wind is blowing in gusts to 1½ and 2.	
,, the wind is blowing in gusts to 3½.	
,, cirro-stratus: the wind is blowing in gusts to 3.	T D
,, ,, the wind is blowing in gusts to 2.	G
,, ,, ,,	
,, ,, the wind is blowing in gusts to 3.	
,, ,, the wind is blowing in gusts to 3 and 4.	
,, ,, the wind is blowing in gusts to 1½ and 2.	G
,, ,, the wind is blowing in gusts to 2½: a few minutes previously to this observation rain began to fall, but it has now ceased.	T D
Overcast: cirro-stratus and scud: a thin misty rain is falling: the wind is blowing in gusts to 3.	
Cumuli, cirri, and scud: fine patches of blue sky are visible in the zenith: the wind is blowing in gusts to 3.	T D
Detached cumuli are spread about the sky: the wind is blowing in gusts to 3.	G
A few clouds are scattered about the sky, principally to the N.: the wind is blowing in gusts to 3 and 3½.	
Cloudless: the wind is very strong though it has somewhat abated.	
,, the wind has abated.	G
,,	H B
Cloudless, but very hazy.	
,,	
,,	
The only part of the sky clouded is near the W. N.W. horizon, where there are cirro-stratus and fragments of scud.	H B
Cumuli, cirri, and light fleecy clouds: hazy in the horizon.	T D
Thin cirro-stratus round the horizon: clear in the zenith.	T D

WHEWELL'S ANEMOMETER.

Dec. $27^d.22^h$. The reading was S. W. $3^{in}\cdot60$, but the end support of one spindle was found loose, and several of the teeth of the vertical wheel were broken: the instrument was sent to be repaired.

AMOUNT OF RAIN.

Dec. $27^d.22^h$ and $28^d.22^h$. The rain recorded by gauge No. 2 is caused by the melting of ice, formed from rain which had fallen on Dec. 25^d and 26^d.

Dec. 29^d. The increase in the reading of rain-gauge No. 3 is caused by the melting of ice.

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.	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.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°		from lbs. to lbs.		in.	in.	in	in.		
Dec. 31. 2	29·898	44·5	43·3	1·2	..	..		..	..	..	..	..	..	..	10	..
4	29·759	46·0	44·4	1·6	42·0	4·0	52·2	..	..	..	..	..	..	..	10	Transit
6	29·612	45·3	44·7	0·6	..	..	38·0	..	..	..	..	..	..	..	10	..
8	29·455	47·9	47·4	0·5	..	..	—	..	..	..	..	..	..	..	10	..
10	29·353	51·1	50·3	0·8	49·0	2·1	50·6	..	..	..	..	..	..	..	10	..
12	29·284	51·0	50·4	0·6	..	..	33·3	..	..	..	..	..	0·00	20·130	10	..
14	29·313	48·5	48·0	0·5	..	..	—	..	..	..	..	..	..	..	10	..
16	29·383	43·0	40·0	3·0	43·0	0·0	44·2	..	..	..	..	..	..	..	4	..
18	29·468	41·7	38·2	3·5	..	..	41·5	..	..	..	..	..	..	..	0	..
20	29·569	42·0	39·4	2·6	..	..		..	..	..	..	..	..	..	10	..
22	29·633	43·0	38·2	4·8	32·0	11·0		..	..	..	..	..	0·29	20·395	7½	..

BAROMETER.

Dec. 31^d. From 2^h to 12^h the decrease in the readings was considerable: at 14^h the reading had increased: between 18^h and 20^h the reading increased $0^{in.}$101.

REMARKS.	Observer.
Overcast: cirro-stratus.	T D
,, rain is falling.	H B
,, ,,	
,, ,, the wind is blowing in gusts to 3.	
,, ,, ,, ,,	H B
,, ,, ,, ,,	L
Overcast: rain in squalls: the wind is blowing in gusts to 4.	
Cirro-stratus towards the N: loose scud here and there: the wind is blowing in gusts to 3.	
Cloudless: the wind is blowing in gusts to 3.	
Overcast: slight rain is falling: the wind is blowing in gusts to 3.	L
Cumuli, cirri, and scud are scattered about: the wind is blowing in gusts to $2\frac{1}{2}$.	T D

RAIN.

Dec. $31^{d}.12^{h}$. The amount collected during the month of December in the rain-gauge No. 4 was $2^{in}\cdot00$, 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 $2^{in}\cdot55$.

ROYAL OBSERVATORY, GREENWICH.

TERM-DAY

METEOROLOGICAL OBSERVATIONS.

1845.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry	Dew Point.	Dew Point below Dry Therm.	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in pounds per square foot.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°		from lbs. to lbs.			
Jan. 20. 18	29 ·915	33 ·6	31 ·4	2 ·2	..	..	NW	..	NNW	¼	0
19	29 ·944	33 ·5	31 ·5	2 ·0	..	..	NW	..	NNW	¼	0
20	29 ·976	33 ·2	31 ·5	1 ·7	..	..	NNW	..	NW	¼	0
21	30 ·017	31 ·5	30 ·6	0 ·9	..	..	NNW	..	N	¼	0
22	30 ·044	33 ·0	31 ·7	1 ·3	30 ·0	3 ·0	N by W	..	N	¼	7
23	30 ·066	34 ·7	33 ·2	1 ·5	..	..	N by W	..	N	¼	½
Jan. 21. 0	30 ·075	36 ·5	34 ·7	1 ·8	..	..	N by W	..	N	¼	0
1	30 ·087	38 ·3	36 ·4	1 ·9	..	..	N by W	..	N	¼	0
2	30 ·087	39 ·5	37 ·6	1 ·9	..	..	N by W	..	N	¼	¼
3	30 ·084	40 ·0	38 ·1	1 ·9	..	..	NNW	..	N	¼	½
4	30 ·108	39 ·2	37 ·5	1 ·7	35 ·0	4 ·2	N by W	..	N	¼	0
5	30 ·106	37 ·1	35 ·5	1 ·6	..	..	N by E	..	N	¼	5
6	30 ·109	35 ·6	34 ·4	1 ·2	..	..	NNE	..	N by E	¼	8
7	30 ·123	33 ·6	33 ·2	0 ·4	..	..	NE	..	Calm	..	9
8	30 ·135	32 ·0	31 ·9	0 ·1	..	..	ENE	..	Calm	..	3
9	30 ·140	31 ·9	31 ·7	0 ·2	..	..	Calm	..	Calm	..	8
10	30 ·156	31 ·0	30 ·8	0 ·2	30 ·5	0 ·5	Calm	..	S	¼	1
11	30 ·159	30 ·5	30 ·2	0 ·3	..	..	Calm	..	S	¼	½
12	30 ·163	31 ·0	30 ·7	0 ·3	..	..	Calm	..	S	¼	2
13	30 ·152	31 ·0	30 ·5	0 ·5	..	..	Calm	..	S	¼	1
14	30 ·138	31 ·0	30 ·6	0 ·4	..	..	Calm	..	S	¼	½
15	30 ·139	30 ·2	29 ·9	0 ·3	..	..	Calm	..	S	¼	0
16	30 ·132	30 ·5	30 ·2	0 ·3	30 ·5	0 ·0	Calm	..	S	¼	0
17	30 ·131	31 ·0	31 ·1	—0 ·1	..	..	Calm	..	S	¼	0
18	30 ·127	31 ·3	31 ·7	—0 ·4	..	..	Calm	..	S	¼	0
19	30 ·127	31 ·9	31 ·7	0 ·2	..	..	Calm	..	S	¼	0
20	30 ·137	33 ·5	31 ·8	1 ·7	..	..	Calm	..	Calm	..	8
21	30 ·144	34 ·8	33 ·9	0 ·9	..	..	Calm	..	W	¼	6
22	30 ·150	37 ·0	36 ·1	0 ·9	36 ·0	1 ·0	Calm	..	SW	¼	10
23	30 ·147	39 ·0	37 ·9	1 ·1	..	..	SW	..	SW	¼	10
Jan. 22. 0	30 ·150	40 ·5	39 ·3	1 ·2	..	..	SSW	..	SW	¼	10
1	30 ·142	42 ·8	41 ·4	1 ·4	..	..	SW	..	SW	¼	10
2	30 ·126	43 ·9	42 ·5	1 ·4	..	..	SSW	..	SW	¼	9
3	30 ·123	43 ·6	42 ·4	1 ·2	..	..	SW	..	SW	¼	10
4	30 ·110	43 ·5	42 ·3	1 ·2	40 ·0	3 ·5	SSW	..	SW	¼	10
5	30 ·106	43 ·0	42 ·0	1 ·0	..	..	SW	..	SW	¼	7
6	30 ·103	42 ·4	41 ·6	0 ·8	..	..	SSW	..	SSW	¼	7
7	30 ·104	41 ·7	41 ·0	0 ·7	..	..	SW	..	SW	¼	8
8	30 ·099	41 ·6	41 ·1	0 ·5	..	..	SSW	..	SSW	¼	10
9	30 ·106	41 ·9	41 ·7	0 ·2	..	..	SW	..	SSW	½	10
10	30 ·107	42 ·2	41 ·5	0 ·7	40 ·5	1 ·7	SSW	..	W by S	½	10
11	30 ·103	42 ·2	41 ·7	0 ·5	..	..	SSW	..	W by S	¼	10
12	30 ·093	42 ·8	42 ·5	0 ·3	..	..	SSW	..	W	¼	10
13	30 ·078	43 ·0	42 ·9	0 ·1	..	..	SSW	..	SSW	¼	10
14	30 ·060	43 ·4	43 ·4	0 ·0	..	..	SSW	..	S by W	¼	10
15	30 ·046	43 ·6	43 ·6	0 ·0	..	..	SSW	..	S by W	¼	10
16	30 ·020	43 ·9	43 ·8	0 ·1	44 ·0	—0 ·1	SSW	..	SSW	¼	10
17	30 ·002	44 ·6	44 ·5	0 ·1	...	..	SSW	..	SSW	¼	10
18	29 ·992	45 ·0	44 ·9	0 ·1	..	..	SSW	..	SSW	½	10
19	29 ·980	45 ·1	44 ·7	0 ·4	..	..	SSW	..	SSW	¾	10
20	29 ·975	44 ·4	43 ·0	1 ·4	..	..	SSW	..	SSW	½	10
21	29 ·964	42 ·9	42 ·5	0 ·4	..	..	SSW	..	SSW	½	5

WET THERMOMETER.
Jan. 21ᵈ. 17ʰ and 18ʰ. The readings were higher than those of the Dry Thermometer.

TEMPERATURE OF THE DEW POINT.
Jan. 22ᵈ. 16ʰ. The reading was higher than that of the Dry Thermometer.

REMARKS.	Observer.
Cloudless.	D
,,	
,,	
,,	D
Cumuli, cirro-stratus, and scud.	H B
Cloudless, with the exception of a few light cirri near the Sun's place.	
Cloudless.	
,, hazy near the horizon.	
Light cirri in various directions.	
,, hazy.	H B
Cloudless, excepting a few cirri N.W. of the zenith, but to no numerical amount.	D
Cirri and scud are scattered over the sky.	
The sky near the W. horizon is clear; with that exception, every part is covered with scud.	
A thin cloud covers the greater portion of the sky; the Moon, however, is visible through it.	
Light clouds are scattered in every part of the sky: hazy.	
The sky is mostly covered with very thin clouds: hazy.	
A few clouds are scattered in different parts of the sky: hazy.	D
Cloudless, with the exception of a few linear cirri to the N.: hazy.	H B
There are light clouds in every part of the sky: very hazy.	
Light clouds in various parts of the sky.	
,,	
Cloudless.	
,,	
,,	
,,	
,,	
Cirro-stratus and scud.	
Cumuli, cirro-stratus and scud.	H B
Cirro-stratus and scud.	L
,,	
Cirro-stratus and scud.	
,,	
Reticulated cirri and cirro-cumuli round the zenith, with a light kind of cirro-stratus in other directions.	
Cirro-stratus and scud.	L
,,	H B
Cirro-cumuli, cirro-stratus, and scud.	
Cirro-stratus and scud, with a few cirro-cumuli S. and E. of the zenith.	
Cirro-stratus and scud.	
,, a thin rain is falling.	H B
,, the place of the Moon is just visible.	G
Cirro-stratus and scud, the latter passing quickly from the W. by S.: the Moon's place is just visible: the wind blowing in gusts [to 1.	
Cirro-stratus and scud.	
,,	G
Overcast.	D
,,	
,,	D
,, cirro-stratus and scud, the latter passing rapidly from S.S.W.: the wind blowing in occasional gusts to $\frac{3}{4}$: the Moon [is visible through the clouds.	L
,,	
,,	L
,, cirro-stratus and scud.	H B
,,	
Cirro-stratus and scud, with cirro-cumuli near and round the zenith.	H B

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry	Dew Point.	Dew Point below Dry Therm.	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in pounds per square foot.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0–6.	Amount of Clouds 0–10.
d h	in.	°	°	°	°	°		from lbs. to lbs.			
Jan. 22. 22	29·962	43·6	42·7	0·9	40·5	3·1	SSW	..	SW	½	10
23	29·951	45·2	44·0	1·2	..	..	S	..	SSW	½ to ¾	10
Jan. 23. 0	29·930	45·5	44·3	1·2	..	..	S by W	0 to ¾	S by W	¼	10
1	29·893	46·4	45·2	1·2	..	..	SSW	..	S by W	¼	10
2	29·856	45·2	44·5	0·7	..	..	S by W	0 to ½	SSW	¾	10
3	29·829	44·6	43·9	0·7	..	..	S by W	0 to ½	S by W	¼	10
4	29·818	43·5	42·9	0·6	42·0	1·5	S by W	..	S	¼	10
5	29·790	42·5	42·2	0·3	..	..	S	..	S	¾	10
6	29·764	42·0	41·8	0·2	..	..	SSW	0 to ½	S	¾	10
7	29·737	42·0	41·8	0·2	..	..	S by W	..	S	¼	10
8	29·709	42·0	41·9	0·1	..	..	SSW	0 to ½	S	½	10
9	29·690	42·0	40·9	1·1	..	..	S by W	0 to 1	SW	½	6
10	29·680	41·7	40·7	1·0	39·5	2·2	S by W	0 to ½	SSW	¾	10
12	29·609	40·7	39·9	0·8	..	..	S by W	0 to ½	S by W	1	10
13	29·578	40·1	39·4	0·7	..	..	S by W	½ to 1½	S	1½	10
14	29·557	39·3	38·6	0·7	..	..	S	½ to 1	S	2½	10
15	29·530	39·2	38·6	0·6	..	..	S by W	½ to 1¼	S	2½	10
16	29·520	39·0	38·5	0·5	39·0	0·0	S	½ constant	S	3	10
17	29·498	40·2	39·7	0·5	..	..	S by W	½ constant	S	3	10
18	29·487	40·9	40·4	0·5	..	..	S by W	..	S	3	10
19	29·485	40·7	40·3	0·4	..	..	SSW	..	S	2	10
20	29·486	40·5	40·2	0·3	..	..	SSW	..	S by W	¼	7
21	29·491	40·0	39·4	0·6	..	..	SSW	..	SW	¼	1
22	29·509	39·5	39·0	0·5	38·5	1·0	SSW	..	SSW	¼	8
23	29·507	43·5	41·7	1·8	..	..	SW	0 to ½	SW	¾	9
Jan. 24. 0	29·512	44·4	42·5	1·9	..	..	SW by W	1 to 1½	SW by W	½	9
1	29·515	45·1	42·9	2·2	..	..	WSW	½ to ¾	SW by W	¾	10
2	29·530	44·0	42·0	2·0	..	..	W	1½ to 2½	WSW	1	10
3	29·542	44·1	41·6	2·5	..	..	W by N	½ to 2	W	1½	10
4	29·579	44·5	41·1	3·4	40·0	4·5	NW	½ to 2	NW	1½	10
5	29·621	43·5	40·3	3·2	..	..	NW	1½ to 2½	NW	1½	10
6	29·665	43·4	40·2	3·2	..	..	NW by W	½ to 3	NW	1½	10
7	29·698	43·5	40·3	3·2	..	..	NW	½ to 2	NW	1½	10
8	29·741	43·5	40·3	3·2	..	..	NW	½ to 1½	NW	1	10
9	29·786	43·0	40·1	2·9	..	..	NNW	0 to ½	NW	½	10
10	29·806	42·5	39·8	2·7	37·0	5·5	NW	..	NW	¼	10
Feb. 20. 18	29·871	30·0	28·9	1·1	..	..	WSW	..	WSW	¼	10
19	29·852	29·5	28·7	0·8	..	..	WSW	..	WSW	¼	3
20	29·839	27·9	27·3	0·6	..	..	W by S	..	WSW	¼	0
21	29·845	28·0	27·6	0·4	..	..	WSW	..	WSW	¼	0
22	29·837	31·8	30·5	1·3	..	..	W	..	WSW	¼	0
23	29·838	34·5	32·0	2·5	..	..	W by S	..	W by S	¼	0
Feb. 21. 0	29·835	36·4	32·1	4·3	..	..	Calm	..	W by S	¼	0
1	29·816	37·3	32·2	5·1	..	..	Calm	..	W by S	¼	0
2	29·805	37·2	32·7	4·5	..	..	Calm	..	W by S	¼	0
3	29·790	39·5	34·5	5·0	..	..	Calm	..	W by S	¼	0
4	29·752	38·4	34·3	4·1	..	..	Calm	..	SW	¼	0

REMARKS.	Observer.
The sky is covered with clouds of various densities.	D
No change.	D
Overcast: cirro-stratus and scud: the wind is blowing in gusts to 1.	L
,, the wind is blowing in gusts to 1.	L
,, cirro-stratus and scud: the wind is blowing in gusts to 1.	H B
,, the wind is blowing in occasional gusts to $\frac{3}{4}$ and 1.	L
,,	L
,, the wind is blowing in gusts to 1.	D
,, the air is damp and misty.	D
,, a thin drizzling rain is falling.	H B
,, rain is falling: the wind is blowing in gusts to 1.	H B
Within the last five minutes the clouds, which were of a dull leaden colour, and from which a slight misty rain was falling, have altogether changed their character; they now are white and low; they moved rapidly past the Moon from the S. S.W., forming a large coloured corona 10° in diameter. The sky is beautifully clear in the zenith: no upper cloud: the temperature on the grass is now 36°, having sunk 6° on account of the partial breaks.	G
At $9^h.40^m$ the sky was again covered with rapidly-moving dark scud; it had been nearly free from cloud a very short time previously.	G
Overcast: cirro-stratus and scud: the wind is blowing in gusts to $1\frac{1}{2}$.	L
,, ,, the wind is blowing in gusts to $2\frac{1}{2}$: the Moon's place is visible through the clouds.	
,, ,, the wind is blowing in gusts to $3\frac{1}{2}$ or 4: fine drizzling rain falling in squalls.	
The same as at the last observation.	
,,	
,,	
Overcast: the wind is blowing in gusts to $3\frac{1}{2}$ or 4: the rain ceased at $17^h.45^m$.	
,, the wind is blowing in gusts to $2\frac{1}{2}$. [Moon is shining.	
Cirro-stratus and scud, with an extensive break in the clouds, extending nearly from the zenith to the horizon, through which the	
Cirro-stratus and scud round the horizon, with some cirri about the zenith and S. of it: the sky is otherwise cloudless.	L
Cirro-stratus and scud: at $21^h.40^m$ the sky was nearly cloudless.	H B
,, there are breaks in the clouds near the N. and N. W. horizon.	
,, there is an extensive break in the S. E.: the wind blowing in gusts to 1.	
,, a few breaks, but to no numerical amount.	
,, the wind is blowing in gusts to $1\frac{1}{2}$.	
,,	H B
,,	L
,, the wind is blowing in gusts to 2.	
,, the wind is blowing in gusts.	
,, there have been a few breaks at different periods since the last observation.	
,, the wind is blowing in gusts to $1\frac{1}{2}$.	
,, breaks have been of frequent occurrence since the last observation.	
Cirro-stratus, scud, and fleecy clouds: the wind is blowing in gusts to $\frac{1}{2}$.	L
Overcast: cirro-stratus.	D
Fragments of cloud are in different parts of the sky: the clouds have disappeared suddenly.	
Cloudless.	
,,	D
,, hazy towards the N.	L
,, hazy.	H B
Cloudless: hazy.	L
,, ,,	
,,	
,,	L
Cloudless, except a few light clouds near the Sun.	D

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. From Osler's Anemometer. Direction.	Pressure in pounds per square foot.	By Estimation. Direction.	Force 0–6.	Amount of Clouds 0–10.
d h	in.	°	°	°	°	°		from lbs. to lbs.			
Feb. 21. 5	29·729	37·0	33·6	3·4	..	..	Calm	..	SW	¼	3
6	29·719	34·5	31·8	2·7	..	..	Calm	..	SSW	¼	¼
7	29·706	32·5	32·0	0·5	..	..	Calm	..	SSW	¼	0
8	29·684	30·6	29·9	0·7	..	..	Calm	..	SSW	¼	0
9	29·657	29·3	28·3	1·0	..	..	Calm	..	SSW	¼	0
10	29·650	28·5	27·8	0·7	..	..	Calm	..	SSW	¼	1
11	29·620	28·5	27·2	1·3	..	..	Calm	..	SSW	¼	3
12	29·596	28·2	27·4	0·8	..	..	Calm	..	SSW	¼	1
13	29·550	28·5	28·7	−0·2	..	..	Calm	..	SSW	¼	5
14	29·514	28·4	27·7	0·7	..	..	Calm	..	S by E	¼	4
15	29·482	28·4	27·2	1·2	..	..	Calm	..	SSE	¼	4
16	29·437	28·7	27·7	1·0	..	..	Calm	..	SSE	¼	9
17	29·411	28·8	28·1	0·7	..	..	Calm	..	..	..	..
18	29·390	29·8	28·9	0·9	..	..	Calm	..	SSE	¼	10
19	29·373	30·1	29·2	0·9	..	..	Calm	..	SSE	¼	10
20	29·360	29·8	29·3	0·5	..	..	Calm	..	SSE	¼	10
21	29·357	30·4	30·3	0·1	..	..	Calm	..	Calm	..	10
22	29·364	32·0	31·7	0·3	..	..	Calm	..	Calm	..	10
23	29·359	32·5	31·8	0·7	..	..	Calm	..	Calm	..	10
Feb. 22. 0	29·349	33·5	32·0	1·5	..	..	Calm	..	S	¼	10
1	29·342	33·8	32·1	1·7	..	..	Calm	..	Calm	..	10
2	29·335	34·7	32·4	2·3	..	..	Calm	..	Calm	..	10
3	29·334	35·0	33·3	1·7	..	..	Calm	..	ESE	¼	10
4	29·335	34·7	33·4	1·3	..	..	Calm	..	Calm	..	10
5	29·335	33·8	32·7	1·1	..	..	Calm	..	E	¼	10
6	29·331	33·0	32·1	0·9	..	..	Calm	..	E	¼	10
7	29·346	32·0	31·7	0·3	..	..	Calm	..	SE	¼	10
8	29·332	32·3	32·0	0·3	..	..	Calm	..	Calm	..	10
9	29·340	32·2	32·1	0·1	..	..	Calm	..	Calm	..	10
10	29·328	32·3	32·1	0·2	..	..	Calm	..	Calm	..	10
11	29·325	31·9	31·9	0·0	..	..	Calm	..	Calm	..	10
12	29·330	31·7	31·9	−0·2	..	..	Calm	..	Calm	..	10
Mar. 19. 10	29·772	32·5	30·9	1·6	27·5	5·0	N	..	N	¼	3
11	29·788	32·0	30·7	1·3	..	..	N	..	N	¾	10
12	29·799	31·7	31·2	0·5	..	..	N	..	Calm	..	10
13	29·808	32·1	31·3	0·8	..	..	N	..	Calm	..	10
14	29·820	31·8	31·9	−0·1	..	..	N	..	Calm	..	8
15	29·839	30·6	31·0	−0·4	..	..	N	..	NNW	¼	7
16	29·846	30·5	30·6	−0·1	30·0	0·5	N	..	NNW	¼	10
17	29·859	30·2	29·8	0·4	..	..	N	..	Calm	..	7
18	29·885	29·8	29·2	0·6	..	..	N	..	N	¼	7
19	29·915	27·7	26·9	0·8	..	..	N	..	N	¼	½
20	29·940	28·6	27·2	1·4	..	..	N	..	N	¼	6
21	29·973	30·0	28·3	1·7	..	..	N	..	N	¼	0
22	29·993	31·8	29·7	2·1	22·0	9·8	N	..	NE	¼	0
23	30·007	33·6	31·1	2·5	..	..	N by W	..	NE	¼	0
Mar. 20. 0	30·033	35·1	32·2	2·9	..	..	N by W	..	N by W	¼	2
1	30·048	36·6	32·3	4·3	..	..	N by W	..	N	¼	½
2	30·052	37·0	32·1	4·9	..	..	N by W	..	N	¼	1½
3	30·058	37·7	31·9	5·8	..	..	N by W	..	N	¼	¼

WET THERMOMETER.

Feb. 21^{d}. 13^{h}, 22^{d}. 12^{h}, and March 19^{d}. 14^{h}, 15^{h}, and 16^{h}. The readings were higher than those of the Dry Thermometer.

REMARKS.	Observer.
Cirri and light fleecy clouds.	D
A few cirri are S. E. of the zenith.	D
Cloudless.	L
,,	D
,,	G
Cloudless, with the exception of a few light clouds scattered to the S.	
A few light clouds are scattered in various parts of the sky.	
No change since the last observation, except that the clouds are more scattered.	G
Light clouds are in every part of the sky. There is an imperfectly formed corona round the Moon.	H B
,, The corona is still visible.	
The western portion of the sky is covered with a thin film of cloud except a few small breaks, but the cloud is not sufficiently dense to obscure the larger stars: the N. E. portion is clear.	H B
A few stars are shining in the zenith, but the other portion of the sky is covered with cloud.	L
Overcast.	
,,	L
,, snow began to fall at $19^h.30^m$, and continues falling.	D
,, snow still falling.	D
,, a slight snow falling.	G
,, the snow has ceased to fall.	G
,, cirro-stratus and scud.	H B
,,	L
,, a light sleet is falling.	H B
,, cirro-stratus.	D
,, ,,	D
,, snow is now falling.	H B
,, the snow has ceased to fall.	H B
,, sleet falling.	G
,,	G
,, a slight drizzling rain falling.	L
,, ,,	
,,	
,,	L
A few thin clouds are to the N. of the zenith: misty.	G
Cloudy, the Moon not being visible: within ten minutes after the last observation the sky became covered with cloud.	
Overcast.	G
,, cirro-stratus.	D
The sky is covered with cloud, except a portion E. of the zenith, which is clear: a few small flakes of snow are falling.	
Cirro-stratus and scud.	D
,,	H B
,, a few drops of rain are falling.	
Cirro-stratus and scud, with an extensive break in the clouds in the N. E.	H B
Cloudless, with the exception of cirro-stratus round the horizon.	L
Fleecy clouds and scud cover the greater portion of the northern part of the sky: cirro-stratus towards the W.: the southern [part of the sky is nearly clear.	
Cloudless.	L
,,	G
A few detached cumuli are scattered in various directions, but to no numerical extent.	G
Patches of loose scud are floating about in every direction, with some cumuli towards the N. horizon.	L
Cumuli towards the N. and E. horizon, and in various other directions, with light scud floating about.	L
Light clouds and cumuli are scattered over the sky.	H B
Cloudless, with the exception of small cumuli in various parts of the sky.	L

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry Therm.	Dew Point.	Dew Point below Dry Therm.	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in pounds per square foot.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0–6.	Amount of Clouds 0–10.
d h	in.	°	°	°	°	°		from lbs. to lbs.			
Mar. 20. 4	30·081	37·8	32·1	5·7	19·0	18·8	N by W	..	N	¼	3
5	30·091	37·6	32·2	5·4	22·5	15·1	N by W	..	NNW	¼	4
6	30·117	36·1	32·0	4·1	..	..	N by W	..	N by W	¼	3
7	30·141	35·5	32·1	3·4	..	..	NNW	..	N	¼	5
8	30·172	33·5	31·2	2·3	..	..	N by W	..	N	¼	0
9	30·201	32·5	30·5	2·0	..	..	NNW	..	N	¼	0
Mar. 21. 14	30·376	35·7	34·2	1·5	..	..	SSW	0 to ¼	SSW	¼	10
15	30·355	35·0	34·6	0·4	..	..	SSW	..	SSW	½	10
16	30·338	35·8	35·2	0·6	37·0	−1·2	SSW	..	SSW	½	10
17	30·321	36·9	36·3	0·6	..	..	SSW	..	SSW	¾	10
18	30·316	38·5	37·7	0·8	..	..	SSW	½ to 1	SSW	½	10
19	30·296	39·2	38·5	0·7	..	..	SSW	1½ to 2	SSW	1	10
20	30·289	40·0	39·3	0·7	..	..	SSW	1½ to 2	SSW	1	10
21	30·292	40·5	39·7	0·8	..	..	SW by S	0 to ½	SSW	1	10
22	30·285	43·2	42·2	1·0	42·0	1·2	SSW	1 to 2	SSW	½	10
23	30·273	44·5	43·5	1·0	..	..	SSW	½ to 1	SSW	½	10
Mar. 22. 0	30·282	44·5	43·7	0·8	..	..	SSW	0 to ½	SW	½	10
1	30·269	46·7	45·5	1·2	..	..	SSW	½ to 2	SW	¼	10
2	30·244	47·7	46·4	1·3	..	..	SSW	0 to 2	SW	¼	10
3	30·255	47·6	46·3	1·3	..	..	SW	½ to 1	SW	¼	10
4	30·234	47·6	46·3	1·3	45·0	2·6	SSW	½ to 2	SW by W	¾	10
5	30·227	47·0	46·3	0·7	..	..	SW	1 to 2	SW	1	10
6	30·233	46·5	45·9	0·6	..	..	SSW	½ to 1½	WSW	¾	10
7	30·234	45·5	45·2	0·3	..	..	SW	0 to ½	WSW	¾	10
8	30·227	45·2	44·7	0·5	..	..	SSW	½ to 2	WSW	¾	10
9	30·221	45·0	44·6	0·4	..	..	SSW	0 to ½	WSW	1	10
10	30·214	44·9	44·4	0·5	44·8	0·1	SSW	½ constant	WSW	1	10
11	30·205	44·8	44·6	0·2	..	..	SSW	½ to 1½	SW by W	1½	10
Apr. 20. 18	29·992	37·8	36·5	1·3	..	..	Calm	..	ENE	¼	0
19	29·997	39·4	38·1	1·3	..	..	Calm	..	NE	¼	0
20	30·009	45·3	43·2	2·1	..	..	Calm	..	NE	¼	0
21	30·002	50·0	45·3	4·7	..	..	ENE	..	ENE	¼	0
22	29·987	53·9	47·8	6·1	41·8	12·1	E by N	..	E	½	0
23	29·975	57·2	50·3	6·9	..	..	NE	..	NE	¼	0
Apr. 21. 0	29·959	58·9	51·1	7·8	..	..	NE	..	ENE	½	0
1	29·943	60·7	52·3	8·4	..	..	NE	..	NE	½	0
2	29·922	61·2	52·7	8·5	..	..	NNE	..	NE	½	0
3	29·908	61·0	52·7	8·3	..	..	ENE	..	NE	½	0
4	29·903	58·5	51·9	6·6	47·0	11·5	E	..	E	¼	0
5	29·890	55·2	50·1	5·1	..	..	E by S	..	E	¼	0
6	29·891	53·5	48·9	4·6	..	..	E by S	..	E	¼	½
7	29·874	49·3	46·8	2·5	..	..	E by S	..	E	¼	½
8	29·875	46·7	44·4	2·3	..	..	E	..	E	¼	½
9	29·888	43·5	41·6	1·9	..	..	ESE	..	E	¼	0
10	29·896	41·8	41·2	0·6	40·0	1·8	E by N	..	E	¼	0
11	29·897	41·4	40·9	0·5	..	..	E by N	..	Calm	..	9
12	29·899	41·3	41·2	0·1	..	..	ENE	..	Calm	..	10
13	29·894	41·0	40·8	0·2	..	..	ENE	..	NE	¼	10
14	29·880	40·5	40·3	0·2	..	..	ENE	..	NE	¼	10
15	29·877	40·3	40·0	0·3	..	..	NE	..	NE	¼	10

DEW POINT THERMOMETER.
March 21^{d}. 16^{h}. The reading was higher than that of the *Dry* Thermometer.

REMARKS.	Observer.
Cumuli and loose scud are scattered in every direction, the former in masses near the N. and E. horizon.	L
Cumuli are scattered over various parts of the sky.	D
,,	D
Cumuli and scud are in every part of the sky.	H B
Cloudless.	H B
,, misty.	G
Overcast: rain is falling.	H B
,, ,,	
,, ,,	
,, ,,	
,, the rain has ceased.	
,, the wind is blowing in gusts to $1\frac{1}{2}$.	
,, ,,	
,, ,,	H B
,, ,,	L
,, the wind is blowing in gusts to 1: rain is falling.	
Overcast: a few drops of rain is falling.	
,, the rain has ceased to fall.	
,, the wind is blowing in gusts to $\frac{1}{2}$: a fine rain is falling.	
,, ,, the rain has ceased.	L
,, the wind is blowing in gusts to 1.	H B
,, ,, drops of rain are falling.	
,, drops of rain are falling.	
,, ,,	
,, ,,	
,, ,,	
,, ,,	
,, the wind is blowing in gusts to 2: drops of rain are falling.	H B
Cloudless.	L
,,	
,,	
,,	L
,,	H B
,,	G
Cloudless.	H B
Cloudless, with the exception of a few small cumuli near the N. N.W. horizon.	
Cloudless.	
A few light clouds are scattered over the sky, but to no numerical amount.	H B
A few cirri are towards the S. horizon, but to no numerical extent.	L
A few cirri are towards the S. horizon.	
A few light clouds are towards the W.; the sky is otherwise cloudless.	
Linear cirri towards the S.; the sky is otherwise cloudless.	
Cirri are scattered over various parts of the sky.	
Cloudless.	
,,	L
Cirro-stratus: the Moon is visible, but the shadow cast is very faint.	D
Overcast: cirro-stratus: the Moon is not visible.	
,, ,, a slight fog.	
,, ,, ,,	
,, ,, ,,	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in pounds per square foot.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0–6.	Amount of Clouds 0–10.
d h	in.	°	°	°	°	°		from lbs. to lbs.			
Apr. 21. 16	29·871	40·1	39·8	0·3	39·5	0·6	NE	..	NE	¼	10
17	29·870	39·7	39·4	0·3	..	..	NE	..	NE	¼	10
18	29·872	39·1	38·8	0·3	..	..	NNE	..	NNE	¼	10
19	29·875	39·4	39·2	0·2	..	..	NNE	..	NNE	¼	10
20	29·872	39·7	39·5	0·2	..	..	NNE	..	NNE	¼	10
21	29·871	40·6	40·4	0·2	..	..	NNE	..	NNE	¼	10
22	29·874	43·7	42·9	0·8	42·0	1·7	NNE	..	NNE	¼	10
23	29·875	51·0	48·2	2·8	..	..	ENE	..	E	¼	3
Apr. 22. 0	29·864	53·4	50·2	3·2	..	..	NE	..	E	¼	0
1	29·857	56·2	51·4	4·8	..	..	ENE	..	E	¼	0
2	29·834	62·0	55·0	7·0	..	..	E by N	..	ENE	¼	½
3	29·827	62·6	54·7	7·9	..	..	E by N	..	E	¼	½
4	29·811	62·6	54·3	8·3	49·0	13·6	ENE	..	ENE	¼	0
5	29·806	59·5	52·2	7·3	..	..	E	..	E	¼	0
6	29·798	56·9	50·3	6·6	..	..	E by S	..	E	¼	0
7	29·798	53·9	48·3	5·6	..	..	E by N	..	E	¼	0
8	29·804	50·0	45·8	4·2	..	..	ESE	..	ESE	¼	½
9	29·807	48·1	44·4	3·7	..	..	Calm	..	ESE	¼	¼
10	29·807	46·2	42·8	3·4	41·0	5·2	Calm	..	ESE	¼	1
12	29·808	43·8	41·8	2·0	..	..	Calm	..	ESE	¼	0
13	29·797	41·5	40·7	0·8	..	..	Calm	..	E by S	¼	0
14	29·780	40·6	40·3	0·3	..	..	Calm	..	E	¼	0
15	29·766	39·1	39·1	0·0	..	..	Calm	..	E by S	¼	½
16	29·751	38·9	38·7	0·2	39·0	–0·1	Calm	..	E by S	¼	0
17	29·744	39·0	39·0	0·0	..	..	Calm	..	E	¼	0
18	29·743	38·4	38·0	0·4	..	..	Calm	..	E	¼	0
19	29·740	41·5	40·0	1·5	..	..	Calm	..	E	¼	0
20	29·734	45·8	43·7	2·1	..	..	Calm	..	E	¼	0
21	29·731	50·8	47·5	3·3	..	..	Calm	..	E by S	¼	0
22	29·732	54·7	50·2	4·5	48·0	6·7	NE	..	ENE	¼	0
23	29·721	60·5	54·2	6·3	..	..	NE	..	ENE	¼	0
Apr. 23. 0	29·709	63·3	55·9	7·4	..	..	ENE	..	ENE	¼	½
1	29·691	65·7	57·2	8·5	..	..	ENE	..	E by N	¼	2
2	29·686	65·0	55·5	9·5	..	..	E by N	0 to ½	ESE	¼	2
3	29·663	62·9	55·8	7·1	..	..	E by N	..	E	¼	3
4	29·634	63·5	55·1	8·4	46·5	17·0	E	0 to ½	ESE	½	2
5	29·621	61·4	53·7	7·7	..	..	E	..	E	½	½
6	29·614	59·9	52·6	7·3	..	..	E by S	..	E	½	¾
7	29·613	56·1	51·0	5·1	..	..	E by S	..	E	¼	0
8	29·618	51·9	47·7	4·2	..	..	E by N	..	E by N	¼	1
9	29·631	48·0	45·2	2·8	..	..	ENE	..	E	¼	1
10	29·622	46·2	44·5	1·7	43·0	3·2	E	..	E	¼	0
11	29·611	45·4	44·0	1·4	..	..	ENE	..	E	¼	0
12	29·601	44·0	43·4	0·6	..	..	E by N	..	E	½	0
13	29·595	42·6	42·4	0·2	..	..	E by N	..	E by S	¼	½
14	29·582	40·9	40·7	0·2	..	..	E	..	Calm	..	1
15	29·577	40·7	40·6	0·1	..	..	ENE	..	Calm	..	1
16	29·574	40·8	40·8	0·0	41·0	–0·2	Calm	..	Calm	..	10
17	29·575	41·9	41·8	0·1	..	..	E by N	..	Calm	..	10
18	29·581	40·6	40·7	–0·1	..	..	NE	..	Calm	..	10
19	29·583	41·4	41·4	0·0	..	..	NE	..	NE	¼	10
20	29·595	44·5	44·2	0·3	..	..	NE	..	E	¼	10

DEW POINT THERMOMETER.
April 22d. 16h and 23d. 16h. The readings were higher than those of the Dry Thermometer.

REMARKS.	Observer.
Overcast: cirro-stratus: a slight fog.	D
,, ,, ,,	
,, ,, ,,	
,, ,, ,,	
,, ,, ,,	
,, ,, ,,	D
,, ,,	H B
The sky is partially covered with light scud.	G
Cloudless.	L
,,	
,,	L
Cloudless, except a few light clouds scattered to the S. of the zenith.	D
Cloudless.	
,,	
,,	
,,	
There are clouds near the horizon in the S.W. and N.W.	
A few small clouds are to the S. of the zenith.	
A thin white cloud is N. N.W. of the zenith.	D
Cloudless.	H B
Cloudless, but rather hazy S. of the zenith.	
Cloudless.	
Cloudless: light clouds are near the Moon's place, but to no numerical extent.	
Cloudless.	
,,	
,,	
,,	
,,	
,,	H B
,,	L
,,	
A few cirri and light clouds are towards the E. and S. horizon.	
A few cirri and light clouds are in various parts of the sky.	
Cumuli extending along the horizon from the N.E. to the N.W.: cirri and light clouds about the zenith and towards the W. horizon.	
Cumuli extending along the N. horizon, and light clouds in every direction.	L
Rocky cumuli extending along the horizon from the N. to the N. E., with linear cirri in various parts of the sky.	H B
Fine light cirri to the N. of the zenith, and a few cumuli near the N. N.W. horizon.	
Light cirri near the N.W. horizon, and a few cumuli near the N. horizon.	
Light clouds near the Sun's place.	
Cirro-stratus near and all around the horizon.	H B
Cirro-stratus near the horizon in the N.	G
Cloudless.	
,,	
A few lines of thin cloud are above the Moon, but to no numerical extent.	G
Lines of thin white cloud are between the Moon and the horizon, the sky is otherwise clear.	D
Strati in the S. A faint corona is visible round the Moon.	
A fog is collecting.	D
A rather thick fog.	L
The fog still continues.	
,, the Astronomical Observatory is invisible from the Magnetic Observatory.	L
The fog is clearing off rapidly.	H B
Ten minutes after the last observation the fog totally disappeared: the sky is now overcast: a slight fog.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in pounds per square foot.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0–6.	Amount of Clouds. 0–10.
d h	in.	°	°	°	°	°		from lbs. to lbs.			
Apr. 23. 21	29·601	47·8	47·3	0·5	..	..	E by N	..	Calm	..	8
22	29·620	52·0	50·4	1·6	48·5	3·5	E	..	E	¼	10
23	29·621	58·4	54·1	4·3	..	..	S by E	..	E	¼	7
Apr. 24. 0	29·613	62·7	56·5	6·2	..	..	SW	..	Calm	..	7
1	29·612	66·8	59·2	7·6	..	..	S by W	..	S	¼	7
2	29·605	65·9	57·7	8·2	..	..	SW	..	S	¼	7
3	29·607	68·0	58·7	9·3	..	..	SW	..	WSW	¼	6
4	29·594	65·7	56·0	9·7	45·0	20·7	SSW	..	SW	¼	4
5	29·603	63·6	53·9	9·7	45·0	8·9	SSW	..	S	¼	4
6	29·599	62·0	53·2	8·8	..	..	SSW	..	SSW	¼	3
7	29·604	60·0	52·0	8·0	..	..	S by W	..	SSW	¼	2
8	29·623	56·3	50·0	6·3	..	..	Calm	..	SSW	¼	2
9	29·642	53·5	48·9	4·6	..	..	S by W	..	SW	¼	3
10	29·646	52·2	48·2	4·0	44·0	8·2	Calm	..	SW	¼	2
May 20. 18	29·634	42·5	41·7	0·8	..	..	N by W	..	NNW	¼	6
19	29·641	44·7	43·5	1·2	..	..	N by W	..	NNW	¼	9
20	29·639	46·9	44·7	2·2	..	..	N	½ to 1	N	¼	9
21	29·635	46·6	44·1	2·5	..	..	N	..	N	¼	10
22	29·631	48·5	45·5	3·0	42·0	6 5	N by W	½ to ¾	N	¼	10
23	29·621	49·4	45·7	3·7	..	..	N	..	N	¼	10
May 21. 0	29·609	49·5	45·7	3·8	..	..	N	..	N	¼	10
1	29·584	45·0	43·5	1·5	..	..	N by W	..	NW	½	10
2	29·565	45·0	44·7	0·3	..	..	WNW	..	NW	¼	10
3	29·523	44·8	44·4	0·4	..	..	W	..	NW	¼	10
4	29·467	47·1	47·1	0·0	47·0	0·1	NW	0 to ½	NW	¾	10
5	29·442	48·7	48·3	0·4	..	..	N	½ to 2½	NNW	1½	10
6	29·451	49·7	48·6	1·1	..	..	N	½ to 2	N	¾	10
7	29·441	49·3	47·7	1·6	..	..	N by E	1½ to 2½	NNW	1½	10
8	29·440	48·2	47·0	1·2	..	..	N by W	1 to 3	N	1	10
9	29·421	48·6	47·5	1·1	..	..	N by W	2 to 3½	NNW	2	10
10	29·400	47·4	46·2	1·2	45·0	2·4	N	3 to 5	N	1½	10
12	29·379	44·1	42·7	1·4	..	..	N	4 to 9	N	2	10
13	29·393	43·8	42·6	1·2	..	..	N	3 to 8	N	2	10
14	29·426	43·5	42·2	1·3	..	..	NE	1 to 2½	N	2	10
15	29·449	43·5	42·3	1·2	..	..	NE	1 to 2	N	1½	10
16	29·474	43·5	42·5	1·0	41·0	2·5	NNE	1 to 2	N	1	8
17	29·488	43·9	42·8	1·1	..	..	NNE	½ to 1½	N	¾	9
18	29·505	45·3	44·3	1·0	..	..	NNE	½ to 1	N	½	9
19	29·531	46·5	44·9	1·6	..	..	N by E	½ to 1½	N	½	10
20	29·545	47·5	45·9	1·6	..	..	NNE	1 to 2	N	½	9
21	29·573	48·0	46·0	2·0	..	..	N by E	½ to 1½	N	¾	10
22	29·564	50·5	47·6	2·9	45·5	5·0	NNE	1½ to 3	NNE	¾	7
23	29·559	55·0	49·8	5·2	..	..	N by E	1 to 2	N	1	5

DEW POINT THERMOMETER.
April 24d. 4h. This reading as recorded was 55°; after it was taken it was supposed to be in error 10°; and at 5h an extra observation was taken which confirmed the supposition.

REMARKS.	Observer.
Cirro-stratus and scud: extensive breaks in the clouds towards the N. and N. E. horizon.	H B
The sky is covered with white clouds of apparently different densities which near the place of the Sun are bright and thin; occasional faint gleams of sunshine occur, and through very trifling breaks in the clouds a deep blue sky is seen, so that there does not appear to be any upper cloud: a few very minute drops of rain have been falling.	G
There is a little blue sky E. of the zenith; cirro-cumuli and white clouds generally cover the remainder of the sky: occasional gleams of sunshine.	G
Cumuli extending from the S.W. to the S. E. horizon: white scud and light clouds are in every direction.	L
Cumuli all round the horizon, and light clouds in every direction.	L
Cumuli, cumulo-strati, and large quantities of white scud: the upper cloud is cirrus of a very light kind.	H B
Cumuli and fine specimens of cumulo-strati in every direction.	L
The northern part of the sky is about one-third covered with cumuli and cumulo-strati: detached cumuli and cirri are about and to the S. of the zenith.	L
Cirri are scattered over the greater part of the sky S. of the zenith, and in the N. E. there are some fine specimens of comoid cirri: near the horizon in the N. and N.W. several small but perfectly shaped cumuli are visible.	D
Cirri are in all directions, the species very variable, there being specimens both of comoid, cymoid, and linear: there are also a few cumuli in the N. E.	D
Light cirri, chiefly comoid, are in every direction.	H B
Reticulated cirri scattered over the sky in the E. and S. E.	H B
Scud is scattered about the sky, that part which is clear being very bright.	G
Scud is scattered about the N.: the southern portion of the sky is generally clear, the W. being tolerably bright, and the E. thick and vapourish.	G
Cirro-stratus and scud: there are clear portions of sky in various directions.	D
,,	
,,	
Overcast: cirro-stratus and scud.	D
,,	L
,,	
,, the wind is blowing in occasional gusts to ½.	
,, rain is falling.	
,, rain is falling heavily.	
,, ,,	L
,, ,,	D
,, ,,	
,, rain is falling slightly.	
,, ,,	
,, ,,	
,, cirro-stratus and scud: the rain has ceased falling.	
,, ,, rain is again falling: the wind is blowing in gusts to 2.	D
,, the wind is blowing in gusts to 3.	L
,, ,, ,,	
,, ,, ,,	
,, the wind is blowing in gusts to 2.	
The sky is nearly covered with cloud, except a small portion towards the E. which is clear: the wind is blowing in gusts to 2.	
Cirro-stratus and scud, with breaks in the clouds in various directions.	
,, ,,	
Cirro-stratus.	
Cirro-stratus and scud, with breaks in the clouds towards the N.	L
Overcast.	G
Cumulo-stratus near the N.W. horizon, and cirro-stratus and scud in other directions: the wind is blowing in gusts to 1.	H B
Cumuli and white scud: the wind is blowing in gusts to 2.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. From Osler's Anemometer: Direction.	WIND. From Osler's Anemometer: Pressure in pounds per square foot.	WIND. By Estimation: Direction.	WIND. By Estimation: Force 0–6.	Amount of Clouds 0–10.
d h	in.	°	°	°	°	°		from lbs. to lbs.			
May 22. 0	29·570	55·2	49·6	5·6	..	..	NNE	½ to 2½	NNE	½	5
1	29·566	55·6	49·9	5·7	..	..	NNE	½ to 2	NNE	¾	7
2	29·567	56·0	50·4	5·6	..	..	N by E	0 to 2½	NE	½	6
3	29·573	53·9	50·3	3·6	..	..	N by E	0 to 1	NNE	½	8
4	29·589	55·2	50·2	5·0	44·0	11·2	N	½ to 2	N by E	¾	9
5	29·589	53·5	49·7	3·8	..	..	N	1 to 2½	N	½	8
6	29·600	53·5	48·7	4·8	..	..	N	½ to 2	N	½	8
7	29·611	54·5	49·5	5·0	..	..	N	½ to 2	N	½	7
8	29·630	50·1	47·0	3·1	..	..	N by W	½ to 1½	N	½	½
9	29·642	48·0	46·1	1·9	..	..	N by W	..	N	¼	½
10	29·656	45·8	44·7	1·1	42·5	3·3	N by W	0 to ½	N	¼	½
11	29·647	43·5	42·8	0·7	..	..	N by W	0 to ¼	N	¼	1
12	29.649	43·1	42·5	0·6	..	..	N by W	½ constant	N	½	3
13	29·645	43·5	42·7	0·8	..	..	N by W	½ to 1½	N	¾	10
14	29·644	43·1	42·4	0·7	..	..	N by W	0 to ½	N	¾	10
15	29·643	42·4	41·5	0·9	..	..	N by W	0 to ½	N	¾	10
16	29·644	42·5	41·7	0·8	40·0	2·5	N by W	¼ to ½	N	¾	10
17	29·646	42·5	41·6	0·9	..	..	NNW	½ to 1	N	¾	10
18	29·645	42·3	41·2	1·1	..	..	NNW	¼ to 1	N	¾	10
19	29·659	43·4	42·2	1·2	..	..	NNW	0 to ¼	NNW	½	10
20	29·663	43·5	42·4	1·1	..	..	NNW	¼ to ½	NNW	½	10
21	29·676	43·2	42·4	0·8	..	..	NNW	0 to ½	NNW	¼	10
22	29·677	46·4	44·5	1·9	41·0	5·4	NNW	¼ to ½	N	½	10
23	29·679	51·8	47·7	4·1	..	..	N	½ to 1½	N	½	9
May 23. 0	29·680	53·6	49·0	4·6	..	..	N	1 to 2	N	½	9½
1	29·677	57·8	52·2	5·6	..	..	N	½ to 1½	N	½	9
2	29·676	57·1	51·1	6·0	..	..	N	½ to 2½	N	½	9
3	29·679	57·7	51·0	6·7	..	..	N	½ to 1½	N	½	10
4	29·674	57·0	51·1	5·9	42·0	15·0	N	½ to 1	N	¼	10
5	29·677	54·5	49·8	4·7	..	..	N	½ constant	N	½	10
6	29·677	52·3	48·7	3·6	..	..	N by E	½ constant	N	½	10
7	29·686	47·7	47·3	0·4	..	..	N by E	..	N	¼	10
8	29·696	47·2	46·8	0·4	..	..	N by W	..	N by W	¼	10
9	29·703	46·0	45·6	0·4	..	..	N by W	..	NNW	¼	10
10	29·702	46·0	45·3	0·7	44·5	1·5	N by W	..	N by W	¼	10
11	29·700	45·8	45·0	0·8	..	..	N by W	..	N by W	¼	10
12	29·693	45·0	44·3	0·7	..	..	N	..	N by W	¼	
May 30. 10	29·916	48·5	46·2	2·3	44·0	4·5	N by E	..	NE	¼	0
11	29·936	45·6	44·2	1·4	..	..	NNE	..	NE	¼	0
12	29·956	45·5	44·7	0·8	..	..	N by E	..	NE	¼	0
13	29·965	45·5	44·9	0·6	..	..	N	..	NNE	¼	10
14	29·981	45·6	44·7	0·9	..	..	N by E	..	NNE	¼	10
15	29·996	45·2	44·2	1·0	..	..	N by E	..	NNE	¼	10
16	30·000	45·0	44·2	0·8	44·0	1·0	N	..	N	¼	10
17	30·009	45·0	44·1	0·9	..	..	N	..	NNW	¼	10
18	30·018	45·8	44·7	1·1	..	..	NNE	..	N	¼	10
19	30·025	46·0	44·7	1·3	..	..	NNE	..	N	¼	10
20	30·046	48·1	46·8	1·3	..	..	NNE	..	N	¼	10
21	30·062	51·2	49·0	2·2	..	..	NNE	..	N	¼	6
22	30·069	52·6	50·0	2·6	47·0	5·6	NNE	..	NE	¼	0
23	30·067	56·4	52·6	3·8	..	..	NNE	..	NE	¼	0

REMARKS.	Observer.
Large cumulo-stratus in the S. E., and white scud and cumuli in other directions, the former principally in the N. E.	H B
A heavy and large cumulo-stratus S. of the zenith, and cumuli and scud near the horizon. [1ʰ. 45ᵐ.	
Cumulo-strati near the horizon in the N.E., N., and S. E., and white scud and cumuli in other directions: rain began to fall at	
Cumulo-strati near the horizon in the N., and in other parts of the sky.	H B
Cumulo-strati towards the W., with cirro-strati and scud in other directions: small breaks in the clouds in various parts of the sky: wind in gusts to 1.	L
Cumuli and cumulo-strati in every direction: a shower of rain has just fallen.	
Cumuli and cumulo-strati towards the N. and W.: clear about the zenith, and cirro-stratus in the S.	
The S. part of the sky is mostly covered with cirro-strati and cumulo-strati, with cumuli to the N. and W.	
A few cumuli and light clouds are towards the W. and S.; the other portions of the sky are cloudless.	
A bank of cirro-stratus extends along the N. horizon; cloudless in other parts of the sky.	
,, ,,	L
Light clouds principally near the Moon's place: hazy.	H B
Light clouds and scud, the latter passing over the Moon with great rapidity.	
Overcast: cirro-stratus and scud: the Moon is occasionally visible.	
,, ,,	
,, ,,	
,, ,,	
,, ,, the wind is blowing in gusts to 1.	
,, ,,	
,, ,,	
,, ,,	
,, ,, a heavy shower of rain fell at $20^{h}. 45^{m}$.	H B
Cirro-strati and cumulo-strati: haze towards the N.: the clouds about the zenith are thin, and appear to be breaking up.	L
Cirro-strati and scud: small breaks in the clouds towards the N.	
Cumuli towards the N.; cirro-strati and scud in other directions.	
,, ,,	
Cirro-strati, cumuli, and cumulo-strati cover the sky.	
Cirro-strati, cumuli, and cumulo-strati.	
,,	L
Cumuli, cirro-strati, and scud.	H B
,,	
Cirro-stratus and scud: rain is falling, which commenced about $6^{h}. 40^{m}$.	
,, rain is still falling.	
,, rain is still falling slightly.	
,, the rain has ceased.	
,,	H B
,, a thin rain is falling.	D
Cloudless.	G
,,	
,,	G
Overcast.	L
,,	
,,	L
,,	D
,,	
,,	D
,,	H B
,, cirro-stratus and scud of different densities.	
Cirro-stratus and scud, with a few cumuli.	H B
Cloudless.	G
Cloudless, but hazy.	G

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in pounds per square foot.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°		from lbs. to lbs.			
May 31. 0	30·067	59·5	55·6	3·9	..	..	NNE	..	Calm	..	0
1	30·071	62·0	56·7	5·3	..	..	Calm	..	Calm	..	0
2	30·058	63·8	57·9	5·9	..	..	NNW	..	NNW	¼	0
3	30·055	65·0	56·5	8·5	..	..	Calm	..	Calm	..	0
4	30·048	64·1	56·3	7·8	47·0	17·1	NNW	..	Calm	..	0
5	30·043	64·2	57·1	7·1	..	..	NNW	..	NE	¼	9
6	30·044	61·8	56·8	5·0	..	..	SSW	..	Calm	..	9½
7	30·049	59·5	55·0	4·5	..	..	Calm	..	SW	¼	9½
8	30·051	57·0	52·8	4·2	..	..	Calm	..	. SSW	¼	9
9	30·067	55·6	51·4	4·2	..	..	Calm	..	SW	¼	9¾
10	30·064	54·5	50·7	3·8	47·0	7·5	Calm	..	SW	¼	10
June 18. 10	29·732	55·0	53·4	1·6	50·0	5·0	WSW	..	W	¼	1
11	29·749	52·5	51·6	0·9	..	..	SSW	..	W	¼	0
12	29·752	51·2	50·5	0·7	..	..	SSW	..	W	¼	0
13	29·760	49·7	49·1	0·6	..	..	SW	..	WSW	¼	0
14	29·763	49·0	48·6	0·4	..	..	WSW	..	WSW	¼	0
15	29·763	48·0	47·9	0·1	..	..	WSW	..	WSW	¼	0
16	29·760	47·6	47·7	−0·1	47·3	0·3	WSW	..	SW	¼	0
17	29·772	48·1	48·2	−0·1	..	..	WSW	..	SW	¼	2
18	29·792	50·0	50·0	0·0	..	..	WSW	..	SW	¼	3
19	29·810	50·7	51·0	−0·3	..	..	SW	..	Calm	..	10
20	29·819	53·4	53·0	0·4	..	..	WSW	..	SW by W	¼	10
21	29·832	55·6	54·5	1·1	..	..	WSW	..	WSW	¼	10
22	29·751	58·6	57·0	1·6	54·5	4·1	WSW	..	W	¼	10
23	29·862	62·8	58·5	4·3	..	..	WSW	..	Calm	..	½
June 19. 0	29·860	65·7	59·5	6·2	..	..	WSW	..	Calm	..	2
1	29·861	66·8	61·9	4·9	..	..	N by W	..	Calm	..	5
2	29·860	68·5	61·3	7·2	..	..	N by W	..	Calm	..	4
3	29·866	66·5	61·0	5·5	..	..	NE	..	Calm	..	4
4	29·864	68·7	61·0	7·7	53·5	15·2	NNW	..	Calm	..	7
5	29·867	69·4	61·8	7·6	..	..	NW	..	NW by N	very light.	5
6	29·870	66·9	59·7	7·2	..	..	NNW	..	NNW	¼	4
7	29·776	65·5	60·7	4·8	..	..	N by W	..	NNW	¼	7
8	29·888	63·3	60·0	3·3	..	..	N by E	..	N	¼	4
9	29·904	62·3	59·2	3·1	..	..	N by E	..	Calm	..	9½
10	29·919	60·5	58·4	2·1	57·0	3·5	S by W	..	N	..	8
11	29·926	59·5	56·9	2·6	..	..	S by W	..	S	¼	9½
12	29·936	57·2	56·0	1·2	..	..	Calm	..	Calm	..	9
13	29·941	55·5	54·5	1·0	..	..	S by W	..	Calm	..	8
14	29·935	55·0	54·0	1·0	..	..	Calm	..	Calm	..	3
15	29·940	53·8	53·1	0·7	..	..	Calm	..	Calm	..	2
16	29·948	52·2	52·2	0·0	52·0	0·2	Calm	..	Calm	..	0
17	29·949	52·4	52·4	0·0	..	..	Calm	..	Calm	..	0
18	29·957	52·7	52·6	0·1	..	..	Calm	..	Calm	..	0
19	29·970	54·6	54·3	0·3	..	..	Calm	..	Calm	..	0
20	29·977	60·8	59·2	1·6	..	..	Calm	..	Calm	..	0
21	29·980	65·2	62·2	3·0	..	..	Calm	..	Calm	..	2
22	29·985	66·0	62·6	3·4	61·0	5·0	NE	..	ENE	¼	4
23	29·991	69·5	64·0	5·5	..	..	Calm	..	NE	¼	7
June 20. 0	29·991	71·4	64·1	7·3	..	..	NE	..	NE	¼	3
1	29·988	71·6	63·1	8·5	..	..	ENE	..	ENE	¼	3

WET-BULB THERMOMETER.

June 18d. 16h, 17h, and 19h. The readings were higher than those of the Dry-bulb Thermometer.

REMARKS.	Observer.
Cloudless.	L
,,	L
,, a dense haze, particularly near the W. horizon.	H B
,, hazy.	L
,, hazy, particularly towards the W.: a very faint shadow is cast by the Sun.	L
Nearly overcast: cirro-stratus and haze.	H B
Overcast, with the exception of a few breaks in the clouds S. of the zenith.	H B
Overcast, with a few small breaks in different directions.	D
Cirro-stratus and scud.	D
The sky is covered wth a thin loose cirro-stratus: there is no upper cloud.	G
Scud and dark fleecy clouds cover the sky.	G
Cloudless, except a few stratus clouds under and to the W. of the Moon.	G
Cloudless.	
,,	G
,,	L
,,	
,,	L
Cloudless, but hazy near the horizon.	H B
Cirro-stratus and vapour.	
,, a fog has prevailed during the last hour.	H B
Overcast: stratus or light fog.	D
,, stratus: the Sun is occasionally visible through the clouds.	
,, ,,	D
A thin film of cloud covers the whole of the sky, but the Sun is shining through it.	G
A few detached cumuli and light clouds are towards the S.: hazy towards the N.	L
A thin film of cloud is towards the N.; cloudless in other directions: hazy.	L
Cumuli, cirro-strati, and haze; the former in large masses near the zenith and S. E.	H B
Cumuli, cirro-strati, and haze.	H B
Cumuli, cirro-strati, scud, and haze.	L
Cumuli, cirro-strati, and haze.	L
Cumuli and cumulo-strati: hazy.	D
Cumuli and a dense haze.	D
Cumuli, cirro-strati, and large quantities of scud.	H B
Cumuli and scud.	H B
The sky is very nearly covered with loose detached masses of cloud of no definite modification.	G
Overcast, with the exception of a break in the clouds in the N. W.	
,, ,, at $9^{h}.10^{m}$ the wind suddenly shifted from N. to S.	G
Cirro-stratus, fleecy clouds, and scud, with a break in the clouds to the W. of the Moon.	L
Cirro-stratus, fleecy clouds, and scud: breaks in the clouds to the S. E. and W.	
Cirro-stratus, fleecy clouds, and scud.	
Some light clouds to the S.	
Cloudless: hazy.	
,, ,,	
,, ,,	
,, ,,	
,, ,,	
Cumuli and light clouds round the horizon.	L
Cumuli and scud.	H B
,,	
Cumuli, cumulo-strati, and light fleecy clouds.	
Cumuli and light fleecy clouds.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. FROM OSLER'S ANEMOMETER. Direction.	WIND. FROM OSLER'S ANEMOMETER. Pressure in pounds per square foot.	WIND. BY ESTIMATION. Direction.	WIND. BY ESTIMATION. Force 0–6.	Amount of Clouds 0–10.
d h	in.	°	°	°	°	°		from lbs. to lbs.			
June 20. 2	29·978	71·6	64·6	7·0	..	..	NNE	..	ENE	¼	2
3	29·978	71·3	63·9	7·4	..	..	ENE	..	ENE	¼	3
4	29·975	70·4	63·0	7·4	52·0	18·4	ENE	..	Calm	..	2
5	29·973	67·5	60·4	7·1	..	..	ESE	..	ESE	¼	4
6	29·980	66·7	60·0	6·7	..	..	Calm	..	SE	¼	2
7	29·980	64·5	60·2	4·3	..	..	Calm	..	SE	¼	1
8	29·991	61·3	58·2	3·1	..	..	Calm	..	SE	¼	4
9	30·002	58·5	56·5	2·0	..	..	Calm	..	ESE	¼	6
10	30·011	56·6	54·4	2·2	..	..	Calm	..	E	¼	3
11	30·006	56·5	55·0	1·5	..	..	Calm	..	E	¼	8
12	30·010	55·6	54·3	1·3	..	..	Calm	..	ESE	¼	9
13	30·002	53·5	52·5	1·0	..	..	Calm	..	E by S	¼	1
14	29·998	53·0	52·4	0·6	..	..	Calm	..	E by S	¼	6
15	29·989	52·0	51·6	0·4	..	..	Calm	..	E	¼	3
16	29·982	51·0	50·7	0·3	50·0	1·0	Calm	..	E	¼	2
17	29·978	50·5	50·6	−0·1	..	..	Calm	..	E	¼	2
18	29·987	52·0	51·6	0·4	..	..	Calm	..	E	¼	3
19	29·999	56·3	55·2	1·1	..	..	Calm	..	ESE	¼	7
20	29·993	62·0	59·8	2·2	..	..	Calm	..	Calm	..	6
21	29·993	65·2	60·9	4·3	..	..	NE	..	Calm	..	0
22	29·982	67·8	62·0	5·8	54·0	13·8	NE	..	E	¼	0
23	29·982	68·8	62·0	6·8	..	..	ENE	..	Calm	..	0
June 21. 0	29·968	71·1	63·9	7·2	..	..	ENE	..	Calm	..	3
1	29·953	71·7	64·9	6·8	..	..	NNE	..	Calm	..	6
2	29·943	73·2	65·7	7·5	..	..	ENE	..	Calm	..	6
3	29·930	70·4	64·6	5·8	..	..	E by N	..	Calm	..	7
4	29·908	71·9	64·9	7·0	57·0	14·9	E by N	..	ENE	¼	2
5	29·896	70·8	64·5	6·3	59·0	11·8	ENE	..	ENE	¼	1
6	29·883	67·2	61·9	5·3	58·0	9·2	ENE	..	NE	¼	4
7	29·875	67·0	61·6	5·4	..	..	ENE	..	ENE	¼	½
8	29·872	64·6	59·6	5·0	..	..	E by N	..	ENE	¼	2
9	29·875	60·3	56·9	3·4	..	..	E	..	ENE	¼	½
10	29·877	57·6	55·7	1·9	54·5	3·1	E	..	E	¼	½
11	29·871	55·3	54·0	1·3	..	..	E by S	..	E	¼	½
12	29·890	54·5	53·2	1·3	..	..	E by S	..	E	¼	½
July 20. 18	29·783	56·7	56·6	0·1	..	..	Calm	..	Calm	..	10
19	29·785	57·7	57·7	0·0	..	..	Calm	..	Calm	..	10
20	29·788	59·0	58·7	0·3	..	..	Calm	..	Calm	..	10
21	29·805	60·2	59·7	0·5	..	..	Calm	..	Calm	..	10
22	29·817	63·4	61·7	1·7	60·0	3·4	Calm	..	Calm	..	10
23	29·813	66·4	63·8	2·6	..	..	Calm	..	Calm	..	8
July 21. 0	29·816	66·7	64·2	2·5	..	..	NE	..	NE	¼	8
1	29·822	68·0	64·6	3·4	..	..	NE	..	NE	¼	9
2	29·827	68·5	64·7	3·8	..	..	ENE	..	NE	¼	9
3	29·823	68·8	63·2	5·6	..	..	NE	..	NE	¼	9
4	29·823	71·7	64·0	7·7	58·0	13·7	ENE	..	E	¼	7
5	29·818	69·1	64·0	5·1	..	..	NE	..	E	¼	2
6	29·803	68·3	63·5	4·8	..	..	ENE	..	E	¼	1
7	29·814	65·0	61·6	3·4	..	..	E	..	E	¼	5
8	29·815	61·9	59·5	2·4	..	..	Calm	..	Calm	..	4
9	29·830	59·1	57·5	1·6	..	..	Calm	..	Calm	..	2

DEW POINT THERMOMETER.
June 20^{d}. 10^{h}. Observation omitted.

WET-BULB THERMOMETER.
June 20^{d}. 17^{h}. The reading was higher than that of the Dry-Bulb Thermometer.

REMARKS.	Observer.
Cumuli and light fleecy clouds: the clear portion of the sky is of a deep blue colour.	H B
Cumuli, cumulo-strati, and light fleecy clouds.	H B
Cumuli to the N.W. and S. horizon; cloudless in other parts of the sky.	L
Cirro-stratus, cumulo-stratus, and scud to the N. and W.	
Cumuli to the N. and S., with light clouds about the zenith.	
Cumuli and light clouds towards the N. horizon; cloudless in other directions.	
Cirro-stratus and cumulo-stratus to the N., and a few cirri about the zenith.	
Cirro-stratus and scud.	
,,	L
,, the Moon's place is visible through the clouds.	H B
,, several stars are visible near the zenith.	
Light clouds, principally to the S. of the zenith.	
A heavy mass of cirro-stratus and scud near the S. horizon, extending upwards for many degrees.	
Cirro-stratus and a few cirri are scattered over the sky in every direction.	
Cirro-stratus and a few cirro-cumuli are near the zenith.	
Light cirri are scattered over the sky.	
,,	
Cumuli, cirro-strati, and light fleecy clouds.	
Cumuli and light clouds are in every direction.	
Cloudless.	H B
,,	L
,,	
Cumuli all round the horizon, and loose scud in various directions.	
Cumuli and loose scud are in every direction.	
,,	
Cumuli and loose scud: a dark cirro-stratus near the zenith.	L
Light cirri and a few cumuli in various parts of the sky.	H B
Cirri scattered over the sky.	
Cirri and light clouds are scattered over the sky.	
A few light cirri are scattered over the sky.	
Cirri and light clouds, principally near the S. horizon.	
Light cirri are scattered in different directions, and cirro-stratus near the horizon.	
Cirro-stratus and light clouds are near the S. horizon.	
Lines of cirro-stratus near the N. horizon, and a few light clouds near the Moon's place.	H B
A few cirri and haze near the S. horizon; in other parts cloudless.	G

Overcast.	L
,, a drizzling rain falling.	
,, occasional drops of rain falling.	L
,,	G
,, some parts of the sky are lighter than others.	D
Overcast, except a few large clear breaks in the neighbourhood of the zenith.	
Overcast, except a few large clear breaks in the neighbourhood of the zenith.	
Cirro-stratus and scud.	
Cirro-stratus.	D
,,	L
Cumuli, fleecy clouds, and scud.	
,,	
Cumuli and light clouds to the N. horizon, and a few cirri a little S. of the zenith.	
Cirro-stratus and fleecy clouds extending from the N. horizon to the zenith, where there are a few cirro-cumuli: the S. part [of the sky is clear.	
The same as at the last observation.	
Cirro-stratus to the N.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry	Dew Point.	Dew Point below Dry Therm.	WIND. From Osler's Anemometer. Direction.	Pressure in pounds per square foot.	By Estimation. Direction.	Force 0–6.	Amount of Clouds 0–10.
d h	in.	°	°	°	°	°		from lbs. to lbs.			
July 21. 10	29·830	57·5	56·4	1·1	55·0	2·5	Calm	..	Calm	..	½
11	29·838	57·2	56·2	1·0	..	..	Calm	..	ENE	¼	3
12	29·837	57·5	56·7	0·8	..	..	Calm	..	Calm	..	9¾
13	29·828	58·1	56·7	1·4	..	..	Calm	..	Calm	..	10
14	29·826	57·3	56·3	1·0	..	..	ENE	..	Calm	..	10
15	29·824	57·0	56·1	0·9	..	..	E by N	..	Calm	..	10
16	29·821	56·6	55·8	0·8	55·5	1·1	ENE	..	Calm	..	10
17	29·822	56·5	55·8	0·7	..	..	ENE	..	Calm	..	9
18	29·822	56·0	55·5	0·5	..	..	ENE	..	Calm	..	5
19	29·822	57·9	57·1	0·8	..	..	Calm	..	Calm	..	5
20	29·822	62·6	59·8	2·8	..	..	NE	..	NE	¼	2
21	29·822	65·1	61·2	3·9	..	..	NNE	..	Calm	..	7
22	29·809	66·3	61·3	5·0	56·0	10·3	NE by N	..	Calm	..	7
23	29·806	69·3	64·9	4·4	..	..	NNE	..	E	¼	4
July 22. 0	29·803	70·5	65·6	4·9	..	..	NE by N	..	E	¼	6
1	29·798	72·0	65·9	6·1	..	..	N by E	..	E	¼	5
2	29·796	72·3	65·7	6·6	..	..	NNE	..	E	¼	6
3	29·797	71·7	66·1	5·6	..	..	NE	..	E	½	6
4	29·779	69·6	64·8	4·8	62·0	7·6	E	..	E	¼	9
5	29·779	67·6	64·3	3·3	..	..	E by N	..	E	¼	7
6	29·773	67·6	63·8	3·8	..	..	NE	..	ENE	¼	3
7	29·774	67·4	63·8	3·6	..	..	ENE	..	ENE	¼	4
8	29·773	63·7	61·7	2·0	..	..	ENE	..	ENE	¼	4
9	29·780	62·8	60·8	2·0	..	..	N by E	..	ENE	¼	9
10	29·788	60·4	59·2	1·2	58·0	2·4	N by E	..	N by E	¼	10
11	29·793	59·0	58·2	0·8	..	..	N	..	NNE	½	10
12	29·800	58·2	57·3	0·9	..	..	N	..	NNE	½	10
13	29·802	57·5	57·2	0·3	..	..	N	..	NNE	½	10
14	29·807	56·5	56·4	0·1	..	..	N	..	NNE	½	10
15	29·797	56·5	56·2	0·3	..	..	N by W	..	NNE	¼	10
16	29·779	56·5	56·2	0·3	56·0	0·5	N by E	..	NNE	¼	10
17	29·777	56·5	56·2	0·3	..	..	N by W	..	NNE	¼	10
18	29·775	56·2	55·8	0·4	..	..	N	..	NNE	¼	10
19	29·780	56·4	55·7	0·7	..	..	N	..	NNE	..	10
20	29·785	56·4	55·7	0·7	..	..	N	..	NNE	¼	10
22	29·787	56·0	55·3	0·7	55·5	0·5	N by W	..	NNE	¼	10
23	29·800	57·6	55·5	2·1	..	..	N	..	NNE	¼	10
July 23. 0	29·806	56·8	55·9	0·9	..	..	N	..	N	¼	10
1	29·802	57·8	56·5	1·3	..	..	N by E	..	N	¼	10
2	29·802	58·9	57·0	1·9	..	..	NNE	..	N	¼	10
3	29·802	57·0	56·7	0·3	..	..	N by E	..	N	¼	10
4	29·797	57·6	57·0	0·6	56·0	1·6	N by E	..	N	¼	10
5	29·797	57·8	56·8	1·0	..	..	N by E	..	NE	..	10
6	29·790	57·0	56·2	0·8	..	..	N by E	..	Calm	..	10
7	29·777	56·5	55·5	1·0	..	..	N by E	..	N	¼	10
8	29·783	56·0	54·6	1·4	..	..	NNE	..	N	¼	10
9	29·904	62·3	59·2	3·1	..	..	N by E	..	Calm	..	9½
10	29·803	54·8	53·4	1·4	52·0	2·8	NNE	..	NNE	¼	10
11	29·806	54·3	52·8	1·5	..	..	NNE	..	Calm	..	10
12	29·805	53·7	52·2	1·5	..	..	NNE	..	Calm	..	10

REMARKS.	Observer.
A bank of cirro-stratus extends along the N. horizon.	L
A large bank of cloud is in the N.: small fragments of scud are scattered over various parts of the sky.	D
Since the last observation the clouds have been increasing; the only clear sky at present is a small portion seen through a break in the clouds near α Lyræ.	
Overcast: cirro-stratus.	
,, ,,	
,, ,,	
,, ,,	
At present there are a few breaks in the clouds, which are much less dense.	
Since the last observation the clouds have been decreasing in amount, and at present one-half of the sky only is covered.	
No change in the appearance of the sky.	
Ill-defined cumuli prevail in the N., S., and W. near the horizon; nearly every other part of the sky is clear.	
Cumuli, fleecy clouds, and a little scud.	D
Cumuli, fleecy clouds, and scud.	T D
Cumuli and scud.	
Cumuli and scud.	
,,	
,,	
Cumuli, fleecy clouds, and scud.	T D
Cumuli, cirro-strati, and loose fragments of scud.	D
Overcast, except a few cirri scattered over the sky to the S. of the zenith.	
Cirri and light clouds, the greater quantity of which is to the N. of the zenith.	
Cirri and light clouds.	
Cirri and light clouds near the N. horizon: the clouds are more dense.	
Within the last ten minutes the clouds, which have been for some time in the N., suddenly increased, so as to cover nearly the whole of the sky.	
Overcast: cirro-stratus.	
,, ,, a few drops of rain are falling.	D
,, a thin small rain is falling.	G
A thin small rain is falling.	
,,	
Rain is falling.	
,,	
,,	
,,	
The rain has ceased falling.	
Rain is again falling.	G
Overcast: cirro-stratus.	T D
,, ,,	T D
Overcast: cirro-stratus: a few drops of rain are falling occasionally.	L
,, ,, ,,	T D
,, ,, rain is falling heavily.	
,, ,, ,,	
,, ,, rain is falling, but not so heavily as at the last observation.	
,, a few drops of rain are falling occasionally.	
,, cirro-stratus.	
,, ,,	
,, ,,	T D
The sky is nearly covered with loose detached masses of cloud of no recognized modification.	G
Overcast: cirro-stratus.	D
,, ,,	
,, ,,	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry Therm.	Dew Point.	Dew Point below Dry Therm.	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in pounds per square foot.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0–6.	Amount of Clouds 0–10.
d h	in.	°	°	°	°	°		from lbs. to lbs.			
July 23. 13	29·804	53·3	52·0	1·3	..	..	NNE	..	Calm	..	10
14	29·795	53·0	52·0	1·0	..	..	N	..	Calm	..	10
15	29·788	52·8	51·2	1·6	..	..	N	..	Calm	..	10
16	29·790	52·7	51·3	1·4	50·0	2·7	NNE	..	Calm	..	10
17	29·791	52·6	51·5	1·1	..	..	N by E	..	Calm	..	10
18	29·789	53·3	52·2	1·1	..	..	N by E	..	Calm	..	10
19	29·791	53·8	52·7	1·1	..	..	N by E	..	Calm	..	10
20	29·790	55·5	53·5	2·0	..	..	N by E	..	Calm	..	10
21	29·806	56·5	54·0	2·5	..	..	N by E	..	NE	¼	10
22	29·804	57·0	54·5	2·5	52·0	5·0	N by E	..	NE	¼	10
23	29·808	57·0	55·2	1·8	..	..	N	..	N	¼	10
July 24. 0	29·812	57·5	54·7	2·8	..	..	N by W	..	N	¼	10
1	29·817	59·0	56·0	3·0	..	..	N	..	N	¼	10
2	29·814	62·0	58·2	3·8	..	..	NNE	..	Calm	..	10
3	29·813	61·0	57·4	3·6	..	..	N by E	..	Calm	..	10
4	29·811	60·5	57·1	3·4	52·0	8·5	N by E	..	Calm	..	10
5	29·813	61·3	57·7	3·6	..	..	N by E	..	Calm	..	10
6	29·811	59·0	56·6	2·4	..	..	N by E	..	Calm	..	10
7	29·801	58·3	55·7	2·6	..	..	Calm	..	Calm	..	10
8	29·807	57·5	55·7	1·8	..	..	Calm	..	NE	¼	10
9	29·809	56·5	54·6	1·9	..	..	Calm	..	N	¼	10
10	29·812	56·1	54·3	1·8	53·0	3·1	Calm	..	Calm	..	10
Aug. 20. 18	29·730	46·7	46·4	0·3	..	..	...	..	W	¼	½
19	29·745	49·6	48·9	0·7	..	..	WSW	..	W	¼	0
20	29·768	52·5	51·7	0·8	..	..	WSW	..	W	¼	0
21	29·782	55·5	52·5	3·0	..	..	WSW	..	W	¼	1
22	29·786	59·0	53·9	5·1	49·0	10·0	WSW	0 to ½	W by N	½	1
23	29·797	59·5	53·7	5·8	..	..	WSW	..	W	½	4
Aug. 21. 0	29·803	60·5	54·3	6·2	..	..	W	..	W	¾	8
1	29·811	61·6	54·9	6·7	..	..	WSW	..	W	¾	4
2	29·817	62·7	55·7	7·0	..	..	WSW	0 to ½	W	¼	5
3	29·818	63·8	55·2	8·6	..	..	WSW	..	W	¼	1
4	29·831	63·7	55·9	7·8	49·0	14·7	WSW	..	W	¼	1½
5	29·842	63·3	55·4	7·9	..	..	WSW	..	W	¼	2
6	29·851	62·2	55·1	7·1	..	..	WSW	..	W	¼	2
7	29·873	58·8	53·0	5·8	..	..	WSW	..	W	¼	8
8	29·898	55·7	52·8	2·9	..	..	N by W	..	NNW	¼	5
9	29·927	53·8	52·2	1·6	..	..	N by W	..	N	¼	10
10	29·944	54·5	52·0	2·5	50·0	4·5	N by W	..	N	¼	10
12	29·963	49·3	48·2	1·1	..	..	W by S	..	SW	¼	0
13	29·980	47·0	46·2	0·8	..	..	SSW	..	SW	¼	0
14	29·990	46·5	45·8	0·7	..	..	SSW	..	SW	¼	0
15	30·003	46·3	45·7	0·6	..	..	SW	..	SW	¼	0
16	30·014	45·5	45·0	0·5	..	..	Calm	..	SW	¼	1
17	30·028	45·0	45·0	0·0	..	..	Calm	..	SW	¼	0
18	30·038	44·4	44·3	0·1	..	..	Calm	..	SW	¼	½
19	30·075	45·5	45·4	0·1	..	..	Calm	..	SW	¼	0
20	30·069	50·5	49·6	0·9	..	..	Calm	..	SW	¼	0
21	30·074	55·0	53·7	1·3	..	..	Calm	..	SW	¼	0
22	30·084	59·9	54·6	5·3	51·8	8·1	Calm	..	SW	¼	0
23	30·108	62·3	56·1	6·2	..	..	SW	..	SW	¼	0

TEMPERATURE OF THE DEW POINT.
Aug. $21^d. 16^h$. The observation was omitted by inadvertence.

REMARKS.	Observer.
Overcast: cirro-stratus.	D
,,	L
,,	
,,	
,,	L
,, ,,	T D
,, ,,	
Cirro-stratus.	T D
Overcast.	G
,,	
,,	G
Overcast: cirro-stratus.	D
,, ,,	D
,,	L
,,	
,,	L
,,	T D
,,	T D
,,	G
,, the clouds are of different densities.	G
,,	D
,, cirro-stratus.	D
A few light clouds are a little to the S. of the zenith.	L
Cloudless.	
A few clouds are towards the S. horizon, but to no numerical extent.	
Light clouds are near the S. horizon.	L
Cumuli near the S. horizon, and in various other parts of the sky.	H B
Cumuli and scud are scattered over every part of the sky.	
The sky is generally covered with cirro-stratus and scud, except near the horizon in the S. and S.E., at these places the sky is clear.	
Cumuli and fleecy clouds.	
Cumuli and fleecy clouds, principally to the S. of the zenith.	
Cumuli and light clouds.	H B
There are cumuli and light clouds to the S.	L
Cumulo-strati and haze to the N., and a fine cumulus to the S. horizon.	
Cumulo-strati and haze to the N., and cumuli and light clouds in various parts of the sky.	
Cumuli, cumulo-strati, and thin cirro-strati.	
The sky S. of the zenith is principally cloudy, with a dark cumulus in the W. horizon: the clouds are moving from the N.E.	
Overcast: the clouds are moving from the W.	
,,	L
At about $10^{h}. 20^{m}$ the clouds began to disperse, and since that time the sky has been cloudless.	G
Cloudless.	
,,	
,,	
Cloudless, with the exception of a small quantity of cloud to the S.	
Cloudless.	
Nearly cloudless.	
Cloudless.	
,,	
,,	G
,,	H B
Cloudless, except a few cumuli near the S. horizon, but to no numerical extent.	H B

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry	Dew Point.	Dew Point below Dry Therm.	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in pounds per square foot.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0–6.	Amount of Clouds 0–10.
d h	in.	°	°	°	°	°		from lbs. to lbs.			
Aug. 22. 0	30·103	66·0	59·0	7·0	..	..	SW	..	WSW	¼	1
1	30·102	65·7	58·0	7·7	..	..	WSW	..	SW	½	2
2	30·091	67·7	59·4	8·3	..	..	SW	..	W	¼	2
3	30·078	68·0	59·3	8·7	..	..	W by S	..	WSW	½	2
4	30·093	66·5	58·5	8·0	49·5	17·0	WSW	..	WSW	¼	5
5	30·091	65·7	60·2	5·5	..	..	SW	..	WSW	¼	7
6	30·087	64·5	58·5	6·0	..	..	WSW	..	WSW	¼	4
7	30·089	59·2	55·3	3·9	..	..	SSW	..	WSW	¼	5
8	30·096	56·7	53·6	3·1	..	..	SSW	..	SSW	¼	2
9	30·104	53·5	51·7	1·8	..	..	SSW	..	SSW	¼	2
10	30·104	51·5	50·2	1·3	49·0	2·5	SSW	..	SSW	¼	0
11	30·094	51·1	49·8	1·3	..	..	..	..	SSW	¼	0
12	30·087	50·5	49·6	0·9	..	..	..	..	SSW	¼	2
13	30·086	50·5	49·7	0·8	..	..	..	..	SSW	¼	5
14	30·078	50·6	49·9	0·7	..	..	..	..	SSW	¼	5
15	30·067	49·6	49·1	0·5	..	..	..	..	SSW	¼	7
16	30·061	49·8	49·2	0·6	48·8	1·0	..	..	SSW	¼	9
17	30·045	50·7	49·8	0·9	..	..	SSW	..	SSW	¼	8
18	30·044	51·5	50·5	1·0	..	..	SSW	..	SSW	¼	8
19	30·043	53·5	52·2	1·3	..	..	SSW	..	SSW	½	7
20	30·038	56·5	55·0	1·5	..	..	SSW	..	SSW	¼	9
21	30·037	58·8	55·9	2·9	..	..	SSW	..	SSW	½	7
22	30·032	61·2	57·9	3·3	55·0	6·2	SSW	..	SSW	¼	10
23	30·017	63·5	59·0	4·5	..	..	WSW	..	SW	¼	10
Aug. 23. 0	30·001	66·6	60·5	6·1	..	..	..	..	WSW	½	10
1	29·985	68·3	61·2	7·1	..	..	WSW	0 to 1	SSW	½	10
2	29·981	67·5	60·1	7·4	..	..	SW	½ to 1½	SSW	½	10
3	29·971	66·5	59·0	7·5	..	..	WSW	0 to ½	SSW	½	10
4	29·953	65·1	58·8	6·3	50·0	15·1	SW	½ constant	SSW	½	10
5	29·937	63·4	56·5	6·9	..	..	SW	½ constant	SSW	½	10
6	29·918	63·5	56·7	6·8	..	..	SW	½ to 1	SW	½	7
7	29·910	61·1	57·7	3·4	..	..	SW	..	SW	½	6
8	29·906	56·6	52·0	4·6	..	..	SW	..	SW	¼	3
9	29·900	54·0	51·2	2·8	..	..	SSW	..	SW	¼	4
10	29·899	53·5	51·2	2·3	49·5	4·0	Calm	..	SW	¼	8
11	29·895	52·7	51·0	1·7	..	..	SSW	..	SW	¼	4
12	29·879	52·4	50·9	1·5	..	..	SW	..	SW	¼	2
Aug. 29. 10	30·156	53·4	51·3	2·1	50·0	3·4	..	..	SW	¼	0
11	30·162	51·0	49·7	1·3	..	..	..	..	SW	¼	0
12	30·154	50·0	49·0	1·0	..	..	..	..	SW	¼	0
13	30·145	47·8	47·4	0·4	..	..	..	..	Calm	..	0
14	30·146	47·6	47·0	0·6	..	..	..	..	Calm	..	0
15	30·166	47·2	46·5	0·7	..	..	..	..	Calm	..	0
16	30·159	45·5	45·2	0·3	45·0	0·5	..	..	Calm	..	0
17	30·161	44·0	44·0	0·0	..	..	..	..	Calm	..	0
18	30·181	45·5	44·9	0·6	..	..	..	..	Calm	..	10
19	30·183	47·0	46·6	0·4	..	..	..	..	Calm	..	10
20	30·189	49·5	48·7	0·8	..	..	..	..	Calm	..	8
21	30·197	52·4	50·8	1·6	..	..	..	..	Calm	..	2
22	30·204	59·0	55·4	3·6	50·0	9·0	..	..	NE	½	0
23	30·199	62·0	56·9	5·1	..	..	..	..	NE	¼	0

REMARKS.	Observer.
Cumuli round the horizon.	L
Cumuli and fleecy clouds.	
Cumuli round the horizon, and detached masses in various other parts of the sky.	L
Cumuli in large masses to the N. and S. of the zenith.	H B
Cumuli equally distributed over the sky.	G
The zenith is clear, and parts of the N. and S. portions of the sky are also clear, the remainder being covered with cumuli and	
The same as at the last observation. [cumulo-strati.	
The sky is about one half covered with cloud.	
Cloudless, except near the horizon.	
,,	
Cloudless.	G
Cloudless, except a thin film of cloud in the E., but to no numerical extent.	H B
Light clouds are near the N.W., N., and S. E. horizon.	
Light clouds are scattered over various parts of the sky. A halo has been visible since $12^h. 40^m$, whose diameter is 46°.	
,, ,, The halo is still visible.	
Cirro-stratus covers the greater part of the sky. The halo is still visible.	
Cirro-stratus, scud, and vapour: a few of the larger stars are visible.	
Cirro-stratus and scud.	
,,	
,,	
,, From $19^h. 45^m$ to $20^h. 10^m$ a part of a solar halo of 44° diameter was visible.	
Cirro-stratus, scud, and vapour.	H B
A thin cirro-stratus covers the sky. A solar halo is visible, but it is faint.	L
Thin cirro-stratus and linear cirri are about the zenith. The halo is still faintly visible.	
Thin cirro-stratus and linear cirri cover the sky. The halo is still faintly visible; its radius is 23°.	
Cirro-stratus, linear cirri, and a few detached cumuli. The halo is still faintly visible.	
Cirro-stratus and linear cirri. The halo has now disappeared.	
,,	L
Cirro-stratus and scud.	H B
,, Shortly after the last observation a very faint solar halo, of 45° diameter, became visible, and remains so; its radius is 22°.	
Cirro-stratus, scud, and cirro-cumuli are near the zenith.	
Cirro-cumuli, cirro-stratus, and scud, are near the zenith: the sky in the S.W. and near the N. horizon is clear.	
Cirro-stratus and fragments of scud are near the N. and S. horizon.	
A bank of cirro-stratus extends from the W. to the N. horizon, with light clouds and scud in other directions.	
Cirro-stratus and scud: the larger stars are visible through the clouds.	H B
Cloudy to the N. of the zenith: the S. part of the sky is clear.	L
Cirro-stratus and fleecy clouds to the N.	L
Cloudless.	H B
,,	
,,	
,,	
,,	H B
,,	L
,,	
,,	L
Overcast.	T D
,,	
The sky is covered with thin clouds, with the exception of a clear break in the eastern horizon.	
Cloudless, excepting a bank of white cumuli in the W.	T D
Cloudless.	G
,,	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. From Osler's Anemometer: Direction.	WIND. From Osler's Anemometer: Pressure in pounds per square foot.	WIND. By Estimation: Direction.	WIND. By Estimation: Force 0–6.	Amount of Clouds 0–10.
d h	in.	°	°	°	°	°		from lbs. to lbs.			
Aug. 30. 0	30·193	64·7	59·9	4·8	..	..	N by E	..	NE	¼	1
1	30·179	67·3	60·9	6·4	..	..	N by E	0 to ½	NE	¼	0
2	30·170	69·4	61·7	7·7	..	..	N by E	0 to ½	N	¼	0
3	30·164	70·4	63·5	6·9	..	..	N by E	0 to ½	NNE	¼	0
4	30·162	69·4	62·5	6·9	58·0	11·4	N by E	0 to ½	NNE	¼	0
5	30·154	68·2	62·4	5·8	..	..	N by E	0 to ½	NNE	¼	½
6	30·158	66·5	61·7	4·8	..	..	N by E	..	NE	¼	0
7	30·168	62·8	59·7	3·1	..	..	N by E	..	NE	¼	2
8	30·172	59·5	56·8	2·7	..	..	N by E	..	NE	¼	2
9	30·174	56·8	54·3	2·5	..	..	NNE	..	NNE	¼	1
10	30·184	53·8	53·2	0·6	43·0	10·8	NNE	..	NNE	¼	½
Sep. 21. 18	29·440	50·7	49·5	1·2	..	..	W	1½ to 2½	WSW	¾	8
19	29·505	49·5	48·2	1·3	..	..	W	0 to 1½	WSW	½	0
20	29·542	49·8	48·7	1·1	..	..	W	½ constant	WSW	¾	0
21	29·566	52·0	49·6	2·4	..	..	W	½ to 2	WSW	1	0
22	29·612	55·0	50·8	4·2	47·0	8·0	W	0 to 2	WSW	¾	0
23	29·637	56·6	50·4	6·2	..	..	WSW	..	WSW	¾	3
Sep. 22. 0	29·663	55·3	50·2	5·1	..	..	WSW	..	WSW	½	4
1	29·682	59·8	53·5	6·3	..	..	WSW	..	WSW	½	5
2	29·695	60·1	54·4	5·7	..	..	WSW	..	WSW	¼	4
3	29·718	58·0	53·1	4·9	..	..	WSW	..	WSW	¼	5
4	29·725	57·5	51·9	5·6	45·0	12·5	WSW	..	WSW	¼	5
5	29·740	57·5	51·5	6·0	..	..	Calm	..	WSW	¼	3
6	29·759	54·5	50·2	4·3	..	..	Calm	..	WSW	¼	4
7	29·783	52·0	49·4	2·6	..	..	Calm	..	WSW	¼	6
8	29·800	50·0	48·1	1·9	..	..	Calm	..	SW by W	¼	8
9	29·808	51·2	49·2	2·0	..	..	Calm	..	NNW	¼	5
10	29·812	50·3	48·7	1·6	48·0	2·3	Calm	..	NNW	¼	7
11	29·822	49·0	48·0	1·0	..	..	Calm	..	N	¼	7
12	29·842	47·8	47·2	0·6	..	..	Calm	..	Calm	..	10
13	29·835	47·2	46·6	0·6	..	..	Calm	..	Calm	..	10
14	29·840	46·7	46·2	0·5	..	..	Calm	..	Calm	..	10
15	29·840	46·2	45·9	0·3	..	..	Calm	..	Calm	..	10
16	29·845	45·5	45·2	0·3	45·0	0·5	N	..	Calm	..	10
17	29·857	44·0	43·7	0·3	..	..	N	..	NE	¼	10
18	29·867	44·2	43·8	0·4	..	..	N	..	NNE	¼	10
19	29·883	43·3	43·0	0·3	..	..	N by E	..	NE	¼	5
20	29·897	43·7	43·4	0·3	..	..	N by E	..	NNE	¼	9
21	29·903	45·0	44·7	0·3	..	..	N by E	..	NNE	¼	5
22	29·938	49·5	47·3	2·2	46·0	3·5	N by E	..	N	¼	10
23	29·959	52·2	49·0	3·2	..	..	N by E	..	N	½	7
Sep. 23. 0	29·971	53·5	50·2	3·3	..	..	N	0 to 1	N by E	½	10
1	29·994	54·5	49·8	4·7	..	..	NNE	..	N	½	10
2	30·001	54·7	49·8	4·9	..	..	N by E	..	NE by N	½	10
3	30·010	52·9	48·3	4·6	..	..	N by E	..	NNE	¼	10
4	30·033	52·3	48·6	3·7	44·0	8·3	N by E	..	NNE	¼	10
5	30·052	51·2	48·2	3·0	..	..	NNE	..	NE	¼	8
6	30·059	50·3	46·5	3·8	..	..	N by E	..	NE	¼	10
7	30·084	48·7	45·8	2·9	..	..	N by E	..	NE	¼	10
8	30·120	44·6	42·4	2·2	..	..	N by E	..	NE	¼	10

REMARKS.	Observer.
A few thin clouds are scattered about the sky, but principally to the S.	G
Cloudless, with the exception of a few clouds to no numerical extent.	G
A few light clouds are to the W., but to no numerical extent.	L
Cloudless.	
,,	
A few light clouds are to the N.	L
Cloudless.	T D
Light cirri are scattered in the N.W.; the remaining portion of the sky is clear.	
,, ,,	T D
Cirro-stratus and light clouds, extending from the N. to W.	H B
Cloudless.	G
The clouds are broken in various directions to the N. of the zenith.	H B
Cloudless: a slight fog.	
,, ,, the wind is blowing in gusts to 1.	
,, ,, ,,	H B
,,	D
Cumuli are scattered over various parts of the sky.	
Cumuli are scattered over various parts of the sky.	
,,	
,,	
,,	D
Cumuli to the N. of the zenith: linear cirri and light fleecy clouds are in various parts of the sky.	H B
Cumuli near the W. horizon, and light clouds in different directions.	
Cirro-stratus and dark scud, extending from N.N.W. to N.E.: fine cirri are S. of the zenith.	
Cirro-stratus and fragments of scud.	
Cirro-stratus and dark scud cover nearly the whole of the sky.	
Cirro-stratus and scud, the larger stars alone being visible.	
A thin cirro-stratus covers the sky, through which the larger stars only are visible.	
Cirro-stratus and scud.	H B
Cirro-stratus: the Planets and a few of the larger stars are visible occasionally.	G
Cirro-stratus, the Moon's place alone being visible.	
,,	
,,	
Cirro-stratus: the Moon is ill defined.	
Cirro-stratus and scud, the latter passing from the E.: the Moon is visible.	
The same as the last observation.	
The zenith and around it are nearly clear, scattered cirri occupying a portion of the sky about those places; cirro-stratus exists in other directions.	
Cirro-stratus: a great haze.	
Cirro-stratus and scud: the Sun is shining faintly.	G
,, the haze is clearing off.	H B
The clouds are broken in various directions: the Sun is now shining.	
Shortly after the last observation the sky became covered with cloud.	
Overcast: cirro-stratus and scud.	H B
,, ,,	G
,, ,,	
,, ,,	
,, ,, the clouds are broken about the place of the Sun.	
Cirro-stratus and scud.	
,, the larger stars are occasionally visible.	
,, ,,	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. FROM OSLER'S ANEMOMETER. Direction.	WIND. FROM OSLER'S ANEMOMETER. Pressure in pounds per square foot.	WIND. BY ESTIMATION. Direction.	WIND. BY ESTIMATION. Force 0–6.	Amount of Clouds 0–10.
d h	in.	°	°	°	°	°		from lbs. to lbs.			
Sep. 23. 9	30·130	42·0	40·0	2·0	..	..	N by E	..	Calm	..	5
10	30·133	41·7	39·7	2·0	37·0	4·7	N	..	NE	¼	5
12	30·128	38·4	37·2	1·2	..	..	Calm	..	NE	¼	0
13	30·123	37·3	36·6	0·7	..	..	Calm	..	Calm	..	0
14	30·125	36·5	35·8	0·7	..	..	Calm	..	Calm	..	0
15	30·128	35·6	35·1	0·5	..	..	Calm	..	Calm	..	0
16	30·124	35·4	34·9	0·5	34·0	1·4	Calm	..	Calm	..	0
17	30·124	35·8	35·2	0·6	..	..	Calm	..	Calm	..	0
18	30·124	35·3	34·7	0·6	..	..	N by W	..	Calm	..	0
19	30·135	34·9	34·2	0·7	..	..	Calm	..	Calm	..	0
20	30·144	36·8	35·7	1·1	..	..	Calm	..	Calm	..	0
21	30·140	39·4	37·8	1·6	..	..	Calm	..	Calm	..	0
22	30·133	47·8	44·4	3·4	40·0	7·8	Calm	..	NNE	¼	½
23	30·136	52·0	47·2	4·8	..	..	NNE	..	N	¼	0
Sep. 24. 0	30·118	54·0	48·5	5·5	..	..	N by E	..	NNE	¼	2
1	30·109	56·0	50·3	5·7	..	..	Calm	..	NE	¼	3
2	30·085	53·1	47·7	5·4	..	..	Calm	..	NE	¼	3
3	30·061	54·2	48·9	5·3	..	..	Calm	..	NE	¼	5
4	30·050	54·0	48·8	5·2	40·5	13·5	Calm	..	NE nearly calm	¼	3
5	30·049	52·9	47·9	5·0	..	..	Calm	..	NE	¼	½
6	30·044	49·6	46·3	3·3	..	..	Calm	..	Calm	..	1
7	30·035	45·8	43·6	2·2	..	..	Calm	..	Calm	..	0
8	30·029	44·6	42·8	1·8	..	..	Calm	..	Calm	..	0
9	30·010	43·5	42·4	1·1	..	..	Calm	..	Calm	..	0
10	30·000	42·8	41·7	1·1	40·0	2·8	Calm	..	Calm	..	0
11	29·978	41·5	40·5	1·0	..	..	Calm	..	Calm	..	0
12	29·961	41·2	40·6	0·6	..	..	Calm	..	Calm	..	0
13	29·936	42·8	41·8	1·0	..	..	Calm	..	Calm	..	8
14	29·912	42·8	41·8	1·0	..	..	Calm	..	NE	¼	0
15	29·845	42·4	41·7	0·7	..	..	Calm	..	NE	¼	2
16	29·820	42·0	41·2	0·8	40·5	1·5	Calm	..	NE	¼	0
17	29·845	40·5	40·3	0·2	..	..	Calm	..	Calm	..	0
18	29·815	43·0	42·7	0·3	..	..	Calm	..	Calm	..	10
19	29·781	44·6	43·6	1·0	..	..	Calm	..	S by E	¼	10
20	29·759	49·1	47·2	1·9	..	..	Calm	..	S by E	¼	8
21	29·743	51·7	49·4	2·3	..	..	Calm	..	S	¼	10
22	29·724	52·7	50·6	2·1	48·5	4·2	S	..	S	¼	10
23	29·701	53·6	51·6	2·0	..	..	S	..	S	¼	10
Sep. 25. 0	29·686	54·2	52·0	2·2	..	..	S by W	0 to ½	S	¼	10
1	29·672	54·6	53·0	1·6	..	..	S by W	..	SSE	½	10
2	29·656	57·5	55·9	1·6	..	..	S by W	..	SE	¼	10
3	29·640	59·7	57·0	2·7	..	..	SSW	..	SE	¼	9½
4	29·620	58·4	56·7	1·7	55·0	3·4	SSW	..	SW	½	10
5	29·613	57·9	56·6	1·3	..	..	SSW	..	SSW	¼	10
6	29·605	56·5	55·6	0·9	..	..	SSW	..	SW	¼	9
7	29·604	54·8	54·3	0·5	..	..	S by W	..	SSW	¼	10
8	29·606	55·2	54·3	0·9	..	..	SSW	..	SSW	¼	10
9	29·601	55·0	54·2	0·8	..	..	SSW	..	SSW	½	10

REMARKS.	Observer.
The whole of the N. portion of the sky is clear, and that of the S. cloudy: there is a break in the clouds near the horizon, which is gradually extending itself towards the zenith.	G
The same as the last observation.	D
Cloudless.	
,,	
,,	
,,	
,,	
,,	
,, a white frost.	
,, ,,	
,, ,,	
,,	D
Cloudless, with the exception of cirro-stratus and light clouds near the horizon.	H B
A few small cumuli and light clouds.	
Cumuli and fleecy clouds are scattered over the sky.	
,,	
Cumuli and fleecy clouds are scattered over the sky, principally to the S. of the zenith.	
Cumuli, cirri, and light clouds are in every direction.	H B
Fleecy clouds and a few cirri are in different parts of the sky.	D
A few light clouds.	
A few light clouds and cirri to the E. of the zenith.	
Cloudless.	
,,	D
,, a thick haze prevails near to and all round the horizon.	G
,, ,,	
Cloudless, except a low bank of clouds near the N. horizon.	
Cloudless, except some dark clouds which have suddenly formed to the S., obscuring one-third of the S. portion of the sky.	
Dark clouds are scattered over every part of the sky; the spaces between them appear to be very clear, as the stars there shine very brightly.	
Cloudless.	G
Fleecy clouds are near the Moon's place, and also in other directions.	H B
Cloudless.	
,,	
Overcast: cirro-stratus.	H B
,, ,,	D
Overcast, with the exception of a large clear break near the horizon from E. S. E. to S.	
Overcast: cirro-stratus.	
,, ,,	
,,	D
Overcast: cirro-stratus and scud.	G
,, a few very small drops of rain are falling.	
Overcast, but the clouds are thinner in some places than in others: within the last few minutes there has been a faint gleam of sunshine.	
There are a few small patches of blue sky, and there have been a few occasional gleams of sunshine: scud and ill defined cumuli.	G
Overcast: rain is falling slightly.	H B
,, cirro-stratus and scud.	
The clouds are broken in several directions, but the change is not at all permanent: a brownish-looking scud is passing rapidly over the sky.	H B
Overcast: cirro-stratus.	D
,, ,,	
,, ,,	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. FROM OSLER'S ANEMOMETER. Direction.	WIND. FROM OSLER'S ANEMOMETER. Pressure in pounds per square foot.	WIND. BY ESTIMATION. Direction.	WIND. BY ESTIMATION. Force 0–6.	Amount of Clouds 0–10.
d h	in.	°	°	°	°	°		from lbs. to lbs.			
Sep. 25. 10	29·599	54·6	54·0	0·6	53·5	1·1	SSW	..	S	¼	10
12	29·582	53·9	53·7	0·2	..	..	SSW	..	Calm	..	10
13	29·574	53·5	53·3	0·2	..	..	SW	..	Calm	..	10
14	29·559	52·5	50·8	1·7	..	..	W	..	WSW	¼	10
15	29·555	50·7	49·5	1·2	..	..	WSW	..	WSW	¼	10
16	29·562	48·0	47·7	0·3	47·0	1·0	W by S	..	WSW	¼	7
17	29·564	46·2	46·2	0·0	..	..	WSW	..	WSW	¼	0
18	29·571	44·8	44·7	0·1	..	..	W by S	..	WSW	¼	1
19	29·603	43·5	43·6	–0·1	..	..	WSW	..	WSW	¼	0
20	29·610	45·3	45·3	0·0	..	..	SW	..	WSW	¼	0
21	29·623	48·1	47·1	1·0	..	..	WSW	..	WSW	¼	0
22	29·638	51·9	49·4	2·5	47·0	4·9	W by S	..	WSW	¼	0
23	29·642	55·4	51·2	4·2	..	..	Calm	..	WSW	¼	0
Sep. 26. 0	29·650	57·2	51·8	5·4	..	..	WSW	..	WSW	¼	3
1	29·655	58·5	51·8	6·7	..	..	WSW	..	WNW	¼	6
2	29·662	56·8	50·4	6·4	..	..	W by S	..	W	½	3
3	29·666	59·4	51·8	7·6	..	..	W	..	W by N	½	4
4	29·689	60·1	51·6	8·5	45·8	14·3	W	0 to ½	WNW	½	6
5	29·698	57·5	50·9	6·6	..	..	W	..	WNW	½	4
6	29·729	54·4	49·7	4·7	..	..	W	..	WNW	¼	1
7	29·756	50·2	48·2	2·0	..	..	W	..	W	¼	0
8	29·781	49·5	47·1	2·4	..	..	W by S	..	W	¼	0
9	29·811	48·0	46·2	1·8	..	..	W by S	..	W	¼	½
10	29·818	46·1	44·9	1·2	44·0	2·1	WSW	..	Calm	..	0
11	29·827	44·9	43·7	1·2	..	..	WSW	..	Calm	..	0
12	29·849	44·4	43·5	0·9	..	..	SW	..	Calm	..	0
Oct. 20. 18	30·108	41·1	39·4	1·7	..	..	W by S	..	WSW	¼	0
19	30·128	41·0	39·4	1·6	..	..	W by S	..	WSW	¼	0
20	30·136	41·5	39·8	1·7	..	..	W by S	..	WSW	¼	0
21	30·157	42·6	40·7	1·9	..	..	WSW	..	WSW	¼	0
22	30·177	44·8	42·5	2·3	40·0	4·8	WSW	..	W	¼	0
23	30·188	49·5	45·2	4·3	..	..	NW	..	NW	¼	1
Oct. 21. 0	30·192	50·2	46·2	4·0	..	..	NW	0 to ½	NW	¼	2
1	30·195	52·1	46·8	5·3	..	..	NW	0 to ½	NW	½	5
2	30·203	51·8	46·2	5·6	..	..	NW	0 to ½	NW	½	8
3	30·208	52·2	47·0	5·2	..	..	NNW	..	NNW	½	5
4	30·205	51·3	45·8	5·5	41·0	10·3	NW	..	NNW	¼	4
5	30·208	50·6	45·6	5·0	..	..	NNW	..	NNW	¼	6
6	30·221	49·0	44·7	4·3	..	..	NW	..	NW	¼	0
7	30·227	45·3	42·8	2·5	..	..	WSW	..	Calm	..	0
8	30·247	45·6	43·1	2·5	..	..	WSW	..	Calm	..	7
9	30·256	45·2	43·1	2·1	..	..	WSW	..	Calm	..	9
10	30·261	45·4	43·0	2·4	41·0	4·4	W by S	..	Calm	..	9
11	30·259	44·6	42·8	1·8	..	..	WSW	..	Calm	..	10
12	30·259	45·0	43·2	1·8	..	..	W by S	..	Calm	..	10
13	30·254	44·4	43·0	1·4	..	..	WSW	..	Calm	..	10
14	30·245	43·5	42·4	1·1	..	..	SSW	..	Calm	..	10
15	30·244	43·8	43·0	0·8	..	..	SSW	..	Calm	..	8
16	30·255	42·0	41·2	0·8	40·0	2·0	SW	..	Calm	..	5
17	30·258	40·6	40·0	0·6	..	..	SW	..	Calm	..	1
18	30·264	39·5	39·0	0·5	..	..	SW by S	..	Calm	..	0

REMARKS.	Observer.
Overcast; cirro-stratus.	D
,, ,,	H B
,, ,, rain is falling slightly.	
,, ,, the rain has ceased falling.	
,, ,, a few stars are visible.	
Several stars are dimly visible.	
Cloudless.	
Cloudless, with the exception of cirro-stratus and scud near the horizon.	
Cloudless, but very hazy.	
,, a slight fog.	
Cloudless: very hazy.	H B
,, ,,	D
,, ,,	
Cumuli and a dense haze.	
Cumuli in all parts of the sky: very hazy.	
,, ,,	
,, ,,	D
Cirro-stratus and light clouds.	H B
Light fleecy clouds are near the N. horizon.	
Light clouds are scattered over the sky: foggy.	
Cloudless: hazy.	
,,	
Cirro-stratus and scud near the S. horizon.	
Cloudless.	
,,	H B
,,	D
Cloudless.	D
,,	
,,	
,,	D
,, hazy towards the N.	L
A few cumuli are in various parts of the sky.	
Detached cumuli are in various parts of the sky.	L
Cumuli and scud in every direction.	H B
Cumuli, cumulo-strati, and scud.	
,,	H B
Cumuli and cumulo-strati: very hazy.	D
Fleecy clouds are in every part of the sky.	
Cloudless, but very hazy.	
,,	
Heavy vapour; the stars are shining dimly.	
,,	
,,	
Overcast.	D
,,	L
,,	
,,	
Cirro-stratus and fleecy clouds, with breaks in the clouds to the N. of the zenith.	
The sky N. of the zenith is clear.	
A few light clouds are scattered over the sky.	
Cloudless.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in pounds per square foot.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0–6.	Amount of Clouds, 0–10.
d h	in.	°	°	°	°	°		from lbs. to lbs.			
Oct. 21. 19	30·277	38·6	38·2	0·4	..	..	SSW	..	Calm	..	0
20	30·290	41·3	40·9	0·4	..	..	SSW	..	Calm	..	8
21	30·296	42·8	42·2	0·6	..	..	WSW	..	Calm	..	10
22	30·305	46·3	45·4	0·9	43·0	3·3	WSW	..	W	¼	10
23	30·315	48·8	46·7	2·1	..	..	WSW	..	WSW	¼	10
Oct. 22. 0	30·311	50·3	48·1	2·2	..	..	W by S	..	WSW	¼	10
1	30·314	53·1	48·2	4·9	..	..	NNW	..	WSW	¼	10
2	30·307	53·7	47·6	6·1	..	..	NW	..	NW	¼	9
3	30·311	53·3	48·0	5·3	..	..	NW	..	NW	..	10
4	30·315	52·8	47·0	5·8	40·0	12·8	WNW	..	NW	¼	10
5	30·324	52·0	47·0	5·0	..	..	NNW	..	NW	..	10
6	30·337	51·2	47·2	4·0	..	..	NNW	..	NW	¼	10
7	30·351	50·5	46·7	3·8	..	..	..	..	Calm	..	10
8	30·362	47·8	56·0	1·8	..	..	..	..	Calm	..	10
9	30·377	47·6	46·2	1·4	..	..	..	..	Calm	..	10
10	30·396	47·5	46·2	1·3	43·5	4·0	..	..	Calm	..	10
11	30·408	47·5	45·7	1·8	..	..	..	..	Calm	..	10
12	30·405	47·5	45·9	1·6	..	..	..	..	Calm	..	10
13	30·394	47·3	45·5	1·8	..	..	..	..	Calm	..	10
14	30·400	48·6	44·7	3·9	..	..	..	..	W	¼	10
15	30·402	49·0	44·4	4·6	..	..	..	..	NW	¼	10
16	30·389	47·8	44·9	2·9	41·0	6·8	..	..	NW	¼	10
17	30·382	47·0	44·6	2·4	..	..	..	..	Calm	..	10
18	30·389	46·4	44·2	2·2	..	..	..	..	Calm	..	10
19	30·401	46·0	43·9	2·1	..	..	..	..	Calm	..	10
20	30·425	46·5	44·4	2·1	..	..	..	..	Calm	..	10
21	30·435	47·0	44·9	2·1	..	..	..	..	Calm	..	10
22	30·445	47·3	45·2	2·1	43·0	4·3	..	..	Calm	..	10
23	30·438	50·1	45·4	4·7	..	..	..	..	WSW	¼	10
Oct. 23. 0	30·430	50·6	45·4	5·2	..	..	SSW	..	WSW	¼	9¾
1	30·420	51·2	45·8	5·4	..	..	SW	..	WSW	¼	2
2	30·412	51·2	45·9	5·3	..	..	SW	..	Calm	..	2
3	30·399	51·4	46·9	4·5	..	..	Calm	..	WSW	¼	7
4	30·392	49·9	45·6	4·3	39·0	10·9	Calm	..	SW	¼	2
5	30·398	46·6	43·7	2·9	..	..	Calm	..	SW	¼	0
6	30·399	43·3	41·2	2·1	..	..	Calm	..	Calm	..	½
7	30·398	42·6	40·0	2·6	..	..	Calm	..	Calm	..	0
8	30·400	40·2	38·9	1·3	..	..	Calm	..	Calm	..	0
9	30·406	38·7	37·7	1·0	..	..	Calm	..	Calm	..	0
10	30·410	37·5	36·5	1·0	35·0	2·5	Calm	..	Calm	..	0
11	30·388	36·8	36·3	0·5	..	..	Calm	..	Calm	..	0
12	30·380	37·1	36·4	0·7	..	..	Calm	..	SW	¼	0
13	30·374	35·8	35·4	0·4	..	..	Calm	..	SW	¼	0
14	30·366	33·5	33·4	0·1	..	..	Calm	..	Calm	..	0
15	30·352	33·7	33·4	0·3	..	..	Calm	..	Calm	..	0
16	30·334	35·2	34·8	0·4	34·5	0·7	Calm	..	Calm	..	10
17	30·323	36·8	36·5	0·3	..	..	Calm	..	Calm	..	10
18	30·311	37·0	36·8	0·2	..	..	Calm	..	Calm	..	10
19	30·301	36·8	36·6	0·2	..	..	Calm	..	Calm	..	10
20	30·302	38·0	37·6	0·4	..	..	Calm	..	Calm	..	10
21	30·304	39·5	38·9	0·6	..	..	Calm	..	Calm	..	10
22	30·300	42·3	41·8	0·5	41·0	1·3	Calm	..	Calm	..	10

OSLER'S ANEMOMETER.

Oct. 22^{d}. 7^{h}. The clock stopped at this time.

REMARKS.	Observer.
Cloudless.	L
Cirro-stratus, fleecy clouds, and scud.	
,, a slight fog.	L
Overcast: cirro-stratus and scud.	H B
,, ,,	
Overcast: cirro-stratus and scud.	H B
,, cirro-stratus.	T D
The clouds are broken in various parts of the sky.	H B
Overcast: cirro-stratus and scud.	H B
,, ,,	L
,, ,,	
,, ,,	
,, cirro-stratus: a few stars are occasionally visible in the zenith.	
,, very dark.	
,, cirro-stratus: a slight fog.	L
,, ,, ,,	G
,, ,, ,,	
,, ,, ,,	G
,, ,, the fog is not so dense as at the last observation.	D
,, the fog has cleared off.	
,,	D
,, cirro-stratus and scud.	H B
The clouds are broken in a few places to the S. S. E. of the zenith: a slight fog prevails.	
Overcast: the Moon is occasionally visible.	
,,	H B
,, foggy.	L
,, ,,	
,, ,,	L
,, the Sun is just visible.	D
Overcast, with the exception of a few breaks to the N. of the zenith.	H B
Cirro-stratus, fleecy clouds, and scud near the horizon.	H B
Cirro-stratus, cumuli, and haze towards the N.	L
Cirro-stratus, cumuli, and vapour cover the whole of the sky.	H B
Cirro-stratus and haze near the horizon, and a few cumuli scattered over the sky.	H B
Cloudless, but hazy.	D
Cloudless, with the exception of a bank of cloud in the N. and N. W. horizon.	
Cloudless.	D
,,	L
,,	G
,,	G
,,	H B
,, hazy.	
,, ,,	
,,	
,, foggy.	
Overcast: cirro-stratus and scud.	
,, cirro-stratus: foggy.	
,, ,, ,,	
,, ,, ,,	H B
,, ,,	L
,, ,,	
,, ,, foggy.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in pounds per square foot.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0–6.	Amount of Clouds 0–10.
d h	in.	°	°	°	°	°		from lbs. to lbs.			
Oct. 24. 0	30·270	52·2	48·4	3·8	..	..	Calm	..	Calm	..	7
1	30·239	54·0	49·5	4·5	..	..	Calm	..	Calm	..	5
2	30·218	53·8	48·9	4·9	..	..	Calm	..	S	¼	1
3	30·196	52·3	48·4	3·9	..	..	Calm	..	S	¼	1
4	30·157	52·5	48·5	4·0	42·0	10·5	Calm	..	S	¼	0
5	30·142	49·0	46·7	2·3	..	..	Calm	..	S	¼	0
6	30·118	46·1	44·2	1·9	..	..	Calm	..	S	¼	0
9	30·077	40·7	40·0	0·7	..	..	Calm	..	Calm	..	0
10	30·063	40·4	39·7	0·7	38·5	1·9	Calm	..	Calm	..	0
11	30·044	40·6	40·0	0·6	..	..	Calm	..	Calm	..	0
12	30·044	38·4	38·3	0·1	..	..	Calm	..	Calm	..	0
13	30·031	37·6	37·7	−0·1	..	..	Calm	..	Calm	..	0
14	30·028	36·0	35·8	0·2	..	..	Calm	..	Calm	..	1
15	30·023	36·5	36·3	0·2	..	..	Calm	..	Calm	..	8
16	30·023	37·4	37·2	0·2	37·0	0·4	Calm	..	Calm	..	10
17	30·025	37·4	37·5	−0·1	..	..	Calm	..	Calm	..	7
18	30·026	37·3	37·0	0·3	..	..	Calm	..	Calm	..	0
19	30·042	39·0	39·0	0·0	..	..	Calm	..	Calm	..	10
20	30·064	38·5	38·5	0·0	..	..	W by S	..	Calm	..	10
22	30·101	43·5	43·7	−0·2	43·0	0·5	SSW	..	Calm	..	0
23	30·113	44·6	44·5	0·1	..	..	W by S	..	Calm	..	0
Oct. 25. 0	30·115	48·3	47·5	0·8	..	..	W by S	..	Calm	..	0
1	30·131	52·0	49·7	2·3	..	..	N by W	..	N	¼	9
2	30·136	52·0	49·2	2·8	..	..	N by W	..	Calm	..	10
3	30·146	52·7	49·2	3·5	..	..	Calm	..	Calm	..	8
4	30·160	51·4	48·5	2·9	46·0	5·4	Calm	..	N	¼	5
5	30·175	49·3	46·9	2·4	..	..	Calm	..	Calm	..	5
6	30·188	46·6	45·5	1·1	..	..	Calm	..	Calm	..	4
Nov. 20. 18	29·358	41·0	39·7	1·3	..	..	..	..	SW	¼	10
19	29·362	41·2	39·8	1·4	..	..	..	..	SW	¼	6
20	29·386	40·5	39·4	1·1	..	..	..	..	SSW	¼	4
21	29·393	41·2	40·2	1·0	..	..	..	..	SSW	¼	8
22	29·403	42·3	41·2	1·1	40·0	2·3	..	..	SW	¼	4
23	29·418	47·0	44·9	2·1	..	..	..	..	SW	¼	2
Nov. 21. 0	29·419	46·6	44·7	1·9	..	..	..	..	WSW	¼	5
1	29·387	47·0	45·0	2·0	..	..	..	..	Calm	..	10
2	29·373	46·8	45·1	1·7	..	..	..	..	WSW	¼	10
3	29·356	46·5	44·9	1·6	..	..	..	..	Calm	..	10
4	29·332	45·7	44·1	1·6	42·8	2·9	..	..	SSW	¼	10
5	29·315	43·6	43·0	0·6	..	..	..	..	SSW	¼	10
6	29·297	42·5	42·2	0·3	..	..	..	..	Calm	..	10
7	29·289	42·3	42·2	0·1	..	..	..	..	Calm	..	10
8	29·277	39·4	38·4	1·0	..	..	..	..	Calm	..	10
9	29·268	38·0	37·6	0·4	..	..	..	..	Calm	..	10
10	29·269	38·2	38·0	0·2	38·0	0·2	..	..	Calm	..	10
11	29·265	38·8	38·2	0·6	..	..	..	..	Calm	..	10
12	29·273	38·9	38·7	0·2	..	..	..	..	Calm	..	10
13	29·274	39·0	39·6	−0·6	..	..	..	..	Calm	..	10
14	29·291	41·2	40·7	0·5	..	..	..	..	Calm	..	10
15	29·299	41·4	40·8	0·6	..	..	..	..	Calm	..	8
16	29·315	39·6	39·1	0·5	38·0	1·6	..	..	Calm	..	5

WET-BULB THERMOMETER.

Oct. 24^{d}. 13^{h}, 17^{h}, and 22^{h}, and Nov. 21^{d}. 13^{h}. The readings were higher than those of the Dry Thermometer.

REMARKS.	Observer.
Cumuli and fleecy clouds.	H B
Cumuli, fleecy clouds, and scud.	
Cumuli and fleecy clouds.	
A few light clouds are in different parts of the sky.	
Cloudless.	
,,	
,,	
,,	
,,	
,, a great deposition of moisture.	H B
,, a dense fog prevails in the valleys and near the river.	D
,,	
A few clouds are visible in the E.: a slight fog.	
The fog still prevails.	
Overcast: foggy.	
The fog is not so dense as at the last observation.	
Cloudless: the fog has nearly dispersed.	
The fog has increased since the last observation, and is now quite dense.	
A dense fog.	D
Cloudless, but foggy.	L
Cloudless: a thin fog prevails.	
Cloudless: a thin fog prevails.	
The sky is nearly covered with a thin cirro-stratus.	
,,	
,,	L
Irregularly formed clouds cover about one half of the sky.	D
Light clouds and fragments of scud are in every direction.	
,,	D
Overcast: cirro-stratus, fleecy clouds, and scud.	H B
Fleecy clouds are scattered over every part of the sky.	
Cirro-stratus near the horizon, and fragments of scud in every direction.	
A thin cirro-stratus covers the whole of the sky, with the exception of a portion near the horizon in the S. E. which is clear.	H B
Cirro-stratus and light scud round the horizon.	L
Light clouds are in various parts of the sky.	
Cumuli to the N., reticulated cirri about the zenith, and light clouds in various parts of the sky.	L
Overcast: cirro-stratus.	T D
,, ,,	T D
,, ,,	H B
,, ,, a few drops of rain are falling.	
,, ,, rain is falling heavily.	
,, ,, ,,	
,, ,, ,,	
,, ,, ,,	
,, ,, ,,	
,, ,, rain is falling, but not so heavily as at the last observation.	
,, ,, ,,	H B
,, rain is still falling.	T D
,, ,,	
,, the rain has ceased falling.	
Cirro-stratus: a few stars are visible in different parts of the sky.	
Cirro-stratus and light clouds: the Moon and stars are visible.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in pounds per square foot.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0–6.	Amount of Clouds 0–10.
d h	in.	°	°	°	°	°		from lbs. to lbs.			
Nov. 21. 17	29·338	38·5	37·8	0·7	..	..	..	..	Calm	..	8
18	29·355	37·4	36·7	0·7	..	..	..	..	Calm	..	7
19	29·387	36·4	35·5	0·9	..	..	..	..	Calm	..	4
20	29·411	35·5	34·7	0·8	..	..	..	..	Calm	..	3
21	29·445	36·0	35·0	1·0	..	..	..	..	Calm	..	8
22	29·484	35·0	34·5	0·5	34·0	1·0	..	..	Calm	..	2
23	29·503	36·8	36·0	0·8	..	..	..	..	W	¼	6
Nov. 22. 0	29·509	38·8	37·7	1·1	..	..	..	..	W	¼	9
1	29·523	41·6	40·2	1·4	..	..	..	..	Calm	..	10
2	29·523	43·0	40·0	3·0	..	..	..	..	NW	¼	4
3	29·528	44·5	40·9	3·6	..	..	..	..	NW	¼	3
4	29·532	42·2	40·1	2·1	37·8	4·4	..	..	W	¼	3
5	29·540	38·4	37·6	0·8	..	..	..	..	W	¼	2
6	29·558	38·0	36·6	1·4	..	..	..	..	W	¼	4
7	29·565	37·7	36·7	1·0	..	..	..	..	W	¼	7
8	29·575	37·4	36·3	1·1	..	..	..	..	W	¼	1½
9	29·569	35·5	34·7	0·8	..	..	..	..	Calm	..	3
10	29·571	37·5	36·2	1·3	34·0	3·5	..	..	Calm	..	5
11	29·565	35·0	34·2	1·2	..	..	..	..	Calm	..	0
12	29·589	34·0	33·2	0·8	..	..	..	..	Calm	..	2
Nov. 28. 10	29·463	51·7	49·6	2·1	48·0	3·7	..	..	SSW	2	10
11	29·461	51·5	49·0	2·5	..	..	..	..	SSW	2	10
12	29·472	51·9	49·6	2·3	..	..	..	..	SW	2	10
13	29·437	49·5	48·7	0·8	..	..	..	..	SW	1	10
14	29·501	48·5	47·7	0·8	..	..	..	..	SW	1	9½
15	29·513	47·3	46·7	0·6	..	..	..	..	SW	¾	3
16	29·528	48·0	47·2	0·8	46·0	2·0	..	..	SW	1	5
17	29·538	47·1	46·4	0·7	..	..	..	..	SW	½	0
18	29·552	45·5	44·8	0·7	..	..	..	..	SW	¼	2
19	29·579	45·2	44·8	0·4	..	..	..	..	SW	¼	3
20	29·594	46·1	45·4	0·7	..	..	..	..	SW	¼	5
21	29·617	46·0	45·2	0·8	..	..	..	..	SW	¼	7
22	29·645	48·9	47·7	1·2	..	..	..	..	SW	½	10
23	29·641	49·8	48·0	1·8	..	..	..	..	SSW	¼	10
Nov. 29. 0	29·645	51·3	49·6	1·7	..	..	..	..	SSW	¼	10
1	29·624	51·2	50·0	1·2	..	..	..	..	Calm	..	10
2	29·608	51·3	50·1	1·2	..	..	..	..	Calm	..	10
3	29·578	51·8	50·8	1·0	..	..	..	..	SSW	¼	10
4	29·580	50·5	50·0	0·5	49·0	1·5	..	..	S	¼	10
5	29·579	48·7	48·4	0·3	..	..	..	..	W	¼	10
6	29·570	50·5	49·7	0·8	..	..	..	..	W	¼	10
7	29·568	51·4	49·7	1·7	..	..	..	..	W	¼	10
8	29·554	51·6	50·2	1·4	..	..	..	..	W	½	10
9	29·575	45·2	44·2	1·0	..	..	..	..	W	½	10
10	29·588	44·0	43·7	0·3	43·0	1·0	..	..	W	¼	10
Dec. 17. 10	29·475	45·7	45·2	0·5	44·5	1·2	..	..	Calm	..	10
11	29·458	45·8	45·2	0·6	..	..	..	..	SW	¼	10
12	29·436	44·8	44·2	0·6	..	..	..	..	SW	¼	10

DEW POINT THERMOMETER.
Nov. 28ᵈ. 22ʰ. The observation was omitted through inadvertence.

REMARKS.	Observer.
Cumuli and fleecy clouds.	
Cumuli, cirri, and fleecy clouds: the Moon is shining brightly.	T D
Light cirri and fleecy clouds.	
Cirri and a few fleecy clouds: a thin fog.	
Cirri and fleecy clouds: the fog has increased in density.	T D
Cloudless, with the exception of cirro-stratus round the horizon: a slight fog.	L
Cirro-strati round the horizon, and cirri about the zenith: foggy.	
Cirro-stratus covers the greater part of the sky; clear about the zenith. Part of a solar halo, whose radius is 22°, is visible.	
Overcast: cirro-stratus and fleecy clouds: foggy: the Sun is occasionally visible through the clouds.	
Cumulo-strati W. of the zenith: detached cumuli in various parts of the sky, and cirri in the zenith.	
Detached cumuli and cirro-strati are in every part of the sky: hazy.	L
Detached cirri and cumuli.	T D
A bank of cumulus extends from the N.W. to S.W. horizon; the remainder of the sky is clear.	
A bank of cumulus in the N.W. and S.W.; the remaining portion of the sky is clear.	
A thin cirro-stratus covers the sky, except in the horizon to the W. and N. E., where it is clear: at $6^h.40^m$ a vivid flash of lightning was seen.	
Nearly cloudless.	
The sky is clear, with the exception of cirro-stratus in the W.	
A thin cirro-stratus in various parts of the sky: the stars in the zenith are very bright.	
Cloudless: several flashes of lightning have been seen.	T D
Nearly cloudless: a thin fog.	L
Overcast: a few stars have been occasionally visible in the W.	G
Shortly after the last observation a flash of lightning was seen from the E. S. E: overcast with cirro-stratus: a few stars are occasionally visible.	B.A.G
Overcast: cirro-stratus.	
Rain is falling.	B A.G
A few stars are shining about the zenith, the remaining part of the sky being cloudy: occasional drops of rain are falling.	L
Cloudless, excepting a few clouds in the N. and W. horizon: the wind is blowing in gusts to 1.	L
Cloudless, excepting a few clouds near the E. and S.W. horizon.	T D
Cloudless.	
,,	T D
Cirro-stratus and large quantities of scud.	H B
Cirro-stratus near the horizon in every part of the sky, with large masses of scud in various directions.	
Cirro-stratus and scud.	H B
Overcast: occasional gleams of sunshine.	G
,, cirro-stratus and fleecy clouds, with a few occasional breaks near the zenith.	L
Overcast: a few drops of rain are occasionally falling.	T D
,, cirro-stratus and scud.	
,, a thin rain is falling.	T D
,,	L
,, a few drops of rain are falling.	L
,, a thin misty rain is falling, accompanied with fog.	H B
,,	H B
,,	T D
,, rain is falling: the wind is blowing in gusts to 1.	
,, rain is falling heavily.	T D
,, ,,	G
Overcast, with cirro-stratus: very dark.	G
,, ,, ,,	
,, ,, the clouds are less dense than at the previous observation: a few stars and the Moon are occasionally [visible.	G

The observations with the initials B. A. G. were taken by Mr. Gould of the University of Cambridge, Massachusetts.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in pounds per square foot.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0–6.	Amount of Clouds 0–10.
d h	in.	°	°	°	°	°		from lbs. to lbs.			
Dec. 17. 13	29·401	43·7	43·5	0·2	..	..	..	..	Calm	..	10
14	29·383	44·0	43·7	0·3	..	..	..	..	Calm	..	10
15	29·361	44·2	43·9	0·3	..	..	..	..	Calm	..	10
16	29·338	44·0	43·7	0·3	43·0	1·0	..	..	Calm	..	10
17	29·311	44·0	43·7	0·3	..	..	..	..	Calm	..	10
18	29·270	44·0	43·9	0·1	..	..	..	..	Calm	..	10
19	29·245	44·0	43·9	0·1	..	..	..	..	Calm	..	10
20	29·219	44·3	44·2	0·1	..	..	..	..	Calm	..	10
21	29·204	44·8	44·7	0·1	..	..	..	..	Calm	..	10
22	29·191	45·8	45·8	0·0	45·5	0·3	..	..	S	..	10
23	29·176	47·7	47·4	0·3	..	..	..	..	SSW	¼	10
Dec. 18. 0	29·162	48·3	47·7	0·6	..	..	..	..	Calm	..	10
1	29·156	48·2	48·0	0·2	..	..	..	..	Calm	..	10
2	29·147	48·4	48·2	0·2	..	..	..	..	Calm	..	10
3	29·149	48·2	48·2	0·0	..	..	..	..	Calm	..	10
4	29·161	47·5	47·6	−0·1	47·0	0·5	..	..	Calm	..	10
5	29·175	47·0	47·0	0·0	..	..	..	..	Calm	..	10
6	29·190	47·0	47·0	0·0	..	..	..	..	Calm	..	10
7	29·212	45·5	45·5	0·0	..	..	..	..	Calm	..	10
8	29·240	44·0	44·0	0·0	..	..	..	..	NNW	½	10
9	29·264	43·3	42·9	0·4	..	..	..	..	NW	½	10
10	29·282	43·2	42·6	0·6	42·0	1·2	..	..	NW	½	10
Dec. 21. 12	29·677	30·8	28·4	2·4	..	..	..	..	NNW	1	0
13	29·677	30·9	28·5	1·4	..	..	..	..	NNW	1½	0
14	29·697	31·4	29·2	2·2	..	..	..	..	NW	¾	9
15	29·690	31·8	29·6	2·2	..	..	..	..	NW	½	10
16	29·679	31·4	29·4	2·0	24·5	6·9	..	..	NW	¾	10
17	29·671	30·0	28·8	1·2	..	..	..	..	WNW	½	10
18	29·630	29·5	28·4	1·1	..	..	..	..	WNW	½	10
19	29·616	29·8	28·9	0·9	26·5	3·3	..	..	W	½	10
20	29·575	30·5	29·7	0·8	..	..	..	..	WSW	¼	10
21	29·537	33·2	30·6	2·6	..	..	..	..	WSW	¾	10
22	29·501	32·6	31·2	1·4	28·5	4·1	..	..	WSW	¼	10
23	29·411	31·0	30·7	0·3	..	..	..	..	WSW	½	10
Dec. 22. 0	29·299	33·3	31·9	1·4	..	..	..	..	WSW	1	10
1	29·223	34·5	33·4	1·1	..	..	..	..	SW	1	10
2	29·163	36·7	36·2	0·5	..	..	..	..	SW	¾	10
3	29·104	40·9	39·7	1·2	..	..	..	..	W	½	10
4	29·062	41·7	40·7	1·0	41·0	0·7	..	..	WSW	1	10
5	29·046	42·1	41·5	0·6	..	..	..	..	SW	1	10
6	29·009	42·0	41·8	0·2	..	..	..	..	SW	¾	10
7	28·969	42·8	42·2	0·6	..	..	..	..	SW	½	10
8	28·940	43·5	42·7	0·8	..	..	..	..	W	½	10
9	28·899	43·5	42·7	0·8	..	..	..	..	W	½	10
10	28·875	40·5	40·0	0·5	38·5	2·0	..	..	W by N	2½	10
11	28·858	40·5	39·2	1·3	..	..	..	..	WNW	2	9½
12	28·855	40·7	38·9	1·8	..	..	..	..	WNW	1½	10
13	28·851	38·8	36·8	2·0	..	..	..	..	WNW	2	10
14	28·837	37·0	35·5	1·5	..	..	..	..	WNW	1½	10
15	28·840	37·2	35·6	1·6	..	..	..	..	WNW	2	10
16	28·847	36·7	35·5	1·2	35·0	1·7	..	..	NW	2	5

WET-BULB THERMOMETER.

Dec. $18^{d}.4^{h}$. The reading was higher than that of the Dry Thermometer.

REMARKS.	Observer.
Overcast, with cirro-stratus and fleecy clouds.	L
,,	
,, a few drops of very fine rain are falling.	
,, a few drops of very fine rain are falling occasionally.	T D
,,	
,,	T D
,, cirro-stratus and scud.	H B
,, rain is falling.	
,, ,,	H B
,, ,,	G
,, a few drops of very fine rain are falling.	L
Overcast: rain is falling slightly.	
,, rain is falling.	L
,, ,,	T D
,, ,,	L
,, the rain has ceased falling.	L
,, rain is again falling.	T D
,, rain is falling.	T D
,, rain is falling slightly.	H B
,, rain is falling heavily: the wind is blowing in gusts to $\frac{3}{4}$ and 1.	H B
,, rain is falling.	G
,, ,,	G
Cloudless: the wind blowing in gusts to 2.	H B
,, ,,	
Nearly overcast with cirro-stratus: the clouds began to collect about $13^h. 30^m$.	
Overcast: cirro-stratus.	
,, ,,	
,, ,, a few stars are visible.	
,, ,, a faint lunar halo is visible.	
,, ,,	H B
,, ,,	
,, ,,	H B
,, sleet is falling.	T D
,, snow is falling thickly.	T D
Overcast: snow is falling thickly.	L
,, snow is falling slightly: the wind is blowing in gusts to $1\frac{1}{2}$.	
,, rain is falling.	L
,, the rain has ceased falling.	T D
,,	H B
,, rain is falling slightly.	
,, ,,	
,, the rain has ceased falling.	
,, at $7^h. 40^m$ a shower of rain fell, during which active electricity was exhibited.	
,, rain is falling heavily.	
,, rain has been falling with but little intermission since the last observation; it has now ceased.	
,, several stars in the N. E. are visible.	H B
,, the wind is blowing in gusts to 2: a few stars are occasionally visible about the zenith.	L
,, the wind is blowing in gusts to 3 and 4: rain in occasional squalls.	
,, the wind is blowing in gusts to 2: occasional squalls of rain.	
,, the wind is blowing in gusts to $2\frac{1}{2}$.	
The sky N. of the zenith is clear: the wind is blowing in gusts to $2\frac{1}{2}$: there are a few breaks in the clouds to the S.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. From Osler's Anemometer. Direction.	Pressure in pounds per square foot.	By Estimation. Direction.	Force 0–6.	Amount of Clouds 0–10.
d h	in.	°	°	°	°	°		from lbs. to lbs.			
Dec. 22. 17	28·848	37·3	35·7	1·6	..	..	..	..	NW	2	8
18	28·853	38·5	35·9	2·6	..	..	..	..	NW	2	0
19	28·861	39·2	37·2	2·0	..	..	..	..	NW	2	4
20	28·909	40·0	37·9	2·1	..	..	..	..	NW	2½	10
21	28·941	41·6	37·7	3·9	..	..	..	..	NW	2½	10
22	28·992	40·0	36·6	3·4	32·0	8·0	..	..	NW	1½	5
23	29·036	40·9	37·2	3·7	..	..	..	..	N by W	3	10
Dec. 23. 0	29·081	40·5	37·2	3·3	..	..	..	..	N by W	2½	10
1	29·135	41·7	38·1	3·6	..	..	..	..	N by W	3	10
2	29·184	41·3	39·2	2·1	..	..	..	..	NNW	3	10
3	29·219	42·8	39·8	3·0	..	..	..	..	NNW	3½	10
4	29·276	42·5	39·5	3·0	37·0	5·5	..	..	NNW	3	10
5	29·342	41·7	38·9	2·8	..	..	..	..	NNW	3½	10
6	29·394	41·6	38·4	3·2	..	..	..	..	NNW	3	3
7	29·446	41·3	38·4	2·9	..	..	..	..	NNW	3	10
8	29·483	40·7	38·0	2·7	..	..	..	..	NNW	3	7
9	29·548	39·7	37·2	2·5	..	..	..	..	NNW	2½	2
10	29·589	40·0	38·0	2·0	36·0	4·0	..	..	NNW	2½	9
12	29·664	38·5	36·9	1·6	..	..	..	..	NW	1½	0
13	29·682	38·0	36·6	1·4	..	..	..	..	NW	1	0
14	29·727	37·3	35·7	1·6	..	..	..	..	NW	1	0
15	29·743	36·6	35·5	1·1	..	..	..	..	NW	¾	0
16	29·776	36·3	35·2	1·1	33·2	3·1	..	..	NW	½	0
17	29·803	36·0	35·0	1·0	..	..	..	..	NW	¾	0
18	29·827	35·4	34·5	0·9	..	..	..	..	NW	¾	0
19	29·867	35·1	34·4	0·7	..	..	..	..	N	½	5
20	29·903	36·0	35·2	0·8	..	..	..	..	N	½	10
21	29·920	35·5	34·7	0·8	..	..	..	..	N	½	5
22	29·976	35·0	34·4	0·6	32·5	2·5	..	..	N by W	¼	2
23	30·012	36·3	35·7	0·6	..	..	..	..	N	¼	5
Dec. 24. 0	30·034	37·5	36·7	0·8	..	..	..	..	N	¼	1
1	30·047	38·8	37·7	1·1	..	..	..	..	N	¼	0
2	30·052	39·9	38·5	1·4	..	..	..	..	N	¼	0
3	30·059	40·0	38·7	1·3	..	..	..	..	N	¼	0
4	30·069	39·5	37·8	1·7	35·0	4·5	..	..	N	¼	0
5	30·075	38·2	36·7	1·5	..	..	..	..	N	¼	0
6	30·084	36·2	35·2	1·0	..	..	..	..	Calm	..	0
7	30·098	35·3	34·7	0·6	..	..	..	..	Calm	..	0
8	30·107	33·2	32·8	0·4	..	..	..	..	Calm	..	0
9	30·124	33·0	32·2	0·8	..	..	..	..	N	½	5
10	30·134	32·3	31·8	0·5	31·0	1·3	..	..	N	¼	0
11	30·131	32·5	32·0	0·5	..	..	..	..	N	¼	0
12	30·134	31·8	31·4	0·4	..	..	..	..	Calm	..	3

REMARKS.	Observer.
The sky N. of the horizon is clear: the wind is blowing in gusts to 3: small breaks in the clouds in various parts of the sky.	L
Cloudless: the wind is blowing in gusts to $2\frac{1}{2}$ and 3.	
Breaks in the clouds in every direction: the wind is blowing in gusts to 3.	
Overcast: rain in occasional squalls: the wind is blowing in gusts to 3 and $3\frac{1}{2}$.	
,, at 20^h. 32^m hail began falling, but continued only a few minutes.	L
Detached scud and cumuli are scattered over the sky: a few breaks in the clouds are in various directions: the wind is blowing in gusts to $2\frac{1}{2}$.	T D
Overcast: cirro-stratus and scud: the wind is blowing in gusts to 3.	T D
Overcast: cirro-stratus and scud: the wind is blowing in gusts to 3.	H B
,, cirro-stratus: rain is falling.	
,, rain is falling.	H B
,, dark masses of scud cover the sky.	T D
,, cirro-stratus and large masses of scud: a light rain is falling: the wind is blowing in gusts to 4.	L
,, cirro-stratus: the wind is blowing in gusts to 4, and occasionally greater.	
,, dark masses of scud are in every direction.	
,, the wind is blowing in gusts to 4: the sky has been alternately clear and cloudy since the last observation.	
The sky towards the N. is clear: the wind is blowing in gusts to $3\frac{1}{2}$.	
Cloudy towards the S., the other portions of the sky are clear: the wind is blowing in gusts to 3 and upwards.	
Small breaks in the clouds are in various directions: the amount of cloud is very variable: the wind is blowing in gusts to 3.	L
Cloudless: the wind is blowing in gusts to $3\frac{1}{2}$.	T D
,, the wind is blowing in gusts to $2\frac{1}{2}$.	
,, ,,	
,, the wind is blowing in gusts to 1.	
,, the wind has decreased in strength.	
,,	
,,	
Cirro-stratus round the horizon: clear about the Moon.	
Overcast: thin cirro-stratus.	
Hazy round the horizon, with a few clouds in the zenith.	T D
Fragments of light scud, and a few cumuli.	H B
Light cloud is in every direction, and a few cumuli near the N. horizon.	
A few light clouds are to the S. of the zenith.	
Cloudless.	
,,	
,,	H B
,, hazy in the horizon.	T D
,, ,,	
,, a thin haze prevails.	
,,	
,,	
A thin cirro-stratus in the horizon: the stars in the zenith are very bright.	
Cloudless.	
,,	T D
Cirro-stratus all round the horizon to a considerable altitude.	H B

ROYAL OBSERVATORY, GREENWICH.

EXTRAORDINARY

METEOROLOGICAL OBSERVATIONS.

1845.

Observations on January 18, 19, 20, 26, 27, and 28.

Greenwich Mean Solar Time, Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in pounds per square foot.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0–6.	Amount of Clouds 0–10.
d h m	in.	°	°	°	°	°		from lbs. to lbs.			
Jan. 18. 21. 20	29·449	40·4	38·8	1·6	..	..	S	..	SW	¼	4
Jan. 19. 1. 20	29·333	44·4	41·7	2·7	..	..	SSW	..	SW	¾	7
8. 50	28·885	41·0	40·3	0·7	..	..	SE	..	SE	1	10
9. 2	28·876	..	..	..	..	..	SE	..	..	..	..
9. 12	28·867	..	..	..	..	..	SE	..	..	..	..
9. 20	28·858	..	..	..	..	..	SE	..	..	..	..
9. 30	28·855	40·5	40·2	0·3	..	..	SE	..	..	..	..
9. 40	28·845	..	..	..	..	..	SE	..	..	..	..
9. 50	28·834	..	..	..	..	..	SE	..	..	..	..
10. 2	28·825	..	..	..	..	..	SE	..	..	..	..
10. 12	28·820	..	..	..	..	..	SE	..	..	..	..
10. 20	28·815	..	..	..	..	..	SE	..	..	..	..
13. 20	28·735	35·7	35·4	0·3	..	..	WSW	..	SSW	½	10
13. 50	28·724	..	..	..	..	..	WSW	..	..	..	..
14. 5	28·722	..	..	..	..	..	WSW	..	..	..	..
14. 40	28·718	..	..	..	..	..	WSW	..	..	..	..
15. 20	28·708	32·5	32·3	0·2	32·5	0·0	WSW	..	Calm	..	10
17. 20	28·739	33·3	33·2	0·1	..	..	N by E	0 to ½	WNW	½	10
19. 20	28·895	35·5	35·3	0·2	..	..	N by E	4 to 5	N	2½	10
21. 20	29·031	37·7	37·7	0·0	38·0	−0·3	N	4 to 6	N	2	10
23. 0	29·150	..	..	..	..	..	N by W	5 to 8	N	2½	9
23. 20	29·181	41·3	39·6	1·7	..	..	N by W	5 to 11	N	2½	9¾
23. 27	29·198	..	..	..	..	..	N by W	5 to 10½	..	..	..
23. 52	29·219	..	..	..	..	..	N by W	5 to 8	..	..	..
Jan. 20. 0. 40	29·264	..	..	..	..	..	N by W	4 to 10	..	..	..
1. 20	29·304	42·4	39·3	3·1	..	..	NNW	4½ to 9	N	2½	10
Jan. 26. 13. 20	29·579	36·1	33·7	2·4	..	..	WSW	0 to 1	W by S	¾	9½
15. 20	29·519	35·1	33·2	1·9	30·5	4·6	WSW	..	WSW	¼	10
17. 20	29·408	36·7	34·7	2·0	..	..	SW by S	..	WSW	¼	10
17. 42	29·380	..	..	..	..	..	SSW	..	..	..	..
17. 50	29·375	36·4	35·0	1·4	..	..	SSW	..	..	..	..
18. 2	29·360	..	..	..	..	..	SSW	..	..	..	..
18. 40	29·308	36·8	36·6	0·2	..	..	SSW	..	..	..	..
18. 50	29·294	..	..	..	..	..	SSW	..	..	..	..
19. 5	29·272	..	..	..	..	..	SSW	..	..	..	..
19. 20	29·247	37·8	37·4	0·4	..	..	SSW	0 to ½	SSW	½	10
19. 30	29·232	..	..	..	..	..	SSW	..	..	..	..
19. 45	29·216	..	..	..	..	..	SSW	..	..	..	..
21. 20	29·131	39·5	38·7	0·8	28·5	11·0	SW	1 to 2	WSW	½	10
21. 40	29·117	..	..	..	..	..	SW	1½ to 1¾	..	..	..
22. 20	29·093	..	..	..	..	..	WSW	0 to 1	..	..	..
22. 38	29·083	..	..	..	..	..	WSW	0 to ½	..	..	..
23. 20	29·075	42·0	40·0	2·0	..	..	WNW	1½ to 3½	W	½	10
23. 50	29·073	..	..	..	..	..	WNW	0 to 2½	..	..	..
Jan. 27. 1. 20	29·065	41·6	38·2	3·4	..	..	W by N	1½ to 2	W	1	10
3. 20	29·035	41·1	37·0	4·1	32·3	8·8	WNW	½ to 2	WNW	1½	7
Jan. 28. 1. 20	28·847	36·0	35·2	0·8	..	..	WSW	..	Calm	..	4

DEW POINT THERMOMETER.
Jan. 19^{d}. 21^{h}. 20^{m}. The reading was higher than that of the Dry Thermometer.

REMARKS.	Observer.
Fleecy clouds, a few cirri, and scud: at 22^h the sky was nearly free from cloud.	H B
Cumuli, cirro-stratus, and scud.	
Overcast: light rain is falling.	
Heavy rain is falling.	
Rain has fallen without intermission since $8^h.50^m$.	
Rain still continues.	H B
Overcast: rain is falling; it has not ceased since the last observation.	L
,, snow falling rather fast.	
,, snow has ceased falling: gusts of wind to 1.	
,, cirro-stratus and scud: the wind is blowing in gusts to $3\frac{1}{2}$ or 4: rain in squalls.	L
,, rain falling heavily: gusts of wind to 3.	H B
Cirro-stratus and scud: breaks towards the N. and N. E.: the wind is blowing in gusts to 3.	
Cirro-stratus and dark scud: the wind is blowing in frequent gusts to 3.	H B
Nearly overcast. At 13^h a lunar halo was visible, but it was obscured by clouds before any measures could be taken.	H B
Overcast. The Moon is visible, with a halo around her: at $13^h.37^m$ another halo was visible; its diameter was 44°.	
,,	
,, rain is falling.	
,, ,,	
Heavy rain is falling.	
,,	
,,	
Overcast: rain is falling, but not so heavily as before.	
	H B
,, rain is falling: the wind is blowing in gusts to 1.	L
	L
Cirro-stratus and scud, with two or three small breaks to no numerical amount: the rain has ceased: the wind is blowing in gusts to 1.	G
Overcast: there have been several squalls of rain since the last observation: gusts of wind to $1\frac{1}{2}$.	
The sky is principally covered with cirro-stratus and scud.	G
Some fine specimens of cumuli all round the horizon, to the height of 20°; some in the southern part of the sky extend nearly to the zenith: vapour and scud near the horizon: a few cirri about the zenith.	L

Observations on January 28 ; March 20 and 21 ; and on April 8 and 9.

Greenwich Mean Solar Time, Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in pounds per square foot.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0–6.	Amount of Clouds 0–10.
d h m	in.	°	°	°	°	°		from lbs. to lbs.			
Jan. 28. 2. 50	28·823	..	..	..	..	..	SW	..	Calm	..	8
3. 20	28·821	37·0	36·1	0·9	34·5	2·5	W by N	..	..	..	..
3. 50	28·820	..	..	..	..	..	W by N	..	..	..	..
4. 20	28·819	..	..	..	..	..	W by N	..	..	..	..
5. 20	28·824	35·0	34·7	0·3	..	..	ENE	..	NE	Very lightly	10
Mar. 20. 21. 20	30·398	38·5	32·2	6·3	..	..	SSW	..	SW	¼	0
22. 20	30·401	39·7	33·4	6·3	..	..	SW	..	SW	¼	0
23. 20	30·410	41·0	34·0	7·0	..	..	W by S	..	SW	¼	0
Mar. 21. 1. 20	30·399	42·0	37·2	4·8	..	..	WSW	..	SW	¼	0
2. 20	30·399	43·0	37·0	6·0	..	..	SSW	..	SW	¼	0
3. 20	30·393	43·2	36·7	6·5	..	..	SW	..	SW	¼	1
4. 10	30·397	42·8	36·8	6·0	..	..	SW	..	SW	½	1
5. 20	30·410	39·3	35·0	4·3	..	..	SSW	..	SW	¼	9¾
13. 0	30·375	35·8	34·0	1·8	..	..	SSW	..	SSW	¼	10
13. 20	30·376	35·7	34·2	1·5	..	..	SSW	..	SSW	¼	10
14. 30	30·356	35·0	34·6	0·4	..	..	SSW	..	..	..	..
15. 20	30·338	35·8	35·2	0·6	37·0	−1·2	..	..	SSW	½	10
Apr. 8. 17. 20	29·052	32·1	31·4	0·7	..	..	S by E	..	WSW	¼	0
18. 20		33·2	31·7	1·5	..	..	S by E	..	..	..	..
19. 20	28·985	35·0	34·6	0·4	..	..	Calm	..	Calm	..	10
21. 0	28·951	..	..	..	..	..	NE	..	..	..	..
21. 6	28·922	..	..	..	..	..	NE	..	..	..	..
21. 20	28·915	41·7	40·0	1·7	39·0	2·7	NE	..	ENE	¼	10
21. 40	28·910	..	..	..	..	..	NE	..	..	..	..
22. 15	28·888	..	..	..	..	..	ENE	..	..	..	..
22. 40	28·879	..	..	..	..	..	NE	..	..	..	..
23. 10	28·867	..	..	..	..	..	NNE	..	..	..	..
23. 20	28·861	44·3	41·7	2·6	..	..	NNE	..	ENE	¼	10
23. 40	28·851	..	..	..	..	..	NNE	..	..	..	..
Apr. 9. 0. 5	28·846	..	..	..	..	..	NNE	..	..	..	..
0. 35	28·845	..	..	..	..	..	NNE	..	..	..	..
0. 37	28·847	..	..	..	..	..	NNE	..	..	..	..
1. 20	28·834	44·9	39·8	5·1	..	..	N by E	¾ to 2½	NE	¼	10
1. 40	28·837	..	..	..	..	..	NNE	½ to 1½	..	..	..
1. 56	28·837	..	..	..	..	..	NNE	1 to 1½	..	..	..
3. 20	28·857	41·1	38·2	2·9	36·0	5·1	N	½ to 2	N by E	¼	10
4. 0	28·860	..	..	..	..	..	NNW	..	..	..	..
4. 45	28·857	..	..	..	..	..	NNW	..	..	..	..
5. 20	28·857	40·3	38·3	2·0	..	..	NNW	0 to ½	NNW	¼	10
5. 35	28·857	..	..	..	..	..	NNW	..	..	..	..
6. 52	28·861	..	..	..	..	..	NNW	..	..	..	..
7. 20	28·863	39·8	38·0	1·8	..	..	NNW	..	NNW	½	10
7. 50	28·879	..	..	..	..	..	NNW	..	..	..	..
8. 24	28·882	..	..	..	..	..	WNW	..	..	..	..
8. 55	28·887	..	..	..	..	..	W by S	..	..	..	10
9. 20	28·883	39·0	37·8	1·2	35·0	4·0	WNW	..	NNW	¼	10
10. 50	28·887	..	..	..	..	..	WNW	..	NNW	¼	10
11. 20	28·885	38·0	37·5	0·5	..	..	WNW	..	WSW	¼	10
12. 20	28·885	..	..	..	..	..	WNW	..	..	..	

DEW POINT THERMOMETER.
March 21d. 15h. 20m. The reading was higher than that of the Dry Thermometer.

REMARKS.	Observer.
A little dull blue sky near the zenith; every other part of the sky is covered by imperfectly-formed cumuli and scud; the latter moving from the W.	G
The sky is covered with scud, slowly moving from the N. N.W.	G
Cloudless.	G
,,	
,,	
Cloudless, with the exception of a very few cirri.	
,,	
Cloudless.	G
A few cirri.	D
Cirri, cirro-strati, and undefined clouds cover the greater portion of the sky.	L
Overcast: sleet is falling.	H B
,, rain is falling.	H B
Cloudless.	L
A thin cirro-stratus covers the sky: hazy towards the N.	
	L
	H B
Overcast, with cirro-stratus of different densities.	L
,, cirro-stratus and scud.	
Overcast: cirro-stratus and scud.	H B
,, rain is falling.	
	H B
	L
,, ,,	
,, the rain has ceased falling.	
,, a few drops of rain are falling.	L
,, ,, the clouds are very low.	G

Observations on April 9; May 2; August 18 and 19; October 8; November 17; and December 18 and 19.

Greenwich Mean Solar Time, Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in pounds per square foot.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0—6.	Amount of Clouds 0—10.
d h m	in.	°	°	°	°	°		from lbs. to lbs.			
April 9. 13. 20	28. 883	37·5	36·7	0·8	..	..	WNW	..	WSW	¼	10
May 2. 1. 20	29·708	62·8	54·7	8·1	..	..	WSW	½ to 2	W	½	3
3. 20	29·703	54·7	51·3	3·4	47·0	7·7	SW	1½ to 2	WSW	¾	10
3. 50	..	56·4	51·7	4·7	..	..	SW	0 to ¼	..	..	..
3. 57	..	57·2	51·4	5·8	..	..	SW	0 to ½	..	..	..
4. 3	..	57·0	50·7	6·3	..	..	SW	0 to ½	..	..	..
4. 7	..	57·9	51·6	6·3	..	..	SW	..	..	..	..
4. 13	..	57·2	50·2	7·0	..	..	W	0 to 1	..	..	..
5. 20	29·719	57·0	49·4	7·6	..	..	W by N	0 to 2	WNW	¾	2
Aug. 18. 21. 20	29·161	61·5	60·9	0·6	60·8	0·7	S	..	S	¼	10
21. 45	29·145	..	..	..	..	..	S by W	..	..	..	..
22. 20	29·137	..	..	..	..	..	S by E	..	..	..	..
22. 40	29·125	..	..	..	..	..	S by E	..	..	..	..
23. 0	29·119	..	..	..	..	..	S	..	..	..	..
23. 20	29·090	61·7	61·4	0·3	..	..	S	..	S	¼	10
23. 50	29·066	..	..	..	..	..	S	..	..	..	..
Aug. 19. 0. 7	29·062	..	..	..	..	..	S	..	..	..	..
0. 35	29·054	..	..	..	..	..	S	..	..	..	..
1. 20	29·029	62·8	62·5	0·3	..	..	S	..	Calm	..	10
Oct. 8. 7. 20	29·124	51·2	49·0	2·2	..	..	S by E	..	S	¼	10
8. 20	29·111	..	..	..	..	..	S by E	..	..	..	..
8. 30	29·109	..	..	..	..	..	S by E	..	..	..	..
8. 50	29·103	..	..	..	..	..	S	..	..	..	..
8. 55	29·101	..	..	..	..	..	S	..	..	..	..
9. 0	29·094	..	..	..	..	..	S by W	..	..	..	..
9. 20	29·092	52·5	51·4	1·1	51·0	1·5	S	..	SSW	¼	10
9. 35	29·091	..	..	..	..	..	S	..	..	..	..
11. 20	29·105	51·9	50·2	1·7	..	..	WSW	..	SW	¼	9¾
12. 5	29·120	..	..	..	..	..	WSW	..	..	..	..
12. 40	29·129	..	..	..	..	..	WSW	..	..	..	..
13. 20	29·137	48·2	46·9	1·3	..	..	W by S	..	WSW	½	7
Nov. 17. 17. 20	29·161	47·0	46·3	0·7	..	..	..	..	SSW	1½	10
17. 25	29·155	..	..	..	..	..	..	..	..	..	..
17. 50	29·123	..	..	..	..	..	..	..	..	..	..
19. 7	29·087	..	..	..	..	..	..	..	..	..	..
19. 20	29·089	50·2	49·7	0·5	..	..	..	..	SSW	1½	10
19. 57	29·096	..	..	..	..	..	..	..	..	..	..
21. 20	29·108	54·4	53·2	1·2	51·8	2·6	..	..	SW	1	9
Dec. 18. 23. 20	29·082	40·8	40·2	0·6	..	..	..	..	SSW	1½	10
23. 45	29·070	..	..	..	..	..	..	..	..	..	..
Dec. 19. 0. 0	29·051	..	..	..	..	..	..	..	..	..	..
0. 20	29·037	..	..	..	..	..	..	..	..	..	..
0. 35	29·027	..	..	..	..	..	..	..	..	..	..
0. 52	28·995	..	..	..	..	..	..	..	..	..	..
1. 20	28·969	45·0	44·4	0·6	..	..	..	..	SW	1	10
1. 37	28·947	..	..	..	..	..	..	..	..	..	..
2. 0	28·923	..	..	..	..	..	..	..	..	..	..

REMARKS.	Observer.
Overcast: a few drops of rain are falling.	G
Cumuli to the N. and E.: light clouds towards the S., and in various other parts of the sky.	L
Cumulo-strati: rain and a little hail are falling in heavy squalls: thunder has been heard occasionally.	H B
Cirro-stratus near the N. horizon, with cirri and a few cumuli in various parts of the sky.	
Overcast: rain is falling.	
,, rain has continued falling heavily since $22^h. 30^m$.	
	H B
Rain ceased falling at $23^h. 47^m$; at $23^h. 52^m$ it again commenced falling, and still continues.	L
Overcast.	L
,, the wind is blowing in gusts to ½.	L
Cirro-stratus, scud, and vapour: several stars are visible.	H B
Cirro-stratus of various densities nearly covers the sky, through which several of the larger stars are visible.	
Overcast: the wind is blowing in occasional gusts to 2.	
,, cirro-stratus and scud.	
	H B
Cirro-stratus and scud; the latter passing quickly over the sky.	T D
Overcast: rain in occasional squalls: the wind is blowing in gusts to 2.	L
Overcast: rain is occasionally falling: the wind is blowing in gusts to 1½.	

Observations on December 19, 20, and 31.

Greenwich Mean Solar Time, Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in pounds per square foot.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0–6.	Amount of Clouds. 0–10.
d h m	in.	°	°	°	°	°		from lbs. to lbs.			
Dec. 19. 3. 10	28·894	..	..	..	..	..	SSW	½ to 1	..	..	..
3. 20	28·867	48·0	46·7	1·3	45·0	3·0	SSW	½ to 2½	SW	1	9½
3. 35	28·861	..	..	..	..	..	SSW	½ to 2½	..	..	..
4. 20	28·861	..	..	..	..	..	SSW	½ to 3	..	..	..
5. 20	28·856	41·5	40·8	0·7	..	..	WSW	2 to 3	W	¼	8
5. 50	28·853	..	..	..	..	..	SW	½ to 2	..	..	..
7. 20	28·848	39·5	38·2	1·3	..	..	SW	..	W	½	0
7. 50	28·842	..	..	..	..	..	SW	½ to 4	..	..	..
8. 35	28·836	..	..	..	..	..	SW	0 to 1	..	..	..
9. 20	28·831	38·4	37·2	1·2	35·8	2·6	SW	1 to 4	W	½	0
11. 20	28·794	38·8	37·4	1·4	..	..	SW	..	W by S	2	8
12. 0	28·787	..	..	..	..	..	SW	2 to 4	..	..	..
12. 40	28·774	..	..	..	..	..	SW	2 to 4	..	..	..
13. 20	28·763	37·4	35·9	1·5	..	..	SW	..	W	1½	0
14. 10	28·738	..	..	..	..	..	SW	2 to 5	..	..	..
14. 35	28·728	..	..	..	..	..	SW	1 to 4½	..	..	..
15. 20	28·710	37·2	35·7	1·5	33·0	4·2	SW	..	W	2	2
16. 5	28·681	..	..	..	..	..	SW	1 to 2	..	..	..
16. 20	28·673	..	..	..	..	..	SW	1 to 2	..	..	..
16. 55	28·669	..	..	..	..	..	SW	½ to 2	..	..	..
17. 20	28·659	38·5	36·9	1·6	..	..	SW	..	W	1½	2
18. 5	28·657	..	..	..	..	..	SW	1 to 2½	..	..	..
18. 30	28·657	..	..	..	..	..	SW	1 to 4	..	..	..
19. 5	28·661	..	..	..	..	..	SW	½ to 2½	..	..	..
19. 20	28·663	38·0	36·5	1·5	..	..	SW	..	W	½	4
19. 35	28·663	..	..	..	..	..	SW	½ constant	..	..	..
21. 0	28·668	..	..	..	..	..	SW	½ to 1	..	..	..
21. 20	28·672	38·0	36·2	1·8	34·5	3·5	SW	..	W	½	0
21. 43	28·676	..	..	..	..	..	SW	..	..	..	..
22. 0	28·678	..	..	..	..	..	..	1	..	..	..
22. 20	28·673	..	..	..	..	..	..	..	..	..	..
22. 30	28·678	..	..	..	..	..	..	1 to 2½	..	..	..
22. 45	28·681	..	..	..	..	..	..	½ to 1½	..	..	..
23. 5	28·685	41·3	39·0	2·3	..	..	..	½ constant	..	..	..
23. 20	28·690	41·1	38·9	2·2	..	..	..	..	W by S	1½	10
23. 40	28·690	..	..	..	..	..	..	½	..	..	..
23. 48	28·689	..	..	..	..	..	..	½	..	..	..
Dec. 20. 0. 3	28·684	..	..	..	..	..	..	0 to 1	..	..	..
0. 35	28·689	..	..	..	..	..	..	½	..	..	..
1. 20	28·691	43·0	39·7	3·3	..	..	..	..	W	1½	7
2. 0	28·715	..	..	..	..	..	..		..	..	..
3. 20	28·738	39·7	38·7	1·0	37·0	2·7	..	..	W	1	10
Dec. 31. 3. 20	29·759	46·0	44·4	1·6	42·0	4·0	..	..	SW by S	½	10
3. 45	29·745	..	..	..	..	..	..	..	..	..	..
5. 10	29·633	..	..	..	..	..	..	..	..	..	..
5. 20	29·612	45·3	44·7	0·6	..	..	..	..	SSW	1	10
5. 56	29·549	..	..	..	..	..	..	..	..	..	..
6. 20	29·521	..	..	..	..	..	..	..	..	..	..
6. 42	29·493	..	..	..	..	..	..	..	..	..	..
7. 20	29·455	47·9	47·4	0·5	..	..	..	..	SW	2½	10
7. 50	29·424	..	..	..	..	..	..	..	..	..	..

OSLER'S ANEMOMETER.

Dec. 19d. 3h. A sheet was placed on the table at this time, and the positions of the direction-pencil and the pressure-pencil were frequently examined as recorded above.

REMARKS.	Observer.
	L
Cirro-stratus and scud: the wind is blowing in gusts to 1½ and 2.	T D
Cirro-stratus and scud: a clear break in the zenith, through which a few stars are visible: heavy squalls of wind and rain have frequently occurred since the last observation.	
Cloudless: the wind is blowing in gusts to 1½.	
,, ,,	T D
Cirro-stratus and large masses of loose scud: small breaks in the clouds are in every direction.	L
Cloudless: the wind is blowing in gusts to 2.	
A few clouds are to the S. of the zenith.	
Fleecy clouds are about the Moon's place, and also towards the S. A beautifully coloured corona is around the Moon.	
Fleecy clouds north of the zenith, and cirro-stratus and scud towards the S. horizon: the wind is blowing in gusts to ¾.	
	L
Cloudless: the wind is blowing in gusts to 1.	T D
	H B
Overcast: cirro-stratus and scud.	
Cirro-stratus and scud, fragments of which are continually passing from the W.: the upper clouds are cirro-cumuli and a few light cirri: the wind is blowing in gusts to 2.	
Overcast: cirro-stratus and scud: the wind is blowing in gusts to 1½.	H B
Overcast: rain is falling.	H B
,, ,,	
,, a slight rain is falling: the wind is blowing in frequent gusts to 3.	

Greenwich Mean Solar Time, Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. From Osler's Anemometer. Direction.	WIND. From Osler's Anemometer. Pressure in pounds per square foot.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0–6.	Amount of Clouds 0–10.
d h m	in.	°	°	°	°	°		from lbs. to lbs.			
Dec. 31. 8. 30	29 ·390	..	..	..	..	..	..	..	..	..	..
8. 50	29 ·379	..	..	..	..	..	..	..	..	..	..
9. 20	29 ·353	51 ·1	50 ·3	0 ·8	49 ·0	2 ·1	..	..	WSW	3	10
11. 20	29 ·284	51 ·0	50 ·4	0 ·6	..	..	..	..	WSW	2½	10
12. 0	29 ·300	..	..	..	..	..	..	..	..	..	..
13. 20	29 ·313	48 ·5	48 ·0	0 ·5	..	..	..	..	WSW	3	10

REMARKS.	Observer.
Overcast: a slight rain is falling: the wind is blowing in frequent gusts to 3 and upwards.	H B
,, rain is falling in squalls: the wind is blowing in frequent gusts to 4.	H B L

REMARKS ON UNUSUAL PHENOMENA IN THE WINTER, COMMON TO THE YEARS 1844 AND 1845, PARTICULARLY THOSE RELATING TO THE TEMPERATURE OF THE AIR AND THAT OF VEGETATION, BY MR. GLAISHER.

(THE average mean daily temperature referred to in the following remarks, is that furnished by Mr. Henry, from observations at his residence in the neighbourhood of Greenwich Park, extending over a period of twenty-five years.)

The period of time between 1844, October 16^d, and 1845, March 20^d, was very remarkable for several unusual phenomena, but more particularly on account of the mean temperature of the air being very different from that of the average for the season; the amount of the departure from the average temperature being at times very great and very continuous.

From 1844, October 1^d to 15^d, the temperature of the air was about that of the average. Between October 16^d and November 7^d it was below the average every day, and its mean amount of departure was 3°.

Between November 8^d and 20^d the temperature was high, the departure from the average being in excess (except on November 11^d, when it was 3° below the average), the mean amount of which was 6°.

Between November 20^d and 21^d a great change took place; on the former day the mean temperature of the air was 7° in excess, and on the latter day 5° in defect: this great change took place suddenly. On November 20^d at 14^h the temperature was 45°·5, and at 16^h it was 41°·7, and from that time it continued to decline. This was the beginning of a remarkable period of cold, which continued till December 27^d; the mean temperature of every day during this period being below the average, by quantities varying from 1° to 15°; the mean departure for the period was 7°; the interval of time between December 8^d and 14^d was the most severe, the mean departure from the average being 12°.

From 1844, December 28^d, to 1845, January 3^d, the mean temperature was very nearly that of the average, and on January 4^d a period of warm weather set in, and continued till January 27^d, the excess above the average being from 1° to 11°; the mean excess during this time being 3°. During the evening of January 27^d the cold set in again with increased severity, and from this time till March 20^d the temperature was always below the average with one solitary exception, viz: the 26th day of February, whose mean temperature exceeded that of the average by 3½°. The amount of this defect from the average was at times very great. On February 7^d and 8^d it was 11° on each day; on the 11th it was 14°; on the 12th it was 20° (for observations on this remarkable day see page (24) and foot-note on page (25), and also the observations on pages (256) and (257);) on February 20^d it was 13°; on March 4^d it was 14°; and on the 5th, 6th, 7th, 12th, 13th, 14th, 15th, 17th, and 18th days of March it was 14°, 16°, 10°, 11°, 20°·5, 20°, 16°, 15°, and 13° respectively below the average. It would seem, therefore, that the cold from the beginning of March was more remarkable than at any other time during the winter for its steadiness and its unusual intensity. Between January 28^d and March 20^d the mean temperature of the air was 8°·5 in defect: in the cold weather of December the temperature fell from 38° on the 1st, to 22° on the 6th; but the temperature from the 5th of February declined much more rapidly and to a much lower point. On Wednesday, the 12th of February, the lowest thermometer reading was 7°·5 at the Observatory: at my residence, which is within one mile of the Observatory, and S. S.W. of it, the minimum was — 1½°: this unusually low reading was very remarkable as occurring at this part of the country. The temperatures in March were not less remarkable; between March $3^d.4^h$ and $6^d.20^h$, and again between $12^d.6^h$ and $17^d.0^h$, the temperature was at or below 32°. The temperature on March 13^d was perhaps more remarkable than any other; at noon on this day the thermometer reading was 23°; this occurring so near to the vernal equinox is worthy of especial notice, and it is without a parallel on record.

The readings of thermometers placed on different substances were also very remarkable: the following are some of these—a self-registering minimum thermometer placed on grass and read every morning at 9^h, shewed that on 1844, December 5^d, the minimum was $13^\circ\cdot7$; on the 6th, it was $7^\circ\cdot9$; on the 7th, $8^\circ\cdot9$; on the 8th, $14^\circ\cdot9$; and on the 12th, $13^\circ\cdot0$: on 1845, January 3^d, it was $17^\circ\cdot0$, and on the 30th, $13^\circ\cdot4$; on February 1^d, $12^\circ\cdot7$; on the 3rd, $12^\circ\cdot0$; on the 7th, $10^\circ\cdot9$; on the 8th, $9^\circ\cdot7$; on the 9th, $13^\circ\cdot0$; on the 12th, $-6^\circ\cdot0$ (*i. e.* six degrees below zero); on the 13th, $9^\circ\cdot0$; on the 17th, $13^\circ\cdot6$; on the 19th, $13^\circ\cdot3$; and on the 20th, $7^\circ\cdot7$: on March 5th, 6th, 8th, 13th, 14th, 15th, 18th, and 21st, it was $11^\circ\cdot0$, $5^\circ\cdot9$, $13^\circ\cdot8$, $8^\circ\cdot9$, $-0^\circ\cdot2$, $7^\circ\cdot5$, $6^\circ\cdot7$, and $7^\circ\cdot2$ respectively; and on many other nights it was less than 20°, shewing the very low temperature to which vegetation was subjected during the winter. The lowest thermometer reading within the period was $-12^\circ\cdot5$, being that of a thermometer placed on flax, and read on the morning of the 12th of February, 1845.

The direction of the wind on 1844, November 27^d, was S.W.; between this day and December 26^d it was N.E.; a period of calm succeeded and continued till December 29^d; the N.E. wind then prevailed till 1845, January 2^d; on this and the two following days the direction was S.W., then N.E. till February 2^d; on this day the direction was S.W., being the first time, except January 2^d, 3^d, and 4^d, that the wind had passed from this quarter since 1844, November 27^d; a very unusual circumstance in this country. Between February 2^d and 19^d the direction was S. or S.W., and it was generally N.E. from Feb. 19^d to March 20^d.

AT THE ROYAL OBSERVATORY.

1845, Greenwich Mean Solar Time, Astronomical Reckoning.	Reading of Dry Bulb Therm.	Reading of Wet Bulb Therm.	READING OF THERMOMETER PLACED: In focus of the metallic Parabolic Reflector.	On long Grass, clear of Snow.	On short Grass, clear of Snow.	On short Grass, covered by Snow.	Under long Grass, covered by Snow.	In Air, at the height of twelve feet.	On Grass, in the full rays of the Sun.	On Snow in Shade.	In Snow.	On Flax in Shade.	On long Grass, clear of Snow, in the rays of the Sun.	On short Grass, clear of Snow, in the rays of the Sun.	Under long Grass, clear of Snow.	Under short Grass, clear of Snow.
d h m	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
Feb. 11. 7. 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7. 20	21·3	20·7	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9. 20	19·5	18·8	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10. 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11. 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11. 20	16·5	16·5	..	..	..	..	..	..	..	..	..	..	..	..	..	..
13. 20	13·6	13·8	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15. 20	11·7	12·0	..	..	..	..	..	..	..	..	..	..	..	..	..	..
17. 20	12·5	12·4	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19. 20	8·8	8·9	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19. 25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19. 30	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19. 35	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19. 45	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20. 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20. 0½	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20. 1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20. 2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20. 10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20. 23	11·9	11·5	2·0	6·0	5·0	26·0	28·0	11·9	..	..	..	−8·5	..	..	..	..
20. 30	12·0	11·0	3·0	8·0	9·0	26·0	28·0	..	..	6·0	14·0	5·0	..	..	..	..
20. 45	13·8	13·5	3·5	9·0	9·0	26·0	28·0	13·5	..	6·0	18·0	5·5	..	..	..	..
20. 50	14·0	13·9	4·5	10·0	12·5	26·0	28·0	13·5	..	7·9	18·0	8·0	..	..	..	..
21. 5	14·7	14·8	5·0	10·0	12·5	26·0	28·0	14·5	..	9·0	18·0	9·0	..	..	..	..
21. 10	15·0	15·2	7·0	13·5	17·0	26·0	28·0	15·0	..	11·0	18·0	13·0	..	..	..	..
21. 20	14·8	14·9	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21. 50	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22. 20	21·0	..	11·0	24·2	24·2	26·0	28·0	..	..	15·0	19·5	17·2	..	..	..	..
22. 50	22·5	22·2	14·0	..	25 0	26·5	28·5	..	..	18·5	22·0	20·0	32·0	..	..	..
23. 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23. 20	24·5	23·4	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23. 30	25·5	..	16·0	..	..	27·0	29·0	..	40·5	22·0	25·0	23·0	40·0	37·0	..	..
Feb. 12. 0. 0	25·0	..	19·0	..	..	29·0	29·5	..	42·5	23·0	25·0	23·0	45·0	42·0	..	..
1. 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1. 20	27·1	26·0	24·0	..	..	30·0	30·0	..	38·0	24·0	28·0	24·0	46·0	43·0	..	..
2. 15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3. 15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3. 20	27·5	26·2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4. 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4. 30	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5. 20	23·4	22·8	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5. 25	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6. 20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6. 30	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7. 0	21·3	..	11·0	9·0	16·0	33·0	..	..	..	11·0	24·0	8·5	..	..	..	..
7. 20	21·3	20·7	..	..	..	..	..	..	..	..	..	..	..	..	..	..
8. 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9. 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
9. 20	21·7	21·1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10. 0	21·5	21·0	16·0	17·0	21·0	31·0	..	..	..	19·0	24·0	17·0	..	..	..	..
11. 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11. 20	23·5	22·7	..	..	..	..	..	..	..	..	..	..	..	..	..	..
12. 0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
21. 20	30·6	29·5	..	31·0	31·0	32·0	..	..	..	32·0	31·5	31·0	..	..	31·0	31·0

At Dartmouth Terrace, Lewisham. Reading of Dry Bulb Therm.	Reading of Wet Bulb Therm.	Reading of Therm. placed on Snow.	REMARKS.
°	°	°	
21·0	20·0		For meteorological remarks generally, see the Section of Ordinary Observations. Feb. 11^d. At $19^h. 25^m$ Mr. Glaisher found at his residence that the index of his self-registering minimum thermometer indicated a minimum reading of 1°·5 below zero, and, at the time of reading, the thermometer stood at zero, as also did three other thermometers which were placed near to it; the mercury of a fourth thermometer was found to be all in its bulb, there being no appearance of a column at all: the graduation of this instrument began at 1°: so that there was no doubt whatever that at this time the temperature of the air was at about zero of Fahrenheit's scale. In consequence of this circumstance, Mr. Glaisher planted several excellent thermometers (his private property) in different positions, and observed them. Snow had previously fallen to the depth of three inches, and during the night, which was cloudless, the reading of a thermometer which had been placed on long grass had been as low as − 6°; that on snow, as is shewn opposite, had been − 12°; and that on flax had been − 12°·5. The lowest reading of a thermometer which had been placed on long grass covered by snow was 28°.
17·5	16·5		
15·0	14·1		
0·0	−1·0		
0·0	−1·0		At this time a thermometer was taken from within doors, whose reading was 40°, and placed on snow.
0·0	−1·0	−10·0	
0·0	−1·0	−10·0	
0·5	−0·5		
		−10·0	
2·0	1·0	−12·0	
4·0	3·0		
			A mist near the horizon, so dense that objects at the distance of 400 yards are invisible.
			The mist is now thicker: objects at the distance of 350 yards are invisible.
			The mist increases: objects at the distance of 300 yards cannot be seen.
			The mist is now so thick that objects at the distance of 20 yards are invisible.
4·0	2·0		The mist is such that objects at the distance of 300 yards are just visible.
9·0	8·5		The mist is such that objects at the distance of 400 yards are visible.
10·0	9·4		
			The lowest thermometrical readings during the morning of February 12^d, at several places, as learned on private authority, were as follows:— At the Royal Observatory, Greenwich .... 7°·5 At Hyde Vale, Greenwich, the residence of Mr. Henry .... 6·0 At Maidenstone Hill, Greenwich, the residence of Mr. Ellis .... 6·0 At Dartmouth Terrace, Lewisham, the residence of Mr. Glaisher .... −1·5 At the Royal Hospital, Greenwich .... 9·0 On Board the Dreadnought Hospital Ship, moored off Greenwich .... 10·5 At Mr. Bishop's Observatory, Regent's Park, the thermometer placed at the height of 20 feet above the ground and near a window .... 7·5 At the Botanical Gardens, Regent's Park, on Mr. Bishop's authority .... 4·0 At Stone Observatory, near Aylesbury .... 6·0 At Cambridge Observatory .... 14·7 At a private residence in the Kent Road, at $19^h. 45^m$ .... 7·0
21·0	20·0		
25·0	23·0		
28·0	27·0		
28·5	26·0		
29·0	26·5		
29·0	26·5		
25·0	24·0		
20·0	19·2		
19·0	18·5		
18·0	17·0		
18·0	17·1		
19·2	18·7		
20·0	19·5		
21·0	20·5		
21·5	20·0		Since $12^d. 12^h$ the lowest reading on long grass has been 19°·0; on short grass it has been 21°·7; on flax it has been 19°·0; and on snow 10°·5.
30·0	29·8		

RADIATION OBSERVATIONS on MARCH 13, 19, and 20. Observer, Mr. Glaisher.

1845, Greenwich Mean Solar Time, Astronomical Reckoning.	Reading of Dry Bulb Ther.	Reading of Wet Bulb Ther.	Deduced Reading for Dew Point.	Readings of Thermometer placed: On long Grass.	On short Grass.	On White Raw Wool.	On Flax.	In focus of Parabolic metallic Reflector.	Nine Inches above Wood.	One Inch below the surface of Ground under long Grass.	On the surface of Ground under short Grass.	On the surface of Ground under long Grass.	On long Grass covered by Raw Wool.	On long Grass covered by Flax.	On Copper near the metallic Reflector.	On Flannel placed on Grass.	On White Wadding on Grass.	On Black Wadding on Grass.	On Lamp Black.	On Charcoal.	On Whiting.	On Wood.	On Gilt Leather.
d h m	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
Mar. 13. 11. 0	16·8	16·0	12·0	10·0	13·5	4·0	6·0	12·0	12·0	..	23·0	28·0	28·0	28·0	12·0	12·5	8·5	8·5	8·0	10·0	9·5	..	..
12. 0	16·0	15·3	12·0	7·5	12·0	4·0	6·0	11·5	12·0	..	22·0	27·0	28·0	28·0	11·5	11·0	7·0	7·0	7·0	9·0	..	..	..
13. 0	15·8	15·0	10·5	7·0	11·0	1·2	3·0	11·2	10·5	..	22·0	26·5	27·5	27·0	8·0	9·0	7·0	8·0	7·0	8·9	9·0	9·5	10·0
14. 30	14·9	14·4	10·7	6·5	11·5	1·0	3·6	11·0	10·5	..	21·0	26·5	27·0	27·2	10·5	9·0	8·0	8·5	6·5	8·2	8·2	9·0	9·8
15. 0	14·8	14·1	9·7	6·5	11·5	1·0	3·2	11·0	10·5	..	21·0	26·5	26·0	25·5	11·0	8·0	7·0	6·5	6·5	8·0	7·7	9·0	8·5
16. 0	14·2	13·8	13·9	5·5	10·2	0·0	2·0	10·0	8·0	28·0	22·0	26·5	26·5	26·0	10·0	7·5	7·0	6·5	6·5	7·0	7·2	7·0	8·0
17. 0	14·0	13·4	9·0	2·9	8·8	—3·5	0·0	7·9	4·9	27·5	20·5	26·5	26·0	26·0	7·2	6·2	6·0	5·0	5·0	5·0	5·2	5·2	4·0
18. 0	13·8	13·3	9·8	0·0	8·8	—4·0	—1·5	7·2	4·0	27·0	20·5	26·5	27·0	27·0	7·0	6·0	6·0	5·0	2·2	3·2	5·0	5·0	3·8
19. 0	15·2	14·7	11·2	4·2	10·5	0·0	1·9	8·5	..	27·0	20·0	26·0	27·0	27·0	9·0	9·0	6·0	6·0	6·8	7·2	6·0	3·9	8·2
Mar. 19. 9. 15	32·5	30·9	27·0	17·2	23·2	16·0	16·0	26·0	..	33·0	28·0	32·5	33·0	33·0	24·0	..	..	..	..	..	..	..	..
9. 25	32·1	30·9	28·4	22·2	26·0	22·1	23·0	28·4	..	33·0	28·5	32·5	33·0	33·0	28·0	..	..	..	..	..	..	..	..
9. 40	32·2	31·2	29·1	25·0	26·5	25·0	25·0	29·0	..	33·0	29·0	32·5	33·0	33·0	28·0	..	..	..	..	..	..	..	..
10. 30	32·1	31·2	29·3	28·0	30·0	28·0	28·0	31·0	..	33·0	30·0	32·0	33·0	33·0	30·0	..	..	..	..	..	..	..	..
Mar. 20. 8. 0	33·0	30·1	24·9	14·0	21·0	11·0	11·0	25·0	28·0	34·5	29·0	32·0	33·0	33·0	25·0	..	..	..	..	..	..	..	..
8. 30	31·5	30·0	26·1	12·5	19·0	9·5	9·5	23·0	24·0	34·0	29·0	32·0	33·0	33·0	23·0	..	..	..	..	..	..	..	..

March 13. These observations are, the observer believes, without a parallel on record for such low readings of thermometers at a time so near the vernal equinox. The following are the mean results:—

The mean of the nine observations of the thermometer in air at the height of four feet was	15°·1.	
,, ,, on long grass	9·5	*below* that in air.
,, ,, on short grass	4·0 below	,,
,, ,, on white raw wool	14·3 below	,,
,, ,, on flax	12·3 below	,,
,, ,, in the focus of metallic parabolic reflector	5·0 below	,,
,, ,, on a sheet of copper placed on one of the angles of the box within which the parabolic reflector was placed	5·5 below	,,
,, ,, nine inches above wood	6·0 below	,,
,, ,, one inch below the surface of the ground under short grass.	13·1 *above*	,,
,, ,, one inch below the surface of the ground under long grass.	18·0 above	,,
,, ,, on the surface of the soil under long grass	11·7 above	,,

Readings of Thermometer placed: On Paper.	On Lead.	One Inch below the surface of Ground under long Grass.	Twelve Feet in Height.	REMARKS.
°	°	°	°	
..	..	34·0	16·8	Cloudless. Raw wool is covered with thin transparent pieces of ice one-eighth of an inch square.
..	..	34·0	16·0	,,
..	..	34·0	15·8	,, Flax has a good number of pieces of ice scattered about it.
9·8	..	33·2	14·9	,, Wood is covered by ice, which shines like spangles when the lamp light falls on them.
9·5	..	33·0	14·8	,, Grass has a good number of pieces of ice at different parts of the blades.
8·0	..	32·7	14·0	,, [This night is the most severe I have ever experienced; a keen N.E. wind was blowing: at times
8·0	5·0	32·5	13·7	,, I was so cold that I could scarcely write. Towards morning the wind somewhat abated,
8·0	4·5	32·0	13·0	,, and to the senses the air was much warmer, notwithstanding which the readings of the
10·5	..	32·0	15·0	,, thermometer continued to decline. G.]
..	..	35·5	..	The sky was nearly free from cloud: the wind was from the North, and very light.
..	..	35·0	..	The sky was covered by a thin cloud.
..	..	35·0	..	The sky was covered by clouds increasing in density.
..	..	35·0	..	The sky was covered by a dense cirro-stratus cloud.
..	..	35·0	32·2	The night following these observations was altogether very unusual; the sky was bright and clear, without haze, mist, or vapour, and the air was in a calm state. The readings of thermometers on long grass were from 17° to 19° below that of a thermometer in air at the height of four feet, and protected from the effects of radiation. I do not recollect another night during which the readings were so steadily below those in air. The minimum reading on long grass was 7°·2; that on short grass was 14°; that on flax was 4°; and that on white raw wool was 4°. It is worthy of remark that these readings took place during the night preceding the vernal equinox. G.
..	..	35·0	32·0	

The mean of the nine observations of the thermometer		on the surface of the soil under short grass	° 6·3 above	that in air.
,,	,,	on the surface of the soil under long grass covered by white raw wool	11·9 above	,,
,,	,,	on the surface of the soil under long grass covered by flax .	11·8 above	,,
,,	,,	on flannel	6·5 *below*	,,
,,	,,	on white wadding	8·1 below	,,
,,	,,	on black wadding	8·3 below	,,
,,	,,	on lamp-black	8·9 below	,,
,,	,,	on charcoal	7·7 below	,,
,,	,,	on whiting	7·7 below	,,
,,	,,	on wood	7·7 below	,,
,,	,,	on gilt leather	7·4 below	,,
,,	,,	on paper	5·5 below	,,
,,	,,	on lead	9·2 below	,,
,,	,,	at the height of twelve feet	0·1 below	,,

OBSERVATIONS WITH THE ACTINOMETER.

Day, 1845.	Greenwich Mean Solar Time of the Initial Reading.	Instrument exposed to the Sun's Rays or in the Shade.	Readings of the Graduated Scale. Initial A	Terminal B	Change in One Minute. B−A.	Apparent Effect of 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	°		
Feb. 19	21. 34. 55	Sun	4·2	22·0	+17·8						G
	36. 25	Shade	22·6	23·0	+ 0·4	17·3					
	37. 55	Sun	23·0	40·5	+17·5	17·3					
	39. 25	Shade	41·0	41·1	+ 0·1	17·1					
	40. 55	Sun	41·1	58·0	+16·9	16·9	17·1	21. 41. 25	24	Cloudless: occasional cold airs from the S. E.	
	42. 25	Shade	59·0	59·0	0·0	16·9					
	43. 55	Sun	59·0	75·9	+16·9	17·2					
	45. 25	Shade	75·5	74·9	− 0·6	17·2					
	46. 55	Sun	74·0	89·8	−15·8						
Feb. 19	22. 10. 55	Sun	0·0	15·0	+15·0						
	12. 25	Shade	14·0	10·2	− 3·8	19·3					
	13. 55	Sun	8·9	24·8	+15·9	19·3					
	15. 25	Shade	24·0	21·0	− 3·0	18·4	19·1	22. 15. 55	24	Cloudless.	
	16. 55	Sun	19·2	34·1	+14·9	18·9					
	18. 25	Shade	33·5	28·5	− 5·0	19·4					
	19. 55	Sun	29·2	44·0	+14·8						
Feb. 19	23. 1. 55	Sun	0·0	14·2	+14·2						
	3. 25	Shade	14·2	11·9	− 2·3	16·7					
	4. 55	Sun	10·0	24·5	+14·5	16·5					
	6. 25	Shade	25·1	23·5	− 1·6	17·3					
	7. 55	Sun	22·3	39·2	+16·9	19·4	17·0	23. 8. 25	26	Cloudless.	
	9. 25	Shade	37·5	34·2	− 3·3	18·4					
	10. 55	Sun	33·9	47·2	+13·3	15·2					
	12. 25	Shade	49·0	49·5	− 0·5	15·2					
	13. 55	Sun	51·0	67·0	+16·0						
Feb. 19	23. 40. 55	Sun	0·0	20·2	+20·2						
	42. 25	Shade	20·5	20·0	− 0·5	21·1					
	43. 55	Sun	20·0	41·2	+21·0	21·3					
	45. 25	Shade	42·1	42·0	− 0·1	20·6	21·0	23. 45. 55	27	Clear sky: wind very light, W. S.W.	
	46. 55	Sun	42·0	62·0	+20·0	20·2					
	48. 25	Shade	62·5	62·2	− 0·3	21·1					
	49. 55	Sun	62·0	83·5	+21·5	21·8					
	51. 25	Shade	84·0	83·7	− 0·3	22·6					
	52. 55	Sun	0·0	23·0	−23·0	23·4					
	54. 25	Shade	25·0	24·5	− 0·5	22·0	22·3	23. 55. 40	27		
	55. 55	Sun	24·5	44·5	+20·0	20·8					
	57. 25	Shade	44·8	43·7	− 1·1	22·2					
	58. 55	Sun	43·0	65·2	+22·2	22·8					
	0. 25	Shade	65·1	65·0	− 0·1	21·7					
Feb. 20	0. 1. 55	Sun	65·0	86·0	+21·0	21·1					
	3. 25	Shade	86·0	86·0	0·0	21·1					
	4. 55	Sun	0·0	21·2	+21·0	21·2	21·6	0. 6. 10	28		
	6. 25	Shade	21·5	21·5	0·0	21·9					
	7. 55	Sun	21·5	44·0	+22·5	22·7					
	9. 25	Shade	44·0	43·7	− 0·3	21·8					
	10. 55	Sun	43·5	64·0	+20·5						
Feb. 20	1. 3. 55	Sun	0·0	17·5	+17·5						
	5. 25	Shade	17·5	14·8	− 2·7	21·2					
	6. 55	Sun	13·5	33·0	+19·5	22·3					
	8. 25	Shade	34·0	31·2	− 2·8	22·1					

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, 1845.	Greenwich Mean Solar Time of the Initial Reading.	Instrument exposed to the Sun's Rays or in the Shade.	Readings of the Graduated Scale. Initial A	Terminal B	Change in One Minute. B−A.	Apparent Effect of 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	°		
Feb. 20	1. 9. 55	Sun	32 ·0	51 ·0	+19 ·0	21 ·3					G
	11. 25	Shade	49 ·8	48 ·0	− 1 ·8	20 ·3					
	12. 55	Sun	47 ·0	65 ·0	+18 ·0	19 ·4	20 ·1	1. 13. 25	26		
	14. 25	Shade	65 ·0	64 ·0	− 1 ·0	18 ·0					
	15. 55	Sun	63 ·0	79 ·0	+16 ·0	17 ·5					
	17. 25	Shade	78 ·0	76 ·0	− 2 ·0	19 ·0					
	18. 55	Sun	74 ·5	92 ·5	+18 ·0	20 ·0					
	20. 25	Shade	3 ·0	1 ·0	− 2 ·0	20 ·5					
	21. 55	Sun	−0 ·5	18 ·5	+19 ·0						
Feb. 20	1. 36. 55	Sun	0 ·0	18 ·2	+18 ·2						
	38. 25	Shade	18 ·2	17 ·5	− 0 ·7	19 ·0					
	39. 55	Sun	17 ·2	35 ·5	+18 ·3	19 ·4					
	41. 25	Shade	35 ·5	34 ·0	− 1 ·5	19 ·8					
	42. 55	Sun	32 ·0	50 ·2	+18 ·2	20 ·0	19 ·9	1. 43. 25	25		
	44. 25	Shade	50 ·0	48 ·0	− 2 ·0	20 ·2					
	45. 55	Sun	46 ·8	65 ·0	+18 ·2	20 ·2					
	47. 25	Shade	64 ·8	62 ·8	− 2 ·6	20 ·2					
	48. 55	Sun	61 ·0	79 ·2	+17 ·7	20 ·5					
	50. 25	Shade	78 ·2	75 ·6	− 3 ·5	20 ·6					
	51. 55	Sun	74 ·0	91 ·7	+18 ·5	20 ·8					
	53. 25	Shade	90 ·5	87 ·0	− 4 ·5	21 ·6					
	54. 55	Sun	0 ·5	19 ·0	+17 ·0	22 ·5	21 ·4	1. 56. 10	24		
	56. 25	Shade	17 ·5	13 ·5	− 4 ·0	22 ·3					
	57. 55	Sun	12 ·8	29 ·8	+17 ·0	21 ·3					
	1. 59. 25	Shade	27 ·5	23 ·5	− 4 ·0	20 ·9					
	2. 0. 55	Sun	23 ·2	40 ·0	+16 ·8						
Feb. 20	21. 11. 55	Sun	3 ·0	15 ·0	+12 ·0					Clear, but hazy.	
	13. 25	Shade	15 ·2	15 ·2	0 ·0	11 ·0				,,	
	14. 55	Sun	15 ·2	25 ·2	+10 ·0	10 ·0				,,	
	16. 25	Shade	25 ·2	25 ·2	0 ·0	9 ·9	9 ·8	21. 16. 55	24	A whitish blue sky.	
	17. 55	Sun	25 ·2	35 ·0	+ 9 ·8	10 ·1				A thin film of cloud.	
	19. 25	Shade	36 ·0	35 ·5	− 0 ·5	8 ·2				,,	
	20. 55	Sun	35 ·0	40 ·5	+ 5 ·5					,,	
Feb. 20	22. 6. 55	Sun	3 ·0	12 ·0	+ 9 ·0					A few white clouds below the Sun.	
	8. 25	Shade	12 ·5	12 ·2	− 0 ·3	10 ·5					
	9. 55	Sun	12 ·2	23 ·5	+11 ·3	11 ·7					
	11. 25	Shade	23 ·5	23 ·0	− 0 ·5	13 ·2	12 ·6	22. 11. 55	25		
	12. 55	Sun	23 ·0	37 ·0	+14 ·0	14 ·3					
	14. 25	Shade	37 ·3	37 ·2	− 0 ·1	13 ·1					
	22. 15. 55	Sun	37 ·2	49 ·2	+12 ·0						
Feb. 20	23. 53. 55	Sun	4 ·5	21 ·9	+17 ·4						
	55. 25	Shade	23 ·0	24 ·4	+ 1 ·4	16 ·4					
	56. 55	Sun	24 ·8	43 ·0	+18 ·2	16 ·9					
	58. 25	Shade	44 ·0	45 ·3	+ 1 ·3	16 ·3	16 ·2	23. 58. 55	28	Clear.	
	23. 59. 55	Sun	45 ·8	62 ·8	+17 ·0	15 ·8					
Feb. 21	0. 1. 25	Shade	63 ·9	65 ·0	+ 1 ·1	15 ·9					
	2. 55	Sun	65 ·5	82 ·5	+17 ·0	16 ·1					
	4. 25	Shade	0 ·5	1 ·7	+ 1 ·2	16 ·7					
	5. 55	Sun	2 ·0	20 ·3	+18 ·3	17 ·0					
	7. 25	Shade	21 ·9	23 ·3	+ 1 ·4	17 ·2					

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	h m s		div.	div.	div.	div.	div.	h m s	°		
Feb. 21	0. 8. 55	Sun	24·3	43·1	+18·8	17. 3	17·0	0. 10. 10	28		G
	10. 25	Shade	44·2	45·9	+ 1·7	16·9					
	11. 55	Sun	46·5	64·8	+18·3	16·8					
	13. 25	Shade	66·0	67·2	+ 1·2	17·2					
	14. 55	Sun	67·3	85·7	+18·4						
Feb. 21	1. 57. 6	Sun	0·0	17·8	+17·8						
	58. 36	Shade	17·8	17·1	− 0·7	17·8					
	2. 0. 6	Sun	17·1	33·5	+16·4	16·8					
	1. 36	Shade	33·5	33·5	0·0	15·2					
	3. 6	Sun	33·5	47·5	+14·0	14·1	16·8	2. 3. 36	24	Light thin vapour passing.	
	4. 36	Shade	47·8	47·6	− 0·2	16·5					
	6. 6	Sun	47·4	66·0	+18·6	18·9					
	7. 36	Shade	65·0	64·7	− 0·3	18·6					
	9. 6	Sun	64·1	82·0	+17·9						
Feb. 21	2. 53. 6	Sun	0·0	16·1	+16·1						
	54. 36	Shade	16·2	15·2	− 1·0	17·6					
	56. 6	Sun	15·0	32·0	+17·0	18·0					
	57. 36	Shade	32·0	31·0	− 1·0	17·6	17·6	2. 58. 6	17		
	59. 6	Sun	30·8	47·0	+16·2	17·2					
	3. 0. 36	Shade	47·0	46·0	− 1·0	17·6					
	3. 2. 6	Sun	45·5	62·5	+17·0						
Apr. 2	21. 48. 0	Sun	−0·5	30·0	+30·5						
	49. 30	Shade	35·0	43·1	+ 8·1	21·6					
	51. 0	Sun	48·0	76·9	+28·9	21·6					
	52. 30	Shade	81·9	89·5	+ 6·6	24·0	23·2	21. 53. 0	39	A few cirri about, and currents of passing air.	
	54. 0	Sun	0·0	32·2	+32·2	24·9					
	55. 30	Shade	35·0	43·0	+ 8·0	23·8					
	57. 0	Sun	45·0	76·3	+31·3						
Apr. 2	23. 36. 0	Sun	0·0	30·0	+30·0						
	37. 30	Shade	32·5	36·5	+ 4·0	26·0					
	39. 0	Sun	38·0	68·0	+30·0	26·6					
	40. 30	Shade	69·5	72·3	+ 2·8	26·7					
	42. 0	Sun	−2·0	27·0	+29·0	25·8	25·7	23. 42. 30	45	Cloudless: frequent strong gusts of wind.	
	43. 30	Shade	28·9	32·5	+ 3·7	24·4					
	45. 0	Sun	33·9	61·0	+27·1	24·9					
	46. 30	Shade	61·7	62·5	+ 0·8	25·8					
	48. 0	Sun	63·0	89·0	+26·0						
Apr. 3	1. 2. 0	Sun	3·0	29·1	+26·1						
	3. 30	Shade	29·8	31·0	+ 1·2	24·0					
	5. 0	Sun	31·0	55·2	+24·2	23·2	23·9	1. 5. 30	43	Cloudless: frequent strong gusts of wind.	
	6. 30	Shade	56·2	57·0	+ 0·8	24·6					
	8. 0	Sun	57·0	83·5	+26·5						
Apr. 3	21. 18. 0	Sun	0·0	34·2	+34·2						
	19. 30	Shade	39·0	46·0	+ 7·0	25·5					
	21. 0	Sun	49·0	79·8	+30·8	24·8	25·3	21. 22. 15	41	Cloudless: frequent puffs of wind.	
	22. 30	Shade	82·0	87·0	+ 5·0	25·4					
	24. 0	Sun	0·5	30·5	+30·0	25·6					
	25. 30	Shade	32·5	36·4	+ 3·9						

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	h m s		div.	div.	div.	div.	div.	h m s	°		
Apr. 3	21. 29. 0	Sun	43·5	71·0	+27·5						
	30. 30	Shade	73·0	75·5	+ 2·5	26·3					G
	32. 0	Sun	0·5	30·5	+30·0	28·2					
	33. 30	Shade	32·8	34·0	+ 1·2	28·1					
	35. 0	Sun	34·0	62·5	+28·5	27·4	27·3	21. 34. 0	41	Cloudless.	
	36. 30	Shade	63·0	64·0	+ 1·0	27·0					
	38. 0	Sun	64·5	92·0	+27·5	26·6					
	39. 30	Shade	94·0	94·8	+ 0·8	26·6					
	41. 0	Sun	0·0	27·2	+27·2	26·4					
	42. 30	Shade	29·2	30·1	+ 0·9	26·0					
	44. 0	Sun	30·0	56·5	+26·5	25·6	25·9	21. 45. 15	42		
	45. 30	Shade	57·2	58·1	+ 0·9	25·5					
	47. 0	Sun	58·2	84·5	+26·3	25·5					
	48. 30	Shade	85·2	86·0	+ 0·8	25·6					
	50. 0	Sun	0·0	26·5	+26·5						
Apr. 3	22. 15. 0	Sun	0·0	25·2	+25·2						
	16. 30	Shade	26·5	25·0	− 1·5	27·0					
	18. 0	Sun	25·0	50·7	+25·7	27·0					
	19. 30	Shade	51·0	49·9	− 1·1	27·1	27·2	22. 20. 0	43		
	21. 0	Sun	49·8	76·0	+26·2	27·3					
	22. 30	Shade	76·8	75·7	− 1·1	27·5					
	24. 0	Sun	75·5	102·0	+26·5						
Apr. 3	23. 6. 0	Sun	−1·0	29·0	+30·0						
	7. 30	Shade	29·2	27·8	− 1·4	29·4					
	9. 0	Sun	27·0	53·0	+26·0	27·5	28·3	23. 9. 30	43	Frequent puffs of wind.	
	10. 30	Shade	53·0	51·5	− 1·5	27·9					
	12. 0	Sun	52·0	78·7	+26·7						
Apr. 3	23. 14. 0	Sun	0·0	27·2	+27·2						
	15. 30	Shade	24·5	20·2	− 4·3	31·4					
	17. 0	Sun	18·0	45·0	+27·0	31·7	31·5	23. 17. 30	44	The glass off.	
	18. 30	Shade	43·0	38·0	− 5·0	31·5					
	20. 0	Sun	35·2	61·1	+25·9						
Apr. 3	23. 22. 0	Sun	0·5	28·8	+28·3						
	23. 30	Shade	29·2	28·8	− 0·4	28·6					
	25. 0	Sun	28·8	56·8	+28·0	28·2	28·2	23. 25. 30	44	The glass on.	
	26. 30	Shade	57·5	57·5	0·0	27·8					
	28. 0	Sun	57·5	85·0	+27·5						
Apr. 4	0. 23. 0	Sun	0·0	26·0	+26·0						
	24. 30	Shade	26·0	24·0	− 2·0	26·0					
	26. 0	Sun	24·9	46·9	+22·0	23·7	23·5	0. 26. 30	46	Currents of air.	
	27. 30	Shade	46·2	44·8	− 1·4	20·9					
	29. 0	Sun	45·0	62·0	+17·0						
Apr. 4	1. 1. 0	Sun	2·0	21·0	+19·0						
	2. 30	Shade	19·5	18·0	− 1·5	19·7					
	4. 0	Sun	16·8	34·2	+17·4	18·9	18·4	1. 4. 30	43		
	5. 30	Shade	34·0	32·5	− 1·5	16·5					
	7. 0	Sun	32·5	45·0	+12·5						

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	h m s		div.	div.	div.	div.	div.	h m s	°		
Apr. 4	1. 55. 0	Sun	1·0	17·2	+16·2						G
	56. 30	Shade	17·2	15·7	− 1·5	16·4					
	58. 0	Sun	16·5	30·0	+13·5	15·0	15·7	1. 58. 30	40	Cloudless: windy.	
	59. 30	Shade	29·0	27·5	− 1·5	15·8					
	2. 1. 0	Sun	28·0	43·0	+15·0						
Apr. 24	21. 52. 0	Sun	1·1	31·9	+30·8						
	53. 30	Shade	34·0	37·0	+ 3·0	28·3					
	55. 0	Sun	37·8	69·5	+31·7	28·6					
	56. 30	Shade	71·8	75·0	+ 3·2	28·7	28·5	21. 58. 30	45		
	58. 0	Sun	−0·5	31·5	+32·0	28·5					
	59. 30	Shade	34·0	37·8	+ 3·8	28·3					
	22. 1. 0	Sun	39·0	71·2	+32·2	28·4					
	2. 30	Shade	71·8	75·6	+ 3·8						G
	4. 0	Sun	76·0	81·0	+ 5·0						HB
June 10	4. 8. 45	Sun	18·8	42·3	+23·5						
	10. 15	Shade	43·8	46·2	+ 2·4	20·3					
	11. 45	Sun	47·3	69·1	+21·8	19·8					
	13. 15	Shade	70·6	72·2	+ 1·6	19·8	19·6	4. 13. 45	37		
	14. 45	Sun	0·0	21·0	+21·0	19·2					
	16. 15	Shade	19·1	21·1	+ 2·0	19·2					
	17. 45	Sun	21·5	42·8	+21·3	19·2					
	19. 15	Shade	44·0	46·3	+ 2·3	19·1					
	20. 45	Sun	46·1	67·5	+21·4	19·2					
	22. 15	Shade	69·0	71·2	+ 2·2	18·8	19·1	4. 24. 15	35		
	23. 45	Sun	0·0	20·5	+20·5	18·6					
	25. 15	Shade	22·2	23·8	+ 1 6	19·2					
	26. 45	Sun	0·3	21·3	+21·0	19·5					
	28. 15	Shade	23·0	24·4	+ 1·4						
June 10	5. 28. 15	Sun	0·0	7·2	+ 7·2						
	29. 45	Shade	7·0	6·0	− 1·0	7·8					
	31. 15	Sun	5·8	11·1	+ 5·3	6·0	8·6	5. 31. 45	22	Light airs: hazy near the Sun's place.	
	32. 45	Shade	11·2	10·9	− 0·3	8·3					
	34. 15	Sun	10·7	21·3	+10·6	12·1					
	35. 45	Shade	21·2	18·6	− 2·6	15·4					
	37. 15	Sun	16·7	31·6	+14·9	16·9	14·7	5. 39. 15	20		
	38. 45	Shade	31·6	30·2	− 1·4	14·3					
	40. 15	Sun	28·8	39·7	+10·9	12·3					
	41. 45	Shade	40·2	38·8	− 1·4						
June 10	5. 52. 15	Sun	1·0	9·8	+ 8·8						
	53. 45	Shade	9·2	7·8	− 1·4	8·4	8·4	5. 54. 15	18		
	55. 15	Sun	7·0	12·2	+ 5·2						
June 10	21. 20. 15	Sun	26·8	68·2	+41.4						
	21. 45	Shade	73·4	81·2	+ 7·8	33·6					
	23. 5	Sun	0·5	41·8	+41·3	33·1					
	24. 45	Shade	47·1	55·7	+ 8·6	32·8					
	26. 15	Sun	2·2	43·6	+41·4	32·8	33·4	21. 26. 45	46	Light airs: the zero withdrawn.	
	27. 45	Shade	48·6	57·1	+ 8·5	33·2					
	29. 15	Sun	2·1	44·0	+41·9	33·8					
	30. 45	Shade	49·3	57·1	+ 7·8	34·2					
	32. 15	Sun	1·8	43·8	+42·0						

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April 24^{d}. 22^{h} 4^{m} to 22^{h}. 5^{m} the Sun was obscured by a dense cumulus, and the increase in the readings was only 5^{div}·0. The increase in the readings during the shade observation was 3^{div}·8; so that the effect of the Sun thus covered was to increase the scale reading by 1^{div}·2 in one minute. The effect when clear was to increase the readings by 28^{div}·5 within the same interval of time.

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	h m s		div.	div.	div.	div.	div.	h m s	°		
June 10	21. 58. 15	Sun	4·2	41·5	+37·3						D
	59. 45	Shade	44·4	48·1	+ 3·7	33·8					
	22. 1. 15	Sun	0·8	38·5	+37·7	34·0					
	2. 45	Shade	40·9	44·7	+ 3·8	34·4					
	4. 15	Sun	1·0	39·6	+38·6	34·5	34·9	22. 4. 45	53	Light airs.	
	5. 45	Shade	42·2	46·7	+ 4·5	34·8					
	7. 15	Sun	1·2	41·2	+40·0	36·2					
	8. 45	Shade	43·8	47·0	+ 3·2	36·4					
	10. 15	Sun	0·8	40·0	+39·2						
June 11	1. 11. 15	Sun	39·2	67·7	+28·5						
	12. 45	Shade	70·1	72·2	+ 2·1	27·1					
	14. 15	Sun	0·8	30·7	+29·9	27·7					
	15. 45	Shade	33·0	35·3	+ 2·3	28·1					
	17. 15	Sun	36·2	67·0	+30·8	28·9	28·3	1. 18. 30	62	Wind in gusts.	
	18. 45	Shade	68·8	70·3	+ 1·5	29·2					
	20. 15	Sun	0·0	30·6	+30·6	29·2					
	21. 45	Shade	32·7	34·0	+ 1·3	28·6					
	23. 15	Sun	34·7	63·8	+29·1	27·9					
	24. 45	Shade	65·7	66·8	+ 1·1						
June 11	1. 26. 15	Sun	1·6	31·1	+29·5						
	27. 45	Shade	32·8	33·6	+ 0·8	29·1					
	29. 15	Sun	34·0	64·3	+30·3	30·2					
	30. 45	Shade	65·9	65·3	− 0·6	30·5	29·9	1. 30. 0	60		
	32. 15	Sun	3·0	32·5	+29·5	30·0					
	33. 45	Shade	33·7	33·3	− 0·4	29·7					
	35. 15	Sun	33·2	62·2	+29·0	29·6					
	36. 45	Shade	63·7	62·9	− 0·8	29·8					
	38. 15	Sun	4·0	33·0	+29·0	29·4	29·5	1. 38. 45	59	Wind in gusts.	
	39. 45	Shade	34·7	34·8	+ 0·1	28·9					
	41. 15	Sun	34·2	63·1	+28·9	29·6					
	42. 45	Shade	64·3	62·9	− 1·4	30·1					
	44. 15	Sun	0·6	29·1	+28·5	30·1					
	45. 45	Shade	29·0	27·2	− 1·8	30·0	30·0	1. 47. 0	57		
	47. 15	Sun	26·6	54·4	+27·8	29·7					
	48. 45	Shade	54·0	52·0	− 2·0	30·1					
	50. 15	Sun	0·0	28·4	+28·4						
June 11	1. 53. 15	Sun	29·7	56·8	+27·1						
	54. 45	Shade	56·0	52·8	− 3·2	32·8	32·8	1. 55. 15	56	Wind in gusts.	
	56. 15	Sun	46·2	78·3	+32·1						
June 11	3. 39. 15	Sun	23·0	55·7	+32·7						
	40. 45	Shade	55·2	52·6	− 2·6	35·3					
	42. 15	Sun	51·2	83·9	+32·7	35·3					
	43. 45	Shade	83·9	81·4	− 2·5	35·5	35·6	3. 44. 15	47		
	45. 15	Sun	1·0	34·3	+33·3	35·9					
	46. 45	Shade	34·7	32·0	− 2·7	35·9					
	48. 15	Sun	30·6	63·6	+33·0	35·8					
	49. 45	Shade	63·0	60·1	− 2·9	35·9					
	51. 15	Sun	58·7	91·6	+32·9	35·8					
	52. 45	Shade	91·0	88·2	− 2·8	35·8					
	54. 15	Sun	−0·1	32·9	+33·0	36·2	36·5	3. 54. 45	41	Cloudless.	

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	h m s		div.	div.	div.	div.	div.	h m s	°		
June 11	3. 55. 45	Shade	32·8	29·2	− 3·6	37·0					D
	57. 15	Sun	27·2	60·9	+33·7	37·5					
	58. 45	Shade	59·9	55·9	− 4·0	37·1					
	4. 0. 15	Sun	53·9	86·4	+32·5	36·8					
	1. 45	Shade	85·2	80·7	− 4·5	37·7					
	3. 15	Sun	60·0	92·8	+32·8	37·7					
	4. 45	Shade	91·5	86·2	− 5·3	38·2	37·7	4. 5. 15	37		
	6. 15	Sun	35·9	68·9	+33·0	38·4					
	7. 45	Shade	67·3	61·9	− 5·4	38·2					
	9. 15	Sun	59·4	91·9	+32·5						
June 11	4. 19. 15	Sun	39·7	70·6	+30·9						
	20. 45	Shade	68·7	62·0	− 6·7	37·2					
	22. 15	Sun	58·8	88·6	+29·8	36·6					
	23. 45	Shade	86·8	80·0	− 6·8	36·7					
	25. 15	Sun	2·0	32·0	+30·0	36·8	37·0	4. 24. 15	34		
	26. 45	Shade	29·6	22·8	− 6·8	37·2					
	28. 15	Sun	18·9	49·6	+30·7	37·5					
	29. 45	Shade	47·2	40·5	− 6·7	37·4					
	31. 15	Sun	37·0	67·7	+30·7	37·8					
	32. 45	Shade	64·9	57·5	− 7·4	37·8					
	34. 15	Sun	53·5	83·5	+30·0	37·4	36·7	4. 34. 0	32		
	35. 45	Shade	81·0	73·6	− 7·4	35·7					
	37. 15	Sun	69·8	96·3	+26·5	34·1					
	38. 45	Shade	93·4	85·7	− 7·7	34·9					
	40. 15	Sun	1·9	29·7	+27·8	35·7					
	41. 45	Shade	33·5	25·4	− 8·1	35·4					
	43. 15	Sun	21·2	48·0	+26·8	35·0	35·0	4. 43. 0	31		
	44. 45	Shade	45·8	37·6	− 8·2	34·5					
	46. 15	Sun	33·2	59·0	+25·8	34·4					
	47. 45	Shade	55·9	46·9	− 9·0	34·7					
	49. 15	Sun	42·3	67·9	+25·6	34·5					
	50. 45	Shade	64·6	55·9	− 8·7	33·3					
	52. 15	Sun	51·2	74·7	+23·5	32·5	33·5	4. 52. 0	30		
	53. 45	Shade	70·7	61·4	− 9·3	32·9					
	55. 15	Sun	56·8	80·4	+23·6	33·0					
	56. 45	Shade	76·6	67·2	− 9·4	33·4					
	58. 15	Sun	62·7	87·1	+24·4	33·8					
	59. 45	Shade	83·2	73·8	− 9·4	33·8	33·6	5. 1. 0	28		
	5. 1. 15	Sun	68·9	93·2	+24·3	33·7					
	2. 45	Shade	89·3	79·9	− 9·4	33·4					
	4. 15	Sun	75·0	98·6	+23·6						
June 11	5. 33. 15	Sun	18·9	41·0	+22·1						
	34. 45	Shade	37·6	28·7	− 8·9	30·5					
	36. 15	Sun	24·0	45·7	+21·7	30·5					
	37. 45	Shade	42·5	33·8	− 8·7	29·9	30·2	5. 36. 45	24		
	39. 15	Sun	29·8	50·5	+20·7	29·8					
	40. 45	Shade	46·9	37·5	− 9·4	31·3					
	42. 15	Sun	32·7	55·7	+23·0	32·5					
	43. 45	Shade	51·9	42·3	− 9·6	32·1	32·1	5. 45. 0	20		
	45. 15	Sun	37·3	59·2	+21·9	32·8					
	46. 45	Shade	55·2	45·1	−10·1	31·7					
	48. 15	Sun	40·1	61·4	+21·3						

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	h m s		div.	div.	div.	div.	div.	h m s	°		
Aug. 28	22. 23. 0	Sun	17·7	50·6	+32·9						HB
	24. 30	Shade	53·1	58·8	+ 5·7	26·9	26·9	22. 25. 0	45		
	26. 0	Sun	61·3	93·5	+32·2						
Aug. 28	22. 30. 0	Sun	14·5	46·6	+32·1						
	31. 30	Shade	51·9	56·5	+ 4·6	28·7					
	33. 0	Sun	61·0	95·5	+34·5	29·8					
	34. 30	Shade	8·4	13·3	+ 4·9	29·3	29·5	22. 35. 0	46	Cloudless: currents of air.	
	36. 0	Sun	17·6	51·5	+33·9	28·9					
	37. 30	Shade	55·0	60·1	+ 5·1	29·5					
	39. 0	Sun	10·4	45·7	+35·3	30·6					
	40. 30	Shade	48·9	53·3	+ 4·4	30·1					
	42. 0	Sun	9·0	42·7	+33·7	29·9					
	43. 30	Shade	45·6	48·8	+32·2	31·1					
	45. 0	Sun	52·9	87·7	+34·8	31·7	30·7	22. 46. 15	47		
	46. 30	Shade	16·6	19·6	+ 3·0	31·0					
	48. 0	Sun	23·5	56·6	+33·1	30·1					
	49. 30	Shade	59·1	62·1	+ 3·0	30·8					
	51. 0	Sun	64·5	99·0	+34·5						
Aug. 28	23. 5. 0	Sun	18·0	50·2	+32·2						
	6. 30	Shade	51·0	51·0	0·0	31·9					
	8. 0	Sun	51·0	82·5	+31·5	31·8					
	9. 30	Shade	12·2	11·7	− 0·5	32·6					
	11. 0	Sun	13·4	46·0	+32·6	33·0	32·7	23. 11. 30	48		
	12. 30	Shade	46·5	46·2	− 0·3	33·3					
	14. 0	Sun	47·5	80·8	+33·3	33·5					
	15. 30	Shade	4·6	4·5	− 0·1	33·0					
	17. 0	Sun	6·2	38·7	+32·5						
Aug. 29	0. 1. 0	Sun	41·8	75·7	+33·9						
	1. 30	Shade	11·7	10·9	− 0·8	34·5					
	3. 0	Sun	11·2	44·7	+33·5	34·5					
	4. 30	Shade	44·3	43·1	− 1·2	33·0	34·2	0. 5. 0	49⅓		
	6. 0	Sun	44·2	77·2	+33·0	32·8					
	7. 30	Shade	78·2	77·0	− 1·2	36·1					
	9. 0	Sun	51·2	88·0	+36·8						
Aug. 29	1. 9. 0	Sun	21·6	48·8	+27·2						
	10. 30	Shade	47·2	41·0	− 6·2	34·7					
	12. 0	Sun	44·4	74·2	+29·8	36·0	35·3	1. 11. 45	47	Light clouds obscuring the Sun.	
	13. 30	Shade	72·5	66·4	− 6·1	35·3					
	15. 0	Sun	12·7	41·4	+28·7	34·0	33·4	1. 17. 0	47	Light clouds obscuring the Sun.	
	16. 30	Shade	51·0	46·6	− 4·4	32·7					
	18. 0	Sun	46·3	74·3	+28·0						
Sep. 8	22. 33. 20	Sun	2·0	38·9	+36·9					Cloudless throughout the observations of Sept. 8 and 9.	D
	34. 35	Shade	41·1	48·8	+ 7·7	29·0					
	35. 50	Sun	50·6	87·0	+36·4	28·7					
	37. 5	Shade	89·1	96·8	+ 7·7	28·8	28·8	22. 37. 35	41		
	38. 20	Sun	0·0	36·5	+36·5	29·1					
	39. 35	Shade	38·6	45·8	+ 7·2	28·8					
	40. 50	Sun	47·4	82·7	+35·3	28·6					
	42. 5	Shade	84·8	91·3	+ 6·5	30·3					

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	h m s		div.	div.	div.	div.	div.	h m s	°		
Sep. 8	22. 43. 20	Sun	0·2	38·5	+38·3	31·9				Cloudless throughout the observations of Sept. 8 and 9.	D
	44. 35	Shade	40·6	47·0	+ 6·4	31·5					
	45. 50	Sun	48·9	86·3	+37·4	31·3	31·4	22. 45. 43	42		
	47. 5	Shade	88·1	94·0	+ 5·9	31·4					
	48. 20	Sun	0·0	37·2	+37·2	31·9					
	49. 35	Shade	39·3	44·1	+ 4·8	33·0					
	50. 50	Sun	45·2	83·5	+38·3	33·9					
	52. 5	Shade	85·1	89·1	+ 4·0	33·8					
	53. 20	Sun	−0·3	37·0	+37·3	33·5	33·9	22. 53. 13	42		
	54. 35	Shade	38·5	42·1	+ 3·6	34·1					
	55. 50	Sun	43·0	81·0	+38·0	35·1					
	57. 5	Shade	81·9	84·1	+ 2·2	35·3					
	58. 20	Sun	0·0	37·0	+37·0	34·6					
	59. 35	Shade	37·1	39·8	+ 2·7	33·9					
	23. 0. 50	Sun	40·6	76·8	+36·2	34·0	34·6	23. 0. 43	43		
	1. 5	Shade	77·3	79·0	+ 1·7	34·7					
	3. 20	Sun	0·1	36·7	+36·6	35·2					
	4. 35	Shade	37·5	38·7	+ 1·2	34·8					
	5. 50	Sun	39·0	74·3	+35·3	33·7					
	7. 5	Shade	75·1	77·1	+ 2·0	34·9	35·4	23. 8. 13	43		
	8. 20	Sun	0·0	38·5	+38·5	36·5					
	9. 35	Shade	39·1	41·1	+ 2·0	35·8					
	10. 50	Sun	41·7	78·8	+37·1	36·6					
	12. 5	Shade	79·0	78·0	− 1·0	38·4					
	13. 20	Sun	0·0	37·7	+37·7	39·2					
	14. 35	Shade	37·5	35·5	− 2·0	37·5					
	15. 50	Sun	35·0	68·2	+33·2	35·1	36·4	23. 15. 43	44		
	17. 5	Shade	68·2	66·4	− 1·8	34·5					
	18. 20	Sun	65·9	98·0	+32·1	33·8					
	19. 35	Shade	97·7	96·2	− 1·5	35·2					
	20. 50	Sun	0·7	36·0	+35·3	37·0					
	22. 5	Shade	36·0	34·1	− 1·9	36·9					
	23. 20	Sun	33·7	68·3	+34·6	37·4	36·6	23. 23. 13	44		
	24. 35	Shade	68·0	64·6	− 3·4	37·2					
	25. 50	Sun	63·8	96·8	+33·0	36·0					
	27. 5	Shade	96·4	93·8	− 2·6	36·5					
	28. 20	Sun	0·0	34·7	+34·7	38·2					
	29. 35	Shade	34·1	29·7	− 4·4	38·3	37·5	23. 30. 5	44½		
	30. 50	Sun	28·6	61·7	+33·1	37·6					
	32. 5	Shade	60·7	56·0	− 4·7	36·9					
	33. 20	Sun	54·8	86·0	+31·2	35·7					
	34. 35	Shade	85·5	81·2	− 4·3	36·3					
	35. 50	Sun	0·7	33·5	+32·8	36·9	36·5	23. 36. 20	45		
	37. 5	Shade	33·0	29·0	− 4·0	36·9					
	38. 20	Sun	28·1	61·0	+32·9	36·9					
	39. 35	Shade	60·5	56·5	− 4·0	36·5					
	40. 50	Sun	55·0	87·0	+32·0	36·1					
	42. 5	Shade	85·9	81·8	− 4·1	37·6					
	43. 20	Sun	0·7	35·6	+34·9	39·2	37·1	23. 43. 50	45		
	44. 35	Shade	35·0	30·6	− 4·4	37·7					
	45. 50	Sun	29·3	61·0	+31·7	36·5					
	47. 5	Shade	60·1	55·0	− 5·1	36·2					
	48. 20	Sun	53·8	84·2	+30·4	36·0					
	49. 35	Shade	83·2	77·2	− 6·0	35·8					

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	h m s		div.	div.	div.	div.	div.	h m s	°		
Sep. 8	23. 50. 50	Sun	0 ·8	30 ·0	+29 ·2	35 ·2				Cloudless throughout the observations of Sept. 8 and 9.	D
	52. 5	Shade	28 ·9	23 ·0	− 5 ·9	34 ·5	35 ·4	23. 52. 35	46		
	53. 20	Sun	21 ·8	49 ·7	+27 ·9	33 ·8					
	54. 35	Shade	48 ·8	42 ·9	− 5 ·9	35 ·3					
	55. 50	Sun	41 ·7	72 ·6	+30 ·9	37 ·2					
	57. 5	Shade	71 ·7	65 ·1	− 6 ·6	37 ·2					
	58. 20	Sun	63 ·6	93 ·8	+30 ·2	36 ·6					
	59. 35	Shade	92 ·5	86 ·3	− 6 ·2	37 ·4					
Sep. 9	0. 0. 50	Sun	4 ·0	36 ·2	+32 ·2	38 ·1	37 ·0	0. 1. 27	46		
	1. 5	Shade	35 ·4	29 ·8	− 5 ·6	37 ·0					
	3. 20	Sun	28 ·1	58 ·7	+30 ·6	36 ·3					
	4. 35	Shade	57 ·5	51 ·8	− 5 ·7	36 ·2					
	5. 50	Sun	49 ·9	80 ·2	+30 ·3						
Sep. 9	0. 36. 50	Sun	4 ·1	31 ·0	+26 ·9						
	38. 5	Shade	29 ·1	19 ·9	− 9 ·2	36 ·3					
	39. 20	Sun	17 ·2	44 ·5	+27 ·3	36 ·7					
	40. 35	Shade	42 ·3	32 ·7	− 9 ·6	35 ·9	36 ·4	0. 41. 5	44		
	41. 50	Sun	30 ·0	55 ·3	+25 ·3	35 ·2					
	43. 5	Shade	52 ·9	42 ·8	−10 ·1	36 ·7					
	44. 20	Sun	40 ·2	68 ·0	+27 ·8	37 ·3					
	45. 35	Shade	66 ·0	57 ·1	− 8 ·9	37 ·0					
	46. 50	Sun	55 ·3	83 ·6	+28 ·3	37 ·1					
	48. 5	Shade	82 ·0	73 ·4	− 8 ·6	36 ·9					
	49. 20	Sun	71 ·1	99 ·3	+28 ·2	37 ·5	36 ·8	0. 50. 28	43		
	50. 35	Shade	97 ·0	87 ·0	−10 ·0	36 ·8					
	51. 50	Sun	2 ·6	28 ·0	+25 ·4	35 ·9					
	53. 5	Shade	26 ·0	15 ·0	−11 ·0	36 ·6					
	54. 20	Sun	12 ·2	37 ·9	+25 ·7						
Sep. 9	1. 30. 50	Sun	5 ·6	33 ·6	+28 ·0						
	32. 5	Shade	32 ·1	26 ·1	− 6 ·0	33 ·7					
	33. 20	Sun	24 ·5	51 ·9	+27 ·4	34 ·0					
	34. 35	Shade	50 ·3	43 ·2	− 7 ·1	34 ·5					
	35. 50	Sun	41 ·8	69 ·3	+27 ·5	34 ·5					
	37. 5	Shade	68 ·0	61 ·2	− 6 ·8	34 ·8	34 ·3	1. 36. 58	42		
	38. 20	Sun	1 ·8	30 ·2	+28 ·4	34 ·9					
	39. 5	Shade	29 ·0	22 ·9	− 6 ·1	34 ·3					
	40. 50	Sun	21 ·1	49 ·0	+27 ·9	33 ·9					
	42. 5	Shade	48 ·0	42 ·2	− 5 ·8	33 ·9					
	43. 20	Sun	40 ·9	69 ·2	+28 ·3	33 ·8					
	44. 35	Shade	68 ·1	62 ·9	− 5 ·2	33 ·0					
	45. 50	Sun	61 ·6	88 ·9	+27 ·3	32 ·9					
	47. 5	Shade	87 ·1	81 ·1	− 6 ·0	33 ·5					
	48. 20	Sun	1 ·2	28 ·8	+27 ·6	33 ·5	32 ·7	1. 50. 5	40		
	49. 35	Shade	27 ·8	22 ·0	− 5 ·8	33 ·1					
	50. 50	Sun	20 ·3	47 ·3	+27 ·0	32 ·6					
	52. 5	Shade	46 ·1	40 ·8	− 5 ·3	31 ·4					
	53. 20	Sun	39 ·1	64 ·2	+25 ·1	30 ·8					
	54. 35	Shade	63 ·0	56 ·9	− 6 ·1	31 ·9					
	54. 50	Sun	55 ·3	81 ·8	+26 ·5						
Sep. 25	22. 26. 0	Sun	5 ·3	19 ·6	+14 ·3					Cloudless, but very hazy.	
	27. 30	Shade	19 ·6	18 ·6	− 1 ·0	15 ·7					

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	h m s		div.	div.	div.	div.	div.	h m s	°		
Sep. 25	22. 29. 0	Sun	18·0	33·1	+15·1	16·2					D
	30. 30	Shade	32·8	31·7	— 1·1	17·1					
	32. 0	Sun	30·9	47·8	+16·9	18·0	17·3	22. 32. 30	33		
	33. 30	Shade	47·3	46·2	— 1·1	18·2					
	35. 0	Sun	55·8	73·0	+17·2	18·3					
	36. 30	Shade	71·8	70·8	— 1·0	17·6					
	38. 0	Sun	70·6	86·7	+16·1	17·2					
	39. 30	Shade	1·6	0·5	— 1·1	15·6					
	41. 0	Sun	0·0	13·0	+13·0	14·3	14·9	22. 42. 15	33	The haze is much thicker.	
	42. 30	Shade	12·2	10·8	— 1·4	14·9					
	44. 0	Sun	10·2	24·2	+14·0						
Oct. 13	21. 21. 0	Sun	22·7	54·0	+31·3					Wind rather high.	HB
	22. 30	Shade	57·1	56·1	— 1·0	30·8					
	24. 0	Sun	64·5	92·8	+28·3	26·7					
	25. 30	Shade	15·0	19·2	+ 4·2	23·9					
	27. 0	Sun	21·7	49·5	+27·8	24·7	26·8	21. 27. 30	21		
	28. 30	Shade	51·0	53·1	+ 2·1	26·6					
	30. 0	Sun	25·1	54·6	+29·5	27·2					
	31. 30	Shade	56·5	59·1	+ 2·6	27·1					
	33. 0	Sun	18·5	48·3	+29·8	27·1					
	34. 30	Shade	50·0	52·8	+ 2·8	26·4					
	36. 0	Sun	13·5	42·1	+28·6	26·2					
	37. 30	Shade	44·8	46·9	+ 2·1	27·0					
	39. 0	Sun	16·0	45·5	+29·5	28·0	27·7	21. 40. 15	23		
	40. 30	Shade	46·2	47·0	+ 0·8	28·5					
	42. 0	Sun	10·6	39·6	+29·0	28·5					
	43. 30	Shade	40·0	40·2	+ 0·2	29·0					
	45. 0	Sun	43·5	73·0	+29·5						
Oct. 13	21. 48. 0	Sun	34·8	65·8	+31·0						
	49. 30	Shade	66·9	67·3	+ 0·4	30·7	30·7	21. 48. 0	23		
	51. 0	Sun	17·2	48·3	+31·1						
Oct. 13	21. 56. 0	Sun	25·0	55·5	+30·5	32·1					
	57. 30	Shade	55·2	53·2	— 2·0	32·0					
	59. 0	Sun	10·7	40·3	+29·6	31·7					
	22. 0. 30	Shade	39·5	36·8	— 2·7	31·2					
	2. 0	Sun	36·6	65·0	+28·4	31·2					
	3. 30	Shade	63·9	61·0	— 2·9	31·8	31·6	22. 5. 30	25	Currents of air.	
	5. 0	Sun	12·4	40·6	+28·2	32·0					
	6. 30	Shade	39·3	35·0	— 4·3	31·5					
	8. 0	Sun	35·6	62·7	+27·1	31·4					
	9. 30	Shade	61·0	56·5	— 4·5	31·4					
	11. 0	Sun	30·2	56·8	+26·6	31·7					
	12. 30	Shade	55·0	50·0	— 5·0						
	14. 0	Sun	16·4	43·1	+26·7						
Oct. 13	22. 17. 0	Sun	24·7	51·9	+27·2						
	18. 30	Shade	49·6	44·5	— 5·1	32·3					
	20. 0	Sun	44·4	71·5	+27·1	32·5	32·5	22. 20. 30	28		
	21. 30	Shade	69·8	64·2	— 5·6	32·6					
	23. 0	Sun	46·2	73·0	+26·8						

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Day, 1845.	Greenwich Mean Solar Time of the Initial Reading.	Instrument exposed to the Sun's Rays or in the Shade.	Readings of the Graduated Scale. Initial A	Terminal B	Change in One Minute B−A.	Apparent Effect of 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	°		
Oct. 15	0. 9. 0	Sun	.0·7	31·4	+30·7					The Sun is shining through cirri.	D
	10. 15	Shade	33·0	38·2	+ 5·2	25·3					
	11. 30	Sun	39·2	69·4	+30·2	25·5					
	12. 45	Shade	70·6	74·8	+ 4·2	26·2					
	14. 0	Sun	0·5	31·0	+30·5	26·4	25·7	0. 14. 30	30		
	15. 15	Shade	32·1	36·1	+ 4·0	25·8					
	16. 30	Sun	37·0	66·1	+29·1	25·8					
	17. 45	Shade	67·2	69·8	+ 2·6	25·8					
	19. 0	Sun	70·6	98·3	+27·7	24·8					
	20. 15	Shade	0·0	3·3	+ 3·3	24·4					
	21. 30	Sun	4·1	31·8	+27·7	25·1					
	22. 45	Shade	32·2	34·1	+ 1·9	25·7					
	24. 0	Sun	34·6	62·0	+27·4	26·0	27·3	0. 25. 8	30	The cirri are less dense.	
	25. 15	Shade	62·5	63·5	+ 1·0	28·1					
	26. 30	Sun	63·7	94·4	+30·7	29·7					
	27. 45	Shade	94·7	95·8	+ 1·1	29·7					
	29. 0	Sun	−0·5	30·3	+30·8	29·5					
	30. 15	Shade	31·1	32·7	+ 1·6	29·0					
	31. 30	Sun	32·5	62·8	+30·3	29·5					
	32. 45	Shade	63·2	63·3	+ 0·1	29·7					
	33. 45	Sun	63·3	92·6	+29·3	29·3	29·2	0. 34. 23	30		
	35. 0	Shade	92·8	92·8	+ 0·0	29·8					
	36. 15	Sun	0·5	30·8	+30·3	30·2					
	37. 30	Shade	31·5	31·8	+ 0·3	28·6					
	38. 45	Sun	31·8	59·3	+27·5	27·6				The cirri are again denser.	
	40. 0	Shade	59·8	59·3	− 0·5	26·5					
	41. 15	Sun	59·2	83·6	+24·4	25·0					
	42. 30	Shade	83·9	83·2	− 0·7	26·3					
	43. 45	Sun	0·0	26·8	+26·8	27·3	28·5	0. 44. 53	29		
	45. 0	Shade	27·0	26·8	− 0·2	28·6					
	46. 15	Sun	26·6	56·9	+30·0	30·6					
	47. 30	Shade	56·9	56·0	− 0·9	31·3					
	48. 45	Sun	55·8	86·6	+30·8	32·0				The Sun is nearly free from cirrus.	
	50. 0	Shade	86·5	85·1	− 1·4	30·7					
	51. 15	Sun	0·6	28·3	+27·7	29·2				Cirri denser again.	
	52. 30	Shade	28·3	26·8	− 1·5	29·2					
	53. 45	Sun	26·5	54·2	+27·7	30·0	31·6	0. 54. 23	29	Very thin cirri.	
	55. 0	Shade	53·9	50·9	− 3·0	32·2					
	56. 15	Sun	50·0	81·6	+30·6	33·8				Nearly clear about the Sun.	
	57. 30	Shade	81·2	77·8	− 3·4	33·8					
	58. 45	Sun	7·0	37·2	+30·2	33·6					
	1. 0. 0	Shade	36·8	33·5	− 3·3	34·2					
	1. 15	Sun	32·9	64·4	+31·5	34·3					
	2. 30	Shade	64·1	61·8	− 2·3	34·1	34·7	1. 3. 38	29		
	3. 45	Sun	61·0	93·1	+32·1	35·1					
	5. 0	Shade	92·6	89·0	− 3·6	35·7					
	6. 15	Sun	0·0	32·0	+32·0					[the Sun.	
Oct. 15	1. 19. 0	Sun	0·7	27·6	+26·9					Nearly clear, a few cirri being scattered about the place of	
	20. 15	Shade	25·7	18·3	− 7·4	27·6					
	21. 45	Sun	14·6	28·0	+13·4	20·2				A cumulus passing.	
	23. 0	Shade	26·1	19·9	− 6·2	25·6					
	24. 15	Sun	16·8	42·2	+25·4	32·1	29·4	1. 24. 45	29		
	25. 30	Shade	40·9	33·7	− 7·2	30·4				Cirrus over the Sun.	
	26. 45	Sun	32·1	53·1	+21·0						

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.

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time, or Limits of Time, 1845.	Sign of Electricity, as shewn by Dry Pile Apparatus.	READINGS OF ELECTROMETERS. Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Volta (1).	Volta (2).	Henley.	Time of Recovery after Discharge.	Time of Maximum Tension.	RONALDS' SPARK-MEASURER. Time of Occurrence of Spark.	Length of Spark.	Corresponding Frequency.
d h m d h m		° °	° °	div. div.	div. div.	° °		h m	h m	in.	sp. sec.
Jan. 1. 21. 20 to 1. 21. 50	Pos.	1 to 10	0 to 10	0 to 8	0 to 7	..	..	21. 20	..	..	...
3. 12. 25 to 3. 12. 30	Neg.	..	3	3	5	..	..	..	..	..	...
27. 11. 30 to 27. 11. 50	Neg.	0 to 5	..	..	..	..	..	..	..	..	...
30. 1. 41 to 30. 2. 8	Pos.	0 to 10	..	..	..	..	..	1. 41	..	..	...
30. 14. 40 to 30 18. 0	Neg.	½ to 1	..	..	..	..	..	..	..	..	...
Feb. 17. 1. 7 to 17. 2. 3	Pos.	3 to 30	..	0 to 4	..	..	..	1. 7	..	..	...
17. 7. 30 to 17. 8. 6	Pos. & Neg.	0 to 30	..	0 to 4	0 to 5	..	..	7. 37	..	..	...
17. 23. 55 to 18. 0. 5	Neg.	1 to 3	..	..	..	..	..	..	..	..	...
18. 0. 8 to 18. 9. 20	Pos.	1 to 15	..	0 to 3	..	..	..	h m h m 3.15 to 3.40	..	..	...
19. 22. 34 to 20. 7. 30	Pos.	3 to 40	20 to 25	1 to 15	0 to 20	..	..	1.16 to 1.53	..	..	...
25. 8. 10 to 25. 8. 42	Neg.	2 to 25	..	0 to 3	2 to 10	..	..	8. 14	..	..	...
Mar. 14. 0. 20 to 14. 5. 41	Pos.	2 to 40	..	0 to 20	0 to 15	..	..	5. 33	..	..	...
18. 0. 0 to 18. 1. 0	Pos.	1 to 4	..	1	..	..	..	..	..	..	...
19. 23. 0 to 20. 4. 50	Pos.	0 to 15	..	0 to 6	..	..	..	0. 0	..	..	...
Apr. 3. 23. 0 to 4. 3. 18	Pos.	3 to 7	..	1 to 5	..	..	..	..	..	..	...
6. 21. 0 to 7. 3. 28	Pos.	1 to 30	..	0 to 20	0 to 15	..	1h. 0m	0.30 to 0.53	..	..	...
13. 22. 50 to 13. 22. 58	Neg.	0 to 40	..	0 to 40	..	..	0h. 1m	22. 55	..	..	...
24. 4. 10 to 24. 7. 5	Pos.	2 to 8	..	0 to 3	0 to 5	..	..	..	..	..	...
May 2. 3. 10 to 2. 3. 26	Pos. & Neg.	0 to 40	..	5 to 100	10 to 120	0 to 5	0s ·2	3. 20	3. 14	0 ·05	...
5. 3. 31 to 5. 3. 56	Neg. & Pos.	0 to 40	..	0 to 150	0 to 200	0 to 10	0s·2 to 2m.30s	3. 50	3. 46	0 ·06	10 in 1
									3. 48	0 ·06	20 in 1
8. 0. 48 to 8. 1. 4	Pos.	0 to 40	..	0 to 50	0 to 200	..	..	0. 48	0. 48	0 ·04	2 in 1
10. 1. 17 to 10. 2, 30	Pos. & Neg.	0 to 40	..	0 to 80	0 to 90	0 to 2	0s ·2 to 15m	1.45 to 1.50	1. 22	0 ·03	A spark
									1. 28 to 1. 29. 30	0 ·05	1 in 3
									1. 29. 30 to 1. 30. 30	0 ·10	None
									1. 32	0 ·05	1 in 6
									1. 37	0 ·03	A spark
									1. 39	0 ·02	...
									1. 40	0 ·05	...
									1. 46	0 ·05	20 in 60
									2. 2	0 ·04	Sparks
									2. 7	0 ·02	...
11. 22. 30 to 11. 22. 40	Neg.	3 to 40	..	5 to 30	0 to 60	..	0s ·5	22. 37	22. 37	0 ·04	Sparks
18. 8. 44 to 18. 8. 52	Neg.	0 to 3	..	2 to 5	0 to 5	..	..	8. 45	..	..	...
19. 23. 45 to 19. 23. 55	Pos. & Neg.	0 to 40	..	0 to 60	0 to 200	..	0s·5 to 1m. 0s	23. 46	23. 47	0 ·10	1 in 1
									23. 49	0 ·05	4 in 1
									23. 50	0 ·17	A spark
20. 3. 10	Pos.	2	..	2	..	..	..	..	..	..	...
20. 5. 54 to 20. 5. 57	Pos. & Neg.	1 to 3	..	2 to 5	5 to 10	..	..	5. 56	..	..	...
20. 7. 31 to 20. 9. 47	Neg.	0 to 40	..	0 to 60	0 to 120	..	8s to 23s	7. 5	..	..	...
22. 1. 37 to 22. 1. 42	Pos. & Neg.	2 to 40	..	2 to 60	5 to 30	0 to 10	0m. 30s	1. 37	1. 40	0 ·08	A spark
26. 1. 11 to 26. 1. 14	Pos.	5 to 10	..	8 to 13	5 to 10	..	..	1. 11	..	..	...
June 2. 0. 34 to 2. 1. 55	Pos.	1 to 2	..	1 to 2	..	..	..	..	..	..	...
3. 0. 12 to 3. 0. 32	Pos.	0 to 40	..	2 to 50	0 to 120	0 to 12	0m. 15s	0. 16	h m s 0. 15. 50	0 ·08	4 in 1
								to	0. 16	0 ·08	6 in 1
								0. 22	..	0 ·06	A volley
									0. 20	0 ·10	...

During every series of observations the ball at one end of the Galvanometer wire was placed frequently in connexion with the vertical rods of the electrical apparatus described in the Introduction, the other end of the wire being constantly in communication with the ground. The instances recorded above are the only ones in which a galvanic current has been shewn, and it may be considered that no current existed at any other time.

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.		
..	..	N by E	..	Light clouds, chiefly cirri, are scattered over the sky.	D
..	..	SW	..	Thin rain is falling.	H B
..	..	WSW	..	Snow falling.	G
..	..	NNW	..	The sky is covered with stratus cloud.	
..	..	NNW	½ to 2	Snow falling: the single gold leaf was in a constantly quivering state towards the negative pile, and it continued so till 18^h.	
..	1 to 8	Calm	..	Scud prevalent.	G
..	..	Calm	..	The zenith occasionally clear, at other times covered with fleecy clouds.	H B
..	..	Calm	..	Thin clouds about the zenith.	G
..	..	Calm	..	Thin cirro-stratus covered the sky till 3^h; after that time it was generally clear, but hazy.	G & D
..	..	WSW	..	Generally cloudless.	G, D & HB
..	..	Calm	..	Rain falling.	H B
..	..	NNE	0 to ¼	Cloudless.	D & HB
..	..	WNW	..	Fleecy clouds about the zenith.	G
..	..	N by W	..	Cloudless.	D & G
..	..	E	..	Cloudless.	G
..	..	ENE	..	,,	G & HB
..	30	W by S	..	A squall of wind and rain.	G
..	..	SW	..	Light cirri about the zenith.	D & HB
8	..	SW	..	Cumulo-strati near the zenith: thunder heard.	H B
..	3 to 9	ENE	..	Rain falling.	D & HB
..	..	SSW	..	,,	D
..	..	N	..	Cumulo-strati prevalent: rain falling occasionally: thunder heard.	G & HB
7 to 10	..	W by S	..	Rain falling heavily.	H B
..	..	NNE	..	Rain falling.	H B
5	..	N	..	Rain was falling till $23^h.53^m$, when it ceased, and the electricity became negative.	D
				A few drops of rain are falling.	H B
..	..	N by W	..	A few drops of rain are falling: the electricity changed to negative at $5^h.55^m$.	
..	..	NE	..		
..	..	N by E	3 to 5	Rain falling.	
..	..	N by E	0 to 2½	Hail falling.	
..	..	E by N	..	Rain falling.	
..	..	..	..	Cloudless.	H B
..	4 to 15	..	..	Heavy rain: squally.	G

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time, or Limits of Time, 1845.	Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Electrometers. Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Volta (1).	Volta (2).	Henley.	Time of Recovery after Discharge.	Time of Maximum Tension.	Ronalds' Spark-Measurer. Time of Observation or Occurrence of Spark.	Opening of Spark-measurer, or Length of Spark.	Corresponding Frequency.
d h m d h m		° °	° °	div. div.	div. div.	° °		h m	h m s	in.	sp. sec.
June 3. 0.12 to 3. 0.32	Pos.	0 to 40	..	2 to 50	0 to 120	0 to 12	$0^{s}{\cdot}2$	0.16 to 0.22	0.20. 5	0·15	A volley
									0.21.10	0·08	,,
									0.23.25	0·05	A spark
									0.26.30	0·05	A volley
3. 3.39 to 3. 3.41	Pos.	2 to 5	..	2 to 5	0 to 10	..	..	3.40	..	..	...
3.23.14 to 3.23.24	Pos. & Neg.	1 to 40	..	2 to 70	0 to 130	..	$0^{s}{\cdot}2$	23.15	23.15. 0	0·03	3 in 1
4. 1.40 to 4. 1.46	Neg.	2 to 20	..	2 to 70	5 to 60	..	Instantly	1.42	1.42. 0	0·04	Sparks
									1.44. 0	0·04	...
11. 3.30 to 11. 8. 0	Pos.	1 to 6	..	0 to 4	0	..	..	..	..	..	...
16.21.40 to 17. 0.10	Pos.	0 to 40	..	0 to 60	0 to 120	..	..	21.57	21.57. 0	0·03	Weak sparks
17. 6.21 to 17. 7.28	Neg. & Pos.	0 to 40	..	0 to 130	0 to 200	..	Instantly to 5^{s}	6.52	6.35. 0	0·03	Not frequent
									6.39. 0	0·05	Very frequent
									6.41. 0	0·05	None
									6.43. 0	0·04	1 in 1
									6.50. 0	0·04	2 in 1
									6.50. 0	0·05	None
									7. 6. 0	0·02	Sparks
24. 4.30 to 24. 5.12	Pos.	0 to 40	..	0 to 45	0 to 120	..	$0^{s}{\cdot}5$ to $1^{s}{\cdot}0$	5. 2	..	..	...
27.23.28 to 27.23.31	Neg.	0 to 30	..	0 to 30	0 to 55	..	..	23.29	..	..	...
July 2.23.40 to 2.23.57	Pos.	0 to 40	..	0 to 40	0 to 150	0 to 10	$0^{s}{\cdot}2$ to $0^{s}{\cdot}8$	23.42 and 23.47	23.40. 0	0·13	Sparks
									23.44. 0	0·10	2 in 1
									23.48. 0	0·05	1 in 1
11. 1. 4 to 11. 1.29	Neg. & Pos.	0 to 40	..	0 to 30	0 to 10	..	2^{s}	1.28	..	..	...
14. 0.12 to 14. 0.14	Neg.	0 to 5	..	0 to 3	0 to 8	..	..	0.12	..	..	...
15. 0. 3 to 15. 0.15	Neg.	0 to 10	..	0 to 5	..	..	..	0. 7	..	..	...
16. 5. 5 to 16. 6.50	Pos.	0 to 22	..	0 to 13	0 to 15	..	9^{m} to 15^{m}	h m h m 6.46 to 6.48	..	..	...
17. 1.28 to 17. 1.30	Pos.	0 to 15	..	0 to 5	0 to 10	..	..	1.29	..	..	...
18. 3.10 to 18. 7. 0	Pos.	1 to 3	..	0 to 2	..	..	..	..	..	..	...
19. 5.40 to 19. 6.40	Pos.	1 to 3	..	0 to 3	0 to 5	..	..	5.52	..	..	...
30.22.28 to 30.22.36	Pos. & Neg.	0 to 40	..	0 to 50	0 to 120	0 to 10	..	22.30	22.29. 0	0·02	3 in 1
									22.29.30	0·01	A volley of sparks
									22.30. 0	0·01	,,
Aug. 2. 3.12 to 2. 3.30	Pos. & Neg.	0 to 40	..	0 to 50	0 to 120	..	..	3.29 and 3.30	..	..	...
2. 3.30.35^{s}	..	..	..	..	..	..	..	..	..	..	...
2. 3.32.25	..	..	..	..	..	..	..	..	..	..	...
2. 3.32.45	..	..	..	..	..	..	..	..	..	..	...
2. 3.33. 0	Neg.	..	..	40	100						
2. 3.34.13	..	..	..	..	..	..	..	..	..	..	...
2. 3.35. 0	..	..	..	..	..	..	..	..	..	..	...
2. 3.36.15	..	..	..	..	..	..	..	..	..	..	...
2. 3.37. 0	Neg.	..	..	30	80						
2. 3.37.45	..	..	..	..	..	..	..	..	..	..	...
2. 3.39.53	..	..	..	..	..	..	..	..	..	..	...

ELECTROMETER OBSERVATIONS.

GALVANOMETER.		WIND.		REMARKS.	Observer.
		From Osler's Anemometer.			
The Head of the Needle towards A.	The Head of the Needle towards B.	Direction.	Pressure in lbs. per square foot.		
° °	° °		from lbs. to lbs.		
..	4 to 10	..	..	Heavy rain is falling: squally.	G
..	..	..	..	Heavy rain falling.	H B
..	..	..	..	Rain falling heavily: the electricity changed from positive to negative at $23^h. 17^m$.	
..	..	..	..	Slight rain falling.	H B
..	..	ENE	..	Cloudless.	D
..	..	SW	..	Rain falling: very dark.	G
..	..	Calm	..	,, thunder occasionally heard: the electricity changed from negative to positive at $6^h. 54^m$.	H B
..	1 to 10	W by S	1 to 4	Rain falling heavily.	D
..	..	SW	..	,,	D
..	..	S by E	..	Heavy cumulo-strati in the zenith: rain falling till $23^h. 52^m$.	H B
..	..	W	..	Heavy cumulo-strati prevalent: at $1^h. 16^m$ thunder was heard: at $1^h. 25^m$ rain began to fall, when the electricity changed from negative to positive.	H B
..	..	NW	0 to ½	A shower of rain.	D
..	..	NW	..	Rain falling.	L
..	..	WNW	..	Nearly cloudless: cirri and fleecy clouds about the zenith.	H B
..	..	WSW	½ constant	Rain falling heavily.	D
..	..	WSW	..	Cumuli and cumulo-strati about the zenith.	D
..	..	NNE	..	Nearly cloudless.	H B
..	..	SW	..	Rain was falling heavily till $22^h. 31^m$, when it ceased, and the electricity then became negative.	D
..	..	W by N	..	Rain falling in torrents.	
..	..	..	..	A very vivid flash of lightning, and a loud clap of thunder two seconds afterwards: the only effect was one fine spark from the conductor to the spark-measurer, when the straws returned to zero.	
..	..	..	..	A distant rolling of thunder.	
..	..	..	..	A flash of lightning; thunder two seconds afterwards: a bright spark was shewn when the lightning was seen, and then all the instruments returned to zero.	
..	..	..	..	A vivid flash of lightning, when a spark was shewn at the measurer, which was unusually bright, and of a purple colour: thunder commenced five seconds after the lightning, and continued until $34^m. 28^s$.	
..	..	..	..	A faint rolling of thunder, but there was no lightning visible.	
..	..	..	..	A vivid flash of lightning; thunder was heard two seconds after: the same effect on the instruments as before.	
..	..	..	..	A flash of lightning; thunder two seconds afterwards, when all the instruments returned to zero.	
..	..	..	..	A brilliant flash of lightning; the thunder commenced three seconds afterwards, and continued for thirty seconds.	

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time, or Limits of Time, 1845.	Sign of Electricity, as shewn by Dry Pile Apparatus.	READINGS OF ELECTROMETERS. Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Volta (1).	Volta (2).	Henley.	Time of Recovery after Discharge.	Time of Maximum Tension.	RONALDS' SPARK-MEASURER. Time of Observation or Occurrence of Spark.	Opening of Spark-measurer, or Length of Spark.	Corresponding Frequency.
d h m s h m s		° °	° °	div. div.	div. div.	° °		h m	h m s	in.	sp. sec.
Aug. 2. 3. 40. 15 to 3. 42. 30	Neg.	40	..	10 to 40	30 to 90	..	..	..	..	..	..
2. 3. 43. 0	..	..	..	..	..	..	..	..	..	..	..
2. 3. 44. 0	..	0	..	0	0	..	..	..	..	..	..
2. 3. 44. 30	..	..	..	..	..	..	..	..	..	..	..
2. 3. 44. 57	..	..	..	..	..	..	..	..	..	..	..
2. 3. 47. 2	..	..	..	..	..	..	..	..	..	..	..
2. 3. 48. 20	..	..	..	..	..	..	..	..	..	..	..
2. 3. 48. 35	..	..	..	..	..	..	..	..	..	..	..
2. 3. 49. 30	..	..	..	..	..	..	..	..	..	..	..
2. 3. 50. 0	..	..	..	..	..	..	..	..	..	..	..
2. 3. 50. 35	..	..	..	..	..	..	..	..	..	..	..
2. 3. 51. 30 to 4. 5. 0	..	..	..	..	..	..	..	..	..	..	..
d h m d h m											
Aug. 6. 5. 25 to 6. 5. 46	Pos. & Neg.	0 to 40	..	0 to 40	0 to 100	..	1^s	5. 30	..	..	..
7. 0. 19 to 7. 0. 34	Neg.	0 to 40	..	0 to 40	0 to 100	..	1	0. 27	..	..	..
7. 1. 19 to 7. 3. 57	Neg. & Pos.	0 to 40	..	0 to 75	0 to 150	..	Instantly	3. 46	1. 41. 0	0·13	3 in 1
									1. 42. 0	0·15	2 in 1
									1. 42. 45	0·15	A spark
									1. 42. 55	0·13	3 in 1
									1. 43. 0	0·15	None
									1. 44. 0	0·11	3 in 1
									1. 44. 10	0·15	None
									1. 44. 15	0·07	3 in 1
									1. 44. 30	0·05	20 in 1
									1. 44. 45	0·10	1 in 1
									1. 44. 55	0·08	3 in 1
									1. 45. 0	0·05	20 in 1
									1. 45. 15	0·10	None
									1. 45. 20	0·08	4 in 1
									3. 43. 0	0·01	10 in 1
									3. 44. 45	0·01	A volley
10. 23. 47 to 11. 0. 5	Pos. & Neg.	0 to 40	..	2 to 25	0 to 30	..	20′	23. 49	..	..	..
11. 1. 20 to 11. 2. 5	Neg. & Pos.	0 to 40	..	0 to 50	0 to 100	..	1·5	1. 34	1. 37. 0	0·08	3 in 1
									1. 38. 0	0·05	10 in 1
									1. 39. 0	0·08	None
11. 3. 10 to 11. 3. 36	Pos.	0 to 40	..	0 to 40	0 to 100	..	..	3. 29	3. 27. 0	0·03	7 in 1
									3. 32. 0	0·01	A volley
28. 21. 40 to 29. 5. 30	Pos.	1 to 10	..	2 to 12	2 to 10	..	..	5. 0	..	..	..
30. 9. 47 to 30. 11. 17	Pos.	3 to 23	..	3 to 20	3 to 20	..	..	h m h m 10.23 to 10.29	..	..	..
31. 23. 0 to Sep. 1^d. 1^h. 50^m	Pos.	1 to 18	..	1 to 15	0 to 20	..	..	1.45 to 1.50	..	..	..
d h m d h m											
Sep. 1. 5. 20 to 1. 5. 50	Pos.	0 to 5	..	0 to 8	0 to 10	..	..	5. 20	..	..	..
2. 17. 10 to 3. 21. 15	Pos.	0 to 27	..	0 to 28	0 to 25	..	55^m	3.30 to 4. 0	..	..	..
7. 22. 45 to 8. 10. 0	Pos.	2 to 30	..	2 to 25	3 to 40	..	..	9. 50	..	..	..
10. 21. 0 to 11. 10. 0	Pos.	3 to 20	..	5 to 30	5 to 30	..	..	7. 0 to 7.30	..	..	..
11. 21. 30 to 12. 11. 50	Pos.	0 to 12	..	0 to 20	0 to 15	..	..	7. 30	..	..	..
15. 6. 55 to 15. 7. 33	Pos.	0 to 5	..	0 to 5	0 to 5	..	..	7. 8	..	..	..
15. 21. 0 to 16. 4. 30	Pos.	0 to 8	..	0 to 12	0 to 10	..	..	0. 3	..	..	..

ELECTROMETER OBSERVATIONS.

GALVANOMETER.		WIND.		REMARKS.	Observer.
		From Osler's Anemometer.			
The Head of the Needle towards A.	The Head of the Needle towards B.	Direction.	Pressure in lbs. per square foot.		
°	°		from lbs. to lbs.		
..	..	..	..	A flash of lightning; the thunder commenced three seconds afterwards, and continued for ten seconds.	D
..	..	..	..	After this time the storm had no effect on any of the electrometers.	
..	..	..	..	A distant rolling of thunder.	
..	..	..	..	A flash of lightning; thunder five seconds after.	
..	..	..	..	A flash of lightning; thunder seven seconds after.	
..	..	..	..	Thunder in the N. E.: no lightning was visible.	
..	..	..	..	,, ,,	
..	..	..	..	,, ,,	
..	..	W by N	..	The rain has nearly ceased.	
..	..	..	..	Thunder was heard in the N. E., and continued till $51^m. 9^s$.	
..	..	..	..	Rolling of distant thunder: no thunder was heard after the observation at $4^h. 5^m$: rain was falling in torrents between $3^h. 12^m$ and $3^h. 46^m$; after that time it nearly ceased, but did not wholly do so until $4^h. 35^m$: $0^{in.}75$ of rain had fallen since $2^d. 22^h$, as shewn by Rain-gauge No. 2; and $0^{in.}68$, as shewn by Rain-gauge No. 3 (Crosley's), when they were read off at $3^d. 5^h$.	
..	..	WSW	..	Rain falling: the electricity changed from positive to negative at $5^h. 31^m$.	
..	..	WSW	..	Rain falling: thunder was occasionally heard in the S. E., between $0^h. 0^m$ and $0^h. 26^m$.	D
5	..	WSW	..	Rain falling heavily: thunder was continually heard: there were frequent changes from negative to positive.	D & L
..	..	WSW	0 to ½	Slight rain falling: the electricity changed from negative to positive at $23^h. 50^m. 30^s$, and again from positive to negative at $0^h. 0^m$.	H B
..	..	WSW	0 to 1	Rain falling occasionally: the electricity was negative till $1^h. 35^m$; there were frequent changes from negative to positive after this time.	H B
..	..	NNW	..	Rain falling: thunder was occasionally heard, but only one flash of lightning was seen at $3^h. 24^m$, followed by thunder, after an interval of two seconds.	L
..	..	NNE	½ to 1	Cloudless.	H B & G
..	..	NNE	..	,, hazy.	H B
..	..	NE	..	A thin cirro-stratus covers the sky.	G
..	..	NE	..	Cloudless.	L
..	..	NE	..	Overcast.	L & G
..	..	Calm	..	Cloudless.	G & D
..	..	ENE	..	Overcast.	L, G &c.
..	..	E	..	Nearly cloudless.	D & L
..	..	SW	..	The zenith is covered with a thin cirro-stratus.	H B
..	..	WSW	..	Rain falling.	D & H B

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time, or Limits of Time, 1845.	Sign of Electricity, as shewn by Dry Pile Apparatus.	READINGS OF ELECTROMETERS. Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Volta (1).	Volta (2.)	Henley.	Time of Recovery after Discharge.	Time of Maximum Tension.	RONALDS' SPARK-MEASURER. Time of Observation or Occurrence of Spark.	Opening of Spark-measurer, or Length of Spark.	Corresponding Frequency.
d h m d h m		° °	° °	div. div.	div. div.	° °		h m	h m s	in.	sp. sec.
Sep. 17. 12. 27 to 17. 13. 13	Neg.	0 to 40	..	0 to 30	0 to 80	..	Instantly	12. 59	12. 59. 0	0 ·02	2 in 1
17. 16. 32 to 17. 16. 36	Neg.	0 to 30	..	0 to 13	0 to 25	..	..	16. 35	..	..	...
18. 7. 3 to 18. 7. 12	Neg.	0 to 5	..	0 to 3	..	..	..	7. 3	..	..	...
22. 5. 12 to 22. 6. 15	Pos.	2 to 20	..	2 to 20	3 to 25	..	..	5. 23	..	..	...
23. 22. 40 to 24. 6. 30	Pos.	0 to 12	..	0 to 14	0 to 20	..	..	4. 0	..	..	...
28. 5. 10 to 28. 6. 6	Pos.	1 to 8	..	2 to 10	0 to 10	..	..	5. 42	..	..	...
28. 22. 30 to 29. 2. 0	Pos.	3 to 4	..	3 to 6	..	..	..	2. 0	..	..	...
29. 3. 4 to 29. 6. 0	Neg. & Pos.	0 to 18	..	0 to 12	0 to 10	..	..	3. 11	..	..	...
d h m								h m h m			
30. 18. 30 to Oct. 1. 12. 50	Pos.	0 to 15	..	0 to 20	0 to 20	..	..	9.15 to 9.45	..	..	...
Oct. 3. 0. 8 to 3. 0. 11	Pos.	0 to 30	..	0 to 40	0 to 100	..	Instantly	0. 10	..	..	...
5. 20. 45 to 6. 0. 30	Pos.	0 to 2	..	0 to 4	..	..	..	21.20 to 23.0	..	..	...
7. 9. 15 to 7. 12. 0	Pos.	5 to 30	..	5 to 40	2 to 20	..	..	9. 40	..	..	...
8. 23. 40 to 8. 23. 45	Neg.	25 to 40	..	20 to 40	30 to 50	0 to 6	0s·5	23. 45	23. 45. 0	0 ·05	A spark
8. 23. 48 to 9. 0. 0	Pos.	2 to 30	..	5 to 40	0 to 60	0 to 10	0s·1 to 12s·0	23. 58	23. 46. 0	0 ·03	1 in 3
									23. 47. 0	0 ·05	None
									23. 49. 0	0 ·05	A spark
									23. 52. 0	0 ·20	None
d h m s h m s								h m s	23. 59. 0	0 ·02	5 in 1
9. 0. 0. 25 to 0. 3. 28	Neg.	5 to 40	..	5 to 30	0 to 60	0 to 10	1s·0	0. 3. 28	..	..	...
9. 0. 3. 30 to 0. 6. 40	Pos.	0 to 40	..	0 to 35	0 to 100	0 to 10	..	0. 4. 0	0. 6. 0	0 ·04	A spark
9. 0. 7. 30 to 0. 16. 30	Neg.	30	..	35 to 50	70 to 150	0 to 30	Instantly	h m s 0. 8. 30 to 0. 9. 45	0. 10. 0	0 ·07	4 in 1
									0. 13. 0	0 ·05	1 in 2
9. 0. 19. 0 to 0. 21. 15	Pos.	15 to 40	..	30 to 40	60 to 120	0 to 10	..	0. 19. 0	0. 20. 5	0 ·05	A spark
									0. 20. 40	0 ·03	1 in 2
									0. 24. 0	0 ·03	A spark
									0. 24. 35	0 ·04	1 in 4
9. 0. 25. 0 to 0. 25. 30	Neg.	40	..	30 to 35	50 to 100	12	..	0. 25. 30	0. 26. 5	0 ·06	1 in 7
									0. 27. 15	0 ·04	A spark
9. 0. 27. 40 to 0. 30. 0	Pos.	0 to 40	..	0 to 30	0 to 80	0 to 12	..	0. 29. 0	0. 29. 0	0 ·04	A spark
									0. 29. 35	0 ·03	A spark
9. 0. 30. 15 to 3. 28. 0	Neg.	0 to 40	..	0 to 60	0 to 150	0 to 20	..	0. 31. 25 to 0. 33. 10	0. 32. 0	0 ·03	3 in 2
									0. 32. 30	0 ·07	2 in 1
									0. 33. 0	0 ·07	2 in 1
									0. 33. 5	0 ·09	None
									0. 33. 10	0 ·06	1 in 0s·5
									0. 34. 0	0 ·07	1 in 1
									0. 34. 10	0 ·07	1 in 1·5
									0. 34. 25	0 ·07	1 in 2
									0. 34. 50	0 ·07	1 in 2·5
									0. 35. 15	0 ·07	1 in 7
									0. 36. 0	..	No sparks
									0. 42. 4	0 ·06	1 in 17
									0. 42. 16 to 0. 44. 31	0 ·06	1 in 12 to 1 in 38
									0. 46. 10	0 ·04	1 in 10
9. 3. 34. 0 to 9. 14. 0	Pos.	0 to 40	..	0 to 100	0 to 150	0 to 8	5s to 1m.50s	5. 49. 0	5. 46. 0	0 ·07	1 in 1
									5. 50. 0	0 ·04	3 in 1
									5. 51. 0	0 ·05	No sparks
									5. 52. 0	0 ·03	2 in 1
									5. 54. 0	0 ·03	Sparks
									6. 0. 0	0 ·02	1 in 1

ELECTROMETER OBSERVATIONS.

Galvanometer. The Head of the Needle toward 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.
o o	o o		from lbs. to lbs.		
..	..	SSW	$2\frac{1}{2}$ to 4	Rain falling heavily.	H B
..	..	SSW	0 to 3	A shower of rain.	
..	..	SW	$\frac{1}{2}$ to $1\frac{1}{2}$	Rain falling.	
..	..	Calm	..	Clear in the zenith.	H B
..	..	Calm	..	Generally clear.	D & G
..	..	WSW	..	Cloudless.	H B
..	..	WSW	..	Overcast.	G
..	..	SSW	..	Rain falling slightly: the electricity was negative till $3^h. 16^m$, when all the instruments went to zero, but by $3^h. 28^m$ it had become positive.	H B
..	..	SW & Calm	..	Overcast, except between 7^h and $8^h. 45^m$, when the sky was cloudless, but hazy.	D & H B
..	..	S by W	1 to $1\frac{1}{2}$	Rain falling.	D
..	..	E	0 to $1\frac{1}{2}$	Overcast: slight fog.	G & D
..	..	Calm	..	Cloudless: slight haze.	L
..	..	Calm	..	Rain falling steadily.	G
..	..	Calm	..	,,	D
1	..	Calm	..	,,	
..	2	Calm	..	,, great quivering of the gold-leaf of the Dry Pile Apparatus: at $6^h. 28^m$ all the instruments went to zero, but shewed strong positive electricity again in a few seconds.	
1 to 11	1 to 4	Calm	..	Rain falling steadily.	
1	..	Calm	..	,,	
1	..	Calm	..	,,	
1	..	Calm	..	,,	D
1	..	Calm	..	Rain falling, but not so heavily.	D & H B
..	..	SSW	..	The sky was generally overcast till 8^h, when it became cloudless: it was again overcast at midnight.	H B & D

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time, or Limits of Time, 1845.	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 d h m		° °	° °	° °	° °	° °	s m s	h m	h m s	in.	sp. sec.
Oct. 9. 3.34 to 9.14. 0	Pos.	0 to 40	..	0 to 100	0 to 150	0 to 8	5 to 1. 50	5.49	7.23. 0	0·03	A spark
									7.30. 0	0·03	A spark
									7.38. 0	0·02	A spark
									8.53. 0	0·01	A spark
9.14.20 to 9.15. 5	Neg.	0 to 35	..	0 to 40	0 to 130	..	Instantly	14.32	14.29. 0	0·06	3 in 1
									14.30. 0	0·06	1 in 1
									14.31. 0	0·06	1 in 2
9.15.25 to 9.16.11	Pos.	1 to 8	..	2 to 10	1 to 10	..	..	h m h m 16.5 to 16.10	..	..	..
9.16.15 to 9.18.45	Neg. & Pos.	0 to 40	..	0 to 40	0 to 150	0 to 20	Instantly	16.28	16·27.30	0·04	2 in 1
									16.28.30	0·05	1 in 20
									16.31.30	0·05	1 in 3
									16.31. 0	0·06	No sparks
9.22. 0 to 10. 3. 5	Pos.	2 to 15	..	2 to 18	0 to 20	..	..	1.23	..	..	..
10. 3.10 to 10. 4. 0	Neg.	0 to 35	..	10 to 35	10 to 120	..	..	3.21	3.17. 0	0·05	Sparks
									3.21. 0	0·05	Sparks
10. 4. 5 to 10.12.32	Pos.	1 to 35	..	2 to 35	0 to 60	..	..	9.30 to 9.40	..	..	...
10.17.35 to 10.18.45	Pos.	5 to 7	..	3 to 6	0 to 8	..	..	17.50 to 17·55	..	..	...
11. 1.24 to 11. 1.52	Pos. & Neg.	1 to 20	..	0 to 40	0 to 40	..	..	1.44	..	..	...
11.11.25 to 11.11.40	Pos.	2 to 3	..	2 to 3	3 to 5	..	..	..	..	..	...
12.11.12 to 12.15.20	Pos.	1 to 3	..	0 to 3	..	..	..	..	..	..	...
13. 3. 0 to 13. 9. 0	Pos.	2 to 10	..	2 to 12	0 to 10	..	..	6. 5	..	..	...
13.20.44 to 14. 5.30	Pos.	1 to 10	...	2 to 14	0 to 15	..	..	3.0 to 3.30	..	..	...
14.22.22 to 15.12.10	Pos.	1 to 15	..	0 to 18	0 to 15	..	..	1.43 to 1.55	..	..	...
16. 0.20 to 16.11. 0	Pos.	2 to 32	..	3 to 38	0 to 30	..	..	5.24	..	..	...
17. 7. 0 to 17.15.25	Pos.	1 to 5	..	2 to 6	0 to 5	..	..	12. 0	..	..	...
17.17.35 to 17.21. 0	Pos.	1 to 18	..	2 to 18	0 to 20	..	..	19.34	..	..	...
18. 7.10 to 18.11.35	Pos.	5 to 20	..	3 to 18	5 to 20	..	..	..	..	..	...
19.19.37 to 20. 5. 6	Pos.	0 to 6	0 to 20	0 to 8	0 to 8	..	..	0. 8	..	..	...
20. 5.45 to 20.23.10	Pos.	0 to 10	0 to 20	0 to 11	0 to 10	..	..	22. 0	..	..	...
21. 0.45 to 21.15.17	Pos.	0 to 35	0 to out of range	0 to 40	0 to 40	..	..	10.5 to 10.12	..	..	...
21.19.28 to 22. 3.15	Pos.	0 to 5	0 to 12	0 to 9	0 to 10	..	..	21.30	..	..	...
22. 5.40 to 24.19. 0	Pos.	0 to 38	0 to out of range	0 to 38	0 to 60	..	..	23d.10h.24m	..	..	...
25. 1.25 to 25.11.27	Pos.	0 to 20	0 to out of range	0 to 40	0 to 40	..	..	8.15	..	..	...
25.21.45 to 25.23.20	Pos.	0 to 25	0 to out of range	0 to 40	0 to 50	..	..	21.45 to 21.55	..	..	...
26.21.40 to 27. 5.10	Pos.	0 to 8	0 to 22	0 to 10	0 to 12	..	..	3.32	..	..	...
27.11.10 to 31.11. 0	Pos.	0 to 30	0 to out of range	0 to 30	0 to 40	..	..	30d. 0h	..	..	...
31.22.35 to Nov. 2d.4h.0m	Pos.	0 to 25	0 to out of range	0 to 20	0 to 40	..	..	23h. 0m	..	..	...
								h m s	d h m		
Nov. 2.20.25 to 5. 9.35	Pos.	0 to 40	0 to out of range	0 to 70	0 to 170	0 to 15	Very variable, but generally at intervals varying from 10s to 55s, except during the night hours.	3.18.50	3.18.20	0·04	A spark
									18.26	0·04	A spark
									18.34	0·05	A spark
									18.38	0·06	A spark
									18.40	0·05	Sparks
									18.55	0·05	Sparks
									19.8 to 19.20	0·05	Sparks
									19.45	0·05	Sparks
									19.55	0·05	Sparks
									21.30	0·05	1 in 3·5
									21.34	0·05	1 in 6
									21.38	0·25	A spark
									22. 5	0·25	A spark
									4. 6.30	0·03	A spark

From Oct. 22d. 5h. 40m to 24d. 19h. 0m; from Oct. 27d. 11h. 10m to 31d. 11h. 0m; and from November 2d. 20h. 25m to 5d. 9h. 35m, the observations were made at intervals, varying from five minutes to one hour.

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.		
..	..	SSW	..	Rain was falling till $14^h. 34^m$, when it ceased, and the clouds gradually cleared off.	D
..	..	SSW	..	Overcast.	
2	..	SSW	..	Rain falling: the electricity changed from negative to positive at $16^h. 30^m$, and again to negative at $16^h. 50^m$.	D
..	..	SSW	0 to ½	Overcast till noon, when the greater part of the sky became clear.	G
..	..	SSW	..	Rain falling till $3^h. 21^m$, when it ceased, and the zenith became clear.	D
..	..	Calm	..	Generally clear.	D & L
..	..	Calm	..	Rain falling.	L
..	..	W by N	..	Overcast: gloomy: the electricity changed from positive to negative at $3^h. 35^m$.	G & D
..	..	WSW	..	Cloudless.	H B
..	..	Calm	..	Overcast: cirro-stratus: the clouds occasionally broken.	H B
..	..	Calm	..	Cloudless.	H B & D
..	..	SSW	..	,,	H B & D
..	..	SSW	..	The sky was partially covered with cirro-stratus and fleecy clouds till $8^h. 10^m$, when it became overcast.	L
..	..	WNW	..	Generally cloudless: hazy during the evening.	L & H B
..	..	WSW	1½ to 2	Overcast.	D & L
..	..	WSW	1 to 2	Nearly cloudless till $19^h. 30^m$, when it became overcast.	L
..	..	WSW	0 to 1½	Clear in the zenith till $7^h. 33^m$; overcast afterwards.	L & H B
..	..	SW	0 to 3	Cloudless.	G & L
..	..	WSW	0 to ½	,,	H B & D
..	..	NW, WSW, SW	..	Cirro-stratus and fleecy clouds generally covered the greater part of the sky.	D & L
..	..	SSW, WNW	..	Overcast.	L & G
..	..	Calm	..	See Remarks in the Section of "Ordinary Meteorological Observations."	Various
..	..	Calm	..	Cloudless.	D
..	..	Calm	..	Foggy.	D
..	..	WSW	..	Overcast.	L
..	..	WSW & Calm	..	See Remarks in the Section of "Ordinary Meteorological Observations."	Various
..	..	Calm & NE	..	Generally cloudless.	G & D
..	..	Calm, & S by E	..	The sky was generally cloudless during the whole time: from $3^d. 18^h$ to $3^d. 23^h. 30^m$ fog was prevalent, and strong positive electricity was shewn: sparks were frequent, but no galvanic currents were shewn during the whole time. It frequently happened during this time that sparks were abundant at a certain distance, when on the distance being increased by 0·005 inch, none could be obtained in any length of time, and again on the distance being reduced by the same amount sparks became abundant as before.	Various

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time, or Limits of Time, 1845.	Sign of Electricity, as shewn by Dry Pile Apparatus.	Readings of Electrometers. Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Volta (1).	Volta (2).	Henley.	Time of Recovery after Discharge.	Time of Maximum Tension.	Ronalds' Spark-Measurer. Time of Observation or Occurrence of Spark.	Opening of Spark-measurer, or Length of Spark.	Corresponding Frequency.
d h m d h m		° °	° °	div. div.	div. div.	° °	s m s	h m s	d h m	in.	sp. sec.
Nov. 2. 20. 25 to 5. 9. 35	Pos.	0 to 40	0 to out of range	0 to 70	0 to 170	0 to 15	Very variable.	3. 18. 50	4. 6. 37	0·03	Sparks
									4. 6. 53	0·03	Sparks
									4. 8. 10	0·02	A spark
									4. 8. 57	0·01	A spark
5. 21. 0 to 6. 5. 15	Pos.	0 to 23	..	0 to 20	0 to 15	..	..	1. 15. 0	..	..	...
6. 15. 31 to 6. 15. 43	Pos. & Neg.	0 to 12	..	0 to 10	0 to 10	..	..	6. 15. 35	..	..	...
7. 5. 27 to 7. 6. 8	Neg.	0 to 40	..	0 to 30	0 to 50	0 to 4	..	5. 30. 0	5. 30. 0	0·02	A spark
7. 6. 28 to 7. 11. 0	Pos.	0 to 6	..	0 to 6	0 to 5	..	..	9. 30. 0	..	..	...
7. 23. 0 to 8. 7. 30	Pos.	1 to 20	..	1 to 12	0 to 12	..	..	3. 25. 0	d h m	..	...
* 9. 23. 35 to 13. 5. 30	Pos. & Neg.	0 to 40	..	0 to 60	0 to 150	0 to 5	Variable	$11^d\ 22^h 48^m$	11. 21. 5	0·03	A spark
									21. 10	0·04	A spark
									12. 5. 25	0·02	A spark
									5. 40	0·02	A spark
									5. 50	0·01	A spark
									6. 8	0·02	A spark
									13. 1. 0	0·02	A spark
									h m s		
13. 19. 10 to 14. 19. 0	Pos.	0 to 40	..	0 to out of range	0 to 80	..	..	$14^d\ 0^h\ 34^m$ to $0^h.\ 37^m$	0. 36. 0	0·03	A spark
									0. 37. 0	0·03	none
									3. 25. 0	0·02	A spark
									3. 45. 0	0·01	1 in 2
									7. 55. 0	0·03	Sparks
								h m s	8. 10. 0	0·02	Sparks
14. 22. 0 to 15. 0. 15	Neg. & Pos.	0 to 40	..	0 to out of range	0 to out of range	0 to 15	3^s	23. 59. 0 to 0. 12. 0	23. 51. 0	0·03	A spark
									23. 59. 0	0·05	1 in 2
									23. 59. 30	0·05	A spark
									0. 3. 0	0·05	2 in 1
									0. 9. 0	0·05	1 in 2
15. 0. 16 to 15. 9. 25	Pos.	2 to 40	..	1 to out of range	0 to 110	0 to 5	..	0. 20. 0	..	..	...
16. 17. 0 to 16. 17. 46	Neg.	7 to 40	..	10 to out of range	10 to 75	0 to 8	..	17. 29. 0	..	..	...
16. 19. 40 to 16. 20. 20	Pos.	2 to 15	..	2 to 18	0 to 12	..	..	20. 15. 0	..	..	...
16. 22. 0 to 17. 5. 40	Pos.	1 to 15	..	1 to 22	0 to 30	..	..	5. 10. 0	..	..	...
17. 10. 45 to 17. 14. 16	Pos.	3 to 10	..	5 to 12	0 to 10	..	..	h m h m 11. 8 to 11. 25	..	..	...
17. 14. 58 to 17. 15. 30	Neg.	2 to 12	..	0 to 15	0 to 10	..	..	15. 3. 0	..	..	...
18. 3. 10 to 18. 7. 40	Pos.	1 to 3	..	3 to 5	..	..	..	6. 5 to 6. 15	..	..	...
18. 13. 10 to 18. 16. 0	Pos.	1 to 10	..	0 to 10	0 to 10	..	..	14. 10 to 14. 30	..	..	...
18. 23. 20 to 19. 0. 0	Neg.	20 to 40	..	20 to 50	20 to 60	0 to 4	..	23. 26. 0	..	..	...
19. 0. 38 to 19. 9. 20	Pos.	0 to 3	...	0 to 5	..	..	..	4. 50. 0	..	..	...
19. 21. 25 to 20. 2. 0	Pos.	2 to 30	..	3 to 20	0 to 25	..	..	1. 0 to 1. 20	..	..	...
20. 2. 10 to 20. 3. 2	Pos. & Neg.	0 to 40	..	0 to out of range	0 to 100	0 to 5	..	2. 45. 0	..	..	...
20. 7. 0 to 20. 19. 0	Pos.	5 to 28	..	5 to 35	0 to 40	..	..	10. 55. 0	..	..	...
21. 0. 0 to 21. 3. 12	Pos.	20 to 35	..	20 to 40	20 to 40	..	..	2. 0. 0	..	..	...
21. 3. 14 to 21. 13. 0	Generally Neg.	0 to 40	..	0 to out of range	0 to 200	0 to 10	12 to 3. 0	5. 58. 0	3. 26. 0	0·03	Sparks
									3. 35. 0	0·03	Sparks
									5. 32. 0	0·03	Sparks
									5. 43. 0	0·05	A spark
									5. 48. 0	0·05	1 in 5
									5. 51. 0	0·04	Sparks
									6. 20. 0	0·07	A spark
									6. 21. 0	0·05	A spark
									7. 40. 0	0·04	Sparks
									7. 53. 0	0·04	Sparks
									8. 20. 0	0·05	2 in 1

From Nov. $9^d.\ 23^h.\ 35^m$ to Nov. $13^d.\ 5^h.\ 30^m$, the observations were made at intervals varying from five minutes to one hour.

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.		
..	..	S & ESE	..	Cirri and light clouds prevalent.	H B & L
..	..	SSW	½ constant	Rain falling heavily: the electricity changed from positive to negative at $15^h. 33^m$, and again to positive at $15^h. 40^m$.	H B
..	..	S by E	½ to 3	Rain falling.	
..	..	S by E	..	Overcast: occasional drops of rain.	
..	..	S by E	..	,, cirro-stratus and scud.	H B
..	..	S by E, Calm, & ENE	..	See Remarks in the Section of "Ordinary Meteorological Observations." Between $11^d. 19^h. 10^m$ and $12^d. 2^h. 0^m$, and between $12^d. 5^h$ and $13^d. 5^h. 30^m$, the electricity was generally very strong.	Various
..	..	..	..	Overcast: foggy.	
..	..	..	..	Rain falling: there were frequent changes from negative to positive.	G & H B
..	..	..	..	Cirro-stratus, fleecy clouds, and scud prevalent.	T D
..	..	..	..	Rain falling.	L
..	..	..	..	Fleecy clouds about the zenith.	H B
..	..	..	..	,,	G & L
..	..	..	..	The sky is covered with cirro-stratus.	H B
..	..	..	..	Rain falling.	
..	..	..	..	Overcast till 6^h; cloudless afterwards.	H B
..	..	..	..	Overcast: rain falling occasionally.	T D
..	..	..	..	Rain falling.	H B
..	..	..	..	The sky is partially clear.	T D
..	..	..	..	Cloudless.	G
..	..	..	..	Rain generally falling: there were several changes from positive to negative.	G & L
..	..	..	..	Generally clear.	H B
..	..	..	..	Overcast.	G
0 to 5	..	..	..	Rain falling.	H B & T D

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time, or Limits of Time, 1845.	Sign of Electricity, as shewn by Dry Pile Apparatus.	READINGS OF ELECTROMETERS. Single Gold Leaf of Dry Pile Apparatus.	Double Gold Leaf.	Volta (1).	Volta (2).	Henley.	Time of Recovery after Discharge.	Time of Maximum Tension.	RONALDS' SPARK-MEASURER. Time of Observation or Occurrence of Spark.	Opening of Spark-measurer, or Length of Spark.	Corresponding Frequency.
d h m d h m		° °	° °	div. div.	div. div.	° °	s m s	h m s	d h m	in.	sp. sec.
Nov. 21. 3. 14 to 21. 13. 0	Generally Neg.	0 to 40	..	0 to out of range	0 to 200	0 to 10	12 to 3. 0	5. 58. 0	8. 55	0·05	A spark
									9. 35	0·04	A spark
								d h m	10. 5	0·04	A spark
21. 13. 25 to 22. 11. 10	Pos.	0 to 40	..	0 to out of range	0 to 100	0 to 5	..	21. 23. 0	..	..	...
24. 0. 0 to 25. 9. 45	Pos.	0 to 28	..	0 to 30	0 to 40	..	..	25. 3. 25	..	..	...
26. 8. 30 to 26. 12. 10	Pos.	3 to 25	..	3 to 20	0 to 20	..	..	9. 25	..	..	...
26. 22. 40 to 27. 4. 50	Pos.	1 to 20	..	3 to 20	0 to 25	..	..	2. 10	..	..	...
28. 1. 15 to 28. 6. 30	Pos.	7 to 28	..	8 to 25	10 to 30	..	..	4. 0	..	..	...
28. 6. 45 to 28. 7. 30	Neg.	0 to 40	..	0 to out of range	0 to 60	0 to 5	..	7. 2	..	..	...
29. 1. 15 to 29. 11. 30	Pos. & Neg.	0 to 40	..	0 to out of range	0 to 200	0 to 15	Instantly	h m h m 9. 16 to 9. 22	8. 20	0·04	A spark
									8. 42	0·05	1 in 1·5
									8. 55	0·08	1 in 1
									9. 10	0·08	1 in 10
									9. 14	0·08	1 in 3
									9. 15	0·10	None
									9. 20	0·08	A spark
30. 3. 15 to 30. 21. 21	Pos.	0 to 30	..	0 to 20	0 to 30	..	..	$14^h. 0^m$	...	..	...
Dec. 1. 3. 10 to 1. 13. 32	Pos.	0 to 30	..	0 to 25	0 to 20	..	..	h m h m 8. 50 to 9. 5	..	..	...
2. 2. 30 to 2. 9. 25	Pos.	3 to 25	..	2 to 20	0 to 20	..	..	$9^h. 25^m$	..	..	...
3. 3. 0 to 3. 10. 0	Pos.	0 to 18	..	0 to 20	0 to 15	..	..	3. 24	..	..	...
5. 2. 0	Pos.	..	..	..	..	..	..	..	..	..	...
5. 22. 0 to 6. 11. 25	Pos.	5 to 40	0 to out of range	2 to 30	0 to 60	0 to 3	..	3. 0	..	..	...
6. 22. 0 to 6. 22. 45	Pos.	20 to 25	..	10 to 15	18 to 22	..	..	22. 5	..	..	...
7. 13. 0 to 7. 22. 30	Pos.	10 to 40	..	8 to 40	10 to 45	0 to 6	..	19. 30	..	..	...
8. 5. 0 to 8. 13. 40	Pos.	2 to 30	..	0 to 30	0 to 25	0 to 3	..	5. 0	..	..	...
9. 3. 10 to 9. 7. 25	Pos.	5 to 13	..	3 to 10	5 to 10	..	..	3. 25	..	..	...
9. 17. 0 to 10. 16. 0	Pos.	5 to 40	5 to 50	5 to 25	0 to 25	..	5^m to 29^m	$10^d. 7^h. 20^m$	10. 7. 20	0·01	A spark
									13. 20	0·01	A spark
11. 9. 20 to 11. 16. 0	Pos.	5 to 12	8 to 20	4 to 10	5 to 10	..	2 to 6	11. 20	..	..	...
11. 21. 20 to 12. 14. 0	Pos.	10 to 32	12 to 30	8 to 25	10 to 25	..	7 to 18	13. 20	..	..	...
12. 21. 20 to 14. 14. 0	Pos.	20 to 40	15 to out of range	10 to out of range	10 to 60	0 to 4	Variable	12. 21. 20	12. 21. 20	0·15	A spark
14. 21. 0 to 15. 0. 0	Pos.	15 to 20	20	10	10 to 15	..	7^m to 8^m	21. 20	..	..	...
15. 7. 0 to 15. 12. 0	Pos.	15 to 30	10 to 20	10 to 20	0 to 10	..	7 to 10	11. 20	..	..	...
15. 23. 0 to 16. 2. 0	Pos.	12 to 15	15	10	10	..	..	..	..	..	...
16. 11. 0 to 17. 4. 0	Pos.	3 to 40	5 to 45	3 to 30	0 to 35	..	..	17. 1. 38	..	..	...
22. 3 20	Pos.	35	30	20	20	..	18^m	..	..	..	...
22. 7. 0	Neg.	40	0 to out of range	0 to out of range	60	..	..	..	7. 0	0·05	1 in 10
22. 7. 20	Pos.	25	30	20	15	..	..	..	..	..	...
22. 8. 45 to 22. 10. 0	Neg.	20 to 40	15 to out of range	10 to out of range	10 to 150	..	$0^m·5^s$ to $15^m·0^s$	8. 50	8. 45	0·05	2 in 1
									8. 50	0·06	3 in 2
									8. 54	0·04	1 in 60
									9. 0	0·03	A spark
23. 1. 20	Neg.	25	20	10	10	..	..	..	..	..	...
23. 1. 35 to 23. 2. 15	Pos.	32 to 35	35	20	20	..	..	..	..	..	...
23. 3. 20	Neg.	20	30	15	20	..	Instantly	..	..	..	...
23. 7. 0 to 25. 14. 0	Pos.	3 to 40	10 to 70	3 to 60	0 to 60	..	Instantly to 18^m	24. 3. 20	23. 15. 20	0·01	A spark
									17. 20	0·01	A spark
									24. 3. 20	0·01	A spark
									5. 20	0·01	A spark
									7. 20	0·01	A spark
									9. 20	0·01	A spark
									11. 20	0·02	A spark

From December $17^d. 5^h$ to $22^d. 3^h$ the apparatus was under repair.

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.		
..	..	..	..	See the Section of Remarks in "Ordinary Meteorological Observations."	Various
..	..	..	..	The sky was cloudless till $24^d.8^h$, but generally overcast after that time: rain was falling from $24^d.21^h.20^m$ to $25^d.2^h$: foggy occasionally.	Various
..	..	..	..	Overcast: cirro-stratus.	TD & L
..	..	..	..	Scud passing over the zenith.	HB & L
..	..	..	..	Overcast.	H B
..	..	..	..	,, rain generally falling.	Various
..	..	..	..	,, rain was falling after 17^h.	T D
..	..	..	..	Clear in the zenith.	TD & L
..	..	..	..	Generally overcast: rain falling occasionally.	L & TD
..	..	..	..	Generally overcast till 8^h; cloudless afterwards: at about 7^h some sleet fell.	H B
..	..	..	..	A strong charge of positive electricity was shewn during the morning.	G
..	..	..	..	Nearly cloudless.	H B
..	..	..	..	Partially clear.	L
..	..	..	..	Cloudless.	TD & G
..	..	..	..	Rain falling.	TD & L
..	..	..	..	Partially clear.	L
..	..	..	..	See Remarks in the Section of "Ordinary Meteorological Observations."	Various
..	..	..	..	Nearly cloudless.	L
..	..	..	..	See Remarks in the Section of "Ordinary Meteorological Observations."	L
..	..	..	..	,, ,,	Various
..	..	..	..	A thin rain falling occasionally.	L
..	..	..	..	Nearly overcast.	T D
..	..	..	..	,,	T D
..	..	..	..	Overcast.	HB & TD
..	..	..	..	,,	H B
..	..	..	..	During a shower of rain.	
..	..	..	..	Overcast.	
..	..	..	..	Rain falling: squally: at $9^h.5^m$ the electricity was positive, but it changed again directly to negative.	
..	..	..	..	Rain falling.	H B
..	..	..	..	Overcast.	T D
..	..	..	..	Slight rain.	L
..	..	..	..	See Remarks in the Section of "Ordinary Meteorological Observations."	Various

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time, or Limits of Time, 1845.	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 d h m		° °	° °	div. div.	div. div.	° °		h m	h m s	in.	sp. sec.
Dec. 25. 17. 0 to 26. 16. 0	Pos.	2 to 40	0 to 40	0 to 20	0 to 30	..	Instantly to 35^m	5. 20	..	..	..
26. 19. 0 to 27. 5. 20	Pos.	27 to 40	20 to 60	10 to 50	10 to 50	..	Instantly to 25^m	23. 20	..	..	..
27. 23. 20	Neg.	30	30	10	10	..	..	..	..	..	..
28. 13. 20 to 28. 18. 0	Pos.	10 to 20	10 to 20	7 to 10	7 to 10	..	m m 7 to 9	15. 20	..	..	..
28. 21. 0 to 29. 2. 0	Pos.	5 to 40	5 to 50	3 to 20	0 to 30	..	4 to 18	23. 20	..	..	..
29. 11. 20 to 29. 20. 0	Pos.	2 to 5	2 to 10	..	..	..	..	..	..	..	..
30. 5. 20	Pos.	5	10	..	..	..	..	11. 20	..	..	..
30. 9. 20	Pos.	10	10	..	..	..	..	..	..	..	..
30. 15. 0 to 30. 20. 0	Pos.	28 to 40	30 to 40	10 to 20	10 to 20	..	8 to 12	19. 20	..	..	..
31. 3. 30	Neg.	35	30	15	10	..	..	..	..	..	..

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.	Pressure in lbs. per square foot.		
°	°		from lbs. to lbs.		
5	..	..	..	See Remarks in the Section of "Ordinary Meteorological Observations." A galvanic current was shewn at $9^h. 20^m$ during heavy rain.	Various
..	..	..	..	The sky was generally about one-half covered with cirro-stratus and fleecy clouds.	L & T D
..	..	..	..	Rain falling.	G
..	..	..	..	Cloudless.	T D
..	..	..	..	The sky was about one-half covered with cirro-stratus and a few light clouds till noon: overcast afterwards.	T D & H B
..	..	..	..	Overcast.	G
..	..	..	..	The sky N. of the zenith is mostly covered with cloud.	
..	..	..	..	Cloudless.	G
..	..	..	..	Cloudless, but hazy.	H B
..	..	..	..	Rain falling.	H B

ELECTRICAL EXPERIMENTS WITH THE INDUCTION-BALL APPARATUS.

Month, Day, and Hour, Greenwich Mean Time.	State of the Weather.	Whether the Electricity was discharged by touching the Apparatus.	Height of the Ball in Feet.	Direction of Deviation of Gold Leaf in Dry Pile Apparatus.	Angle of Deviation.	Observers.
d h m			feet.		°	
July 14. 22. 30			4	Negative.	Very slight.	M and L
22. 33			30	Positive.	Small.	
22. 34			45	Positive.	Small.	
22. 35			60	Positive.	A small increase.	
22. 37		Discharged.				
22. 40			4	Negative.	10	
22. 50			20		0	
			30	Positive.	Small.	
			40	Positive.	Larger.	
		Discharged.				
			50	Positive.	Small.	
		Discharged.				
			60	Positive.	Small.	
23. 0			30	Negative.	10	
		Discharged.				
23. 6			20		0	
			40	Positive.	Small.	
			80	Positive.	10	
			4	Negative.	10	
July 15. 0. 0	Rain in squalls.		80	Negative.	Small.	
		Discharged.				
			4	Positive.	Small.	G and D
22. 0			70	Positive.	2	D
			4	Negative.	4	
		Discharged.				
July 22. 22. 0	The sky covered by a thin cirro-stratus.		4		0	G
			50	Positive.	1	
			80		0	
			30	Negative.	2	
			20	Negative.	3	
			4	Negative.	3	
		Discharged.				
22. 20			4		0	
			30		0	
			50	Positive.	$\frac{1}{2}$	
			75	Positive.	$\frac{1}{2}$	
			60		0	
			50	Negative.	$\frac{1}{2}$	
			30	Negative.	2	
			4	Negative.	3	
		Discharged.				
22. 45			50		0	
			70	Positive.	Small.	
			80	Positive.	Small.	
			70		0	
			50	Negative.	1	
			40	Negative.	$1\frac{1}{2}$	
			30	Negative.	2	
			4	Negative.	2	
		Discharged.				
July 23. 0. 0			40		0	
			50	Positive.	Small.	
		Discharged.	70			
			80		0	

July $14^{d}. 22^{h}. 37^{m}$. The gold leaf was in a state of vibration.
$23^{h}. 6^{m}$. This experiment was repeated with the same result.
$15^{d}. 22^{h}. 0^{m}$. This experiment was repeated twice with the same result.

ELECTRICAL EXPERIMENTS WITH THE INDUCTION-BALL APPARATUS.

Month, Day, and Hour, Greenwich Mean Time.	State of the Weather.	Whether the Electricity was discharged by touching the Apparatus.	Height of the Ball in Feet.	Direction of Deviation of Gold Leaf in Dry Pile Apparatus.	Angle of Deviation.	Observers.
d h m			feet.		°	
July 23. 0. 0			50	Negative.	1	G
			30	Negative.	2	
			4	Negative.	3	
		Discharged.				
1. 0			40		0	
			50	Positive.	½	
			80	Positive.	1	
			50		0	
			4	Negative.	1	
		Discharged.				
2. 0			40		0	
			50	Positive.	½	
July 24. 22. 0	The sky uniformly covered with cloud.		80		0	
			4		0	G
23. 0			80	Positive.	Small.	M
			4		0	
July 25. 22. 0			80		0	G
			4		0	
July 27. 22. 0			80		0	
			4		0	
July 28. 1. 35	Rain falling.		35	Positive.	15	G and D
			55	Positive.	25	
			80	Positive.	30	
			50	Positive.	25	
			40	Negative.	5	
			35	Negative.	10	
			4	Negative.	20	
	The rain has nearly ceased.	Discharged.				
1. 43			50	Positive.	1	
			55	Negative.	1	
			75	Negative.	2	
			70	Negative.	3	
			60	Negative.	2	
			20	Positive.	1½	
			4		0	
		Discharged.				
1. 50			20	Negative.	10	
			30	Negative.	15	
			50	Negative.	35	
			75	Negative.	40	
			70	Negative.	50	
			60	Negative.	45	
			50	Negative.	40	
			35		0	
			4		0	
1. 55			10	Negative.	1	
			20	Negative.	8	
			30	Negative.	12	
			35	Negative.	14	
			50	Negative.	30	
			60	Negative.	35	
			70	Negative.	40	
			75	Negative.	42	
			70	Negative.	35	

July $24^d. 23^h. 0^m$. This experiment was repeated twice with the same results. The gold leaf was greatly agitated.

$27^d. 22^h. 0^m$. The experiment was repeated twice without any effect being visible.

$28^d. 1^h. 35^m$. The gold leaf was in occasional vibration.

ELECTRICAL EXPERIMENTS WITH THE INDUCTION-BALL APPARATUS.

Month, Day, and Hour, Greenwich Mean Time.	State of the Weather.	Whether the Electricity was discharged by touching the Apparatus.	Height of the Ball in Feet.	Direction of Deviation of Gold Leaf in Dry Pile Apparatus.	Angle of Deviation.	Observers.
d h m			feet.		°	
July 28. 1. 55			60	Negative.	2	G and D
			50		0	
			40	Positive.	1	
			20	Positive.	2	
			4	Positive.	2	
		Discharged.				
2. 5			10	Negative.	1	
			20	Negative.	3	
			30	Negative.	3	
			40	Negative.	5	
			55	Negative.	7	
			60	Negative.	5	
			70	Negative.	9	
			75	Negative.	2	
			70	Negative.	2	
			60	Negative.	2	
			40		0	
			4	Positive.	Small.	
		Discharged.				
July 29. 22. 0	The sky nearly covered with scud.		80	Positive.	Small.	G and T D
			4	Negative.	Small.	
		Discharged.				
23. 0			80	Positive.	Small.	G
			4	Negative.	Small.	
		Discharged.				
23. 50	A slight rain falling.		30	Negative.	Small.	
			70	Negative.	Small.	
			80	Negative.	Small.	
			50		0	
			4		0	
	The rain has ceased.		35	Negative.	Small.	
			80		0	
			4		0	
July 30. 1. 0	Rain falling heavily.		80		0	
			4		0	
23. 0	No rain.		80		0	
			4		0	
23. 20	A dark cloud in the N., with appearance of rain, but clear about the zenith.		35	Negative.	1	
			50	Negative.	1½	
			60	Negative.	3	
			70	Negative.	3	
			75	Negative.	5	
			70	Negative.	3	
			50		0	
			40	Positive.	1	
			35	Positive.	2	
			4	Positive.	3	
		Discharged.				
23. 23			35	Negative.	1	
			50	Negative.	2	
			60	Negative.	3	
			70	Negative.	4	
			75	Negative.	5	
			70	Negative.	4	

July 28ᵈ. 2ʰ. 5ᵐ. This experiment was repeated with the conducting wire attached to the Galvanometer, but no effect was visible. The gold leaf of the Dry Pile Apparatus was in vibration when the ball was at the height of 60 feet and upwards.

July 30ᵈ. 1ʰ. 0ᵐ. This experiment was repeated twice, and again at 23ʰ, without any effect being visible.

July 30ᵈ. 23ʰ. 20ᵐ, 23ʰ. 23ᵐ, 23ʰ. 25ᵐ, 23ʰ. 28ᵐ, and 23ʰ. 31ᵐ. The gold leaf was in vibration when the ball was at the height of 50 feet and upwards.

ELECTRICAL EXPERIMENTS WITH THE INDUCTION-BALL APPARATUS.

Month, Day, and Hour, Greenwich Mean Time.	State of the Weather.	Whether the Electricity was discharged by touching the Apparatus.	Height of the Ball in Feet.	Direction of Deviation of Gold Leaf in Dry Pile Apparatus.	Angle of Deviation.	Observers.
d h m			feet.		°	
July 30. 23. 23			60		0	G
			50	Positive.	2	
			35	Positive.	3	
			4	Positive.	5	
		Discharged.				
23. 25			30	Negative.	3	
			40	Negative.	4	
			55	Negative.	6	
			70	Negative.	15	
			75	Negative.	20	
			70	Negative.	30	
			55	Negative.	10	
			40	Positive.	1	
			30	Positive.	3	
			4	Positive.	5	
		Discharged.				
23. 28	A few drops of rain are falling.		10	Negative.	1½	
			20	Negative.	3	
			35	Negative.	5	
			50	Negative.	7	
			70	Negative.	20	
			75	Negative.	25	
			60	Negative.	5	
			45		0	
			30	Positive.	1	
			20	Positive.	2	
			4	Positive.	3	
		Discharged.				
23. 31	The sky is cloudy: rain has commenced falling.		20	Negative.	1	
			35	Negative.	2	
			50	Negative.	3	
			70	Negative.	4	
			75	Negative.	4	
			60	Negative.	3	
			50		0	
			40	Positive.	½	
			30	Positive.	½	
		Discharged.				
Aug. 4. 22. 0	A misty rain is falling.		80		0	D
			4		0	
Aug. 5. 23. 0	The sky is cloudless.		30		0	G
			80		0	
			50	Negative.	½	
			4	Negative.	1	
		Discharged.				
Aug. 6. 0. 0	The sky is cloudless.		50	Positive.	½	
			80	Positive.	1	
			50	Negative.	½	
			4	Negative.	1½	
		Discharged.				
2. 0	A dark cloud near the zenith.		35	Positive.	1	
			50	Positive.	1½	
			70	Positive.	2	
			80		0	

Aug. $4^d. 22^h. 0^m$. The experiment was repeated twice without any effect being visible.

ELECTRICAL EXPERIMENTS WITH THE INDUCTION-BALL APPARATUS.

Month, Day, and Hour, Greenwich Mean Time.	State of the Weather.	Whether the Electricity was discharged by touching the Apparatus.	Height of the Ball in Feet.	Direction of Deviation of Gold Leaf in Dry Pile Apparatus.	Angle of Deviation.	Observers.
d h m			feet.		°	
Aug. 6. 2. 0			50	Negative.	1	G
			35	Negative.	2	
			20	Negative.	3	
			4	Negative.	4	
		Discharged.				
22. 0			80		0	
			4		0	
Aug. 7. 0. 0	Rain is falling.		20	Positive.	2	
			50	Positive.	3	
			60	Positive.	3	
			80	Positive.	2	
			50	Negative.	2	
			40	Negative.	2	
			30	Negative.	3	
			4		0	
		Discharged.				
0. 5	The rain has ceased.		80		0	
			4		0	
1. 30	Rain is falling.		40	Negative.	3	
			50	Negative.	3	
			60	Negative.	3	
			80		0	
			4		0	
	Loud thunder in the E.		80		0	
			4		0	
			40	Positive.	Small	
			50	Positive.	Small	
			60	Positive.	2	
			70	Positive.	3	
			75	Positive.	3	
			70	Positive.	1	
			60		0	
	Thunder in the N. W.		30		0	
1. 48	Thunder.		35	Positive.	2	
			40	Positive.	5	
			50	Positive.	5	
			60	Positive.	5	D
			50	Positive.	5	
			40	Positive.	3	
			30	Positive.	3	
			4		0	
			80	Positive.	Small.	
			4	Positive.	Small.	
		Discharged.				
Aug. 21. 23. 28			20	Positive.	1	H B
			40	Positive.	3	
			50	Positive.	4	
			80	Positive.	3	
			50	Positive.	2	
			30	Positive.	2	
			4	Negative.	1	
		Discharged.				
Aug. 22. 0. 17			80	Positive.	2	
			30		0	

Aug. 7^{d}. 1^{h}. 30^{m}. The gold leaf was at first in great vibration.

Aug. 7^{d}. 1^{h}. 55^{m}. This experiment was repeated, but the only effect was a slight oscillation towards the Positive pile.

Aug. 21^{d}. 23^{h}. 35^{m}. The experiment was repeated several times without any effect being visible.

ELECTRICAL EXPERIMENTS WITH THE INDUCTION-BALL APPARATUS.

Month, Day and Hour, Greenwich Mean Time.	State of the Weather.	Whether the Electricity was discharged by touching the Apparatus.	Height of the Ball in Feet.	Direction of Deviation of Gold Leaf in Dry Pile Apparatus.	Angle of Deviation.	Observers.
d h m			feet.		°	
Aug. 22. 0. 17			4	Negative.	2	H B
		Discharged.				
0. 19			30	Positive.	1	
			80	Positive.	2	
			30	Negative.	1	
			4	Negative.	2	
Sep. 1. 22. 30	Overcast.		20	Positive.	1	G
			30	Positive.	1½	
			55	Positive.	2	
			65	Positive.	2½	
			80	Positive,	2½	
			55	Positive.	2	
			30	Positive.	1	
			20	Positive.	½	
			4		0	
		Discharged.				
Sep. 2. 2. 0	Overcast.		35	Positive.	1	H B
			50	Positive.	2	
			80	Positive.	2½	
			50	Positive.	2	
			35		0	
			4	Negative.	1	
		Discharged.				
22. 0			4		0	D
			40		0	
			50	Positive.	1	
			70	Positive.	1	
			80	Positive.	1	
			50	Positive.	½	
			40		0	
			4		0	
		Discharged.				
Sep. 3. 22. 45			4		0	L
			80		A slight quivering.	
			4		0	
		Discharged.				
Sep. 5. 0. 45	Thin clouds about.		4		0	G
			35		0	
			40		0	
			80	Positive.	1	
			30		0	
			4		0	
		Discharged.				
Sep. 6. 5. 30	Cumuli and fleecy clouds prevalent.		4		0	H B
			30		0	
			80	Positive.	1	
			4		0	
		Discharged.				
Sep. 8. 1. 20	Cloudless.		30	Positive.	1	G
			40	Positive.	2	
			55	Positive.	3	
			70	Positive.	4	
			75	Positive.	5	
			50	Positive.	3½	

Aug. 22^d. 0^h. 22^m. The experiment was repeated with the same results.

Sep. 4^d. 22^h. 30^m. The ball was raised, but no effect was visible.

Sep. 6^d. 1^h. 30^m. The ball was raised, but no effect was visible : the sky was cloudless.

ELECTRICAL EXPERIMENTS WITH THE INDUCTION-BALL APPARATUS.

Month, Day, and Hour, Greenwich Mean Time.	State of the Weather.	Whether the Electricity was discharged by touching the Apparatus.	Height of the Ball in Feet.	Direction of Deviation of Gold Leaf in Dry Pile Apparatus.	Angle of Deviation.	Observers.
d h m			feet.		°	
Sep. 8. 1. 20			40		0	G
			20	Negative.	1	
			4	Negative.	1	
		Discharged.				
1. 30	Cloudless.		4		0	
			25	Positive.	1	
			35	Positive.	1	
			40	Positive.	2	
			50	Positive.	1	
		Discharged.				
1. 33	Cloudless.		4		0	
			25	Positive.	1	
			35	Positive.	2	
			40	Positive.	2½	
		Discharged.				
1. 35	Cloudless.		4		0	
			25	Positive.	1	
			35	Positive.	1	
			40	Positive.	1½	
			55	Positive.	2	
	Cloudless.		70	Positive.	3	
			75	Positive.	3½	
			65	Positive.	3	
			50	Positive.	2	
			35	Positive.	1	
			30		0	
			20		0	
			4		0	
		Discharged.				
Sep. 9. 0. 30	Cloudless.		30		0	
			70	Positive.	1	
			30		0	
			4		0	
		Discharged.				
22. 0			30		0	
			70	Positive.	1	
			30		0	
			4		0	
		Discharged.				
Sep. 10. 1. 30	A cloudy sky.		4		0	
			30		0	
			55	Positive.	1	
			80	Positive.	2½	
			55	Positive.	1	
			40		0	
			4		0	G
		Discharged.				
Sep. 11. 0. 47	Overcast: cirro-stratus.		4		0	D
			30		0	
			55	Positive.	1	
			80	Positive.	1	
			30		0	
			4		0	
		Discharged.				

ELECTRICAL EXPERIMENTS WITH THE INDUCTION-BALL APPARATUS,

Month, Day, and Hour, Greenwich Mean Time.	State of the Weather.	Whether the Electricity was discharged by touching the Apparatus.	Height of the Ball in Feet.	Direction of Deviation of Gold Leaf in Dry Pile Apparatus.	Angle of Deviation.	Observers.
d h m			feet.		°	
Sep. 11. 0. 50	Overcast: cirro-stratus.		4		0	D
			30		0	
			60	Positive.	1	
			80	Positive.	1	
			60	Positive.	1	
			40		0	
			4		0	
		Discharged.				
1. 30			4		0	
			30		0	
			55	Positive.	1	
			4		0	
		Discharged.				
Sep. 15. 1. 30	Rain falling steadily.		30		0	
			80		0	
			4		0	
		Discharged.				
Sep. 16. 22. 30			20		0	H B
			40	Positive.	1	
			80	Positive.	1	
			40	Positive.	1	
			4		0	
		Discharged.				
Sep. 20. 1. 30			4		0	G
			60	Positive.	2	
			80	Positive.	3	
			60	Positive.	2	
			40	Positive.	1	
			4		0	
		Discharged.				
Sep. 21. 22. 55			4		0	
			40	Positive.	1	
			60	Positive.	3	
			80	Positive.	4 quivering.	
			60	Positive.	3	
			40	Positive.	2	
			4		0	
		Discharged.				
23. 0			4		0	
			40	Positive.	1	
			50	Positive.	2	
			60	Positive.	3	
			80	Positive.	4 quivering.	
			60	Positive.	3	
			40	Positive.	2	
			4		0	
		Discharged.				
Sep. 22. 0. 50			4		0	
			40	Positive.	0	
			55	Positive.	1	
			80		$1\frac{1}{2}$	
			60		0	
			50	Negative.	1	
			4	Negative.	2	
		Discharged.				

Sep. 13^d. 1^h. 0^m. The ball was raised, but no effect was shewn: rain was falling frequently.

ELECTRICAL EXPERIMENTS WITH THE INDUCTION-BALL APPARATUS.

Month, Day, and Hour, Greenwich Mean Time.	State of the Weather.	Whether the Electricity was discharged by touching the Apparatus.	Height of the Ball in Feet.	Direction of Deviation of Gold Leaf in Dry Pile Apparatus.	Angle of Deviation.	Observers.
d h m			feet.		°	
Sep. 22. 1. 40			4		0	G
			40	Positive.	1	
			55	Positive.	2	
			75	Positive.	3	
			60	Positive.	2	
			40	Positive.	1	
			4		0	
		Discharged.				
22. 0	A few breaks in the clouds about the zenith.		4		0	D
			40	Positive.	1	
			55	Positive.	3	
			80	Positive.	2 quivering.	
			60	Positive.	2	
			40	Positive.	2	
			4		0	
		Discharged.				
22. 5	A few breaks in the clouds about the zenith.		4		0	
			40	Positive.	1	
			55	Positive.	2	
			80	Positive.	3	
			55	Positive.	2	
			40	Positive.	1	
			4		0	
		Discharged.				
Sep. 23. 0. 30	Overcast.		4		0	
			30		0	
			80	Positive.	1 quivering.	
			30		0	
			4		0	
		Discharged.				
22. 0	Cloudless.		35	Positive.	1	G
			55	Positive.	2	
		Discharged.				
22. 1	Cloudless.		4		0	
			35	Positive.	1	
			55	Positive.	2	
			60	Positive.	3	
			70	Positive.	4	
			75	Positive.	5	
			55	Positive.	3	
			40	Positive.	2	
			4		0	
		Discharged.				
Sep. 26. 0. 15	Cumuli in various directions: hazy.		4		0	D
			40		0	
			55	Positive.	1	
			70	Positive.	1	
			80	Positive.	1	
			60		0	
			55	Negative.	1	
			40	Negative.	1	
			4		0	
		Discharged.				
0. 20	Cumuli in various directions: hazy.		4		0	

Sep. 24ᵈ. The ball was raised several times during the morning of this day, but no effect was shewn.

ELECTRICAL EXPERIMENTS WITH THE INDUCTION-BALL APPARATUS.

Month, Day, and Hour, Greenwich Mean Time.	State of the Weather.	Whether the Electricity was discharged by touching the Apparatus.	Height of the Ball in Feet.	Direction of Deviation of Gold Leaf in Dry Pile Apparatus.	Angle of Deviation.	Observers.
d h m			feet.		°	
Sep. 26. 0. 20	Cumuli in various directions: very hazy.		40		0	D
			60		0	
			70	Positive.	1	
			80	Positive.	1	
			60		0	
			55	Negative.	1	
			40	Negative.	2	
			20	Negative.	2	
			4		0	
		Discharged.				
Sep. 27. 23. 0	A cloudy morning: occasionally slight rain is falling.		4		0	G
			40	Negative.	1	
			80	Negative.	1	
			60	Positive.	1	
			40	Positive.	1	
			4		0	
		Discharged.				

ROYAL OBSERVATORY, GREENWICH.

ABSTRACTS

OF THE

RESULTS

OF THE

MAGNETICAL OBSERVATIONS.

1845.

TABLE I.—Mean Westerly Declination, as deduced from the 12 Observations taken on every Civil Day (except Sundays, Good Friday, and Christmas Day), at the Even Hours of Göttingen Mean Solar Time.

Days of the Month, 1845.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″
1	22.57.34	22.58. 1	22.57. 7	22.59. 0	22.57.21	S	22.59.40	22.58.36	22.57.50	22.53.40	22.53.50	22.52.16
2	58.36	S	S	60. 2	56.30	22.59.37	58.25	57.23	54.42	53.42	S	53.11
3	59.26	57.26	57.10	60. 3	56. 4	60.18	59.44	S	55.44	53.54	53.34	53.37
4	58.23	57.55	57.21	60.24	S	61.48	59.46	56.45	56. 5	53.32	52.28	51.32
5	S	59.43	56.52	60.23	57.19	60.26	60.43	55.55	55.14	S	54.37	54.18
6	59.13	58.17	57.22	S	57.10	60.19	S	58.24	59.40	53.39	53.16	52.44
7	58.23	58.19	56.56	59.59	57.44	60.19	61.48	57.27	S	53.10	54.12	S
8	59. 4	58.17	57.24	59.21	57.29	S	61.43	57.39	59.48	52.28	53.29	52.15
9	58.24	S	S	59. 1	57. 6	60.41	60.25	56.51	60.50	51.35	S	52. 6
10	55.33	57.33	57.34	59.10	57. 3	61.22	57.28	S	58. 4	53.17	53.28	52.52
11	58. 5	58. 5	56.51	58. 8	S	63.20	54.10	55.17	56.27	53.19	52.29	51.31
12	S	58.14	57. 1	58. 9	57.43	61.48	57. 3	54.24	60.57	S	52.59	52.28
13	59. 1	57.30	58. 7	S	57. 3	59.50	S	54.34	59.17	53.30	52.49	52. 7
14	57.59	57.33	57. 4	58.23	57.11	60.36	54.40	54. 1	S	53.25	53. 2	S
15	57.23	57.57	57.14	58.38	56.52	S	55.47	56.46	53.59	53.22	52.55	52.11
16	58.14	S	S	58.44	57.23	60.12	56.51	57.57	53.20	53.41	S	51.35
17	58.11	56.56	57. 5	58.51	57.13	60.38	56. 0	S	53.25	54.22	53.41	51.56
18	58.28	57. 6	57.15	58.51	S	60.59	57.42	60.13	55.20	53.19	52.20	51.33
19	S	57.38	55.54	57.38	58.36	62.28	60. 5	57.31	55.28	S	52.49	51.50
20	58.32	57.13	56.13	S	58.34	61.10	S	59.30	59.52	53.43	52.45	51.39
21	59. 0	57.14	Good Friday	58.17	57.35	62. 9	55.56	61. 1	S	53.10	51.44	S
22	58.41	53. 4	57.26	59.19	58.14	S	57.22	63. 6	54.35	52.48	52. 4	52.26
23	58.43	S	S	60. 3	59.19	62. 2	54.35	61.47	53.44	53.38	S	52.24
24	57.19	51.40	59. 2	61. 7	58.57	60.25	54. 5	S	54. 1	53.56	53. 0	52.22
25	58.40	57.32	56.32	60.26	S	61.20	55.50	61. 0	53.39	53.37	52.16	Christ. Day.
26	S	58.25	56.39	60.33	57.40	62. 5	54. 4	60.32	55.13	S	51.50	52.19
27	55.57	56.23	55.27	S	57.34	60.55	S	58.45	53.12	52.55	52. 3	52.27
28	56.41	57.55	56.52	57.25	56.42	62.43	56.16	57.29	S	52.10	52.45	S
29	57.29		56.53	58.56	57.35	S	57.38	58.38	52.30	53.45	51.33	51.21
30	57.31		S	59.23	55.39	61.29	56.11	61.26	53. 5	53.56	S	52.21
31	58.20		58.19		58. 2		55.48	S		52.57		52.28

The letter *S* denotes that the day was Sunday.

There is one instance in this table in which the difference between the numbers on two consecutive days is greater than 5′, viz., between the 24th and 25th of February; there are four instances in which the difference has exceeded 4′ and is less than 5′, viz., between February 21 and 22; September 5 and 6, 11 and 12, and 19 and 20; there are two instances of differences exceeding 3′ and less than 4′, viz., between July 10 and 11, and September 1 and 2; and there are twenty-one instances of differences exceeding 2′ and less than 3′, viz., between January 9 and 10, and 10 and 11; February 26 and 27; March 24 and 25; April 30 and May 1, 30 and 31; July 9 and 10, 11 and 12, 18 and 19, 22 and 23, and 31 and August 1; August 5 and 6, 14 and 15, 18 and 19, 21 and 22, 29 and 30; September 9 and 10, 26 and 27; November 4 and 5; December 3 and 4, and 4 and 5; all the remaining differences are less than 2′.

						′ ″
In January, the greatest mean West Declination took place on the		3rd day, and the least on the		10th day; the difference between these numbers is		3. 53
February	,,	5th	,,	24th	,,	8. 3
March	,,	24th	,,	27th	,,	3. 35
April	,,	24th	,,	28th	,,	3. 42
May	,,	23rd	,,	30th	,,	3. 40
June	,,	11th	,,	2nd	,,	3. 43
July	,,	7th	,,	26th	,,	7. 44
August	,,	22nd	,,	14th	,,	9. 5
September	,,	12th	,,	29th	,,	8. 27
October	,,	17th	,,	9th	,,	2. 47
November	,,	5th	,,	29th	,,	3. 4
December	,,	5th	,,	29th	,,	2. 57

The mean position of the magnet was therefore subject to less variation in the month of October than in any other month. The variations in the months of March, April, May, June, November, and December were small. In August and September the magnet was subject to the greatest changes in its mean daily position. The mean monthly range (thus estimated from the mean of all the observations in each day) was 5′. 3″. The yearly range (similarly estimated) was 11′. 59″, being the difference between the mean West declination on June 11 and that on December 29.

		° ′ ″		° ′ ″		d h m		d h m s	
In January, the extreme West Declinations were		23. 7. 7	and	22. 35. 39,	and they took place at	20. 2. 0	and at	9. 12. 19. 0	respectively.
February	,,	23. 7. 17	,,	22. 36. 28	,,	26. 1. 50	,,	24. 8. 23. 5	,,
March	,,	23. 7. 36	,,	22. 37. 18	,,	24. 2. 0	,,	26. 7. 34. 0	,,
April	,,	23. 12. 50	,,	22. 46. 4	,,	3. 1. 50	,,	27. 13. 6. 30	,,
May	,,	23. 13. 45	,,	22. 40. 27	,,	31. 2. 20	,,	1. 14. 30. 0	,,
June	,,	23. 11. 19	,,	22. 53. 34	,,	21 {1. 50 / 2. 0}	,,	6. 20. 0. 0	,,
July	,,	23. 11. 53	,,	22. 46. 4	,,	19. 2. 0	,,	10. 20. 0. 0	,,
August	,,	23. 14. 23	,,	22. 35. 15	,,	22. 2. 10	,,	29. 10. 6. 45	,,
September	,,	23. 11. 39	,,	22. 38. 21	,,	12. 1. 50	,,	17. 12. 31. 45	,,
October	,,	23. 5. 11	,,	22. 26. 23	,,	21. 2. 10	,,	21. 9. 38. 0	,,
November	,,	23. 5. 19	,,	22. 40. 58	,,	17. 0. 40	,,	17. 8. 16. 45	,,
December	,,	23. 26. 2	,,	22. 28. 5	,,	3. 5. 41¼	,,	3. 8. 29. 45	,,

	′ ″
The extreme range of the magnet in the month of January was	31. 28
February	30. 49
March	30. 18
April	26. 46
May	33. 18
June	17. 45
July	25. 49
August	39. 8
September	33. 18
October	38. 48
November	24. 21
December	57. 57

The largest West Declination in the year 1845 was in December, and the smallest in October; the difference between them was 59′. 39″, which is the yearly range of this magnet.

TABLE II.—Determination of the Absolute Westerly Declination from the Mean of the Two-hourly Observations.

Means rejecting days of great disturbance

	1845, Month.	Absolute Westerly Declination of Magnet.	1845, Month.	Absolute Westerly Declination of Magnet.	
		° ′ ″		° ′ ″	
	January	22. 58. 6	July	22. 57. 24	
22. 57. 35	February	22. 57. 20	August	22. 58. 11	22. 58. 10
57. 7	March	22. 57. 6	September	22. 56. 7	
	April	22. 59. 14	October	22. 53. 21	
	May	22. 57. 28	November	22. 52. 53	
	June	23. 1. 10	December	22. 52. 18	52. 15

The mean declination for the year is 22°. 56′. 43″. The mean for each month is less than the mean for the same month in the preceding year.

TABLE III.—Daily Range of the Declination Magnet on every Day of the Year (except Sundays, Good Friday, and Christmas Day), as deduced from all the Observations taken on that Day.

Days of the Month, 1845.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″
1	8. 57	5. 43	13. 32	9. 34	19. 11	*S*	8. 57	22. 11	10. 33	11. 43	14. 16	5. 9
2	9. 42	*S*	*S*	13. 10	28. 30	9. 43	6. 58	14. 8	15. 4	7. 42	*S*	10. 40
3	5. 14	13. 8	8. 24	18. 10	10. 35	9. 5	9. 29	*S*	15. 54	12. 37	11. 0	57. 57
4	4. 4	7. 42	6. 29	13. 29	*S*	15. 16	14. 17	16. 16	12. 12	8. 24	11. 19	19. 10
5	*S*	9. 10	6. 15	14. 0	7. 33	10. 6	13. 14	9. 37	14. 14	*S*	11. 38	9. 3
6	4. 57	12. 19	6. 33	*S*	10. 49	12. 16	*S*	18. 0	19. 21	11. 17	6. 17	7. 5
7	5. 32	10. 27	10. 37	12. 57	12. 0	15. 10	15. 15	11. 16	*S*	8. 10	13. 13	*S*
8	3. 30	6. 46	9. 24	11. 48	11. 46	*S*	13. 31	15. 22	15. 45	9. 14	5. 51	5. 40
9	23. 23	*S*	*S*	12. 20	12. 58	12. 42	7. 27	14. 13	13. 32	14. 2	*S*	3. 48
10	30. 40	12. 4	9. 13	10. 36	8. 52	11. 57	9. 19	*S*	5. 39	16. 8	8. 46	7. 10
11	7. 15	7. 42	13. 3	13. 58	*S*	12. 31	14. 52	15. 36	10. 16	6. 19	7. 27	6. 5
12	*S*	7. 35	6. 58	13. 19	11. 39	11. 52	12. 11	10. 25	17. 41	*S*	7. 40	7. 55
13	4. 46	7. 34	10. 37	*S*	11. 43	11. 3	*S*	9. 34	14. 28	5. 56	5. 6	25. 45
14	8. 37	6. 44	15. 40	17. 1	12. 15	12. 13	13. 1	9. 31	*S*	7. 7	5. 53	*S*
15	6. 20	4. 46	10. 56	10. 9	14. 46	*S*	14. 27	16. 56	5. 51	9. 1	6. 5	9. 23
16	8. 25	*S*	*S*	9. 49	13. 52	9. 24	14. 59	16. 6	13. 22	9. 11	*S*	10. 19
17	4. 47	7. 3	10. 11	9. 21	9. 14	4. 41	12. 1	*S*	22. 54	10. 59	24. 21	5. 12
18	6. 53	6. 4	11. 45	13. 10	*S*	2. 13	17. 40	15. 50	23. 15	9. 8	17. 0	14. 55
19	*S*	4. 14	13. 53	14. 37	16. 3	9. 38	21. 57	9. 53	13. 32	*S*	7. 24	5. 9
20	24. 42	22. 12	19. 44	*S*	14. 58	12. 3	*S*	17. 23	12. 5	15. 15	5. 55	7. 35
21	9. 22	19. 59	Good Friday.	12. 43	9. 44	15. 26	12. 26	19. 15	*S*	38. 48	7. 5	*S*
22	12. 4	16. 29	11. 18	13. 7	17. 22	*S*	18. 40	20. 56	12. 14	9. 43	6. 10	5. 35
23	11. 35	*S*	*S*	14. 42	11. 22	10. 47	9. 48	16. 13	9. 0	7. 7	*S*	4. 37
24	10. 30	23. 13	14. 1	16. 5	13. 13	8. 59	12. 2	*S*	11. 55	9. 28	7. 45	7. 23
25	10. 8	20. 40	14. 10	16. 15	*S*	7. 48	11. 52	18. 49	28. 44	11. 57	6. 18	Christ. Day.
26	*S*	13. 59	29. 58	16. 21	7. 58	10. 44	10. 49	18. 55	30. 28	*S*	5. 16	3. 37
27	14. 52	19. 43	15. 12	*S*	6. 48	6. 43	*S*	10. 39	11. 48	6. 54	5. 27	6. 46
28	10. 35	15. 19	10. 25	21. 58	7. 5	10. 23	13. 49	11. 45	*S*	8. 34	7. 11	*S*
29	18. 31		13. 22	14. 4	8. 25	*S*	15. 42	37. 49	10. 19	6. 30	13. 25	4. 46
30	18. 48		*S*	12. 17	12. 53	7. 28	14. 59	23. 1	8. 30	6. 27	*S*	17. 0
31	8. 13		12. 33		24. 56		14. 17	*S*		9. 2		6. 11

The letter *S* denotes that the day was Sunday.

From this table we learn that

On 13 days out of 310, the daily arc described by the magnet was less than 5′					
253	,,	,,	greater than 5′ and less than 17′		
36	,,	,,	17′	,,	26′
8	,,	,,	26′	,,	60′

In January, the greatest and least daily ranges of the declination magnet took place on the		10th and 8th	days respectively.
February	,,	24th and 19th	,,
March	,,	26th and 5th	,,
April	,,	28th and 17th	,,
May	,,	2nd and 27th	,,
June	,,	21st and 18th	,,
July	,,	19th and 2nd	,,
August	,,	29th and 14th	,,
September	,,	26th and 10th	,,
October	,,	21st and 13th	,,
November	,,	17th and 13th	,,
December	,,	3rd and 26th	,,

TABLE IV. — Mean Daily Range of the Declination Magnet in each Month.

1845, Month.	Mean of all the Daily Ranges in each Month.	1845, Month.	Mean of all the Daily Ranges in each Month.
	′ ″		′ ″
January	10. 50	July	13. 7
February	11. 42	August...........	16. 8
March	12. 10	September........	14. 34
April	13. 39	October	10. 37
May.............	12. 50	November	9. 7
June.............	10. 24	December.........	10. 32

The mean daily range of the magnet was smallest in November and largest in August.

By taking the means of the above numbers in two groups, those between April and September for one, and in the remaining months for the other, we find that

	′ ″
The daily range in Summer was.........................	13. 27
The daily range in Winter was..........................	10. 50
The mean daily range for the Year was....................	12. 8

TABLE V.—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.

1845, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″
14	22. 56. 10	22. 55. 31	22. 55. 33	22. 57. 31	22. 56. 1	22. 59. 43	22. 55. 13	22. 55. 5	22. 53. 35	22. 51. 12	22. 51. 56	22. 50. 50
16	56. 31	56. 17	55. 38	57. 24	55. 50	59. 11	55. 9	54. 52	52. 57	51. 47	52. 24	51. 56
18	57. 25	56. 1	55. 33	57. 0	54. 36	57. 34	52. 42	53. 5	53. 7	52. 30	51. 54	51. 57
20	58. 7	56. 38	55. 15	55. 4	53. 4	56. 46	51. 49	52. 16	52. 52	52. 13	52. 39	52. 4
22	59. 49	57. 46	55. 54	55. 57	56. 11	58. 55	54. 13	55. 31	55. 29	52. 22	53. 40	52. 21
0	61. 41	61. 28	60. 22	63. 24	61. 58	64. 41	59. 57	62. 41	61. 40	57. 46	56. 31	55. 27
2	61. 48	62. 20	63. 33	67. 28	63. 43	66. 46	63. 35	66. 42	63. 15	58. 38	56. 42	56. 49
4	59. 44	59. 29	60. 26	63. 42	60. 45	65. 18	62. 54	64. 9	59. 46	55. 43	54. 41	54. 34
6	57. 37	56. 57	56. 55	60. 4	57. 36	62. 46	60. 29	60. 39	57. 5	53. 30	52. 13	51. 32
8	56. 54	55. 27	55. 38	57. 49	56. 46	61. 28	59. 3	58. 39	55. 31	52. 48	51. 14	50. 33
10	55. 54	54. 58	54. 52	57. 33	56. 20	60. 41	57. 38	57. 29	54. 16	51. 9	50. 13	49. 49
12	55. 36	55. 18	55. 38	57. 57	56. 47	60. 6	56. 18	57. 3	53. 50	50. 40	50. 25	49. 57

From the numbers in this table we learn that the westerly declination was, without exception, greater at 2^h than at any other hour. The time when the declination is least varies. In the months of January, June, July, August, and December, the magnet has passed, uninterruptedly, from one extreme position to the other. In the months of February, April, May, September, October, and November, there have been two extreme West positions, and two extreme East positions, and in the month of March a triple maximum and minimum has taken place.

The next table is formed by taking the means of the numbers in the preceding table, corresponding to the same hour for each month: January, February, March, October, November, and December, are grouped together for Winter, and the remaining months from April to September, for Summer.

TABLE VI.—Mean Westerly Declination at every Even Hour of Göttingen Mean Solar Time, in the Summer, in the Winter, and for the Year.

1845, Hour, Göttingen Mean Time.	Mean Westerly Declination. Summer.	Winter.	Mean for the Year.	1845, Hour, Göttingen Mean Time.	Mean Westerly Declination. Summer.	Winter.	Mean for the Year.
h	° ′ ″	° ′ ″	° ′ ″	h	° ′ ″	° ′ ″	° ′ ″
14	22. 56. 11	22. 53. 32	22. 54. 52	2	23. 5. 14	22. 59. 57	23. 2. 35
16	22. 55. 54	22. 54. 6	22. 55. 0	4	23. 2. 46	22. 57. 26	23. 0. 6
18	22. 54. 51	22. 54. 13	22. 54. 27	6	22. 59. 47	22. 54. 47	22. 57. 17
20	22. 53. 39	22. 54. 29	22. 54. 4	8	22. 58. 13	22. 53. 46	22. 55. 59
22	22. 56. 3	22. 55. 19	22. 55. 41	10	22. 57. 20	22. 52. 48	22. 55. 4
0	23. 2. 24	22. 58. 53	23. 0. 38	12	22. 57. 0	22. 52. 56	22. 54. 58

The greatest western 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 10^h. In both periods there was one maximum and one minimum only, occurring at the above times.

The last column shews the mean for the year, and it exhibits a double maximum and minimum, viz. :—

	h
The maximum	at 2
A minimum	at 14
A maximum	at 16
The minimum	at 20

The mean westerly declination for summer was 22°. 58′. 16″, and for winter it was 22°. 55′. 11″. In the year 1844 it was 23°. 17′. 5″ in summer, and in winter 23°. 13′. 32″; so that the westerly declination in the summer half year of 1845 was smaller by 18′. 49″, and in the winter half year by 18′. 21,″ than it was in the same periods of the preceding year. Comparing the results of 1845 with those of 1844, hour by hour, the greatest difference occurred in summer at 22^h, being 20′. 13″, and the least difference at 12^h, being 17′. 56″; in winter the greatest difference occurred at 6^h, being 18′. 36″, and the least difference at 12^h, being 17′. 58″. The results of 1845 are in all cases smaller than those of previous years.

In 1845, the mean for the whole year was 22°. 56′. 43″; in 1844, it was 23°. 11′. 43″; therefore, the mean westerly declination of 1845 was smaller than that for 1844 by 15′. 0″.

Comparing the numbers of the last column of the table with the westerly declination for the year, or 22°. 56′. 43″, the following results are obtained :—

	h		′ ″
The mean position at	14	is more easterly than the mean position for the year by	1. 51
,,	16	,, ,,	1. 43
,,	18	,, ,,	2. 16
,,	20	,, ,,	2. 39
,,	22	,, ,,	1. 2
,,	0	is more westerly than the mean position for the year by	3. 55
,,	2	,, ,,	5. 52
,,	4	,, ,,	3. 23
,,	6	,, ,,	0. 34
,,	8	is more easterly than the mean position for the year by	0. 44
,,	10	,, ,,	1. 39
,,	12	,, ,,	1. 45

TABLE VII.—Excess of the Westerly Declination in every Month, at each Even Hour of Göttingen Mean Solar Time (as deduced from the Monthly Means of the Observations at each Hour), above the Mean Westerly Declination for the Month (as found from the Mean of all the Two-hourly Observations for that Month).

1845, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″
14	−1.56	−1.49	−1.33	−1.43	−1.27	−1.27	−2.12	−3. 6	−2.32	−2. 9	−0.57	−1.28
16	−1.35	−1. 3	−1.28	−1.50	−1.38	−1.59	−2.16	−3.19	−3.10	−1.34	−0.29	−0.22
18	−0.41	−1.19	−1.33	−2.14	−2.52	−3.36	−4.43	−5. 6	−3. 0	−0.51	−0.59	−0.21
20	+0. 1	−0.42	−1.51	−4.10	−4.24	−4.24	−5.36	−5.55	−3.15	−1. 8	−0.14	−0.14
22	+1.43	+0.26	−1.12	−3.17	−1.17	−2.15	−3.12	−2.40	−0.38	−0.59	+0.47	+0. 3
0	+3.38	+4. 8	+3. 6	+4.10	+4.30	+3.31	+2.32	+4.30	+5.33	+4.25	+3.38	+3. 9
2	+3.42	+5. 0	+6.27	+8.14	+6.15	+5.36	+6.10	+8.31	+7. 8	+5.17	+3.49	+4.21
4	+1.38	+2. 9	+3.20	+4.28	+3.17	+4. 8	+5.29	+5.58	+3.39	+2.22	+1.48	+2.16
6	−0.29	−0.23	−0.11	+0.50	+0. 8	+1.36	+3. 4	+2.28	+0.58	+0. 9	−0.40	−0.46
8	−1.12	−1.53	−1.28	−1.25	−0.42	+0.18	+1.38	+0.28	−0.36	−0.33	−1.39	−1.45
10	−2.12	−2.32	−2.14	−1.41	−1. 8	−0.29	+0.13	−0.42	−1.51	−2.12	−2.40	−2.29
12	−2.30	−2. 2	−1.28	−1.17	−0.41	−1. 4	−1. 7	−1. 8	−2.17	−2.41	−2.28	−2.21

This table shews that the magnet has been twice every day in its mean position for the month: in the months of January, February, March, November, and December, before 6^h; in the months of April, May, September, and October, before 8^h; in June before 10^h, and in July before 12^h; and again in January before 20^h; in February, November, and December, before 22^h; and in the months from March to October, both inclusive, before 0^h. This table also shews that the marked end of the magnet was from 4^h to 8^h longer to the East of the meridian than it was to the West.

By taking the means of the numbers contained in the preceding table (attention being paid to the signs), which correspond to the same hour, it will be found that they are identical with the numbers following Table VI.

TABLE VIII.—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.

1845, Month.	$1^h.50^m$.	$2^h.0^m$.	$2^h.10^m$.	1845, Month.	$1^h.50^m$.	$2^h.0^m$.	$2^h.10^m$.
	° ′ ″	° ′ ″	° ′ ″		° ′ ″	° ′ ″	° ′ ″
January	23. 1.42	23. 1.48	23. 1.45	July	23. 3.34	23. 3.35	23. 3.48
February ...	23. 2.48	23. 2.20	23. 2.29	August.....	23. 6.23	23. 6.42	23. 6.39
March	23. 3.37	23. 3.33	23. 3.21	September ..	23. 3.13	23. 3.15	23. 3. 7
April	23. 7.34	23. 7.28	23. 7.23	October	22.58.41	22.58.38	22.58.53
May.......	23. 3.41	23. 3.43	23. 3.38	November ..	22.56.54	22.56.42	22.56.40
June.......	23. 6.44	23. 6.46	23. 6.53	December...	22.56.46	22.56.41	22.56.30

		h m		° ′ ″
The mean of all for the year 1845,	at	1.50	is	23. 2.38
,, ,,	at	2. 0	is	23. 2.36
,, ,,	at	2.10	is	23. 2.36

TABLE IX.—Mean Reading of the Horizontal Force Magnet, corrected for Temperature, expressed in parts of the whole Horizontal Force, as deduced from the 12 Observations taken on every Civil Day (except Sundays, Good Friday, and Christmas Day) at the Even Hours of Göttingen Mean Solar Time.

Days of the Month, 1845.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d												
1	0·040261	0·037463	0·036313	0·035611	0·035564	*S*	0·035906	0·035674	0·035973	0·037295	0·036266	0·037240
2	0·040037	*S*	*S*	0·035533	0·035942	0·035881	0·036231	0·035361	0·035607	0·037138	*S*	0·037523
3	0·040169	0·039178	0·036356	0·035287	0·036148	0·035244	0·036455	*S*	0·035356	0·036867	0·037062	0·035155
4	0·040541	0·039457	0·037341	0·034648	*S*	0·035307	0·036729	0·035261	0·035385	0·037152	0·036874	0·035655
5	*S*	0·038998	0·037221	0·034258	0·036126	0·035686	0·036460	0·035852	0·035596	*S*	0·036308	0·037028
6	0·040790	0·037990	0·036791	*S*	0·036257	0·035722	*S*	0·036400	0·035937	0·037193	0·037185	0·037204
7	0·041289	0·037349	0·037032	0·034991	0·036576	0·035689	0·035708	0·036418	*S*	0·037252	0·036582	*S*
8	0·041212	0·037415	0·036360	0·034938	0·036712	*S*	0·035491	0·036404	0·035848	0·037727	0·037035	0·038037
9	0·039334	*S*	*S*	0·035004	0·036789	0·035852	0·035350	0·036574	0·036066	0·037115	*S*	0·038734
10	0·038874	0·037989	0·036758	0·035712	0·036399	0·035780	0·035693	*S*	0·036160	0·336520	0·037913	0·038406
11	0·040744	0·038083	0·036905	0·035733	*S*	0·035507	0·036160	0·036386	0·036594	0·036476	0·038043	0·038175
12	*S*	0·037251	0·036789	0·035928	0·036473	0·035406	0·036939	0·036541	0·035985	*S*	0·037643	0·037097
13	0·040984	0·037395	0·036314	*S*	0·036753	0·035656	*S*	0·037247	0·035406	0·037636	0·037872	0·036415
14	0·042039	0·037837	0·035669	0·035613	0·036833	0·036384	0·036788	0·037163	*S*	0·037456	0·037791	*S*
15	0·041781	0·037681	0·034617	0·035919	0·036227	*S*	0·036890	0·037114	0·035428	0·037136	0·037816	0·037819
16	0·041703	*S*	*S*	0·036746	0·036234	0·036420	0·036490	0·036870	0·035705	0·036524	*S*	0·037304
17	0·041523	0·038280	0·035867	0·036441	0·036521	0·036048	0·036365	*S*	0·036794	0·036744	0·038178	0·037179
18	0·041174	0·038239	0·036134	0·035768	*S*	0·035910	0·036235	0·036479	0·036613	0·037244	0·037375	0·038242
19	*S*	0·037644	0·035521	0·035749	0·035339	0·036238	0·035959	0·037195	0·036504	*S*	0·037287	0·038533
20	0·040057	0·036973	0·035393	*S*	0·037038	0·036006	*S*	0·037274	0·035310	0·037696	0·037751	0·038424
21	0·040168	0·035685	Good Friday.	0·035055	0·038329	0·035864	0·035613	0·037319	*S*	0·036332	0·037807	*S*
22	0·041586	0·035729	0·035310	0·035612	0·039111	*S*	0·035541	0·037141	0·036580	0·036357	0·037127	0·038290
23	0·041217	*S*	*S*	0·036070	0·038369	0·035398	0·035947	0·036234	0·037475	0·036541	*S*	0·038039
24	0·038832	0·036425	0·037435	0·035888	0·038500	0·035512	0·035517	*S*	0·037831	0·036380	0·037499	0·037356
25	0·038027	0·036059	0·036010	0·035149	*S*	0·035417	0·034332	0·036477	0·035124	0·036475	0·037887	Christ. Day
26	*S*	0·036006	0·036150	0·035490	0·038627	0·035372	0·035203	0·036577	0·036132	*S*	0·037954	0·038645
27	0·038774	0·036503	0·035586	*S*	0·038537	0·035952	*S*	0·035844	0·036100	0·037302	0·037969	0·039646
28	0·038500	0·036410	0·036159	0·034687	0·037999	0·035902	0·035202	0·036475	*S*	0·037636	0·037061	*S*
29	0·038876		0·035112	0·035157	0·037919	*S*	0·035298	0·037068	0·037000	0·037063	0·036682	0·040951
30	0·037954		*S*	0·035374	0·037672	0·035551	0·035948	0·035484	0·037387	0·037307	*S*	0·039700
31	0·037834		0·035837		0·036220		0·035921	*S*		0·037637		0·039016

The letter *S* denotes that the day was Sunday.

It is necessary to decrease all these numbers by 0·022831 (see the Introduction) to make them comparable with those of the four preceding years. By applying this correction, the next table is formed.

TABLE X.—Mean Reading of the Horizontal Force Magnet, expressed in parts of the whole Horizontal Force, and reduced to the same Zero as that of the four preceding years, by applying the constant number mentioned at the foot of Table IX. to all the numbers in that Table.

Days of the Month, 1845.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d												
1	0·017430	0·014632	0·013482	0·012780	0·012733	*S*	0·013075	0·012843	0·013142	0·014464	0·013435	0·014409
2	0·017206	*S*	*S*	0·012702	0·013111	0·013050	0·013400	0·012530	0·012776	0·014307	*S*	0·014692
3	0·017338	0·016347	0·013525	0·012456	0·013317	0·012413	0·013624	*S*	0·012525	0·014036	0·014231	0·012324
4	0·017710	0·016626	0·014510	0·011817	*S*	0·012476	0·013898	0·012430	0·012554	0·014321	0·014043	0·012824
5	*S*	0·016167	0·014390	0·011427	0·013295	0·012855	0·013629	0·013021	0·012765	*S*	0·013477	0·014197
6	0·017959	0·015159	0·013960	*S*	0·013426	0·012891	*S*	0·013569	0·013106	0·014362	0·014354	0·014373
7	0·018458	0·014518	0·014201	0·012160	0·013745	0·012858	0·012877	0·013587	*S*	0·014421	0·013751	*S*
8	0·018381	0·014584	0·013529	0·012107	0·013881	*S*	0·012660	0·013573	0·013017	0·014896	0·014204	0·015206
9	0·016503	*S*	*S*	0·012173	0·013958	0·013021	0·012519	0·013743	0·013235	0·014284	*S*	0·015903
10	0·016043	0·015158	0·013927	0·012881	0·013568	0·012949	0·012862	*S*	0·013329	0·013689	0·015082	0·015575
11	0·017913	0·015252	0·014074	0·012902	*S*	0·012676	0·013329	0·013555	0·013763	0·013645	0·015212	0·015344
12	*S*	0·014420	0·013958	0·013097	0·013642	0·012575	0·014108	0·013710	0·013154	*S*	0·014812	0·014266
13	0·018153	0·014564	0·013483	*S*	0·013922	0·012825	*S*	0·014416	0·012575	0·014805	0·015041	0·013584
14	0·019208	0·015006	0·012838	0·012782	0·014002	0·013553	0·013957	0·014332	*S*	0·014625	0·014960	*S*
15	0·018950	0·014850	0·011786	0·013088	0·013396	*S*	0·014059	0·014283	0·012597	0·014305	0·014985	0·014988
16	0·018872	*S*	*S*	0·013915	0·013403	0·013589	0·013659	0·014039	0·012874	0·013693	*S*	0·014473
17	0·018692	0·015449	0·013036	0·013610	0·013690	0·013217	0·013534	*S*	0·013963	0·013913	0·015347	0·014348
18	0·018343	0·015408	0·013303	0·012937	*S*	0·013079	0·013404	0·013648	0·013782	0·014413	0·014544	0·015411
19	*S*	0·014813	0·012690	0·012918	0·012508	0·013407	0·013128	0·014364	0·013673	*S*	0·014456	0·015702
20	0·017226	0·014142	0·012562	*S*	0·014207	0·013175	*S*	0·014443	0·012479	0·014865	0·014920	0·015593
21	0·017337	0·012854	Good Friday.	0·012224	0·015498	0·013033	0·012782	0·014488	*S*	0·013501	0·014976	*S*
22	0·018755	0·012898	0·012479	0·012781	0·016280	*S*	0·012710	0·014310	0·013749	0·013526	0·014296	0·015459
23	0·018386	*S*	*S*	0·013239	0·015538	0·012567	0·013116	0·013403	0·014644	0·013710	*S*	0·015208
24	0·016001	0·013594	0·014604	0·013057	0·015669	0·012681	0·012686	*S*	0·015000	0·013549	0·014668	0·014525
25	0·015196	0·013228	0·013179	0·012318	*S*	0·012586	0·011501	0·013646	0·012293	0·013644	0·015056	Christ. Day.
26	*S*	0·013175	0·013319	0·012659	0·015796	0·012541	0·012372	0·013746	0·013301	*S*	0·015123	0·015814
27	0·015943	0·013672	0·012755	*S*	0·015706	0·013121	*S*	0·013013	0·013269	0·014471	0·015138	0·016768
28	0·015669	0·013579	0·013328	0·011856	0·015168	0·013071	0·012371	0·013644	*S*	0·014805	0·015230	*S*
29	0·016045		0·012281	0·012326	0·015088	*S*	0·012467	0·014237	0·014169	0·014232	0·013851	0·018121
30	0·015123		*S*	0·012543	0·014841	0·012720	0·013117	0·012653	0·014556	0·014476	*S*	0·016869
31	0·015003		0·013006		0·013389		0·013090	*S*		0·014806		0·016185

The letter *S* denotes that the day was Sunday.

There are three instances in this table in which the difference between the numbers on two consecutive days is greater than 0·002, viz., between January 23 and 24, September 24 and 25, and December 2 and 3. There are twenty-three cases in which the difference exceeds 0·001 and is less than 0·002, viz., between January 8 and 9, 10 and 11, 13 and 14, 21 and 22; February 5 and 6, 20 and 21; March 14 and 15, 24 and 25, 28 and 29; May 19 and 20, 20 and 21, 30 and 31; July 24 and 25; August 29 and 30; September 16 and 17, 19 and 20, 25 and 26; October 20 and 21; October 31 and November 1; December 4 and 5, 11 and 12, 17 and 18, and 29 and 30. There are forty-one cases in which the difference exceeds 0·0005, and is less than 0·001; and all other differences are less than 0·0005.

In January the greatest mean reading took place on the	14th day,	and the least on the	31st day;	the difference between these numbers is	0·004205
February	,,	4th	,,	21st	,,	0·003772
March	,,	24th	,,	15th	,,	0·002818
April	,,	16th	,,	5th	,,	0·002488
May	,,	22nd	,,	1st	,,	0·003547
June	,,	16th	,,	3rd	,,	0·001176
July	,,	12th	,,	25th	,,	0·002607
August	,,	21st	,,	4th	,,	0·002058
September	,,	24th	,,	25th	,,	0·002707
October	,,	8th	,,	21st	,,	0·001395
November	,,	17th	,,	1st	,,	0·001912
December	,,	29th	,,	3rd	,,	0·005797

These numbers shew that the mean position of the magnet was subject to less variation in the month of June and greater in the month of December than in any other month. The mean monthly range (thus estimated from the mean of all the observations on each day) was 0·002873. The yearly range (similarly estimated) was 0·007781, being the difference between the mean daily reading on January 14, when the marked end of the magnet was most drawn towards the North, and the mean daily reading on April 5, when the marked end was most drawn towards the South.

In January, the extreme readings were	0·032468	and	0·045787,	and they took place at	d h m s 9. 14. 0. 0	and at	d h m s 22. 11. 54. 0
February	,,	0·033145	,, 0·041481	,,	22. 4. 50. 0	,,	4. 0. 0. 0
March	,,	0·032304	,, 0·039051	,,	20. 6. 15. 0	,,	10. 4. 0. 0
April	,,	0·031884	,, 0·040060	,,	20. 22. 0. 0	,,	24. 3. 50. 0
May	,,	0·033691	,, 0·041475	,,	4. 22. 0. 0	,,	22. 8. 0. 0
June	,,	0·032729	,, 0·037873	,,	12. 0. 0. 0	,,	14. 8. 0. 0
July	,,	0·030496	,, 0·038692	,,	25. 0. 0. 0	,,	12. 6. 0. 0
August	,,	0·031614	,, 0·039076	,,	29. 21. 30. 0	,,	29. 10. 15. 0
September	,,	0·030430	,, 0·039123	,,	25. 1. 30. 0	,,	2. 12. 0. 0
October	,,	0·033932	,, 0·039661	,,	21. 0. 0. 0	,,	20. 2. 0. 0
November	,,	0·034160	,, 0·039717	,,	29. 4. 55. 0	,,	16. 20. 0. 0
December	,,	0·029227	,, 0·041441	,,	3. 8. 0. 0	,,	28. 16. 0. 0

From these numbers it appears that the marked end of the magnet was most drawn towards the South, in December, at $3^d. 8^h$, its reduced reading being 0·029227; and that it was most drawn towards the North in January, at $22^d. 11^h. 54^m$, its reduced reading being 0·045787; the difference between these numbers is 0·016560, and it represents the extreme yearly range of the Horizontal Force Magnet from the observations in the year 1845.

The range of the readings of the magnet in the month of January was........ 0·013319
February.......... 0·008336
March............ 0·006747
April.............. 0·008176
May.............. 0·007784
June.............. 0·005144
July.............. 0·008196
August............ 0·007462
September......... 0·008693
October........... 0·005729
November......... 0·005557
December......... 0·012214

The monthly ranges in January and December were large. The mean of the extreme ranges in each month, thus estimated, was 0·008113 for the year 1845.

TABLE XI.—Mean Readings of the Horizontal Force Magnet, expressed in parts of the whole Horizontal Force in each Month, corrected for Temperature, and deduced from the Mean of all the Two-hourly Observations in each Month.

1845, Month.	Mean for each Month, Corrected.	1845, Month.	Mean for each Month, Corrected.	1845, Month.	Mean for each Month, Corrected.
January........	0·017328	May...........	0·014177	September......	0·013319
February.......	0·014587	June...........	0·012917	October........	0·014215
March.........	0·013368	July...........	0·013110	November......	0·014568
April..........	0·012644	August.........	0·013663	December.......	0·015079

The mean of all the monthly results is 0·014081 for the year 1845; that for 1844 was 0·013975; for 1843 was 0·014778; for 1842 was 0·015535; and for 1841 was 0·032932; so that

The apparent decrease of force from 1841 to 1842 was 0·017397
,, 1842 ,, 1843 ,, 0·000757
,, 1843 ,, 1844 ,, 0·000803
The apparent increase of force from 1844 ,, 1845 ,, 0·000106

The means for the months from January to May, in 1845, were greater than the means for the corresponding months for 1844; the mean for June in both years is nearly the same; and the means for the months from July to December, 1845, were smaller than those for the corresponding months of 1844.

TABLE XII.—Daily Range of the Horizontal Force Magnet on every Day of the Year (except Sundays, Good Friday, and Christmas Day), as deduced from all the Observations taken on that Day.

Days of the Month, 1845.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d												
1	0·001514	0·002691	0·001728	0·002961	0·003907	*S*	0·004210	0·002884	0·002863	0·002287	0·004873	0·001521
2	0·001933	*S*	*S*	0·002892	0·002093	0·002928	0·003580	0·003367	0·005816	0·002854	*S*	0·000930
3	0·001776	0·003692	0·001728	0·002930	0·003363	0·002385	0·003150	*S*	0·003380	0·002571	0·003493	0·010804
4	0·001743	0·002753	0·002381	0·003004	*S*	0·001768	0·002771	0·004793	0·005537	0·001641	0·002233	0·003645
5	*S*	0·001726	0·002221	0·003618	0·003620	0·003348	0·002534	0·003722	0·003733	*S*	0·002681	0·002426
6	0·001558	0·004425	0·002666	*S*	0·003753	0·003555	*S*	0·003415	0·004539	0·003886	0·002182	0·002411
7	0·002890	0·002402	0·002625	0·004195	0·003894	0·004177	0·002490	0·003079	*S*	0·003049	0·002406	*S*
8	0·001574	0·001978	0·003089	0·003906	0·003427	*S*	0·003778	0·003916	0·004727	0·002862	0·002060	0·002333
9	0·007505	*S*	*S*	0·004356	0·003297	0·003747	0·002668	0·003668	0·004360	0·003890	*S*	0·000805
10	0·008927	0·002887	0·004613	0·003846	0·003365	0·003679	0·003563	*S*	0·003316	0·003278	0·001498	0·001702
11	0·002096	0·002176	0·001809	0·003049	*S*	0·003158	0·003646	0·002382	0·003462	*S*	0·002408	0·001643
12	*S*	0·002951	0·001777	0·003081	0·003582	0·003744	0·003058	0·002789	0·004730	0·002401	0·001360	0·002223
13	0·001906	0·002411	0·002683	*S*	0·003651	0·003338	*S*	0·002823	0·002808	0·002493	0·001609	0·002318
14	0·002683	0·001995	0·002099	0·002813	0·004021	0·003502	0·003628	0·003162	*S*	0·001895	0·002060	*S*
15	0·002198	0·001741	0·002449	0·003016	0·003410	*S*	0·002246	0·003791	0·002312	0·001973	0·001465	0·003527
16	0·000852	*S*	*S*	0·003116	0·002693	0·002624	0·002473	0·004689	0·003065	0·002323	*S*	0·000966
17	0·002033	0·003569	0·003567	0·001974	0·004546	0·002676	0·002861	*S*	0·003820	0·003077	0·002743	0·001281
18	0·001978	0·002121	0·003514	0·003404	*S*	0·003214	0·004609	0·003402	0·002825	0·002983	0·002653	0·003889
19	*S*	0·001328	0·002972	0·003764	0·002992	0·003362	0·002036	0·005064	0·002810	*S*	0·002537	0·001249
20	0·002600	0·002678	0·005886	*S*	0·004241	0·003788	*S*	0·004480	0·002818	0·002654	0·001335	0·002435
21	0·001698	0·003436	Good Friday	0·005169	0·003849	0·003820	0·003848	0·004762	*S*	0·003368	0·001113	*S*
22	0·005931	0·004349	0·002925	0·004191	0·004368	*S*	0·003542	0·003284	0·002871	0·001410	0·001573	0·002319
23	0·006318	*S*	*S*	0·003201	0·004340	0·004506	0·003005	0·002994	0·002528	0·002533	*S*	0·001449
24	0·002474	0·003498	0·002571	0·006686	0·004389	0·002921	0·003869	*S*	0·001771	0·002034	0·002314	0·001152
25	0·002481	0·004504	0·003403	0·003215	*S*	0·002666	0·006150	0·002737	0·008074	0·002854	0·002485	Christ. Day.
26	*S*	0·003030	0·003193	0·005089	0·002129	0·003353	0·002595	0·003098	0·001677	*S*	0·000928	0·003044
27	0·003336	0·003704	0·003536	*S*	0·002821	0·002796	*S*	0·003143	0·003994	0·001427	0·001336	0·002465
28	0·003749	0·001847	0·001685	0·004584	0·002762	0·002782	0·002331	0·002784	*S*	0·000924	0·004282	*S*
29	0·005104		0·002351	0·002737	0·002471	*S*	0·002858	0·004117	0·001596	0·001690	0·003511	0·001220
30	0·002601		*S*	0·003706	0·003182	0·003443	0·003200	0·006748	0·002775	0·002120	*S*	0·003290
31	0·001821		0·002884		0·004298		0·003166	*S*		0·002355		0·002649

The letter *S* denotes that the day was Sunday.

In January, the greatest and least daily ranges of the horizontal force magnet took place on the 10th and 1st days respectively.

February	,,	,,	,,	25th and 19th	,,
March	,,	,,	,,	20th and 28th	,,
April	,,	,,	,,	24th and 17th	,,
May	,,	,,	,,	17th and 2nd	,,
June	,,	,,	,,	23rd and 4th	,,
July	,,	,,	,,	25th and 19th	,,
August	,,	,,	,,	30th and 11th	,,
September	,,	,,	,,	25th and 29th	,,
October	,,	,,	,,	9th and 28th	,,
November	,,	,,	,,	1st and 26th	,,
December	,,	,,	,,	3rd and 9th	,,

The greatest daily range during the year took place on December 3, and the least on December 9.

TABLE XIII.—Mean of the Daily Ranges of the Horizontal Force Magnet in each Month, expressed in parts of the whole Horizontal Force, corrected for Temperature.

1845, Month.	Mean of all the Daily Ranges in each Month.	1845, Month.	Mean of all the Daily Ranges in each Month.	1845, Month.	Mean of all the Daily Ranges in each Month.
January	0·003010	May	0·003499	September	0·003546
February	0·002829	June...........	0·003231	October	0·002475
March	0·002814	July	0·003254	November	0·002286
April	0·003635	August.........	0·003656	December.......	0·002449

The mean daily range of the magnet appears to be largest in August and smallest in November. By taking the means of the above numbers in two groups, those between April and September for the Summer group, and the remaining months for the Winter group, we find that

The mean daily range in Summer was 0·003470 parts of the whole horizontal force.
„ Winter was 0·002644 „
„ for the Year was 0·003057 „

TABLE XIV.—Mean Readings of the Horizontal Force Magnet corrected for Temperature, expressed in parts of the whole Horizontal Force, at every Even Hour of Göttingen Mean Time, deduced from all the Observations taken at those Hours in each Month.

1845, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	0·039457	0·037075	0·036030	0·035789	0·037012	0·036081	0·036090	0·036751	0·036631	0·037108	0·037411	0·037630
16	0·039827	0·036889	0·035982	0·035374	0·036877	0·035901	0·035968	0·036641	0·036346	0·037308	0·037587	0·037896
18	0·040162	0·037248	0·036052	0·035318	0·036731	0·035663	0·035817	0·036523	0·036329	0·037347	0·037777	0·038288
20	0·040469	0·037445	0·035944	0·034969	0·036044	0·034549	0·035047	0·035420	0·035317	0·037016	0·037664	0·038411
22	0·040355	0·036832	0·035144	0·033742	0·035244	0·033922	0·034417	0·034486	0·034389	0·035873	0·036703	0·037961
0	0·039956	0·036836	0·035186	0·033678	0·035820	0·034641	0·034703	0·035122	0·034841	0·036003	0·036738	0·037399
2	0·040635	0·037862	0·036225	0·035260	0·037034	0·035943	0·035956	0·036690	0·036129	0·037003	0·037493	0·038061
4	0·040496	0·037988	0·037202	0·036332	0·037714	0·036486	0·036821	0·037363	0·036784	0·037244	0·037615	0·037960
6	0·040459	0·037876	0·036789	0·036592	0·038185	0·036601	0·036874	0·037269	0·036675	0·037316	0·037714	0·037944
8	0·040025	0·037743	0·036734	0·036513	0·038192	0·036691	0·036876	0·037436	0·036899	0·037541	0·037380	0·037810
10	0·040133	0·037605	0·036617	0·036121	0·037793	0·036356	0·036457	0·037062	0·036681	0·037484	0·037350	0·037818
12	0·039929	0·037616	0·036487	0·036017	0·037451	0·036144	0·036265	0·037158	0·036776	0·037339	0·037349	0·037722

The numbers in this table require to be decreased by 0·022831 to make them comparable with those of the four preceding years, and the next table is formed from the above by the application of this number.

TABLE XV. — Mean Readings of the Horizontal Force Magnet corrected for Temperature, expressed in parts of the whole Horizontal Force, at every Even Hour of Göttingen Mean Time, deduced from the Numbers in Table XIV., by applying the Constant Number mentioned at its foot.

1845, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	0·016626	0·014244	0·013199	0·012958	0·014181	0·013250	0·013259	0·013920	0·013800	0·014277	0·014580	0·014799
16	0·016996	0·014058	0·013151	0·012543	0·014046	0·013070	0·013137	0·013810	0·013515	0·014477	0·014756	0·015065
18	0·017331	0·014417	0·013221	0·012487	0·013900	0·012832	0·012986	0·013692	0·013498	0·014516	0·014946	0·015457
20	0·017638	0·014614	0·013113	0·012138	0·013213	0·011718	0·012216	0·012589	0·012486	0·014185	0·014833	0·015580
22	0·017524	0·014001	0·012313	0·010911	0·012413	0·011091	0·011586	0·011655	0·011558	0·013042	0·013872	0·015130
0	0·017125	0·014005	0·012355	0·010847	0·012989	0·011810	0·011872	0·012291	0·012010	0·013172	0·013907	0·014568
2	0·017804	0·015031	0·013394	0·012429	0·014203	0·013112	0·013125	0·013859	0·013298	0·014172	0·014662	0·015230
4	0·017665	0·015157	0·014371	0·013501	0·014883	0·013655	0·013990	0·014532	0·013953	0·014413	0·014784	0·015129
6	0·017628	0·015045	0·013958	0·013761	0·015354	0·013770	0·014043	0·014438	0·013844	0·014485	0·014883	0·015113
8	0·017194	0·014912	0·013903	0·013682	0·015361	0·013860	0·014045	0·014605	0·014068	0·014710	0·014549	0·014979
10	0·017302	0·014774	0·013786	0·013290	0·014962	0·013525	0·013626	0·014231	0·013850	0·014653	0·014519	0·014987
12	0·017098	0·014785	0·013656	0·013186	0·014620	0·013313	0·013434	0·014327	0·013945	0·014508	0·014518	0·014891

An extreme position appears from this table to have taken place at 0^h in the months of January, April, and December, and at 22^h in the other months of the year: another extreme position appears to have taken place during the evening hours.

The diurnal movement has consisted of a triple maximum and minimum in January, February, August, September, and December; of a double maximum and minimum in March, October, and November; and of a single maximum and minimum in the months from April to July, both inclusive.

The times at which the marked end of the magnet reached its first extreme South position, are nearly identical with the times at which the same position was attained in the years 1843 and 1844, and therefore, in the years 1843, 1844, and 1845, the times differ from those shewn in the year 1841 and 1842, as is indicated in the Volume for 1843.

The next table is formed by taking the means of the numbers in the preceding table, corresponding to the same hours for each month; those from April to September, inclusive, are grouped together for summer, and those for the other six months for winter.

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 Solar Time, for the Summer and Winter periods, and for the Year.

1845, Hour, Göttingen Mean Time.	Mean Reading of the Magnet.			1845, Hour, Göttingen Mean Time.	Mean Reading of the Magnet.		
	For the Summer.	For the Winter.	For the Year.		For the Summer.	For the Winter.	For the Year.
h				h			
14	0·013561	0·014621	0·014091	2	0·013338	0·015049	0·014193
16	0·013354	0·014751	0·014052	4	0·014086	0·015253	0·014669
18	0·013233	0·014981	0·014107	6	0·014202	0·015185	0·014694
20	0·012393	0·014994	0·013693	8	0·014270	0·015041	0·014655
22	0·011536	0·014314	0·012925	10	0·013914	0·015004	0·014459
0	0·011970	0·014189	0·013084	12	0·013804	0·014909	0·014357

The maximum force is indicated at 8^h in the summer, and at 4^h in the winter. The minimum force is indicated at 22^h in the summer, and at 0^h in the winter. In the summer there was but one maximum and but one minimum; in winter there was a double maximum and minimum: the times were,

In Summer.		In Winter.	
	h		h
The maximum at	8	The maximum at	4
The minimum at	22	A minimum at	14
		A maximum at	20
		The minimum at	0

The last column shews the mean at each hour for the year, and it indicates a double maximum and minimum: the times were,

		h
The maximum for the year	at	6
A minimum ,,	at	16
A maximum ,,	at	18
The minimum ,,	at	22

The amount of the daily changes in Summer was 0·002734
,, Winter was 0·001064

So that the changes in winter were less than one half of those in summer.

The mean for the Summer period was 0·013305
,, Winter period was 0·014858
,, Year........was 0·014082

In the year 1841 the mean for the summer period was 0·032047, and in 1842 it was 0·013436; so that the force in the summer half year of 1842 was apparently less than in the corresponding period of 1841 by 0·018611, and it was less in the same period of 1843 than in 1842 by 0·000009; the mean force in the corresponding period of 1844 was greater than in 1843 by 0·000289, and it was less in 1845 than in 1844 by 0·000411. In the year 1841 the mean for the winter period was 0·033817, and in 1842 it was 0·017635; so that the force in the winter half year of 1842 was less than in the winter half year of 1841 by 0·016182; in the winter half year of 1843 it was less than in the winter half year of 1842 by 0·001506; in 1844 it was less than in the corresponding period of 1843 by 0·001894; and in 1845 it was greater than in 1844 by 0·000623. In 1841 the mean for the year was 0·032932; in 1842 it was 0·015535; in 1843 it was 0·014778; in 1844 it was 0·013975; and in 1845 it was 0·014082; so that the decrease from 1841 to 1842 was 0·017377; from 1842 to 1843 it was 0·000757; from 1843 to 1844 it was 0·000803; and the increase from 1844 to 1845 was 0·000107. These deductions, however, rest upon an assumed permanency of the instrumental adjustments, and on the constancy of the magnetism of the magnet, for which it will be very difficult to answer.

Comparing the results at each hour for the same periods of different years, we find that for the summer of 1842 the result at each hour was less than the result at the corresponding hour in 1841, the greatest difference being at 16^h, which amounts to 0·018940, and the least at 12^h, which amounts to 0·018532. In the summer of 1843 the results at 16^h, 18^h, 0^h, 2^h, and 4^h, were larger than those at the corresponding hours in 1842, the greatest increase being 0·000282 at 2^h: at the other hours the results of 1843 were smaller than those of 1842, the greatest decrease being 0·000292. In the summer of 1844 the result at each hour was greater than the result at the corresponding hour in 1843, the greatest difference being at 8^h, which amounted to 0·000533, and the least at 20^h, being 0·000022. In the summer of 1845 the result at each hour was less than the result at the corresponding hour in 1844, the greatest difference being at 6^h and 8^h, which at both these times amounted to 0·000491, and the least at 4^h, which amounted to 0·000163. In the winter of 1842 the result at every hour was less than the result at the same hour of 1841, the greatest difference being 0·016606 at 18^h, and the least difference being 0·015872 at 6^h. In the winter of 1843 the result was at every hour less than the result for 1842 at the same hour, the greatest and least differences being 0·001783 and 0·001221 at 20^h and 2^h respectively. In the winter of 1844 the result was at every hour less than the result for 1843 at the same hour, the greatest and least differences being 0·002123 and 0·001587 at 14^h and at 6^h respectively. In the winter of 1845 the result was at every hour greater than the result for 1844 at the same hour, but less at every hour than the result for 1843 at the same hour; this is the first instance of the results for winter being larger than those for the same period of the preceding year; the greatest difference was 0·000872 at 20^h, and the least difference was 0·000310 at 8^h. Comparing the results for the whole year in the same way, it will be found that every result in 1842 was less than the result at the same hour in 1841; in 1843 it was less than in 1842; and so also every result in 1844 was less than the corresponding one of 1843: the greatest decrease from 1841 to 1842 was 0·017754 at 18^h; from 1842 to 1843 it was 0·000996 at 20^h; and the greatest decrease from 1843 to 1844 was 0·001017 at 20^h; the least decrease from 1841 to 1842 was 0·017130 at 2^h; from 1842 to 1843 it was 0·000469, also at 2^h; and from 1843 to 1844 it was 0·000558 at 8^h. In 1845 the results at 6^h and 8^h were smaller than those at the corresponding hours in 1844, by 0·000056 and 0·000091 respectively: at the other hours the results of 1845 were larger than those of 1844, the greatest increase being 0·000215 at 18^h.

Comparing the numbers in the last column with the mean for the year, or 0·014082, the following results are obtained, exhibiting the differences between the mean position for the year and the mean position for the year at that hour; and thus it appears that the mean position of the marked end of the magnet

At 14^h was	by a quantity corresponding to	0·000009	parts of the whole horizontal force	more North	than the mean position for the year.
16	„	0·000030	„	South	„
18	„	0·000025	„	North	„
20	„	0·000389	„	South	„
22	„	0·000157	„	South	„
0	„	0·000998	„	South	„
2	„	0·000111	„	North	„
4	„	0·000587	„	North	„
6	„	0·000612	„	North	„
8	„	0·000573	„	North	„
10	„	0·000377	„	North	„
12	„	0·000275	„	North	„

TABLE XVII.—Excess of the Mean Reading of the Horizontal Force Magnet, expressed in parts of the whole Horizontal Force, and corrected for Temperature, in every Month, at each Even Hour of Göttingen Mean Time (deduced from all the Observations made throughout each Month at the same Hour), above the Monthly Means deduced from the Mean of all the Observations made at all the Even Hours throughout the Month.

1845, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	−0·000702	−0·000343	−0·000169	+0·000314	+0·000004	+0·000333	+0·000149	+0·000257	+0·000481	+0·000062	+0·000012	−0·000280
16	−0·000332	−0·000529	−0·000217	−0·000101	−0·000131	+0·000153	+0·000027	+0·000147	+0·000196	+0·000262	+0·000188	−0·000014
18	+0·000003	−0·000170	−0·000147	−0·000157	−0·000277	−0·000085	−0·000124	+0·000029	+0·000179	+0·000301	+0·000378	+0·000378
20	+0·000310	+0·000027	−0·000255	−0·000506	−0·000964	−0·001199	−0·000894	−0·001074	−0·000833	−0·000030	+0·000265	+0·000501
22	+0·000196	−0·000586	−0·001055	−0·001733	−0·001764	−0·001826	−0·001524	−0·002008	−0·001761	−0·001173	−0·000696	+0·000051
0	−0·000203	−0·000582	−0·001013	−0·001797	−0·001188	−0·001107	−0·001238	−0·001372	−0·001309	−0·001043	−0·000661	−0·000511
2	+0·000476	+0·000444	+0·000026	−0·000215	+0·000026	+0·000195	+0·000015	+0·000196	−0·000021	−0·000043	+0·000094	+0·000151
4	+0·000337	+0·000570	+0·001003	+0·000957	+0·000706	+0·000738	+0·000880	+0·000869	+0·000634	+0·000198	+0·000216	+0·000050
6	+0·000300	+0·000458	+0·000590	+0·001117	+0·001177	+0·000853	+0·000933	+0·000775	+0·600525	+0·000270	+0·000315	+0·000034
8	−0·000134	+0·000325	+0·000535	+0·001038	+0·001184	+0·000943	+0·000935	+0·000942	+0·000749	+0·000495	−0·000019	−0·000100
10	−0·000026	+0·000187	+0·000418	+0·000646	+0·000785	+0·000608	+0·000516	+0·000568	+0·000531	+0·000438	−0·000049	−0·000092
12	−0·000230	+0·000198	+0·000288	+0·000542	+0·000443	+0·000396	+0·000324	+0·000664	+0·000626	+0·000293	−0·000050	−0·000188

The numbers at 22^h in January and December have a positive sign; in 1841, December, and in 1844, January, the numbers at 22^h had a positive sign, and these are the only instances of a number at 22^h having this sign in the years 1841 to 1845. The quantities at 20^h and at 22^h deserve the same particular attention as in the previous years. In all the months, except January, February, November, and December, the number opposite 20^h is affected with a negative sign, and at 22^h the numbers are much larger with the same sign; in the cases of January and December the sign is positive at both 20^h and 22^h, but the numbers at the latter time are much smaller than those at the former time; and in the cases of February and November, which also have a positive sign at 20^h, the sign for 22^h is negative.

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 14^h	the mean departure from the mean of the month was,	in summer	0·000256,	in winter	0·000261
16	„	„	0·000126	„	0·000257
18	„	„	0·000142	„	0·000230
20	„	„	0·000912	„	0·000231
22	„	„	0·001769	„	0·000626

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 Solar Time, for the Summer and Winter periods, and for the Year.

1845, Hour, Göttingen Mean Time.	Mean Reading of the Magnet.			1845, Hour, Göttingen Mean Time.	Mean Reading of the Magnet.		
	For the Summer.	For the Winter.	For the Year.		For the Summer.	For the Winter.	For the Year.
h				h			
14	0·013561	0·014621	0·014091	2	0·013338	0·015049	0·014193
16	0·013354	0·014751	0·014052	4	0·014086	0·015253	0·014669
18	0·013233	0·014981	0·014107	6	0·014202	0·015185	0·014694
20	0·012393	0·014994	0·013693	8	0·014270	0·015041	0·014655
22	0·011536	0·014314	0·012925	10	0·013914	0·015004	0·014459
0	0·011970	0·014189	0·013084	12	0·013804	0·014909	0·014357

The maximum force is indicated at 8^h in the summer, and at 4^h in the winter. The minimum force is indicated at 22^h in the summer, and at 0^h in the winter. In the summer there was but one maximum and but one minimum; in winter there was a double maximum and minimum: the times were,

In Summer.		In Winter.	
	h		h
The maximum at	8	The maximum at	4
The minimum at	22	A minimum at	14
		A maximum at	20
		The minimum at	0

The last column shews the mean at each hour for the year, and it indicates a double maximum and minimum: the times were,

	h
The maximum for the year at	6
A minimum ,, at	16
A maximum ,, at	18
The minimum ,, at	22

The amount of the daily changes in Summer was 0·002734
,, Winter was 0·001064

So that the changes in winter were less than one half of those in summer.

The mean for the Summer period was 0·013305
,, Winter period was 0·014858
,, Year. . . . . was 0·014082

In the year 1841 the mean for the summer period was 0·032047, and in 1842 it was 0·013436; so that the force in the summer half year of 1842 was apparently less than in the corresponding period of 1841 by 0·018611, and it was less in the same period of 1843 than in 1842 by 0·000009; the mean force in the corresponding period of 1844 was greater than in 1843 by 0·000289, and it was less in 1845 than in 1844 by 0·000411. In the year 1841 the mean for the winter period was 0·033817, and in 1842 it was 0·017635; so that the force in the winter half year of 1842 was less than in the winter half year of 1841 by 0·016182; in the winter half year of 1843 it was less than in the winter half year of 1842 by 0·001506; in 1844 it was less than in the corresponding period of 1843 by 0·001894; and in 1845 it was greater than in 1844 by 0·000623. In 1841 the mean for the year was 0·032932; in 1842 it was 0·015535; in 1843 it was 0·014778; in 1844 it was 0·013975; and in 1845 it was 0·014082; so that the decrease from 1841 to 1842 was 0·017377; from 1842 to 1843 it was 0·000757; from 1843 to 1844 it was 0·000803; and the increase from 1844 to 1845 was 0·000107. These deductions, however, rest upon an assumed permanency of the instrumental adjustments, and on the constancy of the magnetism of the magnet, for which it will be very difficult to answer.

Comparing the results at each hour for the same periods of different years, we find that for the summer of 1842 the result at each hour was less than the result at the corresponding hour in 1841, the greatest difference being at 16^h, which amounts to 0·018940, and the least at 12^h, which amounts to 0·018532. In the summer of 1843 the results at 16^h, 18^h, 0^h, 2^h, and 4^h, were larger than those at the corresponding hours in 1842, the greatest increase being 0·000282 at 2^h: at the other hours the results of 1843 were smaller than those of 1842, the greatest decrease being 0·000292. In the summer of 1844 the result at each hour was greater than the result at the corresponding hour in 1843, the greatest difference being at 8^h, which amounted to 0·000533, and the least at 20^h, being 0·000022. In the summer of 1845 the result at each hour was less than the result at the corresponding hour in 1844, the greatest difference being at 6^h and 8^h, which at both these times amounted to 0·000491, and the least at 4^h, which amounted to 0·000163. In the winter of 1842 the result at every hour was less than the result at the same hour of 1841, the greatest difference being 0·016606 at 18^h, and the least difference being 0·015872 at 6^h. In the winter of 1843 the result was at every hour less than the result for 1842 at the same hour, the greatest and least differences being 0·001783 and 0·001221 at 20^h and 2^h respectively. In the winter of 1844 the result was at every hour less than the result for 1843 at the same hour, the greatest and least differences being 0·002123 and 0·001587 at 14^h and at 6^h respectively. In the winter of 1845 the result was at every hour greater than the result for 1844 at the same hour, but less at every hour than the result for 1843 at the same hour; this is the first instance of the results for winter being larger than those for the same period of the preceding year; the greatest difference was 0·000872 at 20^h, and the least difference was 0·000310 at 8^h. Comparing the results for the whole year in the same way, it will be found that every result in 1842 was less than the result at the same hour in 1841; in 1843 it was less than in 1842; and so also every result in 1844 was less than the corresponding one of 1843: the greatest decrease from 1841 to 1842 was 0·017754 at 18^h; from 1842 to 1843 it was 0·000996 at 20^h; and the greatest decrease from 1843 to 1844 was 0·001017 at 20^h; the least decrease from 1841 to 1842 was 0·017130 at 2^h; from 1842 to 1843 it was 0·000469, also at 2^h; and from 1843 to 1844 it was 0·000558 at 8^h. In 1845 the results at 6^h and 8^h were smaller than those at the corresponding hours in 1844, by 0·000056 and 0·000091 respectively: at the other hours the results of 1845 were larger than those of 1844, the greatest increase being 0·000215 at 18^h.

Comparing the numbers in the last column with the mean for the year, or 0·014082, the following results are obtained, exhibiting the differences between the mean position for the year and the mean position for the year at that hour; and thus it appears that the mean position of the marked end of the magnet

At 14^h	was by a quantity corresponding to	0·000009	parts of the whole horizontal force	more	North	than the mean position for the year.
16	„	0·000030	„		South	„
18	„	0·000025	„		North	„
20	„	0·000389	„		South	„
22	„	0·000157	„		South	„
0	„	0·000998	„		South	„
2	„	0·000111	„		North	„
4	„	0·000587	„		North	„
6	„	0·000612	„		North	„
8	„	0·000573	„		North	„
10	„	0·000377	„		North	„
12	„	0·000275	„		North	„

TABLE XVII.—Excess of the Mean Reading of the Horizontal Force Magnet, expressed in parts of the whole Horizontal Force, and corrected for Temperature, in every Month, at each Even Hour of Göttingen Mean Time (deduced from all the Observations made throughout each Month at the same Hour), above the Monthly Means deduced from the Mean of all the Observations made at all the Even Hours throughout the Month.

1845, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	−0·000702	−0·000343	−0·000169	+0·000314	+0·000004	+0·000333	+0·000149	+0·000257	+0·000481	+0·000062	+0·000012	−0·000280
16	−0·000332	−0·000529	−0·000217	−0·000101	−0·000131	+0·000153	+0·000027	+0·000147	+0·000196	+0·000262	+0·000188	−0·000014
18	+0·000003	−0·000170	−0·000147	−0·000157	−0·000277	−0·000085	−0·000124	+0·000029	+0·000179	+0·000301	+0·000378	+0·000378
20	+0·000310	+0·000027	−0·000255	−0·000506	−0·000964	−0·001199	−0·000894	−0·001074	−0·000833	−0·000030	+0·000265	+0·000501
22	+0·000196	−0·000586	−0·001055	−0·001733	−0·001764	−0·001826	−0·001524	−0·002008	−0·001761	−0·001173	−0·000696	+0·000051
0	−0·000203	−0·000582	−0·001013	−0·001797	−0·001188	−0·001107	−0·001238	−0·001372	−0·001309	−0·001043	−0·000661	−0·000511
2	+0·000476	+0·000444	+0·000026	−0·000215	+0·000026	+0·000195	+0·000015	+0·000196	−0·000021	−0·000043	+0·000094	+0·000151
4	+0·000337	+0·000570	+0·001003	+0·000957	+0·000706	+0·000738	+0·000880	+0·000869	+0·000634	+0·000198	+0·000216	+0·000050
6	+0·000300	+0·000458	+0·000590	+0·001117	+0·001177	+0·000853	+0·000933	+0·000775	+0·000525	+0·000270	+0·000315	+0·000034
8	−0·000134	+0·000325	+0·000535	+0·001038	+0·001184	+0·000943	+0·000935	+0·000942	+0·000749	+0·000495	−0·000019	−0·000100
10	−0·000026	+0·000187	+0·000418	+0·000646	+0·000785	+0·000608	+0·000516	+0·000568	+0·000531	+0·000438	−0·000049	−0·000092
12	−0·000230	+0·000198	+0·000288	+0·000542	+0·000443	+0·000396	+0·000324	+0·000664	+0·000626	+0·000293	−0·000050	−0·000188

The numbers at 22^h in January and December have a positive sign; in 1841, December, and in 1844, January, the numbers at 22^h had a positive sign, and these are the only instances of a number at 22^h having this sign in the years 1841 to 1845. The quantities at 20^h and at 22^h deserve the same particular attention as in the previous years. In all the months, except January, February, November, and December, the number opposite 20^h is affected with a negative sign, and at 22^h the numbers are much larger with the same sign; in the cases of January and December the sign is positive at both 20^h and 22^h, but the numbers at the latter time are much smaller than those at the former time; and in the cases of February and November, which also have a positive sign at 20^h, the sign for 22^h is negative.

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 14^h	the mean departure from the mean of the month was, in summer	0·000256,	in winter	0·000261
16	„ „	0·000126	„	0·000257
18	„ „	0·000142	„	0·000230
20	„ „	0·000912	„	0·000231
22	„ „	0·001769	„	0·000626

h			
At 0	the mean departure from the mean of the month was, in summer	0·001335,	in winter 0·000669
2	,, ,,	0·000111	,, 0·000206
4	,, ,,	0·000797	,, 0·000396
6	,, ,,	0·000897	,, 0·000328
8	,, ,,	0·000965	,, 0·000268
10	,, ,,	0·000609	,, 0·000202
12	,, ,,	0·000499	,, 0·000208

TABLE XVIII.—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.

1845, Month.	Mean Reading at			1845, Month.	Mean Reading at		
	$1^h.52^m.30^s$.	$2^h.2^m.30^s$.	$2^s.12^m.30^s$,		$1^h.52^m.30^s$.	$2^h.2^m.30^s$.	$2^h.12^m.30^s$.
January	.0·040579	0·040635	0·040585	July	0·035886	0·035956	0·036029
February	0·037843	0·037862	0·037936	August........	0·036642	0·036690	0·036720
March	0·036224	0·036225	0·036312	September	0·036040	0·036129	0·036156
April	0·035166	0·035260	0·035347	October	0·036931	0·037003	0·037005
May..........	0·036876	0·037034	0·037052	November	0·037474	0·037493	0·037490
June..........	0·035915	0·035943	0·036025	December......	0·038084	0·038061	0·038035

The mean of all the observations in 1845, taken at $1^h.52^m.30^s$ is 0·036972
,, ,, 2. 2.30 is 0·037024
,, ,, 2.12.30 is 0·037058

These numbers require diminishing by 0·022831 to reduce them to the same zero as that of the preceding numbers. Throughout the whole of this discussion for the Horizontal Force Magnet, with the exception of the above table, the even hour of Göttingen mean time has been used; the true time of observation is in every case $2^m.30^s$ after the hour.

TABLE XIX.—Mean reading of the Vertical Force Magnet, corrected for Temperature, expressed in parts of the whole Vertical Force, as deduced from the 12 Observations on every Civil Day of the Year 1845, from January 6 (except Sundays, Good Friday, and Christmas Day), at every Even Hour of Göttingen Mean Time.

Days of the Month, 1845.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d 1	....	0·044592	0·043450	0·043027	0·042543	S	0·040607	0·040048	0·039292	0·039018	0·038732	0·038097
2	....	S	S	0·043087	0·042455	0·041601	0·040634	0·039477	0·039029	0·039125	S	0·038278
3	....	0·044524	0·043411	0·043182	0·042276	0·041365	0·041008	S	0·039234	0·039246	0·038558	0·038716
4	....	0·044214	0·043652	0·042929	S	0·041346	0·040718	0·039698	0·039206	0·038714	0·038549	0·038500
5	S	0·044501	0·043632	0·042761	0·042427	0·041384	0·040444	0·039809	0·039210	S	0·038920	0·038612
6	0·042299	0·044238	0·043596	S	0·042484	0·041425	S	0·039759	0·039274	0·038818	0·038827	0·038422
7	0·042124	0·044474	0·043752	0·043079	0·042507	0·041330	0·040358	0·039535	S	0·038946	0·038738	S
8	0·042270	0·044575	0·043583	0·042856	0·042489	S	0·040120	0·039616	0·039225	0·038683	0·038618	0·038501
9	0·042452	S	S	0·042980	0·042434	0·041431	0·039826	0·039444	0·039205	0·038586	S	0·038346
10	0·042784	0·044650	0·043484	0·043044	0·042432	0·041464	0·039865	S	0·039080	0·038732	0·038878	0·038116
11	0·042448	0·044478	0·043307	0·043173	S	0·041475	0·040050	0·039701	0·039204	0·038783	0·038400	0·038273
12	S	0·044125	0·043404	0·043164	0·042166	0·041328	0·040042	0·039269	0·039352	S	0·038411	0·038145
13	0·042676	0·044182	0·043589	S	0·042262	0·041292	S	0·039374	0·039049	0·038794	0·038432	0·038194
14	0·042501	0·043796	0·043958	0·043110	0·042141	0·041349	0·039904	0·039222	S	0·038796	0·038341	S
15	0·042425	0·043583	0·044028	0·043136	0·042008	S	0·039850	0·039332	0·038766	0·038892	0·038221	0·038447
16	0·042422	S	S	0·043350	0·042051	0·041062	0·039903	0·039509	0·039025	0·038808	S	0·038215
17	0·042385	0 043675	0·044248	0·043046	0·041978	0·040944	0·039967	S	0·039200	0·038573	0·038425	0·038232
18	0·042481	0·043487	0·044095	0·042898	S	0·040810	0·040009	0·039435	0·038942	0·038819	0·038553	0·038602
19	S	0·043475	0·043883	0·042818	0·041857	0·040730	0·039911	0·039443	0·038955	S	0·038529	0·038142
20	0·042254	0·043718	0·043762	S	0·041985	0·040883	S	0·039225	0·038921	0·038665	0·038412	0·038160
21	0·042483	0·043569	Good Friday	0·042785	0·042144	0·040799	0·039812	0·039344	S	0·038545	0·038326	S
22	0·042609	0·043651	0·043774	0·042758	0·042352	S	0·039860	0·039504	0·038977	0·038603	0·038143	0·038188
23	0·042376	S	S	0·042746	0·042125	0·040784	0·039417	0·039385	0·038811	0·038887	S	0·038140
24	0·041923	0·043556	0·043524	0·042829	0·042130	0·040848	0·039918	S	0·038919	0·038605	0·038480	0·038117
25	0·042308	0·043479	0·043062	0·042787	S	0·040621	0·039676	0·039452	0·039099	0·038577	0·038405	Christ. Day.
26	S	0·043429	0·043274	0·042676	0·041989	0·040662	0·039996	0·039443	0·039088	S	0·038432	0·038639
27	0·042204	0·043224	0·043368	S	0·042092	0·040490	S	0·039228	0·038851	0·038767	0·038302	0·038816
28	0·043371	0·043284	0·043163	0·042755	0·041736	0·040538	0·039889	0·039317	S	0·038747	0·038322	S
29	0·044236		0·043174	0·042689	0·041524	S	0·039802	0·039636	0·038822	0·038819	0·038409	0·038683
30	0·044485		S	0·042564	0·041798	0·040608	0·039838	0·039579	0·038955	0·038692	S	0·039065
31	0·044459		0·043315		0·041529		0·039754	S		0·038684		0·038968

The letter S denotes that the day was Sunday.

The numbers beginning January 6, form an entirely different series from those of the preceding years. Various methods have been tried to connect this with the preceding series, but without success; and no correction has been applied to the numbers in the above table, or to any of the results derived from the observations of the year 1845, to render them comparable with the results obtained from the previous years.

There is one instance in this table in which the difference between the numbers on two consecutive days amounted to 0·001167, viz., between January 27 and 28. The next in order of magnitude is between January 28 and 29, amounting to 0·000865, and the numbers corresponding to the above days, in both cases, were larger on the following than on the preceding day, so that on January 29 the mean reading was 0·002032 larger than on January 27. On January 30 there was still an increase, although to a small amount; and this increased reading continued till the 12th of May, before a reading occurred so small as that on January 27. After the month of May the force continued to decrease till the end of year. There are three instances in which the difference between the numbers on two consecutive days exceeded 0·0005 and was less than 0·0006, viz., between July 23 and 24; August 1 and 2; and October 3 and 4. There are seven cases in which the difference exceeded 0·0004, and was less than 0·0005, viz., between January 23 and 24; March 24 and 25; July 22 and 23; August 11 and 12; November 10 and 11; December 2 and 3, and 18 and 19. There are sixteen cases in which the difference has exceeded 0·0003, and was less than 0·0004.

In January	the greatest mean reading took place on the	30th day,	and the least on the	24th day;	the difference between these numbers is	0·002562
February	,,	10th	,,	27th	,,	0·001426
March	,,	17th	,,	25th	,,	0·001186
April	,,	16th	,,	30th	,,	0·000786
May	,,	1st	,,	29th	,,	0·001019
June	,,	2nd	,,	27th	,,	0·000111
July	,,	3th	,,	23rd	,,	0·001591
August	,,	1st	,,	14th	,,	0·000826
September	,,	12th	,,	15th	,,	0·000586
October	,,	3rd	,,	21st	,,	0·000701
November	,,	5th	,,	22nd	,,	0·000777
December	,,	30th	,,	1st	,,	0·000968

These numbers shew that the mean position of the magnet was subject to less variation in the month of June and to greater in the month of January than in any other month. The mean monthly range (thus estimated from the mean of all the observations on each day) was 0·001045. The yearly range (similarly estimated) was 0·006553, being the difference between the mean daily reading on February 10, on which day the marked end of the magnet was most drawn downwards, and the mean daily reading on December 1, when it was least drawn downwards, during the year.

						d h m s		d h m s
In January	the extreme readings were	0·045252	and	0·040589,	and they took place at	29. 7.42.15	and at	19.14.52.45
February	,,	0·045464	,,	0·042365	,,	7. 4. 0. 0	,,	24.12.57.30
March	,,	0·045572	,,	0·041961	,,	20. 6.39. 0	,,	24.18. 0. 0
April	,,	0·044074	,,	0·041529	,,	14. 6. 0. 0	,,	13.14. 0. 0
May	,,	0·043424	,,	0·040773	,,	1. 6. 0. 0	,,	0.15.54. 0
June	,,	0·042537	,,	0·040076	,,	2. 6. 0. 0	,,	27. 0. 0. 0
July	,,	0·041662	,,	0·038304	,,	3. 6. 0. 0	,,	22.18. 0. 0
August	,,	0·041648	,,	0·038298	,,	10.14. 0. 0	,,	29.13.30. 0
September	,,	0·040864	,,	0·037481	,,	25. 6.10. 0	,,	24.17.45. 0
October	,,	0·040414	,,	0·037851	,,	29. 2.10. 0	,,	20.22. 0. 0
November	,,	0·040281	,,	0·037785	,,	5. 6. 0. 0	,,	18.16. 0. 0
December	,,	0·041524	,,	0·037189	,,	3. 7. 2.45	,,	1.10. 0. 0

From these numbers, it appears that the marked end of the magnet was most drawn downwards in March, at $20^d. 6^h. 39^m$, its reduced reading being 0·045572; and that it was least drawn downwards in December, at $1^d. 10^h$, its reduced reading being 0·037189; the difference between these numbers is 0·008383, and it represents the extreme yearly range of the Vertical Force Magnet from the observations in the year 1845.

The range of the magnet in January was	0·004663
February	0·003099
March	0·003611
April	0·002545
May	0·002651
June	0·002461
July	0·003358
August	0·003350

The range of the magnet in September was. . . . . 0·003383
October. 0·002563
November. . . . . 0·002496
December . . . . 0·004335

The monthly ranges in January and December were large. The mean of the extreme ranges in each month, estimated as above, was 0·003210 for the year 1845.

TABLE XX.—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.

1845, Month.	Mean for each Month.	1845, Month.	Mean for each Month.
January	0·042695	July	0·040044
February	0·043937	August.	0·039484
March	0·043579	September	0·039065
April	0·042932	October	0·038775
May	0·042145	November	0·038495
June	0·041063	December.	0·038408

The mean of all the monthly results is 0·040885 for the year 1845.

TABLE XXI.—Daily Range of the Vertical Force Magnet on every Day of the Year (except the first Five Days of January, Sundays, Good Friday, and Christmas Day), as deduced from all the Observations taken on that Day.

Days of the Month, 1845.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d												
1	. . . .	0·000580	0·001061	0·000705	0·002651	*S*	0·001206	0·001688	0·000693	0·001186	0·001362	0·001499
2	. . . .	*S*	*S*	0·002002	0·000688	0·001782	0·001038	0·001350	0·001504	0·000794	*S*	0·001357
3	. . . .	0·000792	0·000422	0·001168	0·000669	0·001156	0·001152	*S*	0·001450	0·000842	0·001596	0·003766
4	. . . .	0·000970	0·001092	0·001597	*S*	0·001618	0·001435	0·001373	0·001528	0·000999	0·001393	0·001076
5	. . . .	0·001451	0·000977	0·001274	0·000647	0·001124	0·001001	0·001508	0·001511	*S*	0·002353	0·001040
6	0·000486	0·000734	0·000645	*S*	0·000581	0·000907	*S*	0·000897	0·001541	0·000972	0·000859	0·001626
7	0·000711	0·001444	0·000604	0·001253	0·000728	0·000730	0·001669	0·001289	*S*	0·001132	0·001294	*S*
8	0·000600	0·000709	0·001369	0·001123	0·001120	*S*	0·001377	0·001024	0·002156	0·001153	0·001311	0·001492
9	0·001340	*S*	*S*	0·000840	0·000770	0·001440	0·001061	0·001136	0·001876	0·000650	*S*	0·000603
10	0·001284	0·000670	0·001178	0·001428	0·000953	0·001218	0·000716	*S*	0·001700	0·001444	0·001831	0·000669
11	0·000729	0·000831	0·000492	0·000651	*S*	0·001363	0·001056	0·002600	0·001025	0·000782	0·000907	0·000742
12	*S*	0·002588	0·000788	0·000548	0·001815	0·001113	0·001091	0·000906	0·001200	*S*	0·001170	0·001438
13	0·000733	0·000830	0·001259	*S*	0·000489	0·001569	*S*	0·000696	0·001413	0·001105	0·001085	0·001173
14	0·000809	0·001006	0·001390	0·002545	0·001289	0·001682	0·000683	0·000302	*S*	0·001336	0·000559	*S*
15	0·000632	0·000747	0·000875	0·000801	0·001435	*S*	0·000580	0·001297	0·000767	0·001151	0·000802	0·000985
16	0·000497	*S*	*S*	0·000588	0·001102	0·000728	0·001199	0·000925	0·000851	0·000695	*S*	0·000886
17	0·000567	0·000665	0·000917	0·001111	0·000863	0·001101	0·000807	*S*	0·000757	0·001416	0·001341	0·000743
18	0·000560	0·000572	0·000770	0·001065	*S*	0·000443	0·000872	0·001428	0·001428	0·000305	0·000939	0·001093
19	*S*	0·000650	0·000830	0·001481	0·001045	0·001192	0·001280	0·001013	0·001518	*S*	0·001934	0·000614
20	0·002838	0·000925	0·002386	*S*	0·001398	0·001158	*S*	0·001166	0·001016	0·001092	0·001110	0·000626
21	0·001086	0·001084	Good Friday.	0·001568	0·000930	0·001401	0·001103	0·000820	*S*	0·001486	0·000905	*S*
22	0·000916	0·001783	0·000876	0·001167	0·000710	*S*	0·001163	0·001425	0·001131	0·001419	0·000760	0·000820
23	0·000725	*S*	*S*	0·001086	0·001132	0·001175	0·001824	0·001138	0·000799	0·000892	*S*	0·000451
24	0·001499	0·001473	0·001042	0·001418	0·000877	0·000899	0·001043	*S*	0·001478	0·001253	0·001532	0·000875
25	0·001129	0·002575	0·002142	0·001242	*S*	0·000694	0·002166	0·001346	0·003383	0·001478	0·001042	Christ. Day.
26	*S*	0·001204	0·001167	0·000671	0·000675	0·000780	0·000946	0·001127	0·001031	*S*	0·000448	0·001126
27	0·001381	0·001298	0·001336	*S*	0·000919	0·000842	*S*	0·000590	0·001301	0·000910	0·000381	0·001048
28	0·002658	0·000790	0·000707	0·002043	0·001268	0·000789	0·000920	0·000875	*S*	0·000797	0·000515	*S*
29	0·001714		0·000997	0·000684	0·000613	*S*	0·000903	0·001587	0·001103	0·002008	0·001419	0·000853
30	0·000957		*S*	0·000456	0·000779	0·001262	0·000728	0·002377	0·001008	0·000829	*S*	0·001650
31	0·000852		0·000968		0·001443		0·000994	*S*		0·000564		0·001303

The letter *S* denotes that the day was Sunday.

In January, the greatest and least daily ranges of the Vertical Force Magnet took place on the 20th and 6th days respectively.

February	,,	,,	12th and 18th	,,
March	,,	,,	20th and 3rd	,,
April	,,	,,	14th and 30th	,,
May	,,	,,	1st and 13th	,,
June	,,	,,	2nd and 18th	,,
July	,,	,,	25th and 15th	,,
August	,,	,,	11th and 14th	,,
September	,,	,,	25th and 1st	,,
October	,,	,,	29th and 18th	,,
November	,,	,,	5th and 27th	,,
December	,,	,,	3rd and 23rd	,,

The greatest daily range in the year took place on December 3, and the least on August 14.

TABLE XXII.—Mean of all the Daily Ranges of the Vertical Force Magnet in each Month, expressed in parts of the whole Vertical Force.

1845, Month.	Mean of all the Daily Ranges in each Month.	1845, Month.	Mean of all the Daily Ranges in each Month.
January	0·001074	July	0·001112
February	0·001095	August...........	0·001226
March	0·001052	September........	0·001353
April	0·001174	October	0·001063
May.............	0·001022	November	0·001154
June.............	0·001127	December.........	0·001137

The mean daily range of the magnet appears to be smallest in March and May, and largest in September. By taking the means of the above numbers in two groups, those between April and September for summer, and those in the remaining months for winter, we find that

The daily range in Summer was 0·001169 parts of the whole vertical force.
,, Winter was 0·001096 ,,
,, for the Year... was 0·001132 ,,

TABLE XXIII.—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.

1845. Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	0·042475	0·043698	0·043264	0·042569	0·041906	0·040808	0·039835	0·039308	0·038776	0·038546	0·038248	0·038168
16	0·042463	0·043672	0·043271	0·042622	0·041886	0·040757	0·039777	0·039144	0·038712	0·038498	0·038212	0·038181
18	0·042436	0·043727	0·043375	0·042652	0·042051	0·040777	0·039768	0·039204	0·038669	0·038499	0·038228	0·038218
20	0·042464	0·043727	0·043490	0·042728	0·042068	0·040793	0·039751	0·039292	0·038774	0·038599	0·038241	0·038169
22	0·042605	0·043943	0·043660	0·042828	0·041874	0·040742	0·039737	0·039161	0·038701	0·038555	0·038313	0·038220
0	0·042764	0·043965	0·043549	0·042863	0·041924	0·040818	0·039879	0·039315	0·038864	0·038672	0·038471	0·038414
2	0·042837	0·044254	0·043768	0·043170	0·042265	0·041182	0·040127	0·039649	0·039357	0·039032	0·038874	0·038733
4	0·043085	0·044377	0·044024	0·043455	0·042483	0·041512	0·040419	0·039961	0·039691	0·039310	0·039029	0·038863
6	0·043016	0·044266	0·043984	0·043384	0·042585	0·041645	0·040598	0·040029	0·039632	0·039136	0·038858	0·038676
8	0·042892	0·044018	0·043760	0·043239	0·042440	0·041536	0·040479	0·039876	0·039411	0·038964	0·038653	0·038507
10	0·042731	0·043870	0·043509	0·042945	0·042216	0·041245	0·040185	0·039539	0·039204	0·038868	0·038527	0·038426
12	0·042567	0·043723	0·043299	0·042734	0·042042	0·040959	0·039980	0·039329	0·038991	0·038656	0·038281	0·038323

From the numbers in this table it appears that the diurnal movement has consisted of a single maximum and a single minimum in January, February, April, July, and November, and of a double maximum and a double minimum in the remaining seven months.

The next table is formed by taking the means of the numbers in Table XXIII., corresponding to the same hour for the several months; those from April to September are grouped together for summer, and those of the other six months for winter.

TABLE XXIV.—Mean Reading of the Vertical Force Magnet, corrected for Temperature, and expressed in parts of the whole Vertical Force, at every Even Hour of Göttingen Mean Time, for the Summer and Winter Periods and for the Year.

Hour of Observation.	Mean Reading of the Magnet. For the Summer.	For the Winter.	For the Year.	Hour of Observation.	Mean Reading of the Magnet. For the Summer.	For the Winter.	For the Year.
h				h			
14	0·040534	0·040733	0·040634	2	0·040958	0·041250	0·041104
16	0·040483	0·040716	0·040589	4	0·041254	0·041448	0·041351
18	0·040520	0·040747	0·040633	6	0·041312	0·041323	0·041318
20	0·040568	0·040782	0·040675	8	0·041164	0·041132	0·041148
22	0·040507	0·040883	0·040695	10	0·040889	0·040989	0·040939
0	0·040611	0·040973	0·040792	12	0·040673	0·040808	0·040740

The minimum force is indicated at 16^h both in the summer and winter periods. The maximum force is indicated at 6^h in summer, and at 4^h in the winter. In summer there are two maxima and two minima; in winter there is only one maximum and one minimum. The times are,

In Summer.		In Winter.	
	h		h
The minimum at	16	The minimum at	16
A maximum at	20	The maximum at	4
A minimum at	22		
The maximum at	6		

The last column shews the mean at each hour for the year, and it indicates a single maximum and minimum only, occurring at the same times as those in the winter period.

The amount of the daily changes in Summer was 0·000829
„ Winter was 0·000732

In each of the preceding years the changes in the winter have been about two-thirds of those in the summer; the ratio in this year is very nearly one of equality, and in this respect differs from all previous results; the difference appears to have been wholly in the amount of the changes in the summer period of 1845, which was unusually small; the changes in the winter period of 1845 were about the same in amount as in each of the previous years.

The mean reading for the vertical force for the Summer period was 0·040789
„ „ Winter period was 0·040982
„ „ Year........ was 0·040885

Comparing the numbers in the last column of the above table with the mean for the year, or 0·040885, the following results are obtained, exhibiting the difference between the mean position for the year, and the mean position for the year at every observation-hour; and thus it appears that the mean position of the marked end of the magnet—

h						
At 14	was 0·000251	parts of the whole vertical force	*less*	drawn downwards than	the mean position for the year.	
16	was 0·000286	„	„	„	„	
18	was 0·000252	„	„	„	„	
20	was 0·000210	„	„	„	„	
22	was 0·000190	„	„	„	„	
0	was 0·000093	„	„	„	„	
2	was 0·000219	„	*more*	„	„	
4	was 0·000466	„	„	„	„	
6	was 0·000433	„	„	„	„	
8	was 0·000263	„	„	„	„	
10	was 0·000054	„	„	„	„	
12	was 0·000145	„	*less*	„	„	

TABLE XXV.—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 each Even Hour of Göttingen Mean Solar Time, deduced from all the Observations made in each Month at the same Hour, above the Monthly Mean deduced from the Mean of all the Observations made at all Hours throughout the Month.

1845, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h 14	−0·000220	−0·000239	−0·000315	−0·000363	−0·000239	−0·000255	−0·000209	−0·000176	−0·000289	−0·000229	−0·000247	−0·000240
16	−0·000232	−0·000265	−0·000308	−0·000310	−0·000259	−0·000306	−0·000267	−0·000340	−0·000355	−0·000277	−0·000283	−0·000227
18	−0·000259	−0·000210	−0·000204	−0·000280	−0·000094	−0·000286	−0·000276	−0·000280	−0·000396	−0·000276	−0·000267	−0·000190
20	−0·000231	−0·000210	−0·000089	−0·000204	−0·000077	−0·000270	−0·000293	−0·000192	−0·000291	−0·000176	−0·000254	−0·000239
22	−0·000090	+0·000006	+0·000081	−0·000104	−0·000271	−0·000321	−0·000307	−0·000323	−0·000364	−0·000220	−0·000182	−0·000188
0	+0·000069	+0·000028	−0·000030	−0·000069	−0·000221	−0·000245	−0·000165	−0·000169	−0·000201	−0·000103	−0·000024	+0·000006
2	+0·000142	+0·000317	+0·000189	+0·000238	+0·000120	+0·000119	+0·000083	+0·000165	+0·000292	+0·000257	+0·000379	+0·000325
4	+0·000390	+0·000440	+0·000445	+0·000523	+0·000338	+0·000449	+0·000375	+0·000477	+0·000626	+0·000535	+0·000534	+0·000455
6	+0·000321	+0·000329	+0·000405	+0·000452	+0·000440	+0·000582	+0·000554	+0·000545	+0·000567	+0·000361	+0·000363	+0·000268
8	+0·000197	+0·000081	+0·000181	+0·000307	+0·000295	+0·000473	+0·000435	+0·000392	+0·000346	+0·000189	+0·000158	+0·000099
10	+0·000036	−0·000067	−0·000070	+0·000013	+0·000071	+0·000182	+0·000141	+0·000055	+0·000139	+0·000093	+0·000032	+0·000018
12	−0·000128	−0·000214	−0·000280	−0·000198	−0·000103	−0·000104	−0·000064	−0·000155	−0·000074	−0·000119	−0·000214	−0·000085

This table exhibits the following particulars:—The sign of the numbers at 0^h is negative in every month except January, February, and December, and in these months the numbers are small; the sign of the numbers in every month at 2^h is positive. The sign of the numbers in every month at 10^h is positive, except in the months of February and March; and at 12^h they are all negative. Thus it appears, that between 0^h and 2^h, and between 10^h and 12^h, the magnet has been generally in its mean position. In the months of January, February, and December there are six negative and six positive signs, shewing that in those months the marked end of the magnet was as long above as it was below its mean position; in all the other months there are seven negative and five positive signs, and therefore the marked end of the magnet in those months was longer above its mean position than it was below it. The turning points in the table are strongly marked, and agree closely with each other, and with the results derived from the observations of previous years.

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	0·000255,	in winter	0·000248
	16	,,	,,	,,	306	,,	265
	18	,,	,,	,,	269	,,	234
	20	,,	,,	,,	221	,,	200
	22	,,	,,	,,	282	,,	128
	0	,,	,,	,,	178	,,	043
	2	,,	,,	,,	170	,,	268
	4	,,	,,	,,	465	,,	467
	6	,,	,,	,,	523	,,	341
	8	,,	,,	,,	375	,,	151
	10	,,	,,	,,	100	,,	053
	12	,,	,,	,,	116	,,	173

And at	h 14	the mean departure	for the year was	0·000252
	16	,,	,,	286
	18	,,	,,	252
	20	,,	,,	211
	22	,,	,,	205
	0	,,	,,	111
	2	,,	,,	219
	4	,,	,,	466
	6	,,	,,	432
	8	,,	,,	263
	10	,,	,,	077
	12	,,	,,	145

These numbers are identical with those following Table XXIV., in all cases where the signs of the numbers in Table XXV. are the same in every month at that hour; and they differ where there is a change of sign at that hour.

TABLE XXVI.—Mean Reading of the Vertical Force Magnet, corrected for Temperature, and expressed in part of the whole Vertical Force, as deduced from all the Triple Observations taken near 2^h Göttingen Mean Solar Time, on every Day in each Month.

1845, Month.	Mean Reading at $1^h. 47^m. 30^s.$	$1^h. 57^m. 30^s.$	$2^h. 7^m. 30^s.$	1845, Month.	Mean Reading at $1^h. 47^m. 30^s.$	$1^h. 57^m. 30^s.$	$2^h. 7^m. 30^s.$
January	0·042828	0·042838	0·042821	July	0·040151	0·040127	0·040090
February ...	0·044260	0·044254	0·044231	August.....	0·039658	0·039649	0·039619
March	0·043778	0·043768	0·043735	September ..	0·039355	0·039356	0·039344
April	0·043184	0·043170	0·043137	October	0·039056	0·039032	0·039061
May	0·042273	0·042265	0·042247	November ..	0·038883	0·038974	0·038857
June.......	0·041208	0·041183	0·041177	December...	0·038734	0·038733	0·038721

The mean of all the observations, taken at $1^h. 47^m. 30^s$ is 0·041114
,, 1. 52. 30 is 0·041104
,, 1. 57. 30 is 0·041087

Throughout the whole of this discussion for the vertical force magnet, with the exception of the above table, the even hour of Göttingen mean time has been used; the true time of observation is in every case $2^m. 30^s$ before the hour.

Abstract of the Observations of the Magnetic Dip.

The results of all the observations made at 21^h and 3^h in every month have been collected, and their means taken; and thus the following table is formed:—

TABLE XXVII. — Mean Monthly Magnetic Dip.

1845, Month.	Mean Monthly Dip at 21^h By Needle marked A 1.	21^h Number of Observations.	3^h By Needle marked A 1.	3^h Number of Observations.
	° ′		° ′	
January	68. 57·0	4	69. 1·6	3
February	69. 5·5	6	69. 0·0	4
March	68. 58·3	5	68. 56·8	2
April	68. 57·0	4	68. 55·3	3
May	68. 58·0	4	68. 57·5	5
June..............	68. 58·3	5	68. 59·5	2
July	68. 57·0	4	68. 58·5	4
August............	68. 57·8	5	68. 58·3	3
September	68. 53·3	4	68. 55·0	3
October	68. 52·0	4	69. 1·0	4
November	68. 58·0	5	68. 59·0	4
December..........	68. 50·5	4	68. 55·5	2

By using the above numbers, and dividing them into quarterly periods, the next table is formed.

TABLE XXVIII.—Mean Quarterly Magnetic Dip.

1845, Months forming the Quarterly Period.	Mean Quarterly Dip at 21h.		Mean Quarterly Dip at 3h.	
	By Needle marked A 1.	Number of Observations.	By Needle marked A 1.	Number of Observations.
	° ′		° ′	
January, February, March.....	69. 0·1	15	68. 59·5	9
April, May, June............	68. 57·8	13	68. 57·4	10
July, August, September......	68. 56·0	13	68. 57·3	10
October, November, December	68. 53·5	13	68. 58·5	10

The Mean Magnetic Dip for the year 1845, at 21^h, was $68°.56'·8$
„ „ at 3^h, was $68°.58'·1$

The Mean Magnetic Dip at 21^h, for the year 1843, was 69°. 0′·1; and for the year 1844 it was 69°. 0′·4.

The Mean Magnetic Dip at 3^h, for the year 1843, was 69°. 1′·1; and for the year 1844 it was 69°. 0′·2.

Therefore the Magnetic Dip at 21^h during the years 1843 and 1844 was nearly the same; and between the years 1844 and 1845 it had decreased by 3′·6.

The Mean Magnetic Dip at 3^h, in 1844, was less by 0′·9 than it was in 1843 at the same hour; and the decrease from 1844 to 1845 was 2′·1.

ROYAL OBSERVATORY, GREENWICH.

ABSTRACTS

OF THE

RESULTS

OF THE

METEOROLOGICAL OBSERVATIONS.

1845.

TABLE I.—Mean Height of the Barometer as deduced from the Twelve Observations taken on every Civil Day of the Year 1845 (except Sundays, Good Friday, and Christmas Day), at the Even Hours of Göttingen Mean Time.

Days of the Month, 1845.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1	30·038	29·677	29·810	30·136	29·750	*S*	29·534	29·518	30·130	29·795	30·048	29·759
2	29·932	*S*	*S*	29·982	29·718	29·763	29·676	29·315	30·059	29·621	*S*	29·721
3	29·868	29·833	29·610	29·821	29·798	29·413	29·609	*S*	30·077	29·453	30·201	29·346
4	30·046	30·066	29·798	29·820	*S*	29·410	29·914	29·591	30·079	29·445	30·063	29·573
5	*S*	29·872	29·897	29·907	29·719	29·475	30·064	29·525	30·018	*S*	29·711	29·358
6	30·013	29·782	30·108	*S*	29·628	29·534	*S*	29·666	30·038	29·605	29 442	29·372
7	30·125	29·873	30·110	29·758	29·501	29·699	29·838	29·644	*S*	29·334	29·383	*S*
8	30·088	29·970	30·035	29·409	29·329	*S*	29·837	29·713	29·999	29·253	29·349	29·996
9	29·972	*S*	*S*	28·943	29·353	30·226	29·867	29·432	29·942	29·207	*S*	30·019
10	29·788	29·635	29·972	28·928	29·356	30·208	29·665	*S*	29·939	29·337	29·285	30·177
11	29·583	29·900	29·826	29·267	*S*	30·086	29·496	29·535	29·896	29·440	29·137	29·856
12	*S*	30·303	29·714	29·626	29·675	30·041	29·807	29·758	29·833	*S*	29·401	30·150
13	29·531	30·009	29·640	*S*	29·946	30·027	*S*	29·891	29·755	30·214	29·671	30·319
14	29·561	29·626	29·550	29·331	30·145	29·978	29·813	29·798	*S*	30·318	29·900	*S*
15	29·624	29·809	29·606	29·711	30·151	*S*	29·944	29·630	29·350	30·069	29·787	29·716
16	29·906	*S*	*S*	30·134	30·145	29·706	29·912	29·740	29·491	29·994	*S*	29·669
17	29·963	29·865	29·616	30·129	30·013	29·675	29·881	*S*	29·345	29·975	29·321	29·618
18	29·641	29·928	29·579	30·012	*S*	29·659	29·968	29·597	29·255	30·021	29·230	29·241
19	*S*	30·004	29·637	29·921	29·678	29·840	29·935	29·182	29·665	*S*	29·051	29·057
20	29·224	30·024	30·034	*S*	29·707	29·978	*S*	29·484	29·772	29·954	29·067	28·755
21	30·039	29·783	Good Friday.	29·944	29·542	29·940	29·811	29·815	*S*	30·179	29·336	*S*
22	30·123	29·367	30·270	29·841	29·565	*S*	29·801	30·071	29·625	30·316	29·476	29·274
23	29·865	*S*	*S*	29·685	29·673	29·982	29·794	29·982	29·986	30·406	*S*	29·176
24	29·603	29·638	29·928	29·604	29·688	29·804	29·804	*S*	30·078	30·226	29·952	29·985
25	29·854	29·951	29·845	29·623	*S*	29·676	29·822	29·829	29·699	30·127	29·919	Christ. Day.
26	*S*	29·583	29·720	29·377	29·513	29·687	29·810	29·787	29·676	*S*	29·737	29·876
27	29·172	29·830	29·727	*S*	29·636	29·535	*S*	29·991	29·745	29·997	29·809	29·845
28	28·886	29·829	29·604	29·538	29·654	29·288	29·565	30·122	*S*	29·948	29·529	*S*
29	29·153		29·992	29·781	29·565	*S*	29·529	30·168	29·771	29·824	29·582	29·802
30	29·091		*S*	29·894	29·722	29·746	29·606	30·177	29·611	29·822	*S*	29·663
31	29·308		30·065		30·043		29·459	*S*		30·025		29·778

The letter *S* denotes that the day was Sunday.

The numbers in this table exhibit a very unusual number of large differences in the mean heights of the barometer from day to day, and the magnitude of some of them exceeds that of any previously met with since the beginning of this series of observations in the year 1840. The following are the instances in which differences greater than $0^{in.}250$, between the mean heights of the barometer, have taken place on two consecutive days, viz., January 15 and 16, 17 and 18, 20 and 21 (this difference was $0^{in.}815$), 23 and 24, 24 and 25 (the difference between the 25th and 27th was $0^{in.}682$), 27 and 28, 28 and 29, January 31 and February 1; February 10 and 11, 11 and 12, 12 and 13, 13 and 14, 21 and 22, 24 and 25, 25 and 26; March 19 and 20, 28 and 29; April 7 and 8, 8 and 9, 10 and 11, 11 and 12, 14 and 15, 15 and 16; May 12 and 13, 30 and 31; June 2 and 3 (the difference between 7 and 9 was $0^{in.}527$); July 3 and 4, 11 and 12; August 8 and 9, 18 and 19, 19 and 20, 20 and 21, 21 and 22; September 18 and 19, 22 and 23, 24 and 25; October 6 and 7 (the difference between the 11th and 13th was $0^{in.}774$); November 4 and 5, 5 and 6, 11 and 12, 12 and 13, 20 and 21, 27 and 28; December 2 and 3 (the difference between the 6th and 8th was $0^{in.}624$), 10 and 11, 11 and 12, 17 and 18, 19 and 20 (the difference between the 20th and 22nd was $0^{in.}519$), and between the 23rd and 24th was $0^{in.}809$. Considering those cases as two, when the difference between the height of the barometer on a Saturday and on the following Monday exceeded $0^{in.}5$, the total number of cases in the year is 59, being very nearly double the usual number of such cases. The number of days of observation was 311; these were taken consecutively, six and six together, in 49 cases; in two cases four observations were taken consecutively; in two cases three observations were taken consecutively; in one case two were thus taken; and on March 22 the observation was separated from those both preceding and following it, by an interval of two days.

In the winter half-year there were—

16	instances in which the difference exceeded	0·25 in.	and was less than	0·30 in.	between two consecutive days.
18	,,	0·30	,,	0·40	,,
2	,,	0·40	,,	0·50	,,
2	,,	0·80			

In the summer half year there were

5	instances in which the difference exceeded	in. 0·25	and was less than	in. 0·30	between two consecutive days.
12	,,	0·30	,,	0·40	,,
4	,,	0·40	,,	0·50	,,

Therefore it appears, that in the winter half year there were 38 instances of differences between two consecutive days, exceeding $0^{in}{\cdot}25$, two of which amounted to $0^{in}{\cdot}809$ and $0^{in}{\cdot}815$ respectively; and in the summer period there were 21 cases of differences exceeding $0^{in}{\cdot}25$; so that the differences in the winter period were much larger, as well as more numerous, than in the summer period.

The times at which the greatest differences between the mean heights of the barometer, on two consecutive days, took place in each month, with the amounts of the differences estimated positive when the mean height was greater on the second day, are as follows:—

				in.
In January,	between the	20th and 21st,	the difference amounting to	+ 0·815
February	,,	21st and 22nd	,,	− 0·416
March	,,	19th and 20th	,,	+ 0·397
April	,,	8th and 9th	,,	− 0·466
May	,,	30th and 31st	,,	+ 0·321
June	,,	2nd and 3rd	,,	− 0·350
July	,,	11th and 12th	,,	+ 0·311
August	,,	18th and 19th	,,	− 0·415
September	,,	18th and 19th	,,	+ 0·410
October	,,	6th and 7th	,,	− 0·271
November	,,	4th and 5th	,,	− 0·352
December	,,	23rd and 24th	,,	+ 0·809

In October, between the 11th and 13th, a difference of + $0^{in}{\cdot}774$ took place, so that the difference between the 6th and 7th was not the greatest which actually took place.

The greatest difference between the mean heights on two consecutive days during the year was $0^{in}{\cdot}815$, between the 20th and 21st days of January; the next in order of magnitude was in December, amounting to $0^{in}{\cdot}809$. In 1841 the greatest difference between two consecutive days was $0^{in}{\cdot}696$, between October 22nd and 23rd; in 1842 it was $0^{in}{\cdot}596$, between December 27th and 28th; in 1843 it was $0^{in}{\cdot}640$, between January 16th and 17th; and in 1844 it was $0^{in}{\cdot}604$, between February 26th and 27th: so that the circumstance of two instances occurring in the same year, each exceeding $0^{in}{\cdot}8$, is remarkable.

The maxima and minima values of the mean daily heights of the barometer in each month are as follows:—

		in.					in.		
In January	the highest was	30·125	on the	7th day,	and the lowest was		28·886	on the	28th day.
February	,,	30·303	,,	12th	,,		29·367	,,	22nd
March	,,	30·270	,,	22nd	,,		29·550	,,	14th
April	,,	30·136	,,	1st	,,		28·928	,,	10th
May	,,	30·151	,,	15th	,,		29·329	,,	8th
June	,,	30·226	,,	9th	,,		29·288	,,	28th
July	,,	30·064	,,	5th	,,		29·459	,,	31st
August	,,	30·177	,,	30th	,,		29·182	,,	19th
September	,,	30·130	,,	1st	,,		29·255	,,	18th
October	,,	30·406	,,	23rd	,,		29·207	,,	9th
November	,,	30·201	,,	3rd	,,		29·051	,,	19th
December	,,	30·319	,,	13th	,,		28·755	,,	20th

The highest daily mean was in October, and the lowest was in December; and the difference between them is $1^{in}{\cdot}651$, being the range of the mean daily heights for the year.

The ranges of the mean daily heights in each month were,

	in.		in.
In January	1·239	July	0·605
February	0·936	August	0·995
March	0·720	September	0·875
April	1·208	October	0·199
May	0·822	November	0·150
June	0·938	December	1·564

The highest and lowest readings of the barometer in the simple two-hourly observations in each month were as follows:—

		in.	d h		in.	d h
In January	the highest reading was	30·163 at	21. 12,	and the lowest was	28·708 at	19. 16
February	,,	30·352 at	12. 0	,,	29·328 at	22. 10
March	,,	30·376 at	21. 14	,,	29·440 at	3. 2
April	,,	30·185 at	0. 22	,,	28·834 at	9. 2
May	,,	30·187 at	14. 10	,,	29·281 at	8. 6
June	,,	30·267 at	9. 10	,,	29·124 at	27. 20
July	,,	30·108 at	4. 22	,,	29·423 at	28. 14
August	,,	30·208 at	30. 12	,,	28·988 at	19. 4
September	,,	30·176 at	0. 14	,,	29·160 at	18. 0
October	,,	30·445 at	22. 22	,,	29·092 at	8. 10
November	,,	30·246 at	3. 10	,,	28·965 at	19. 0, 2^h, and 14^h.
December	,,	30·358 at	12. 22	,,	28·659 at	19. 18

The ranges of the corrected barometer-readings in each month were as follows:—

	in.		in.
In January	1·455	In July	0·685
February	1·024	August	1·220
March	0·936	September	1·016
April	1·351	October	1·353
May	0·906	November	1·281
June	1·143	December	1·699

In every month there have been readings of the barometer above 30 inches.

		in.
In October	there were readings greater than	30·4
February, March, and December	,,	30·3
June, August, and November	,,	30·2
January, April, May, July, and September	,,	30·1

The lowest reading in the year took place in December, at $19^d. 18^h$, in the two-hourly observations, being $28^{in}·659$; the highest reading in the year occurred in October, at $22^d. 22^h$, in the two-hourly observations, being $30^{in}·445$; and the range in the year was $1^{in}·786$.

From the preceding investigation it would seem that the barometer readings during the year 1845 were more variable than usual, and that these variations have been principally about the times of the mean height. The extreme highest reading was less than usual, and the extreme lowest reading was greater, so that the range for the year was smaller than usual.

TABLE II.—Mean Height of the Barometer in each Month, deduced from the Mean of all the Two-hourly Observations in each Month.

1845, Month.	Mean Height of the Barometer.	1845, Month.	Mean Height of the Barometer.
	in.		in.
January	29·704	July	29·769
February	29·840	August	29·729
March	29·795	September	29·801
April	29·696	October	29·847
May	29·712	November	29·575
June	29·775	December	29·658

The mean of all the monthly results is $29^{in}·742$.

TABLE III.—Daily Range of the Barometer, as deduced from all the Observations taken on every Civil Day of the Year 1845 (except Sundays, Good Friday, and Christmas Day), at the Even Hours of Göttingen Mean Solar Time.

Days of the Month, 1845.	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	0·051	0·168	0·066	0·121	0·122	*S*	0·217	0·092	0·082	0·105	0·056	0·232
2	0·106	*S*	*S*	0·101	0·167	0·312	0·180	0·204	0·066	0·099	*S*	0·470
3	0·092	0·164	0·331	0·161	0·142	0·305	0·211	*S*	0·031	0·196	0·097	0·192
4	0·161	0·160	0·030	0·209	*S*	0·238	0·229	0·026	0·044	0·059	0·337	0·341
5	*S*	0·313	0·020	0·075	0·078	0·104	0·090	0·071	0·043	*S*	0·199	0·171
6	0·132	0·157	0·118	*S*	0·167	0·314	*S*	0·140	0·041	0·546	0·400	0·063
7	0·071	0·042	0·053	0·152	0·086	0·171	0·058	0·081	*S*	0·138	0·193	*S*
8	0·118	0·105	0·091	0·346	0·136	*S*	0·040	0·046	0·041	0·277	0·026	0·186
9	0·091	*S*	*S*	0·357	0·086	0·131	0·075	0·332	0·116	0·158	*S*	0·186
10	0·280	0·210	0·162	0·140	0·140	0·125	0·233	*S*	0·102	0·053	0·090	0·138
11	0·054	0·604	0·071	0·557	*S*	0·102	0·215	0·183	0·130	0·486	0·212	0·365
12	*S*	0·141	0·143	0·131	0·177	0·038	0·229	0·213	0·030	*S*	0·328	0·388
13	0·200	0·650	0·103	*S*	0·258	0·059	*S*	0·074	0·219	0·196	0·281	0·075
14	0·216	0·157	0·070	0·170	0·116	0·095	0·195	0·169	*S*	0·112	0·105	*S*
15	0·157	0·128	0·074	0·098	0·032	*S*	0·034	0·069	0·301	0·262	0·169	0·164
16	0·260	*S*	*S*	0·106	0·081	0·096	0·050	0·135	0·232	0·154	*S*	0·056
17	0·149	0·080	0·173	0·105	0·080	0·060	0·073	*S*	0·089	0·136	0·380	0·291
18	0·381	0·046	0·096	0·083	*S*	0·140	0·051	0·223	0·237	0·163	0·289	0·254
19	*S*	0·119	0·252	0·121	0·045	0·185	0·057	0·393	0·458	*S*	0·315	0·531
20	1·070	0·131	0·435	*S*	0·059	0·076	*S*	0·356	0·331	0·130	0·305	0·296
21	0·337	0·275	Good Friday.	0·135	0·270	0·131	0·055	0·286	*S*	0·208	0·154	*S*
22	0·059	0·235	0·172	0·083	0·263	*S*	0·055	0·128	0·576	0·164	0·315	0·842
23	0·469	*S*	*S*	0·196	0·059	0·084	0·129	0·207	0·298	0·065	*S*	0·827
24	0·378	0·531	0·302	0·072	0·023	0·293	0·029	*S*	0·183	0·330	0·256	0·452
25	0·339	0·293	0·357	0·193	*S*	0·042	0·038	0·186	0·354	0·207	0·193	Christ. Day.
26	*S*	0·292	0·222	0·192	0·099	0·128	0·037	0·192	0·294	*S*	0·152	0·548
27	0·592	0·058	0·124	*S*	0·064	0·430	*S*	0·148	0·193	0·123	0·132	0·373
28	0·166	0·053	0·224	0·091	0·054	0·495	0·193	0·131	*S*	0·037	0·243	*S*
29	0·194		0·419	0·276	0·080	*S*	0·268	0·054	0·221	0·184	0·208	0·244
30	0·111		*S*	0·109	0·416	0·069	0·239	0·062	0·146	0·223	*S*	0·370
31	0·481		0·282		0·109		0·054	*S*		0·109		0·751

The letter *S* denotes that the day was Sunday.

From this table we collect the following particulars: that

				in.		in.
On 94 days out of 311,	the daily range of the barometer was		less than	0·1		
106	,,	,,	greater than	0·1	and less than	0·2
55	,,	,,	,,	0·2	,,	0·3
31	,,	,,	,,	0·3	,,	0·4
12	,,	,,	,,	0·4	,,	0·5
7	,,	,,	,,	0·5	,,	0·6
2	,,	,,	,,	0·6	,,	0·7
1	,,	,,	,,	0·7	,,	0·8
2	,,	,,	,,	0·8	,,	0·9
1	,,	,,	,,	1·0	,,	1·1

These numbers shew a greater number of large ranges than are usually shewn in one year.

TABLE IV.—Greatest and Least Daily Ranges of the Barometer in each Month, with the Days on which they occurred.

1845, Month.	Daily Range of the Barometer in the Month.		Day on which occurred the	
	Greatest.	Least.	Greatest.	Least.
	in.	in.	d	d
January	1·070	0·051	20	1
February	0·650	0·053	13	28
March	0·419	0·020	29	5
April	0·557	0·083	11	18 and 22
May............	0·416	0·023	30	24
June............	0·495	0·042	28	25
July	0·268	0·029	29	24
August..........	0·393	0·026	19	4
September	0·576	0·030	22	12
October	0·546	0·037	6	28
November	0·400	0·026	6	8
December........	0·842	0·056	22	16

The greatest daily range of the barometer-readings was in January on the 20th day, and it was 1in·070, and the next in order were on December 22 and 23 (See Table III.), &c. The least daily range was on March 5, being 0in·020, and the next in order were on May 24, August 4, &c.

TABLE V.—Mean Daily Range of the Barometer in each Month, in Quarterly Periods, and for the Year.

1845, Month.	Mean Daily Range.	Mean Daily Range in				
		Spring.	Summer.	Autumn.	Winter.	the Year.
	in.	in.	in.	in.	in.	in.
December.........	0·339				0·260	0·188
January	0·229					
February	0·213					
March	0·148	0·144				
April	0·158					
May.............	0·126					
June.............	0·169		0·151			
July	0·123					
August...........	0·162					
September	0·187			0·195		
October	0·182					
November	0·217					

TABLE VI.—Mean Height of the Barometer, at every Even Hour of Göttingen Mean Time, deduced from all the Observations taken at that Hour in each Month.

1845, 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	29·703	29·831	29·772	29·699	29·701	29·786	29·764	29·727	29·803	29·849	29·584	29·677
16	29·699	29·827	29·759	29·685	29·697	29·778	29·756	29·714	29·794	29·841	29·573	29·674
18	29·688	29·822	29·764	29·686	29·705	29·782	29·762	29·720	29·797	29·838	29·564	29·666
20	29·695	29·833	29·780	29·695	29·717	29·790	29·766	29·728	29·807	29·853	29·572	29·676
22	29·709	29·848	29·797	29·705	29·723	29·786	29·770	29·729	29·814	29·864	29·586	29·687
0	29·706	29·856	29·803	29·702	29·719	29·786	29·770	29·724	29·809	29·862	29·583	29·681
2	29·695	29·846	29·794	29·698	29·711	29·774	29·768	29·716	29·799	29·846	29·567	29·660
4	29·699	29·838	29·797	29·684	29·702	29·764	29·766	29·717	29·788	29·835	29·559	29·643
6	29·705	29·840	29·802	29·686	29·701	29·757	29·762	29·721	29·787	29·838	29·572	29·638
8	29·713	29·848	29·815	29·701	29·711	29·760	29·770	29·739	29·802	29·837	29·577	29·635
10	29·719	29·851	29·827	29·705	29·726	29·771	29·783	29·754	29·807	29·850	29·586	29·630
12	29·720	29·846	29·827	29·710	29·725	29·767	29·787	29·758	29·810	29·851	29·581	29·626

From this table it appears that the daily motion of the mercurial column of the barometer has consisted of a triple maximum and a triple minimum in three months, viz., in June, October, and November; and of a double maximum and minimum in the nine other months. The hour of the first maximum in February and March was 0^h, in June at 20^h, and at 22^h in the remaining nine months. The hour of the first minimum was 2^h in January, March, and August; 4^h in February, April, October, and November; 6^h in May, June, July, and September; and at 12^h in December. At these times generally *the* maxima and minima readings take place; but such is not the case this year. The maxima at 0^h or 22^h are not *the* greatest maxima in the months of January, March, April, May, July, and August; and the afternoon minimum is not *the* minimum in the months of January, February, March, May, July, and August. This circumstance is worthy of special attention.

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 Novmber	,,	Autumn.
,,	,,	December, January, and February	,,	Winter.

And thus the following table is formed:—

TABLE VII.—Mean Height of the Barometer at every Even Hour of Göttingen Mean Time, in Quarterly Periods, and for the Year.

1845, Hour, Göttingen Mean Time.	Mean Height of the Barometer.				
	Spring.	Summer.	Autumn.	Winter.	The Year.
h	in.	in.	in.	in.	in.
14	29·724	29·759	29·745	29·737	29·741
16	29·714	29·749	29·743	29·723	29·732
18	29·718	29·755	29·733	29·725	29·733
20	29·731	29·761	29·744	29·735	29·743
22	29·742	29·762	29·755	29·748	29·752
0	29·741	29·760	29·751	29·748	29·750
2	29·734	29·753	29·737	29·734	29·740
4	29·728	29·749	29·727	29·727	29·733
6	29·730	29·747	29·732	29·728	29·734
8	29·742	29·756	29·739	29·732	29·742
10	29·753	29·769	29·731	29·733	29·747
12	29·754	29·771	29·747	29·731	29·751

From this table it appears that a double maximum and a double minimum have taken place in spring and in summer, and that a triple maximum and a triple minimum have taken place in autumn and in winter.

		h h	h	in.	h
In Spring	the maxima took place at	22 and at 12;	that at 12	was 0·012	higher than that at 22
,,	the minima ,,	16 ,, 4;	that at 4	was 0·014	,, 16
In Summer	the maxima ,,	22 ,, 12;	that at 12	was 0·009	,, 22
,,	the minima ,,	16 ,, 6;	that at 16	was 0·002	,, 6
In Autumn	the maxima ,,	22, at 8, and at 12;	that at 22	was 0·016	,, 8
,,	the minima ,,	18, at 4, and at 10;	that at 18	was 0·006	,, 4
In Winter	the maxima ,,	22 and 0, at 10 and at 14;	that at 22 and 0	was 0·015	,, 10
,,	the minima ,,	16, at 4, and at 12;	that at 12	was 0·008	,, 16

The numbers in the last column of the table shew the mean height of the barometer for the year at each observation-hour, and they exhibit a double maximum and a double minimum; the former occurring at 22^h and at 12^h, and the latter occurring at 4^h and at 16^h.

The range of the mean quarterly heights was different at the different periods.

In Spring	it was	0·040
Summer	,,	0·024
Autumn	,,	0·028
Winter	,,	0·025
For the Year	,,	0·020

The following are the general variations of the heights between the different observation-hours as exhibited in the table:—

Between 14^h and 16^h a fall at all periods, amounting to 0^{in}·010 both in spring and in summer; to 0^{in}·002 in autumn; and to 0^{in}·014 in winter.
16 and 18 a slight rise in spring, in summer, and in winter; and a considerable fall in autumn.
18 and 20 a rise at all periods; rather large in spring.
20 and 22 a rise at all periods; scarcely perceptible in summer.
22 and 0 a slight fall in the first three periods; stationary in winter.
0 and 2 a fall at all periods; but of exactly double the amount in autumn and in winter as in the preceding periods.
2 and 4 a fall at all periods, and smaller than usual, except in autumn.
4 and 6 a slight fall in summer; a rise at all other periods.
6 and 8 a rise at all periods.
8 and 10 a considerable rise in spring and in summer, a tendency to rise in winter, and a considerable fall in autumn.
10 and 12 a small rise in spring and summer, a very large rise in autumn, and a small fall in winter.
12 and 14 a very large fall in spring, in fact the largest change during the year; a fall in summer, a slight fall in autumn, and a rise in winter.

From the preceding remarks, it would seem that the daily motion of the mercurial column of the barometer has been very different throughout the whole of this year from that of any previous year since the commencement of this series of observations. That maximum which occurs at about 22^h is usually the maximum in every period of the year, but in this year it was the secondary maximum in spring and summer; also that minimum which occurs at 4^h or 6^h, is usually *the* minimum; but it was not so during this year in the spring and the winter periods.

It is also an unusual circumstance for a triple maximum and a triple minimum to appear in the means of any quarterly period, such having not previously occurred; yet such has taken place in the autumn and winter periods of this year.

The daily motion from hour to hour has in some cases been materially different from usual, the most remarkable change in this respect being, that in the winter period of the year 1845, between 12^h and 14, there occurs a rise of 0^{in}·006 from the former to the latter time, whereas in every previous year a large fall has occurred between the same hours.

The mean height of the barometer in	Spring	was	29·734 in.
,, ,,	Summer	was	29·758
,, ,,	Autumn	was	29·740
,, ,,	Winter	was	29·733
,,	for the whole Year	was	29·742

By taking the differences between the mean for the year and the numbers in the last column of Table VII., the following results are deduced:—

h				in.
At 14	the mean height of the barometer was	lower than the mean for the year	by	0·001
16	„	lower	„	0·010
18	„	lower	„	0·009
20	„	higher	„	0·001
22	„	higher	„	0·010
0	„	higher	„	0·008
2	„	lower	„	0·002
4	„	lower	„	0·009
6	„	lower	„	0·008
8	„	lower	„	0·000
10	„	higher	„	0·005
12	„	higher	„	0·009

And these numbers agree well with all those previously deduced.

The mean height deduced from all the observations taken at 2^h is $0^{in.}002$ less than the mean height for the year 1845; in the year 1841, and also in the year 1842, the mean of the observations taken at this time agreed precisely with the mean for each year respectively; in the year 1843 the mean of all the observations taken at this time was less than the mean height for the year by $0^{in.}001$; and in the year 1844 the mean was $0^{in.}004$ less than the mean for the year; and the mean correction to be applied to the observations taken at this time to reduce them to the mean of all the observations taken in the year, as deduced from the five years' observations, from 1841 to 1845, is $0^{in.}0014$ to be added. The mean height deduced from the observations at 20^h requires $0^{in.}001$ to be subtracted to reduce it to the mean of all the observations in the year 1845. In 1841 the correction was $0^{in.}001$ to be added; in 1842 it was $0^{in.}003$ to be subtracted; in 1843 it was $0^{in.}002$ to be added; and in 1844 it was $0^{in.}003$ to be subtracted: therefore from five years' observations the mean correction is $0^{in.}0008$ to be subtracted. The mean height, as deduced from the observations at 8^h, is the same as the mean for the year; in 1841 it was $0^{in.}004$ too high; in 1842 it was $0^{in.}002$ too low; in 1843 it was $0^{in.}004$ too high; and in 1844 it was the same as the mean for the year; the mean correction, therefore, to be applied to the observations taken at this time to reduce them to the mean of all the observations taken in the year, from the five years' observations, is $0^{in.}0012$ to be subtracted. If, therefore, this element be determined by an isolated observation each day, the hours indicated as the best are 20^h, 2^h, or 8^h.

TABLE VIII. — Excess of the Mean Height of the Barometer in every Month, at each Even Hour of Göttingen Mean Time (as deduced from the Monthly Means of the Observations at each Hour), above the Mean Height for the Month (as found from the Mean of all the Two-hourly Observations for that Month).

1845, 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	−0·001	−0·009	−0·023	+0·003	−0·011	+0·011	−0·005	−0·002	+0·002	+0·002	+0·009	+0·019
16	−0·005	−0·013	−0·036	−0·001	−0·015	+0·003	−0·013	−0·015	−0·007	−0·006	−0·002	+0·016
18	−0·016	−0 018	−0·031	−0·010	−0·007	+0·007	−0·007	−0·009	−0·004	−0·009	−0·011	+0·008
20	−0·009	−0·007	−0·015	−0·001	+0·005	+0·015	−0·003	−0·001	+0·006	+0·006	−0·003	+0·018
22	+0·005	+0·008	+0·002	+0·009	+0·011	+0·011	+0·001	0·000	+0·013	+0·017	+0·011	+0·029
0	+0·002	+0·016	+0·008	+0·006	+0·007	+0·011	+0·001	−0·005	+0·008	+0·015	+0·008	+0·023
2	−0·009	+0·006	−0·001	+0·002	−0·001	−0·001	−0·001	−0·013	−0·002	−0·001	−0·008	+0·002
4	−0·005	−0·002	+0·002	−0·012	−0·010	−0·011	−0·003	−0·012	−0·013	−0·012	−0·016	−0·015
6	+0·001	0·000	+0·007	−0·010	−0·011	−0·018	−0·007	−0·008	−0·014	−0·009	−0·003	−0·020
8	+0·009	+0·008	+0·020	+0·005	−0·001	−0·015	+0·001	+0·010	+0·001	−0·010	+0 002	−0·023
10	+0·015	+0·011	+0·032	+0·009	+0·014	−0·004	+0·014	+0·025	+0·006	+0·003	+0·011	−0·028
12	+0·016	+0·006	+0·032	+0·014	+0·013	−0·008	+0·018	+0·029	+0·009	+0·004	+0·006	−0·032

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 has been different at different times of the year. The order of the signs, also, in this table is, in some cases, very different from that of previous years; in August, the only observation-hours at which the mean exceeded the mean for the month, were 8^h, 10^h, and 12^h; generally the means at these hours in this month are below that of the month, or they exhibit a very small excess above it. The months of June and December are also remarkable: the order of the signs is different from usual.

Throughout the whole of this investigation it has appeared, that the variations of the pressure of the atmosphere have been greater in amount, and more numerous, than those of previous years, and frequently very different from them.

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 IX.—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.					
1845. d h	d h	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Jan. 7. 0	Feb. 3. 22	29·662	29·674	29·674	29·680	29·680	29·684	29·683	29·649	29·644	29·644	29·655	29·656
Feb. 5. 0	Mar. 4. 22	29·838	29·837	29·837	29·833	29·829	29·822	29·816	29·812	29·819	29·826	29·830	29·828
Mar. 6. 0	Apr. 3. 22	29·870	29·872	29·872	29·853	29·853	29·853	29·852	29·837	29·828	29·846	29·855	29·867
Apr. 5. 0	May 2. 22	29·657	29·656	29·658	29·657	29·666	29·670	29·685	29·674	29·677	29·663	29·661	29·659
May 4. 0	June 1. 22	29·719	29·713	29·718	29·707	29·706	29·706	29·708	29·697	29·699	29·703	29·714	29·713
June 3. 0	July 1. 22	29·768	29·768	29·768	29·764	29·766	29·760	29·757	29·758	29·753	29·755	29·767	29·775
July 3. 0	July 30. 22	29·777	29·781	29·785	29·780	29·784	29·784	29·783	29·784	29·787	29·785	29·784	29·772
Aug. 1. 0	Aug. 29. 22	29·711	29·716	29·720	29·727	29·730	29·735	29·733	29·733	29·732	29·733	29·735	29·733
Aug. 31. 0	Sep. 28. 22	29·827	29·828	29·829	29·801	29·815	29·817	29·796	29·808	29·799	29·805	29·798	29·800
Sep. 30. 0	Oct. 27. 22	29·836	29·847	29·833	29·837	29·829	29·826	29·822	29·829	29·827	29·831	29·850	29·841
Oct. 29. 0	Nov. 26. 22	29·625	29·627	29·639	29·633	29·630	29·606	29·599	29·587	29·593	29·594	29·594	29·611
Nov. 28. 0	Dec. 25. 22	29·622	29·635	29·635	29·669	29·667	29·667	29·628	29·619	29·622	29·608	29·607	29·609

By taking the mean of the numbers in each vertical column of this table the next table was formed.

TABLE X.—Mean Height of the Barometer at every Two Hour of the Moon's Hour-Angle in the Year 1845.

Hour-Angle of the Moon.		Mean Height of the Barometer.	Mean of the Heights corresponding to the Hour-Angles, 10h to 2h East. 2h to 10h West.	8h West to 8h East. 4h East to 4h West.
	h	in.	in.	in.
East	12	29·7387		
	10	29·7427		29·7396
	8	29·7462		
	6	29·7473	29·7455	
	4	29·7451		
	2	29·7463		
	0	29·7442		29·7414
West	2	29·7389		
	4	29·7323		
	6	29·7317	29·7346	
	8	29·7328		
	10	29·7375		

The general fact of a daily lunar tide is here indicated, the mean readings increasing from 6^h West to 6^h East, and diminishing from 2^h East to 6^h West; but these times are not in accordance with those deduced from the observations of previous years.

The following table is based upon the mean daily results in Table I. The mean heights on all the days when the Moon's North declination was the greatest have been collected, and their means taken; then the mean heights on all the days next following them, and so on:—

TABLE XI.—Mean Daily Heights of the Barometer, arranged with reference to the Moon's Declination, 1845.

Days after the Moon's greatest North Declination.	Mean Height of the Barometer.	Number of Obs.	Days after the Moon was in the Equator, the Moon going South.	Mean Height of the Barometer.	Number of Obs.	Days after the Moon's greatest South Declination.	Mean Height of the Barometer.	Number of Obs.	Days after the Moon was in the Equator, the Moon going North.	Mean Height of the Barometer.	Number of Obs.
d	in.		d	in.		d	in.		d	in.	
0	29·6349	9	0	29·8547	10	0	29·8203	9	0	29·7032	11
1	29·6295	11	1	29·7045	11	1	29·7923	12	1	29·6937	10
2	29·8217	11	2	29·7578	12	2	29·8480	12	2	29·7258	12
3	29·7495	12	3	29·6805	11	3	29·7443	11	3	29·7235	11
4	29·8503	11	4	29·7351	11	4	29·7312	11	4	29·8412	12
5	29·8237	12	5	29·7309	10	5	29·6925	12	5	29·7174	11
6	29·7945	11	6	29·7412	6	6	(29·5015)	2	6	29·5928	11
7	(29·6012)	(4)							7	(29·5557)	3

The mean of the numbers in each column respectively gives the mean height of the barometer

				in.
When the Moon's declination was North, and the Moon was going			South,	29·7577
,,	South	,,	South,	29·7435
,,	South	,,	North,	29·7714
,,	North	,,	North,	29·7139

The numbers in brackets have not been used, in consequence of the small number of observations on which they depend.

Combining the mean height of the barometer when the Moon was in the equator, or at her extreme North and South declination, with the height of the barometer on the three preceding and three following days, we find that

				in.
The mean height of the barometer,	when the Moon was	at or near her greatest North declination,	was	29·7124
,,	,,	in or near the Equator, and moving Southward,	was	29·7809
,,	,,	at or near her greatest South declination,	was	29·7732
,,	,,	in or near the Equator, and moving Northward,	was	29·7163

From these numbers it seems that the mean height of the barometer is increased by the Moon's position in South declination.

The following table is also based upon the daily results in Table I. The mean heights on all the days on which the Moon was in perigee have been collected, and their mean taken; then the mean heights on all the days next following them, and so on.

TABLE XII.—Mean Daily Heights of the Barometer, with reference to the Moon's Parallax.

Days after Perigee.	Mean Height of the Barometer.	Number of Observations.	Days after Apogee.	Mean Height of the Barometer.	Number of Observations.
d	in.		d	in.	
0	29·7856	14	0	29·6827	11
1	29·7907	14	1	29·7282	10
2	29·6542	9	2	29·6865	11
3	29·7299	11	3	29·8341	12
4	29·6558	12	4	29·7996	9
5	29·6971	11	5	29·9190	12
6	29·7414	10	6	29·7968	12
7	29·7701	13	7	29·8164	11
8	29·7694	13	8	29·7624	10
9	29·8779	8	9	29·6844	10
10	29·7545	11	10	29·7198	12
11	29·7314	12	11	29·6523	9
12	29·6658	8	12	29·7246	8
13	29·5254	5	13	29·7679	7
14	(29·4216)	5	14	(29·8685)	(2)
15	(29·2915)	(2)	15	(29·8645)	(2)

The variation of the distance of the Moon seems to have had but little effect: the numbers have varied from day to day without any 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 the mean height of the barometer.

		in.
3½ days after the Moon was in	Perigee	29·7115
10½ ,,	Perigee	29·7208
3½ ,,	Apogee	29·7940
10½ ,,	Apogee	29·7186

	in.
The mean of all between Perigee and Apogee, was	29.7405
,, Apogee and Perigee,	29·7553

Combining the mean height of the barometer when the Moon was at or near her mean distance, and at her greatest and least distances, with the heights of the barometer on the three preceding and three following days, we find that

		in.
The mean height of the barometer when the Moon was	at or near Perigee, ... was	29·7295
,, ,,	at or near her mean distance and going from the Earth, ...	29·7488
,, ,,	at or near Apogee, ...	29·7262
,, ,,	at or near her mean distance and coming nearer to the Earth,	29·8018

These numbers seem to indicate, that when the Moon was at or near her mean distance, and particularly when coming nearer to the Earth, the mean height 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 the observations on which they depend.

The following table was formed in the same manner as the last two:—

TABLE XIII.—Mean Daily Heights of the Barometer, with reference to the relative Positions of the Sun and Moon.

Days after New Moon.	Mean Height of the Barometer.	Number of Observations.	Days after the Moon enters First Quarter.	Mean Height of the Barometer.	Number of Observations.	Days after Full Moon.	Mean Height of the Barometer.	Number of Observations.	Days after the Moon enters Third Quarter.	Mean Height of the Barometer.	Number of Observations.
d	in.		d	in.		d	in.		d	in.	
0	29·8251	10	0	29·6569	10	0	29·8028	10	0	29·7713	10
1	29·8000	11	1	29·7235	10	1	29·7364	9	1	29·7962	10
2	29·7243	12	2	29·7970	10	2	29·6894	11	2	29·7353	12
3	29·6232	10	3	29·8289	11	3	29·6533	10	3	29·8684	11
4	29·6905	10	4	29·8418	9	4	29·5923	10	4	29·8455	10
5	29·7641	11	5	29·7204	10	5	29·5934	11	5	29·8473	12
6	29·6641	11	6	29·9574	9	6	29·6393	10	6	29·8087	11
7	29·8495	6	7	29·8802	4	7	29·4246	5	7	29·5328	5

The mean of the numbers in each column gives the mean height of the barometer,

		in.
.7426 When the Moon was between	new and first quarter......	29 ~~·8487~~
,,	first quarter and full......	29·8008
,,	full and third quarter......	29·6414
,,	third quarter and new.....	29·7757

By taking the mean of the mean heights on the day of each change, and on the three days preceding and following,

		in.
The mean height of the barometer,	at or near new Moon, was	29·7373
,,	at or near first quarter, was	29·7549
,,	at or near full Moon, was	29·7771
,,	at or near third quarter, was	29·6898

It would seem, therefore, that the mean pressure of the atmosphere was the greatest when the Moon was about 14 days old.

Results of the Observations of the Thermometers.

TABLE XIV.—Mean Daily Temperature, as deduced from the Mean of the 12 Observations with the Dry Thermometer, taken on every Civil Day (except Sundays, Good Friday, and Christmas Day), at the Even Hours of Göttingen Mean Time.

Days of the Month, 1845.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	37·8	31·4	33·2	38·9	56·5	*S*	59·9	58·3	57·5	51·6	44·4	46·0
2	34·8	*S*	*S*	43·0	53·3	62·8	58·1	56·6	56·3	59·8	*S*	45·7
3	34·7	35·8	33·4	50·2	50·7	60·6	67·4	*S*	54·7	61·5	41·0	38·1
4	40·7	36·0	27·2	48·3	*S*	52·9	61·4	60·5	52·4	55·0	36·7	38·5
5	*S*	37·4	26·3	41·0	44·9	58·5	62·3	61·5	53·1	*S*	45·6	45·9
6	45·4	33·8	24·5	*S*	43·3	59·3	*S*	60·7	53·8	44·6	53·3	40·1
7	44·0	28·6	31·5	40·4	42·6	57·9	71·6	57·0	*S*	48·9	52·9	*S*
8	33·0	28·9	32·7	40·9	43·1	*S*	62·4	58·5	54·4	49·6	53·9	39·1
9	32·4	*S*	*S*	38·6	46·5	56·7	60·4	58·9	56·4	46·2	*S*	45·0
10	39·9	29·2	37·1	40·2	46·5	60·3	57·8	*S*	56·6	47·0	47·9	38·5
11	46·8	24·5	34·7	39·8	*S*	62·7	58·1	58·0	55·8	49·1	45·7	44·1
12	*S*	19·2	30·6	42·7	49·2	66·3	55·2	57·4	57·0	*S*	46·0	37·2
13	42·4	30·3	22·1	*S*	49·9	68·5	*S*	55·6	54·7	52·5	42·2	31·3
14	41·0	37·5	23·2	44·9	50·8	69·8	58·7	55·2	*S*	52·2	42·1	*S*
15	40·7	34·9	26·8	41·7	51·3	*S*	55·0	54·7	50·3	53·7	44·5	46·8
16	41·7	*S*	*S*	43·2	52·6	66·3	58·0	52·5	55·1	52·6	*S*	46·3
17	37·9	33·5	28·5	47·3	49·6	64·6	61·5	*S*	61·6	50·8	44·3	44·8
18	41·0	34·0	30·3	44·6	*S*	59·2	62·8	57·4	57·7	55·3	49·5	45·1
19	*S*	29·2	34·3	47·9	47·1	59·1	61·7	56·9	52·4	*S*	51·8	40·2
20	37·8	26·2	32·8	*S*	46·6	61·7	*S*	55·4	53·0	51·3	46·9	38·5
21	34·5	31·8	Good Friday	46·6	46·2	62·2	61·8	55·3	*S*	45·9	42·1	*S*
22	38·4	31·7	42·8	48·2	49·1	*S*	63·4	55·9	52·8	47·0	38·3	36·2
23	43·4	*S*	*S*	51·0	48·0	59·8	56·4	57·9	47·1	45·5	*S*	39·8
24	41·8	37·5	45·4	52·6	48·2	60·1	56·7	*S*	44·3	42·7	35·8	35·9
25	41·2	36·8	44·4	55·7	*S*	58·1	60·1	59·2	51·7	43·1	41·2	Christ. Day.
26	*S*	43·6	46·6	53·4	49·7	58·6	61·5	59·4	50·9	*S*	50·6	45·7
27	37·7	39·6	51. 1	*S*	53·8	56·1	*S*	55·7	53·4	46·4	51·2	43·0
28	33·3	34·4	49·2	52·9	55·5	57·3	56·3	57·7	*S*	50·4	49·6	*S*
29	31·0		45·0	55·1	51·4	*S*	54·7	57·0	49·3	49·3	48·1	39·1
30	30·2		*S*	54·1	54·0	58·9	55·3	56·9	52·1	52·4	*S*	49·8
31	31·0		46·4		54·2		56·8	*S*		50·4		42·8

The letter *S* denotes that the day was Sunday.

The numbers in the above table shew that, from observations on 311 days (taken consecutively, six and six together in 49 cases; four and four together in two cases; three and three together in two cases; two together in one case; and on March 22[d] by itself, which day was intermediate to Good Friday aud Sunday); there were 47 cases in which the difference in the mean temperature, between two consecutive days, exceeded 5°; of these there were

15 instances	in which the difference exceeded		5°	and was less than	6°
10	„	„	6	„	7
13	„	„	7	„	8
3	„	„	8	„	9
3	„	„	9	„	10
4	„	„	10	„	11
2	„	„	11	„	12

In addition to these a difference of 10°·4 took place between October 4[d] and 6[d]; and a difference of 15°·5 took place between December 13[d] and 15[d], Sunday intervening in both cases.

The mean daily temperatures were the highest and lowest in each month, as follows:—

In January	the highest was	46·8	on the	11th	day, and the lowest was	30·2	on the	30th day.
February	,,	43·6	,,	26th	,,	19·2	,,	12th
March	,,	51·1	,,	27th	,,	22·1	,,	13th
April	,,	55·7	,,	25th	,,	38·6	,,	9th
May	,,	56·5	,,	1st	,,	42·6	,,	7th
June	,,	69·8	,,	14th	,,	52·9	,,	4th
July	,,	71·6	,,	7th	,,	54·7	,,	29th
August	,,	61·5	,,	5th	,,	52·5	,,	16th
September	,,	61·6	,,	17th	,,	44·3	,,	24th
October	,,	61·5	,,	3rd	,,	42·7	,,	24th
November	,,	53·9	,,	8th	,,	35·8	,,	24th
December	,,	49·8	,,	30th	,,	31·3	,,	13th

The highest daily temperature in the year was 71°·6 on July 7d, and the lowest was 19°·2 on February 12d; the difference between these numbers is 52°·4, being the yearly range of the mean daily temperatures.

The range of the mean daily temperatures in each month was,

	°		°
In January	16·6	In July	16·9
February	24·4	August	9·0
March	29·0	September	17·3
April	17·1	October	18·8
May	13·9	November	18·1
June	16·9	December	18·5

The highest and lowest readings of the thermometer in the simple two-hourly observations in each month were as follows:—

		°		d. h		°		d. h
In January	the highest reading was	50·5	at	6. 0,	and the lowest was	27·0	at	29. 14 and 16h
February	,,	47·2	at	26. 2	,,	8·8	at	11. 20
March	,,	59·0	at	27. 2	,,	14·0	at	13. 18
April	,,	68·0	at	24. 3	,,	29·5	at	6. 18
May	,,	66·5	at	27. 4	,,	35·0	at	9. 18
June	,,	83·2	at	13. 2	,,	46·3	at	8. 16 and 18h
July	,,	80·5	at	7. 2 and 4h	,,	45·0	at	29. 16
August	,,	70·4	at	30. 3	,,	44·0	at	29. 17
September	,,	70·8	at	9. 4	,,	34·9	at	23. 19
October	,,	67·1	at	3. 4	,,	33·5	at	23. 14
November	,,	56·7	at	8. 2	,,	31·0	at	24. 10
December	,,	54·0	at	30. 2	,,	28·7	at	13. 6

The highest and lowest readings shewn by the self-registering maximum and minimum thermometer in each month were as follows:—

		°				°		
In January	the highest reading was	51·3	on the	6th	day, and the lowest was	24·4	on the	31st day.
February	,,	48·5	,,	26th	,,	7·7	,,	11th
March	,,	59·4	,,	27th	,,	13·1	,,	13th
April	,,	70·3	,,	24th	,,	29·5	,,	6th
May	,,	68·2	,,	27th	,,	34·4	,,	10th
June	,,	86·0	,,	13th	,,	43·8	,,	28th
July	,,	83·3	,,	7th	,,	44·6	,,	29th
August	,,	77·8	,,	31st	,,	43·2	,,	1st
September	,,	73·5	,,	9th	,,	33·4	,,	23rd
October	,,	67·6	,,	3rd	,,	31·4	,,	25th
November	,,	59·6	,,	6th	,,	29·1	,,	22nd
December	,,	55·5	,,	30th	,,	28·0	,,	12th

TABLE XV.—Mean Heights of the Dry Thermometer in each Month, deduced from the Mean of all the Two-hourly Observations in each Month.

1845, Month.	Mean Temperature.	1845, Month.	Mean Temperature.
	°		°
January	38·3	July	59·8
February	32·7	August...........	57·3
March	35·2	September........	53·6
April	46·3	October	50·2
May..............	49·4	November	45·8
June.............	60·7	December.........	41·7

The mean of all the monthly results is 47°·6.

In the following table the mean temperature is deduced from the corrected maximum and minimum readings of the self-registering thermometer, by taking a simple arithmetical mean. These are found from the daily maximum and minimum readings, by taking the mean of each month.

TABLE XVI.—Mean Temperature of each Month, deduced from the Maximum and Minimum Self-registering Thermometer.

1845, Month.	Mean of all the Maximum Readings in each Month.	Mean of all the Minimum Readings in each Month.	Mean Temperature deduced from Self-Registering Thermometer.
	°	°	°
January	43·3	34·3	38·8
February	38·4	27·9	33·2
March	42·4	30·8	36·6
April	57·5	39·3	48·4
May..............	59·6	42·7	51·2
June..............	72·5	52·2	62·4
July	71·2	53·5	62·4
August............	67·7	50·5	59·1
September.........	63·9	46·9	55·4
October	59·0	44·0	51·5
November	51·8	40·3	46·1
December..........	47·6	35·8	41·7

And the mean of all the monthly results is 48°·9.

TABLE XVII.—Table exhibiting the Daily Range of the Dry Thermometer on every Civil Day throughout the Year (Sundays, Good Friday, and Christmas Day excepted).

Days of the Month, 1845.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	6·5	8·0	8·8	10·4	12·8	S	12·5	13·9	15·2	15·3	14·5	6·5
2	3·8	S	S	18·8	17·5	24·0	11·9	9·9	13·2	11·3	S	6.8
3	8·8	11·3	14·5	26·0	17·1	23·1	24·8	S	9·5	14·1	15·3	10·6
4	4·5	7·4	7·6	26·7	S	13·2	15·4	13·4	15·6	11·1	20·2	13·5
5	S	12·2	11·8	16·9	12·4	14·2	21·8	13·2	14·2	S	24·5	8·8
6	7·0	9·7	9·9	S	12·0	13·2	S	15·3	14·1	17·7	10·1	8·5
7	8·9	8·3	9·3	23·5	10·7	16·3	17·0	13·1	S	12·5	6·6	S
8	6·3	9·0	7·4	20·0	9·1	S	17·5	17·1	25·7	13·8	5·2	19·6
9	2·2	S	S	17·8	15·7	21·4	14·3	12·5	28·0	9·0	S	9·4
10	15·6	5·9	8·8	7·4	19·6	26·9	7·8	S	22·9	12·5	9·9	7·5
11	1·7	12·3	8·5	9·5	S	24·7	11·5	12·0	8·9	12·8	8·2	12·0
12	S	18·7	8·2	11·5	9·5	28·6	13·5	7·9	17·0	S	8·0	9·4
13	8·4	10·9	10·8	S	12·7	25·2	S	9·7	20·6	17·7	12·4	4·5
14	3·1	5·0	18·0	8·2	14·0	19·8	10·3	8·7	S	15·3	10·1	S
15	3·7	6·7	9·6	4·5	18·3	S	11·0	9·6	8·0	13·5	14·5	8·5
16	6·9	S	S	13·0	12·0	13·7	21·4	12·1	16·0	15·9	S	6·9
17	6·2	9·4	13·1	20·0	18·2	17·0	14·7	S	5·5	15·1	8·0	2·8
18	7·2	5·8	18·7	15·9	S	12·6	16·6	19·8	9·5	6·7	12·6	7·4
19	S	8·2	11·4	16·6	9·8	21·8	21·8	10·5	14·5	S	9·5	11·5
20	6·9	10·9	10·1	S	16·9	19·4	S	12·9	20·1	14·2	10·2	6·2
21	9·5	11·6	Good Friday.	23·4	7·3	22·2	17·2	17·0	S	11·2	9·0	S
22	13·7	6·6	12·0	23·5	12·9	S	16·3	24·6	12·3	15·1	10·5	14·0
23	5·7	S	S	27·3	15·5	18·1	5·2	18·7	16·3	14·6	S	6·1
24	6·1	11·0	12·1	27·4	11·0	16·8	9·3	S	21·1	20·5	9·2	8·2
25	15·2	11·0	14·1	18·3	S	11·3	11·1	19·2	19·4	16·0	14·5	Christ. Day.
26	S	8·1	8·9	13·6	11·9	14·9	12·2	17·0	16·6	S	9·3	12·0
27	8·2	10·4	13·3	S	27·1	8·9	S	14·2	15·6	12·3	5·0	8·7
28	7·2	7·8	12·8	13·8	14·7	14·3	16·1	16·3	S	11·8	4·6	S
29	3·7		12·7	14·0	6·1	S	12·6	20·2	15·2	10·3	10·6	20·0
30	6·5		S	8·4	17·8	14·0	21·0	26·4	10·6	12·7	S	12·3
31	5·7		16·5		20·0		16·3	S		7·3		16·4

The letter *S* denotes that the day was Sunday.

From this table we find that on

11 days out of 311, the daily range of the thermometer readings	was less than			5°
92 ,, ,,	greater than	5°	and less than	10°
107 ,, ,,	,,	10	,,	15
63 ,, ,,	,,	15	,,	20
27 ,, ,,	,,	20	,,	25
11 ,, ,,	,,	25	,,	30

The greatest and least daily ranges of the readings of the dry thermometer in each month, as deduced from the two-hourly observations, were as follows:—

In January	the greatest was	15°·6	on the 10th,	the least was	1°·7	on the 11th,	and the difference is	13°·9
February	,,	18·7	,, 12th,	,,	5·0	,, 14th,	,,	13·7
March	,,	18·7	,, 18th,	,,	7·4	,, 8th,	,,	11·3
April	,,	27·4	,, 24th,	,,	4·5	,, 15th,	,,	22·9
May	,,	27·1	,, 27th,	,,	6·1	,, 29th,	,,	21·0
June	,,	28·6	,, 12th,	,,	8·9	,, 27th,	,,	19·7
July	,,	24·8	,, 3rd,	,,	5·2	,, 23rd,	,,	19·6
August	,,	26·4	,, 30th,	,,	7·9	,, 12th,	,,	18·5
September	,,	28·0	,, 9th,	,,	5·5	,, 17th,	,,	22·5
October	,,	20·5	,, 24th,	,,	6·7	,, 18th,	,,	13·8
November	,,	24·5	,, 5th,	,,	4·6	,, 28th,	,,	19·9
December	,,	20·0	,, 2nd,	,,	2·8	,, 17th,	,,	17·2

TABLE XVIII.—Mean Daily Range of the Dry Thermometer in each Month, in Quarterly Periods, and for the Year.

1845, Month.	Mean Daily Range for each Month.	Mean Daily Range in Spring.	Summer.	Autumn.	Winter.	the Year.
	°	°	°	°	°	°
December	9·9					
January	6·4				8·3	
February	8·7					
March	11·1					
April	16·8	14·0				
May	14·2					
June	18·2					12·9
July	14·9		16·0			
August	14·8					
September	15·6					
October	13·3			13·3		
November	10·9					

TABLE XIX.—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.

1845, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	37·0	30·7	32·4	40·7	44·8	53·9	54·6	52·2	49·2	46·6	43·7	40·3
16	36·3	30·5	32·0	40·1	44·3	52·9	53·9	51·5	47·9	46·8	43·5	40·0
18	36·4	30·6	32·2	39·6	44·5	53·8	54·5	51·6	47·7	46·5	43·2	40·1
20	36·4	30·4	32·8	42·7	47·8	58·9	58·5	55·3	50·2	47·6	43·4	39·9
22	37·4	32·3	35·9	47·4	51·4	63·3	62·2	60·0	55·6	51·1	45·7	40·9
0	40·1	35·2	38·7	52·6	54·3	67·0	65·4	62·6	58·7	54·9	49·1	43·2
2	41·2	36·5	40·1	54·8	55·7	68·4	66·5	64·2	60·4	56·3	50·7	44·5
4	40·7	36·4	39·6	53·3	55·2	68·9	66·1	63·7	59·9	55·6	49·4	43·8
6	39·3	34·3	37·8	51·5	53·1	66·2	64·0	61·8	57·4	51·8	47·0	42·2
8	38·6	32·7	35·0	46·7	49·8	62·1	60·1	57·5	53·9	49·6	45·7	41·9
10	38·5	31·9	33·4	43·8	47·0	57·8	56·8	54·4	52·3	48·3	44·7	41·6
12	37·9	31·9	32·4	42·1	45·3	55·5	55·3	53·1	50·5	47·6	43·9	41·3

From this table it appears that the maximum temperature in the month of June was nearer to the observation at 4^h, and in the remaining eleven months nearer to that at 2^h, than to any other. In July 1843, in February and July 1844, the maximum reading took place nearer to 4^h than to any other; and these three instances with the above in June, are the only ones since the establishment of the Meteorological Observatory in 1840, of such maxima taking place so far from the observation at 2^h. The minimum temperature has happened at about that hour of observation which was the nearest to the time of sun rising. In every month the temperature has passed uninterruptedly from one extreme to the other, except in February and December, in which months a very slight deviation from this law took place in the morning hours.

In the following table Spring means the months of March, April, and May.
,, Summer ,, June, July, and August.
,, Autumn ,, September, October, and November.
,, Winter ,, Dec January, February, and ~~March~~.

TABLE XX.—Mean Temperature at every Even Hour of Göttingen Mean Time, in Quarterly Periods, and for the Year.

Hour of Observation.	Mean Temperature.				
	Spring.	Summer.	Autumn.	Winter.	The Year.
h	°	°	°	°	°
14	39·3	53·6	46·5	36·0	43·9
16	38·8	52·8	46·1	35·6	43·3
18	38·8	53·3	45·8	35·7	43·4
20	41·1	57·6	47·1	35·6	45·3
22	44·9	61·8	50·8	36·9	48·6
0	48·5	64·8	54·2	39·5	51·8
2	50·2	66·4	55·8	40·7	53·3
4	49·4	66·2	55·0	40·3	52·7
6	47·5	64·0	52·1	38·6	50·5
8	43·8	59·9	49·7	37·7	47·8
10	41·4	56·3	48·4	37·3	45·8
12	39·9	54·6	47·3	37·0	44·7

From this table it appears that the maximum temperature has taken place at 2h at all periods of the year, and that the minimum temperature has taken place at 16h and 18h in spring, at 16h in summer, at 18h in autumn, and at 20h in winter, and at 16h for the year.

	°
The difference between the maximum and minimum temperature in Spring was	11·4
,, ,, Summer was	13·6
,, ,, Autumn was	10·0
,, ,, Winter was	5·1
,, ,, for the Year was	10·0

	°
The mean temperature for Spring was	43·6
,, ,, Summer was	59·3
,, ,, Autumn was	49·9
,, ,, Winter was	37·6
,, ,, the Year was	47·6

By taking the difference between the mean temperature for the year, and the mean temperature at each even hour for the year, as contained in the last column of the above table, the following results are deduced:—

	h		°
The mean temperature at	14	was below the mean temperature of the year by	3·7
,,	16	,, ,,	4·3
,,	18	,, ,,	4·2
,,	20	,, ,,	2·3
,,	22	was above the mean temperature of the year by	1·0
,,	0	,, ,,	4·2
,,	2	,, ,,	5·7
,,	4	,, ,,	5·1
,,	6	,, ,,	2·9
,,	8	,, ,,	0·2
,,	10	was below the mean temperature of the year by	1·8
,,	12	,, ,,	2·9

The mean temperature from all the observations at 8h is higher by 0°·2 than the mean for the year; in the year 1844 it was 0°·4 higher than the mean for the year; in the years 1842 and 1843 it was 0°·2 higher in each year; and in 1841 it was the same as the mean for the year. If, therefore, this element were to be determined by an isolated observation daily, the hour indicated as most advantageous is 8h, and the mean correction from five years' observations is, 0°·2 to be subtracted. If the mean temperature be determined from two observations taken daily, the hours, as shewn above, are 16h and 0h, the mean requiring to be increased by 0°·05; or 6h and 12h, the mean being the same as that for the year. The same element as deduced from the observed temperature at 22h and 10h, as exhibited above, is 0°·40 too low; in 1841 it was 0°·25 too low; in 1842 it was 0°·20 too low; in 1843 it was 0°·25 too low; and in 1844 it was 0°·30 too low; therefore, from the five years' observations, the correction to the mean of observations taken at 22h and 10h is 0°·28 to be added.

TABLE XXI.—Excess of the Monthly Mean Temperature at each Even Hour, above the Mean Temperature for the Month.

1845, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	−1·3	−2·0	−2·8	−5·6	−4·6	−6·8	−5·2	−5·1	−4·4	−3·6	−2·1	−1·4
16	−2·0	−2·7	−3·2	−6·2	−5·1	−7·8	−5·9	−5·8	−5·7	−3·4	−2·3	−1·7
18	−1·9	−2·1	−3·0	−6·7	−4·9	−6·9	−5·3	−5·7	−5·9	−3·7	−2·6	−1·6
20	−1·9	−2·3	−2·4	−3·6	−1·6	−1·8	−1·3	−2·0	−3·4	−2·6	−2·4	−1·8
22	−0·9	−0·4	+0·7	+1·1	+2·0	+2·6	+2·4	+2·7	+2·0	+0·9	−0·1	−0·8
0	+1·8	+2·5	+3·5	+6·3	+4·9	+6·3	+5·6	+5·3	+5·1	+4·7	+3·3	+1·5
2	+2·9	+3·8	+4·9	+8·5	+6·3	+7·7	+6·7	+6·9	+6·8	+6·1	+4·9	+2·8
4	+2·4	+3·4	+4·4	+7·0	+5·8	+8·2	+6·3	+6·4	+6·3	+5·4	+3·6	+2·1
6	+1·0	+1·6	+2·6	+5·2	+3·7	+5·5	+4·2	+4·5	+3·8	+1·6	+1·2	+0·5
8	+0·3	0·0	−0·2	+0·4	+0·4	+1·4	+0·3	+0·2	+0·3	−0·6	−0·1	+0·2
10	+0·2	−0·8	−1·8	−2·5	−2·4	−2·9	−3·0	−2·9	−1·3	−1·9	−1·1	−0·1
12	−0·4	−0·8	−2·8	−4·2	−4·1	−5·2	−4·5	−4·2	−3·1	−2·6	−1·9	−0·4

TABLE XXII.—Abstract of the Results of the Observations of Radiation.

1845, 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.	1845, 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	47·3	28·9	July	90·3	47·3
February	47·7	21·3	August.........	(91·7)	45·6
March	55·6	26·7	September	81·3	42·4
April	73·7	35·1	October	69·0	39·7
May...........	75·0	38·4	November	58·9	35·8
June...........	93·1	48·1	December.......	49·5	31·6

The mean of all the observations of the thermometer whose bulb was in the full rays of the Sun is 67°·4; and the mean of all the observations of the other thermometer is 36°·7. The mean for the same time of all the observations of the maximum temperature is 56°·2; and that for the minimum temperature is 41°·5.

The number in August within a parenthesis depends on five observations only, and therefore it has not been used in deducing the preceding results.

TABLE XXIII.—Mean Daily Temperature of Evaporation, as deduced from the Mean of the Twelve Observations of the Wet-bulb Thermometer, taken on every Civil Day (except Sundays, Good Friday, and Christmas Day) at the Even Hours of Göttingen Mean Time, corrected by 0°·2, being the difference between the Readings of the Dry and Wet-bulb Thermometers, when under the same circumstances.

Days of the Month, 1845.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	37·2	30·2	31·1	37·7	52·4	*S*	56·9	55·0	55·6	49·6	43·3	43·6
2	33·0	*S*	*S*	40·9	49·3	58·3	55·8	55·6	54·0	58·8	*S*	43·8
3	32·8	35·2	32·9	44·8	46·9	57·6	63·2	*S*	52·1	60·4	39·6	36·9
4	39·9	34·6	26·2	44·0	*S*	50·9	57·0	58·1	49·8	52·4	35·4	37·0
5	*S*	35·8	25·7	38·4	42·2	56·0	57·9	59·6	49·7	*S*	43·6	43·6
6	44·3	31·4	23·9	*S*	41·2	56·5	*S*	57·7	50·8	44·0	50·8	38·4
7	43·3	27·8	30·2	36·7	41·3	56·3	65·6	55·5	*S*	47·9	50·4	*S*
8	32·8	28·0	31·3	38·2	41·8	*S*	58·0	55·3	52·2	48·2	51·6	38·1
9	32·3	*S*	*S*	36·8	44·3	54·2	55·9	57·1	52·9	45·6	*S*	43·1
10	38·7	28·8	35·7	38·1	44·2	55·9	56·4	*S*	54·6	45·6	46·9	36·9

The letter *S* denotes that the day was Sunday.

TABLE XXIII—*continued.*

Days of the Month, 1845.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
11	46·0	23·9	32·6	38·3	*S*	57·9	56·5	56·0	53·7	48·1	45·2	41·4
12	*S*	18·7	29·6	39·8	46·3	62·2	50·8	55·3	54·5	*S*	45·0	35·2
13	41·5	29·4	21·1	*S*	46·3	65·4	*S*	53·4	52·8	50·1	41·3	31·2
14	40·6	35·6	21·9	42·0	47·2	65·5	55·6	52·4	*S*	49·2	41·8	*S*
15	39·9	32·5	25·8	40·3	48·4	*S*	51·7	52·0	49·5	50·6	44·0	44·1
16	40·7	*S*	*S*	41·6	50·5	63·6	53·5	49·6	54·4	50·2	*S*	43·1
17	37·0	31·9	27·0	43·5	47·5	62·6	58·5	*S*	60·4	48·8	42·6	43·6
18	40·1	32·4	28·8	41·8	*S*	57·9	59·0	54·3	56·5	52·4	47·9	44·9
19	*S*	28·7	32·4	44·9	43·9	55·2	58·0	56·1	48·6	*S*	50·4	39·0
20	36·2	25·1	30·6	*S*	44·1	58·3	*S*	52·0	50·5	47·9	45·0	37·0
21	33·1	29·9	Good Friday	44·6	44·8	58·5	59·7	51·8	*S*	42·9	40·9	*S*
22	37·6	30·9	42·0	45·1	46·3	*S*	60·6	52·3	50·0	44·7	37·1	35·0
23	42·8	*S*	*S*	47·1	45·7	54·5	55·5	54·4	45·0	42·8	*S*	37·4
24	40·0	35·5	43·2	48·7	46·7	57·4	54·5	*S*	41·8	41·1	34·0	34·9
25	40·2	35·3	42·7	51·5	*S*	53·7	58·1	56·4	50·5	42·4	40·1	Christ. Day.
26	*S*	40·8	43·5	50·6	48·5	53·7	58·9	56·0	48·1	*S*	49·0	44·4
27	35·6	38·2	48·3	*S*	51·3	54·8	*S*	53·3	52·2	44·2	49·0	40·0
28	32·8	33·1	45·5	50·7	54·3	55·4	54·1	55·1	*S*	49·2	47·8	*S*
29	30·5		40·7	51·6	51·0	*S*	51·9	54·0	47·8	47·1	47·2	37·8
30	29·8		*S*	52·6	51·4	56·0	53·1	54·1	51·1	51·8	*S*	47·3
31	30·3		42·0		50·8		54·2	*S*		48·7		41·6

The letter *S* denotes that the day was Sunday.

Taking the difference between the numbers contained in this table and the numbers contained in Table XIV., the next table is formed.

TABLE XXIV.—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, 1845.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	0·6	1·2	2·1	1·2	4·1	*S*	3·0	3·3	1·9	2·0	1·1	2·4
2	1·8	*S*	*S*	2·1	4·0	4·5	2·3	1·0	2·3	1·0	*S*	1·9
3	1·9	0·6	0·5	5·4	3·8	3·0	4·2	*S*	2·6	1·1	1·4	1·2
4	0·8	1·4	1·0	4·3	*S*	2·0	4·4	2·4	2·6	2·6	1·3	1·5
5	*S*	1·6	0·6	2·6	2·7	2·5	4·4	1·9	3·4	*S*	2·0	2·3
6	1·1	2·4	0·6	*S*	2·1	2·8	*S*	3·0	3·0	0·6	2·5	1·7
7	0·7	0·8	1·3	3·7	1·3	1·6	6·0	1·5	*S*	1·0	2·5	*S*
8	0·2	0·9	1·4	2·7	1·3	*S*	4·4	3·2	2·2	1·4	2·3	1·0
9	0·1	*S*	*S*	1·8	2·2	2·5	4·5	1·8	3·5	0·6	*S*	1·9
10	1·2	0·4	1·4	2·1	2·3	4·4	1·4	*S*	2·0	1·4	1·0	1·6
11	0·8	0·6	2·1	1·5	*S*	4·8	1·6	2·0	2·1	1·0	0·5	2·7
12	*S*	0·5	1·0	2·9	2·9	4·1	4·4	2·1	2·5	*S*	1·0	2·0
13	0·9	0·9	1·0	*S*	3·6	3·1	*S*	2·2	1·9	2·4	0·9	0·1
14	0·4	1·9	1·3	2·9	3·6	4·3	3·1	2·8	*S*	3·0	0·3	*S*
15	0·8	2·4	1·0	1·4	2·9	*S*	3·3	2·7	0·8	3·1	0·5	2·7
16	1·0	*S*	*S*	1·6	2·1	2·7	4·5	2·9	0·7	2·4	*S*	3·2
17	0·9	1·6	1·5	3·8	2·1	2·0	3·0	*S*	1·2	2·0	1·7	1·2
18	0·9	1·6	1·5	2·8	*S*	1·3	3·8	3·1	1·2	2·9	1·6	0·2
19	*S*	0·5	1·9	3·0	3·2	3·9	3·7	0·8	3·8	*S*	1·4	1·2
20	1·6	1·1	2·2	*S*	2·5	3·4	*S*	3·4	2·5	3·4	1·9	1·5
21	1·4	1·9	Good Friday	2·0	1·4	3·7	2·1	3·5	*S*	3·0	1·2	*S*
22	0·8	0·8	0·8	3·1	2·8	*S*	2·8	3·6	2·8	2·3	1·2	1·2
23	0·6	*S*	*S*	3·9	2·3	5·3	0·9	3·5	2·1	2·7	*S*	2·4
24	1·8	2·0	2·2	3·9	1·5	2·7	2·2	*S*	2·5	1·6	1·8	1·0
25	1·0	1·5	1·7	4·2	*S*	4·4	2·0	2·8	1·2	0·7	1·1	Christ. Day.
26	*S*	2·8	3·1	2·8	1·2	4·9	2·6	3·4	2·8	*S*	1·6	1·3
27	2·1	1·4	2·8	*S*	2·5	1·3	*S*	2·4	1·2	2·2	2·2	3·0
28	0·5	1·3	3·7	2·2	1·2	1·9	2·2	2·6	*S*	1·2	1·8	*S*
29	0·5		4·3	3·5	0·4	*S*	2·8	3·0	1·5	2·1	0·9	1·3
30	0·4		*S*	1·5	2·6	2·9	2·2	2·8	1·0	0·6	*S*	2·5
31	0·7		4·4		3·4		2·6	*S*		1·7		1·2

The letter *S* denotes that the day was Sunday.

The greatest observed excesses, and the greatest mean daily excesses, of the reading of the Dry-bulb Thermometer above that of the Wet-bulb Thermometer are as follows:—

In January,	greatest observed excess	5°·6	on the 26th day;	greatest mean daily excess	2°·1	on the	27th day.
February	,,	6·3	,, 26th	,,	2·8	,,	26th day.
March	,,	8·9	,, 31st	,,	4·4	,,	31st day.
April	,,	13·4	,, 6th	,,	5·4	,,	3rd day.
May	,,	8·8	,, 3rd	,,	4·1	,,	1st day.
June	,,	10·9	,, 2nd	,,	5·3	,,	23rd day.
July	,,	12·7	,, 7th	,,	6·0	,,	7th day.
August	,,	8·6	,, 6th	,,	3·6	,,	22nd day.
September	,,	8·6	,, 9th	,,	3·8	,,	19th day.
October	,,	8·5	,, 15th and 20th	,,	3·4	,,	20th day.
November	,,	6·1	,, 6th	,,	2·5	,,	6th and 7th day.
December	,,	6·0	,, 16th	,,	3·0	,,	27th day.

TABLE XXV.—Mean Monthly Temperature of Evaporation, at every Even Hour of Göttingen Mean Time, deduced from all the Observations taken at that Hour in each Month. (The difference 0°·2 between the readings of the Dry and Wet Thermometers when under the same circumstances has been applied.)

1845, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	36·2	30·0	31·6	39·8	44·0	53·2	53·4	51·3	48·4	45·8	42·5	38·8
16	35·6	29·8	31·4	39·2	43·5	52·3	53·0	50·8	47·4	46·1	42·4	38 6
18	35·7	29·7	31·3	38·8	43·6	53·0	53·7	50·9	47·2	46·0	42·4	38·7
20	35·7	29·6	31·9	41·4	46·2	56·9	56·7	53·9	49·3	46·8	42·6	38·7
22	36·7	30·9	34·1	44·7	48·6	59·5	58·7	56·8	53·0	49·6	44·1	39·4
0	39·0	33·2	35·8	47·6	50·2	61·6	60·1	58·4	54·9	51·7	47·2	41·2
2	39·6	34·0	36·6	48·5	50·9	62·4	60·7	59·1	56·0	51·8	48·0	41·9
4	39·3	34·0	36·1	48·3	50·4	62·2	60·2	58·5	55·5	51·3	47·3	41·5
6	38·2	32·8	35·0	46·7	49·3	60·8	58·8	57·2	54·2	49·3	45·4	40·4
8	37·8	31·4	33·2	43·9	47·3	58·2	56·7	54·7	52·0	48·0	44·2	40·3
10	37·5	30·9	32·3	41·9	45·5	55·7	54·7	52·9	50·8	47·2	43·5	40·2
12	37·1	30·5	31·5	40·9	44·3	54·2	53·7	51·9	49·6	46·7	42·9	39·8

By taking the differences between the numbers contained in this table and those contained in Table XIX., the next table is formed.

TABLE XXVI.—True Difference between the Mean Temperature of the Air as shewn by the Dry-bulb Thermometer, and the Mean Temperature of Evaporation, as shewn by the corrected Readings of the Wet-bulb Thermometer at every Even Hour of Göttingen Mean Time in each Month.

1845, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	0·8	0·7	0·8	0·9	0·8	0·7	1·2	0·9	0·8	0·8	1·2	1·5
16	0·7	0·7	0·6	0·9	0·8	0·6	0·9	0·7	0·5	0·7	1·1	1·4
18	0·7	0·9	0·9	0·8	0·9	0·8	0·8	0·7	0·5	0·5	0·8	1·4
20	0·7	0·8	0·9	1·3	1·6	2·0	1·8	1·4	0·9	0·8	0·8	1·2
22	0·7	1·4	1·8	2·7	2·8	3·8	3·5	3·2	2·6	1·5	1·6	1·5
0	1·1	2·0	2·9	5·0	4·1	5·4	5·3	4·2	3·8	3·2	1·9	2·0
2	1·6	2·5	3·5	6·3	4·8	6·0	5·8	5·1	4·4	4·5	2·7	2·6
4	1·4	2·4	3·5	5·0	4·8	6·7	5·9	5·2	4·4	4·3	2·1	2·3
6	1·1	1·5	2·8	4·8	3·8	5·4	5·2	4·6	3·2	2·5	1·6	1·8
8	0·8	1·3	1·8	2·8	2·5	3·9	3·4	2·8	1·9	1·6	1·5	1·6
10	1·0	1·0	1·1	1·9	1·5	2·1	2·1	1·5	1·5	1·1	1·2	1·4
12	0·8	1·4	0·9	1·2	1·0	1·3	1·6	1·2	0·9	0·9	1·0	1·5

For every even-hour observation, the temperature of the dew-point was calculated from the simultaneous readings of the dry and wet-bulb thermometers. The means of the twelve temperatures of the dew-point thus deduced every day have been taken, and in this way the following table has been formed.

TABLE XXVII.—Mean Daily Temperature of the Dew-Point, on every Civil Day (except Sundays, Good Friday, and Christmas Day), as deduced from the Air-Temperature and the Evaporation-Temperature.

Days of the Month, 1845.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	36·4	26·9	26·8	36·0	49·3	*S*	54·7	52·3	54·1	47·7	42·0	40·8
2	30·1	*S*	*S*	38·5	45·7	55·0	54·0	54·8	52·0	57·9	*S*	41·7
3	29·3	34·2	31·4	40·5	43·5	55·5	60·4	*S*	49·8	59·6	38·1	35·1
4	38·9	32·5	21·5	40·1	*S*	49·1	53·8	56·3	47·5	50·2	32·8	34·6
5	*S*	33·6	23·0	35·3	39·2	54·0	55·1	58·1	46·8	*S*	41·4	41·1
6	43·1	27·5	20·7	*S*	38·8	54·2	*S*	55·5	48·2	43·2	48·6	35·9
7	42·5	24·4	27·1	31·8	39·7	54·9	61·8	54·2	*S*	46·8	48·0	*S*
8	32·3	25·2	28·8	35·0	40·2	*S*	54·8	52·8	50·5	46·8	49·3	36·2
9	32·0	*S*	*S*	34·4	42·1	52·2	52·5	55·6	50·4	45·0	*S*	40·7
10	37·3	27·3	33·8	35·4	41·7	52·7	55·3	*S*	53·0	44·2	45·9	34·6
11	45·0	20·4	29·3	36·4	*S*	54·8	55·2	54·5	51·9	47·2	44·7	37·8
12	*S*	15·2	27·3	36·2	43·3	59·6	46·9	53·5	52·4	*S*	43·9	32·2
13	40·3	26·6	14·6	*S*	42·6	63·5	*S*	51·5	51·1	47·9	40·3	30·2
14	40·1	32·9	15·9	38·8	44·0	62·6	53·2	50·0	*S*	46·6	41·4	*S*
15	38·9	28·2	21·6	38·6	45·8	*S*	48·9	49·6	48·7	47·8	43·4	41·1
16	39·2	*S*	*S*	39·7	48·5	61·8	50·1	46·9	53·7	47·9	*S*	39·5
17	35·7	29·0	22·9	40·1	45·2	61·2	56·4	*S*	59·4	46·9	40·5	42·2
18	38·9	29·6	25·6	38·8	*S*	56·7	56·4	51·8	55·5	50·0	46·2	44·6
19	*S*	26·4	29·5	42·1	40·5	53·8	55·4	55·3	45·3	*S*	49·0	37·2
20	34·0	20·0	26·5	*S*	41·5	56·0	*S*	49·0	48·4	44·8	42·9	34·8
21	30·7	25·3	Good Friday.	41·2	43·2	55·9	58·4	48·8	*S*	39·5	39·5	*S*
22	36·4	28·6	41·0	42·4	43·7	*S*	58·6	49·7	47·6	42·4	35·5	32·5
23	42·1	*S*	*S*	43·8	43·5	50·5	55·0	51·6	42·8	39·7	*S*	34·2
24	37·8	32·8	40·7	45·5	45·2	55·4	52·8	*S*	39·1	39·5	31·0	33·4
25	38·9	32·8	40·9	47·9	*S*	50·1	56·4	54·3	49·3	41·6	38·6	Christ. Day.
26	*S*	37·6	40·2	48·0	47·3	49·8	56·9	53·5	45·5	*S*	47·3	42·9
27	32·6	36·5	45·8	*S*	49·4	53·7	*S*	51·3	51·2	42·6	46·6	36·1
28	31·9	31·5	41·4	48·9	53·3	53·7	52·3	53·1	*S*	47·2	45·9	*S*
29	29·2		35·7	48·5	50·6	*S*	49·6	51·7	46·5	44·8	46·3	35·8
30	28·6		*S*	51·2	49·2	53·8	51·4	52·0	50·2	51·1	*S*	44·5
31	28·6		37·4		47·9		52·2	*S*		46·8		39·9

The letter *S* denotes that the day was Sunday.

The mean daily temperature of the dew-point was,

In January, the highest on the	11th day;	and the lowest on the	30th and 31st days.
February	„	26th	„	20th day.
March	„	27th	„	13th day.
April	„	30th	„	7th day.
May	„	28th	„	6th day.
June	„	13th	„	4th day.
July	„	7th	„	12th day.
August	„	5th	„	16th day.
September	„	17th	„	24th day.
October	„	3rd	„	21st and 24th days.
November	„	8th	„	24th day.
December	„	18th	„	13th.

The highest mean daily temperature of the dew-point during the year 1845 was 63°·5 on the 13th of June, and the lowest was 14°·6 on the 13th of March.

By taking the differences between the numbers contained in this table and those contained in Table XIV. the next table is formed.

TABLE XXVIII.—True Difference between the Mean Daily Temperature of the Air and the Mean Daily Temperature of the deduced Dew-Point.

Days of the Month, 1845.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1	1·4	4·5	6·4	2·9	7·2	S	5·2	6·0	3·4	3·9	2·4	5·2
2	4·7	S	S	4·5	7·6	7·8	4·1	1·8	4·3	1·9	S	4·0
3	5·4	1·6	2·0	9·7	7·2	5·1	7·0	S	4·9	1·9	2·9	3·0
4	1·8	3·5	5·7	8·2	S	3·8	7·6	4·2	4·9	4·8	3·9	3·9
5	S	3·8	3·3	5·7	5·7	4·5	7·2	3·4	6·3	S	4·2	4·8
6	2·3	6·3	3·8	S	4·5	5·1	S	5·2	5·6	1·4	4·7	4·2
7	1·5	4·2	4·4	8·6	2·9	3·0	9·8	2·8	S	2·1	4·9	S
8	0·7	3·7	3·9	5·9	2·9	S	7·6	5·7	3·9	2·8	4·6	2·9
9	0·4	S	S	4·2	4·4	4·5	7·9	3·3	5·9	1·2	S	4·3
10	2·6	1·9	3·3	4·8	4·8	7·6	2·5	S	3·6	2·8	2·0	3·9
11	1·8	4·1	5·4	3·4	S	7·9	2·9	3·5	3·9	1·9	1·0	6·3
12	S	4·0	3·3	6·5	5·9	6·7	8·3	3·9	4·6	S	2·1	5·0
13	2·1	3·7	7·5	S	7·3	5·0	S	4·1	3·6	4·6	1·9	1·1
14	0·9	4·6	7·3	6·1	6·8	7·2	5·5	5·2	S	5·6	0·7	S
15	1·8	6·7	5·2	3·1	5·5	S	6·1	5·1	1·6	5·9	1·1	5·7
16	2·5	S	S	3·5	4·1	4·5	7·9	5·6	1·4	4·7	S	6·8
17	2·2	4·5	5·6	7·2	4·4	3·4	5·1	S	2·2	3·9	3·8	2·6
18	2·1	4·4	4·7	5·8	S	2·5	6·4	5·6	2·2	5·3	3·3	0·5
19	S	2·8	4·8	5·8	6·6	5·3	6·3	1·6	7·1	S	2·8	3·0
20	3·8	6·2	6·3	S	5·1	5·7	S	6·4	4·6	6·5	4·0	3·7
21	3·8	6·5	Good Friday.	5·4	3·0	6·3	3·4	6·5	S	6·4	2·6	S
22	2·0	3·1	1·8	5·8	5·4	S	4·8	6·2	5·2	4·6	2·8	3·7
23	1·3	S	S	7·3	4·5	9·3	1·4	6·3	4·3	5·8	S	5·6
24	4·0	4·7	4·7	7·1	3·0	4·7	3·9	S	5·2	3·2	4·8	2·5
25	2·3	4·0	3·5	7·8	S	8·0	3·7	4·9	2·4	1·5	2·6	Christ. Day.
26	S	6·0	6·4	4·6	2·4	8·8	4·6	5·9	5·4	S	3·3	2·8
27	5·1	3·1	5·3	S	4·4	2·4	S	4·4	2·2	3·8	4·6	6·9
28	1·4	2·9	7·8	4·0	2·2	3·6	4·0	4·6	S	3·2	3·7	S
29	1·8		9·3	6·6	0·8	S	5·1	5·3	2·8	4·5	1·8	3·3
30	1·6		S	2·9	4·8	5·1	3·9	4·9	1·9	1·3	S	5·3
31	2·4		9·0		6·3		4·6	S		3·6		2·9

The mean daily depression of the temperature of the dew-point below that of the air was,

In January,	the greatest on the	3rd day,	and the least on the	9th.
February	,,	15th	,,	3rd.
March	,,	29th	,,	22nd.
April	,,	3rd	,,	1st and 30th.
May	,,	2nd	,,	29th.
June	,,	23rd	,,	27th.
July	,,	7th	,,	23rd.
August	,,	21st	,,	19th.
September	,,	19th	,,	16th.
October	,,	20th	,,	9th.
November	,,	7th	,,	14th.
December	,,	27th	,,	18th.

The greatest monthly deduced excess was	11°·5	on the	3rd of January.
,,	13·2	,,	26th of February.
,,	16·8	,,	31st of March.
,,	20·9	,,	3rd of April.
,,	17·4	,,	12th of May.
,,	18·5	,,	2nd of June.
,,	20·3	,,	7th of July.
,,	14·1	,,	22nd of August.
,,	15·3	,,	26th of September.
,,	15·3	,,	15th and 20th of October.
,,	11·0	,,	6th of November.
,,	12·0	,,	16th of December.

The greatest deduced excess in the year was 20°·9 on the 3rd of April.

TABLE XXIX.—Mean Temperature of the deduced Dew-Point at every Even Hour of Göttingen Mean Time in each Month.

1845, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	35·0	27·5	29·5	38·5	42·9	52·5	52·4	50·4	47·5	44·8	41·0	36·6
16	34·3	27·3	29·6	37·9	42·5	51·8	52·2	50·1	46·8	45·3	41·0	36·4
18	34·4	27·0	29·1	37·5	42·7	52·3	52·9	50·3	46·6	45·2	41·3	36·5
20	34·6	27·3	29·4	39·8	44·6	55·4	55·2	52·6	48·2	45·8	41·5	36·7
22	35·5	27·9	30·2	41·9	45·8	56·6	56·1	54·3	50·7	48·0	43·1	37·3
0	37·4	29·6	30·7	43·1	46·5	57·9	56·3	55·2	51·8	48·4	45·4	38·7
2	37·5	30·0	31·6	42·9	46·7	58·4	56·7	55·2	52·6	47·8	45·2	38·8
4	37·5	30·3	30·8	43·2	46·2	58·4	56·1	54·7	52·0	47·8	45·1	38·6
6	36·6	29·9	30·7	42·3	45·8	57·1	55·2	53·7	51·6	47·1	43·5	38·1
8	36·7	28·8	29·7	40·8	44·8	55·3	54·2	52·3	50·1	46·4	42·5	38·2
10	36·1	28·3	29·6	39·7	43·9	53·9	52·8	51·6	49·4	46·0	41·9	38·2
12	35·7	28·5	29·1	39·4	43·1	53·1	52·3	50·8	48·6	45·7	41·6	37·8

By taking the means of the numbers in each column the next table is formed.

TABLE XXX.—Mean Temperature of the deduced Dew-Point in each Month, deduced from the Mean of all the Two-hourly Results of the Observations in each Month.

1845, Month.	Mean Temperature of the Dew Point.	1845, Month.	Mean Temperature of the Dew Point.
	°		°
January	35·9	July	54·4
February	28·5	August...........	52·6
March	30·0	September........	49·7
April	40·6	October	46·5
May.............	44·6	November	42·8
June.............	55·2	December.........	37·7

The mean of all the monthly results is 43°·2.

From the numbers in Table XXIX., the next table is formed, Spring, Summer, Autumn, and Winter, being defined as before.

TABLE XXXI.—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.	1845.				
	Spring.	Summer.	Autumn.	Winter.	For the Year.
h	°	°	°	°	°
14	37·0	51·8	44·4	33·0	41·6
16	36·7	51·4	44·4	32·7	41·3
18	36·4	51·8	44·4	32·6	41·3
20	37·9	54·4	45·2	32·9	42·6
22	39·3	55·7	47·3	33·6	44·0
0	40·1	56·5	48·5	35·2	45·1
2	40·4	56·8	48·5	35·4	45·3
4	40·1	56·4	48·3	35·5	45·1
6	39·6	55·3	47·4	34·9	44·3
8	38·4	53·9	46·3	34·6	43·3
10	37·7	52·8	45·8	34·2	42·6
12	37·2	52·1	45·3	34·0	42·2

From this table it appears that in Spring the maximum took place at 2^h and the minimum at 18^h
Summer ,, 2 ,, 16
Autumn ,, 0^h and 2^h ,, 14, 16^h, and 18^h.
Winter ,, 4 ,, 18
for the Year ,, 2 ,, 16 and 18^h.

The difference between the maximum and minimum in Spring was 4°·0
" " Summer was 5°·4
" " Autumn was 4°·1
" " Winter was 2°·9
" " for the Year was 4°·0

The mean temperature of the dew-point for Spring was 38°·4
" Summer was 54°·1
" Autumn was 46°·3

The mean temperature of the dew-point for Winter was 34°·1
" the Year was 43°·2

And the mean temperature of the dew-point at 8^h was, in every period, nearly the mean for that period.

By taking the differences between the numbers in Table XXIX. and in Table XIX., the next table is formed.

TABLE XXXII.—Difference between the Mean Daily Temperature of the Air and the Mean Daily Temperature of the deduced Dew-Point, at every Even Hour of Göttingen Mean Time in each Month.

1845, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	2·0	3·2	2·9	2·2	1·9	1·4	2·2	1·8	1·7	1·8	2·7	3·7
16	2·0	3·2	2·4	2·2	1·8	1·1	1·7	1·4	1·1	1·5	2·5	3·6
18	2·0	3·6	3·1	2·1	1·8	1·5	1·6	1·3	1·1	1·3	1·9	3·6
20	1·8	3·1	3·4	2·9	3·2	3·5	3·3	2·7	2·0	1·8	1·9	3·2
22	1·9	4·4	5·7	5·5	5·6	6·7	6·1	5·7	4·9	3·1	2·6	3·6
0	2·7	5·6	8·0	9·5	7·8	9·1	9·1	7·4	6·9	6·5	3·7	4·5
2	3·7	6·5	8·5	11·9	9·0	10·0	9·8	9·0	7·8	8·5	5·5	5·7
4	3·2	6·1	8·8	10·1	9·0	10·5	10·0	9·0	7·9	7·8	4·3	5·2
6	2·7	4·4	7·1	9·2	7·3	9·1	8·8	8·1	5·8	4·7	3·5	4·1
8	1·9	3·9	5·3	5·9	5·0	6·8	6·1	5·2	3·8	3·2	3·2	3·7
10	2·4	3·6	3·8	4·1	3·1	3·9	4·0	2·8	2·9	2·3	2·8	3·4
12	2·2	3·4	3·3	2·7	2·2	2·4	3·0	2·3	1·9	1·9	2·3	3·5

TABLE XXXIII.—Mean Daily Elastic Force of Vapour for every Civil Day in the Year, except Sundays, Good Friday, and Christmas Day.

Days of the Month, 1845.	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	0·233	0·166	0·165	0·230	0·365	*S*	0·438	0·404	0·429	0·345	0·283	0·272
2	0·186	*S*	*S*	0·251	0·322	0·442	0·428	0·440	0·400	0·488	*S*	0·281
3	0·181	0·216	0·195	0·269	0·299	0·450	0·530	*S*	0·371	0·516	0·247	0·223
4	0·254	0·203	0·137	0·265	*S*	0·362	0·425	0·462	0·343	0·376	0·205	0·219
5	*S*	0·211	0·144	0·224	0·257	0·428	0·444	0·491	0·335	*S*	0·278	0·275
6	0·295	0·170	0·133	*S*	0·253	0·431	*S*	0·450	0·351	0·296	0·356	0·229
7	0·288	0·152	0·167	0·198	0·262	0·441	0·555	0·431	*S*	0·335	0·349	*S*
8	0·201	0·156	0·178	0·222	0·266	*S*	0·440	0·411	0·380	0·335	0·365	0·231
9	0·199	*S*	*S*	0·217	0·284	0·402	0·407	0·452	0·380	0·315	*S*	0·271
10	0·240	0·168	0·213	0·225	0·281	0·409	0·447	*S*	0·414	0·306	0·324	0·219
11	0·315	0·131	0·181	0·233	*S*	0·440	0·445	0·435	0·398	0·339	0·311	0·245
12	*S*	0·108	0·168	0·231	0·297	0·516	0·336	0·421	0·405	*S*	0·303	0·201
13	0·267	0·164	0·106	*S*	0·289	0·588	*S*	0·393	0·388	0·348	0·267	0·187
14	0·265	0·206	0·111	0·253	0·304	0·570	0·416	0·373	*S*	0·332	0·278	*S*
15	0·254	0·174	0·137	0·252	0·323	*S*	0·360	0·368	0·357	0·346	0·298	0·275
16	0·257	*S*	*S*	0·262	0·355	0·555	0·375	0·336	0·423	0·348	*S*	0·260
17	0·227	0·179	0·144	0·265	0·317	0·544	0·464	*S*	0·513	0·336	0·269	0·285
18	0·254	0·183	0·158	0·253	*S*	0·469	0·464	0·397	0·450	0·373	0·328	0·310
19	*S*	0·163	0·182	0·284	0·269	0·425	0·449	0·447	0·368	*S*	0·361	0·240
20	0·214	0·129	0·164	*S*	0·279	0·458	*S*	0·361	0·354	0·312	0·292	0·220
21	0·190	0·157	Good Friday	0·276	0·296	0·456	0·496	0·358	*S*	0·260	0·260	*S*
22	0·233	0·177	0·274	0·287	0·301	*S*	0·499	0·370	0·344	0·287	0·226	0·203
23	0·284	*S*	*S*	0·302	0·299	0·380	0·442	0·394	·291	0·262	*S*	0·216
24	0·245	0·205	0·271	0·320	0·317	0·449	0·411	*S*	0·256	0·260	0·192	0·210
25	0·254	0·205	0·273	0·348	*S*	0·375	0·464	0·432	0·365	0·280	0·252	Christ. Day.
26	*S*	0·243	0·266	0·358	0·340	0·371	0·472	0·421	0·320	*S*	0·340	0·292
27	0·204	0·234	0·323	*S*	0·366	0·423	*S*	0·390	0·389	0·289	0·332	0·231
28	0·198	0·196	0·278	0·360	0·418	0·423	0·404	0·415	*S*	0·339	0·324	*S*
29	0·180		0·227	0·355	0·381	*S*	0·368	0·396	0·331	0·312	0·329	0·228
30	0·177		*S*	0·389	0·363	0·425	0·392	0·400	0·376	0·388	*S*	0·309
31	0·177		0·241		0·348		0·402	*S*		0·335		0·263

The letter *S* denotes that the day was Sunday.

The mean daily elastic force of vapour was—

In January	the greatest on the	11th,	and the least on the	30th and 31st.
February	„	26th	„	12th.
March	„	27th	„	13th.
April	„	30th	„	7th.
May	„	28th	„	6th.
June	„	13th	„	4th.
July	„	7th	„	12th.
August	„	5th	„	16th.
September	„	17th	„	24th.
October	„	3rd	„	21st and 24th.
November	„	8th	„	24th.
December	„	18th	„	13th.

The mean elastic force of vapour was greater on June 13^{d} than on any other day in the year, being 0^{in}·588; and it was less on March 13^{d} than on any other day, being 0^{in}·106.

TABLE XXXIV.—Mean Elastic Force of Vapour at every Even Hour of Göttingen Mean Time in each Month.

1845, 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	0·222	0·170	0·182	0·251	0·292	0·407	0·405	0·379	0·343	0·312	0·274	0·235
16	0·216	0·168	0·183	0·246	0·288	0·397	0·402	0·375	0·335	0·318	0·274	0·233
18	0·217	0·167	0·180	0·242	0·290	0·404	0·412	0·377	0·332	0·317	0·277	0·234
20	0·219	0·168	0·182	0·263	0·310	0·449	0·445	0·408	0·351	0·323	0·279	0·235
22	0·226	0·172	0·187	0·282	0·323	0·467	0·459	0·432	0·382	0·349	0·295	0·240
0	0·241	0·183	0·190	0·295	0·331	0·488	0·462	0·445	0·397	0·354	0·319	0·253
2	0·242	0·186	0·197	0·292	0·333	0·496	0·469	0·445	0·408	0·346	0·317	0·253
4	0·242	0·188	0·191	0·296	0·328	0·496	0·459	0·438	0·400	0·346	0·316	0·252
6	0·235	0·185	0·190	0·286	0·323	0·475	0·445	0·423	0·394	0·338	0·299	0·247
8	0·235	0·178	0·184	0·272	0·312	0·447	0·431	0·404	0·375	0·330	0·288	0·248
10	0·231	0·175	0·183	0·262	0·303	0·426	0·411	0·394	0·366	0·326	0·282	0·248
12	0·227	0·176	0·180	0·259	0·295	0·415	0·404	0·383	0·356	0·322	0·280	0·245

The hours in each month, at which the force exceeded the mean force for the month, were—

	h	h	h	h	h	h	h	h
In January			0,	2,	4,	6,	8, and 10.	
February			0,	2,	4,	6, and 8.		
March		22,	0,	2, and 4.				
April		22,	0,	2,	4,	6, and 8.		
May		22,	0,	2,	4,	6, and 8.		
June	20,	22,	0,	2,	4, and 6.			
In July	20,	22,	0,	2,	4, and 6.			
August		22,	0,	2,	4, and 6.			
September		22,	0,	2,	4,	6, and 8.		
October		22,	0,	2,	4, and 6.			
November		22,	0,	2,	4, and 6.			
December			0,	2,	4,	6,	8,	10, and 12.

And at the remaining hours in each month the force was less than or equal to the mean force for the month.

By taking the means of the numbers in each month, the next table is formed.

TABLE XXXV.—Mean Elastic Force of Vapour in each Month, deduced from the Mean of all the Two-hourly Observations in each Month.

1845, Month.	Mean Elastic Force of Vapour.	1845, Month.	Mean Elastic Force of Vapour.
	in.		in.
January	0·229	July	0·434
February	0·176	August...........	0·409
March	0·186	September........	0·370
April	0·271	October	0·332
May.............	0·311	November	0·292
June............	0·447	December.........	0·244

The mean of all the monthly results is 0^{in}·309

From the numbers in Table XXXIV. the next table is formed, Spring, Summer, Autumn, and Winter, being defined as before.

TABLE XXXVI.—Mean Elastic Force of Vapour at every Even Hour of Gottingen Mean Time, in Quarterly Periods and for the Year.

1845, Hour Göttingen Mean Time.	Spring.	Summer.	Autumn.	Winter.	For the Year.
h	in.	in.	in.	in.	in.
14	0·242	0·397	0·310	0·209	0·289
16	0·239	0·391	0·326	0·206	0·291
18	0·237	0·398	0·309	0·206	0·288
20	0·252	0·434	0·318	0·207	0·303
22	0·264	0·453	0·342	0·213	0·318
0	0·272	0·465	0·357	0·226	0·330
2	0·274	0·470	0·357	0·227	0·333
4	0·272	0·464	0·354	0·227	0·330
6	0·266	0·448	0·344	0·222	0·320
8	0·256	0·427	0·331	0·220	0·309
10	0·249	0·410	0·325	0·218	0·301
12	0·245	0·401	0·319	0·216	0·295

From this table it appears that the force is nearly constant at all periods between 0^h and 4^h.

The maximum force has taken place in Spring at 2^h
,, ,, Summer at 2
,, ,, Autumn at 0 and 2
,, ,, Winter at 2 and 4
,, ,, for the Year at 2

The mean force in Spring was 0·256 in.
,, Summer was 0·430
,, Autumn was 0·333
,, Winter was 0·216
,, for the Year was 0·309

And the force at 14^h is less than the mean force for the whole year by 0·020 in.
,, 16 ,, ,, 0·018
,, 18 ,, ,, 0·021
,, 20 ,, ,, 0·006
,, 22 is greater than the mean force for the whole year by 0·009
,, 0 ,, ,, 0·021
,, 2 ,, ,, 0·024
,, 4 ,, ,, 0·021
,, 6 ,, ,, 0·011
,, 8 is the same as the mean for the whole year by 0·000
,, 10 is less than the mean for the whole year by 0·008
,, 12 ,, ,, 0·014

The mean elastic force of vapour at 8^h was, therefore, the same as the mean elastic force for the year 1845.

TABLE XXXVII.—Mean Weight, in Grains, of Vapour in a Cubic Foot of Air, for every Civil Day in the Year, except Sundays, Good Friday, and Christmas Day.

Days of the Month, 1845.	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	2·73	2·02	2·01	2·68	4·04	*S*	4·89	4·53	4·58	3·92	3·23	3·12
2	2·21	*S*	*S*	2·87	3·63	4·94	4·81	4·96	4·50	5·49	*S*	3·21
3	2·19	2·55	2·37	2·92	3·34	5·00	5·95	*S*	4·17	5·77	2·84	2·62
4	2·97	2·39	1·63	2·93	*S*	4·09	4·73	5·16	3·86	4·22	2·45	2·57
5	*S*	2·47	1·71	2·56	2·91	4·80	4·89	5·50	3·75	*S*	3·18	3·13
6	3·37	2·01	1·59	*S*	2·90	4·85	*S*	5·02	3·94	3·41	4·01	2·69
7	3·33	1·93	2·00	2·28	3·00	4·98	6·26	4·86	*S*	3·83	3·99	*S*
8	2·40	2·02	2·29	2·50	3·07	*S*	4·90	4·59	4·25	3·80	4·14	2·75
9	2·39	*S*	*S*	2·53	3·23	4·50	4·54	5·29	4·18	3·61	*S*	3·13

The letter *S* denotes that the day was Sunday.

TABLE XXXVII.—*continued.*

Days of the Month, 1845.	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.
10	2·76	2·01	2·49	2·59	3·20	4·55	5·02	*S*	4·64	3·50	3·70	2·55
11	3·63	1·59	2·15	2·78	*S*	4·84	5·01	4·88	4·49	3·85	3·58	2·85
12	*S*	1·34	1·95	2·66	3·38	5·74	3·78	4·74	4·56	*S*	3·47	2·36
13	3·09	1·95	1·24	*S*	3·29	6·52	*S*	4·43	4·37	3·92	3·06	2·30
14	3·09	2·41	1·20	2·86	3·39	6·40	4·66	4·17	*S*	3·73	3·22	*S*
15	2·96	2·11	1·59	2·90	3·63	*S*	4·03	4·14	4·08	3·90	3·44	3·15
16	3·00	*S*	*S*	2·78	4·03	6·20	4·17	3·80	4·80	3·93	*S*	2·96
17	2·66	2·14	1·58	2·93	3·51	6·07	5·16	*S*	5·76	3·81	3·10	3·28
18	2·97	2·19	1·79	2·87	*S*	5·29	5·16	4·45	5·07	4·18	3·74	3·59
19	*S*	1·98	2·16	3·17	3·05	4·50	4·98	5·07	3·56	*S*	4·12	2·81
20	2·48	1·52	1·94	*S*	3·17	5·08	*S*	4·05	3·97	3·41	3·33	2·57
21	2·27	1·89	Good Friday.	3·31	3·39	5·09	5·30	4·02	*S*	2·96	2·99	*S*
22	2·72	2·14	3·16	3·19	3·39	*S*	5·58	4·14	3·85	3·26	2·62	2·45
23	3·29	*S*	*S*	3·35	3·37	4·22	4·96	4·40	3·32	2·98	*S*	2·49
24	2·80	2·39	3·09	3·55	3·61	5·02	4·60	*S*	2·91	2·93	2·29	2·47
25	2·96	2·42	3·12	3·90	*S*	4·21	5·22	4·64	4·16	3·22	2·94	Christ. Day.
26	*S*	2·76	3·02	3·94	3·88	4·14	5·29	4·69	3·60	*S*	3·88	3·35
27	2·38	2·70	3·64	*S*	4·08	4·66	*S*	4·38	4·39	3·22	3·80	2·66
28	2·36	2·28	3·18	4·03	4·71	4·79	4·53	4·63	*S*	3·97	3·71	*S*
29	2·14		2·59	3·99	4·36	*S*	4·11	4·41	3·75	3·56	3·68	2·68
30	2·09		*S*	4·40	4·08	4·74	4·38	4·44	4·25	4·44	*S*	3·55
31	2·09		2·70		3·90		4·48	*S*		3·84		3·05

The letter *S* denotes that the day was Sunday.

The days in each month when the mean weight was the greatest or the least, were—

In January, the	11th,	and the	30th and 31st	respectively.
February	26th	,,	12th	,,
March	27th	,,	14th	,,
April	30th	,,	7th	,,
May	28th	,,	6th	,,
June	13th	,,	4th	,,
July	7th	,,	12st	,,
August	5th	,,	21th	,,
September	17th	,,	24th	,,
October	3rd	,,	21st	,,
November	8th	,,	24th	,,
December	30th	,,	13th	,,

The mean weight of vapour in a cubic foot of air was greater on June 13^{d} than on any other day in the year, being 6·52 grains; and it was less on March 14^{d} than on any other day, being 1·20 grains.

TABLE XXXVIII.—Mean Weight, in Grains, of Vapour in a Cubic Foot of Air, at every Even Hour of Göttingen Mean Time in each Month.

1845, 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	2·61	2·07	2·01	2·93	3·40	4·62	4·57	4·32	3·93	3·60	3·16	2·75
16	2·58	2·03	2·22	2·87	3·34	4·49	4·56	4·28	3·85	3·66	3·16	2·74
18	2·57	1·99	2·17	2·83	3·33	4·57	4·67	4·29	3·83	3·68	3·21	2·76
20	2·57	1·99	2·22	3·09	3·54	5·02	5·01	4·62	4·04	3·72	3·09	2·78
22	2·67	2·06	2·29	3·20	3·68	5·03	5·15	4·85	4·31	3·99	3·27	2·80
0	2·82	2·20	2·28	3·28	3·73	5·50	5·22	5·00	4·46	4·03	3·61	2·91
2	2·81	2·20	2·29	3·27	3·74	5·62	5·28	5·04	4·56	3·91	3·60	2·91
4	2·81	2·22	2·25	3·37	3·67	5·53	5·17	4·91	4·48	3·86	3·60	3·03
6	2·74	2·23	2·25	3·19	3·65	4·99	4·97	4·74	4·42	3·81	3·44	2·85
8	2·75	2·13	2·23	3·11	3·55	5·00	4·81	4·54	4·25	3·74	3·30	2·87
10	2·68	2·11	2·24	3·01	3·62	4·82	4·64	4·45	4·15	3·73	3·28	2·89
12	2·69	2·00	2·18	2·99	3·39	4·73	4·56	4·35	4·07	3·70	3·24	2·84

By taking the means of the numbers in each column of this table, the next table was formed.

TABLE XXXIX.—Mean Weight, in Grains, of Vapour in a Cubic Foot of Air in each Month, deduced from the Mean of all the Two-hourly Observations in each Month.

1845, Month.	Mean Weight of Vapour.	1845, Month.	Mean Weight of Vapour.
	gr.		gr.
January	2·7	July	4·9
February	2·1	August	4·6
March	2·2	September	4·2
April	3·1	October	3·8
May	3·6	November	3·3
June	5·0	December	2·8

The mean of all the monthly results is 3·5 grains.

The means of the numbers contained in Table XXXVIII. were taken, Spring, Summer, Autumn, and Winter being defined as before; and thus the following table was formed:—

TABLE XL.—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.

1845, Hour Göttingen Mean Time.	Spring.	Summer.	Autumn.	Winter.	For the Year.
h	gr.	gr.	gr.	gr.	gr.
14	2·78	4·50	3·56	2·48	3·33
16	2·81	4·44	3·56	2·45	3·32
18	2·78	4·51	3·57	2·44	3·43
20	2·95	4·88	3·62	2·45	3·48
22	3·06	5·01	3·86	2·51	3·61
0	3·10	5·24	4·03	2·64	3·75
2	3·10	5·31	4·02	2·64	3·77
4	3·10	5·20	3·98	2·69	3·74
6	3·03	4·90	3·89	2·61	3·61
8	2·96	4·78	3·76	2·58	3·52
10	2·96	4·64	3·72	2·56	3·47
12	2·85	4·55	3·67	2·51	3·40

The mean weight of vapour in a cubic foot of air in Spring was 3·0 gr.
" " Summer was 4·8
" " Autumn was 3·8
" " Winter was 3·6
" " for the Year was 3·5

TABLE XLI.—Mean Additional Weight of Vapour required for complete Saturation of a Cubic Foot of Air, on every Civil Day of the Year, except Sundays, Good Friday, and Christmas Day.

Days of the Month, 1845.	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	0·14	0·30	0·38	0·30	1·22	S	0·97	1·04	0·68	0·59	0·30	0·64
2	0·39	S	S	0·54	1·13	1·47	0·72	0·32	0·72	0·34	S	0·51
3	0·41	0·14	0·12	1·39	1·04	0·96	1·44	S	0·80	0·38	0·35	0·28
4	0·20	0·32	0·39	1·12	S	0·60	1·40	0·82	0·75	0·80	0·32	0·37
5	S	0·36	0·23	0·63	0·71	0·80	1·42	0·65	0·98	S	0·54	0·61
6	0·32	0·50	0·24	S	0·54	0·89	S	0·94	0·89	0·20	0·75	0·41
7	0·19	0·28	0. 33	0·85	0·37	0·52	2·14	0·48	S	0·30	0·74	S
8	0·05	0·32	0·32	0·67	0·35	S	1·43	1·01	0·67	0·42	0·69	0·25
9	0·01	S	S	0·42	0·59	0·79	1·42	0·61	1·06	0·18	S	0·51

TABLE XLI.—*continued.*

Days of the Month, 1845.	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.
10	0·32	0·14	0·32	0·52	0·62	1·38	0·44	*S*	0·63	0·38	0·29	0·38
11	0·22	0·25	0·45	0·37	*S*	1·55	0·51	0·63	0·66	0·30	0·14	0·69
12	*S*	0·20	0·31	0·72	0·79	1·40	1·27	0·66	0·78	*S*	0·29	0·45
13	0·25	0·29	0·46	*S*	0·97	1·12	*S*	0·69	0·60	0·71	0·26	0·02
14	0·10	0·43	0·57	0·76	1·00	1·53	0·97	0·86	*S*	0·86	0·09	*S*
15	0·20	0·51	0·39	0·35	0·83	*S*	0·99	0·83	0·24	0·91	0·14	0·71
16	0·27	*S*	*S*	0·61	0·62	0·84	1·34	0·84	0·23	0·72	*S*	0·84
17	0·22	0·35	0·52	1·07	0·59	0·72	1·00	*S*	0·41	0·58	0·45	0·33
18	0·22	0·34	0·45	0·80	*S*	0·43	1·25	0·90	0·39	0·89	0·43	0·06
19	*S*	0·17	0·40	0·82	0·85	1·21	1·22	0·26	1·16	*S*	0·44	0·30
20	0·39	0·42	0·49	*S*	0·66	1·12	*S*	1·04	0·74	0·95	0·54	0·37
21	0·31	0·46	Good Friday.	0·54	0·39	1·20	0·72	1·05	*S*	0·79	0·32	*S*
22	0·21	0·21	0·22	0·84	0·77	*S*	0·95	1·10	0·83	0·62	0·30	0·28
23	0·17	*S*	*S*	1·07	0·64	1·61	0·29	1·09	0·57	0·72	*S*	0·58
24	0·47	0·45	0·59	1·10	0·43	1·05	0·69	*S*	0·65	0·45	0·40	0·23
25	0·26	0·36	0·45	1·23	*S*	1·64	0·68	1·01	0·36	0·20	0·28	Christ. Day.
26	*S*	0·71	0·82	0·83	0·36	1·48	0·87	1·07	0·80	*S*	0·49	0·37
27	0·47	0·35	0·80	*S*	0·75	0·42	*S*	0·75	0·38	0·59	0·65	0·75
28	0·11	0·28	0·93	0·66	0·39	0·60	0·70	0·83	*S*	0·36	0·51	*S*
29	0·15		1·05	1·05	0·12	*S*	0·86	0·93	0·43	0·62	0·26	0·32
30	0·13		*S*	0·47	0·78	0·93	0·69	0·89	0·30	0·18	*S*	0·71
31	0·20		1·11		1·00		0·83	*S*		0·50		0·33

The letter *S* denotes that the day was Sunday.

TABLE XLII.—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.

1845, 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	0·20	0·19	0·23	0·19	0·23	0·39	0·27	0·24	0·22	0·33	0·29
16	0·15	0·21	0·15	0·23	0·21	0·19	0·29	0·21	0·15	0·17	0·31	0·35
18	0·17	0·27	0·21	0·22	0·25	0·26	0·27	0·21	0·14	0·14	0·22	0·34
20	0·17	0·25	0·21	0·29	0·45	0·66	0·58	0·45	0·27	0·23	0·24	0·30
22	0·17	0·34	0·41	0·73	0·91	1·36	1·14	1·02	0·81	0·45	0·45	0·38
0	0·28	0·43	0·68	1·36	1·17	1·80	1·74	1·37	1·24	0·97	0·57	0·52
2	0·40	0·55	0·81	1·54	1·38	2·00	1·91	1·65	1·39	1·32	0·77	0·67
4	0·35	0·53	0·80	1·38	1·38	2·20	1·93	1·68	1·37	1·25	0·60	0·57
6	0·28	0·32	0·62	1·29	1·08	1·83	1·68	1·46	0·99	0·73	0·44	0·47
8	0·20	0·30	0·39	0·73	0·71	1·27	1·08	0·88	0·60	0·48	0·42	0·42
10	0·26	0·26	0·25	0·49	0·14	0·66	0·67	0·47	0·45	0·32	0·33	0·37
12	0·20	0·36	0·22	0·32	0·29	0·42	0·51	0·37	0·32	0·25	0·29	0·38

By taking the means of the numbers in each month, the next table was formed.

TABLE XLIII.—Mean additional Weight of Vapour required for complete Saturation of a Cubic Foot of Air in each Month, deduced from the Mean of all the Two-hourly Observations in each Month.

1845, Month.	Mean additional Weight of Vapour.	1845, Month.	Mean additional Weight of Vapour.
	gr.		gr.
January	0·24	July	1·04
February	0·34	August..........	0·84
March	0·41	September	0·66
April	0·73	October	0·54
May............	0·68	November	0·41
June............	1·07	December........	0·42

The mean of all the monthly results is $0^{gr.}62$.

By taking the means of the numbers in Table XLII. for quarterly periods, each period being defined as before, the next table was formed.

TABLE XLIV.—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.

1845, Hour, Göttingen Mean Time.	Spring.	Summer.	Autumn.	Winter.	For the Year.
h	gr.	gr.	gr	gr.	gr.
14	0·20	0·30	0·26	0·23	0·25
16	0·20	0·23	0·21	0·24	0·22
18	0·23	0·25	0·17	0·26	0·23
20	0·32	0·56	0·25	0·24	0·34
22	0·68	1·27	0·57	0·30	0·71
0	1·07	1·64	0·93	0·41	1·01
2	1·24	1·85	1·16	0·54	1·20
4	1·19	1·94	1·07	0·48	1·17
6	1·00	1·66	0·72	0·36	0·93
8	0·61	1·08	0·50	0·31	0·63
10	0·29	0·60	0·37	0·30	0·39
12	0·28	0·43	0·29	0·31	0·33

The mean additional weight required in Spring, was 0·61 gr.
" Summer, was 0·98
" Autumn, was 0·54
" Winter, was 0·33
" for the Year, was 0·62

TABLE XLV. — Mean Degree of Humidity (complete Saturation = 1) for every Day in the Year, except Sundays, Good Friday, and Christmas Day.

Days of the Month, 1845.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d												
1	0·951	0·870	0·815	0·892	0·758	S	0·837	0·814	0·889	0·869	0·916	0·831
2	0·851	S	S	0·841	0·763	0·771	0·870	0·940	0·861	0·942	S	0·863
3	0·844	0·949	0·955	0·677	0·740	0·837	0·805	S	0·840	0·937	0·893	0·899
4	0·938	0·884	0·809	0·722	S	0·871	0·771	0·907	0·837	0·840	0·886	0·875
5	S	0·868	0·880	0·805	0·801	0·858	0·776	0·895	0·792	S	0·854	0·836
6	0·915	0·801	0·870	S	0·842	0·845	S	0·837	0·816	0·947	0·844	0·865
7	0·947	0·867	0·862	0·736	0·892	0·905	0·745	0·911	S	0·928	0·839	S
8	0·979	0·853	0·872	0·790	0·897	S	0·824	0·820	0·863	0·900	0·860	0·917
9	0·998	S	S	0·855	0·846	0·850	0·764	0·892	0·798	0·955	S	0·859
10	0·904	0·936	0·894	0·833	0·839	0·768	0·917	S	0·880	0·901	0·929	0·869
11	0·942	0·879	0·829	0·955	S	0·759	0·907	0·886	0·871	0·928	0·961	0·805
12	S	0·857	0·865	0·786	0·809	0·804	0·748	0·875	0·854	S	0·923	0·839
13	0·925	0·874	0·731	S	0·769	0·854	S	0·865	0·881	0·845	0·925	0·992
14	0·969	0·847	0·682	0·787	0·768	0·808	0·827	0·829	S	0·813	0·975	S
15	0·914	0·807	0·800	0·886	0·800	S	0·802	0·834	0·944	0·810	0·961	0·814
16	0·917	S	S	0·877	0·865	0·868	0·756	0·809	0·954	0·846	S	0·779
17	0·925	0·862	0·753	0·748	0·860	0·895	0·839	S	0·931	0·849	0·873	0·909
18	0·914	0·866	0·799	0·800	S	0·923	0·805	0·823	0·929	0·824	0·891	0·984
19	S	0·921	0·967	0·795	0·782	0·787	0·804	0·953	0·770	S	0·904	0·906
20	0·865	0·785	0·798	S	0·827	0·S20	S	0·796	0·783	0·787	0·858	0·875
21	0·881	0·804	Good Friday.	0·857	0·898	0·808	0·884	0·793	S	0·791	0·901	S
22	0·930	0·913	0·934	0·791	0·814	S	0·855	0·786	0·821	0·841	0·900	0·898
23	0·954	S	S	0·745	0·842	0·722	0·934	0·802	0·854	0·808	S	0·809
24	0·855	0·840	0·840	0·765	0·895	0·852	0·873	S	0·819	0·867	0·848	0·915
25	0·921	0·869	0·873	0·760	S	0·761	0·887	0·844	0·919	0·943	0·914	Christ. Day.
26	S	0·762	0·786	0·827	0·915	0·738	0·861	0·815	0·816	S	0·887	0·900
27	0·827	0·887	0·821	S	0·846	0·920	S	0·854	0·921	0·871	0·856	0·779
28	0·954	0·890	0·763	0·858	0·923	0·888	0·867	0·848	S	0·916	0·879	S
29	0·935		0·712	0·792	0·974	S	0·828	0·826	0·897	0·852	0·935	0·893
30	0·940		S	0·904	0·840	0·836	0·864	0·833	0·934	0·961	S	0·834
31	0·912		0·710		0·797		0·844	S		0·886		0·900

The letter *S* denotes that the day was Sunday.

The day on which the degree of humidity was greater than on any other day in the year was January 9, it being 0·998; and the day on which it was less than on any other day was April 3, it being 0·677; the difference between these numbers is 0·321, and which represents the yearly range of the mean daily degree of moisture in the atmosphere for the year 1845.

TABLE XLVI.—Mean Degree of Humidity (complete Saturation = 1) at every Even Hour of Göttingen Mean Time in each Month.

1845, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	0·931	0·915	0·924	0·933	0·938	0·954	0·920	0·941	0·943	0·942	0·906	0·887
16	0·939	0·906	0·937	0·929	0·939	0·961	0·940	0·953	0·964	0·950	0·913	0·889
18	0·940	0·884	0·913	0·937	0·932	0·948	0·947	0·953	0·964	0·964	0·936	0·891
20	0·940	0·889	0·914	0·916	0·884	0·885	0·896	0·911	0·937	0·943	0·932	0·903
22	0·949	0·860	0·848	0·815	0·823	0·807	0·818	0·827	0·841	0·897	0·877	0·884
0	0·913	0·834	0·770	0·705	0·761	0·755	0·749	0·785	0·792	0·805	0·870	0·849
2	0·879	0·801	0·740	0·655	0·730	0·738	0·736	0·753	0·767	0·748	0·823	0·813
4	0·891	0·808	0·734	0·710	0·727	0·714	0·730	0·745	0·766	0·754	0·859	0·830
6	0·908	0·873	0·782	0·714	0·772	0·749	0·746	0·763	0·823	0·840	0·888	0·860
8	0·933	0·880	0·850	0·806	0·834	0·797	0·817	0·839	0·875	0·886	0·884	0·869
10	0·917	0·895	0·902	0·860	0·962	0·883	0·874	0·904	0·902	0·920	0·908	0·887
12	0·934	0·854	0·911	0·901	0·923	0·919	0·899	0·922	0·936	0·935	0·920	0·885

By taking the means of the numbers in each column the next table was formed.

TABLE XLVII.—Mean Degree of Humidity (complete Saturation = 1) in each Month, deduced from the Mean of all the Two-hourly Observations in each Month

1845, Month.	Mean Degree of Humidity.	1845, Month.	Mean Degree of Humidity.
January	0·923	July	0·839
February	0·867	August...........	0·858
March	0·852	September........	0·876
April	0·823	October	0·882
May.............	0·852	November	0·893
June.............	0·843	December.........	0·871

The mean of all the monthly results is 0·865.

By taking the means of the numbers in Table XLVI., in quarterly groups, each period being defined as before, the next table was formed.

TABLE XLVIII.—Mean Degree of Humidity (complete Saturation = 1) at every Even Hour of Göttingen Mean Time, in Quarterly Periods, and for the Year.

1845, Hour Göttingen Mean Time.	Spring.	Summer.	Autumn.	Winter.	For the Year.
h					
14	0·932	0·938	0·932	0·911	0·928
16	0·935	0·951	0·942	0·911	0·935
18	0·927	0·949	0·955	0·905	0·934
20	0·905	0·897	0·937	0·911	0·913
22	0·829	0·817	0·872	0·898	0·854
0	0·745	0·763	0·822	0·865	0·799
2	0·708	0·742	0·779	0·831	0·765
4	0·724	0·730	0·793	0·843	0·772
6	0·756	0·753	0·850	0·880	0·810
8	0·830	0·818	0·882	0·887	0·854
10	0·908	0·887	0·910	0·900	0·901
12	0·912	0·913	0·930	0·891	0·912

Thus, it appears that at 2^h or 4^h the least degree of humidity prevails, and at about 16^h or 18^h the greatest.

The mean degree of humidity in Spring is 0·843
,, Summer is 0·847
,, Autumn is 0·884
,, Winter is 0·886
,, for the Year is 0·865

Comparing this last number, viz. 0·865, with those contained in the last column of the above table, we find that

At 14^{h}	the degree of humidity was	0·063	greater than the mean of the year.
16	„	0·070	„
18	„	0·069	„
20	„	0·048	„
22	„	0·011	less than the mean of the year.
0	„	0·066	„
2	„	0·100	„
4	„	0·093	„
6	„	0·055	„
8	„	0·011	„
10	„	0·036	greater than the mean of the year.
12	„	0·047	„

And thus it appears that the degree of humidity at 8^{h} and at 22^{h} agrees more nearly than at any other observation-hours with the degree of humidity for the year.

TABLE XLIX.—Mean Weight, in Grains, of a Cubic Foot of Air, for every Civil Day in the Year, except Sundays, Good Friday, and Christmas Day.

Days of the Month, 1845.	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	555·5	556·5	556·9	556·3	528·8	*S*	520·9	522·7	534·2	533·2	548·0	540·9
2	557·2	*S*	*S*	548·4	532·0	522·2	525·5	520·6	534·3	522·4	*S*	540·5
3	556·0	554·0	552·7	537·5	536·3	518·2	514·2	*S*	536·6	517·1	554·7	542·4
4	552·1	558·2	564·0	539·8	*S*	526·7	526·3	521·2	539·4	525·0	557·3	546·0
5	*S*	552·7	566·8	548·9	541·4	521·3	528·0	519·0	537·6	*S*	540·4	533·8
6	546·4	555·6	573·1	*S*	541·6	518·8	*S*	522·5	537·4	539·2	526·9	540·5
7	549·8	563·5	564·5	547·6	539·9	526·1	513·9	525·6	*S*	529·7	526·2	*S*
8	562·1	565·0	560·6	540·3	536·3	*S*	523·6	525·9	535·5	527·3	524·4	553·1
9	560·6	*S*	*S*	534·4	532·9	536·9	522·1	520·1	532·4	534·0	*S*	546·8
10	548·4	558·3	555·1	532·2	532·9	532·7	525·4	*S*	534·0	532·0	529·9	557·3
11	536·5	569·1	555·4	538·7	*S*	528·0	522·1	522·9	535·8	531·2	529·6	545·0
12	*S*	593·2	558·0	542·4	535·7	522·9	531·2	527·8	529·1	*S*	534·1	558·4
13	540·7	564·1	567·2	*S*	539·8	520·2	*S*	530·7	530·8	541·6	542·4	568·6
14	542·8	548·2	564·2	534·3	542·3	518·0	527·4	531·1	*S*	543·8	547·8	*S*
15	544·4	554·9	560·8	544·7	541·8	*S*	534·0	528·5	528·2	537·8	542·7	539·1
16	548·3	*S*	*S*	551·0	540·2	516·8	530·2	533·1	525·4	527·5	*S*	540·7
17	553·9	557·4	558·9	546·2	541·3	518·1	525·3	*S*	515·5	539·1	534·8	539·6
18	544·3	558·1	555·7	548·2	*S*	523·8	525·6	525·0	518·4	534·9	527·1	532·3
19	*S*	565·3	552·3	541·8	538·3	527·3	526·1	517·8	532·0	*S*	521·2	534·4
20	541·4	568·9	561·7	*S*	539·2	526·9	*S*	525·3	533·1	538·4	527·0	530·9
21	559·6	558·1	Good Friday	545·8	536·5	525·7	523·6	531·4	*S*	548·9	537·6	*S*
22	556·5	550·1	553·8	539·9	533·9	*S*	521·5	535·3	529·8	550·0	544·4	543·2
23	545·6	*S*	*S*	532·9	537·1	529·4	529·3	531·4	543·7	553·4	*S*	537·2
24	542·7	548·5	544·7	530·7	537·1	525·4	529·0	*S*	548·9	553·2	556·3	556·8
25	548·1	546·4	544·5	529·6	*S*	525·8	525·7	526·9	533·0	550·8	549·0	Christ. Day.
26	*S*	540·5	539·5	525·5	532·0	525·5	524·1	526·0	533·6	*S*	534·8	543·2
27	539·4	549·4	533·9	*S*	529·6	525·1	*S*	533·8	531·4	544·5	535·6	546·0
28	539·2	555·7	534·7	529·0	530·0	519·5	525·5	533·9	*S*	539·0	532·5	*S*
29	547·0		546·6	530·9	530·8	*S*	526·8	535·6	535·4	538·2	535·3	549·5
30	546·8		*S*	533·9	531·0	525·8	529·4	535·8	530·9	534·4	*S*	534·6
31	549·7		546·2		536·7		521·3	*S*		540·6		544·8

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 February 12; and the day on which it was the least was July 7: the weights were respectively 593·2 grains and 513·9 grains; the difference between these numbers is 79·3 grains.

TABLE L.—Mean Weight, in Grains, of a Cubic Foot of Air in each Month, deduced from the Mean of all the Two-hourly Observations in each Month.

1845, 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	550·2	560·1	556·9	545·8	540·8	531·9	530·9	532·8	537·8	541·7	540·0	545·9
16	550·9	560·2	557·1	546·2	541·6	533·0	531·4	533·5	539·2	541·2	540·0	546·2
18	550·6	560·0	557·0	548·7	541·4	532·0	531·0	533·5	539·4	541·5	540·4	545·9
20	550·7	560·6	556·5	543·4	537·9	526·6	526·6	529·5	536·6	540·7	539·3	546·2
22	549·9	558·7	553·3	538·5	534·0	521·8	522·8	524·5	530·8	536·8	538·0	545·3
0	546·5	555·4	550·2	532·7	530·8	517·9	519·5	521·7	527·5	532·7	534·1	542·6
2	545·3	553·5	548·5	530·2	529·2	516·4	517·9	519·7	525·3	530·8	531·9	540·9
4	545·8	553·5	549·0	535·0	529·6	515·7	518·5	520·3	525·7	531·4	533·4	541·3
6	547·5	556·0	552·3	533·5	531·6	518·3	521·0	522·5	528·4	535·6	536·2	543·1
8	548·5	558·1	554·8	539·1	535·6	522·7	525·1	527·5	532·5	540·8	537·6	543·2
10	548·7	559·0	556·8	542·0	540·0	527·5	528·8	531·1	534·4	539·8	539·1	543·4
12	549·4	559·0	558·0	544·4	540·9	520·5	530·6	532·6	536·3	540·6	539·9	543·8

By taking the means of the numbers in each column, the next table is formed.

TABLE LI.—Mean Weight, in Grains, of a Cubic Foot of Air in each Month, deduced from the Mean of all the Two-hourly Observations in each Month.

1845, Month.	Mean Weight.	1845, Month.	Mean Weight.
	gr.		gr.
January	548·7	July	525·3
February	557·8	August...........	527·4
March	554·2	September........	532·8
April	540·0	October	537·8
May..............	536·1	November	537·5
June.............	523·7	December.........	544·0

The mean of all the monthly results is 538·8 grains.

By taking the means of the numbers in Table L., in quarterly periods, the next table was formed, each period being defined as before.

TABLE LII.—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.

1845, Hour, Göttingen Mean Time.	Spring.	Summer.	Autumn.	Winter.	For the Year.
h	gr.	gr.	gr.	gr.	gr.
14	547·8	531·9	539·8	552·1	542·9
16	548·3	532·6	540·1	552·4	543·4
18	549·0	532·2	540·4	552·2	543·5
20	545·9	527·6	538·9	552·5	541·2
22	541·9	523·0	535·2	551·3	537·9
0	537·9	519·7	531·4	548·2	534·3
2	536·0	518·0	529·3	546·6	532·5
4	537·9	518·2	530·2	546·9	533·3
6	539·1	520·6	533·4	548·9	535·5
8	543·2	525·1	537·0	549·9	538·8
10	546·3	529·1	537·8	550·4	540·9
12	547·8	527·9	538·9	550·7	541·4

The even hour here shewn as that at which the mean weight of a cubic foot of air is the least is 2^h; and the hours at which it is the greatest are 18^h in spring and autumn, 16^h in summer, and 20^h in winter.

The mean weight in Spring,		is	543·4 grains.
,,	Summer,	is	525·5 ,,
,,	Autumn,	is	536·0 ,,
,,	Winter,	is	550·2 ,,
	for the Year	is	538·8 ,,

The mean weight at	14^h	exceeds the mean weight for the year by		4·1	grains.
,,	16	,,	,,	4·6	,,
,,	18	,,	,,	4·7	,,
,,	20	,,	,,	2·4	,,
,,	22	is less than the mean weight for the year by		0·9	,,
,,	0	,,	,,	4·5	,,
,,	2	,,	,,	6·3	,,
,,	4	,,	,,	5·5	,,
,,	6	,,	,,	3·3	,,
,,	8	is the same as the mean weight for the year.			
,,	10	exceeds the mean weight for the year by		2·1	,,
,,	12	,,	,,	2·6	,,

Abstracts of the Results by Osler's Anemometer.

Osler's Anemometer was in use from January 1 to November 11, at which time it was taken down for the purpose of substituting another clock-movement.

From November 11 to December 31 the observations by estimation were used; the estimated strength of the wind being converted into pounds pressure on the square foot, by the rule which has always been found to hold good, viz., that the square of the estimated force corresponds to the pressure in pounds on the square foot, and in this way the greater part of the pressures in November and December have been supplied.

In every other month, the mean force of the wind and its direction (supposing the circumference divided into sixteen equal parts) at every hour was copied from the anemometer sheets as recorded by the anemometer, when the pressure on a square foot was more than a quarter of a pound. From this summary a first abstract was formed, by collecting at each hour all the cases in which the wind had blown in each of these sixteen directions, with the forces at the corresponding times. A second abstract was formed, by taking the sums of the forces of the wind in each direction 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 forces.

Adding together the numbers in each month for every hour, the following table was formed:—

TABLE LIII. — 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 ¼ lb. to the Square Foot; the Directions being referred to Sixteen Points of the Azimuthal Circle.

1845, Month.	N.		N.N.E.		N.E.		E.N.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.
	lbs.	h	lbs.	h	lbs.	h	lbs.	h
January......	74	21						
February.....	11¾	15			1	2	3	6
March.......	11¾	12	19½	20	147¾	66	30	25
April........	67¼	45	54¼	41	16	18	4	9
May	150¾	93	36	20	9	4	1½	3
June	2½	5	1¼	2	1¼	3		
July.........	5½	8	1¾	3	1½	3		
August	19¼	31	5	7	1	2		
September ...	1½	3	4	6	10¾	12	13¼	17
October......	½	1			2¼	3	1	2
November....	8¼	3						
December....		..						

TABLE LIII—*continued.*

1845, Month.	E.		E.S.E.		S.E.		S.S.E.		S.		S.S.W.		S.W.		W.S.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					½	1			74	53	25	26	62½	41	26	11
February ...	½	1	8¾	16	8	11			21¾	16			1½	3	3½	1
March	24	15	2½	4	¼	1	¾	2	2½	4	43¼	44	49½	24	196½	56
April	3¾	10	1½	2			1¼	3	35½	28	66	28	48½	23	37½	18
May									½	1			49½	31	29¼	22
June									18¼	12	109¾	52	53½	29	38¾	32
July							1	2	20	11	28¾	29	105	61	12	16
August											25¾	19	64¼	54	131	83
September ..	4¾	5	1¾	3					11¼	14	125¼	43	75¾	39	32	29
October	2¼	3							4¾	6	24¾	35	75¾	55	38¾	36
November ..							11¼	14	18¾	21	78½	49	93½	46	76¾	41
December...									17¼	11	26¼	13	196¾	84	53¾	39

1845, Month.	W.		W.N.W.		N.W.		N.N.W.	
January	72½	17	12	2	37½	10	34	20
February ...	11½	11	5	7	64¼	39	20¼	13
March	4	5	13½	8	11½	9	14½	13
April	14¾	6	31½	9	13½	12	26	14
May	3½	4	4	3	10¾	8	17¼	19
June	14	8	25	10	½	1	4¼	8
July	3	5	6	7	18¾	18	12	9
August	16¾	15	7¼	5	3¾	7	3	5
September ..	34½	15			1½	4		
October	15½	9						
November ..	7	16						
December...	124¼	89	20¼	8	111	45	96½	21

The largest number contained in this table is that ranging with December, and under S.W.; the next in order of magnitude is that ranging with March, and under W.S.W.; the next in May, and under N.; the next in March, and under N.E.; and the next in August, and under W.S.W.

The first strong wind in the year, of some duration, was on January 10 and 11, during which there were occasional pressures of 3½ lbs. to 6¼ lb. [See pages (6) and (7).] A gale of wind took place on January 19 and 20, during which pressures of 11 lbs. to 13 lbs. were recorded. [See pages (12) and (13).] The direction of the wind was partly N. by E. and partly N.N.W. From January 23 to January 27 the wind for the most part was blowing strongly, principally from the S.W., during which there were occasional pressures of 11 lbs. to 13 lbs. [See pages (14) and (16).] On February 5, 6, 25, 26, and 28 the wind blew, recording pressures of 3 lbs., 4 lbs., or 5 lbs. The next strong wind was on March 8, 9, and 10, from the N.E., in which pressures from 3 lbs. to 4½ lbs. were recorded. [See pages (38) and (40).] On March 15 the wind blew strongly, the direction varying from N.E. to E.N.E., during which pressures from 3 lbs. to 7 lbs. were recorded. [See page (42).] On March 21, 22, and 23 the wind blew strongly from the S.S.W., and pressures from $2\frac{1}{2}$ lbs. to $3\frac{1}{2}$ lbs. were recorded. [See pages (46) and (47).] A constant strong wind was blowing from March 26 to March 30, the direction being W.S.W.; on March 28 pressures of 9 lbs. and 10 lbs. were frequent. [See pages (48), (49), and (50).] On April 10 the wind blew strongly for some time, the direction being principally N., and pressures of $2\frac{1}{2}$ lbs. were recorded. [See page (56).] On April 13, 14, 15, 16, 17, 18, and 19 the wind blew strongly on every day; the direction was W.S.W. on the 13th; W.N.W. and N.N.W. on the 14th; and principally N.N.E. from the 15th; during these days pressures of 2 lbs. to 11 lbs. were recorded. [See pages (58) to (60).] On April 25 and 26 the wind blew strongly from the S.S.W., and gusts of 5 lbs. to 7 lbs. pressure were recorded. [See page (64).] On April 30, May 1, and occasionally on May 2, 3, and 4, the wind blew somewhat strongly, the directions being S.W. and W.S.W. principally, and pressures to $4\frac{1}{2}$ lbs. were recorded. [See pages (66) and (68).] The next strong wind was on May 21, the directions being N. and N.N.E., during which pressures from 2 lbs. to 10 lbs. were recorded. [See page (78).] On July 1 the wind blew very strongly from the W.S.W. for a few hours, recording pressures from 3 lbs. to 9 lbs. [See pages (100) and (101).] From July 29 to 31 gusts of wind were frequent from the S., S.W., or W.S.W., recording pressures from 1 lb. to 5 lbs. [See page (116).] On August 9 and 10 the air was almost in constant motion; but, except occasionally, the recorded pressures were small; at 1^h on the 9th a pressure of $7\frac{1}{2}$ lbs. took place. [See page (123).] On August 19 and 20 a strong wind was blowing from the W.S.W., and pressures to 6 lbs. and once to 7 lbs. took place. [See pages (128) and (129).] From September 16 to 19 the air was in constant motion, the wind blowing at times very strongly, and the direction being S.S.W. principally; pressures of 6 lbs., 7 lbs., 8 lbs., and 9 lbs. were recorded. [See pages (142) to (144).] From October 1 to 4 the wind was frequently blowing strongly, the direction being S.W. principally, and pressures from 2 lbs. to $4\frac{1}{2}$ lbs. were recorded. [See page (152).] On October 17 and 18 the wind blew strongly from the W.S.W., and pressures of $3\frac{1}{2}$ lbs. took place. [See page (160).] No strong wind took place from this time till November 11, on which day the Anemometer was taken down for alteration, and it was not in use again during the remainder of the year.

The following remarks are based upon the observation of the strength and direction as estimated, the observed strength being converted into pressure, on the supposition that the square of the estimated strength corresponded to pounds pressure.

From November 18 to 20 the wind blew strongly from the S.W. and S.S.W. at times, with an estimated pressure of 9 lbs. From November 25 to 27 the estimated direction of the wind was S.W. and W.S.W., and the estimated pressures were from 2 lbs. to 4 lbs. From December 19 to the end of the year the wind was almost constantly blowing, principally from the S.W., with pressures estimated from 2 lbs. to 9 lbs.

From the preceding account it will be seen that no great gale occurred through the whole year, and that the strong winds, with a few slight exceptions, were from the S.W. or W.S.W.

The columns in the preceding table, under the head of E.S.E. and S.E. are nearly blank, therefore these winds have been insignificant in amount during the year, and in this respect the result agrees with those deduced from all the preceding years.

At all the hours in every month, when the wind was blowing without recording pressure, and which, consequently, are not included in the above 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 is formed:—

TABLE LIV.—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.

1845. 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	30	13	16	8	23	5	3	9	138	70	63	36	10	3	9	17	453
February ...	62	16	6	14	17	17	7	25	13	10	42	31	23	13	32	34	362
March	62	57	58	16	31	13	6	5	5	15	11	17	26	6	19	37	384
April	18	40	47	38	50	2	2	12	20	24	26	12	26	2	11	9	339
May	116	53	30	16	4	2	1	1	6	16	28	51	16	19	14	58	431
June	24	31	19	17	11	3		1	24	40	27	31	12	3	4	18	265
July	60	19	22	11	22	1			23	75	69	67	23	4	5	5	406
August	51	16	5	2				1	9	73	57	87	38	15	16	16	386
September ..	23	35	45	8	2	2	1	3	25	25	48	51	15	2		5	290
October	12			2		1			48	81	51	67	21	8	10	14	315
November ..	7	4	8	8	14	6	7	22	67	23	29	14	24	5	15	3	256
December...	20								22	5	89	31	38	6	7	5	223

By adding together all the quantities for each wind in Tables LIII. and LIV. we find that during the year,

The N.	wind blew	237	hours, recording a pressure of	353	lbs., and it blew	485	hours without recording any pressure.
N. N. E.	„	99	„	$121\frac{3}{4}$	„	284	„
N. E.	„	113	„	$190\frac{1}{2}$	„	256	„
E. N. E.	„	62	„	$52\frac{3}{4}$	„	140	„
E.	„	34	„	$35\frac{1}{4}$	„	174	„
E. S. E.	„	25	„	$14\frac{1}{2}$	„	52	„
S. E.	„	13	„	$8\frac{3}{4}$	„	27	„
S. S. E.	„	21	„	$14\frac{1}{4}$	„	79	„
S.	„	177	„	$224\frac{1}{2}$	„	400	„
S. S. W.	„	338	„	$553\frac{1}{4}$	„	457	„
S. W.	„	490	„	876	„	540	„
W. S. W.	„	384	„	$675\frac{3}{4}$	„	495	„
W.	„	200	„	$321\frac{1}{4}$	„	272	„
W. N. W.	„	59	„	$124\frac{1}{2}$	„	86	„
N. W.	„	153	„	273	„	142	„
N. N. W.	„	122	„	$227\frac{3}{4}$	„	221	„

The sum of all the pressures is $4066\frac{3}{4}$ lbs., and the corresponding number of hours 2527, and the number of hours during which air was in motion without recording pressure is 4110.

The S. W. wind has the greatest number opposite to it, and the next in order of magnitude are the W. S. W., S. S. W., N., W., N. W., and N. N. W.

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 LV.—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.	353·0	353·0			
N. N. E.	121·8	112·5	46·6		
N. E.	190·5	134·7	134·7		
E. N. E.	52·8	20·2	48·8		
E.	35·3		35·3		
E. S. E.	14·5		13·4	5·6	
S. E.	8·8		3·4	3·4	
S. S. E.	14·2		5·5	13·2	
S.	224·5			224·5	
S. S. W.	553·2			511·1	211·7
S. W.	876·0			335·2	335·2
W. S. W.	675·8			258·6	624·4
W.	321·3				321·3
W. N. W.	124·5	47·6			115·0
N. W.	273·0	104·5			104·5
N. N. W.	227·8	210·5			87·2
	Sums	983·0	287·7	1351·6	1799·3

TABLE LVI.—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 ½ lb. was recorded by the Anemometer.

1845, Month.	13h		14h		15h		16h		17h		18h		19h		20h		21h	
	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.	Sums of Pressures.	Number of Hours.
	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h
January ..	14½	5	11½	5	10	5	9½	7	12	7	13½	8	20¼	8	20¾	8	19¼	8
February .	3	5	4	6	1½	3	2½	5	5½	3	4	2	2½	3	3	3	6	3
March....	18½	9	16¼	11	19½	9	21¾	11	25¼	13	22	15	23½	13	21½	10	28	13
April	4¾	7	7	6	9¼	6	8¼	6	10	7	14¼	7	15½	7	20	9	23¾	10
May	10½	6	7½	5	8½	6	4¼	6	6¾	7	5¾	7	7	7	11	10	11½	9
June.....	5½	3	5¾	6	5½	5	7	5	7¼	5	11	6	10¼	6	12½	6	11¾	5
July	1	1	1¾	2	1½	3	1	2	½	1	2	4	3¼	6	4¼	6	8¼	9
August...	4¾	5	5¼	4	3¾	4	3¼	4	3½	5	4	5	7¾	8	11	11	16¾	12
September	9½	5	6½	5	8	4	4½	4	6	4	9½	4	9¼	5	9½	4	16¼	6
October ..	5	4	4	4	2½	3	2¼	3	3	3	3¾	4	4¼	4	7	4	7¾	6
November	11¾	8	10½	8	8	7	10	7	11	6	20¼	7	10¾	5	11¾	6	10¼	6
December.	30	14	30¼	14	30	13	26¾	16	26¼	15	28½	15	22¾	14	20¾	15	14¾	11

1845, Month.	22h		23h		0h		1h		2h		3h		4h		5h		6h	
January ..	17½	8	36	11	30¾	11	31¾	12	29¾	11	32½	10	20½	9	17	12	12	10
February .	10	9	11¾	9	11½	9	7	8	10¾	9	10½	8	9½	7	11½	6	8	5
March ...	32½	12	29½	13	31½	16	37¾	20	39¾	19	33½	19	31½	16	24½	17	19	13
April	17¾	8	19¾	15	24	16	27½	19	34¼	18	29¾	21	31¾	18	27½	17	20¾	14
May	12	8	18¾	11	19¾	12	22	12	20½	12	22¾	15	19¾	15	23	13	19¼	11
June.....	8½	6	18¾	9	15	9	20½	10	15¼	10	23¼	10	17¼	11	15½	9	12	8
July	8¼	9	14¼	9	18	14	21¼	14	16¼	11	18	12	21½	13	19¼	15	22	14
August ..	15½	12	24¾	16	19¼	16	21½	18	19	16	23¾	17	22¾	16	18	13	14½	10
September	16½	10	21¼	12	27½	13	26¾	13	23½	15	20¼	17	18¾	15	13¾	10	11½	8
October ..	6¼	10	9½	12	11¾	10	13¼	12	14¾	13	11	10	6½	7	9	6	9	6
November	14	6	13	6	17	7	13¾	9	12½	9	7	9	10¾	9	8¾	7	10¼	10
December.	11¼	12	12¾	8	16¾	10	21	11	25½	12	23½	11	26½	14	27¾	12	32¼	13

TABLE LVI.—*continued.*

1845, Month.	7^h		8^h		9^h		10^h		11^h		12^h		Whole Sum of Pressures.	Whole 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
January ..	11	10	7	5	11½	8	8½	8	12	8	9	8	418	202
February .	7	4	6½	6	7	6	6¼	7	6½	7	5	8	160¾	141
March ...	16¼	12	16	10	16½	9	13¾	8	16½	10	17	10	571¾	308
April	19	12	15	10	12¾	10	10¼	9	9½	7	9	7	421¼	266
May	13¼	11	9	7	9	5	11¼	4	10½	6	8½	3	312	208
June.....	11¾	6	8	7	6¾	7	4½	4	6½	4	9	5	269	162
July	9½	8	9	6	7	5	4¼	4	2½	3	¾	1	215¼	172
August...	7	5	5¼	6	5¾	5	5¼	5	8½	7	6¼	8	277	228
September	13¼	7	9½	4	8½	4	10	5	6¾	5	8	7	314¾	186
October ..	7	6	6	7	5	5	7	7	6½	5	5	3	167	154
November	8¼	7	10¼	9	14¼	9	14½	10	14¾	10	12½	10	285¾	187
December	30¼	11	39½	14	39¾	12	43	15	38	14	36½	17	654¼	313

In each of the years 1841, 1842, and 1843, a marked difference was found between the sums of the pressures between 6^h and 19^h, and those between 20^h and 5^h; in the year 1844 and also in this year, 1845, this difference was found to exist, but to be less strongly marked. In this table there is a decided difference between the pressures at 20^h and 21^h, and again between those at 6^h and 7^h. During the month of February the sums are very small, as they are also in the month of October; these two months, therefore, were the calmest in the year. The calmest period in the year was that formed of the morning hours in July.

			h		lbs.
In January, the maximum sum of pressures occurred at			23,	and it was	36
February	,,	,,	23	,,	11¾
March	,,	,,	2	,,	39¾
April	,,	,,	2	,,	34¼
May	,,	,,	5	,,	23
June	,,	,,	3	,,	23¼
July	,,	,,	4	,,	21½
August	,,	,,	23	,,	24¾
September	,,	,,	0	,,	27¼
October	,,	,,	2	,,	14¾
November	,,	,,	18	,,	20¼
December	,,	,,	10	,,	43

From this it appears, that at 10^h in December, the sum of the pressures was greater than at any other hour in the year; the next in order of magnitude was at 2^h in March.

The ratio of the maximum pressure to the minimum pressure was in		January	5	to	1
,,	,,	February	8	to	1
,,	,,	March	3	to	1
,,	,,	April	7	to	1
,,	,,	May	6	to	1
,,	,,	June	6	to	1
,,	,,	July	29	to	1
,,	,,	August	6	to	1
,,	,,	September	6	to	1
,,	,,	October	7	to	1
,,	,,	November	5	to	2
,,	,,	December	4	to	1

The ratios which most nearly approach to equality are those of March and December, 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 July, and therefore, as before remarked, the morning hours of this month were the calmest in the year.

At all the hours in every month not included in Table LIV., the anemometer sheets have been consulted, and whenever the direction-pencil has recorded a perfectly straight line, as would be the case when the air was absolutely calm, such cases have been considered to correspond to calms; and whenever there was any deviation from such line, at right angles or inclined to it, such cases have been considered to correspond to times when the air was in motion, although the instrument is not sufficiently delicate to record such pressures. These results have been all copied out, and treated exactly as the numbers forming Table LVI., and thus the following table has been formed:—

TABLE LVII. — 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

1845, Month.	13h		14h		15h		16h		17h		18h		19h		20h		21h	
	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 ..	4	22	3	23	3	23	3	21	3	21	3	20	3	20	4	19	4	19
February .	8	15	6	16	8	16	10	13	8	17	8	18	9	16	9	16	8	17
March ...	3	19	4	16	3	19	3	17	3	15	3	13	4	14	4	17	4	14
April.....	10	13	10	14	9	15	8	16	9	15	10	13	9	14	5	16	4	16
May.....	7	18	6	20	5	20	4	21	4	20	5	19	4	20	3	18	2	20
June.....	14	9	14	7	13	9	14	8	14	8	12	9	14	8	11	10	8	14
July.....	6	22	10	17	10	17	8	20	8	21	8	18	10	14	8	16	7	15
August...	5	19	5	20	7	18	8	17	6	17	9	14	10	11	7	12	5	12
September	14	10	13	11	14	11	15	10	12	13	13	12	10	15	7	19	6	18
October ..	13	11	10	14	9	16	8	17	11	14	11	13	10	14	9	15	8	14
November	9	10	9	10	10	10	10	10	11	10	11	9	11	11	13	9	12	8
December	5	7	5	6	5	8	4	6	5	6	4	7	4	8	4	7	4	11

1845, Month.	22h		23h		0h		1h		2h		3h		4h		5h		6h	
January ..	4	19	4	16	4	16	4	12	3	17	3	18	2	20	3	16	4	17
February	6	14	7	12	7	12	6	14	6	13	4	15	4	17	5	17	7	16
March ...	2	17	1	17		15		11		12		12		15		14		18
April	1	21	1	14		14		11		12		9		12	1	12	2	14
May.....	2	21	1	18	2	16	2	16	4	14	2	14	2	14	2	16	2	17
June.....	9	12	7	11	6	12	4	13	5	12	4	13	4	12	3	15	4	15
July	7	15	5	17	2	14	2	14	4	15	3	15	3	15	2	15	4	13
August...	2	17	1	13	1	14		13		15		14		15		18	2	19
September	8	12	4	14	6	11	4	13	6	9	7	6	8	7	8	12	6	16
October ..	10	11	10	9	7	12	5	14	3	15	7	14	8	16	8	16	11	12
November	9	13	8	14	7	14	6	12	4	14	5	13	3	15	4	16	6	11
December	2	12	7	11	5	11	3	12	3	11	3	12	2	10	3	11	4	9

TABLE LVII.—*continued.*

1845, Month.	7h Calm Hours.	7h Hours of Wind not recording Pressure.	8h Calm Hours.	8h Hours of Wind not recording Pressure.	9h Calm Hours.	9h Hours of Wind not recording Pressure.	10h Calm Hours.	10h Hours of Wind not recording Pressure.	11h Calm Hours.	11h Hours of Wind not recording Pressure.	12h Calm Hours.	12h Hours of Wind not recording Pressure.	Whole Number of Calm Hours during the Month.	Whole Number of Hours during the Month at which the Wind was blowing without recording Pressure.
	h	h	h	h	h	h	h	h	h	h	h	h	h	h
January ..	5	16	4	22	4	19	4	19	4	19	4	19	86	453
February .	6	18	7	15	8	14	7	14	7	14	7	13	168	362
March ...	2	17	2	19	3	19	5	18	4	17	2	19	52	384
April	4	14	6	14	6	14	6	15	7	16	8	15	116	339
May	3	19	7	17	7	19	8	19	8	17	9	18	101	434
June.....	8	13	8	12	9	11	11	12	12	11	13	9	221	265
July	5	17	7	17	6	19	7	19	7	20	7	21	146	406
August...	3	22	7	18	8	18	7	18	6	16	6	16	105	386
September	9	14	12	14	12	13	12	12	14	10	14	8	234	290
October ..	12	11	12	10	11	12	11	10	11	12	12	13	227	315
November	10	10	10	8	11	7	10	7	10	7	9	8	268	256
December	4	11	3	9	2	12	1	10	3	9	2	7	87	223

By adding together the numbers for each month contained in this table and in Table LVI., between 6^h and 19^h and between 20^h and 5^h, the next two tables are formed.

TABLE LVIII.

1845, Month.	Between what Hours.	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 in the Period.
	h h	lbs.	h	h	h	h	h
January	6 and 19	$162\frac{1}{4}$	102	281	51		434
February		$69\frac{1}{4}$	70	215	106	1	392
March		$261\frac{3}{4}$	153	240	41		434
April		$165\frac{1}{4}$	115	202	103		420
May.........		131	91	264	79		434
June.........		$110\frac{3}{4}$	77	141	160	42	420
July.........		66	60	255	103	16	434
August.......		$84\frac{3}{4}$	81	243	89	21	434
September....		$120\frac{3}{4}$	71	169	170	10	420
October		$70\frac{1}{4}$	64	179	152	39	434
November		167	108	128	137	47	420
December.....		$453\frac{3}{4}$	197	115	52	70	434

The sum of all the pressures between 6^h and 19^h was $1862\frac{3}{4}$ lbs.; the number of hours of wind recording pressure was 1189; the number of hours of wind not recording pressure was 2432; the number of hours of calm was 1243; and the number of hours during which the instrument was out of order was 246. The total number of hours during which the wind was effective in the period was ~~4974~~; and, as wind with pressure was recorded at 1189 hours, the pressure was equal to or greater than $\frac{1}{4}$ lb. on the square foot for one hour out of 4^h. 1^m during the period. The air was in motion for 3621 hours out of 4974; and therefore the air was in motion for one hour out of 1^h. 22^m; and the air was not in motion for one hour out of 4^h. 0^m.

TABLE LIX.

1845, 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	255¾	100	172	35	3	310
February		91½	71	147	62		280
March		310	155	144	11		310
April		256	151	137	12		300
May.........		181	117	167	22	4	310
June.........		158¼	85	124	61	30	300
July		149¼	112	151	43	4	310
August.......		192¼	147	143	16	4	310
September....		194	115	121	64		300
October		96¾	90	136	75	9	310
November		118¾	79	128	71	22	300
December.....		200½	116	108	36	50	310

The sum of all the pressures between 20^h and 5^h was 2204 lbs.; the number of hours of wind recording pressure was 1338; the number of hours of wind not recording pressure was 1678; the number of hours of calm was 508; and the number of hours during which the instrument was out of order was 126. The total number of hours in the period was 3650; the total number of hours of effective working of the instrument was 3524; and as wind with pressure was recorded at 1338 hours, the pressure was equal to or greater than ¼ lb. on the square foot for one hour out of $2^h.38^m$ during the period. The air was in motion for 3016 hours out of 3524, and therefore for one hour out of $1^h.11^m$; and as there were 508 hours of calm out of 3524, the air was not in motion during one hour out of $6^h.56^m$.

By taking the sums of all the quantities at each hour, the next table is formed.

TABLE LX.

1845, Hour.	Sum of Pressures.	Number of Hours of Wind		Number of Hours		Total Number of Hours.
		Recording Pressure.	Not recording Pressure.	of Calm.	Instrument out of Order.	
h	lbs.	h	h	h	h	h
13	118¾	72	175	98	20	365
14	110¼	76	174	95	20	365
15	108	68	182	96	19	365
16	101	76	176	95	18	365
17	117	76	177	94	18	365
18	138½	84	165	97	19	365
19	137	86	165	98	16	365
20	153	92	174	84	15	365
21	174¼	98	178	72	17	365
22	170	110	184	62	9	365
23	230	131	166	56	12	365
0	242¾	143	161	47	14	365
1	264	158	155	36	16	365
2	261¾	155	159	38	13	365
3	255¾	159	155	38	13	365
4	237	150	168	36	11	365
5	215½	137	178	39	11	365
6	190½	122	177	52	14	365
7	153½	99	182	71	13	365
8	141	91	175	85	14	365
9	143¾	85	177	87	16	365
10	138½	86	173	89	17	365
11	138½	86	168	93	18	365
12	126½	87	166	93	19	365

Therefore there has been a minimum pressure somewhat before sunrise, and a maximum at about 1^h or 2^h, from which time the sum of the pressures is less at each succeeding hour till 8^h; after 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 $4066\frac{3}{4}$ lbs. The number of hours during which the wind was blowing while recording this pressure was 2527; the number of hours during which it was blowing without recording pressure was 4110; and the number of hours that were calm were 1751, as shewn by Osler's Anemometer, from January 1 to November 11, and from observations by estimation after November 11. Osler's Anemometer was out of order 250 hours during the period it was in use, and there were 120 hours at which no observations by estimation were taken after that time.

From the numbers in Table LVI. the following table is immediately formed:—

TABLE LXI.—Mean Pressure of the Wind in every Month, at each Hour, independently of Direction, when the Wind blew so as to record a Pressure of more than a Quarter of a Pound on the Square Foot.

1845, Month.	13^h	14^h	15^h	16^h	17^h	18^h	19^h	20^h	21^h	22^h	23^h	0^h
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
January	2·9	2·3	2·0	1·4	1·7	1·7	2·5	2·6	2·4	2·2	3·3	2·8
February	0·6	0·7	0·5	0·5	1·8	2·0	0·8	1·0	2·0	1·1	1·3	1·3
March	2·1	1·4	2·2	1·9	2·0	1·5	1·8	2·2	2·2	2·7	2·3	2·0
April	0·7	1·2	1·5	1·4	1·4	2·0	2·2	2·2	2·4	2·2	1·3	1·5
May	1·8	1·5	1·4	0·7	1·0	0·8	1·0	1·1	1·3	1·5	1·7	1·6
June	1·8	1·0	1·1	1·4	1·4	1·8	1·7	2·1	2·4	1·4	2·1	1·7
July	1·0	0·9	0·5	0·5	0·5	0·5	0·5	0·7	0·9	0·9	1·6	1·3
August	1·0	1·3	0·9	0·8	0·7	0·8	1·0	1·0	1·4	1·3	1·6	1·2
September	1·9	1·3	2·0	1·1	1·5	2·4	1·8	2·4	2·7	1·7	1·8	2·1
October	1·2	1·0	0·8	0·9	1·0	1·0	1·1	1·8	1·3	0·6	0·8	1·2
November	1·4	1·3	1·1	1·4	1·8	2·9	2·2	2·0	1·7	2·3	2·2	2·4
December	2·1	2·2	2·3	1·7	1·7	1·9	1·6	1·4	1·3	0·9	1·6	1·7

1845, Month.	1^h	2^h	3^h	4^h	5^h	6^h	7^h	8^h	9^h	10^h	11^h	12^h
January	2·7	2·7	3·3	2·3	1·4	1·2	1·1	1·4	1·4	1·1	1·5	1·1
February	0·9	1·2	1·3	1·4	1·9	1·6	1·8	1·1	1·2	0·9	0·9	0·6
March	1·9	2·1	1·8	2·0	1·4	1·5	1·4	1·6	1·8	1·7	1·7	1·7
April	2·5	1·9	1·4	1·8	1·6	1·5	1·6	1·5	1·3	1·1	1·4	1·3
May	1·8	1·7	1·5	1·3	1·8	1·7	1·2	1·3	1·8	2·8	1·7	2·8
June	2·1	1·5	2·3	1·6	1·7	1·5	2·0	1·1	1·0	1·1	1·6	1·8
July	1·5	1·5	1·5	1·7	1·3	1·6	1·2	1·5	1·4	1·1	0·8	0·1
August	1·2	1·2	1·4	1·4	1·4	1·5	1·4	0·9	1·2	1·0	1·2	0·8
September	2·1	1·6	1·2	1·2	1·4	1·4	1·9	2 6	2·1	2·0	1·6	1·1
October	1·1	1·1	1·1	0·9	1·5	1·5	1·2	0·9	1·0	1·0	1·3	1·7
November	1·5	1·4	0·8	1·2	1·0	1·3	1·2	1·1	1·6	1·5	1·5	1·3
December	1·9	2·1	2·1	1·9	2·3	2·5	2·7	2·8	3·3	2·9	2·7	2·1

TABLE LXII.—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 a Quarter of a Pound on the Square Foot, in the Year 1845.

1845, Direction of Wind.	13h		14h		15h		16h		17h		18h		19h		20h		21h	
	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.	Sums of Pressures.	Number of Hours.
	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h
N.	3¾	5	3¼	5	2	4	1¾	5	4½	7	5½	10	17¾	9	21¼	12	22¾	10
N. N. E.	1½	3	1¼	3	5¼	3	3	3	2¼	3	5	6	6¾	6	5¾	6	5	4
N. E.	5½	2	4½	2	5	2	4	2	7	2	5¼	3	7¾	4	12¼	6	14	6
E. N. E.	4½	2	5	4	1½	1	2	2	1½	1	1½	1					¼	1
E.																		
E. S. E.									¼	1	1	1	¾	1			½	1
S. E.													½	1	½	1	1	1
S. S. E.			¼	1			¾	2			¼	1	½	1	1½	1	1	2
S.	5¾	4	6¾	5	5¼	4	5	4	7¼	6	7	5	9	3	9¼	4	12¼	6
S. S. W.	17¼	9	16½	11	12	9	11¾	10	19	12	24¼	13	26¼	15	26	15	31¾	14
S. W.	30¼	17	20¼	13	25	14	27	18	22¼	14	28	14	16¼	14	23	17	23¼	17
W. S. W.	21	16	28	17	18¾	14	16¼	12	20¼	12	24¼	12	26½	12	25¼	13	27	13
W.	4¾	4	3½	2	15	6	11	6	7¾	6	15¼	9	13	11	14¾	9	17	10
W. N. W.	14	4	¾	2	¾	2	1	2			¼	1	1	1	1	1	4	2
N. W.	9	5	12¼	8	10½	5	9½	6	14	8	10½	5	10	7	6½	3	8	6
N. N. W.	2	2	4½	2	7	4	8	4	11	4	6½	3	1½	1	6	4	6½	5

	22h		23h		0h		1h		2h		3h		4h		5h		6h	
N.	21¾	11	19¼	12	27¾	14	27½	15	25¾	14	25¼	18	20½	15	19	14	14¾	11
N. N. E.	2¾	3	7¼	3	8¾	6	4¾	3	4	3	11½	6	11½	7	7½	6	4½	4
N. E.	13	6	12½	7	15¾	10	15¼	10	17½	10	5	5	7	6	6½	5	4½	5
E. N. E.	2	2	3	4	3	3	3¾	6	4	5	5¾	10	2¾	4	4¼	6	3½	4
E.			3¾	4	4¾	4	6½	6	7	4	5½	5	5½	6	1¾	3	¼	1
E. S. E.	½	1	¼	1	1	1	½	1	2	3	1¼	2	1½	3	½	1	½	1
S. E.	1½	2	1½	2	1½	2	½	1	¼	1	1	1						
S. S. E.	½	1					2	2			1	2	3	1			¼	1
S.	9	8	7½	8	6½	9	8¼	10	10	11	6½	7	8	8	10	10	6¾	10
S. S. W.	25	17	43	19	38	18	42	23	19½	12	23	17	24¼	19	21	18	18¾	13
S. W.	33¼	20	36¼	24	52	25	49¾	27	62½	32	55¼	32	53¼	28	52	25	48¾	26
W. S. W.	30½	16	39¼	19	36¼	21	39	20	32½	21	32	18	34½	20	35¾	19	39½	21
W.	11¼	9	25¼	7	25	10	40¼	16	25¾	15	26½	14	13	9	7¼	9	4¼	7
W. N. W.	4	2	8½	5	2¾	4	6	4	24½	6	14	5	7¾	4	8½	4	8	3
N. W.	10	6	10½	8	15½	11	9	9	12	9	24¾	8	20	8	20	8	16½	5
N. N. W.	5	6	8¼	8	4¼	5	9	5	4½	9	17½	9	24½	12	21½	9	19½	10

	7h		8h		9h		10h		11h		12h		Sums of the Pressures for the Year.	Sums of the Hours.
													lbs.	h
N.	12¾	9	12½	10	12½	7	14¼	6	12	7	5	7	353	237
N. N. E.	4¼	5	3	3	3½	3	2½	2	2¾	4	7½	4	121¾	99
N. E.	5	4	3½	3	4	3	4	3	6¼	3	5½	4	190½	113
E. N. E.	1	1	2	2					½	1	1	2	52¾	62
E.					¼	1							35¼	34
E. S. E.	½	1	½	1	½	1	½	1	1½	2	½	1	14½	25
S. E.					½	1							8¾	13
S. S. E.	1½	2	¼	1	¾	1	¾	2					14¼	21
S.	16¾	11	7	7	13¼	9	9¾	9	14½	9	15¼	10	224½	177
S. S. W.	19	14	26	17	19¾	13	22¼	12	14¾	10	12¼	8	553¼	338
S. W.	30¼	18	38½	17	47	19	33¼	21	33	20	35¾	18	876	490
W. S. W.	22¾	13	20	12	18¾	12	32	16	31	16	24¾	19	675¾	384
W.	11¾	8	3	8	5¾	7	8½	7	7½	7	4¼	4	321¼	200
W. N. W.	3	1	4	2	2½	1	1	1	4	1	¾	1	124½	59
N. W.	11½	5	7	3	7¾	6	2¾	3	4¾	4	10¾	7	273	153
N. N. W.	13½	7	13¾	5	7	1	7	3	6	2	3½	2	227¾	122

TABLE LXIII.—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.	0·8	0·7	0·5	0·3	0·6	0·6	2·0	1·8	2·3	2·0	1·6	2·0
N. N. E.	0·5	0·4	1·7	1·0	0·8	0·8	1·1	1·0	1·3	0·9	2·7	1·5
N. E.	2·8	2·3	2·5	2·0	3·5	1·7	1·9	2·0	2·3	2·2	1·8	1·6
E. N. E.	2·3	1·3	1·5	1·0	1·5	1·5			0·3	1·0	0·8	1·0
E.											1·0	1·2
E. S. E.					0·3	1·0	0·8		0·5	0·5	0·3	1·0
S. E.							0·5	0·5	1·0	0·8	0·8	0·8
S. S. E.		0·3		0·4		0·3	0·5	1·5	0·5	0·5		
S.	1·5	1·4	1·3	1·3	1·2	1·4	3·0	2·3	2·0	1·1	0·9	0·7
S. S. W.	1·9	1·5	1·3	1·2	1·6	1·9	1·8	1·7	2·3	1·5	2·3	2·1
S. W.	1·8	1·6	1·8	1·5	1·6	2·0	1·2	1·4	1·4	1·7	1·5	2·1
W. S. W.	1·3	1·7	1·3	1·4	1·7	2·0	2·2	1·9	2·1	1·9	2·1	1·7
W.	1·2	1·8	2·5	1·8	1·3	1·7	1·2	1·6	1·7	1·2	3·3	2·5
W. N. W.	3·5	0·4	0·4	0·5		0·3	1·0	1·0	2·0	2·0	1·7	0·7
N. W.	1·8	1·5	2·1	1·6	1·8	2·1	1·4	2·2	1·3	1·7	1·3	1·4
N. N. W.	1·0	2·3	1·8	2·0	2·8	2·2	1·5	1·5	1·3	0·8	1·0	0·8

	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	12h
N.	1·8	1·8	1·4	1·4	1·4	1·3	1·4	1·3	1·8	2·4	1·7	0·7
N. N. E.	1·6	1·3	1·9	1·6	1·3	1·1	0·9	1·0	1·2	1·3	0·7	1·9
N. E.	1·5	1·8	1·0	1·2	1·3	0·9	1·3	1·2	1·3	1·3	2·1	1·4
E. N. E.	0·6	0·8	0·6	0·7	0·7	0·9	1·0	1·0			0·5	0·5
E.	1·1	1·8	1·1	0·9	0·6	0·3			0·3			
E. S. E.	0·5	0·7	0·6	0·5	0·5	0·5	0·5	0·5	0·5	0·5	0·8	0·5
S. E.	0·5	0·3	1·0						0·5			
S. S. E.	1·0		0·5	3·0		0·3	0·8	0·3	0·8	0·4		
S.	0·8	0·9	0·9	1·0	1·0	0·7	1·5	1·0	1·5	1·1	1·6	1·5
S. S. W.	1·8	1·6	1·4	1·3	1·2	1·4	1·4	1·5	1·5	1·9	1·5	1·5
S. W.	1·8	1·9	1·7	1·9	2·1	1·9	1·7	2·3	2·5	1·6	1·7	2·0
W. S. W.	2·0	1·5	1·8	1·7	1·9	1·9	1·8	1·7	1·6	2·0	1·9	1·3
W.	2·5	1·7	1·9	1·4	0·8	0 6	1·5	0·4	0·8	1·2	1·1	1·0
W. N. W.	1·5	4·1	2·8	1·9	2·1	2·7	3·0	2·0	2·5	1·0	4·0	0·8
N. W.	1·0	1·3	3·1	2·5	2·5	3·3	2·3	2·3	1·3	0·9	1·8	1·5
N. N. W.	1·8	0·5	1·9	2·0	2·4	2·0	1·9	2·8	7·0	2·3	3·0	1·8

Abstracts of the Results of Whewell's Anemometer.

In every month the amounts in inches through which the pencil had descended, corresponding to each direction of the wind (supposing the circumference divided into sixteen equal parts), were collected together, and their sums taken, and thus the following table was formed:—

TABLE LXIV.—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. 3. 22 to 30. 22	12·23				3·13		0·42		22·25	24·21	23·13	13·83	4·18	3·22	5·73	1·35	113·68
Feb. 0. 22 to 27. 22	15·85	1·50	1·34		4·11	5·55	0·97	6·23	9·08	1·50	6·32	7·48	4·87	6·95	8·04	9·51	89·30
Mar. 0. 22 to 30. 22	12·37	4·24	19·06	18·14	8·85	1·94			3·62	0·98	13·11	21·47	17·12	4·03	7·21	3·07	135·21
Apr. 0. 22 to 29. 22	6·48	18·31	10·94	6·03	10·76	12·72	0·76	2·02	2·58	4·70	24·64	7·16	5·56	4·06	9·62	1·00	127·34
May 0. 22 to 30. 22	40·42	12·96	2·13	3·72	0·79				0·47	3·03	9·51	16·28	4·18	1·85	4·65	8·86	108·85
June 0. 22 to 29. 22	3·26	1·18	0·55	3·38	1·11	2·01	0·73		1·75	11·94	31·66	11·25	5·01	4·47	6·85		85·15
July 0. 22 to 30. 22	4·29	4·10	1·08	0·28	3·08	0·96			2·80	2·81	34·39	13·59	3·73	2·19	9·89		83·19
August, parts of	5·48	5·11		2·04					0·58	3·87	10·69			1·35	1·04	1·00	31·16
Sep. 0. 22 to 29. 22	1·05	6·75	11·38	7·17	2·62	1·22	2·61		6·43	5·34	34·27	14·85	7·17		1·45		102·31
Oct. 0. 22 to 30. 22	2·63		0·59	0·48	0·81			0·80	7·47	19·90	18·37	35·84	12·25	3·04	4·82		107·00
Nov. 0. 22 to 29. 22	9·67		2·40		5·77			5·23	25·77	16·50	36·01	15·10	2·90	2·69	4·00	2·06	128·10
Dec. 0. 22 to 26. 22	11·23									10·00	15·64	43·49	23·29	12·76	12·51	15·03	143·95

In the month of August, Whewell's Anemometer was at work between $0^d. 0^h$ and $1^d. 22^h$; between $14^d. 22^h$ and $18^d. 22^h$; and between $27^d. 22^h$ and $30^d. 22^h$; at other times in this month the instrument was in the hands of the maker for repair.

The descent of the pencil with the	N.	wind was	124·96	inches.
,,	N. N. E.	,,	54·15	
,,	N. E.	,,	49·47	
,,	E. N. E.	,,	41·24	
,,	E.	,,	41·03	
,,	E. S. E.	,,	24·40	
,,	S.E.	,,	5·49	
,,	S. S. E.	,,	14·28	
,,	S.	,,	82·80	
,,	S. S. W.	,,	104·78	
,,	S. W.	,,	257·74	
,,	W. S. W.	,,	200·34	
,,	W.	,,	90·26	
,,	W. N. W.	,,	46·61	
,,	N.W.	,,	75·81	
,,	N. N. W.	,,	41·88	

And the whole descent was 1255·24 inches.

Resolving these numbers into the cardinal directions, as for Osler's Anemometer, we have,

TABLE LXV.—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.	124·96	124·96			
N. N. E.	54·15	50·03	20·72		
N. E.	49·47	34·98	34·98		
E. N. E.	41·24	15·78	38·10		
E.	41·03		40·03		
E. S. E.	24·40		22·54	9·34	
S. E.	5·49		3·88	3·88	
S. S. E.	14·28		5·47	13·19	
S.	82·80			82·80	
S. S. W.	104·78			96·81	40·10
S. W.	257·74			182·25	182·25
W. S. W.	200·34			76·67	185·09
W.	90·26				90·26
W. N. W.	46·61	17·84			43·06
N. W.	75·81	53·61			53·61
N. N. W.	41·88	38·69			16·03
	Sums	335·89	165·72	464·94	610·40

By taking the sum of all the quantities for each day inserted in the ordinary observations, the following table is immediately formed:—

TABLE LXVI.—Shewing the whole Descent of the Pencil in the Twenty-four Hours previous to reading the Instrument.

Day and Hour of Reading the Instrument, 1845.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d h	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
0. 22		4·50	5·13	1·78	8·14	0·66	4·80	4·82	2·18	5·17	0·55	7·30
1. 22		4·01	1·92	3·33	7·80	2·18	7·33	2·23	2·30	4·51	6·90	6·60
2. 22		2·85	2·85	2·20	5·58	0·89	1·26		2·37	5·19	1·50	7·30
3. 22	2·18	4·00	4·71	2·78	4·02	5·65	4·96		1·57	4·70	1·75	6·50
4. 22	5·12	3·93	2·18	3·96	4·40	5·19	2·15		2·43	6·85	1·90	6·00
5. 22	7·36	5·10	2·07	3·16	1·75	7·86	1·86		2·87	0·04	3·70	7·00
6. 22	3·90	5·52	2·87	2·52	1·23	5·56	1·88		2·92	3·44	5·50	4·80
7. 22	1·35	2·14	2·60	2·57	1·77	6·57	2·56		2·26	2·35	5·64	3·35
8. 22	2·52	1·66	4·85	3·24	1·75	3·86	5·55		0·00	3·15	2·76	4·45
9. 22	1·90	4·58	5·07	3·86	0·58	1·60	4·98		2·31	3·15	3·20	4·65
10. 22	8·12	4·20	4·37	5·65	2·17	0·54	3·32		2·52	2·55	3·10	4·35
11. 22	3·30	1·50	3·05	2·94	3·30	1·91	3·83		2·48	3·05	3·65	7·30
12. 22	2·27	3·40	2·88	3·02	4·98	1·12	2·01		2·27	1·95	0·55	2·45
13. 22	4·17	6·04	3·40	8·57	5·68	0·83	2·84		2·20	2·57	0·65	2·65
14. 22	1·81	4·76	2·58	9·23	2·26	0·88	2·17		2·49	1·84	0·33	7·95
15. 22	2·60	4·30	6·93	7·77	2·08	1·34	1·38	3·60	3·34	3·21	3·77	6·30
16. 22	3·24	1·10	3·97	5·67	3·02	1·46	2·22	2·37	6·75	2·97	6·05	4·90
17. 22	4·86	0·60	2·63	5·31	2·58	0·68	3·16	5·06	9·57	7·67	7·35	1·25
18. 22	6·08	0·68	1·38	4·18	3·43	2·92	0·92	3·18	9·14	6·57	8·60	4·50
19. 22	5·47	1·84	3·05	4·13	4·33	0·43	2·44		4·66	7·38	9·18	8·25
20. 22	5·45	2·98	2·40	2·57	3·65	1·01	1·88		4·68	4·10	6·05	6·50
21. 22		2·55	5·77	2·96	6·50	1·33	1·22		6·53	2·36	2·42	6·50
22. 22	5·05	0·00	7·65	1·99	5·62	2·94	2·10		2·34	1·45	2·63	7·65
23. 22	6·15	3·15	5·70	1·43	3·12	2·48	1·03		2·14	1·25	4·92	3·48
24. 22	5·32	2·36	2·83	3·27	1·50	6·30	0·29		1·80	1·42	3·90	0·62
25. 22	8·88	4·88	4·55	6·48	1·17	3·08	0·28		2·55	1.11	7·50	4·75
26. 22	5·75	4·00	8·35	8·72	1·68	1·60	2·75		2·87	4·05	10·35	6·60
27. 22	5·10	2·67	10·82	5·85	3·72	5·60	3·73		6·27	6·25	6·30	
28. 22	1·62		7·92	3·70	3·46	4·26	0·99	3·87	4·21	3·25	6·10	
29. 22	0·78		4·07	4·50	4·56	4·42	3·30	3·35	2·29	2·62	1·30	
30. 22	3·33		6·66		3·02		4·00	2·68		0·83		

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			113·68 inches.
February	,,	,,	89·30
March	,,	,,	135·21
April	,,	,,	127·34
May	,,	,,	108·85
June	,,	,,	85·15
July	,,	,,	83·19
August	,,	,,	31·16
September	,,	,,	102·31
October	,,	,,	107·00
November	,,	,,	128·10
December	,,	,,	143·95

And the sum of all the descents was 1255·24 inches.

Amount of Cloud in the Year 1845.

TABLE LXVII.—Mean Amount of Cloud as deduced from the Twelve Observations taken Daily at the Even Hours of Göttingen Mean Time for every Day in the Year (except Sundays, Good Friday, and Christmas Day). (The Number 10 denotes that the Sky was completely covered with Clouds.)

Days of the Month, 1845.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d												
1	9·3	5·9	8·4	5·3	6·5	*S*	7·9	5·2	7·9	5·8	2·6	6·2
2	9·2	*S*	*S*	2·9	5·2	5·1	7·5	9·4	9·5	9·8	*S*	6·4
3	8·8	9·2	8·3	1·0	7·7	5·6	4·3	*S*	10·0	8·4	0·8	7·1
4	9·5	7·6	6·5	1·6	*S*	6·8	7·9	8·4	8·1	5·6	0·0	4·3
5	*S*	5·6	7·0	4·2	8·0	8·3	5·3	8·5	9·7	*S*	3·7	3·8
6	8·6	1·2	8·3	*S*	9·2	6·8	*S*	7·1	3·9	6·8	8·6	2·6
7	8·8	2·8	7·5	0·0	9·6	8·1	3·3	7·1	*S*	7·2	7·9	*S*
8	10·0	5·7	5·4	4·4	9·9	*S*	6·4	6·6	2·9	8·0	9·6	5·6
9	10·0	*S*	*S*	7·5	7·8	3·5	8·9	8·5	0·0	5·8	*S*	4·8
10	8·3	10·0	10·0	10·0	3·9	0·5	9·2	*S*	6·8	5·0	6·5	4·3
11	10·0	3·6	6·7	9·3	*S*	0·0	9·8	9·0	10·0	6·7	7·0	6·5
12	*S*	2·8	6·7	10·0	8·3	3·3	9·0	9·8	3·6	*S*	6·8	3·5
13	9·1	9·8	7·1	*S*	7·3	3·6	*S*	9·1	4·8	4·0	6·0	5·8
14	9·8	6·5	0·0	8·2	6·8	4·2	8·9	9·3	*S*	0·0	8·7	*S*
15	9·4	7·3	7·4	10·0	9·6	*S*	9·1	7·4	8·3	5·9	7·7	9·3
16	9·8	*S*	*S*	8·4	10·0	8·8	5·7	8·1	9·3	5·8	*S*	9·3
17	9·7	8·0	4·6	2·5	8·0	8·5	9·1	*S*	8·0	9·9	6·2	10·0
18	8·8	8·7	6·0	5·8	*S*	7·3	7·3	6·7	6·7	7·8	7·4	10·0
19	*S*	7·5	8·3	4·2	8·3	5·1	2·9	9·5	1·4	*S*	6·8	8·0
20	7·0	1·8	3·4	*S*	8·4	2·7	*S*	3·5	5·7	5·2	4·5	4·9
21	2·1	2·7	10·0	1·0	9·6	3·0	7·4	2·8	*S*	3·3	7·1	*S*
22	7·0	9·4	6·7	4·3	6·3	*S*	6·8	1·5	5·8	8·5	4·6	9·9
23	10·0	*S*	*S*	0·5	9·9	4·9	10·0	7·6	8·7	5·3	*S*	6·6
24	8·7	8·5	9·9	5·8	10·0	4·1	10·0	*S*	0·8	4·4	5·5	1·3
25	7·0	9·5	7·4	7·3	*S*	8·5	10·0	5·3	8·1	3·3	7·5	Christ. Day.
26	*S*	7·7	10·0	6·7	8·0	5·3	7·7	3·2	2·6	*S*	10·0	9·3
27	7·6	9·8	5·9	*S*	4·2	9·3	*S*	5·9	8·3	9·2	9·7	5·9
28	5·9	8·3	2·2	9·2	9·0	8·6	7·5	6·6	*S*	7·2	9·6	*S*
29	9·8		0·5	9·6	10·0	*S*	6·1	2·3	7·8	4·5	8·5	5·7
30	8·5		*S*	10·0	6·0	9·4	6·4	1·8	7·7	6·4	*S*	6·2
31	9·1				6·5		3·1	*S*		9·3		6·2

The letter *S* denotes that the day was Sunday.

From this table we learn that there were six days in the year free from cloud, viz., March 14, April 7, June 11, September 9, October 14, and November 4. There were, however, three additional, that may be considered cloudless, viz., March 29, April 23, and June 10. The periods about April 5 and June 11 were the longest clear periods in the year. There were twenty-three totally cloudy days, viz., January 8, 9, 11, and 23; February 10; March 10, 21, and 26; April 10, 12, 15, and 30; May 16, 24, and 29; July 23, 24, and 25; September 3 and 11;

November 26; December 17 and 18. Besides these, there were twenty-five days that may be considered as totally cloudy, viz., January 4, 14, 16, 17, and 29; February 13, 25, and 27; March 24; April 29; May 7, 8, 15, 21, and 23; August 12 and 19; September 2 and 5; October 2 and 17; November 8, 27, and 28; and December 22. Or there were only nine days in the year that can be considered cloudless, and there were forty-eight days in the year that may be considered quite cloudy.

TABLE LXVIII.—Mean Amount of Cloud in each Month, deduced from the Mean of all the Two-Hourly Observations in each Month.

1845, Month.	Mean Amount of Cloud 0–10.	1845, Month.	Mean Amount of Cloud 0–10.
January	8·6	July	7·3
February	6·7	August	6·5
March	6 6	September	6·4
April	5·8	October	6·3
May	7·9	November	6·5
June	5·6	December	6·3

The mean of all the monthly results is 6·7.

TABLE LXIX.—Mean Amount of Cloud at every Even Hour of Göttingen Mean Time, deduced from all the Observations taken at that Hour in each Month.

1845, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	8·1	6·1	7·5	5·1	7·7	4·8	7·6	5·6	5·8	5·4	6·5	5·9
16	8·1	7·0	7·1	6·1	8·5	5·6	7·7	5·8	5·6	6·2	6·4	6·3
18	8·6	6·8	8·0	6·0	8·5	5·6	7·7	6·5	7·1	6·5	6·2	5·1
20	8·8	6·8	7·8	7·3	8·6	6·2	7·5	7·0	6·9	7·5	6·6	6·7
22	8·6	6·4	6·9	7·1	8·5	6·8	8·1	7·6	6·8	8·1	6·4	6·0
0	8·6	7·1	6·2	5·3	8·6	6·0	8·1	7·5	7·2	7·4	6·9	6·5
2	8·6	7·1	6·8	4·9	8·4	6·2	7·7	7·6	6·6	6·6	6·7	6·3
4	8·5	6·2	7·1	5·3	8·5	5·7	6·9	7·4	6·9	6·7	7·0	6·5
6	9·2	6·1	6·8	4·9	8·0	5·3	6·1	6·3	6·3	5·6	6·6	6·1
8	8·5	6·8	4·8	5·3	7·3	5·0	6·7	5·6	6·5	4·7	6·5	7·2
10	9·1	6·7	4·6	4·9	6·5	4·8	6·9	5·6	5·7	5·2	6·6	6·5
12	8·5	6·6	5·2	5·9	6·1	5·7	6·9	5·9	5·3	5·2	6·1	6·3

Generally the largest quantities of cloud prevail during the day, and the least during the night.

The next table is formed in the usual way from the numbers in the above table.

TABLE LXX.—Mean Amount of Cloud in Quarterly Periods, and for the Year.

1845, Hour, Göttingen Mean Time.	Mean Amount of Cloud in Spring.	Summer.	Autumn.	Winter.	The Year.
h					
14	6·8	6·0	5·9	6·7	6·4
16	7·2	6·4	6·1	7·1	6·7
18	7·5	6·6	6·6	6·8	6·9
20	7·9	6·9	7·0	7·4	7·3
22	7·5	7·5	7·1	7·0	7·3
0	6·7	7·2	7·2	7·4	7·1
2	6·7	7·2	6·6	7·3	7·0
4	7·0	6·7	6·9	7·1	6·9
6	6·6	5·9	6·2	7·1	6·5
8	5·8	5·8	5·9	7·5	6·3
10	5·3	5·8	5·8	7·4	6·1
12	5·7	6·2	5·5	7·1	6·1

The greatest quantity of cloud in Spring was	at 20^h,	and the least quantity was	at 10^h	
,, Summer	at 22	,,	8 and 10	
,, Autumn	at 0	,,	12	
,, Winter	at 8	,,	14	
,, for the Year	at 20 and 22^h	,,	10 and 12	

The difference between the greatest and least amounts in Spring	was 2·6
,, Summer	was 1·7
,, Autumn	was 1·7
,, Winter	was 0·8
,, for the Year	was 1·2

The mean quantity of cloud in Spring	was 6·8
,, Summer	was 6·5
,, Autumn	was 6·4
,, Winter	was 7·2
And the mean for the Year	was 6·7

Records of the Rain Gauges.

TABLE LXXI.—Amount of Rain collected in each Month in the several Gauges.

1845. Month.	Monthly Amount of the 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	1·06	2·07	1·920	2·40	2·39
February ...	0·28	0·77	0·770	0·93	0·88
March	0·70	1·06	1·215	1·51	1·29
April	0·22	0·44	0·615	0·55	0·58
May	1·26	1·98	2·065	2·21	2·16
June	1·11	1·69	1·830	1·89	1·87
July	0·80	1·58	1·780	1·85	1·91
August	1·50	2·48	2·715	3·10	2·88
September ..	1·46	2·18	1·955	2·12	2·07
October	0·93	1·26	1·255	1·38	1·32
November ..	(1·36)	1·79	2·110	2·40	2·37
December ...	(0·93)	1·70	1·900	2·00	2·55

In the months of November and December the rain-gauge at Osler's Anemometer was not in use; the quantities inserted for November and December, under the head of Osler's Anemometer-gauge, in brackets, have been supplied as follows:—The average amounts of rain recorded in the months of November and December at the anemometer-gauge, for the years 1841, 1842, 1843, and 1844, were $2^{in}\cdot10$ and $0^{in}\cdot45$ respectively; and the average quantities collected in the same months in the cylinder-gauge at the Royal Observatory were $3^{in}\cdot70$ and $0^{in}\cdot97$ respectively. Therefore, the amount inferred for November was $\frac{2\cdot1 \times 2^{in}\cdot4}{3\cdot7} = 1^{in}\cdot36$; and the amount inferred for December was $\frac{0\cdot45 \times 2^{in}\cdot0}{0\cdot97} = 0^{in}\cdot93$; the quantities $2^{in}\cdot4$ and $2^{in}\cdot0$ being those inserted under the head of "Cylinder Gauge" in the above table.

Taking the sums of the quantities in December, January, and February, for Winter; those in March, April, and May, for Spring; those in June, July, and August, for Summer; and those in September, October, and November, for Autumn; the following table is formed:—

TABLE LXXII. — Quarterly Amount of Rain.

1845.	At Osler's Anemometer.	On the Roof of the Library.	In Crosley's Gauge.	In Cylinder partly sunk in the Ground.	In Cylinder partly sunk in the Ground at the Royal Naval Hospital Schools.
	in.	in.	in.	in.	in.
Spring	2·18	3·48	3·895	4·27	4·03
Summer	3·41	5·75	6·325	6·84	6·66
Autumn	3·75	5·23	5·320	5·90	5·76
Winter	2·27	4·54	4·590	5·33	5·82

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 foot 11 inches above the ground; and that of the Cylindrical gauge is 5½ inches above the ground. The proportions of the sums collected, are,

1845.	Gauge of Osler's Anemometer.	Gauge on the Roof of the Library.	Crosley's Gauge.	Cylindrical Gauge.	Cylindrical Gauge at R. H. Schools.
In Spring.....	51	81	91	100	94
In Summer ...	49	83	92	100	98
In Autumn ...	64	88	90	100	97
In Winter	43	85	86	100	109

Between the quantities of rain received in the two lowest gauges at the Royal Observatory (viz., Crosley's and the Cylindrical gauge), it has always been found that when the former has been in good working order, there was very nearly a ratio of equality, and it is believed that the departure from this rule in the present year, is attributable to defective working of the machinery of Crosley's gauge, and that the quantity lost by this defective working has amounted in the year to more than two inches. The numbers at the upper stations differ most from those at the lower in winter, and least of all in summer.

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,	11·61
At the gauge above the Library	,,	177. 2	,,	19·00
At Crosley's gauge	,,	156. 6	,,	20·13
At the Cylindrical gauge	,,	155. 3	,,	22·34
At the Cylindrical gauge in R. H. Schools	,,	35. 0	,,	22·27

It appears from these results that, for a point about 24 feet above the ground, the ratio of the sums collected at that altitude and on the ground is 85 : 100; and that, for a point 50 feet above the ground, the ratio is 52 : 100.

It also appears that, for rain-gauges similarly situated with respect to the ground, a difference of level of 120 feet produces scarcely any sensible difference in the whole amount of rain collected. It would even appear from Table LXXII. that, in the warm months of the year, the quantity of rain which reaches the ground at a low level is less than that which reaches the ground at a high level.

Abstracts of the Observations made with the Actinometer.

TABLE LXXIII.

Month and Day, 1845.	Greenwich Astronomical Mean Time.	Altitude of the Sun.	Mean Radiation per Minute, in Parts of the Scale.	GENERAL REMARKS.	Kind of Cloud, &c., and Time of its Continuance.	Number of Divisions by which the Cloud, &c., caused the Readings to be less.	Number of Divisions that would have been shewn by the Instrument, had the Sky been clear, &c., during the time of continuance of the Cloud.	Approximate Proportion of the whole of the Rays cut off by the Cloud, &c.
d	h m s	°	div.			div.	div.	
February 19	21. 41. 25	24	17·1	Cloudless: occasional cold airs from the S. E.				
	22. 15. 55	24	19·1	,,				
	23. 8. 25	26	17·0	,,				
	23. 45. 55	27	21·0	Clear sky: wind very light; its direction was W. S. W.				
	23. 55. 40	27	22·3					
February 20	0. 6. 10	28	21·6					
	1. 13. 25	26	20·1					
	1. 43. 25	25	19·9					
	1. 56. 10	24	21·4					
	21. 16. 55	24	9·8	A whitish blue sky: a thin film of cloud.				
	22. 11. 55	25	12·6	There are a few white clouds below the Sun.				
	23. 58. 55	28	16·2	Cloudless.				
February 21	0. 10. 10	28	17·0					
	2. 3. 36	24	16·8	A light thin vapour passing.				
	2. 58. 6	17	17·6					
April 2	21. 53. 0	39	23·2	A few cirri are scattered about the sky, and there are currents of passing air.				
	23. 42. 30	45	25·7	Cloudless: frequent strong gusts of wind.				
April 3	1. 5. 30	43	23·9	Cloudless: frequent strong gusts of wind.				
	21. 22. 15	41	25·3	,, frequent puffs of wind.				
	21. 34. 0	41	27·3	,,				
	21. 45. 15	42	25·9					
	22. 20. 0	43	27·2					
	23. 9. 30	43	28·3	Frequent puffs of wind.				
	23. 17. 30	44	31·5	The glass was off.				
	23. 25. 30	44	28·2	The glass was on.				
April 4	0. 26. 30	46	23·5	Cloudless: currents of air.				
	1. 4. 30	43	18·4					
	1. 58. 30	40	15·7	,, windy.				
April 24	21. 58. 30	45	28·5	Cloudless: overcast afterwards. [See foot-note, p. (264).]	Cumulus.	27·3	28·5	0·958
June 10	4. 13. 45	37	19·6	Cloudless, but hazy near the Sun's place: there are occasional light airs.				
	4. 24. 15	35	19·1					
	5. 31. 45	22	8·6					

TABLE LXXIII.—*continued.*

Month and Day, 1845.	Greenwich Astronomical Mean Time.	Altitude of the Sun.	Mean Radiation per Minute, in Parts of the Scale.	GENERAL REMARKS.	Kind of Cloud, &c., and Time of its Continuance.	Number of Divisions by which the Cloud, &c., caused the Readings to be less.	Number of Divisions that would have been shewn by the Instrument, had the Sky been clear, &c., during the time of continuance of the Cloud.	Approximate Proportion of the whole of the Rays cut off by the Cloud, &c.
d	h m s	°	div.			div.	div.	
June 10	5. 39. 15	20	14·7	Cloudless, but hazy near the Sun's place: there are occasional light airs.				
	5. 54. 15	18	8·4					
	21. 26. 45	46	33·4	,, ,,				
	22. 4. 45	53	34·9	,, ,,				
June 11	1. 18. 30	62	28·3	Cloudless: wind in gusts.				
	1. 30. 0	60	29·9	,, ,,				
	1. 38. 45	59	29·5	,, ,,				
	1. 47. 0	57	30·0	,, ,,				
	1. 55. 15	56	32·8	,, ,,				
	3. 44. 15	47	35·6	,,				
	3. 54. 45	41	36·5	,,				
	4. 5. 15	37	37·7	,,				
	4. 24. 15	34	37·0	,,				
	4. 34. 0	32	36·7	,,				
	4. 43. 0	31	35·0	,,				
	4. 52. 0	30	33·5	,,				
	5. 1. 0	28	33·6	,,				
	5. 36. 45	24	30·2	,,				
	5. 45. 0	20	32·1	,,				
August 28	22. 25. 0	45	26·9					
	22. 35. 0	46	29·5	Cloudless: currents of air passing.				
	22. 46. 15	47	30·7					
	23. 11. 30	48	32·7					
August 29	0. 5. 0	49⅓	34·2					
	1. 11. 45	47	35·3	Light clouds about the place of the Sun.				
	1. 17. 0	47	33·4	,, ,,				
September 8	22. 37. 35	41	28·8	Cloudless.				
	22. 45. 43	42	31·4	,,				
	22. 53. 13	42	33·9	,,				
	23. 0. 43	43	34·6	,,				
	23. 8. 13	43	35·4	,,				
	23. 15. 43	44	36·4	,,				
	23. 23. 13	44	36·6	,,				
	23. 30. 5	44½	37·5	,,				
	23. 36. 20	45	36·5	,,				
	23. 43. 50	45	37·1	,,				
	23. 52. 35	46	35·4	,,				
September 9	0. 1. 27	46	37·0	Cloudless.				
	0. 41. 5	44	36·4	,,				
	0. 50. 28	43	36·8	,,				

TABLE LXXIII.—*concluded.*

Month and Day, 1845.	Greenwich Astronomical Mean Time.	Altitude of the Sun.	Mean Radiation per Minute, in Parts of the Scale.	GENERAL REMARKS.	Kind of Cloud, &c., and Time of its Continuance.	Number of Divisions by which the Cloud, &c., caused the Readings to be less.	Number of Divisions that would have been shewn by the Instrument, had the Sky been clear, &c., during the time of continuance of the Cloud.	Approximate Proportion of the whole of the Rays cut off by the Cloud, &c.
d	h m s	°	div.			div.	div.	
September 9	1.36.58	42	34·3	Cloudless.				
	1.50. 5	40	32·7	,,				
September 25	22.32.30	33	17·3	Cloudless, but very hazy.				
	22.42.15	33	14·9	Cloudless: the haze has increased considerably.				
October 13	21.27.30	21	26·8	Cloudless: the wind rather high.				
	21.40.15	23	27·7					
	21.48. 0	23	30·7					
	22. 5.30	25	31·6	Currents of air.				
	22.20.30	28	32·5					
October 15	0.14.30	30	25·7	The Sun is shining through cirri.	Cirrus.	9·0	34·7	0·260
	0.25. 8	30	27·3	The cirri are less dense.	Cirrus.	7·4	34·7	0·213
	0.34.23	30	29·2	The cirri have increased in density.	Cirrus.	5·5	34·7	0·160
	0.44.53	29	28·5					
	0.54.23	29	31·6	The Sun is nearly free from cloud.				
	1. 3.38	29	34·7	The Sun is wholly free from cloud.				
	1.20.15	..	27·6	A few cirri are scattered about the place of the Sun.	Cirrus.	7·1	34·7	0·204
	1.21.45	..	20·2	A cumulus passing over the Sun.	Cumulus.	14·5	34·7	0·418
	1.24.45	..	29·4	Cirri over the Sun.	Cirrus.	5·3	34·7	0·153

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