MAGNETICAL AND METEOROLOGICAL

OBSERVATIONS

MADE AT

THE ROYAL OBSERVATORY, GREENWICH,

IN THE YEAR

1843:

UNDER THE DIRECTION OF

GEORGE BIDDELL AIRY, ESQ. M.A.

ASTRONOMER ROYAL.

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ERRATA.

GREENWICH MAGNETICAL AND METEOROLOGICAL OBSERVATIONS FOR 1841.

PAGE

(140) March $20^d.0^h$. In the column under Dry Thermometer, *for* 5 7, *read* 53 ·7, in some copies.

25 Table III. In the column under Difference and ranging with February, *for* 1 ·352, *read* 1 ·262.

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xxxiv Lines 7 and 8 from the top. *Transpose the numbers so that they read as follows*:—

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

[illegible]) June $21^d.20^h$ and 22^h, in the foot-note, *for* decreased, *read* increased, *in both cases*.

[illegible]3) In first line of foot-note, *for* $15^h.12^m.4^s$ *read* $15^h.22^m.4^s$.

[illegible]5 Table xxvii. Range of the Magnet in the month of May, *for* 0 ·009654, *read* 0 ·009637.

[illegible]27 The first word of the fifth line from the top, *for* means, *read* sums.

[illegible]40 *For* the remarks following Table XVIII., *read* "The next table is formed from the preceding by taking the means of the numbers in each vertical column."

47 First word following Table XXXI., *for* Fom, *read* From.

49 In the 34th line from top, *for* 22^h and 20^h, *read* 22^h and 10^h.

63 Table LV. Heading of the last column, *for* Smallest Mum. *read* Smallest Minimum.

64 In the 18th line from the top, *for* form, *read* force.

73 Table LXXV. January at 14^h, *for* 561 ·7, *read* 560 ·5.

78 Table LXXIX. Last line but one, *for* W. N. W., *read* N. N. W.

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[7] Feb. $9^d.18^h$. Foot-note; Vertical Force Magnet, *dele* the note.

[7] Feb. 11^d. Foot-note; Horizontal Force Magnet, *dele* the note.

[9] Feb. $23^d.22^h$. Foot-note; *dele* with.

[11] March $8^d.12^h$. In the column Western Declination *for* 7′.53″, *read* 6′.53″.

[23] June $2^d.20^h$. Foot-note; Declination Magnet, *for* largest, *read* smallest.

[30] July 19^d. Foot-note; Horizontal Force Magnet, *for* July 19^d, *read* July 28^d.

[32] Aug. 3^d. Foot-note; Vertical Force Magnet, *dele* the note.

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[34] Foot-note; Vertical Force Magnet, *insert* "Aug. 16^d. The daily range was the smallest in the month."

[42] Oct. 11^d. Vertical Force Magnet: *add* to the foot-note, "except on October 26^d."

[56] to [62] *For* Civil Reckoning, *read* Astronomical Reckoning.

(2) Foot-note; Dry Thermometer: *insert* "Jan. 3^d and 4^d. The greatest difference of the mean daily temperatures for consecutive days in the month occurred."

(8) Foot-note; Dry Thermometer: *add* "except between Jan. 3^d and 4^d."

(22) Foot-note; Barometer: *for* July $8^d.0^h$, *read* Feb. $8^d.0^h$.

(46) Foot-note; Degree of Humidity: *for* Feb. 25^d, *read* March 25^d.

(110) Bottom line; *for* June, *read* July.

(122) *Dele* the foot-note under Elastic Force of Vapour and Weight of Vapour in a Cubic Foot of Air.

(129) *Insert* in the foot-notes: "ELASTIC FORCE OF VAPOUR AND WEIGHT OF VAPOUR IN A CUBIC FOOT OF AIR."
"Aug. 21^d. The mean daily values were the least in the month."

(146) Sep. 22. Dry Thermometer: the note applies to Sep. 27th and not to the 22nd.

(186) Foot-note; Barometer: *for* $0^d.18^h$, *read* $0^d.16^h$.

(262) Jan. $14^d.15^h.40^m$ and $18^h.40^m$. The barometer readings at these times were only approximate, and they should be omitted.

(266) In the 2nd line of foot-note; *for* former, *read* latter, and *for* latter, *read* former.

4 Table V. Day of Term Observations in March, *for* 24^d, *read* 23^d, in each instance.

18 Table XXX. In the heading, *for* Declination, *read* Horizontal Force.

19 The daily range in Summer, *for* 0 ·003425, *read* 0 ·003455.

23 In the fourth line from the top, *for* 1006, *read* 1022.

29 In the eighth line from the top, *for* 0 ·03852, *read* 0 ·003852.

78 Table LVI. *Dele* the heading, and *read* "Difference between the Mean Temperature of the Air and the Mean Temperature of the Dew-Point, at every even hour of Göttingen mean time in each month, as found by multiplying the numbers contained in the last table by the factors contained in Table XLVI.

80 Table LX. In the heading of the last column but three, *for* "Elastic Force of Vapour," *read* "Deduced Elastic Force of Vapour;" and in that of the last column but two, *for* Dew-Point by Dr. Apjohn's Formulæ, *read* Dew-Point deduced from Dr. Apjohn's Formulæ.

The observations signed H. B. were made by Mr. Hugh Breen, one of the computers employed in the reduction of the Ancient Greenwich Lunar Observations.

GREENWICH MAGNETICAL AND METEOROLOGICAL OBSERVATIONS,

1843.

INTRODUCTION.

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

introducing into it iron in small quantities. On the outside, near the north-east corner of the ante-room, a pole 79 feet in height is fixed, for the support of the 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.

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 rested a drum (having a covering of glass), within which the magnet vibrated. In 1842, on June 16^d, between 0^h and $1^h.50^m$, this drum was changed for a double rectangular box (one box completely inclosed within another), both boxes being covered with gilt paper, on 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 then carried over it and over the south pulley, and is then attached to a leathern strap, which passes downwards to a small windlass, that is carried by the lower part of the moveable upright. The intention of this construction is, to make it easy to alter the height of the magnet without the trouble of climbing to the top of the frame. The height of the two pulleys above the floor is about eleven feet nine inches, and the height of the magnet is about three feet: so that the length of the free suspending skein is about eight feet nine inches.

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

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

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

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

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

1. 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 $1^{div.}\cdot 43$. 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 $1''\cdot 0526$.

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 $1'.34''\cdot 271$, and the value used in 1841, viz. $1.34''\cdot 07$, was so nearly equal to this that it did not appear necessary to construct new tables. The same value viz. $1'.34''\cdot 07$, has been used, without fresh trial, during the year 1843.

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

1843, January 13. 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 Hind.

Position of Micrometer Head.	Micrometer Reading. r	Position of Micrometer Head.	Micrometer Reading. r
E	100 ·278	W	100 ·222
W	·288	E	·352
E	·300	W	·215
W	·280	E	·382
E	·285	W	·141
W	·266	E	100 ·745
E	·388	W	99 ·960
W	·171	E	100 ·390
E	·310	W	·195
W	·245	E	·631
E	·310	W	·040
W	·257	E	·575
E	·355	W	·160
W	·242	E	·521
E	·470	W	·070

Position of Micrometer Head.	Micrometer Reading. r	Position of Micrometer Head.	Micrometer Reading. r
E	100·462	W	99·962
W	·172	E	100·575
E	419	W	·042
W	·062	E	·542
E	·455	W	·015

The mean of these readings is $100^r{\cdot}294$; and this number is used as the reading for the line of collimation throughout the year.

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

1843, January 13. 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 Hind.

Marked Side of the Glass.	Micrometer Reading.	Marked Side of the Glass.	Micrometer Reading.
Out of the box	100·603	In the box	100·438
In the box	·440	Out of the box	·660
Out of the box	·612	In the box	·415
In the box	·440	Out of the box	·648
Out of the box	·652	In the box	·420
In the box	·438	Out of the box	·635
Out of the box	·643	In the box	·422
In the box	·435	Out of the box	·605
Out of the box	·610	In the box	·414
In the box	·450	Out of the box	·563
Out of the box	·650	In the box	·421

The mean of all the readings when the marked side of the glass was outside of the box is $100^r{\cdot}626$, and the mean of all the readings when the marked side of the glass was inside of the box is $100^r{\cdot}430$. Half of the difference is $0^r{\cdot}098$, or $9''{\cdot}219$, which is the error of collimation of the plane glass. As the micrometer-head of the telescope is always kept East, and the glass is always kept in its "usual position," the correction for this error is subtractive; and $9''{\cdot}22$ has consequently been subtracted from all readings for the bisections of the magnet cross during the year.

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

1843, January 10. The same magnet was used for simultaneous observations to correct for changes of declination as in the year 1842, and it is sufficient to mention here that one division of its scale was equal to 146″·17, and that the time of its vibration was 26ˢ. One observer, Mr. Dunkin, observed this magnet at intervals of 26ˢ, while another, Mr. Glaisher, observed the declination magnet, then reversed it in its stirrup, and again observed it, and so on. The illuminated end of the axis of the theodolite-telescope was, as usual, East. The results are contained in the following table :—

1843.	Position of Cross of Collimator.	Mean Micrometer Reading.	Mean Reading of Scale of Temporary Magnet.	Micrometer Reading reduced to Arc.	Scale Reading for Temporary Magnet reduced to Arc.	Excess of Micrometer Reading reduced to Arc over Scale Reading reduced to Arc.	Excess with Collimator East — Excess with Collimator West.	Half Difference, or Error of Collimation.
		r	d	° ′ ″	° ′ ″	′ ″	′ ″	′ ″
Jan. 10	W	107·84	58·14	2. 49. 4·5	2. 21. 38·4	27. 26·1	5. 42·5	2. 51·3
	E	111·34	58·05	2. 54. 33·8	2. 21. 25·2	33. 8·6		
	W	107·03	57·79	2. 47. 48·3	2. 20. 47·2	27. 1·1	7. 39·1	3. 49·6
	E	111·60	57·59	2. 54. 58·2	2. 20·18·0	34. 40·2		
	W	106·71	57·24	2. 47. 18·2	2. 19. 26·8	27. 51·4	6. 22·3	3. 11·2
	E	110·68	57·18	2. 53. 31·7	2. 19. 18·0	34. 13·7		
	W	105·44	57·16	2. 45. 18·7	2. 19. 15·1	26. 3·6	9. 21·5	4. 40·8
	E	111·16	57·00	2. 54. 16·8	2. 18. 51·7	35. 25·1		
	W	104·56	56·80	2. 43. 56·0	2. 18. 22·4	25. 33·6	9. 35·2	4. 47·6
	E	110·66	56·79	2. 53. 29·8	2. 18. 21·0	35. 8·8		
	W	103·24	56·83	2. 41. 51·8	2. 18. 26·8	23. 25·0	11. 53·6	5. 56·8
	E	110·64	56·71	2. 53. 27·9	2. 18. 9·3	35. 18·6		
	W	104·57	56·80	2. 43. 56·9	2. 18. 22·4	25. 34·5	10. 13·6	5. 6·8
	E	111·00	56·74	2. 54. 1·8	2. 18. 13·7	35. 48·1		
	W	104·42	56·81	2. 43. 42·8	2. 18. 23·9	25. 18·9	7. 39·3	3. 49·7
	E	109·07	56·66	2. 51. 0·2	2. 18. 2·0	32. 58·2		

The mean of the values in the last column is 4′.16″·7, and when the collimator is West of the magnet, as it was during the year 1843, the readings are too small by the above amount. The correction actually used during the year is + 4′.7″·70, which is the mean of all previous results combined with the above in the following manner. The mean of four results on 1840, Nov. 4, gave + 4′.9″·37 ; the mean of eight results on 1842, Jan. 1, gave + 3′.57″·45 ; and the mean of four results on 1842, July 5, gave + 4′.8″·58 Combining these with the preceding result, and giving weights in proportion to the number of partial results in each, we obtain + 4′.7″·70, the quantity which has been adopted.

No new experiments were made during the year 1843 to determine the separate

or the compound effects of the different causes of disturbance on the respective instruments, and the same corrections are applied as in preceding years, with the following exception. Between April 22^d. 0^h and May 4^d. 8^h, the horizontal and vertical force magnets were removed from their places for the purpose of ascertaining their temperature-corrections, and as their compound effect upon the declination magnet was to cause the marked end of the magnet to approach the East by $55''{\cdot}22$, the constant used generally throughout the year has been altered by the above quantity for the above-mentioned interval of time—as is more particularly explained in the next article.

6. Calculation of the constant used in the reduction of the observations of the declination magnet.

		°	′	″
Micrometer equivalent for reading for line of collimation $100''{\cdot}294$	−	2.	37.	14·65
Micrometer head of the theodolite East. Correction for the plane glass in the front of the box, in its usual position	−			9·22
Correction due to the compound effect of the horizontal force magnet and the vertical force magnet	−			55·22
	−	2.	38.	19·09
Correction for the effect of the mean time clock	+			9·41
	−	2.	38.	9·68
Cross wire of the collimator West of the magnet. Correction for Error of collimation	+		4.	7·70
	−	2.	34.	1·98

This constant was used from 1843, Jan. 1, until April 21^d. 22^h, and again, from May 4^d. 10^h till the end of the year 1843.

After the observation at 22^h, on April 21^d, the horizontal force magnet and the vertical force magnet were taken from their usual positions in the Magnetic Observatory, for the purpose of determining their corrections for temperature; the constant therefore became altered by the correction due to the compound effect of the two magnets on the declination magnet, and the constant was therefore $-2°.33'.6''{\cdot}76$, between April 22^d. 0^h and May 4^d. 8^h; after the latter hour the magnets were again placed in their boxes, and the previous constant was again used.

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

In the volume for 1841, are exhibited observations, by which it appeared that the time of vibration was 30^s; since that time a few observations have been frequently taken, and, no reason appearing for departing from the above determination, 30^s was used as the time of vibration throughout the year 1843.

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

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

The suspension-skein was without torsion, when the torsion circle read 232°. The torsion circle was then turned through angles of 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	232,	the theodolite reading was	249. 11. 55	Difference for	90, 25. 53
,,	322,	,,	249. 37. 48	Difference for	180, 56. 56
,,	142,	,,	248. 40. 52	Difference for	90, 29. 16
,,	232,	,,	249. 10. 8	Difference for	90, 28. 44
,,	322,	,,	249. 38. 52	Difference for	90, 28. 0
,,	232,	,,	249. 10. 52	Difference for	90, 28. 30
,,	142,	,,	248. 42. 22	Difference for	90, 28. 30
,,	232,	,,	249. 10. 52		

Therefore from the 1st pair the torsion force is $\frac{1}{209}$ of the earth's magnetic force
,, 2nd pair ,, $\frac{1}{190}$,,
,, 3rd pair ,, $\frac{1}{185}$,,
,, 4th pair ,, $\frac{1}{189}$,,
,, 5th pair ,, $\frac{1}{192}$,,
,, 6th pair ,, $\frac{1}{190}$,,
,, 7th pair ,, $\frac{1}{190}$,,

1843, Sept. 4^d. 0^h +. The suspending skein was without torsion when the torsion circle read 189°, and the following observations were taken in the same manner as on January 13.

Observers, Messrs. Glaisher and Dunkin.

	°		° ′ ″		° ′ ″
With torsion-circle reading	189,	the theodolite reading was	249. 1. 26	Difference for	90, 28. 12
,,	99,	,,	248. 33. 14	Difference for	180, 57. 20
,,	279,	,,	249. 30. 34	Difference for	90, 29. 15
,,	189,	,,	249. 1. 19	Difference for	90, 28. 25
,,	99,	,,	248. 32. 54	Difference for	90, 29. 38
,,	189,	,,	249. 2. 32	Difference for	90, 27. 51
,,	279,	,,	249. 30. 23	Difference for	90, 28. 59
,,	189,	,,	249. 1. 24		

Therefore from the	1st	pair the torsion force was	$\frac{1}{192}$	of the earth's magnetic force
,,	2nd	pair ,,	$\frac{1}{188}$	,,
,,	3rd	pair ,,	$\frac{1}{184}$	,,
,,	4th	pair ,,	$\frac{1}{192}$	,,
,,	5th	pair ,,	$\frac{1}{184}$	,,
,,	6th	pair ,,	$\frac{1}{196}$	,,
,,	7th	pair ,,	$\frac{1}{188}$	,,

And the mean of the above combined with those given in the volume for 1841 gives the torsion force $\frac{1}{184}$ 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 level is determined by application of the spirit-level at the time of observation (due regard being paid, in the reduction, to the inequality of pivots already found, and to the value of its scale, one division having been found by Mr. Simms to be equal to 1″·0526); and the azimuth reading is then corrected by the quantity, elevation of W. end of axis × tan. star's altitude. The readings of the azimuth circle increase as the instrument is turned from N. to E., S., and W.: from which it follows that the correction must have the same sign as the elevation of the W. end.

The correction for the azimuth of the star observed has been computed, independently in every observation, by 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

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

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

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

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

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

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

Then the last equation becomes

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

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

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

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

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

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

where E and F are constants."

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

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

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

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

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

we may put

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

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

Expanding both sides to the first power of δa,

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

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

The comparison of the terms multiplying δa gives,

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

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

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

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

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

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

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

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

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

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

C_s = seconds in time of hour-angle,

$a_{''}$ = 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 1843:—

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

Day, 1843.	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.
d		r	° ′ ″	″	″	° ′ ″	h m s	h m s	h m s	° ′ ″	′ ″	° ′ ″	° ′ ″	″	″	° ′ ″	
Feb. 5	Polaris S.P..	100·294	89.53.105	58	72	89.54.18·3	13. 7.42	13.10.16	1. 2.42	1.31.13	− 4.40·8	89.49.37·5					
			89.56. 50	15	25	89.56.30·0	13.11.44	13.14.18			− 7.10·4	89.49.19·6					
			89.58. 70	35	45	89.58.50·0	13.15.40	13.18.14			− 9.36·1	89.49.13·9	89.49.25·6	+10·2	+14·2	89.49.39·8	P
			90. 0. 60	23	35	90. 0.39·3	13.18.40	13.21.14			−11.27·2	89.49.12·2					
			90. 2. 95	45	65	90. 3. 8·3	13.22.34	13.25. 8			−13.51·4	89.49.16·9					
			90. 6. 55	17	30	90. 6.34·0	13.27. 9	13.29.43			−16.40·6	89.49.53·4					
Feb. 12	Polaris S.P..	100·294	89.30. 70	40	45	89.30.51·7	12.29.54	12.32.26	1. 2.37	1.31.14	+18.37·6	89.49.29·3					
			89.32. 25	0	5	89.32.10·0	12.31.41	12.34.13			+17.31·8	89.49.41·8	89.49.33·7	+12·8	+17·9	89.49.51·6	JH
			89.32. 83	55	60	89.33. 6·0	12.33.25	12.35.57			+16.27·9	89.49.33·9					
			89.33. 75	42	47	89.33.54·7	12.34.51	12.37.23			+15.35·0	89.49.29·7					
Feb. 13	Polaris S.P..	100·294	90. 1. 60	20	30	90. 1.36·7	13.19.38	13.22.11	1. 2.36	1.31.15	−12. 6·3	89.49.30·4					
			90. 2. 97	50	60	90. 3. 9·0	13.21.58	13.24.31			−13.32·6	89.49.36·4	89.49.38·4	+ 9·2	+12·8	89.49·51·2	D
			90. 6. 60	30	37	90. 6.42·3	13.27.38	13.30.11			−17. 1·9	89.49.40·4					
			90. 7. 90	50	55	90. 8. 5·1	13.29.43	13.32.16			−18.18·6	89.49.46·4					
Mar. 1	Polaris S.P..	100·294	89.32. 40	0	10	89.32.16·7	12.32.45	12.35.18	1. 2.27	1.31.18	+16.46·4	89.49. 3·1					
			89.33. 40	8	15	89.33.21·0	12.34.30	12.37. 3			+15.41·2	89.49. 2·8					
			89.34. 60	20	20	89.34.33·3	12.36. 5	12.38.38			+14.43·3	89.49.17·1					
			89.35. 45	12	15	89.35.24·0	12.37.40	12.40.13			+13.44·7	89.49. 8·7	89.49.10·5	+ 6·3	+ 8·7	89.49·19·2	G
			89.36. 75	30	30	89.36.45·0	12.39.30	12.42. 3			+12.36·9	89.49.21·9					
			89.37. 95	55	55	89.38. 8·3	12.42. 5	12.44.38			+11. 1·2	89.49. 9·5					
Mar. 6	Polaris S.P..	100·294	89.39. 60	28	30	89.39.39·3	12.45. 5	12.47.33	1. 2.25	1.31.19	+ 9.12·0	89.48.51·3					
			89.40. 65	30	35	89.40.43·3	12.47. 4	12.49.32			+ 7.58·4	89.48.41·7					
			89.41. 95	50	55	89.42. 6·7	12.49. 5	12.51.33			+ 6.43·6	89.48.50·3	89.48.48·5	+17·0	+23·8	89.49.12·3	G
			89.42. 90	55	50	89.43. 5·0	12.50.40	12.53. 8			+ 5.44·8	89.48.49·8					
			89.44. 85	45	45	89.44.58·3	12.53.44	12.56.12			+ 3.51·0	89.48.49·3					
Mar. 7	Polaris S.P..	100·294	89.53. 67	35	38	89.53.46·7	13. 7. 0	13. 9.27	1. 2.25	1.31.19	− 4.21·3	89.49.25·4					
			89.55. 50	20	22	89.55.30·7	13. 9.25	13.11.52			− 5.51·0	89.49.39·7	89.49.32·6		+21·5	89.49.54·1	JH
Mar. 12	Polaris S.P..	100·294	89.43. 55	23	25	89.43.34·3	12.51. 0	12.53.20	1. 2.23	1.31.21	+ 5.36·3	89.49.10·6					
			89.44. 50	15	20	89.44.28·3	12.52.22	12.54.42			+ 4.45·5	89.49.13·8					
			89.45. 48	13	18	89.45.26·3	12.54. 7	12.56.27			+ 3.40·5	89.49. 6·8	89.49.10·5	+13·8	+19·2	89.49.29·7	JH
			89.46. 52	17	20	89.46.29·7	12.55.57	12.58.17			+ 2.32·4	89.49. 2·1					
			89.47. 65	32	35	89.47.44·0	12.57.29	12.59.49			+ 1.35·4	89.49.19·4					
Mar. 20	Polaris S.P..	100·294	89.57. 50	10	18	89.57.26·0	13.13.10	13.15.26	1. 2.21	1.31.23	− 8. 6·2	89.49.19·8					
			89.59. 70	30	40	89.59.46·7	13.16.50	13.19. 6			−10.22·3	89.49.24·4					
			90. 1. 60	25	35	90. 1.40·0	13.19.53	13.22. 9			−12.15·4	89.49.24·6	89.49.24·4	+13·7	+19·1	89.49.43·5	D
			90. 4. 37	0	10	90. 4.15·7	13.23.57	13.26.13			−14.45·9	89.49.29·8					
			90. 5. 90	50	58	90. 6. 6·0	13.27. 6	13.29.22			−16.42·4	89.49.23·6					
Apr. 10	Polaris S.P..	100·294	89.36. 33	0	5	89.36.12·7	12.41.34	12.41.19	1. 2.21	1.31.30	+13. 2·0	89.49.14·7					
			89.37. 60	38	40	89.37.46·0	12·43.59	12.43.44			+11.32·3	89.49.18·3	89.49.19·5	+ 8·3	+11·6	89.49.31·1	JH
			89.38. 80	50	55	89.39. 1·7	12·45.50	12.45.35			+10.23·7	89.49.25·4					
Apr. 11	Polaris S.P..	100·294	89.44. 80	45	55	89.45. 0·0	12.55.40	12.55.22	1. 2.21	1.31.30	+ 4.19·9	89.49.19·9					
			89.46. 65	30	37	89.46.44·0	12.58.25	12.58. 7			+ 2.37·6	89.49.21·6					
			89.47. 90	57	65	89.48.10·7	13. 0.46	13. 0.28			+ 1.10·1	89.49.20·8	89.49.21·3	+11·3	+15·7	89.49.37·0	D

March 7d. The application of the level was omitted: the correction for error of level applied is the mean of the corrections applied on March 6d and March 12d.

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, 1843.	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.
d		r	° ′ ″	″	″	° ′ ″	h m s	h m s	h m s	° ′ ″	′ ″	° ′ ″	° ′ ″	′	″	° ′ ″	
Apr. 11	Polaris S. P...	100·294	89.50.30	0	3	89.50.11·0	13. 3.52	13. 3.34	1. 2.21	1.31.30	− 0.45·3	89.49.25·7					
			89.51.55	20	25	89.51.33·3	13. 6.16	13. 5.58			− 2.14·6	89.49.18·7					D
Apr. 24	Polaris S. P...	100·294	89.51.90	50	60	89.52. 6·7	13. 7.50	13. 6.56	1. 2.24	1.31.34	− 2.48·9	89.49.17·8					
			89.53.85	45	50	89.54. 0·0	13.10.44	13. 9.50			− 4.36·9	89.49.23·1					
			89.55.45	10	13	89.55.22·7	13.13. 5	13.12.11			− 6. 4·6	89.49.18·1					
			89.56.65	25	30	89.56.40·0	13.15.15	13.14.21			− 7.25·0	89.49.15·0	89.49.24·3	+ 5·2	+7·2	89.49.31·5	
			89.57.80	43	50	89.57.57·7	13.16.57	13.16. 3			− 8.22·2	89.49.35·5					D
			89.59.65	30	37	89.59.44·0	13.19.50	13.18.56			−10.15·4	89.49.28·6					
			90. 1.55	10	15	90. 1.26·7	13.22.30	13.21.36			−11.54·5	89.49.32·2					
			90. 2.60	25	32	90. 2.39·0	13.24.40	13.23.46			−13.14·9	89.49.24·1					
May 2	Polaris S. P...	100·294	89.48.75	35	45	89.48.51·7	13. 2.54	13. 1.34	1. 2.27	1.31.36	+ 0.32·9	89.49.24·6					
			89.50.55	10	17	89.50.27·3	13. 5.38	13. 4.18			− 1. 8·9	89.49.18·4					
			89.51.80	45	50	89.51.58·3	13. 7.52	13. 6.32			− 2.32·2	89.49.26·2					
			89.53.70	35	43	89.53.49·3	13.10.52	13. 9.32			− 4.23·9	89.49.25·4	89.49.24·1	+ 6·3	+8·9	89.49.33·0	
			89.55.45	10	15	89.55.23·3	13.13.25	13.12. 5			− 5.58·9	89.49.24·4					D
			89.56.75	40	45	89.56.53·3	13.15.48	13.14.28			− 7.27·6	89.49.25·7					
June 20	δ Ursæ Minoris	100·294	89.52.60	15	30	89.52.35·0	18.23.47	18.21. 0	18.23. 6	3.24.24	− 3.15·2	89.49.19·8					
			89.47.55	7	30	89.47.30·7	18.27. 3	18.24.16			+ 1.48·5	89.49.19·2					
			89.44.48	10	20	89.44.26·0	18.29. 6	18.26.19			+ 4.59·1	89.49.25·1					
			89.40.70	20	40	89.40.43·3	18.31.19	18.28.32			+ 8.25·1	89.49. 8·4					
			89.36.85	40	55	89.37. 0·0	18.33.49	18.31. 2			+12.17·4	89.49.17·4	89.49.19·0	− 0·7	−1·0	89.49.18·0	
			89.33.95	45	55	89.34. 5·0	18.35.42	18.32.55			+15.12·3	89.49.17·3					G
			89.30.90	40	60	89.31. 3·3	18.37.35	18.34.48			+18. 7·2	89.49.10·5					
			89.27.90	50	65	89.28. 8·3	18.39.42	18.36.55			+21.23·6	89.49.31·9					
			89.24.75	30	45	89.24.50·0	18.41.43	18.38.56			+24.30·5	89.49.20·5					
			89.21.85	35	45	89.21.55·0	18.43.36	18.40.49			+27.25·1	89.49.20·1					
June 22	δ Ursæ Minoris	100·294	90.44.95	50	60	90.45. 8·3	17.49.50	17.46.57	18.23. 6	3.24.24	−55.44·4	89.49.23·9					
			90.41.60	40	50	90.41.56·7	17.51.57	17.49. 4			−52.29·9	89.49.26·8					
			90.38.35	0	12	90.38.15·7	17.54.27	17.51.34			−48.40·1	89.49.35·6					
			90.34.45	5	15	90.34.21·7	17.56.58	17.54. 5			−44.48·6	89.49.33·1	89.49.32·3	− 1·5	−2·3	89.49.30·0	
			90.30.90	55	70	90.31.11·7	17.59. 1	17.56. 8			−41.39·8	89.49.31·8					D
			90.27.45	10	20	90.27.25·0	18. 1.30	17.58.37			−37.50·8	89.49.34·2					
			90.23.45	10	20	90.23.25·0	18. 4. 7	18. 1.14			−33.49·0	89.49.36·0					
			90.19.40	0	10	90.19.16·7	18. 6.48	18. 3.55			−29.40·9	89.49.35·8					
Aug. 4	δ Ursæ Minoris	100·294	89.50.45	0	10	89.50.18·3	18.23.43	18.22.48	18.22.58	3.24.11	− 0.15·5	89.50. 2·9					
			89.47.40	0	10	89.47.16·3	18.25.42	18.24.47			+ 2.48·7	89.50. 5·0					
			89.44.55	20	27	89.44.34·0	18.27.35	18.26.40			+ 5.43·6	89.50.17·6					
			89.41.55	25	35	89.41.38·3	18.29.22	18.28.27			+ 8.29·2	89.50. 7·5	89.50. 8·7	− 1·8	−2·6	89.50. 6·1	
			89.39.30	5	12	89.39.15·7	18.30.53	18.29.58			+10.49·9	89.50. 5·6					D
			89.36.55	20	30	89.36.35·0	18.32.42	18.31.47			+13.38·5	89.50.13·5					
Aug. 11	δ Ursæ Minoris	100·294	90.17.75	40	50	90.17.55·0	18. 6. 3	18. 4.57	18.22.56	3.24. 9	−27.47·5	89.50. 7·5					
			90.15.35	0	12	90.15.15·7	18. 7.47	18. 6.41			−25. 7·1	89.50. 8·6					
			90.12.70	38	45	90.12.51·0	18. 9.28	18. 8.22			−22.31·3	89.50.19·7	89.50.13·3	− 3·4	−5·1	89.50. 8·2	
			90. 9.75	45	55	90. 9.58·3	18.11.16	18.10.10			−19.44·5	89.50.13·8					D

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

Day, 1843.	Mean.	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.
d		r	° ′ ″	″	″	° ′ ″	h m s	h m s	h m s	° ′ ″	′ ″	° ′ ″	° ′ ″	″	″	° ′ ″	
Aug. 11	δ Ursæ Minoris	100·294	90. 6.70	43	55	90. 6.56·0	18.13.15	18.12. 9	18.22.56	3.24. 8	−16.40·7	89.50.15·3					D
			90. 3.90	55	65	90. 4.10·0	18.15. 2	18.13.56			−13.55·3	89.50.14·7					
Aug. 16	δ Ursæ Minoris	100·294	90. 3.88	55	63	90. 4. 8·7	18.14.49	18.13.33	18.22.55	3.24. 8	−14.29·3	89.49.39·4					
			90. 0.77	43	50	90. 0.56·7	18.16.47	18.15.31			−11.26·9	89.49.29·8					
			89.56.90	57	65	89.57.10·7	18.19.12	18.17.56			− 7.42·6	89.49.28·1					
			89.48.68	33	40	89.48.47·0	18.24.39	18.23.23			+ 0.43·3	89.49.30·3	89.49.29·2	− 0·2	− 0·3	89.49.29·0	JH
			89.44.58	23	30	89.44.37·0	18.27.13	18.25.57			+ 4.41·6	89.49.18·6					
			89.39.82	50	57	89.40. 3·0	18.30.24	18.29. 8			+ 9.37·1	89.49.40·1					
			89.34.55	20	28	89.34.34·3	18.33.50	18.32.34			+14.55·6	89.49.29·9					
Sep. 22	Polaris.....	100·294	89.51.30	0	5	89.51.11·7	1. 3. 1	1. 1.27	1. 4. 4	1.31.24	− 1.44·0	89.49.27·6					
			89.49.77	45	50	89.49.57·3	1. 4.48	1. 3.14			− 0.33·1	89.49.24·2					
			89.48.67	35	38	89.48.46·7	1. 6.28	1. 4.54			+ 0.33·1	89.49.19·8	89.49.23·9	+ 2·8	+ 3·8	89.49.27·7	JH
			89.47.70	42	45	89.47.52·3	1. 7.59	1. 6.25			+ 1.33·4	89.49.25·8					
			89.46.53	22	25	89.46.33·3	1. 9.53	1. 8.19			+ 2.49·0	89.49.22·3					
Sep. 27	Polaris.....	100·294	89.58.70	20	30	89.58.40·0	0.52. 6	0.50.24	1. 4. 5	1.31.22	− 9. 3·4	89.49.36·6					
			89.56.90	48	55	89.57. 4·3	0.54. 9	0.52.27			− 7.42·1	89.49.22·2					
			89.53.60	20	15	89.53.31·7	1. 0. 7	0.58.25			− 3.45·2	89.49.46·5	89.49.29·1	− 2·0	− 2·8	89.49.26·3	G
			89.51.95	43	55	89.52. 4·3	1. 1.57	1. 0.15			− 2.32·3	89.49.32·0					
			89.50.85	20	28	89.50.44·3	1. 3.28	1. 1.46			− 1.32·6	89.49.11·7					
			89.49.67	35	45	89.49.49·0	1. 5.12	1. 3.30			− 0.23·2	89.49.25·8					
Oct. 25	Polaris.....	100·294	89.42.85	55	60	89.43. 6·7	1.12.29	1.10. 0	1. 4. 7	1.31.12	+ 3.53·3	89.47. 0·0					
			89.41.50	20	27	89.41.32·3	1.15. 7	1.12.38			+ 5.37·7	89.47.10·1					
			89.39.85	55	60	89.40. 6·7	1.17.12	1.14.43			+ 7. 0·3	89.47. 7·0	89.47. 3·9	+ 2·2	+ 3·0	89.47. 6·9	D
			89.38.60	20	27	89.38.35·7	1.19.19	1.16.50			+ 8.24·1	89.46.59·8					
			89.36.85	55	65	89.37. 8·3	1.21·35	1.19. 6			+ 9.53·9	89.47. 2·2					
			89.35.45	15	25	89.35.28·3	1.24.10	1.21.41			+11.36·1	89.47. 4·4					
Oct. 26	Polaris.....	100·294	89.53.52	20	25	89.53.32·3	1. 7.25	1. 4.52	1. 4. 7	1.31.11	+ 0.29·7	89.54. 2·1					
			89.52.35	5	10	89.52.16·7	1. 9.21	1. 6.48			+ 1.46·4	89.54. 3·1					
			82.51.40	10	15	89.51.21·7	1.11. 1	1. 8.28			+ 2.52·5	89.54.14·2	89.54.10·5	+ 4·1	+ 5·7	89.54.16·2	JH
			89.49.72	42	45	89.49.53·0	1.13. 3	1.10.30			+ 4.13·1	89.54. 6·1					
			89.48.85	52	55	89.49. 4·0	1.14.49	1.12.16			+ 5.23·2	89.54.27·2					
Nov. 20	Polaris.....	100·294	90. 4.87	52	57	90. 6. 5·3	0.42. 6	0.38.52	1. 4. 0	1. 31.3	−16.33·2	89.49.32·1					
			90. 4.65	30	35	90. 4.43·3	0.44. 5	0.40.51			−15.15·2	89.49.28·2					
			90. 3.37	0	5	90. 3.12·0	0.46.17	0.43. 3			−13.48·1	89.49.23·9					
			90. 1.78	40	45	90. 1.54·3	0.48.23	0.45. 9			−12.25·6	89.49.28·7	89.49.28·1	− 1·9	− 2·6	89.49.25·4	JH
			89.59.80	45	50	89.59.58·3	0.51.12	0.47.58			−10.34·5	89.49.23·9					
			89.58.75	40	47	89.58.54·0	0.53. 4	0.49.50			− 9.20·7	89.49.33·3					
			89.57.55	17	23	89.57.31·7	0.54.58	0.51.44			− 8. 5·2	89.49.26·4					
Dec. 11	Polaris.....	100·294	89.40.90	50	60	89.41. 6·7	1.20.29	1.17.15	1. 3.48	1.30.57	+ 8.45·1	89.49.51·8					
			89.39.60	35	40	89.39.45·0	1.22.30	1.19. 6			+10. 4·7	89.49.49·7					
			89.37.87	50	60	89.38. 5·7	1.25. 4	1.21.40			+11.45·9	89.49.51·6	89.49.48·2	− 2·9	− 4·1	89.49.44·1	D
			89.36.70	40	45	89.36.51·7	1.26.57	1.23.33			+13. 0·1	89.49.51·8					
			89.35.45	8	15	89.35.22·7	1.28.59	1.25.35			+14.20·2	89.49.42·9					
			89.33.80	45	55	89.34. 0·0	1.31. 3	1.27.39			+15.41·5	89.49.41·5					

The observations on Oct. 26 and Nov. 20 are evidently erroneous; no use is made of them; and for those months the mean of the preceding and following results is used.

No observations were made in the month of January; those made in July were of unknown stars, and those in October are evidently erroneous (in the foot-note on the preceding page, November 20 has been printed, inadvertently, instead of October 25); the adopted reading previous to Jan. 13^d. 0^h, at which time the reading corresponding to the Astronomical Meridian was considerably altered during the adjustments, was assumed to be the same as that during the month of December, 1842, viz., $269°.\ 52'.\ 5''$, and the adopted reading for the remainder of the same month was assumed to be the same as in February. The adopted reading for July was obtained from six observations of the fixed mark over the library made on July 9^d.

The azimuth of the mark was deduced from simultaneous observations of it and of circumpolar stars in the year 1839, of which the following is an abstract.

Day of Observation.	Zero of the Theodolite deduced from Stars.	Circle Reading for Bisection of the Fixed Mark.	Resulting Azimuth of the Mark.
1839	° ′ ″	° ′ ″	° ′ ″
February 16	89. 50. 0	62. 0. 58	27. 49. 2
February 27	89. 50. 2	62. 0. 58	27. 49. 4
March 13	89. 50. 8	62. 1. 6	27. 49. 2
May 21	89. 50. 23	62. 1. 5	27. 49. 18
May 27	89. 50. 18	62. 0. 53	27. 49. 25
August 28	89. 50. 5	62. 0. 57	27. 49. 8

The mean of the above results is $27°.\ 49'.\ 10''$ to be added to the circle reading of the fixed mark, to obtain the circle reading for the North Astronomical Meridian. The mean circle reading on July 9^d for the mark was $62°.\ 0'.\ 14''$, and, applying the azimuth of the mark above obtained, the deduced circle reading for the North Astronomical Meridian is $89°.\ 49'.\ 24''$, which was used throughout the month of July. The reading adopted for October was the mean of the adopted readings in the preceding and following months. The readings for the remaining months 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.

		° ′ ″
1843, From January $1^d.\ 14^h$ to $13^d.\ 0^h$		269. 52. 5
From January $13^d.\ 0^h$ to the end of	February	269. 49. 46
,,	March	269. 49. 28
,,	April	269. 49. 33
,,	May	269. 49. 33
,,	June	269. 49. 23
,,	July	269. 49. 24
From August $0^d.\ 14^h$ to	August $14^d.\ 12^h$	269. 50. 7
From August $14^d.\ 14^h$ to the end of	August	269. 49. 29
,,	September	269. 49. 27
,,	October	269. 49. 26
,,	November	269. 49. 25
,,	December	269. 49. 44

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 frame-work, 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 observation, 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 then at 30^s afterwards, the observer notes whether the cross 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 1843 is very small.

The adopted result is converted into arc, supposing $1^r = 1'.34''{\cdot}07$, and the quantity thus deduced is added to the mean of the vernier readings, from which is subtracted the constant given in Article 6 of the permanent adjustments; the difference between this number and the adopted reading for the Astronomical South Meridian is taken; and thus the magnetic declination is deduced, which is printed in the tabular observations.

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 the magnet was at rest, by inspection.

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

The horizontal force magnet is of the same dimensions as the declination magnet. For its support, a tripod stand is planted in the eastern arm of the magnetic observatory, resting immediately on the ground, and not touching the floor. This tripod supports an upright plank, to the top of which a brass frame is attached, carrying two brass pulleys in front of the plank and two at the back of the plank. A small windlass is attached to the back of the plank at a convenient height. The suspension-frame of the magnet is supported by the two halves of a skein of silk, which, rising from the magnet, pass over the two front pulleys, then over the two back pulleys, and then under a single large pulley, whose axis is attached to a string that passes down to the windlass. The magnet is inserted in a suspension-piece, of which the upper part is a vertical plate, having five pairs of small pulleys (those which are nearest together being highest), and the lower part of the silk skein is passed under the two pulleys of one pair: only the upper pair, however, has been used in 1843. This vertical plate is connected with the torsion circle; it turns with reference to the magnet-cell (being held by stiff friction), and the readings of the circle graduations are indicated by a pointer carried by the magnet-cell. On the lower side of the magnet-cell is a mirror, whose frame turns with reference to the magnet-cell (being held by stiff friction), but has no graduated circle. The magnet, &c., swings freely in a double rectangular box, 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.

1843, Jan. 1d. Observer, Mr. Glaisher.

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

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

1843, Jan. 2d. Observer, Mr. Glaisher.

	°	′
With the marked end of the magnet to the East, the torsion-circle read	39.	38
With the marked end of the magnet to the West, the torsion-circle read	317.	0

The half difference is 41°. 19′ for the angle of torsion.

1843, Jan. 4[d]. Observer, Mr. Glaisher.

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

	d		° ′
The division of the scale bisected by the vertical wire of the telescope was.....	50·5	Torsion-circle reading	358. 48

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

	d		° ′
The division bisected by the wire was.....	50·4	Torsion-circle reading	316. 0

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

	d		° ′
The division bisected by the wire was.....	50·5	Torsion-circle reading	39. 15

From this set of experiments the angle of torsion is 41°. 38′.

On April 25[d] the magnet was taken out of its box, and experiments were made with it for the purpose of determining its corrections for temperature; after it was reinstated, the following observations were made, shewing satisfactorily that it had suffered no change by the experiments.

1843, May 1[d]. Observer, Mr. Glaisher.

	° ′
With the marked end of the magnet to the East, the torsion-circle read.....	38. 30
With the marked end of the magnet to the West, the torsion-circle read.....	317. 0

The half difference is 40°. 45′ for the angle of torsion.

1843, May 2[d]. Observer, Mr. Glaisher.

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

	d		° ′
The division of the scale bisected by the vertical wire of the telescope was.....	50·0	Torsion-circle reading	358. 58

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

	d		° ′
The division bisected by the wire was.....	50·0	Torsion-circle reading	316. 51

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

	d		° ′
The division bisected by the wire was.....	50·0	Torsion-circle reading	38. 37

And the angle of torsion is 40°. 53′.

1843, May 2d. Observer, Mr. Glaisher.

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

The division of the scale bisected by the vertical wire of the telescope was..... d 50·0 Torsion-circle reading ° ′ 359. 13

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

The division bisected by the wire was..... d 50·0 Torsion-circle reading ° ′ 317. 3

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

The division bisected by the wire was..... d 50·0 Torsion-circle reading ° ′ 38. 53

And the angle of torsion was 40°. 55′.

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

Observers, Messrs. Glaisher and Dunkin.

Day, 1843.	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.
	°	d	d	s	°	d	d	s
Jan. 2	311	6·80		22·0	35	13·27		19·7
			6·89				8·10	
	312—	13·69		21·9	36	21·37		20·0
			11·93				11·17	
	313	25·62		21·5	37+	32·54		19·6
			10·71				4·74	
	314	36·33		21·6	38	37·28		19·8
			7·58				9·44	
	315	43·91		21·3	39—	46·72		19·9
			10·13				12·93	
	316	54·04		21·0	40	59·65		20·5
			6·38				7·36	
	317	60·42		20·8	41	67·01		20·5
			10·44				9·79	
	318	70·86		20·6	42	76·80		20·7
			8·32				8·90	
	319—	79·18		20·1	43	85·70		20·8
			11·03				11·37	
	320	90·21		20·3	44+	97·07		21·0

From this set of experiments it appeared that, with a reading of 317° of the torsion-circle when the marked end was West, and of 40°+ when the marked end was East, both the readings of the scale and the times of vibration were nearly the same. After April 25d

the magnet was disturbed for the purpose of determining its temperature correction, and the following set of experiments was made.

1843, May 1d. Observer, Mr. Glaisher.

Day, 1843.	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.
	°	d	d	s	°	d	d	s
May 1.	312+	3·96		22·42	35	17·78		19·50
			8·05				9·88	
313—	12·01		22·05	36	27·66		19·80	
		10·36				7·58		
314+	22·37		21·67	37	35·24		20·00	
		9·48				10·81		
315	31·85		21·17	38	46·05		20·13	
		10·48				9·12		
316	42·33		20·70	39+	55·17		20·28	
		8·52				6·93		
317	50·85		20·25	40—	62·10		20·35	
		9·43				11·75		
318+	60·28		20·80	41+	73·85		20·50	
		7·22				9·16		
319—	67·50		20·67	42—	83·01		20·65	
		11·53						
320+	79·03		20·40					
		7·61						
321	86·64		20·18					

The result is that, with a reading of 317° of the torsion-circle when the marked end was West, and of 38°. 30′ when the marked end was East, the readings of the scale and the times of vibration were nearly identical. Throughout the year 1843 the marked end of the magnet has been to the West, and the torsion-circle reading has been 317°. The time of vibration throughout the year has been considered to be $20^{s}\cdot8$.

The mean difference of the scale readings for a difference of 1° in the readings of the torsion-circle, from the experiments on January 2, when the marked end was West, was $9^{d}\cdot27$, and when the marked end was East, was $9^{d}\cdot31$; and from those of May 1 the readings were $9^{d}\cdot19$ and $9^{d}\cdot32$ respectively.

No new experiments were made during the year 1843 to determine the separate or the compound effect of the different causes of disturbance on this instrument, and the same corrections have been applied as in preceding years. Throughout the year the instrument remained in the same position, viz., with its marked end towards the West, and suspended from the first pair of rollers. The scale was not moved throughout the year.

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

The distance from 40^{d} on the scale to the center of the face of the mirror is $8^{ft}.5^{in}\cdot1$.

Each division of the scale $=\frac{12}{30\cdot9}$ inch, and consequently, the angle at the mirror subtended by one division of the scale is $13'.12''\cdot32$, or, for one division of the scale, the mirror is turned through an arc of $6'.36''\cdot16$.

With the first pair of rollers, which was used throughout the year 1843, the adopted angle of torsion was $41°.2'.50''$, being the same as that in the years 1841 and 1842; 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 $\times$ value of one division in terms of radius," is 0·002206. The number actually used throughout the year 1843 was 0·002214.

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

In the Introduction to the volume for 1841 are exhibited experiments, by which it appeared that for an increase of temperature of 1° there was a decrease of horizontal force amounting to 0·0001686 parts of the whole horizontal force. This is applied to every observation in the various sections; the observations are therefore all reduced to an uniform temperature.

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 1843, is very small.

From the adopted result, $58^d\cdot136$, the number used for the last part of the year 1842, was subtracted during the interval of time from January 1^d till April $20^d.22^h$; after this time the horizontal force magnet was removed for the purpose of determining the temperature corrections due to it: being placed, however, in its box before every observation till after April $21^d.22^h$, at which time both it and the vertical force magnet were removed

from the Observatory. Previously to May $4^d.\ 10^h$ the horizontal force magnet was re-instated, and the constant used from that time to the end of the year was $40^d\cdot 14$, being 18 divisions less than that previously used.

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 3 of this section.

On February 23^d, between 22^h and 24^h, the distances between the two divisions of the silk suspension skein were measured at the top and at the bottom. Immediately before measuring the distances the mean reading of the scale was $61^d\cdot 610$, and immediately afterwards the mean reading was $53^d\cdot 922$, being $7^d\cdot 688$ less than before the measures were made: the time occupied by the measures was two or three minutes. It is difficult to conceive how the measuring of the distance could have produced any disturbance, but a difference of this amount having evidently taken place from some cause, an additive correction of $7\cdot 688 \times 0\cdot 002214$, or of $0\cdot 017021$, was necessary to be applied. This correction has been applied to all subsequent observations in the various sections of observations to February $28^d.\ 12^h$: it has not been applied after that time to the various sections, but it has been applied to the means of the results deduced from the observations.

In consequence of the change of the constant amounting to 18 divisions alluded to above, an additive correction of $18 \times 0\cdot 002214$, or of $0\cdot 039852$, was necessary to be applied to all observations after May $5^d.\ 14^h$. This has *not* been applied to the various sections of observations, but it has been applied to the means of the results used in the Abstracts.

§ 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.

No new experiments were made during the year 1843 to determine the separate or the compound effect of the different causes of disturbance on this instrument; throughout the year the instrument remained in the same position as in preceding years, viz., with its marked end towards the East; no additional cause of disturbance was brought near to it, and the same corrections have been applied as in preceding years.

1. Determinations of the time of vibration of the magnet in the vertical plane.

Between January 1^d and April 22^d, the magnet had been in nearly all positions for scale-readings between 34^d and 58^d, and the times of vibration, which were determined every day, had been taken at every division between these: each result is the mean of about ten vibrations. The results are contained in the following table:—

Division of Scale.	Mean of Times of Vibration in Solar Time.	Number of Mean Results.	Division of Scale.	Mean of Times of Vibration in Solar Time.	Number of Mean Results.
d	s		d	s	
34	27·70	1	47	28·87	3
37	27·30	3	48	28·90	3
38	28·20	3	49	29·06	5
39	27·04	3	50	29·30	13
40	28·00	2	51	29·58	5
41	27·60	1	52	30·01	4
42	27·20	7	53	29·55	8
43	26·97	3	54	30·48	4
44	27·54	7	55	30·43	4
45	28·18	5	57	31·00	1
46	28·20	2	58	32·43	3

As the magnet is horizontal when the scale-reading is 50^d, the number $29^s{\cdot}3$ was adopted from the above table, as the mean time of vibration between January 1^d and April $21^d.22^h$. After this time the vertical force magnet was removed, for the purpose of determining the temperature corrections due to it. Previously to May $4^d.10^h$ it was re-instated; and during May the magnet had been in nearly all positions for scale-readings between 50^d and 60^d, and the times of vibration had been taken at nearly every division between these. The results are as follows:—

Division of Scale.	Mean of Times of Vibration in Solar Time.	Number of Mean Results.
d	s	
50	22·63	3
51	22·80	2
52	22·58	5
53	23·00	2
54	23·02	4
55	23·12	4
56	23·10	4
58	23·60	1
60	24·35	8

And $22^s{\cdot}6$ was adopted as the mean time of vibration between May 4^d and May $31^d.12^h$.

Between June 1^d and September 23^d the magnet had been in nearly all positions for scale-readings between 42^d and 53^d, and the times of vibration had been taken at nearly every division between these. The results are as follows:—

Division of Scale.	Mean of Times of Vibration in Solar Time.	Number of Mean Results.
d	s	
42	23·00	1
43	23·18	2
44	23·25	12
45	23·13	8
46	23·23	13
47	23·23	13
48	23·33	21
49	23·28	6
50	23·44	9
51	23·67	3
53	23·40	1

And $23^s{\cdot}5$ was adopted as the mean time of vibration between June $0^d.14^h$ and September $23^d.12^h$.

Between September 24^d and October 15^d the magnet had been in all positions for

scale-readings between 42^d and 50^d, and the times of vibration had been taken at every division between these. The results are as follows :—

Division of Scale.	Mean of Times of Vibration in Solar Time.	Number of Mean Results.
d	s	
42	25·40	1
43	25·77	2
44	25·67	2
45	25·94	2
46	26·11	4
47	26·31	3
50	26·08	1

The mean time of vibration adopted was 26^s, and it was used from September 24^d. 14^h to October 14^d. 12^h.

From October 15^d to the end of the year the magnet had been in all positions for scale-readings between 45^d and 51^d, and the times of vibration had been taken at every division between these. The results are as follows :—

Division of Scale.	Mean of Times of Vibration in Solar Time.	Number of Mean Results.
d	s	
45	24·23	7
46	24·56	4
47	24·38	11
48	24·33	4
49	24·42	8
50	24·22	10
51	24·37	5

And 24^s·2 was adopted as the mean time of vibration from October 15^d. 14^h to the end of the year.

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

1843, April 28. Observer, Mr. Glaisher.

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	Day and Hour.	Chronometer Times of the Extremes of Vibration.	Intervals in Solar Time.	Day and Hour.	Chronometer Times of the Extremes of Vibration.	Intervals in Solar Time.
d h	s	s	d h	s	s	d h	s	s
Apr. 28. 1	57·0		Apr. 28. 22	15·0	24·3	Apr. 28. 22	59·5	24·5
	22·0	25·0		40·0	25·0		24·0	24·5
	46·5	24·5		4·5	24·5		49·0	25·0
	11·0	24·5		29·5	25·0		14·0	25·0
	36·0	25·0		54·0	24·5		38·5	24·5
	0·0	24·0		17·5	23·5		33·0	
	24·0	24·0		43·0	25·5		57·5	24·5
	49·0	25·0		8·0	25·0		21·8	24·3
	14·6	25·6		33·0	25·0		46·3	24·5
	39·0	24·4		57·8	24·8		11·5	25·2
	3·4	24·4		22·5	24·7		36·3	24·8
	28·0	24·6		47·0	24·5		0·5	24·2
	54·0	26·0		12·0	25·0		25·5	25·0
	18·0	24·0		38·0	26·0		50·3	24·8
	39·5	21·5		2·0	24·0		14·6	24·3
	3·0	23·5		27·5	25·5		39·5	24·9
	27·5	24·5		52·0	24·5		4·0	24·5
	52·5	25·0		17·4	25·4		28·7	24·7
	17·0	24·5		41·5	24·1		53·5	24·8
	41·5	24·5		6·0	24·5		18·0	24·5
	6·5	25·0		30·5	24·5		42·6	24·6
	31·0	24·5		56·0	25·5		7·5	24·9
	56·0	25·0		20·5	24·5		32·5	25·0
	20·6	24·6		45·0	24·5		57·6	25·1
	46·0	25·4		10·5	25·5		21·5	23·9
	10·0	24·0		35·0	24·5		46·0	24·5
	34·5	24·5		59·5	24·5		11·0	25·0
				24·0	24·5		36·5	25·5
Apr. 28. 22	31·5			48·8	24·8		0·5	24·0
	55·0	23·5		14·0	25·2		25·0	24·5
	19·8	24·8		39·0	25·0		50·0	25·0
	44·2	24·4		3·5	24·5		14·6	24·6
	9·2	25·0		28·0	24·5		39·0	24·4
	34·0	24·8		52·5	24·5		4·5	25·5
	58·0	24·0		18·0	25·5		28·5	24·0
	23·0	25·0		42·5	24·5		53·0	24·5
	47·0	24·0		7·5	25·0		17·0	24·0
	11·5	24·5		32·5	25·0		41·5	24·5
	36·0	24·5		57·6	25·1		5·7	24·2
	0·5	24·5		22·5	24·9		30·0	24·3
	25·5	25·0		47·0	24·5		54·6	24·6
	50·7	25·2		10·0	23·0		19·0	24·4
				35·0	25·0			

The mean of these is $24^{s}\cdot6$, and this number has been used as the mean value of one vibration in the horizontal plane throughout the year 1843.

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

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

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

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

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

	s	s
1843, January 1^{d} to April 26^{d}, T′ is assumed.....	24·6,	T = 29·3
During the month of May T′ is assumed.....	24·6,	T = 22·6
June 1^{d} to September 23^{d}. 12^{h}, T′ is assumed.....	24·6,	T = 23·5
September 24^{d}. 14^{h} to October 14^{d}. 12^{h}, T′ is assumed	24·6,	T = 26·0
October 15^{d}. 14^{h} to end of the year, T′ is assumed.	24·6,	T = 24·2

consequently the corresponding values of the change of vertical force (in terms of the whole vertical force), corresponding to a change of one division, are—

1843, January 1^{d} to April 26^{d}.....	0·000430
During the month of May	0·000722
June 1^{d} to September 23^{d}. 12^{h}.....	0·000668
September 24^{d}. 14^{h} to October 14^{d}. 12^{h}	0·000545
October 15^{d}. 14^{h} to the end of the year.....	0·000630

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

4. Correction for the effect of temperature of the vertical force magnet.

In the Introduction to the volume for 1841 are exhibited experiments from which it appeared that for an increase of temperature of 1° the decrease of the vertical force was 0·000264 parts of the whole vertical force. This has been applied to every observation in the various sections; the observations are therefore all reduced to an uniform temperature.

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, that reading is adopted as the result, and it is converted into numbers expressing the proportion of the variable force to the mean vertical force, by the numbers obtained in Article 3 of this section. The numbers in the printed columns are those numbers reduced to an uniform temperature.

Occasional Adjustments of the Vertical Force Magnet.

The scale has not been moved throughout the year; in fact it has not been moved since it was set up in 1840.

During the whole of this year the numbers as read from the scale have been used without subtracting any constant number from them whatever. At the end of the previous year a constant number, $90^{d}\cdot00$, was subtracted from all readings, and the difference was converted into the number required to express the proportion of the variable force to the mean vertical force, by means of a table containing the multiples of the value of one division of the scale, increased by 0·01 or a quantity corresponding to $21^{d}\cdot24$; the constant subtracted from the readings was therefore equivalent to $68^{d}\cdot76$.

On Jan. 1^{d} at 14^{h} the time of one vibration in the vertical plane was considered to be $29^{s}\cdot3$; at the previous observation it was considered to be $27^{s}\cdot5$; and, in consequence, the value of one division of the scale changed from 0·000471 to 0·000430−. The scale-reading at the observation on Jan. 1^{d} at 14^{h} was $47^{d}\cdot80$, and had this been reduced by using the previous constant and time of vibration the result corrected for temperature would have been 0·000476; and had it been reduced, using the same constant but the new time of vibration, the result would have been 0·001338: the difference between these results is 0·000862, and it exhibits the difference to be applied subtractively to all results commencing Jan. 1^{d}

at 14^h to reduce them to the series ending 1842, on account of the change of the time of vibration in the vertical plane.

In consequence of not using any constant number in the reductions, all results are too large by $68^d{\cdot}76 \times 0{\cdot}000430$, or by 0·029566, as compared with the results of the preceding series.

Therefore, to reduce the numbers in the series commencing with Jan. $1^d.14^h$ to those of the preceding series, it is necessary to apply the following constants:—

On account of the change of vibration subtract.....	0·000862
On account of not using the same constant number as before subtract	0·029567
The whole quantity to be subtracted is.....	0·030429

On April 21^d after 22^h the vertical force magnet was taken out of its box for the purpose of ascertaining the correction due to it on account of the variation of temperature, and for a more accurate determination of the mean time of one vibration in the horizontal plane.

Previously to May $4^d.10^h$ the magnet was re-instated and the regular observations were proceeded with from this time. Various methods were tried to ascertain the number necessary to be applied to the series of numbers commencing May $5^d.14^h$, to reduce them to the series of numbers ending April $21^d.22^h$.

First. The mean weekly decrease of force for some weeks previously to April 21^d was found to be 0·000091, and, by the application of this to the April results, the inferred results for May were found to be smaller than the observed results by 0·022876.

Secondly. The force had decreased month by month since the commencement of the observations by this instrument, and the decrease of force from April, 1842, to May, 1842, was 0·000617; assuming that this would nearly apply to 1843, the inferred value for May was found to be less than the observed by 0·023261.

Thirdly.	The decrease of force from	January	1842 to January	1843, was 0·018672
	,,	February	1842 to February	1843, was 0·016493
	,,	March	1842 to March	1843, was 0·015647
	,,	April	1842 to April	1843, was 0·014548

And, assuming from these numbers that the decrease from May, 1842, to May, 1843, would be 0·013548, the inferred value for May was found to be less than the observed by 0·022261.

Finally, 0·0229 was thought to be near the truth, and this number has been used in the Abstracts as an approximate means of comparing the results at different periods of the year together. From the circumstance of the agreement of the results following Table LIX. with those following Table LX., the latter being deduced independently of all assumption whatever, and the former depending on the above assumption, it is believed that the number is nearly correct.

On May 31^d at 14^h the scale-reading was $48^d{\cdot}42$, and, beginning with this observation, the time of one vibration of the magnet in the vertical plane was considered to be $23^s{\cdot}5$; at the previous observation it was considered to be $22^s{\cdot}6$; and, consequently, the value of one division of the scale changed from 0·000722 to 0·000668. Had the time of vibration not altered, the reduced observation would have been 0·052640; in the printed volume it is 0·050020; the difference between these numbers is 0·002620: therefore, to reduce the series of numbers commencing May 31^d at 14^h to the series of numbers in May, it is necessary to add 0·002620; and this correction applies between May $31^d.14^h$ and September $23^d.12^h$.

On September 24^d at 14^h the scale-reading was $44^d{\cdot}10$: the time of vibration in the vertical plane was considered to be $26^s{\cdot}0$; at the previous observation it was used as $23^s{\cdot}5$; and, consequently, the value of one division of the scale changed from 0·000668 to 0·000545. Had the value remained unaltered the reduced reading would have been 0·046079; in the printed volume it is 0·040688; the difference between these numbers is 0·005391, which is to be applied additively to the numbers in the series beginning at this time to reduce them to the preceding series; and it applies to all numbers in the various sections of observations between September $24^d.14^h$ and October $14^d.12^h$: and as the numbers in the preceding series, or that ending September $23^d.12^h$, required 0·002620 to be added to reduce them to the May series, this series will be reduced to that of May by adding 0·008011 to all its numbers.

In the formation of those Abstracts relating to monthly mean positions of the magnet at the regular observation-hours, the correction 0·005391 was added to all the observations between September $24^d.14^h$ and September $30^d.12^h$, to reduce them to the series at the former part of the month, and then the monthly mean was taken, so that the correction 0·002620 applies to all September results, as well as to those of June, July, and August, to reduce them to that of May.

Oct. $15^d.14^h$. The scale-reading at this time was $49^d{\cdot}41$: the time of vibration in the vertical plane was $24^s{\cdot}2$; at the previous observation it was $26^s{\cdot}0$; and, consequently, the value of one division of the scale changed from 0·000545 to 0·000630. Had the change not taken place, the reduced reading would have been 0·038832; in the printed columns of observations it is 0·042991; the difference between these numbers is 0·004159, which it is necessary to apply subtractively to the series of numbers beginning at this time, to reduce them to that ending at the previous observation; and as that series required 0·008011 to be added to reduce it to that of May, the series beginning Oct. $15^d.14^h$ requires 0·003852 to be added to reduce the numbers to the May series, and this correction applies to the end of the year.

In the formation of the hourly Abstracts, all the numbers at the even hours of Göttingen time, between Oct. $1^d.14^h$ and Oct. $14^d.12^h$, were increased by 0·004159 to reduce them to the series of the latter part of the month, and then the means of the numbers at each hour were taken.

From the preceding remarks it follows:—

That all the numbers in the various sections of observations

Between May 31^d. 14^h and September 23^d. 12^h require to be increased by.....	0·002620
Between September 24^d. 14^h and October 14^d. 12^h require to be increased by...	0·008011
Between October 15^d. 14^h and the end of the year require to be increased by ..	0·003852

That in the daily means of observation, all the numbers

Between June 1^d and September 23^d require to be increased by.....	0·002620
Between September 25^d and October 14^d require to be increased by	0·008011
Between October 14^d and the end of the year require to be increased by.....	0·003852

That in the hourly means of observation, all the numbers

From June to September require to be increased by.....	0·002620
From October to December require to be increased by.....	0·003852

to reduce all these numbers to the May series; and these corrections have been applied where necessary in the Abstracts.

The number (see page xxxii) which appears to be near the truth for reduction of the May series to that which commenced January 1^d and ended April 21^d, is 0·022900, to be subtracted from all numbers after May 5^d; and the correction which should be applied to the numbers between January 1^d and April 21^d, to reduce them to the series in December, 1842, is 0·030429, applied negatively.

1843, April 29^d. On inspecting the knife-edge of the vertical force magnet it was found that it was broken at its bearing points on the agate planes, and Mr. Barrow took it for repair.

On May 4^d.7^h the knife-edge repaired was received from Mr. Barrow, and between 7^h and 9^h Mr. Glaisher fastened it to the magnet, and adjusted the mirror.

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.

May 5^d. The following experiments were made by Mr. Glaisher:—

The scale-reading was 41^d·6: the West screw was withdrawn 6 half-turns, and the mean scale-reading was then 22^d·1.

Therefore, 3 revolutions caused a change of	19^d·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^d·1.

Therefore, withdrawing the screw 2½ revolutions caused the scale-reading to change from	22^d·1 to 7^d·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 $13^{d}{\cdot}5$.

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 $49^{d}{\cdot}4$.

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 $82^{d}{\cdot}7$, and the mean time of one vibration being $25^{s}{\cdot}5$, the West or horizontal screw was withdrawn through 10 revolutions, and the scale-reading was $19^{d}{\cdot}0$, and the mean time of one vibration was $25^{s}{\cdot}1$.

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 $52^{d}{\cdot}2$, and the mean time of vibration was $25^{s}{\cdot}0$. The scale-reading was found to be 50^{d} 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 $67^{d}{\cdot}0$, and the mean time of one vibration was $24^{s}{\cdot}7$; the horizontal screw was then withdrawn 2 revolutions, and the scale-reading was $54^{d}{\cdot}0$.

Therefore, 1 revolution caused a change of	**6·5**

The screw was then withdrawn 1 half-revolution, when the scale-reading was $51^{d}{\cdot}1$, and the mean time of one vibration was $24^{s}{\cdot}9$; and, when the magnet was raised in its Y's, the scale-reading was 54^{d}.

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 $49^{d}{\cdot}4$; the screw was then drawn upwards 10 half-revolutions, when the mean scale-reading was $38^{d}{\cdot}6$, and the mean time of vibration was $25^{s}{\cdot}8$;

Or, 1 revolution caused a change of	**2·2**

The screw was then drawn upwards 5 additional revolutions, when the scale read $35^{d}{\cdot}4$, and the mean time of one vibration was $25^{s}{\cdot}9$.

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

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

	d
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 $31^{d}\cdot8$, differing from the former reading by only $0^{d}\cdot7$; so that from this,

	d
One revolution caused a change of	0·02

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

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

	d
Therefore, 1 revolution caused a change of	0·09

The mean time 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 $6^{d}\cdot7$, and the driving the screw causes the scale-reading to be greater by $6^{d}.7$ 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.

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 $1^{in}\cdot09$ apart; the whole length of each of the axles of the needles is $1^{in}\cdot20$, of which a length of $0^{in}\cdot88$ is nearly $0^{in}\cdot1$ in diameter; a portion, $0^{in}\cdot02$ 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 $0^{in}\cdot14$ on each side is the length of the terminations of the axles, and its thickness is about $0^{in}\cdot02$: 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 needles with the axis of rotation, the poles of the needles 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. 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.

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 on the agate planes and the following observations were taken:—

Graduated Face of Vertical Circle E. Marked Side of Needle E.

1843, Day and Hour.	Reading of the Needle.			1843, Day and Hour.	Reading of the Needle.		
	Upper End.	Lower End.	Mean.		Upper End.	Lower End.	Mean.
d h	° ′	° ′	° ′	d h	° ′	° ′	° ′
Jan. 23. 2	68. 58	69. 2	69. 0	Jan. 23. 13	68. 57	69. 6	69. 1·5
3	68. 58	69. 2	69. 0	14	69. 0	69. 7	69. 3·5
4	68. 58	69. 2	69. 0	15	69. 0	69. 7	69. 3·5
5	68. 57	69. 1	68. 59	16	69. 0	69. 9	69. 4·5
6	68. 59	69. 1	69. 0	17	69. 2	69. 9	69. 5·5
7	69. 0	69. 2	69. 1	18	69. 3	69. 10	69. 6·5
9	69. 1	69. 3	69. 2	19	69. 2	69. 8	69. 5
10	69. 1	69. 3	69. 2	20	69. 2	69. 8	69. 5
11	69. 1	69. 3	69. 2	21	69. 2	69. 9	69. 5·5
12	68. 58	69. 3	69. 0·5	22	69. 3	69. 8	69. 5·5

Graduated Face of Vertical Circle E. Marked Side of Needle E.

1843, Day and Hour.	Reading of the Needle. Upper End.	Lower End.	Mean.	1843, Day and Hour.	Reading of the Needle. Upper End.	Lower End.	Mean.
d h	° ′	° ′	° ′	d h	° ′	° ′	° ′
Jan. 23. 23	69. 10	69. 15	69. 12·5	Jan. 25. 13	69. 4	68. 57	69. 0·5
				14	69. 4	68. 57	69. 0·5
Jan. 24. 0	69. 11	69. 15	69. 13	15	69. 3	68. 58	69. 0·5
1	69. 12	69. 13	69. 12·5	16	69. 4	69. 2	69. 3
2	69. 10	69. 12	69. 11	17	69. 6	69. 8	69. 7
3	69. 10	69. 15	69. 12·5	18	69. 7	69. 10	69. 8·5
4	69. 10	69. 16	69. 13	19	69. 10	69. 12	69. 11
5	69. 7	69. 14	69. 10·5	20	69. 10	69. 12	69. 11
6	69. 10	69. 15	69. 12·5	21	69. 9	69. 11	69. 10
7	69. 10	69. 15	69. 12·5	22	69. 9	69. 11	69. 10
8	69. 11	69. 17	69. 14	23	69. 8	69. 13	69. 10·5
9	69. 9	69. 16	69. 12·5				
10	69. 8	69. 17	69. 12·5	Jan. 26. 0	69. 8	69. 13	69. 10·5
11	69. 11	69. 18	69. 14·5	1	69. 9	69. 11	69. 10
12	69. 11	69. 14	69. 12·5	2	69. 9	69. 11	69. 10
13	69. 9	69. 15	69. 12	3	69. 10	69. 7	69. 8·5
14	69. 10	69. 16	69. 13	4	69. 11	69. 8	69. 9·5
15	69. 10	69. 16	69. 13	5	69. 11	69. 8	69. 9·5
16	69. 11	69. 16	69. 13·5	6	69. 12	69. 10	69. 11
17	69. 13	69. 17	69. 15	7	69. 12	69. 9	69. 10·5
18	69. 12	69. 17	69. 14·5	8	69. 11	69. 11	69. 11
19	69. 12	69. 18	69. 15	9	69. 12	69. 10	69. 11
20	69. 12	69. 18	69. 15	21	69. 0	69. 1	69. 0·5
21	69. 12	69. 21	69. 16·5	22	68. 52	68. 52	68. 52
22	69. 12	69. 20	69. 16	23	68. 50	68. 51	68. 50·5
23	69. 12	69. 20	69. 16	23½	68. 53	68. 54	68. 53·5
Jan. 25. 0	69. 12	69. 20	69. 16	Jan. 27. 0	68. 52	68. 53	68. 52·5
1	69. 12	69. 20	69. 16	1+	68. 52	68. 53	68. 52·5
2	69. 12	69. 20	69. 16	11	68. 51	68. 51	68. 51
3	69. 12	69. 20	69. 16	12	68. 51	68. 52	68. 51·5
3	69. 5	69. 8	69. 6·5	13	68. 52	68. 52	68. 52
4	69. 5	68. 59	69. 2	15	68. 51	68. 52	68. 51·5
5	69. 5	69. 0	69. 2·5	17	68. 50	68. 51	68. 50·5
6	69. 2	69. 2	69. 2	18	68. 52	68. 53	68. 52·5
7	69. 2	69. 2	69. 2	19	68. 52	68. 53	68. 52·5
8	69. 2	69. 2	69. 2				
9	69. 1	68. 58	68. 59·5	Jan. 28. 3	69. 0	69. 0	69. 0
10	69. 1	68. 59	69. 0	5	69. 1	69. 2	69. 1·5
11	69. 4	68. 56	69. 0	7	69. 2	69. 3	69. 2·5
12	69. 4	68. 57	69. 0·5	9	69. 4	69. 2	69. 3

After Jan. 23^{d}. 22^{h}. The needle was raised off the agate planes, and gradually lowered on them again two or three times.

Between the two observations at $25^{d}.\ 3^{h}$, the needle was raised off the planes and gradually lowered on them again several times.

The result of these observations is plainly, that partial observations taken on one day cannot safely be 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 $0^{in}.05$.

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

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

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

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

All observations of this barometer have been corrected for the difference of temperature of the mercury in the tube at the time of the observation from 32°, by the application of the corrections contained in the table for barometers, whose scales are engraved upon

a rod of brass reaching from the level of the mercury to the vernier. (See the Report of the Committee of Physics and Meteorology approved by the Royal Society.)

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

DRY-BULB THERMOMETER.

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

Day, 1843.	Dry Thermometer reads less than the Greenwich Standard.	Range of Temperature.	Number of Comparisons.	Mean Temperature.	Day, 1843.	Dry Thermometer reads less than the Greenwich Standard.	Range of Temperature.	Number of Comparisons.	Mean Temperature.
	°	° °		°		°	° °		°
Jan. 2	0·0	29 to 35	9	32·8	July 3	0·5	59 to 76	10	66·0
9	0·2	31 to 46	16	36·8	10	0·3	52 to 67	12	60·2
16	0·1	30 to 39	12	35·7	17	0·7	58 to 79	10	68·7
23	0·2	42 to 46	12	43·0	24	0·3	46 to 61	12	54·1
30	0·1	42 to 53	12	48·6	31	0·5	52 to 68	12	58·7
Feb. 6	0·2	30 to 36	12	32·9	Aug. 7	0·8	48 to 69	12	60·8
13	0·0	28 to 39	12	32·8	14	0·5	59 to 77	12	66·0
20	0·2	36 to 38	12	36·7	21	0·4	51 to 65	10	57·7
27	0·1	34 to 40	12	37·2	28	0·5	50 to 67	11	60·4
Mar. 6	0·3	30 to 42	12	36·8	Sep. 4	0·2	51 to 68	11	61·3
13	0·3	36 to 51	12	43·8	11	0·5	58 to 67	12	61·6
20	0·2	42 to 59	12	50·2	18	0·4	58 to 77	11	66·0
27	0·1	36 to 41	12	38·0	25	0·4	46 to 61	11	52·4
Apr. 3	0·4	49 to 60	12	53·0	Oct. 2	0·3	53 to 62	12	59·2
10	0·3	33 to 46	12	37·4	9	0·3	44 to 55	12	49·0
17	0·3	43 to 64	12	52·3	16	0·1	30 to 43	12	35·8
24	0·3	35 to 57	11	45·7	23	0·2	47 to 57	11	50·9
					30	0·2			53·0
May 1	0·3	50 to 66	12	57·4			42 to 59	8	
8	0·2	37 to 48	12	43·0	Nov. 6	0·1	43 to 52	8	48·1
15	0·6	49 to 60	12	53·6	13	0·3	32 to 43	3	34·8
22	0·9	45 to 60	12	53·6	20	0·2	42 to 49	11	45·9
29	0·5	43 to 53	12	47·3	27	0·3	49 to 54	8	52·1
June 5	0·7	44 to 61	12	52·3					
12	0·5	49 to 58	12	53·0	Dec. 4	0·2	45 to 48	12	46·5
19	0·6	51 to 62	12	54·6	11	0·2	35 to 47	8	41·2
26	0·8	46 to 69	12	57·5	18	0·2	39 to 45	11	42·4

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

Day, 1843.	Dry Thermometer reads less than Greenwich Standard between 32° and 50°.	Mean.	Day, 1843.	Dry Thermometer reads less than Greenwich Standard between 50° and 60°.	Mean.	Day, 1843.	Dry Thermometer reads less than Greenwich Standard above 60°.	Mean.
	°	°		°	°		°	°
Jan. 2	0·0		Mar. 20	0·2		July 3	0·5	
9	0·2					10	0·3	
16	0·1		Apr. 3	0·4		17	0·7	
23	0·2		17	0·3				
30	0·1					Aug. 7	0·8	
			May 1	0·3		14	0·5	0·5
Feb. 6	0·2		15	0·6		28	0·5	
13	0·0		22	0·9				
20	0·2					Sep. 4	0·2	
27	0·1		June 5	0·7		11	0·5	
			12	0·5		18	0·4	
Mar. 6	0·3		19	0·6	0·4			
13	0·3		26	0·8				
27	0·1	0·2						
			July 24	0·3				
Apr. 10	0·3		31	0·5				
24	0·3							
			Aug. 21	0·4				
May 8	0·2							
29	0·5		Sep. 25	0·4				
Oct. 9	0·3		Oct. 2	0·3				
16	0·1		23	0·2				
			30	0·2				
Nov. 6	0·1							
13	0·3		Nov. 27	0·3				
20	0·2							
Dec. 4	0·2							
11	0·2							
18	0·2							

There was no instance during the year, of the mean temperature of the day, during which comparisons were made, being below 32°. In the previous years there were such cases, and it was found that at readings below 32°, the reading of the Royal Observatory standard exceeded that of the dry-bulb thermometer by 0°·1. Therefore, the dry-bulb thermometer reads less than the Royal Observatory standard—

	°	°	°
Below	32	by.....	0·1
Between	32 and 50	by.....	0·2
Between	50 and 60	by.....	0·4
Above	60	by.....	0·5

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

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

Below	32°	0°·1	subtractive
Between	32° and 50°	0°·0	
Between	50° and 60°	0°·2	additive
Above	60°	0°·3	

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

WET-BULB THERMOMETER.

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

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

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

DEW-POINT APPARATUS.

The dew-point apparatus is that commonly known as Daniell's hygrometer, consisting of a bent tube with two bulbs, in one of which ether is inclosed, with a small thermometer plunged in it; on the other a piece of muslin is wrapped, by dropping ether on which, the vapour of the inclosed ether passing from the first bulb is condensed, and the ether is cooled until dew is deposited on the bulb, when the reading of the inclosed thermometer is taken. This is generally done at the appearance of the moisture only, but if there be any suspicion on the mind of the observer as to its correctness, it is also done at its disappearance; and if any discordance appears between the results, the observation is

repeated. It is found that no certain discordance exists between the results as obtained from the appearance and from the disappearance of the dew.

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

The thermometer used in determining the dew-point reads—

						°	°		°
On Jan.	2,	from	9	comparisons	between	29	and 35,	lower by	0·3
,,	9,	,,	16	,,	,,	31	and 46,	,,	0·1
,,	16,	,,	12	,,	,,	30	and 39,	,,	0·2
,,	23,	,,	12	,,	,,	42	and 46,	,,	0·1
,,	30,	,,	12	,,	,,	42	and 53,	,,	0·0
Feb.	6,	,,	12	,,	,,	30	and 36,	,,	0·1
,,	13,	,,	12	,,	,,	28	and 39,	,,	0·4
,,	20,	,,	12	,,	,,	36	and 38,	,,	0·3
,,	27,	,,	12	,,	,,	34	and 40,	,,	0·0
Mar.	6,	,,	12	,,	,,	30	and 42,	,,	0·2
,,	13,	,,	12	,,	,,	36	and 51,	higher by	0·1
,,	20,	,,	12	,,	,,	42	and 59,	,,	0·2
,,	27,	,,	12	,,	,,	36	and 41,	,,	0·0
Apr.	3,	,,	12	,,	,,	49	and 60,	,,	0·1
,,	10,	,,	12	,,	,,	33	and 46,	lower by	0·2
,,	17,	,,	12	,,	,,	43	and 64,	higher by	0·3
,,	24,	,,	11	,,	,,	35	and 57,	,,	0·2
May	1,	,,	12	,,	,,	50	and 66,	,,	0·5
,,	8,	,,	12	,,	,,	37	and 48,	lower by	0·1
,,	15,	,,	12	,,	,,	49	and 60,	,,	0·0
,,	22,	,,	12	,,	,,	45	and 60,	,,	0·0
,,	29,	,,	12	,,	,,	43	and 53,	,,	0·0
June	5,	,,	12	,,	,,	44	and 61,	,,	0·0
,,	12,	,,	12	,,	,,	49	and 58,	,,	0·0
,,	19,	,,	12	,,	,,	51	and 62,	,,	0·2
,,	26,	,,	12	,,	,,	46	and 69,	,,	0·0
July	3,	,,	10	,,	,,	59	and 76,	higher by	0·4
,,	10,	,,	12	,,	,,	52	and 67,	,,	0·3
,,	17,	,,	10	,,	,,	58	and 79,	,,	0·5
,,	24,	,,	12	,,	,,	46	and 61,	,,	0·2
,,	31,	,,	12	,,	,,	52	and 68,	,,	0·1
Aug.	7,	,,	12	,,	,,	48	and 69,	,,	0·2
,,	14,	,,	12	,,	,,	59	and 77,	,,	0·4
,,	21,	,,	10	,,	,,	51	and 65,	,,	0·3
,,	28,	,,	11	,,	,,	50	and 67,	,,	0·2
Sep.	4,	,,	11	,,	,,	51	and 68,	,,	0·4
,,	11,	,,	12	,,	,,	58	and 67,	,,	0·1
,,	18,	,,	11	,,	,,	58	and 77,	,,	0·6

							°		°			°	
On Sep.	25,	from	11	comparisons	between		46	and	61,	lower	by	0·1	
Oct.	2,	,,	12	,,	,,		53	and	62,	,,		0·2	
,,	9,	,,	12	,,	,,		44	and	55,	,,		0·0	
,,	16,	,,	12	,,	,,		30	and	43,	,,		0·0	
,,	23,	,,	11	,,	,,		47	and	57,	,,		0·1	
,,	30,	,,	8	,,	,,		42	and	59,	,,		0·1	
Nov.	6,	,,	8	,,	,,		43	and	52,	,,		0·0	
,,	13,	,,	3	,,	,,		32	and	43,	,.		0·1	
,,	20,	,,	11	,,	,,		42	and	49,	,,		0·0	
,,	27,	,,	8	,,	,,		49	and	54,	,,		0·1	
Dec.	4,	,,	12	,,	,,		45	and	48,	,,		0·2	
,,	11,	,,	8	,,	,,		35	and	47,	,,		0·0	
,,	18,	,,	11	,,	,,		39	and	45,	,,		0·1	

From these observations it appears, that when the temperature is between 32° and 50°, the thermometer reads 0°·1 less than the standard; that between 50° and 60°, it reads more than the standard by 0°·05; and that above 60°, it reads more than the standard by 0°·3.

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

The dew-point observation was made at 4^h, 10^h, 16^h, and 22^h, Göttingen mean time, every day except Sundays, Good Friday, and 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; and the following are the tables, &c. which have been used in the formation of the tables in the Abstracts.

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	1·2	0·064	2·4	0·067	3·6	0·070	4·8	0·073	6·0	0·077	7·2	0·080
·1	·061	·3	·064	·5	·067	·7	·071	4·9	·074	·1	·077	·3	·081
·2	·062	·4	·065	·6	·068	·8	·071	5·0	·074	·2	·077	·4	·081
·3	·062	·5	·065	·7	·068	3·9	·071	·1	·074	·3	·078	·5	·081
·4	·062	·6	·065	·8	·068	4·0	·071	·2	·075	·4	·078	·6	·082
·5	·062	·7	·065	2·9	·068	·1	·072	·3	·075	·5	·078	·7	·082
·6	·063	·8	·066	3·0	·069	·2	·072	·4	·075	·6	·079	·8	·082
·7	·063	1·9	·066	·1	·069	·3	·072	·5	·075	·7	·079	7·9	·083
·8	·063	2·0	·066	·2	·069	·4	·072	·6	·076	·8	·079	8·0	·083
0·9	·063	·1	·066	·3	·069	·5	·073	·7	·076	6·9	·080	·1	·083
1·0	·064	·2	·067	·4	·070	·6	·073	·8	·076	7·0	·080	·2	·083
·1	0·064	·3	0·067	·5	0·070	·7	0·073	5·9	0·077	·1	0·080	·3	0·084

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.
8·4	0·084	13·6	0·102	18·8	0·124	24·0	0·150	29·2	0·180	34·4	0·217	39·6	0·261
·5	·084	·7	·102	18·9	·124	·1	·150	·3	·181	·5	·218	·7	·262
·6	·085	·8	·103	19·0	·125	·2	·151	·4	·182	·6	·219	·8	·263
·7	·085	13·9	·103	·1	·125	·3	·152	·5	·182	·7	·219	39·9	·263
·8	·085	14·0	·104	·2	·126	·4	·152	·6	·183	·8	·220	40·0	·264
8·9	·086	·1	·104	·3	·126	·5	·152	·7	·184	34·9	·221	·1	·265
9·0	·086	·2	·104	·4	·126	·6	·153	·8	·184	35·0	·222	·2	·266
·1	·086	·3	·105	·5	·127	·7	·153	29·9	·185	·1	·223	·3	·267
·2	·087	·4	·105	·6	·127	·8	·154	30·0	·186	·2	·223	·4	·268
·3	·087	·5	·106	·7	·128	24·9	·155	·1	·186	·3	·224	·5	·269
·4	·087	·6	·106	·8	·128	25·0	·155	·2	·187	·4	·225	·6	·270
·5	·088	·7	·106	19·9	·129	·1	·156	·3	·188	·5	·226	·7	·271
·6	·088	·8	·107	20·0	·129	·2	·156	·4	·188	·6	·227	·8	·272
·7	·088	14·9	·107	·1	·130	·3	·157	·5	·189	·7	·227	40·9	·273
·8	·089	15·0	·108	·2	·130	·4	·157	·6	·190	·8	·228	41·0	·274
9·9	·089	·1	·108	·3	·131	·5	·158	·7	·190	35·9	·229	·1	·275
10·0	·089	·2	·108	·4	·131	·6	·158	·8	·191	36·0	·230	·2	·276
·1	·090	·3	·109	·5	·132	·7	·159	30·9	·192	·1	·231	·3	·277
·2	·090	·4	·109	·6	·132	·8	·160	31·0	·192	·2	·231	·4	·278
·3	·090	·5	·110	·7	·133	25·9	·160	·1	·193	·3	·232	·5	·279
·4	·091	·6	·110	·8	·133	26·0	·161	·2	·194	·4	·233	·6	·280
·5	·091	·7	·110	20·9	·134	·1	·161	·3	·194	·5	·234	·7	·281
·6	·091	·8	·111	21·0	·134	·2	·162	·4	·195	·6	·235	·8	·282
·7	·092	15·9	·111	·1	·135	·3	·163	·5	·196	·7	·235	41·9	·282
·8	·092	16·0	·112	·2	·135	·4	·163	·6	·197	·8	·236	42·0	·283
10·9	·092	·1	·112	·3	·136	·5	·164	·7	·197	36·9	·237	·1	·284
11·0	·093	·2	·112	·4	·136	·6	·164	·8	·198	37·0	·238	·2	·285
·1	·093	·3	·113	·5	·137	·7	·165	31·9	·198	·1	·239	·3	·286
·2	·093	·4	·113	·6	·137	·8	·165	32·0	·199	·2	·240	·4	·287
·3	·094	·5	·114	·7	·138	26·9	·166	·1	·200	·3	·240	·5	·288
·4	·094	·6	·114	·8	·138	27·0	·167	·2	·201	·4	·241	·6	·289
·5	·094	·7	·115	21·9	·139	·1	·167	·3	·201	·5	·242	·7	·290
·6	·095	·8	·115	22·0	·139	·2	·168	·4	·202	·6	·243	·8	·291
·7	·095	16·9	·115	·1	·140	·3	·168	·5	·203	·7	·244	42·9	·292
·8	·096	17·0	·116	·2	·140	·4	·169	·6	·204	·8	·245	43·0	·293
11·9	·096	·1	·116	·3	·141	·5	·170	·7	·204	37·9	·246	·1	·295
12·0	·096	·2	·117	·4	·141	·6	·170	·8	·205	38·0	·246	·2	·296
·1	·097	·3	·117	·5	·142	·7	·171	32·9	·206	·1	·247	·3	·297
·2	·097	·4	·118	·6	·142	·8	·172	33·0	·207	·2	·248	·4	·298
·3	·097	·5	·118	·7	·143	27·9	·172	·1	·207	·3	·249	·5	·299
·4	·098	·6	·118	·8	·143	28·0	·173	·2	·208	·4	·250	·6	·300
·5	·098	·7	·119	22·9	·144	·1	·173	·3	·209	·5	·251	·7	·301
·6	·098	·8	·119	23·0	·144	·2	·174	·4	·210	·6	·252	·8	·302
·7	·099	17·9	·120	·1	·145	·3	·175	·5	·210	·7	·253	43·9	·303
·8	·099	18·0	·120	·2	·145	·4	·175	·6	·211	·8	·253	44·0	·304
12·9	·099	·1	·121	·3	·146	·5	·176	·7	·212	38·9	·254	·1	·305
13·0	·100	·2	·121	·4	·146	·6	·177	·8	·213	39·0	·255	·2	·306
·1	·100	·3	·121	·5	·147	·7	·177	33·9	·213	·1	·256	·3	·307
·2	·101	·4	·122	·6	·147	·8	·178	34·0	·214	·2	·257	·4	·308
·3	·101	·5	·122	·7	·148	28·9	·178	·1	·215	·3	·258	·5	·309
·4	·101	·6	·123	·8	·148	29·0	·179	·2	·216	·4	·259	·6	·310
·5	0·102	·7	0·123	23·9	0·149	·1	0·180	·3	0·216	·5	0·260	·7	0·311

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.
44·8	0·312	50·0	0·373	55·2	0·445	60·4	0·530	65·6	0·630	70·8	0·746	76·0	0·882
44·9	·313	·1	·375	·3	·447	·5	·532	·7	·632	70·9	·748	·1	·885
45·0	·315	·2	·376	·4	·449	·6	·534	·8	·634	71·0	·751	·2	·887
·1	·316	·3	·377	·5	·450	·7	·536	65·9	·636	·1	·753	·3	·890
·2	·317	·4	·379	·6	·452	·8	·537	66·0	·638	·2	·756	·4	·893
·3	·318	·5	·380	·7	·453	60·9	·539	·1	·640	·3	·758	·5	·896
·4	·319	·6	·381	·8	·455	61·0	·541	·2	·642	·4	·761	·6	·899
·5	·320	·7	·382	55·9	·456	·1	·543	·3	·644	·5	·763	·7	·902
·6	·321	·8	·383	56·0	·458	·2	·544	·4	·646	·6	·766	·8	·905
·7	·322	50·9	·385	·1	·459	·3	·546	·5	·648	·7	·768	76·9	·908
·8	·323	51·0	·386	·2	·461	·4	·548	·6	·651	·8	·771	77·0	·910
45·9	·324	·1	·388	·3	·462	·5	·550	·7	·653	71·9	·773	·1	·913
46·0	·326	·2	·389	·4	·464	·6	·552	·8	·655	72·0	·776	·2	·916
·1	·327	·3	·390	·5	·465	·7	·554	66·9	·657	·1	·778	·3	·919
·2	·328	·4	·392	·6	·467	·8	·555	67·0	·659	·2	·781	·4	·922
·3	·329	·5	·393	·7	·469	61·9	·557	·1	·661	·3	·783	·5	·925
·4	·330	·6	·394	·8	·470	62·0	·559	·2	·664	·4	·785	·6	·928
·5	·331	·7	·396	56·9	·472	·1	·561	·3	·666	·5	·787	·7	·931
·6	·332	·8	·397	57·0	·473	·2	·563	·4	·668	·6	·790	·8	·934
·7	·333	51·9	·398	·1	·475	·3	·565	·5	·670	·7	·792	77·9	·937
·8	·335	52·0	·400	·2	·476	·4	·567	·6	·672	·8	·795	78·0	·940
46·9	·336	·1	·401	·3	·478	·5	·568	·7	·674	72·9	·797	·1	·943
47·0	·337	·2	·402	·4	·480	·6	·570	·8	·677	73·0	·801	·2	·946
·1	·338	·3	·404	·5	·481	·7	·572	67·9	·679	·1	·803	·3	·949
·2	·339	·4	·405	·6	·483	·8	·574	68·0	·681	·2	·806	·4	·952
·3	·340	·5	·407	·7	·485	62·9	·576	·1	·684	·3	·809	·5	·955
·4	·342	·6	·408	·8	·486	63·0	·578	·2	·686	·4	·811	·6	·958
·5	·343	·7	·409	57·9	·488	·1	·580	·3	·688	·5	·814	·7	·961
·6	·344	·8	·411	58·0	·489	·2	·582	·4	·690	·6	·817	·8	·964
·7	·345	52·9	·412	·1	·491	·3	·584	·5	·692	·7	·819	78·9	·967
·8	·346	53·0	·414	·2	·493	·4	·586	·6	·695	·8	·822	79·0	·970
47·9	·348	·1	·415	·3	·494	·5	·588	·7	·697	73·9	·824	·1	·973
48·0	·349	·2	·416	·4	·496	·6	·590	·8	·699	74·0	·827	·2	·976
·1	·350	·3	·418	·5	·498	·7	·591	68·9	·701	·1	·830	·3	·979
·2	·351	·4	·419	·6	·499	·8	·593	69·0	·704	·2	·832	·4	·983
·3	·352	·5	·421	·7	·501	63·9	·595	·1	·706	·3	·835	·5	·986
·4	·354	·6	·422	·8	·503	64·0	·597	·2	·708	·4	·838	·6	·989
·5	·355	·7	·423	58·9	·504	·1	·599	·3	·711	·5	·840	·7	·992
·6	·356	·8	·425	59·0	·506	·2	·601	·4	·713	·6	·843	·8	·995
·7	·357	53·9	·426	·1	·508	·3	·603	·5	·715	·7	·846	79·9	0·998
·8	·358	54·0	·428	·2	·509	·4	·605	·6	·717	·8	·849	80·0	1·001
48·9	·360	·1	·429	·3	·511	·5	·607	·7	·720	74·9	·851	·1	·005
49·0	·361	·2	·431	·4	·513	·6	·609	·8	·722	75·0	·854	·2	·008
·1	·362	·3	·432	·5	·515	·7	·611	69·9	·725	·1	·857	·3	·011
·2	·363	·4	·434	·6	·516	·8	·613	70·0	·727	·2	·860	·4	·014
·3	·365	·5	·435	·7	·518	64·9	·615	·1	·729	·3	·862	·5	·017
·4	·366	·6	·437	·8	·520	65·0	·617	·2	·732	·4	·865	·6	·021
·5	·367	·7	·438	59·9	·521	·1	·619	·3	·734	·5	·868	·7	·024
·6	·368	·8	·440	60·0	·523	·2	·621	·4	·736	·6	·871	·8	·027
·7	·370	54·9	·441	·1	·525	·3	·623	·5	·739	·7	·873	80·9	·030
·8	·371	55·0	·442	·2	·527	·4	·626	·6	·741	·8	·876	81·0	·034
49·7	0·372	·1	0·444	·3	0·528	·5	0·628	·7	0·744	75·9	0·879	·1	1·037

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.
81·2	1·040	82·5	1.083	83·8	1·129	85·1	1·175	86·4	1·224	87·7	1·274	88·9	1·322
·3	·043	·6	·087	83·9	·132	·2	·178	·5	·228	·8	·278	89·0	·326
·4	·047	·7	·090	84·0	·136	·3	·182	·6	·232	87·9	·282	·1	·330
·5	·050	·8	·094	·1	·139	·4	·186	·7	·235	88·0	·286	·2	·335
·6	·053	82·9	·097	·2	·143	·5	·190	·8	·239	·1	·290	·3	·339
·7	·057	83·0	·101	·3	·146	·6	·193	86·9	·243	·2	·294	·4	·343
·8	·060	·1	·104	·4	·150	·7	·197	87·0	·247	·3	·298	·5	·347
81·9	·063	·2	·108	·5	·153	·8	·201	·1	·251	·4	·302	·6	·351
82·0	·067	·3	·111	·6	·157	85·9	·205	·2	·255	·5	·306	·7	·355
·1	·069	·4	·114	·7	·160	86·0	·209	·3	·258	·6	·310	·8	·359
·2	.073	·5	·118	·8	·164	·1	·212	·4	·262	·7	·314	89·9	·364
·3	.077	·6	·121	84·9	·167	·2	·216	·5	·266	·8	1·318	90·0	1·368
·4	1.080	·7	1·125	85·0	1·171	·3	1·220	·6	1·270				

Previously to deciding upon using 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 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 the table has been always used in this volume where such values have been required.

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

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

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

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

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

h the height of the barometer.

* These tables were erroneously attributed to Sir John Lubbock in the volume for 1842; the error arose from the circumstance of its being so stated in a paper by Dr. Apjohn, published in the Proceedings of the Royal Irish Academy, 1840.

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	4·2	0·00159	8·3	0·00315	12·3	0·00466	16·3	0·00618
0·2	·00008	4·3	·00163	8·4	·00318	12·4	·00470	16·4	·00622
0·3	·00011	4·4	·00167	8·5	·00322	12·5	·00474	16·5	·00625
0·4	·00015	4·5	·00171	8·6	·00326	12·6	·00477	16·6	·00629
0·5	·00019	4·6	·00174	8·7	·00330	12·7	·00481	16·7	·00633
0·6	·00023	4·7	·00178	8·8	·00333	12·8	·00485	16·8	·00636
0·7	·00027	4·8	·00182	8·9	·00337	12·9	·00489	16·9	·00640
0·8	·00030	4·9	·00186	9·0	·00341	13·0	·00493	17·0	·00644
0·9	·00034	5·0	·00189	9·1	·00345	13·1	·00496	17·1	·00648
1·0	·00038	5·1	·00193	9·2	·00349	13·2	·00500	17·2	·00652
1·1	·00042	5·2	·00197	9·3	·00352	13·3	·00504	17·3	·00655
1·2	·00046	5·3	·00201	9·4	·00356	13·4	·00508	17·4	·00659
1·3	·00049	5·4	·00205	9·5	·00360	13·5	·00511	17·5	·00663
1·4	·00053	5·5	·00209	9·6	·00364	13·6	·00515	17·6	·00666
1·5	·00057	5·6	·00212	9·7	·00368	13·7	·00519	17·7	·00670
1·6	·00061	5·7	·00216	9·8	·00371	13·8	·00522	17·8	·00674
1·7	·00064	5·8	·00220	9·9	·00375	13·9	·00524	17·9	·00678
1·8	·00068	5·9	·00224	10·0	·00379	14·0	·00530	18·0	·00682
1·9	·00072	6·0	·00228	10·1	·00383	14·1	·00534	18·1	·00686
2·0	·00076	6·1	·00231	10·2	·00386	14·2	·00538	18·2	·00690
2·1	·00080	6·2	·00235	10·3	·00390	14·3	·00541	18·3	·00693
2·2	·00083	6·3	·00239	10·4	·00394	14·4	·00545	18·4	·00697
2·3	·00087	6·4	·00242	10·5	·00398	14·5	·00549	18·5	·00701
2·4	·00091	6·5	·00246	10·6	·00401	14·6	·00553	18·6	·00704
2·5	·00095	6·6	·00250	10·7	·00405	14·7	·00556	18·7	·00708
2·6	·00098	6·7	·00254	10·8	·00409	14·8	·00560	18·8	·00712
2·7	·00102	6·8	·00258	10·9	·00412	14·9	·00564	18·9	·00716
2·8	·00106	6·9	·00261	11·0	·00416	15·0	·00568	19·0	·00720
2·9	·00110	7·0	·00265	11·1	·00420	15·1	·00572	19·1	·00724
3·0	·00114	7·1	·00269	11·2	·00424	15·2	·00576	19·2	·00728
3·1	·00118	7·2	·00273	11·3	·00428	15·3	·00580	19·3	·00731
3·2	·00121	7·3	·00277	11·4	·00432	15·4	·00584	19·4	·00735
3·3	·00125	7·4	·00280	11·5	·00436	15·5	·00587	19·5	·00739
3·4	·00129	7·5	·00284	11·6	·00439	15·6	·00591	19·6	·00742
3·5	·00132	7·6	·00288	11·7	·00443	15·7	·00595	19·7	·00746
3·6	·00137	7·7	·00292	11·8	·00447	15·8	·00598	19·8	·00750
3·7	·00140	7·8	·00295	11·9	·00451	15·9	·00602	19·9	·00754
3·8	·00144	7·9	·00299	12·0	·00454	16·0	·00606	20·0	·00758
3·9	·00148	8·0	·00303	12·1	·00458	16·1	·00610	20·1	·00761
4·0	·00151	8·1	·00307	12·2	·00462	16·2	·00614	20·2	·00765
4·1	·00155	8·2	·00311						

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

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

and the following table has been formed to facilitate the 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 have been found as follows. The number in the tables ranging with the difference of the readings of the dry and wet thermometers has been multiplied into the height of the barometer at the time of the observation, and the difference between this product and the elastic force of vapour at the temperature of evaporation is the elastic force of vapour at the temperature of the dew-point, and then from the table in pages xlv to xlviii the dew-point is found.

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

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

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

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

Cubic Inches Grains Inches Grains

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

Now, from the 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 would be 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° and 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								

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

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

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

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

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

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

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

Therefore, if the weight of a cubic foot of vapour, under the pressure of 30 inches of mercury, and at the temperature of 212°, be called W; and the weight, expressed in the same denomination, of an equal volume of vapour, at the temperature t and under the

same pressure of 30 inches, be called W'; and if E_t be the elasticity of vapour at the temperature t; then (the expansion of dry air from 32° to 212° being 0·375, or being $\frac{1}{480}$ part = 0·002083 for each degree of temperature),

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

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

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

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

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

And from this formula the next table is formed, shewing

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

Temp. Fahr.	Weight in Grains Troy of a Cubic Foot of Vapour.	Temp. Fahr.	Weight in Grains Troy of a Cubic Foot of Vapour.	Temp. Fahr.	Weight in Grains Troy of a Cubic Foot of Vapour.	Temp. Fahr.	Weight in Grains Troy of a Cubic Foot of Vapour.	Temp. Fahr.	Weight in Grains Troy of a Cubic Foot of Vapour.
°	gr.	°	gr.	°	gr.	°	gr.	°	gr.
0	0·78	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 li take out the volume after expansion at both temperatures, and then say,

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

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

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

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

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

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

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

This table is to be used as follows: taking the same example as above, the difference between the temperatures of the air and of the dew-point is 20°; the factor ranging with 20° is 0·960, which multiplied into $4^{gr}\cdot28$ gives 4·11 grains. In this way the respective tables in the Abstracts were formed, exhibiting the weight of a cubic foot of vapour. And as the weight of moisture in the assumed example was $4^{gr}\cdot11$, and at 70° complete saturation takes place, when $8^{gr}\cdot00$ of moisture are held in solution, the difference between these numbers, $3^{gr}\cdot89$, 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 liv 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.	Difference between the successive Temperatures.
gr.	°	°
0·78	0·0	
		19·8
1·56	19·8	
		20·5
3·12	40·3	
		21·7
6·24	62·0	
		22·8
12·48	84·8	

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

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

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

A Table shewing the Weight 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 between 0° and 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 $\frac{\text{Height of the Barometer}}{30}$; and in this way the tables in the Abstracts have been formed, shewing the weights of a cubic foot of air under different circumstances of temperature, humidity, and pressure.

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

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

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

A Table shewing the Weight of Vapour in a Cubic Foot of Space (upon the supposition of a Cubic Inch of Water producing 1625 Inches of Vapour), under the Pressure of 30 Inches of Mercury, for every Degree of Temperature between 0° and 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	5·27	86	10·80
18	1·07	41	2·45	64	5·34	87	11·14
19	1·11	42	2·53	65	5·52	88	11·49
20	1·15	43	2·62	66	5·70	89	11·85
21	1·20	44	2·72	67	5·89	90	12·23
22	1·24	45	2·81	68	6·08		

MAXIMUM AND MINIMUM SELF-REGISTERING THERMOMETER.

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

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

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	0·4	to	all maximum readings	below	40
	Subtract	0·3	from	all maximum readings	above	40
		0·0	from	all minimum readings	below	36
		0·4	from	all minimum readings	above	36
February.	Add	0·1	to	all maximum readings	below	40
	Subtract	0·1	from	all maximum readings	above	40
	Add	0·3	to	all minimum readings	below	35
	Subtract	0·2	from	all minimum readings	above	35
March.	Add	0·2	to	all maximum readings	below	45
	Subtract	0·6	from	all maximum readings	above	45
	Add	0·5	to	all minimum readings	below	35
	Subtract	0·3	from	all minimum readings	above	35
April.	Subtract	0·5	from	all maximum readings	below	55
		1·3	from	all maximum readings	above	55
	Add	0·2	to	all minimum readings	below	40
	Subtract	0·7	from	all minimum readings	above	40
May.	Subtract	0·6	from	all maximum readings	below	60
		1·1	from	all maximum readings	above	60
		0·7	from	all minimum readings.		
June.	Subtract	0·8	from	all maximum readings	below	70
		3·0	from	all maximum readings	above	70
		1·0	from	all minimum readings.		

		°			°
July.	Subtract	1·1	from all maximum readings below		70
		1·8	from all maximum readings above		70
		0·9	from all minimum readings.		
August.	Subtract	1·1	from all maximum readings below		70
		2·5	from all maximum readings above		70
		1·0	from all minimum readings.		
September.	Subtract	0·7	from all maximum readings below		70
		2·9	from all maximum readings above		70
		1·2	from all minimum readings.		
October.	Subtract	0·6	from all maximum readings.		
		0·7	from all minimum readings.		
November.	Subtract	0·1	from all maximum readings below		45
		0·5	from all maximum readings above		45
		0·4	from all minimum readings.		
December.	Add	0·5	to all maximum readings below		40
	Subtract	0·3	from all maximum readings between	40 and	50
		0·8	from all maximum readings above		50
		0·5	from all minimum readings.		

RADIATION THERMOMETERS.

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

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

During the year this thermometer 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. From January to April 1^d this was corrected day by day. During the month of April a thermometer belonging to Mr. Glaisher was used, which is not liable to a similar error.

On May 1^d the thermometer was again used, being at this time without error. On May $3^d.21^h$, the reading being found 2° too small, Mr. Glaisher endeavoured to clear it of this error, but did not succeed; and the reading continued constantly 2° in error till September $13^d.21^h$. On September $14^d.21^h$ it was found to be 5° in error, and on September $15^d.21$ it had increased to 6°; and the same error continued till Sep. $18^d.0^h$.

At this time the instrument was cleared of error and adjusted day by day after this time, and by this means its error was kept within 1° till the end of the year.

Therefore, the readings, as inserted in the Tabular Observations, at 22^h on every day, are the readings as read from the instrument from January 1^d to May $2^d.22^h$; between May $3^d.22^h$ and September $13^d.22^h$, both inclusive, they are those readings increased by 2°; on September $14^d.22^h$ the reading is increased by 5°; on September $15^d.22^h$, $16^d.22^h$, and $17^d.22^h$, the readings are increased by 6°; and, after the latter time, the readings are recorded as read from the instrument.

POSITION OF THE THERMOMETERS.

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

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 act necessarily in conjunction with the first as the plate is driven further and further by the force of the wind. A cord from this plate passes over a pulley, and communicates with a copper wire passing through the center of the spindle, which at the bottom communicates with another cord passing under a pulley and held tight by a slight spring; and by this a pencil is moved transversely to the direction in which the paper fixed to the board is carried by the clock. Lines are printed upon the paper corresponding to different values of the pressure; the intervals of these lines were adjusted by applying weights of 1lb., 2lbs., &c., to move the pressure-plate in the same manner as if the wind pressed it.

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

WHEWELL'S ANEMOMETER.

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

their surfaces plane, and inclined to the direction of the wind at an angle of 45° : its axis is horizontal. Upon the axis is an endless screw, which works in a vertical wheel of one hundred teeth, and upon the axis of this wheel is an endless screw, which works in a horizontal wheel of one hundred teeth; and this horizontal wheel is connected with the top of the great vertical screw. Ten thousand revolutions of the fly therefore produce one revolution of the vertical screw. A concave screw (which admits of being opened at pleasure, for detaching it from the vertical screw) is clamped, so as to embrace the vertical screw, and is carried downwards by its circular motion. To this concave screw is attached a pencil, which in its descent touches the fixed vertical cylinder. The surface of the cylinder is divided by vertical lines into sixteen equal parts, corresponding to the 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: divisions of inches and tenths of inches are engraved upon it, 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 number of inches and tenths of 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 placed 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 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 in this corresponds to 1 inch of rain. This gauge is 177 feet 2 inches above the mean level of the sea. The quantity of water collected in this gauge is measured every day at 22^h, and the amount in inches is inserted in the column whose heading is "Reading of Rain-gauge No. 2."

The rain-gauge No. 3 is a self-registering rain-gauge on Crosley's construction, made by Watkins and Hill. The surface exposed to the rain is 100 square inches. The collected water falls into a vibrating bucket, whose receiving concavity is entirely above the center of motion, and which is divided into two equal parts by a partition whose plane passes through the axis of motion. The pipe from the rain-receiver terminates immediately above the axis. Thus that part of the concavity which is highest is always in the position for receiving water from the pipe. When a certain quantity of water has fallen into it, it preponderates, and falling, discharges its water into a cistern below; then the other part of the concavity receives the rain, and after a time preponderates. Thus the bucket is kept in a state of vibration. To its axis is attached an anchor with pallets, which acts upon a toothed wheel by a process exactly the reverse of that of a clock-escapement. This wheel communicates motion to a train of wheels, each of which carries a hand upon a dial-plate; and thus inches, tenths, and hundredths, are registered. Sometimes, when the escapement has obviously failed, the water which has descended to the lower cistern has again been passed through the gauge, in order to enable an assistant to observe the indication of the dial-plates without fear of an imperfection in the machinery escaping notice. This gauge is placed on the ground, 21 feet South of the Magnetic Observatory, 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 13½ 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 1¼ inch in length; three quarters of an inch of this tube is straight, and the remaining half inch is bent upwards, terminating in an aperture of one-eighth of an inch. By this arrangement, the last drop of water remains in the bent part of the tube, and is some hours evaporating; it is usually found that the dew at night fills it, and evening comes before it is again free from water. The upper part of the funnel, or base of the cone, is made to touch the internal part of the cylinder all round. The cylinder is sunk 8 inches in the ground, leaving 5½ inches above the ground; and it is believed that evaporation is almost totally prevented. The height above the mean level of the sea is 155 feet 3 inches; the place of the gauge is 6 feet West of the gauge No. 3. The quantity of water collected is read at the end of every month: its readings are inserted in the marginal notes to the Observations.

ACTINOMETER.

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

the screen is again placed before the instrument: at the following 30^s the scale is read for the first shade observation, and at one minute afterwards is again read for the second shade observation; the instrument is then again exposed to the Sun, and read as before, and so on successively.

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

Day, 1844.	Glass On or Off.	Mean Reading of the Instrument.	Mean of Readings, the one preceding and the other following that with the Glass Off.	Reading with the Glass On— Reading with the Glass Off.	Fraction representing the Proportion of the Incident Rays cut off by the Glass.	
d		div.	div.	div.		
April 3	On	32·5				
	Off	39·1	33·2	— 5·0	$\frac{1}{5\cdot6}$	0·178
	On	33·9				
	Off	39·4	34·4	— 5·0	$\frac{1}{6\cdot9}$	0·144
	On	34·8				
	Off	41·4	34·4	— 7·0	$\frac{1}{4\cdot9}$	0·204
	On	33·9				
	Off	41·7	33·9	— 8·8	$\frac{1}{3\cdot9}$	0·257
	On	33·8				
April 9	On	24·8				
	Off	29·5	25·2	— 4·3	$\frac{1}{5\cdot9}$	0·169
	On	25·5				
10	On	26·7				
	Off	33·6	27·7	— 5·9	$\frac{1}{4\cdot7}$	0·213
	On	28·6				
	Off	35·8	30·4	— 5·4	$\frac{1}{5\cdot6}$	0·179
	On	32·2				
	Off	34·6	32·2	— 2·4	$\frac{1}{13\cdot4}$	0·074
	On	32·1				
	Off	38·2	31·8	— 6·4	$\frac{1}{5\cdot0}$	0·200
	On	31·5				
	Off	36·0	32·2	— 3·8	$\frac{1}{8\cdot5}$	0·118
	On	32·9				
	Off	39·8	32·9	— 6·9	$\frac{1}{4\cdot8}$	0·208
	On	32·8				
	Off	34·6	33·1	— 1·5	$\frac{1}{22\cdot1}$	0·045
	On	33·4				
	Off	38·1	32·5	— 5·6	$\frac{1}{5\cdot8}$	0·171
	On	31·5				
	Off	36·8	32·2	— 4·6	$\frac{1}{7\cdot0}$	0·143
	On	32·8				
	Off	34·2	29·8	— 4·4	$\frac{1}{6\cdot8}$	0·147
	On	26·8				
	On	34·2				
	Off	45·1	33·4	—11·7	$\frac{1}{2\cdot9}$	0·345
	On	32·5				

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

The following series of careful observations were made, 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 $\frac{10^{div.}}{6}$ or $1^{div.}{\cdot}7$; 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 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 is connected with a pole 80 feet high, planted a few feet north of the Magnetic Observatory. On the top of the pole during the year 1843 was fixed a piece of glass 2 feet 6 inches in length, and about 2 inches in diameter, carrying a copper cap with 30 spikes of 3 inches in length; from this cap a copper wire, 0·1 inch in thickness, was led to and passed round a rod of glass, fixed a little below the under part of the projecting window in the ante-room of the Magnetic Observatory, and from thence it was conducted to a ball half an inch in diameter immediately under the window; a vertical brass rod of 1 foot in length was fixed in this ball, supporting at the top a brass ball 2 inches in diameter. At the distance of 4 inches West from the center of this ball, was placed the center of a bell, whose diameter was 4 inches, and to which a copper wire was attached leading to the earth. At the distance of 6 inches above the ball was fixed a horizontal rod of glass, from which a brass ball, 0·3 inch in diameter, was suspended by a single thread of silk; so that this ball, when in a quiescent state, was midway between the larger ball and the bell, or at about half an inch distance from the ball. When the electricity is abundant, the small ball vibrates between the large ball and the bell, and thus gives warning to the observer, and carries off the redundant electricity by means of the wire before mentioned.

The electrometers during the year 1843 consisted of a pith-ball apparatus; a dry-pile apparatus; and a galvanometer.

The pith-balls are freely suspended, and not inclosed in a glass case; the brass wire which carries them (and which is duly insulated) is carried by a moveable frame by means of which the wire can be placed in connexion with the large ball and removed from it at pleasure; and thus, when the pith-balls have received a charge of electricity, they can be removed, and the quality of electricity can be ascertained by the approximation of an excited glass tube, without any necessity for touching or approaching very near to the conducting apparatus.

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. As it indicates at once the quality of electricity, it commonly supersedes the application of excited glass in the manner mentioned above.

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 either 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 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.

The number of persons regularly employed in the Magnetical and Meteorological Observations during the greater part of the year 1843 was four, namely—

Mr. James Glaisher, Superintendent.
Mr. Edwin Dunkin,
Mr. John Russell Hind,
Mr. James Paul.

The order of observations is arranged every week, and usually proceeds on the following principle. Mr. Glaisher usually takes one complete day's observations in each week; the remainder of the observations is equally divided between the three other assistants, excepting in cases of illness, or of absence of one person, and in that case the observations are equally divided between the three remaining assistants. Denoting 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.

END OF THE INTRODUCTION.

ROYAL OBSERVATORY, GREENWICH.

DAILY OBSERVATIONS

OF

MAGNETOMETERS.

1843.

Daily Observations from January 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	° ′ ″			
Jan. 1. 14. 0	23. 16. 11	0·011680	0·030902	J H	Jan. 4. 14. 0	23. 21. 52	0·015787	0·031380	J H
16. 0	18. 53	011017	031373		16. 0	20. 45	015888	031378	
18. 0	19. 19	010939	031599		18. 0	21. 16	016138	031388	
20. 0	20. 26	011358	031640	J H	20. 0	20. 51	016174	031432	J H
22. 0	21. 6	010476	032054	D	22. 0	22. 35	015621	031544	G
Jan. 2. 0. 0	23. 24. 12	0·007720	0·032211	D	Jan. 5. 0. 0	23. 23. 23	0·016212	0·035291	G
1. 50	26. 48	012440	032330		1. 50	24. 31	015651	034115	
2. 0	26. 48	012120	032352		2. 0	24. 28	015744	033611	
2. 10	27. 9	011854	032373	D	2. 10	24. 28	015744	034093	G
4. 0	25. 6	010653	032849	J H	4. 0	22. 25	015611	034051	J H
6. 0	17. 33	014094	032478		6. 0	21. 50	016035	033774	
8. 0	10. 38	014492	032336		8. 0	21. 35	015493	033672	J H
10. 0	20. 38	013759	031909	J H	10. 0	20. 53	015364	033647	H B
12. 0	9. 32	015695	031470	G	12. 0	20. 35	015228	033591	G
14. 0	18. 51	012573	031341		14. 0	20. 35	016297	033460	
16. 0	21. 41	014101	031977		16. 0	20. 37	016507	033626	
18. 0	22. 40	015392	031744		18. 0	22. 22	016248	033550	
20. 0	22. 24	015185	031624	G	20. 0	23. 16	016436	033561	G
22. 0	22. 28	013340	031812	D	22. 0	22. 25	015941	033679	J H
Jan. 3. 0. 0	23. 23. 11	0·011268	0·031870	D	Jan. 6. 0. 0	23. 24. 41	0·015238	0·034167	J H
1. 50	25. 11	013864	032091		1. 50	24. 43	015532	033455	H B
2. 0	24. 47	013687	032104		2. 0	24. 57	015333	033442	
2. 10	24. 53	013687	032138	D	2. 10	24. 36	015112	033433	H B
4. 0	22. 24	013857	032097	G	4. 0	22. 24	015891	034287	G
6. 0	21. 17	014037	032047	J H	6. 0	20. 29	015448	033764	H B
8. 0	20. 4	014027	031888	G	8. 0	21. 28	015448	033583	G
10. 0	19. 44	013192	031660	J H	10. 0	19. 32	016263	033583	G
12. 0	20. 17	013686	031943	P	12. 0	19. 9	016127	033313	H B
14. 0	21. 24	014355	031900		14. 0	22. 4	016713	032855	
16. 0	21. 41	014850	031811		16. 0	22. 26	016555	032947	
18. 0	21. 31	014861	031823		18. 0	21. 30	017183	032914	
20. 0	21. 10	014684	031844	P	20. 0	21. 24	016663	033623	H B
22. 0	21. 31	013764	031640	J H	22. 0	21. 24	016005	033434	J H
Jan. 4. 0. 0	23. 22. 25	0·013413	0·031517	J H	Jan. 7. 0. 0	23. 24. 8	0·016139	0·033387	J H
1. 50	24. 27	015466	031981		1. 50	25. 38	016442	033499	
2. 0	24. 30	015444	031985		2. 0	25. 8	016686	033494	
2. 10	24. 32	015554	031912	J H	2. 10	25. 8	016686	033451	J H
4. 0	22. 54	015597	031878	P	4. 0	22. 18	016704	033548	H B
6. 0	22. 23	016160	031749		6. 0	20. 58	016472	033473	
8. 0	21. 2	016132	031696		8. 0	21. 15	016306	032978	
10. 0	19. 36	015984	031491	P	10. 0	20. 49	016398	033137	H B
12. 0	19. 44	015984	031501	J H	12. 0	20. 38	016192	033203	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 198°; Jan. $2^d.\ 0^h$, 188°.
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, $29^s\cdot 3$.

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

DECLINATION MAGNET.

Jan. 2^d. Several remarkable changes occurred.

Jan. 5^d. The daily range was the smallest in the year, being 3′. 56″.

Jan. 7^d. The mean western declination was the greatest, and of single observations that at $1^h.\ 50^m$ was the greatest in the month.

HORIZONTAL FORCE MAGNET.

Jan. 2^d, 3^d, and 4^d. Remarkable changes occurred.

Jan. 2^d. The daily range was the greatest in the month; at 0^h the greatest single value of the force occurred; and the mean daily force was also the smallest in the [month.

Jan. 2^d and 3^d. The greatest difference in the mean daily values for consecutive days occurred.

Jan. 5^d. The daily range was the smallest in the month.

VERTICAL FORCE MAGNET.

Jan. $2^d.\ 2^h$. The force was the smallest in the month.

Jan. 4^d and 5^d. Between these days the greatest difference in the mean daily values for consecutive days occurred.

Between Jan. $4^d.\ 22^h$ and Jan. $5^d.\ 0^h$ a remarkable change occurred; and on Jan. 5^d the daily range was the greatest in the month.

Daily Observations from January 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	° ′ ″			
Jan. 8. 14. 0	23. 20. 4	0·015982	0·032226	J H	Jan. 11. 14. 0	23. 7. 35	0·016005	0·033617	J H
16. 0	20. 56	016546	032665		16. 0	7. 31	015820	033605	
18. 0	20. 23	016786	033061		18. 0	8. 45	016268	033451	
20. 0	20. 33	016701	033748	J H	20. 0	7. 50	016765	033709	J H
22. 0	22. 6	015765	034231	D	22. 0	7. 5	016123	033851	H B
Jan. 9. 0. 0	23. 9. 26	0·015771	0·034164	H B	Jan. 12. 0. 0	23. 12. 16	0·015787	0·033927	H B
1. 50	12. 12	017244	034152		1. 50	12. 56	016728	033507	
2. 0	12. 13	017377	034131		2. 0	12. 59	016285	033485	
2. 10	11. 4	017023	034118	H B	2. 10	12. 59	016417	033442	H B
4. 0	8. 50	016348	034473	J H	4. 0	11. 27	016614	034379	D
6. 0	7. 54	016565	034103		6. 0	9. 49	015791	033386	H B
8. 0	8. 7	016485	034108		8. 0	9. 24	016307	033234	H B
10. 0	6. 55	016514	033931	J H	10. 0	8. 26	016093	033292	G
12. 0	6. 31	016909	033478	H B	12. 0	8. 0	015679	033321	H B
14. 0	6. 27	016740	033697		14. 0	8. 40	016115	033740	
16. 0	6. 56	016637	033344		16. 0	9. 40	016616	033431	
18. 0	6. 19	016585	033436		18. 0	10. 50	016856	033612	
20. 0	6. 59	016876	033064	H B	20. 0	10. 6	016800	033369	H B
22. 0	8. 0	015283	033812	D	22. 0	8. 44	016563	034103	D
Jan. 10. 0. 0	23. 7. 33	0·016062	0·033822	D	Jan. 13. 0. 0	23. 10. 9	0·015644	0·034422	D
1. 50	11. 53	016368	033809	J H	1. 50	12. 56	016603	034627	
2. 0	12. 34	016412	033620		2. 0	13. 21	016648	034584	
2. 10	12. 47	016590	033654	J H	2. 10	13. 21	016581	034563	D
4. 0	10. 35	016959	033551	H B	4. 0	11. 27	016382	034296	H B
6. 0	9. 7	016375	033270		6. 0	8. 21	016803	034077	
8. 0	6. 51	017194	033356		8. 0	8. 9	016692	034034	
10. 0	23. 6. 31	016740	033000	H B	10. 0	7. 33	016050	033964	H B
12. 0	22. 59. 28	016302	033841	G	12. 0	7. 24	015999	033724	D
14. 0	23. 3. 48	015700	033658		14. 0	7. 26	015977	033819	
16. 0	5. 55	016094	033460		16. 0	6. 55	015939	033632	
18. 0	7. 2	017216	033365		18. 0	7. 24	016342	033804	
20. 0	6. 27	016913	033479	G	20. 0	6. 31	016566	033669	D
22. 0	7. 48	016003	033476	J H	22. 0	6. 41	015610	033672	J H
Jan. 11. 0. 0	23. 11. 21	0·015769	0·033851	J H	Jan. 14. 0. 0	23. 10. 38	0·015122	0·033767	J H
1. 50	11. 54	016950	034169		1. 50	12. 12	015445	033887	
2. 0	11. 55	017039	034148		2. 0	12. 7	015599	033887	
2. 10	11. 59	017149	034148	J H	2. 10	12. 4	015799	033887	J H
4. 0	9. 34	017319	033918	G	4. 0	9. 40	016393	034191	D
6. 0	8. 33	016692	033577		6. 0	8. 36	016522	033887	
8. 0	10. 8	014921	033774		8. 0	8. 31	016297	033804	
10. 0	7. 25	015651	033804	G	10. 0	8. 8	015950	033684	D
12. 0	4. 21	015272	033817	J H	12. 0	8. 6	015666	033641	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 188°; Jan. 9^d. 0^h, 232°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 6$; in Vertical Plane, $29^s \cdot 3$.

DECLINATION MAGNET.

Jan. 8^d. Between 22^h and 24^h the torsion-circle was turned through an angle of 44°, and a great part of the difference in the values of the western declination which appears between these times, was doubtless owing to the different positions of the torsion-circle.
Jan. 9^d and 10^d. The greatest difference in the mean daily declinations for consecutive days occurred.
Jan. 9^d. and 10^d. Remarkable changes occurred.

HORIZONTAL FORCE MAGNET.

Jan. 9^d and 11^d. Remarkable changes occurred.

VERTICAL FORCE MAGNET.

Jan. 9^d, 10^d, and 13^d. Remarkable changes occurred.
Jan. 13^d. The mean daily force was the greatest in the month.

Daily Observations from January 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.	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. 15. 14. 0	23. 7. 59	0·016628	0·033620	J H	Jan. 18. 14. 0	23. 7. 28	0·016422	0·032851	J H
16. 0	6. 56	017058	033740		16. 0	7. 24	016492	032515	J H
18. 0	6. 45	016980	034001		18. 0	7. 36	016798	032567	P
20. 0	8. 15	016936	034001	J H	20. 0	7. 26	016798	032544	D
22. 0	8. 29	016619	033870	H B	22. 0	8. 11	014878	032396	G
Jan. 16. 0. 0	23. 12. 20	0·017104	0·034499	D	Jan. 19. 0. 0	23. 10. 27	0·014863	0·032452	P
1. 50	16. 48	017901	034345		1. 50	12. 27	014963	032628	J H
2. 0	16. 41	017791	034259		2. 0	12. 19	015052	032633	
2. 10	16. 28	017680	034130	D	2. 10	12. 36	015113	032660	J H
4. 0	12. 46	015406	033782	J H	4. 0	10. 16	016300	032955	G
6. 0	9. 44	017427	033381		6. 0	8. 15	016015	032598	P
8. 0	9. 2	016987	033267		8. 0	7. 8	015915	032799	D
10. 0	7. 59	017256	033211	J H	10. 0	5. 9	015777	032740	D
12. 0	4. 25	017726	033135	D	12. 0	6. 30	015777	032746	P
14. 0	8. 50	016642	033384		14. 0	6. 15	015743	032587	
16. 0	9. 8	017578	033251		16. 0	7. 26	015915	032485	
18. 0	9. 14	018419	033230		18. 0	6. 21	016380	032463	
20. 0	7. 42	017625	033214	D	20. 0	5. 59	016457	032378	P
22. 0	8. 10	016744	033189	H B	22. 0	7. 12	015506	032288	J H
Jan. 17. 0. 0	23. 10. 7	0·016529	0·032990	H B	Jan. 20. 0. 0	23. 10. 20	0·015000	0·032439	J H
1. 50	11. 54	016684	033037		1. 50	11. 53	015563	032488	
2. 0	12. 5	016883	033041		2. 0	12. 3	015740	032522	
2. 10	12. 23	016684	033089	H B	2. 10	12. 7	015828	032488	J H
4. 0	11. 44	016776	033423	D	4. 0	10. 54	016158	032799	P
6. 0	9. 46	015621	033718		6. 0	8. 8	016000	032888	
8. 0	7. 41	016578	033555		8. 0	7. 34	015955	032802	
10. 0	6. 52	016324	033538	D	10. 0	6. 9	016102	032590	P
12. 0	6. 34	016147	033374	H B	12. 0	6. 15	015959	032561	J H
14. 0	5. 50	016058	033154		14. 0	6. 15	016109	032444	
16. 0	8. 12	016169	032906		16. 0	7. 15	016518	032433	
18. 0	8. 5	017124	032761		18. 0	7. 20	016699	032521	
20. 0	7. 46	016501	032846	H B	20. 0	6. 35	017127	032356	J H
22. 0	8. 5	016092	032859	J H	22. 0	6. 59	016374	032637	D
Jan. 18. 0. 0	23. 12. 3	0·016083	0·032983	J H	Jan. 21. 0. 0	23. 9. 28	0·016027	0·032665	D
1. 50	13. 23	016926	033245		1. 50	11. 57	016647	032772	
2. 0	13. 16	016772	033275		2. 0	12. 3	016691	032793	
2. 10	13. 10	016705	033267	J H	2. 10	11. 59	016802	032836	D
4. 0	11. 7	016476	033353	H B	4. 0	9. 49	016966	032922	J H
6. 0	8. 54	016716	032629		6. 0	9. 28	016809	032831	
8. 0	8. 42	016819	032700	H B	8. 0	8. 51	016417	033003	
10. 0	6. 55	017167	032998	G	10. 0	8. 21	016518	032823	J H
12. 0	3. 34	016924	032918	G	12. 0	7. 26	016463	032815	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, 232°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 6$; in Vertical Plane $29^s \cdot 3$.

HORIZONTAL FORCE MAGNET.

Jan. 16d. Between $2^h.\ 10^m$ and 6^h the change in the force was remarkable, and at 18^h the force was the greatest in the month; the mean daily value was also the greatest in the month.

Jan. 19d and 20d. The least difference in the mean daily values for consecutive days occurred.

VERTICAL FORCE MAGNET.

Jan. 15d. Between 18^h and 24^h the changes in the force were considerable.

Daily Observations from January 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.	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. 14. 0	23. 3. 58	0·016429	0·032878	D	Jan. 25. 14. 0	23. 8. 32	0·016170	0·033038	D
16. 0	6. 16	016352	032938		16. 0	8. 15	016373	033085	
18. 0	6. 34	016751	032929		18. 0	8. 15	016731	032989	
20. 0	6. 2	017134	033030	D	20. 0	8. 4	016620	032909	D
22. 0	6. 23	015629	032821	P	22. 0	7. 28	015649	032857	P
Jan. 23. 0. 0	23. 10. 10	0·015932	0·032935	P	Jan. 26. 0. 0	23. 10. 16	0·015965	0·033029	P
1. 50	13. 38	016494	033097		1. 50	11. 43	016194	033058	
2. 0	14. 2	016494	033097		2. 0	12. 2	016305	033058	
2. 10	13. 46	016494	033054	P	2. 10	12. 34	016194	033058	P
4. 0	10. 51	016221	033429	D	4. 0	10. 6	016237	033167	D
6. 0	8. 33	016299	033268		6. 0	7. 40	016492	033110	
8. 0	3. 43	016369	033278		8. 0	6. 25	015719	033099	
10. 0	23. 6. 22	015564	033234	D	10. 0	5. 37	015986	033132	D
12. 0	22. 59. 7	016595	032943	P	12. 0	6. 46	015935	033109	P
14. 0	23. 3. 16	015573	032851		14. 0	7. 14	016139	032884	
16. 0	9. 40	014431	032867		16. 0	7. 0	016185	032759	
18. 0	6. 22	016459	032775		18. 0	6. 19	016969	032783	
20. 0	6. 58	016425	032746	P	20. 0	6. 37	017233	032759	P
22. 0	6. 54	015955	032987	D	22. 0	8. 26	016380	032997	J H
Jan. 24. 0. 0	23. 10. 11	0·016044	0·033039	D	Jan. 27. 0. 0	23. 11. 33	0·016082	0·033002	J H
1. 50	11. 55	016442	033026		1. 50	13. 3	016544	033234	
2. 0	11. 55	016664	033017		2. 0	12. 58	016434	033217	
2. 10	11. 50	016686	033017	D	2. 10	11. 20	016611	033200	J H
4. 0	9. 36	016596	032885	P	4. 0	9. 23	016917	033128	P
6. 0	8. 0	016782	033081		6. 0	9. 28	016857	032992	
8. 0	8. 1	016399	033091		8. 0	9. 6	016707	032906	
10. 0	8. 1	016578	033074	P	10. 0	8. 48	016319	032896	P
12. 0	3. 5	015082	033179	G	12. 0	8. 39	016655	033160	G
14. 0	4. 12	014815	033041		14. 0	7. 53	016411	033142	
16. 0	1. 37	016300	032826		16. 0	12. 41	017053	033151	
18. 0	5. 51	016237	032875		18. 0	4. 36	017366	033028	
20. 0	7. 38	016022	032740	G	20. 0	5. 58	016747	032896	G
22. 0	8. 36	015345	032738	J H	22. 0	6. 57	016259	032749	J H
Jan. 25. 0. 0	23. 10. 57	0·015369	0·032805	J H	Jan. 28. 0. 0	23. 14. 57	0·015610	0·032991	J H
1. 50	12. 49	015999	033004		1. 50	12. 14	016467	033015	
2. 0	12. 49	015800	033029		2. 0	12. 10	016312	033019	
2. 10	13. 20	015977	033042	J H	2. 10	11. 54	016423	032972	J H
4. 0	10. 42	016152	033385	G	4. 0	11. 54	016593	033126	G
6. 0	8. 55	016484	033235		6. 0	11. 27	013591	033891	
8. 0	8. 48	016484	033256		8. 0	5. 36	014149	033651	
10. 0	8. 26	016458	033187	G	10. 0	4. 19	014592	033522	G
12. 0	8. 5	015794	033038	D	12. 0	4. 19	015285	032681	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 232°; Jan. $23^d.0^h$, 229°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.6$; in Vertical Plane, $29^s.3$.

DECLINATION MAGNET.
Jan. 23^d at $12^h.58^m.34^s$. The declination was the smallest in the month as observed in extra observations.
Jan. 23^d. The mean western declination was the smallest in the month, and the daily range was the greatest in the month, being 18′. 9″.
Jan. 23^d and 28^d. Remarkable changes occurred.

HORIZONTAL FORCE MAGNET.
Jan. 23^d, 24^d, and 28^d. Remarkable changes occurred.

VERTICAL FORCE MAGNET.
Jan. 26^d. The daily range was the smallest in the month.
Jan. 28^d. Between 4^h and 6^h the change in the force was considerable.

Daily Observations from January 29 to February 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. 29. 14. 0	23. 6.24	0·016447	0·032423	J H	Feb. 1. 14. 0	23. 7.47	0·015942	0·032785	G
16. 0	11. 0	016907	032496		16. 0	7.42	016163	032875	
18. 0	7.59	017814	032513		18. 0	7.42	016322	032829	
20. 0	8.29	017140	032606	J H	20. 0	8.19	016543	032872	G
22. 0	7.40	016753	032820	G	22. 0	7.31	015970	032593	J H
Jan. 30. 0. 0	23. 10.21	0·017071	0·032780	D	Feb. 2. 0. 0	23. 9.57	0·015816	0·032637	J H
1.50	11.58	015957	033152		1.50	11.57	016483	032783	
2. 0	11.46	015868	033152		2. 0	11.49	016550	032710	
2.10	10.40	015868	033152	D	2.10	11.53	016639	032740	J H
4. 0	9. 4	016491	033280	P	4. 0	8.28	016407	032611	G
6. 0	7.38	016335	033048	P	6. 0	7.15	016658	032658	
8. 0	7. 6	015890	032949	D	8. 0	7.45	016126	032783	
10. 0	6. 4	015800	032958	P	10. 0	7.13	015904	032740	G
12. 0	5.41	015630	032814	D	12. 0	6.38	015997	032605	J H
14. 0	6.48	015970	032709		14. 0	6.38	016173	032570	
16. 0	8.32	016042	032617		16. 0	7. 2	016262	032370	
18. 0	7.23	016288	032499		18. 0	7.12	016734	032455	
20. 0	7.18	016447	032427	D	20. 0	6.16	016575	032406	J H
22. 0	6.54	015812	032550	P	22. 0	7.28	015537	032477	D
Jan. 31. 0. 0	23. 9. 3	0·015044	0·032722	P	Feb. 3. 0. 0	23. 10.31	0·015670	0·032824	D
1.50	11.11	014960	033078		1.50	10.52	016420	032827	
2. 0	10.17	015624	033078		2. 0	11. 3	016575	032827	
2.10	10. 7	015403	033121	P	2.10	11.13	016597	032814	D
4. 0	8.40	016148	033170	D	4. 0	7.52	016501	032787	J H
6. 0	5.15	015787	033114		6. 0	7.52	016545	032824	
8. 0	8.15	016071	032987		8. 0	7. 4	016795	032484	
10. 0	7.37	015957	032933	D	10. 0	6.15	016733	032274	J H
12. 0	6.56	015913	032884	P	12. 0	6.15	016987	032471	D
14. 0	7.21	016355	032811		14. 0	7. 3	016817	032434	
16. 0	7.41	016219	032695		16. 0	7. 8	017075	032323	
18. 0	7.41	016407	032759		18. 0	6.59	017399	032389	
20. 0	7. 6	016511	032611	P	20. 0	6. 5	017546	032356	D
22. 0	7.58	016048	032643	J H	22. 0	6.47	016798	032337	J H
Feb. 1. 0. 0	23. 10.37	0·016237	0·032816	J H	Feb. 4. 0. 0	23. 9.21	0·016225	0·032810	P
1.50	11. 9	016575	032879		1.50	10.53	017059	033031	
2. 0	10.40	016398	032862		2. 0	10.57	017059	033031	
2.10	10.41	016442	032841	J H	2.10	11.13	017281	032997	P
4. 0	7.58	016304	033102	P	4. 0	8.50	017536	033258	D
6. 0	8.10	016124	032887		6. 0	7.22	017512	033083	
8. 0	7.13	016117	032798		8. 0	7.48	017614	032838	
10. 0	6.37	015936	032752	P	10. 0	7.22	017392	032791	D
12. 0	6.48	015632	032596	G	12. 0	1.37	017392	032770	P

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 229°; Jan. 30^d. 1^h. 50^m, 232°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20^s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24^s·6; in Vertical Plane, 29^s·3.

DECLINATION MAGNET.
Jan. 29^d. 16^h. The motion of the declination magnet was different from its usual motion at this time of the day.
Feb. 1^d. The daily range was smaller on this day than on any other day in the month, being 4′. 32″.
Feb. 4^d. Between 10^h and 12^h the change was remarkable.

VERTICAL FORCE MAGNET.
Jan. 30^d and 31^d. The least difference in the mean values for consecutive days occurred.
Feb. 2^d. The daily range was the smallest in the month.

Daily Observations from February 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	° ′ ″			
Feb. 5. 14. 0	23. 4. 57	0·015693	0·032851	P	Feb. 8. 14. 0	23. 11. 26	0·016097	0·032628	D
16. 0	6. 40	016276	033025		16. 0	16. 19	015920	032757	
18. 0	7. 25	014948	033154		18. 0	11. 1	016496	032834	
20. 0	7. 40	016992	033025	P	20. 0	12. 22	016717	032843	D
22. 0	8. 14	016588	032770	J H	22. 0	12. 18	016019	032843	P
Feb. 6. 0. 0	23. 15. 35	0·016354	0·032994	J H	Feb. 9. 0. 0	23. 16. 42	0·015582	0·032747	P
1. 50	20. 25	016196	032984		1. 50	19. 1	016310	032911	
2. 0	22. 16	016218	032997		2. 0	19. 1	016376	032932	
2. 10	22. 55	015974	032997	J H	2. 10	18. 55	016376	032932	P
4. 0	16. 17	016979	033224	P	4. 0	17. 19	016315	033018	D
6. 0	17. 22	016343	033307		6. 0	16. 5	016511	033000	
8. 0	23. 12. 26	015112	033497		8. 0	12. 56	016751	033024	
10. 0	22. 45. 59	015616	033601	P	10. 0	12. 24	016632	033006	D
12. 0	23. 14. 5	016326	033403	G	12. 0	8. 31	016614	032901	P
14. 0	14. 25	015684	033120		14. 0	11. 37	016314	032917	
16. 0	13. 52	015798	032880		16. 0	11. 1	016657	032775	
18. 0	13. 40	016440	033058		18. 0	12. 17	016422	032882	
20. 0	13. 54	016348	033319	G	20. 0	13. 59	016985	032674	P
22. 0	13. 0	015561	032905	J H	22. 0	13. 16	015940	032704	J H
Feb. 7. 0. 0	23. 18. 26	0·014875	0·032850	J H	Feb. 10. 0. 0	23. 17. 3	0·015939	0·032794	J H
1. 50	20. 34	015582	032975		1. 50	18. 45	015859	032925	
2. 0	21. 10	015803	033005		2. 0	18. 44	015815	032946	
2. 10	21. 27	015736	032996		2. 10	18. 29	015748	032946	J H
4. 0	18. 57	016331	033216	J H	4. 0	17. 3	016285	033080	D
6. 0	13. 28	016411	033227	P	6. 0	14. 17	016544	033116	D
8. 0	13. 39	015968	033150	D	8. 0	11. 55	016190	032987	P
10. 0	13. 29	016056	033012	G	10. 0	13. 56	016696	032759	P
12. 0	13. 23	016124	032896	J H	12. 0	12. 11	016285	032809	G
14. 0	11. 4	015436	032715		14. 0	12. 59	016024	032789	
16. 0	12. 6	015440	032721		16. 0	11. 40	016467	032849	
18. 0	13. 1	016042	032748		18. 0	12. 25	016625	033009	
20. 0	13. 1	016750	032757	J H	20. 0	13. 12	016625	033113	G
22. 0	14. 28	016566	033025	D	22. 0	12. 12	016154	032664	J H
Feb. 8. 0. 0	23. 17. 28	0·015525	0·032948	D	Feb. 11. 0. 0	23. 15. 3	0·015855	0·032717	J H
1. 50	19. 13	015747	033038	P	1. 50	17. 27	016094	032797	
2. 0	19. 34	016189	033038		2. 0	17. 27	016049	032758	
2. 10	18. 51	016189	033038	P	2. 10	17. 39	016161	032741	J H
4. 0	15. 39	016212	033016	J H	4. 0	15. 35	016710	032941	G
6. 0	14. 20	016645	033034		6. 0	13. 40	016437	032975	
8. 0	14. 5	016695	032942		8. 0	13. 49	017046	032858	
10. 0	12. 52	016654	032793	J H	10. 0	12. 11	016522	032644	G
12. 0	6. 59	016119	032714	D	12. 0	7. 47	016343	032687	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 232°; Feb. $6^d.\ 1^h.\ 50^m$, 212°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 6$; in Vertical Plane, $29^s \cdot 3$.

DECLINATION MAGNET.
Feb. $6^d.\ 10^h$. The western declination was the smallest in the month.
Feb. 6^d. The daily range was the greatest in the month.
Feb. 6^d and 7^d. The greatest difference in the mean daily declinations for consecutive days occurred.
Feb. 6^d, 7^d, 8^d, and 9^d. Remarkable changes occurred.
Feb. 7^d. The mean western declination was the greatest in the month.

HORIZONTAL FORCE MAGNET.
Feb. 9^d and 10^d. The least difference in the mean values for consecutive days occurred.
~~Feb. 11^d. The daily range was the greatest in the month.~~

VERTICAL FORCE MAGNET.
Feb. 6^d. The mean daily force was the greatest in the month.
~~Feb. $9^d.\ 18^h$. The force was the greatest in the month; it has not been so great since January 13th, and it was not so great again till April 5th.~~
Feb. 9^d and 10^d. The least difference in the mean values for consecutive days occurred.

Daily Observations from February 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	° ′ ″			
Feb. 12. 14. 0	23. 13. 36	0·016791	0·032560	J H	Feb. 15. 14. 0	23. 11. 41	0·016062	0·032626	G
16. 0	15. 18	017234	032487		16. 0	9. 34	015442	032712	
18. 0	13. 32	017702	032441		18. 0	9. 52	016066	032958	
20. 0	10. 54	017915	032444	J H	20. 0	9. 59	016101	032945	G
22. 0	13. 11	016378	032636	P	22. 0	11. 24	015302	032862	J H
Feb. 13. 0. 0	23. 15. 27	0·016529	0·033095	G	Feb. 16. 0. 0	23. 14. 57	0·015143	0·032700	J H
1. 50	16. 59	017311	033454	D	1. 50	15. 39	016698	032968	
2. 0	16. 59	017134	033304		2. 0	16. 8	016521	032968	
2. 10	16. 59	017200	033209	D	2. 10	16. 54	016675	032990	J H
4. 0	16. 38	016151	033169	J H	4. 0	13. 41	016191	033151	G
6. 0	14. 58	015343	033027		6. 0	13. 15	016623	033305	
8. 0	12. 19	016191	032787		8. 0	1. 44	016369	033202	
10. 0	0. 28	015303	032597	J H	10. 0	9. 5	014834	032920	G
12. 0	6. 23	016282	032459	D	12. 0	11. 13	015617	032779	J H
14. 0	5. 57	016160	032201		14. 0	11. 11	015887	032699	
16. 0	10. 54	016048	032392		16. 0	11. 10	015782	032126	
18. 0	12. 36	015709	032570		18. 0	11. 13	016109	032168	
20. 0	14. 24	016240	032199	D	20. 0	10. 14	016406	032320	J H
22. 0	10. 30	016276	032537	P	22. 0	10. 27	016287	032455	D
Feb. 14. 0. 0	23. 15. 40	0·016446	0·032733	P	Feb. 17. 0. 0	23. 14. 48	0·016498	0·032368	D
1. 50	17. 19	014709	033071		1. 50	14. 33	016856	033768	
2. 0	10. 50	015539	033200		2. 0	14. 33	016768	033747	
2. 10	12. 54	016060	033243	P	2. 10	14. 3	016546	033682	D
4. 0	12. 49	015395	033371	D	4. 0	13. 42	015736	032835	J H
6. 0	10. 44	015797	033277		6. 0	14. 50	015323	033080	
8. 0	10. 6	015798	033258		8. 0	12. 12	016216	032787	
10. 0	8. 59	014964	033043	D	10. 0	10. 45	016537	032586	J H
12. 0	9. 53	015672	032923	P	12. 0	8. 59	016503	032591	D
14. 0	12. 8	016548	032736		14. 0	8. 32	016266	032516	
16. 0	8. 36	015986	032690		16. 0	4. 35	015755	032543	
18. 0	9. 32	015827	032664		18. 0	11. 9	016335	032622	
20. 0	10. 13	016029	032794	P	20. 0	11. 56	016233	032610	D
22. 0	10. 49	015473	032619	J H	22. 0	12. 1	016037	032693	P
Feb. 15. 0. 0	23. 13. 12	0·015976	0·032762	J H	Feb. 18. 0. 0	23. 14. 13	0·015671	0·032693	P
1. 50	15. 26	015789	032983	D	1. 50	15. 41	016490	032672	
2. 0	15. 34	015789	032983		2. 0	15. 31	016446	032672	
2. 10	15. 55	016010	033013	D	2. 10	15. 41	016446	032672	P
4. 0	13. 4	015409	033265	P	4. 0	13. 33	016221	032874	D
6. 0	9. 11	015940	033274		6. 0	13. 56	015746	032831	
8. 0	10. 58	015774	033151		8. 0	10. 14	016388	033227	
10. 0	8. 7	015953	032992	P	10. 0	11. 13	015986	032871	D
12. 0	7. 36	015420	032810	G	12. 0	9. 6	015849	032735	P

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 212°; Feb. 13^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·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24^s·6; in Vertical Plane, 29^s·3.

DECLINATION MAGNET.
Feb. 14^d and 18^d. Remarkable changes occurred.

HORIZONTAL FORCE MAGNET.
Feb. 14^d and 16^d. Remarkable changes occurred.

VERTICAL FORCE MAGNET.
Feb. 13^d and 17^d. Remarkable changes occurred.

Daily Observations from February 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	° ′ ″			
Feb. 19. 14. 0	23. 11. 25	0·016497	0·032623	P	Feb. 22. 14. 0	23. 5. 3	0·016635	0·032361	D
16. 0	9. 59	015867	032644		16. 0	4. 30	016376	032170	
18. 0	10. 44	016048	032663		18. 0	5. 11	016800	032145	
20. 0	11. 48	016463	032732	P	20. 0	6. 31	016937	032185	D
22. 0	11. 43	015979	032607	J H	22. 0	6. 43	016312	032263	P
Feb. 20. 0. 0	23. 8. 25	0·016241	0·032748	J H	Feb. 23. 0. 0	23. 10. 23	0·016289	0·032391	P
1. 50	10. 9	015876	032609		1. 50	10. 40	016339	032780	
2. 0	10. 11	016120	032609		2. 0	10. 40	016384	032737	
2. 10	10. 48	016452	032614	J H	2. 10	10. 26	016339	032651	P
4. 0	8. 28	016905	032932	P	4. 0	10. 16	016277	032778	D
6. 0	6. 41	015624	032769		6. 0	7. 34	016958	032638	
8. 0	7. 8	016751	032650		8. 0	6. 37	016673	032562	
10. 0	6. 8	016819	032495	P	10. 0	6. 47	016474	032426	D
12. 0	1. 29	016352	032585	G	12. 0	6. 6	016798	032133	P
14. 0	1. 40	016267	032152		14. 0	5. 59	016809	031969	
16. 0	6. 3	016467	032373		16. 0	1. 35	016089	031874	
18. 0	6. 44	016625	032545		18. 0	1. 26	016801	031769	
20. 0	6. 10	016536	032640	G	20. 0	4. 0	017527	031727	P
22. 0	7. 32	015760	032430	J H	22. 0	8. 34	015852	031859	J H
Feb. 21. 0. 0	23. 11. 57	0·015806	0·032349	J H	Feb. 24. 0. 0	23. 12. 18	0·015677	0·031913	D
1. 50	11. 25	015726	032695		1. 50	15. 13	016259	032194	J H
2. 0	11. 36	015969	032665		2. 0	15. 46	015507	032284	
2. 10	11. 48	016080	032652	J H	2. 10	17. 19	015485	032418	J H
4. 0	9. 2	016469	033267	G	4. 0	23. 3	015190	032790	P
6. 0	7. 0	016481	032873		6. 0	10. 53	013981	033263	
8. 0	6. 0	016828	032666		8. 0	6. 16	013207	033478	P
10. 0	5. 0	016658	032448	G	10. 0	23. 1. 51	014655	033004	G
12. 0	5. 4	016835	032271	J H	12. 0	22. 57. 34	014962	032323	G
14. 0	5. 48	016590	032043		14. 0	23. 2. 21	014820	032394	D
16. 0	5. 39	016631	032123		16. 0	5. 36	015706	032527	J H
18. 0	5. 27	016228	032065		18. 0	8. 26	016149	032328	J H
20. 0	5. 16	016943	032050	J H	20. 0	6. 17	015818	032415	P
22. 0	6. 35	015770	032145	D	22. 0	6. 52	015249	032386	J H
Feb. 22. 0. 0	23. 12. 4	0·016292	0·032121	P	Feb. 25. 0. 0	23. 9. 39	0·015479	0·032416	P
1. 50	11. 58	016490	032412	D	1. 50	9. 57	016246	032396	D
1. 0	11. 58	016357	032412		2. 0	9. 57	016298	032400	
2. 10	11. 48	016202	032412	D	2. 10	9. 50	016246	032396	D
4. 0	10. 4	016073	032620	J H	4. 0	8. 34	016196	032482	P
6. 0	7. 17	016710	032391		6. 0	7. 3	015980	032495	G
8. 0	6. 57	016754	032318		8. 0	6. 24	015622	032591	D
10. 0	6. 57	016539	032407	J H	10. 0	3. 32	016217	032422	J H
12. 0	5. 19	015967	032371	D	12. 0	1. 40	017596	032313	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 220°; Feb. $20^d.\ 0^h$, 233°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 6$; in Vertical Plane, $29^s \cdot 3$.

DECLINATION MAGNET.
Feb. 21^d and 24^d. Remarkable changes occurred.
Feb. $24^d.\ 4^h$. The western declination was the largest in the month.
Feb. 25^d. The mean daily western declination was the smallest in the month.

HORIZONTAL FORCE MAGNET.
Feb. 23^d. The daily range was the smallest in the month.
Feb. $23^d.\ 22^h$. After this time the adjustments were altered; but, to the end of the month, a correction has been applied to the numbers to make them comparable with the preceding. (See the Introduction.)
Feb. 24^d. The mean daily value was the smallest in the month.
Feb. $24^d.\ 8^h$. The force was the smallest in the month.

VERTICAL FORCE MAGNET.
Feb. 21^d. Between $2^h.\ 10^m$ and 4^h a considerable change in the force occurred.
Feb. 22^d. The mean daily value was the smallest in the month.
Feb. 24^d. The daily range was the smallest in the month.

Daily Observations from February 26 to March 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	° ′ ″			
Feb. 26. 14. 0	23. 8. 5	0·018099	0·031523	J H	Mar. 1. 14. 0	23. 5. 11	0·002257	0·031866	G
16. 0	5. 20	017823	031470		16. 0	5. 17	001917	031912	
18. 0	6. 11	018000	031470		18. 0	3. 35	002585	032072	
20. 0	6. 0	018088	031523	J H	20. 0	4. 34	002832	031900	G
22. 0	6. 49	017350	032721	D	22. 0	5. 37	001458	031720	J H
Feb. 27. 0. 0	23. 9. 46	0·017871	0·032777	D	Mar. 2. 0. 0	23. 9. 56	0·001366	0·031775	J H
1. 50	10. 37	018583	032951		1. 50	10. 43	001787	031808	
2. 0	10. 27	018605	032942		2. 0	10. 26	001764	031765	
2. 10	10. 20	018649	032878	D	2. 10	10. 6	001764	031739	J H
4. 0	8. 17	018632	032616	J H	4. 0	8. 19	002302	032391	G
6. 0	7. 30	018480	032579		6. 0	6. 43	002102	032038	
8. 0	6. 8	018439	032855		8. 0	5. 36	001933	032087	
10. 0	6. 18	018086	032525	J H	10. 0	5. 26	001604	031847	G
12. 0	6. 46	018454	032655	D	12. 0	5. 27	001741	031988	J H
14. 0	6. 46	018887	032712		14. 0	5. 27	001968	031704	
16. 0	5. 7	019330	032733		16. 0	5. 23	002161	031652	
18. 0	5. 15	018347	032649		18. 0	5. 23	002497	031649	
20. 0	6. 33	019204	032474	D	20. 0	5. 36	002602	031544	J H
22. 0	7. 32	017201	032544	P	22. 0	4. 51	001509	031872	D
Feb. 28. 0. 0	23. 11. 33	0·018631	0·032418	P	Mar. 3. 0. 0	23. 8. 7	0·001167	0·031934	D
1. 50	11. 26	019108	032600		1. 50	11. 5	001953	032601	
2. 0	11. 26	019108	032600		2. 0	11. 56	001865	032562	
2. 10	10. 58	019108	032643	P	2. 10	10. 46	001865	032545	D
4. 0	7. 57	018754	032716	D	4. 0	9. 21	001832	032441	J H
6. 0	7. 27	017683	032608		6. 0	7. 13	001564	032139	
8. 0	6. 4	017646	032699		8. 0	5. 19	001866	032077	
10. 0	5. 51	018042	032585	D	10. 0	4. 11	001858	031817	J H
12. 0	6. 5	018496	032616	P	12. 0	4. 44	001829	031891	D
14. 0	5. 18	001826	032417		14. 0	4. 44	002232	031758	
16. 0	5. 1	002162	032440		16. 0	5. 47	002426	031786	
18. 0	4. 28	002309	032428		18. 0	5. 2	002545	031836	
20. 0	5. 51	002360	032164	P	20. 0	4. 51	002497	031774	D
22. 0	6. 56	000810	032383	G	22. 0	4. 22	001594	031989	P
Mar. 1. 0. 0	23. 8. 14	0·001604	0·032330	G	Mar. 4. 0. 0	23. 8. 28	0·001304	0·031814	P
1. 50	9. 42	002058	032219		1. 50	11. 45	002190	031995	
2. 0	9. 41	002058	032228		2. 0	11. 45	001968	031995	
2. 10	9. 36	002058	032236	G	2. 10	12. 0	002013	031995	P
4. 0	8. 30	002154	032446	P	4. 0	11. 5	002070	032250	D
6. 0	6. 46	001728	032267		6. 0	9. 11	001984	032182	
8. 0	5. 43	002151	032179		8. 0	7. 36	001361	032245	
10. 0	5. 24	001737	032178	P	10. 0	1. 6	000615	032084	D
12. 0	5. 22	001637	031968	G	12. 0	1. 32	000943	031978	P

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 233°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot 6$; in Vertical Plane, $29^s\cdot 3$.

DECLINATION MAGNET.
Feb. 27^d and 28^d. The least difference between the mean declination for consecutive days occurred.
March 1^d and 2^d. The difference in the mean declination for consecutive days was the smallest in the month; the same difference occurred between 2^d and 3^d, and between 27^d and 28^d.

HORIZONTAL FORCE MAGNET.
Feb. $27^d.\ 16^h$. The force was the greatest in the month.
Feb. 28^d. The mean daily value was the greatest in the month.
Feb. 28^d. Between 20^h and 22^h a considerable change occurred.

VERTICAL FORCE MAGNET.
Feb. 28^d and 29^d. The greatest difference in the mean daily values for consecutive days occurred.
Feb. 28^d and March 2^d. Remarkable changes occurred.
March 1^d. The mean daily force was the greatest in the month.
March 2^d and 3^d. The least difference in the mean daily values for consecutive days occurred; the same difference took place between 8^d and 9^d.

Daily Observations from March 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	° ′ ″			
Mar. 5. 14. 0	23. 4. 57	0·003422	0·031716	P	Mar. 8. 14. 0	23. 6. 43	0·001549	0·031411	D
16. 0	1. 48	001549	031842		16. 0	6. 43	001748	031411	
18. 0	5. 21	001493	032004		18. 0	6. 52	001931	031417	
20. 0	10. 12	002145	031925	P	20. 0	6. 22	001867	031563	D
22. 0	6. 38	000828	031882	J H	22. 0	6. 53	000470	031586	P
Mar. 6. 0. 0	23. 11. 29	0·001285	0·031801	J H	Mar. 9. 0. 0	23. 10. 53	0·000580	0·031533	P
1. 50	12. 21	001687	032066		1. 50	11. 27	001799	031550	
2. 0	12. 37	001819	032092		2. 0	11. 27	001821	031550	
2. 10	13. 34	002198	032023	J H	2. 10	11. 3	001777	031550	P
4. 0	10. 26	002765	031965	P	4. 0	9. 42	001935	031797	D
6. 0	10. 20	001031	032035		6. 0	8. 19	001519	031945	
8. 0	23. 6. 56	001275	032216		8. 0	8. 41	001005	032031	
10. 0	22. 58. 55	0·001814	031940	P	10. 0	7. 36	002545	031878	D
12. 0	55. 16	9·999378	031755	G	12. 0	7. 7	001968	032035	P
14. 0	57. 11	0·001002	031399		14. 0	6. 34	001636	031900	
16. 0	22. 58. 5	9·999983	031310		16. 0	5. 40	001577	031378	
18. 0	23. 1. 33	0·000367	031356		18. 0	6. 26	002071	031329	
20. 0	7. 52	0·001006	031191	G	20. 0	5. 56	001569	031388	P
22. 0	6. 22	9·999832	031416	J H	22. 0	6. 8	000927	031409	J H
Mar. 7. 0. 0	23. 13. 51	9·999145	0·031647	J H	Mar. 10. 0. 0	23. 9. 55	0·001072	0·031323	J H
1. 50	15. 40	0·000443	032072		1. 50	11. 3	001783	031546	
2. 0	15. 12	0·000463	032072		2. 0	10. 53	001850	031541	
2. 10	15. 12	000286	032089	J H	2. 10	10. 44	001783	031571	J H
4. 0	18. 38	001246	032084	G	4. 0	8. 52	001715	031850	P
6. 0	10. 53	0·001047	032665		6. 0	7. 26	001968	031866	P
8. 0	14. 44	9. 998538	033195		8. 0	7. 40	001910	031792	J H
10. 0	8. 8	0·000553	032062	G	10. 0	6. 34	001530	031759	P
12. 0	7. 26	000446	031589	J H	12. 0	4. 16	002342	031878	G
14. 0	5. 45	000633	031446		14. 0	2. 16	001150	031574	
16. 0	5. 40	000979	031129		16. 0	5. 17	000094	031614	
18. 0	5. 43	001566	031378		18. 0	6. 11	001559	031522	
20. 0	5. 43	000740	031406	J H	20. 0	5. 38	001940	031614	G
22. 0	7. 45	0·000300	031523	D	22. 0	6. 35	001242	031378	J H
Mar. 8. 0. 0	23. 10. 53	9·999857	0·031639	D	Mar. 11. 0. 0	23. 10. 21	0·001321	0·031463	J H
1. 50	12. 29	0·001113	031974		1. 50	13. 5	001440	031806	
2. 0	12. 29	001246	031939		2. 0	13. 0	001595	031733	
2. 10	12. 20	001201	031892	D	2. 10	13. 2	001462	031682	J H
4. 0	10. 13	001367	032574	J H	4. 0	13. 1	001734	032102	G
6. 0	8. 41	001069	032167		6. 0	10. 59	001837	031847	
8. 0	8. 30	001410	031744		8. 0	5. 12	002539	032037	G
10. 0	7. 40	001478	031553	J H	10. 0	1. 54	000228	032077	D
12. 0	6. 53	001515	031576	D	12. 0	5. 31	001789	031688	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 233°; March $6^d.\ 0^h$, 232°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 6$; in Vertical Plane, $29^s \cdot 3$.

DECLINATION MAGNET.
March 6^d. The mean western declination was the smallest; and at 12^h, in single observations, the western declination was the smallest in the month.
March 6^d and 7^d. The greatest difference in the mean western declination for consecutive days occurred.
March $7^d.\ 4^h$. The western declination was the largest in the month.
March 7^d. The mean western declination was the greatest in the month, and during this day there were frequent changes in the position of the magnet, though none to a large amount, and the daily range was the greatest in the month, being 21′. 27″: on March 9^d the daily range was the smallest in the month.

HORIZONTAL FORCE MAGNET.
March 6^d and 7^d. The greatest difference in the mean daily values for consecutive days occurred; the mean daily value on the 7th was the smallest in the month; and at $7^d.\ 4^h$ the force was the least in the month.
March 6^d, 7^d, and 8^d. Remarkable changes occurred.

VERTICAL FORCE MAGNET.
March 7^d. A considerable change in the force occurred on March 7^d, between 4^h and 8^h, and between 10^h and 12^h; also on March 8_d, between $2^h.\ 40^m$ and $4^h.\ 0^m$; and on March 11^d, between $2^h.\ 10^m$ and 4^h.

Daily Observations from March 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	° ′ ″			
Mar. 12. 14. 0	23. 3. 56	0·000848	0·030816	J H	Mar. 15. 14. 0	23. 7. 28	0·001754	0·031569	J H
16. 0	4. 49	000507	031168		16. 0	6. 35	002023	031613	
18. 0	5. 10	0·000981	031500		18. 0	5. 59	001761	031513	
20. 0	10. 19	9·999194	031412	J H	20. 0	5. 12	001698	031424	J H
22. 0	8. 52	999689	031659	P	22. 0	5. 18	001011	031534	D
Mar. 13. 0. 0	23. 11. 30	9·999486	0·032209	D	Mar. 16. 0. 0	23. 10. 27	0·001004	0·031622	P
1. 50	12. 19	0·000999	032605		1. 50	13. 27	002459	031800	
2. 0	12. 7	001199	032592		2. 0	13. 8	002459	031800	
2. 10	12. 56	001044	032605	D	2. 10	12. 50	002459	031800	P
4. 0	13. 38	001211	032311	J H	4. 0	9. 10	002901	032012	J H
6. 0	9. 29	001329	032228		6. 0	7. 56	001560	032023	
8. 0	5. 27	001130	032227		8. 0	5. 2	001949	031872	
10. 0	6. 42	001351	031712	J H	10. 0	4. 3	001913	031785	J H
12. 0	5. 4	001647	031609	D	12. 0	5. 35	001954	031690	D
14. 0	6. 18	001717	031616		14. 0	6. 5	001953	031483	
16. 0	0. 6	001358	031055		16. 0	6. 13	002296	031401	
18. 0	4. 50	000874	031457		18. 0	5. 13	002257	031289	
20. 0	6. 43	000934	031387	D	20. 0	5. 7	001631	031323	D
22. 0	7. 6	000576	031782	P	22. 0	5. 6	0·000058	031402	P
Mar. 14. 0. 0	23. 9. 50	0·000517	0·031788	P	Mar. 17. 0. 0	23. 11. 29	9·999735	0·031613	P
1. 50	12. 24	001280	031708		1. 50	12. 33	0·001326	032233	
2. 0	12. 48	001462	031751		2. 0	12. 26	001547	032190	
2. 10	12. 36	001462	031751	P	2. 10	12. 20	001658	032052	P
4. 0	11. 22	001521	032159	D	4. 0	8. 55	002253	033135	D
6. 0	7. 45	000916	032285		6. 0	8. 37	002320	033313	
8. 0	6. 6	001599	031956		8. 0	6. 58	001759	032622	
10. 0	6. 5	001861	031923	D	10. 0	23. 3. 28	001696	032014	D
12. 0	6. 52	001367	031662	P	12. 0	22. 59. 23	003286	031750	P
14. 0	6. 29	001385	031591		14. 0	22. 57. 34	001566	031029	
16. 0	8. 2	001453	031499		16. 0	23. 7. 2	001282	031354	
18. 0	6. 11	001488	031407		18. 0	5. 16	002220	031385	
20. 0	5. 22	001181	031411	P	20. 0	3. 51	002333	031278	P
22. 0	5. 26	001340	031431	J H	22. 0	5. 39	000933	031192	J H
Mar. 15. 0. 0	23. 9. 30	0·000970	0·031540	J H	Mar. 18. 0. 0	23. 14. 20	0·000830	0·031522	J H
1. 50	12. 19	001580	031553		1. 50	16. 37	002130	031941	
2. 0	12. 0	001425	031545		2. 0	16. 26	002174	031924	
2. 10	11. 49	001513	031527	J H	2. 10	16. 37	002396	031907	J H
4. 0	9. 9	002139	031734	P	4. 0	16. 18	001639	032498	P
6. 0	7. 10	002016	031706		6. 0	2. 9	002541	032824	
8. 0	7. 22	001711	031598		8. 0	6. 42	001622	032373	
10. 0	7. 39	001639	031704	P	10. 0	5. 55	001179	032106	P
12. 0	7. 44	001772	031642	J H	12. 0	6. 9	001993	031628	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 232°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot 6$; in Vertical Plane, $29^s\cdot 3$.

DECLINATION MAGNET.
On March 12^d, between 18^h and 20^h; March 13^d, between 14^h and 16^h; March 15^d, between 22^h and 24^h; March 16^d, between 22^h and 24^h; March 17^d, between 14^h and 16^h; and March 18^d, between 4^h and 6^h, considerable changes took place in the position of the magnet.

HORIZONTAL FORCE MAGNET.
Considerable changes occurred on March 12^d, between 18^h and 20^h; on March 17^d, between 20^h and 22^h; and on March 18^d, between 0^h and $1^h.\ 50^m$.

VERTICAL FORCE MAGNET.
March 15^d. The least daily range occurred.
March 17^d. The force was greater on this day and the range was likewise greater than on any other day in the month, and at 6^h the force was the greatest in the month.
Considerable changes in the position of the magnet occurred on March 13^d, between 8^h and 10^h; and on March 17^d, between 0^h and $1^h.\ 50^m$, and between 10^h and 12^h.

Daily Observations from March 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	° ′ ″			
Mar. 19. 14. 0	23. 6. 14	0·002410	0·031001	J H	Mar. 22. 14. 0	23. 3. 39	0·004698	0·030930	D
16. 0	5. 16	002553	031173		16. 0	5. 0	002487	031093	J H
18. 0	5. 46	002620	031203		18. 0	5. 37	002523	030930	J H
20. 0	4. 55	002797	031203	J H	20. 0	5. 52	003343	031330	P
22. 0	6. 49	002131	031291	P	22. 0	6. 23	001980	031308	P
Mar. 20. 0. 0	23. 12. 40	0·002037	0·031554	D	Mar. 23. 0. 0	23. 10. 34	0·001898	0·031341	D
1. 50	14. 35	002009	032172		1. 50	13. 30	001629	031318	P
2. 0	14. 46	001964	032172		2. 0	13. 36	001916	031348	J H
2. 10	14. 48	001787	032141	D	2. 10	13. 55	002156	031462	J H
4. 0	12. 15	002873	032211	J H	4. 0	11. 22	002984	031885	G
6. 0	8. 10	002871	032103		6. 0	7. 20	002232	031919	D
8. 0	4. 32	002984	032031		8. 0	5. 28	002763	031609	P
10. 0	2. 24	002001	031655	J H	10. 0	6. 50	002393	031439	J H
12. 0	4. 43	002714	031391	D	12. 0	6. 55	003552	031059	D
14. 0	3. 8	002199	031314		14. 0	8. 25	002873	031004	
16. 0	4. 26	002493	031502		16. 0	7. 43	002349	031149	
18. 0	5. 26	002655	031449		18. 0	6. 33	002678	031338	
20. 0	6. 58	002659	031397	D	20. 0	5. 35	002475	031471	D
22. 0	6. 23	001646	031373	P	22. 0	3. 57	001760	031529	P
Mar. 21. 0. 0	23. 10. 48	0·001645	0·031517	P	Mar. 24. 0. 0	23. 10. 39	0·001418	0·031477	P
1. 50	13. 7	002276	032229		1. 50	13. 33	002371	031839	
2. 0	13. 28	002320	032208		2. 0	12. 56	002371	031796	
2. 10	13. 6	001988	032122	P	2. 10	12. 30	002327	031753	P
4. 0	11. 58	002243	032014	D	4. 0	10. 23	003239	032011	G
6. 0	9. 45	002804	031980		6. 0	7. 34	002745	031946	
8. 0	7. 26	002899	031759		8. 0	6. 36	002660	031553	G
10. 0	6. 34	002191	031694	D	10. 0	6. 39	002446	031332	D
12. 0	6. 38	002559	031430	P	12. 0	6. 47	002504	031213	P
14. 0	6. 1	003164	031334		14. 0	6. 7	002528	030966	
16. 0	4. 54	003105	031311		16. 0	5. 40	002696	030940	
18. 0	6. 2	003582	031176		18. 0	6. 14	003164	030952	
20. 0	5. 8	003037	031183	P	20. 0	6. 6	003293	031038	P
22. 0	4. 58	002179	031468	J H	22. 0	5. 24	002304	031043	J H
Mar. 22. 0. 0	23. 12. 55	0·001637	0·031769	J H	Mar. 25. 0. 0	23. 10. 24	0·002271	0·031509	J H
1. 50	16. 34	002854	031691		1. 50	13. 11	002134	031388	
2. 0	17. 34	003098	031691		2. 0	13. 11	002533	031392	
2. 10	18. 3	002942	031661	J H	2. 10	13. 1	002843	031388	J H
4. 0	13. 55	002354	032047	P	4. 0	11. 7	003020	031698	P
6. 0	7. 57	002933	031980		6. 0	8. 19	002713	031134	J H
8. 0	7. 14	002711	031744	P	8. 0	6. 58	002534	031216	P
10. 0	2. 50	003165	031564	M	10. 0	6. 18	002452	031120	P
12. 0	2. 54	004121	031363	M	12. 0	6. 27	002510	030930	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 232°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.6$; in Vertical Plane, $29^s.3$.

DECLINATION MAGNET.
March 19^d, 20^d, 21^d, 23^d, and 24^d. Considerable changes occurred.

HORIZONTAL FORCE MAGNET.
March 22^d. There were considerable changes in the position of the magnet.
March 23^d. The greatest daily range occurred; at $13^h.35^m$ the force was greater than at any other time during the month.

VERTICAL FORCE MAGNET.
March 21^d and 25^d. There were considerable changes in the positions of the magnet.
March $23^d.12^h.15^m$. The least reading of the force for the month took place at this time.
March 25^d. The mean daily force was less on this day than on any other during the month.

Daily Observations from March 26 to April 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	° ′ ″			
Mar. 26. 14. 0	23. 5. 52	0·003000	0·030546	J H	Mar. 29. 14. 0	22. 59. 32	0·001949	0·030797	J H
16. 0	5. 40	003109	030942		16. 0	23. 4. 14	001541	030894	
18. 0	5. 33	003182	030923		18. 0	5. 8	001693	030770	
20. 0	4. 45	002891	031233	J H	20. 0	5. 19	002005	030929	J H
22. 0	5. 54	001917	031246	D	22. 0	5. 44	000479	031051	D
Mar. 27. 0. 0	23. 12. 18	0·001552	0·031211	D	Mar. 30. 0. 0	23. 9. 40	0·001240	0·031593	D
1. 50	14. 20	002479	031395		1. 50	13. 11	002306	031827	
2. 0	14. 20	002523	031395		2. 0	13. 26	002594	031818	
2. 10	14. 7	002479	031395	D	2. 10	13. 35	002616	031801	D
4. 0	10. 39	002932	031445	J H	4. 0	12. 22	002783	031702	J H
6. 0	8. 27	002944	031455		6. 0	9. 18	002282	031807	
8. 0	7. 23	003386	031329		8. 0	5. 33	002569	031791	
10. 0	7. 10	003260	031104	J H	10. 0	6. 11	002680	031551	J H
12. 0	7. 6	003323	031371	D	12. 0	6. 33	002765	031486	D
14. 0	6. 45	003306	031451		14. 0	7. 35	002986	031379	
16. 0	6. 24	003262	031541		16. 0	7. 35	002588	031413	
18. 0	6. 5	003337	031439		18. 0	6. 23	003167	031238	
20. 0	5. 22	003248	031525	D	20. 0	6. 30	002649	031282	D
22. 0	5. 25	002360	031501	P	22. 0	4. 55	001425	031153	J H
Mar. 28. 0. 0	23. 11. 19	0·002184	0·031387	G	Mar. 31. 0. 0	23. 10. 15	0·001885	0·031119	J H
1. 50	14. 9	002590	031792		1. 50	13. 58	002755	031472	
2. 0	14. 9	002656	031792		2. 0	13. 58	002755	031434	
2. 10	14. 12	002767	031792	G	2. 10	13. 58	003042	031416	J H
4. 0	9. 58	003202	032224	D	4. 0	10. 39	003803	031762	D
6. 0	7. 49	003089	031872		6. 0	7. 54	003190	031618	
8. 0	7. 31	003089	031559		8. 0	6. 10	003290	031532	
10. 0	7. 4	002919	031272	D	10. 0	6. 10	003164	031468	D
12. 0	6. 56	003056	031180	P	12. 0	6. 32	003377	031262	P
14. 0	6. 32	002826	031039		14. 0	5. 38	003445	031084	
16. 0	6. 5	003040	030898		16. 0	5. 38	003253	031104	
18. 0	5. 45	003143	030886		18. 0	5. 38	003514	030976	
20. 0	3. 46	004007	030989	P	20. 0	3. 58	003489	031069	P
22. 0	3. 48	002333	031046	J H	22. 0	5. 10	002067	030737	J H
Mar. 29. 0. 0	23. 10. 6	0·002479	0·031036	J H	Apr. 1. 0. 0	23. 11. 49	0·002481	0·031201	D
1. 50	15. 39	002546	031485		1. 50	15. 21	003854	031486	J H
2. 0	16. 13	002546	031454		2. 0	15. 21	003965	031438	
2. 10	16. 14	002612	031338	J H	2. 10	15. 21	004076	031468	J H
4. 0	16. 10	001693	032279	P	4. 0	11. 20	004314	031757	P
6. 0	11. 41	002629	032053		6. 0	8. 13	004211	031744	
8. 0	23. 2. 35	001143	032246		8. 0	7. 6	003802	031572	
10. 0	22. 57. 43	000891	031567	P	10. 0	6. 48	003547	031387	P
12. 0	59. 14	001638	031250	J H	12. 0	7. 14	004116	031299	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 232°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 6$; in Vertical Plane, $29^s \cdot 3$.

DECLINATION MAGNET.
March 26^d, 27^d, 28^d, 29^d, 30^d, and 31^d. Considerable changes in the position of the magnet occurred.

HORIZONTAL FORCE MAGNET.
March 28^d. The mean daily force was the greatest, and the range was the smallest in the month.
March 27^d and 28^d. The least difference in the values of the mean daily force on consecutive days took place. There were considerable changes on March 27^d, 28^d, and 29^d.

VERTICAL FORCE MAGNET.
March 27^d and 28^d. The greatest difference in the values of the mean daily force for consecutive days occurred.
March 28^d and 29^d. There were considerable changes in the positions of the magnet.
April 1^d. The mean daily force was the smallest in the month.

Daily Observations from April 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	° ′ ″			
Apr. 2. 14. 0	23. 2. 52	0·005086	0·031039	J H	Apr. 5. 14. 0	22. 59. 11	0·002230	0·030215	G
16. 0	0. 41	004407	031009		16. 0	23. 1. 0	000968	031192	
18. 0	0. 17	004727	031265		18. 0	22. 59. 40	000868	031078	
20. 0	3. 40	003827	031057	J H	20. 0	23. 7. 5	0·000919	030670	G
22. 0	5. 14	002680	031230	D	22. 0	11. 59	9·998997	031064	J H
Apr. 3. 0. 0	23. 13. 25	0·002829	0·031054	D	Apr. 6. 0. 0	23. 17. 59	0·000602	0·031301	J H
1. 50	17. 47	003404	031744		1. 50	21. 40	002636	032277	
2. 0	17. 59	003293	031731		2. 0	23. 0	002193	032316	
2. 10	18. 15	003360	031731	D	2. 10	22. 11	002126	032363	J H
4. 0	11. 52	002905	032049	J H	4. 0	21. 35	002790	032725	G
6. 0	9. 0	004080	032098		6. 0	15. 43	002651	032614	
8. 0	6. 21	003700	031926		8. 0	23. 8. 0	003094	031926	
10. 0	3. 16	002637	031655	J H	10. 0	22. 53. 8	002349	032009	G
12. 0	2. 52	003630	031532	D	12. 0	22. 57. 59	001076	031415	J H
14. 0	9. 30	004024	031459		14. 0	23. 7. 31	000046	031225	
16. 0	5. 50	003617	031637		16. 0	22. 56. 54	001179	030918	
18. 0	5. 4	003662	031524		18. 0	23. 1. 9	001735	031343	
20. 0	5. 28	003470	031523	D	20. 0	4. 49	002681	031512	J H
22. 0	6. 19	002392	031488	P	22. 0	7. 15	001802	031530	D
Apr. 4. 0. 0	23. 13. 4	0·002407	0·031408	P	Apr. 7. 0. 0	23. 12. 4	0·001413	0·031434	P
1. 50	17. 0	003803	031510		1. 50	14. 49	001987	031787	D
2. 0	17. 7	003803	031501		2. 0	15. 18	001699	031800	
2. 10	16. 56	003803	031501	P	2. 10	16. 9	001810	031825	D
4. 0	12. 32	003862	031755	D	4. 0	14. 35	002622	032079	J H
6. 0	8. 59	003527	031689		6. 0	7. 56	004165	032490	
8. 0	6. 23	003777	031563		8. 0	4. 40	002872	032171	
10. 0	4. 4	003611	031683	D	10. 0	0. 37	003268	031662	J H
12. 0	5. 21	003839	031514	P	12. 0	4. 40	002372	031502	D
14. 0	4. 38	004179	031456		14. 0	5. 48	002611	031379	
16. 0	1. 27	003736	031364		16. 0	7. 24	001986	031253	
18. 0	2. 5	003924	031226		18. 0	6. 15	004621	031541	
20. 0	4. 28	004622	031220	P	20. 0	6. 25	003009	031400	D
22. 0	6. 18	003209	031208	J H	22. 0	7. 9	001743	031339	P
Apr. 5. 0. 0	23. 11. 3	0·002982	0·031583	J H	Apr. 8. 0. 0	23. 12. 19	0·004100	0·031581	P
1. 50	17. 17	003378	031601		1. 50	14. 31	002075	032033	
2. 0	18. 52	004308	031704		2. 0	14. 46	002075	031990	
2. 10	18. 23	003733	031695	J H	2. 10	14. 27	001522	031947	P
4. 0	17. 47	003735	032456	P	4. 0	12. 27	002900	032239	D
6. 0	23. 5. 21	0·003037	034318		6. 0	5. 31	003470	032436	J H
8. 0	22. 58. 12	9·996735	033108		8. 0	4. 20	002198	032247	D
10. 0	59. 1	9·996519	032343	P	10. 0	4. 45	002404	031824	D
12. 0	51. 25	0·000252	031840	G	12. 0	3. 0	003456	030987	P

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 232°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·6$; in Vertical Plane, $29^s·3$.

DECLINATION MAGNET.

There were considerable changes on April 2^d, 3^d, 7^d, and 8^d.

April 4^d. The greatest mean daily western declination occurred.

April $6^d. 2^h$. The western declination was larger at this observation than at any other during the month.

April 7^d. The daily range of the magnet was the smallest in the month.

HORIZONTAL FORCE MAGNET.

April $2^d. 14^h$. The force was greater at this observation than at any other during the month.

April 3^d. The mean daily value of the force was the greatest in the month.

April 3^d, 5^d, 7^d, and 8^d. Considerable changes occurred.

April 4^d and 5^d. The greatest difference between the mean daily values of the force for consecutive days occurred.

April 5^d. The greatest daily range of the magnet took place; and likewise at 10^h on this day the force was less than at any other observation during the month.

April 6^d. The mean daily force was the smallest in the month.

VERTICAL FORCE MAGNET.

April 3^d, 5^d, 6^d, 7^d, and 8^d. There were considerable changes in the position of the magnet.

April 4^d. The daily range was the least in the month.

April 5^d. The daily range was the greatest in the month: at 6^h the force was greater than at any other observation during the month.

April 5^d and 6^d. The greatest difference in the mean daily values of the force on consecutive days occurred.

Daily Observations from April 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	° ′ ″			
Apr. 9. 14. 0	23. 4.57	0·002870	0·030914	P	Apr. 12. 14. 0	23. 4.27	0·001752	0·031225	P
16. 0	7.38	002223	030701		16. 0	6.21	000966	031137	
18. 0	1.56	002818	031009		18. 0	5.22	001755	031241	
20. 0	5.31	002837	031039	P	20. 0	4.26	002139	031278	P
22. 0	8.20	001942	031175	J H	22. 0	6. 5	000555	031568	J H
Apr. 10. 0. 0	23. 9.40	0·001582	0·031537	D	Apr. 13. 0. 0	23.13. 2	0·000958	0·031786	G
1.50	11.33	002370	031625	J H	1.50	14.25	002637	031872	J H
2. 0	11.36	002237	031582		2. 0	14.25	002836	031872	
2.10	11.35	001902	031600	J H	2.10	14.31	002836	031915	J H
4. 0	9.37	002255	031861	P	4. 0	11.24	002835	032421	P
6. 0	7.11	002723	031865		6. 0	7.48	002715	032406	
8. 0	5.54	002829	031702		8. 0	5.25	003056	032023	
10. 0	6.44	002561	031586	P	10. 0	23. 2.52	004605	031825	P
12. 0	6.42	002923	031350	J H	12. 0	22.59.42	001745	031460	J H
14. 0	6.36	002723	030938		14. 0	....	...	...	..
16. 0	5.41	002435	030401		16. 0	....	...	...	..
18. 0	4.41	002433	030992		18. 0	....	...	...	..
20. 0	2.15	002139	030966	J H	20. 0	....	...	...	..
22. 0	7.51	000861	031313	D	22. 0	....	...	...	..
Apr. 11. 0. 0	23.13.17	0·001600	0·031393	D	Apr. 14. 0. 0	....	...	...	..
1.50	13.56	002702	031587		1.50	....	...	...	..
2. 0	13.57	002758	031574		2. 0	....	...	...	..
2.10	13.55	002785	031570	D	2.10	....	...	...	..
4. 0	9.47	002597	031655	J H	4. 0	....	...	...	..
6. 0	7. 8	002824	031879		6. 0	....	...	...	..
8. 0	2.22	001421	031866		8. 0	....	...	...	..
10. 0	4.44	002354	031789	J H	10. 0	....	...	...	..
12. 0	4.24	002499	031724	D	12. 0	....	...	...	..
14. 0	5.48	002292	031429		14. 0	23. 5.54	0·002634	0·031725	J H
16. 0	4.49	002279	031267		16. 0	7.50	002546	031678	
18. 0	5.32	003002	031190		18. 0	9. 4	002597	031626	
20. 0	4.36	002803	031164	D	20. 0	3. 1	002081	031459	J H
22. 0	6.17	000810	031238	P	22. 0	5.47	000450	031823	D
Apr. 12. 0. 0	23.12.48	0·001954	0·031459	P	Apr. 15. 0. 0	23.10.59	0·000863	0·031576	G
1.50	13.38	003114	031954		1.50	13.57	001968	032199	D
2. 0	13.28	003313	031890		2. 0	14.39	002322	032199	
2.10	13. 6	003313	031868	P	2.10	15.12	002411	032199	D
4. 0	11.34	004889	032378	D	4. 0	11.48	002349	032383	J H
6. 0	11.59	002956	032298		6. 0	5.32	003416	032324	
8. 0	5.44	001421	032507		8. 0	6.33	003329	032168	
10. 0	4.24	003192	032163	D	10. 0	4.24	002968	031967	J H
12. 0	4.40	002668	031727	P	12. 0	10.25	004002	031711	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, 232°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°.3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.6$; in Vertical Plane, $29^s.3$.

DECLINATION MAGNET.
There were considerable changes in the position of the magnet on April 9d, 10d, 11d, 12d, and 13d.

HORIZONTAL FORCE MAGNET.
April 10d. The range was the smallest in the month.
On April 10d, 11d, 12d, 13d, 14d, and 15d, considerable changes occurred.

VERTICAL FORCE MAGNET.
April 10d and 11d. The least difference in the mean daily values of the force on consecutive days occurred.
April 15d. The mean daily force was the largest in the month.
Large changes occurred in the positions of the magnet on April 10d, 12d, 13d, and 15d.

Daily Observations from April 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	° ′ ″			
Apr. 16. 14. 0	23. 2. 13	0·003939	0·031347	D	Apr. 19. 14. 0	22. 40. 47	0·002899	0·031345	J H
16. 0	1. 8	004032	031468		16. 0	43. 7	002743	031000	J H
18. 0	0. 32	003865	031412		18. 0	45. 43	002825	031119	P
20. 0	1. 11	003118	031443	D	20. 0	45. 49	003300	031317	D
22. 0	5. 23	001660	030814	P	22. 0	48. 58	002098	031437	G
Apr. 17. 0. 0	23. 11. 2	0·002022	0·031484	P	Apr. 20. 0. 0	22. 51. 45	0·001485	0·031400	P
1. 50	13. 31	002984	032196		1. 50	48. 30	002251	031867	J H
2. 0	13. 46	003206	031968		2. 0	48. 27	002268	031851	
2. 10	13. 56	002984	032002	P	2. 10	48. 20	002558	031909	J H
4. 0	10. 45	003217	032453	D	4. 0	42. 12	003379	032170	D
6. 0	8. 28	003632	032586		6. 0	22. 37. 25	003561	032336	D
8. 0	3. 32	003561	032231		8. 0	23. 4. 43	003294	032013	P
10. 0	23. 2. 37	002952	031849	D	10. 0	23. 2. 5	002931	031620	P
12. 0	22. 59. 53	003289	031574	P	12. 0	22. 58. 6	002812	031249	D
14. 0	56. 11	003741	030960		14. 0	22. 58. 45	002557	031270	
16. 0	50. 29	002405	030944		16. 0	23. 0. 19	002516	031252	
18. 0	22. 59. 52	002644	030092		18. 0	22. 53. 50	002907	030758	
20. 0	23. 3. 47	002527	030709	P	20. 0	50. 30	002615	031059	D
22. 0	6. 1	000799	031351	J H	22. 0	22. 42. 59	002090	031099	P
Apr. 18. 0. 0	23. 11. 22	0·000981	0·031306	J H	Apr. 21. 0. 0	23. 9. 27	...	0·031531	P
1. 50	13. 37	002268	032029	D	1. 50	13. 5	...	032002	
2. 0	14. 3	002268	032007	J H	2. 0	13. 20	...	031998	
2. 10	13. 35	002424	031925	J H	2. 10	13. 20	...	031989	P
4. 0	10. 37	003664	032539	P	4. 0	7. 23	...	032351	D
6. 0	8. 8	002761	032489		6. 0	7. 14	...	032185	
8. 0	5. 5	003851	032218		8. 0	6. 35	...	031949	
10. 0	6. 16	002468	031845	P	10. 0	5. 43	...	031473	D
12. 0	5. 11	002594	031467	J H	12. 0	4. 56	...	031453	P
14. 0	6. 34	002165	031094		14. 0	4. 3	...	031673	
16. 0	1. 13	002423	030646		16. 0	3. 19	...	031137	
18. 0	23. 2. 58	003123	030565		18. 0	2. 37	...	030983	
20. 0	22. 59. 6	002241	030639	J H	20. 0	3. 16	...	030940	P
22. 0	23. 3. 23	001233	030909	D	22. 0	3. 22	...	030955	J H
Apr. 19. 0. 0	23. 10. 23	0·001130	0·031232	D	Apr. 22. 0. 0	23. 6. 24	...	...	J H
1. 50	13. 44	002259	031791	P	1. 50	8. 18	...	...	
2. 0	13. 39	002236	031705		2. 0	8. 39	...	...	
2. 10	23. 12. 38	002015	031705	P	2. 10	9. 31	...	...	J H
4. 0	22. 42. 28	003206	032377	J H	4. 0	7. 39	...	...	P
6. 0	35. 1	003059	032112		6. 0	6. 35	...	...	
8. 0	36. 30	003512	031772	J H	8. 0	5. 44	...	...	
10. 0	37. 42	002977	031375	G	10. 0	3. 50	...	...	P
12. 0	39. 55	003154	031547	G	12. 0	0. 17	...	...	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 232°; April $17^d.0^h$, 235°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.6$; in Vertical Plane, $29^s.3$.

DECLINATION MAGNET.

Considerable changes occurred on April 16^d, 18^d, 19^d, 20^d, and 21^d.

April 20^d. The mean daily western declination was the smallest in the month.

April $20^d.6^h.35^m$. The western declination was the smallest in the month, as observed in the Term Observations.

April 20^d and 21^d. The greatest difference in the mean daily western declinations during the year took place between these two days.

April 21^d. The daily range was the greatest in the month.

HORIZONTAL FORCE MAGNET.

April 18^d and 19^d. The least difference in the mean daily values of the force for consecutive days took place between these two days : large changes occurred on April [16^d, 17^d, and 18^d.

April $20^d.22^h$. The magnet was removed for the purpose of determining the corrections due to it for changes of temperature.

VERTICAL FORCE MAGNET.

Considerable changes occurred in the positions of the magnet on April 16^d, 17^d, 18^d, 19^d, 20^d, and 21^d.

April $17^d.18^h$. The force was less at this observation than at any other during the month.

April $21^d.22^h$. The magnet was removed for the purpose of ascertaining the temperature-corrections due to it.

Daily Observations from April 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	° ′ ″			
Apr. 23. 14. 0	23. 4. 39	...	...	J H	Apr. 26. 14. 0	23. 5. 11	...	...	G
16. 0	3. 47	...	...		16. 0	4. 29	...	...	
18. 0	2. 22	...	...		18. 0	2. 18	...	...	
20. 0	2. 22	...	...	J H	20. 0	1. 13	...	...	G
22. 0	3. 36	...	...	D	22. 0	3. 54	...	...	J H
Apr. 24. 0. 0	23. 9. 16	...	...	P	Apr. 27. 0. 0	23. 12. 43	...	...	P
1. 50	10. 52	...	...	D	1. 50	12. 50	...	...	
2. 0	10. 7	...	...		2. 0	12. 4	...	...	
2. 10	11. 7	...	...		2. 10	12. 4	...	...	P
4. 0	8. 4	...	...	D	4. 0	8. 30	...	...	G
6. 0	5. 32	...	...	J H	6. 0	4. 57	...	...	
8. 0	6. 19	...	...		8. 0	2. 37	...	...	
10. 0	5. 23	...	...		10. 0	2. 47	...	...	G
12. 0	4. 8	...	...	J H	12. 0	0. 18	...	...	J H
14. 0	4. 28	...	...	D	14. 0	23. 1. 6	...	...	
16. 0	3. 50	...	...		16. 0	22. 59. 53	...	...	
18. 0	23. 2. 17	...	...		18. 0	59. 23	...	...	
20. 0	22. 59. 22	...	...	D	20. 0	22. 59. 37	...	...	J H
22. 0	23. 2. 51	...	...	P	22. 0	23. 5. 0	...	...	D
Apr. 25. 0. 0	23. 8. 16	...	...	J H	Apr. 28. 0. 0	23. 11. 16	...	...	P
1. 50	10. 45	...	...	P	1. 50	12. 18	...	...	
2. 0	11. 0	...	...		2. 0	12. 1	...	...	
2. 10	10. 45	...	...	P	2. 10	11. 26	...	...	P
4. 0	8. 35	...	...	G	4. 0	7. 52	...	...	J H
6. 0	6. 18	...	...	G	6. 0	4. 34	...	...	
8. 0	4. 44	...	...	D	8. 0	3. 31	...	...	
10. 0	0. 53	...	...	D	10. 0	3. 28	...	...	J H
12. 0	0. 33	...	...	P	12. 0	4. 27	...	...	D
14. 0	2. 18	...	...		14. 0	5. 6	...	...	
16. 0	0. 27	...	...		16. 0	4. 47	...	...	
18. 0	1. 55	...	...		18. 0	23. 2. 4	...	...	
20. 0	0. 11	...	...	P	20. 0	22. 59. 59	...	...	D
22. 0	1. 44	...	...	J H	22. 0	23. 3. 3	...	...	P
Apr. 26. 0. 0	23. 8. 19	...	...	J H	Apr. 29. 0. 0	23. 9. 45	...	...	J H
1. 50	10. 48	...	...		1. 50	13. 9	...	...	
2. 0	10. 29	...	...		2. 0	13. 5	...	...	
2. 10	10. 30	...	...	J H	2. 10	12. 46	...	...	J H
4. 0	7. 48	...	...	P	4. 0	9. 25	...	...	D
6. 0	5. 42	...	...		6. 0	6. 24	...	...	
8. 0	4. 26	...	...		8. 0	5. 28	...	...	
10. 0	4. 53	...	...	P	10. 0	3. 24	...	...	D
12. 0	3. 22	...	...	G	12. 0	3. 11	...	...	P

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 235°.

DECLINATION MAGNET.

On April 23^{d}, 25^{d}, 26^{d}, 27^{d}, and 29^{d}, large changes occurred.

April 25^{d} and 26^{d}. The difference between the mean western declinations on these days was less than between any other days in the month.

Daily Observations from April 30 to May 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	° ′ ″			
Apr. 30. 14. 0	23. 2. 59	...	...	P	May 3. 14. 0	23. 2. 23	...	...	G
16. 0	2. 12	...	...		16. 0	1. 58	...	...	
18. 0	23. 1. 10	...	...		18. 0	2. 30	...	...	
20. 0	22. 59. 3	...	...	P	20. 0	1. 38	...	...	G
22. 0	23. 4. 0	...	...	J H	22. 0	3. 13	...	...	P
May 1. 0. 0	23. 11. 15	...	...	J H	May 4. 0. 0	23. 9. 58	...	...	P
1. 50	13. 25	...	...		1. 50	12. 42	...	...	
2. 0	13. 16	...	...		2. 0	13. 15	...	...	
2. 10	12. 47	...	...	J H	2. 10	12. 50	...	...	P
4. 0	9. 0	...	...	P	4. 0	9. 31	...	...	G
6. 0	6. 17	...	...		6. 0	6. 46	...	...	
8. 0	23. 5. 3	...	...		8. 0	5. 51	...	...	
10. 0	22. 59. 50	...	...	P	10. 0	5. 33	...	...	G
12. 0	23. 0. 47	...	...	J H	12. 0	4. 56	...	...	P
14. 0	1. 40	...	...		14. 0	4. 32	...	...	
16. 0	1. 1	...	...		16. 0	3. 0	...	...	
18. 0	1. 20	...	...		18. 0	2. 14	...	...	
20. 0	1. 15	...	...	J H	20. 0	0. 28	...	...	P
22. 0	4. 17	...	...	D	22. 0	2. 30	...	...	J H
May 2. 0. 0	23. 10. 32	...	...	D	May 5. 0. 0	23. 10. 1	...	...	J H
1. 50	12. 11	...	...		1. 50	12. 2	...	...	
2. 0	11. 51	...	...	D	2. 0	10. 58	...	...	
2. 10	11. 51	...	...	J H	2. 10	11. 12	...	...	J H
4. 0	9. 49	...	...		4. 0	9. 13	...	...	P
6. 0	7. 34	...	...		6. 0	7. 2	...	...	
8. 0	6. 4	...	...		8. 0	6. 10	...	...	
10. 0	4. 29	...	...	J H	10. 0	5. 40	...	...	P
12. 0	2. 41	...	...	D	12. 0	5. 25	...	...	J H
14. 0	2. 21	...	...		14. 0	4. 11	0 ·036190	0 ·055334	
16. 0	1. 37	...	...		16. 0	2. 59	036170	055407	
18. 0	3. 30	...	...		18. 0	2. 7	036424	055492	
20. 0	3. 46	...	...	D	20. 0	1. 10	036288	055437	J H
22. 0	4. 37	...	...	P	22. 0	2. 29	036000	055348	D
May 3. 0. 0	23. 8. 39	...	...	P	May 6. 0. 0	23. 8. 43	0 ·035789	0 ·055331	P
1. 50	9. 49	...	...		1. 50	11. 2	036459	055442	
2. 0	9. 36	...	...		2. 0	10. 57	036459	055486	
2. 10	9. 36	...	...	P	2. 10	10. 51	036459	055515	P
4. 0	8. 6	...	...	D	4. 0	9. 33	037756	055560	J H
6. 0	6. 35	...	...		6. 0	7. 53	038150	055485	
8. 0	5. 40	...	...		8. 0	23. 4. 29	037517	056025	
10. 0	3. 11	...	...	D	10. 0	22. 47. 29	034678	055188	J H
12. 0	2. 37	...	...	G	12. 0	28. 29	029443	053033	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, 235°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.6$; in Vertical Plane, $22^s.6$.

DECLINATION MAGNET.

Considerable changes occurred in the position of the magnet on May 1^d, 2^d, 4^d, 5^d, and 6^d.
May $4^d.10^h$. The adjustments were altered. (See the Introduction.)
May 5^d and 6^d. The difference between the mean western declination on these days was greater than between any other two consecutive days in the month.
May 6^d. The mean daily western declination was the smallest in the month.
May 6^d. The daily range was the greatest in the year, being 48′. 21″.
May $6^d.12^h.8^m$. The western declination was smaller at this time than at any other time in the year, as observed in extra observations.

HORIZONTAL FORCE MAGNET.

May 6^d. The daily range was greater than on any other day in the year.
May 6^d. Considerable changes occurred on this day in the position of the magnet.
May $6^d.11^h.40^m$. The reading was the smallest in the month, as observed in extra observations.

VERTICAL FORCE MAGNET.

Considerable changes took place in the position of the magnet on May 6^d.
May $6^d.11^h.36^m$. The force was the smallest in the month.

Daily Observations from May 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	° ′ ″			
May 7. 14. 0	22. 58. 7	0·034035	0·054418	D	May 10. 14. 0	23. 2. 30	0·035430	0·054955	G
16. 0	23. 0. 6	034357	055092		16. 0	6. 19	034308	055131	
18. 0	6. 3	032951	055311		18. 0	2. 50	034060	055122	
20. 0	3. 19	033515	055694	D	20. 0	3. 14	033555	055351	G
22. 0	5. 44	032374	055911	P	22. 0	4. 23	034214	055337	D
May 8. 0. 0	23. 9. 54	0·032135	0·056370	P	May 11. 0. 0	23. 11. 57	0·035448	0·055407	D
1. 50	10. 51	033985	056298		1. 50	9. 56	037474	055887	
2. 0	11. 5	034099	056298		2. 0	9. 55	037695	055887	
2. 10	10. 26	033941	056298	P	2. 10	9. 39	037894	055865	D
4. 0	8. 8	035029	056526	D	4. 0	7. 40	038350	056173	G
6. 0	6. 35	034943	056905		6. 0	5. 39	037055	055787	
8. 0	5. 25	038471	056692		8. 0	6. 37	036793	055893	
10. 0	4. 50	037983	056728	D	10. 0	5. 19	036059	055697	G
12. 0	6. 59	037415	056500	P	12. 0	4. 50	035817	055498	D
14. 0	23. 0. 25	037279	055890		14. 0	2. 41	036193	055210	
16. 0	22. 56. 45	037560	055909		16. 0	2. 35	035047	055544	
18. 0	23. 3. 52	036428	056058		18. 0	4. 31	034396	055117	
20. 0	2. 22	036189	056274	P	20. 0	2. 12	033385	055359	D
22. 0	5. 34	035525	056549	J H	22. 0	6. 0	033191	055580	P
May 9. 0. 0	23. 11. 9	0·035598	0·057197	J H	May 12. 0. 0	23. 12. 35	0·033462	0·055586	P
1. 50	12. 13	037921	058080		1. 50	10. 8	034960	056026	
2. 0	12. 0	037833	058109		2. 0	9. 55	035403	055954	
2. 10	11. 52	037833	058109	J H	2. 10	10. 3	035181	055882	P
4. 0	9. 17	037949	057791	P	4. 0	7. 49	033784	055631	D
6. 0	6. 0	037612	057618		6. 0	6. 16	034137	055923	
8. 0	3. 59	037209	057573		8. 0	6. 9	033887	055317	
10. 0	4. 59	038077	056861	P	10. 0	4. 39	033585	054863	D
12. 0	6. 18	036904	056910	J H	12. 0	5. 18	034261	054833	P
14. 0	5. 24	036767	056942		14. 0	3. 1	032780	054800	
16. 0	4. 35	036809	056876		16. 0	4. 57	033092	054800	
18. 0	0. 29	035887	056742		18. 0	23. 0. 26	034053	054911	
20. 0	1. 24	036189	057341	J H	20. 0	22. 59. 11	033070	055005	P
22. 0	5. 46	035984	057690	D	22. 0	23. 2. 6	032465	054696	J H
May 10. 0. 0	23. 11. 5	0·048859	0·054515	G	May 13. 0. 0	23. 7. 55	0·031726	0·055111	J H
1. 50	14. 41	049080	054898	P	1. 50	10. 33	033165	055134	
2. 0	15. 26	049832	055115		2. 0	10. 33	032943	055134	
2. 10	14. 3	049301	055115	P	2. 10	10. 15	033143	055127	J H
4. 0	12. 10	047962	055241	J H	4. 0	7. 33	034005	055592	P
6. 0	0. 51	037542	056215		6. 0	5. 43	034822	055542	
8. 0	3. 25	036124	055761		8. 0	4. 30	034788	055373	
10. 0	6. 25	035591	055375	J H	10. 0	4. 30	034209	054915	P
12. 0	8. 29	036010	055259	G	12. 0	4. 15	033594	054973	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 235°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 6$; in Vertical Plane, $22^s \cdot 6$.

DECLINATION MAGNET.

May 9^d, 10^d, 11^d, 12^d, and 13^d. Large changes occurred.

May 11^d and 12^d. The least difference for consecutive days occurred.

HORIZONTAL FORCE MAGNET.

May $8^d.\ 8^h$. The force was greater than at any other time in the month.

May 8^d, 9^d, 11^d, 12^d, and 13^d. Large changes occurred.

May 10^d. The daily range was the smallest in the month.

May 8^d and 9^d. The greatest difference in the mean values for consecutive days occurred.

May 9^d. The mean daily value was the largest in the month.

May $10^d.\ 6^h$. Previously to this observation a great mass of workmen's iron tools were found outside the Magnetic Observatory and near to the east window, immediately on their removal the position of the magnet changed 5^d of its scale: it would appear that the iron had been placed there before the observation at 0^h. No use has been made of the observations of the Horizontal Force Magnet between 0^h and 4^h both inclusive: the other magnets did not appear to be affected.

May 13^d. The mean daily force was the smallest in the month.

VERTICAL FORCE MAGNET.

May 8^d and 9^d. The greatest difference in the mean values for consecutive days occurred.

May 9^d. The mean daily value was the largest in the month.

May 10^d. The daily range was the largest in the month.

May 8^d, 9^d, and 10^d. Remarkable changes occurred.

May $9^d.\ 2^h$. The force was the largest in the month.

Daily Observations from May 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	° ′ ″			
May 14. 14. 0	23. 2. 59	0·033705	0·054708	J H	May 17. 14. 0	23. 4. 36	0·034321	0·053934	J H
16. 0	2. 42	033637	054911		16. 0	3. 5	034444	053958	
18. 0	0. 59	033988	055008		18. 0	23. 2. 42	033162	053943	
20. 0	0. 23	033281	055114	J H	20. 0	22. 58. 52	033040	054113	J H
22. 0	1. 8	032395	054992	P	22. 0	23. 2. 55	032730	054261	D
May 15. 0. 0	23. 7. 5	0·033690	0·055019	D	May 18. 0. 0	23. 7. 59	0·033606	0·054261	D
1. 50	13. 3	036093	055000		1. 50	11. 30	033944	054613	
2. 0	13. 33	036115	054985		2. 0	11. 26	034231	054649	
2. 10	13. 55	036248	054985	D	2. 10	11. 25	034430	054649	D
4. 0	12. 21	037653	055019	J H	4. 0	8. 33	034676	054663	J H
6. 0	8. 54	037370	054852		6. 0	6. 18	034853	055028	
8. 0	6. 8	036935	055116		8. 0	3. 56	034775	054923	
10. 0	4. 21	034998	055477	J H	10. 0	5. 27	034450	054735	J H
12. 0	4. 12	034584	054858	D	12. 0	4. 55	034348	054520	D
14. 0	3. 52	033804	054824		14. 0	4. 55	034644	054725	
16. 0	9. 58	034244	054474		16. 0	4. 55	034335	054799	
18. 0	7. 20	035591	054833		18. 0	4. 55	034417	054775	
20. 0	6. 26	034141	054867	D	20. 0	3. 32	033597	054638	D
22. 0	6. 30	032242	054807	P	22. 0	3. 48	032728	054707	P
May 16. 0. 0	23. 10. 58	0·032064	0·054703	P	May 19. 0. 0	23. 8. 22	0·033104	0·054568	P
1. 50	13. 7	035817	055278		1. 50	11. 26	033781	054960	
2. 0	12. 58	035020	055134		2. 0	11. 26	033870	054924	
2. 10	11. 46	035817	055148	P	2. 10	11. 40	034091	054895	P
4. 0	7. 25	034687	055452	D	4. 0	8. 48	035144	055302	J H
6. 0	7. 25	035929	055411		6. 0	6. 58	035300	055363	G
8. 0	6. 38	035736	055112		8. 0	4. 41	035403	054908	D
10. 0	4. 16	035876	054952	D	10. 0	4. 34	034930	054726	D
12. 0	4. 46	034839	054774	P	12. 0	4. 6	034529	054534	P
14. 0	6. 51	035197	054748		14. 0	4. 3	034244	054493	
16. 0	3. 57	034106	054549		16. 0	3. 43	034191	054631	
18. 0	3. 2	033282	054678		18. 0	23. 2. 19	034074	054563	
20. 0	1. 35	033223	054703	P	20. 0	22. 59. 15	032616	054641	P
22. 0	2. 32	033243	054518	J H	22. 0	23. 3. 38	031950	054984	J H
May 17. 0. 0	23. 7. 59	0·032871	0·055025	G	May 20. 0. 0	23. 10. 23	0·031757	0·055382	G
1. 50	9. 53	033784	055263	J H	1. 50	10. 42	032939	055380	J H
2. 0	10. 10	033828	055263		2. 0	10. 34	032783	055425	
2. 10	10. 2	034448	055263	J H	2. 10	10. 34	032828	055351	J H
4. 0	5. 44	034891	054882	P	4. 0	8. 16	033868	055163	P
6. 0	5. 25	036100	054870		6. 0	6. 31	034498	054827	
8. 0	5. 33	035691	054726		8. 0	4. 55	034107	054712	
10. 0	4. 46	034559	054581	P	10. 0	4. 55	034233	054391	P
12. 0	6. 29	034632	054324	J H	12. 0	4·38	034159	054330	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 235°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot 6$; in Vertical Plane, $22^s\cdot 6$.

DECLINATION MAGNET.
May 15^d, 16^d, 18^d, and 20^d. Remarkable changes occurred.
May 18^d. 12^h, 14^h, 16^h, and 18^h. The western declination remained unchanged during these times; the position of the magnet was frequently examined between the observations, but the cross always appeared bisected.

HORIZONTAL FORCE MAGNET.
May 15^d, 16^d, 17^d, and 20^d. Large changes occurred.

VERTICAL FORCE MAGNET.
May 15^d. Large changes occurred.
May 15^d and 16^d. The least difference for consecutive days occurred.

Daily Observations from May 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	° ′ ″			
May 21. 14. 0	23. 4. 23	0·033517	0·054280	J H	May 24. 14. 0	23. 7. 27	0·034703	0·052558	G
16. 0	4. 10	032679	054128		16. 0	6. 52	034186	052283	
18. 0	2. 21	032730	054225		18. 0	4. 32	034278	052533	
20. 0	1. 42	033026	054658	J H	20. 0	4. 3	033724	052800	G
22. 0	3. 34	033461	054635	P	22. 0	6. 53	032818	052486	J H
May 22. 0. 0	23. 10. 9	0·034079	0·054634	D	May 25. 0. 0	23. 15. 46	0·034202	0·052189	J H
1. 50	12. 6	035238	053098		1. 50	19. 0	036017	052899	
2. 0	12. 6	035238	053076	D	2. 0	18. 52	036017	052856	
2. 10	12. 18	035392	053026	J H	2. 10	18. 58	036150	052782	J H
4. 0	11. 45	035321	053385		4. 0	14. 20	036490	053123	G
6. 0	10. 20	035639	053185		6. 0	8. 35	036047	053109	
8. 0	10. 20	035916	053149		8. 0	7. 36	036907	052906	
10. 0	9. 29	035348	052783	J H	10. 0	7. 39	036933	052784	G
12. 0	7. 56	034832	052523	D	12. 0	7. 7	036150	052364	J H
14. 0	7. 18	034816	052337		14. 0	6. 56	035987	052060	
16. 0	5. 39	034722	052252		16. 0	4. 51	035777	052136	
18. 0	5. 5	034573	052162		18. 0	2. 57	035016	051959	
20. 0	4. 57	033145	052224	D	20. 0	1. 52	034228	052005	J H
22. 0	6. 37	033006	052135	P	22. 0	5. 26	033561	052168	D
May 23. 0. 0	23. 11. 13	0·033750	0·052223	P	May 26. 0. 0	23. 14. 48	0·034606	0·052300	D
1. 50	12. 0	034584	052640		1. 50	18. 17	035957	052572	
2. 0	12. 0	034628	052683		2. 0	18. 7	036046	052572	
2. 10	12. 0	034628	052712	P	2. 10	18. 3	036223	052558	D
4. 0	10. 22	035205	052883	D	4. 0	15. 3	036599	052579	J H
6. 0	7. 52	035246	052827	D	6. 0	11. 20	036530	052638	
8. 0	8. 42	035094	052880	G	8. 0	8. 19	036304	052465	J H
10. 0	8. 19	035187	052763	G	10. 0	1. 4	035197	052474	G
12. 0	6. 26	034800	052367	P	12. 0	23. 3. 28	036168	052151	P
14. 0	5. 14	034153	052319		14. 0	22. 56. 50	033920	051766	P
16. 0	4. 57	034249	052271		16. 0	23. 1. 47	035207	052074	D
18. 0	3. 38	034023	052315		18. 0	3. 24	035189	052379	D
20. 0	3. 45	033129	052248	P	20. 0	2. 21	033672	052355	J H
22. 0	7. 33	031826	052116	J H	22. 0	6. 15	032396	052379	G
May 24. 0. 0	23. 15. 20	0·032561	0·052162	J H	May 27. 0. 0	23. 13. 55	0·033467	0·052136	P
1. 50	16. 59	033978	052669		1. 50	16. 27	035265	052491	J H
2. 0	16. 49	034022	052612		2. 0	16. 26	035525	052497	
2. 10	16. 37	033978	052612	J H	2. 10	16. 15	035542	052472	J H
4. 0	12. 33	034345	053063	P	4. 0	13. 17	036090	052775	P
6. 0	8. 34	035530	053154		6. 0	9. 20	036371	053039	G
8. 0	8. 7	035525	052978		8. 0	8. 8	035790	052565	J H
10. 0	8. 16	035525	052711	P	10. 0	6. 7	035452	052416	D
12. 0	7. 40	034728	052692	G	12. 0	4. 56	035282	052352	P

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 235°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot 6$; in Vertical Plane, $22^s\cdot 6$.

DECLINATION MAGNET.
May 22^d, 24^d, 25^d, 26^d, and 27^d. Remarkable changes occurred.
May 23^d. The daily range was the smallest in the month, being 7′. 3″.
May 26^d. $1^h.\ 50^m$. The western declination was the largest in the month.

HORIZONTAL FORCE MAGNET.
May 22^d and 23^d. The least difference in the mean values for consecutive days occurred.
May 25^d. Large changes occurred.

VERTICAL FORCE MAGNET.
May 25^d. Large changes occurred.
May 26^d. The mean daily value was the smallest in the month.

Daily Observations from May 28 to June 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	° ′ ″			
May 28. 14. 0	23. 7. 10	0·034449	0·052168	P	May 31. 14. 0	23. 7. 6	0·035763	0·050020	G
16. 0	6. 26	034456	052190		16. 0	7. 38	035921	050153	
18. 0	4. 37	034269	052217		18. 0	5. 2	035615	050208	
20. 0	3. 26	033616	052215	P	20. 0	1. 24	034983	049992	G
22. 0	5. 5	033229	052302	J H	22. 0	4. 22	032182	049721	P
May 29. 0. 0	23. 12. 12	0·033475	0·052295	J H	June 1. 0. 0	23. 12. 34	0·032897	0·049692	P
1. 50	16. 11	035428	052492		1. 50	16. 59	033268	049929	
2. 0	16. 3	036004	052384		2. 0	17. 32	034685	049929	
2. 10	17. 37	037333	052428	J H	2. 10	17. 41	034906	049942	P
4. 0	16. 10	035941	052514	P	4. 0	14. 17	035860	050086	G
6. 0	11. 10	035321	052666		6. 0	10. 2	035996	050336	
8. 0	7. 47	036454	052778		8. 0	7. 40	036091	050151	
10. 0	6. 44	035062	052526	P	10. 0	7. 4	035855	049766	G
12. 0	3. 9	034369	052567	J H	12. 0	7. 51	035519	049858	P
14. 0	6. 22	034061	052265		14. 0	8. 3	035378	049781	
16. 0	7. 37	034534	052073		16. 0	7. 34	035486	049862	
18. 0	9. 27	035079	051911		18. 0	5. 17	035116	049878	
20. 0	5. 5	032562	052291	J H	20. 0	2. 47	034549	049782	P
22. 0	5. 5	033232	052397	D	22. 0	5. 50	033051	049610	J H
May 30. 0. 0	23. 6. 46	0·034100	0·053103	G	June 2. 0. 0	23. 14. 29	0·034095	0·049521	J H
1. 50	15. 1	034998	053144	D	1. 50	18. 43	036223	050280	
2. 0	14. 50	035020	053065		2. 0	18. 43	035426	050227	
2. 10	15. 0	035086	052993	D	2. 10	19. 11	035270	050167	J H
4. 0	13. 12	036486	053265	J H	4. 0	16. 42	035389	049175	P
6. 0	9. 27	036700	053313		6. 0	10. 49	036209	049342	
8. 0	8. 7	036435	053129		8. 0	9. 6	037074	049235	
10. 0	8. 7	035690	052631	J H	10. 0	9. 6	036788	048958	P
12. 0	7. 13	035718	052487	D	12. 0	3. 47	034823	048689	J H
14. 0	7. 47	036123	052453		14. 0	3. 19	035051	048507	
16. 0	6. 55	035758	053217		16. 0	2. 7	034137	048597	
18. 0	5. 40	035339	052514		18. 0	23. 3. 0	034789	048487	
20. 0	5. 19	034940	052500	D	20. 0	22. 59. 19	034143	048569	J H
22. 0	7. 4	033619	052240	P	22. 0	23. 15. 34	033347	048950	D
May 31. 0. 0	23. 11. 16	0·034313	0·052386	P	June 3. 0. 0	23. 14. 5	0·034373	0·049124	D
1. 50	15. 15	035878	052861		1. 50	17. 5	035523	049461	P
2. 0	15. 16	035878	052847		2. 0	17. 15	035523	049414	
2. 10	15. 12	035922	052811	P	2. 10	17. 4	035523	049401	P
4. 0	12. 47	036526	052903	D	4. 0	15. 15	035434	050006	G
6. 0	9. 19	036582	053141		6. 0	12. 2	036268	049673	P
8. 0	7. 39	036711	052905		8. 0	8. 48	036205	049613	J H
10. 0	7. 23	036164	052820	D	10. 0	7. 25	035515	049135	J H
12. 0	7. 33	035848	052784	G	12. 0	6. 9	036179	048779	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, 235°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 6$; in Vertical Plane, $22^s \cdot 6$; May $31^d.\ 14^h$, $23^s \cdot 5$.

DECLINATION MAGNET.
May 29^d, 30^d, June 2^d and 3^d. Remarkable changes occurred.
May 31^d. The mean daily western declination was the largest in the month.
June 1^d. The mean daily western declination was the smallest in the month.
June $2^d.\ 20^h$. The western declination at this time was the [illegible] in the month.
June 3^d. The daily range was the largest in the month.

HORIZONTAL FORCE MAGNET.
May 29^d, June 1^d and 2^d. Great changes occurred.
June 1^d and 2^d. The least difference in the mean values for consecutive days occurred.

VERTICAL FORCE MAGNET.
May 29^d. The daily range was the smallest in the month.
May $31^d.\ 14^h$. The adjustments were altered. (See the Introduction.)
June 1^d. The mean daily force was the greatest in the month.
June $1^d.\ 6^h$. The force was the greatest in the month.
May 30^d and 31^d, June 2^d and 3^d. Great changes occurred.

Daily Observations from June 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	° ′ ″			
June 4. 14. 0	23. 6. 50	0·034869	0·048609	D	June 7. 14. 0	23. 8. 13	0·033918	0·049030	D
16. 0	9. 28	034908	048641		16. 0	8. 15	034734	048625	
18. 0	5. 56	035226	048563		18. 0	10. 37	032592	048863	
20. 0	5. 33	032354	048819	D	20. 0	12. 53	031990	048833	D
22. 0	9. 44	032864	048817	P	22. 0	12. 36	032126	048973	P
June 5. 0. 0	23. 18. 45	0·032847	0·049104	P	June 8. 0. 0	23. 16. 37	0·033120	0·049360	P
1. 50	18. 1	034657	049417		1. 50	17. 15	035079	049484	
2. 0	17. 54	034192	049350		2. 0	17. 19	035190	049484	
2. 10	17. 32	034081	049284	P	2. 10	16. 58	035190	049417	P
4. 0	15. 58	034942	049283	D	4. 0	16. 23	035435	049665	D
6. 0	13. 46	034861	049356		6. 0	14. 19	036627	049822	D
8. 0	14. 23	035168	049231		8. 0	12. 27	036633	049756	G
10. 0	13. 51	034492	048822	D	10. 0	11. 59	035957	049492	G
12. 0	14. 24	034525	048744	P	12. 0	12. 29	035520	049116	P
14. 0	12. 4	033764	048790		14. 0	11. 52	035669	049001	
16. 0	9. 9	033547	048662		16. 0	12. 36	034823	048971	
18. 0	9. 0	033121	048558		18. 0	9. 54	034381	049041	
20. 0	9. 55	031517	048747	P	20. 0	8. 2	034551	049063	P
22. 0	12. 15	032251	048742	D	22. 0	10. 18	033793	049110	D
June 6. 0. 0	23. 15. 38	0·032221	0·048986	D	June 9. 0. 0	23. 15. 46	0·033971	0·049357	D
1. 50	17. 32	033602	049265		1. 50	17. 20	035020	049433	
2. 0	17. 14	033513	049258		2. 0	17. 34	035197	049419	
2. 10	17. 16	033491	049245	D	2. 10	17. 34	035197	049399	D
4. 0	16. 7	033614	049507	P	4. 0	15. 24	035605	049576	P
6. 0	14. 51	033954	049557		6. 0	13. 6	035946	049614	
8. 0	14. 7	034524	049409		8. 0	13. 28	036140	049481	
10. 0	13. 13	034141	049357	P	10. 0	12. 6	036031	049336	P
12. 0	13. 7	033927	049438	G	12. 0	12. 33	035991	049436	G
14. 0	11. 4	033706	049257		14. 0	12. 11	035555	049299	
16. 0	8. 54	034048	049028		16. 0	8. 40	035300	049144	
18. 0	9. 54	033299	049244		18. 0	4. 48	035964	049438	
20. 0	9. 32	032849	048500	G	20. 0	4. 29	036671	048640	G
22. 0	11. 12	032440	048884	D	22. 0	12. 39	034748	048859	D
June 7. 0. 0	23. 16. 37	0·033476	0·049200	D	June 10. 0. 0	23. 16. 17	0·034694	0·049134	D
1. 50	18. 5	033530	049441		1. 50	21. 10	035621	049675	
2. 0	18. 37	033729	049441		2. 0	21. 1	035599	049661	
2. 10	18. 34	033950	049441	D	2. 10	20. 37	035732	049641	D
4. 0	17. 27	034396	049899	G	4. 0	18. 10	036474	049815	G
6. 0	13. 51	034643	049785		6. 0	14. 7	036031	049896	
8. 0	13. 41	034950	049816		8. 0	14. 0	037104	049979	
10. 0	16. 50	036208	049882	G	10. 0	11. 15	037558	049695	G
12. 0	10. 19	033695	048987	D	12. 0	12. 8	037224	049151	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, 235°; from June $4^d.\ 22^h$, 211°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot6$; in Vertical Plane, $23^s\cdot5$.

DECLINATION MAGNET.
June 5^d, 7^d, 9^d, and 10^d. Remarkable changes occurred.
June 6^d. The daily range was the smallest in the month.

HORIZONTAL FORCE MAGNET.
June 5^d, and 8^d. Great changes occurred.
June 8^d. The daily range was the greatest in the month.
June 10^d. The mean daily force was the greatest in the month.
June $10^d.\ 10^h$. The force at this time was the greatest in the month.

VERTICAL FORCE MAGNET.
June 7^d and 10^d. Great changes occurred.
June 8^d and 9^d. The least difference in the mean values for consecutive days occurred.

Daily Observations from June 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	° ′ ″			
June 11. 14. 0	23. 16. 35	0·033926	0·048734	D	June 14. 14. 0	23. 11. 17	0·035031	0·048943	D
16. 0	13. 24	035047	048849		16. 0	11. 14	035426	049032	
18. 0	10. 57	034967	049395		18. 0	13. 26	035138	049211	
20. 0	10. 16	034439	049400	D	20. 0	7. 48	034474	049211	D
22. 0	13. 35	034772	049292	P	22. 0	9. 45	032736	049356	P
June 12. 0. 0	23. 15. 47	0·034023	0·049430	P	June 15. 0. 0	23. 18. 2	0·033322	0·049273	P
1. 50	18. 44	034584	049918		1. 50	19. 14	035144	049586	
2. 0	18. 55	034762	049925		2. 0	19. 2	034945	049573	
2. 10	18. 55	034806	049898	P	2. 10	18. 51	034923	049573	P
4. 0	18. 14	035285	050036	D	4. 0	16. 29	034871	049549	D
6. 0	13. 59	035997	049551		6. 0	13. 46	035457	049667	
8. 0	13. 21	036547	049489		8. 0	13. 3	035686	049657	
10. 0	10. 35	036242	049334	D	10. 0	12. 9	035114	049198	D
12. 0	12. 20	035699	048936	P	12. 0	11. 22	034837	048782	P
14. 0	11. 45	034733	048657		14. 0	11. 32	034804	048707	
16. 0	10. 5	034380	048561		16. 0	11. 47	034702	048568	
18. 0	10. 10	033750	048677		18. 0	10. 4	034703	048547	
20. 0	7. 13	033767	048562	P	20. 0	9. 23	033511	048562	P
22. 0	10. 8	032233	048652	D	22. 0	8. 43	032901	048594	D
June 13. 0. 0	23. 14. 24	0·032632	0·048639	D	June 16. 0. 0	23. 17. 49	0·034460	0·048675	D
1. 50	19. 23	034856	048752		1. 50	20. 37	035852	048853	
2. 0	19. 50	035033	048745		2. 0	20. 41	035852	048819	
2. 10	20. 2	035343	048745	D	2. 10	20. 30	035919	048806	D
4. 0	18. 0	035787	049296	P	4. 0	18. 33	035467	049280	P
6. 0	13. 37	034040	049189		6. 0	14. 36	035749	049510	
8. 0	14. 9	035919	049226		8. 0	13. 17	036056	049335	
10. 0	9. 39	036534	048905	P	10. 0	12 53	035809	048989	P
12. 0	10. 24	035736	049023	G	12. 0	12. 3	035671	048455	G
14. 0	10. 45	035868	049347		14. 0	11. 19	034931	048414	
16. 0	11. 29	032990	049167		16. 0	10. 15	035213	048539	
18. 0	11. 4	035307	049020		18. 0	9. 3	034865	048297	
20. 0	10. 39	035064	048886	G	20. 0	9. 30	034363	048286	G
22. 0	10. 30	033861	049016	D	22. 0	11. 24	032636	048341	D
June 14. 0. 0	23. 16. 36	0·033884	0·048950	D	June 17. 0. 0	23. 17. 55	0·033228	0·049278	D
1. 50	20. 37	034617	049108		1. 50	20. 39	034209	049078	
2. 0	20. 39	034750	049088		2. 0	20. 38	034209	049098	
2. 10	20. 43	034949	049068	D	2. 10	20. 32	034165	049092	
4. 0	17. 46	035153	049463	G	4. 0	17. 10	034541	049543	D
6. 0	15. 43	035741	049839		6. 0	13. 57	035273	049991	G
8. 0	13. 30	035936	049676		8. 0	13. 1	035576	049525	
10. 0	12. 30	035604	049304	G	10. 0	10. 43	034760	049185	G
12. 0	11. 44	035279	049027	D	12. 0	11. 8	034287	048843	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, 211°; after June 11^d. 22^h, 212°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 6$; in Vertical Plane, $23^s \cdot 5$.

DECLINATION MAGNET.
June 12^d. The mean daily western declination was the largest in the month.
June 12^d and 13^d. The greatest difference in the mean western declinations for consecutive days occurred.
June 15^d, 16^d, and 17^d. Great changes occurred.

HORIZONTAL FORCE MAGNET.
June 14^d. Great changes occurred on this day.

VERTICAL FORCE MAGNET.
June 12^d and 13^d. The greatest difference in the mean values for consecutive days occurred.
June 17^d. The daily range was the greatest in the month.
June 17^d. Large changes occurred.

Daily Observations from June 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.	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. 14. 0	23. 10. 59	0·034670	0·048743	D	June 21. 14. 0	23. 11. 13	0·034704	0·049218	D
16. 0	10. 23	034375	048965		16. 0	10. 51	035253	049167	D
18. 0	10. 17	034046	048881		18. 0	9. 0	034984	049202	P
20. 0	9. 9	033529	049162	D	20. 0	10. 32	034770	049138	P
22. 0	9. 53	032336	048627	P	22. 0	11. 17	034600	048941	J M
June 19. 0. 0	23. 16. 22	0·032647	0·048683	J M	June 22. 0. 0	23. 16. 25	0·035255	0·048814	D
1. 50	18. 35	034345	048882		1. 50	18. 54	035612	049131	J M
2. 0	18. 34	034345	048882		2. 0	18. 53	035360	049203	
2. 10	19. 0	034345	048894	J M	2. 10	18. 53	035264	049229	J M
4. 0	18. 16	034515	049231	D	4. 0	18. 18	035376	049366	G
6. 0	14. 36	035656	049341	D	6. 0	16. 32	036490	049543	D
8. 0	13. 57	035877	049193	J M	8. 0	14. 3	036339	049397	J M
10. 0	13. 8	035349	049114	J M	10. 0	12. 42	035655	049108	P
12. 0	12. 27	034736	049011	P	12. 0	10. 29	036320	049105	D
14. 0	11. 42	034488	048761		14. 0	8. 27	034939	048866	
16. 0	10. 42	034345	048817		16. 0	12. 36	035130	048818	
18. 0	9. 5	034203	048753		18. 0	11. 38	035335	048835	
20. 0	9. 5	033563	048689	P	20. 0	9. 22	033702	048766	D
22. 0	9. 16	032909	048757	J M	22. 0	8. 6	031825	049090	P
June 20. 0. 0	23. 15. 53	0·033171	0·048757	J M	June 23. 0. 0	23. 12. 41	0·032165	0·049269	P
1. 50	20. 9	033477	048951		1. 50	16. 7	032760	049329	J M
2. 0	20. 53	033477	048951		2. 0	16. 18	032760	049329	
2. 10	20. 25	033256	048951	J M	2. 10	16. 29	032760	049229	J M
4. 0	19. 1	034594	048819	P	4. 0	17. 15	034037	049797	D
6. 0	14. 32	035810	049284	P	6. 0	15. 27	035347	049929	
8. 0	12. 35	035810	049217	J M	8. 0	13. 39	035551	049984	
10. 0	9. 48	034839	049150	J M	10. 0	12. 36	034885	049472	D
12. 0	11. 38	034950	049229	G	12. 0	13. 28	035110	048950	P
14. 0	10. 19	034794	049229		14. 0	9. 20	034020	048669	
16. 0	10. 59	034728	049231		16. 0	8. 28	033707	048391	
18. 0	7. 33	034533	049518		18. 0	7. 15	033902	048210	
20. 0	7. 43	033655	048892	G	20. 0	7. 39	033204	048219	P
22. 0	11. 22	032082	049487	J M	22. 0	9. 58	032633	048620	D
June 21. 0. 0	23. 16. 54	0·033340	0·049153	J M	June 24. 0. 0	23. 18. 43	0·032976	0·048804	D
1. 50	20. 21	034072	049412		1. 50	21. 53	033272	049148	
2. 0	20. 28	034072	049412		2. 0	21. 53	033426	049162	
2. 10	20. 26	034515	049412	J M	2. 10	21. 45	033426	049162	D
4. 0	17. 26	034855	049669	D	4. 0	17. 58	035271	049436	P
6. 0	13. 50	035467	049835	P	6. 0	14. 51	034326	049399	
8. 0	12. 38	035314	049924	J M	8. 0	13. 21	034445	049424	
10. 0	11. 10	036173	049665	G	10. 0	11. 30	033850	049117	P
12. 0	12. 58	035229	049269	G	12. 0	10. 46	033656	048882	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, 212°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 6$; in Vertical Plane, $23^s \cdot 5$.

DECLINATION MAGNET.
June 19^d, 20^d, and 24^d. Great changes occurred.
June 23^d and 24^d. The least difference in the mean western declinations for consecutive days occurred.

HORIZONTAL FORCE MAGNET.
June 22^d. The daily range was the smallest in the month.
June 22^d and 23^d. The greatest difference in the mean values for consecutive days occurred.

VERTICAL FORCE MAGNET.
June 20^d. The daily range was the smallest in the month.
The observations signed J. M. were made by Mr. John Morgan, one of the computers employed in the Planetary Reductions.

Daily Observations from June 25 to July 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	° ′ ″			
June 25. 14. 0	23. 11. 8	0·033913	0·048757	G	June 28. 14. 0	23. 12. 2	0·033987	0·049139	G
16. 0	10. 16	033588	048694		16. 0	11. 40	034134	048891	
18. 0	10. 15	033743	048896		18. 0	8. 50	034341	048903	
20. 0	7. 3	032949	048576	G	20. 0	7. 19	033130	048793	G
22. 0	9. 55	031286	048634	J H	22. 0	11. 16	031439	048483	J H
June 26. 0. 0	23. 20. 28	0·031195	0·048703	J H	June 29. 0. 0	23. 16. 57	0·032495	0·049078	J H
1. 50	23. 58	033485	049320		1. 50	18. 29	034097	049082	
2. 0	23. 48	033618	049226		2. 0	18. 26	034141	049062	
2. 10	23. 46	033574	049226	J H	2. 10	18. 20	034186	049015	
4. 0	21. 6	034778	050000	G	4. 0	15. 48	034777	049205	J H
6. 0	14. 57	034786	050061		6. 0	12. 50	034917	049625	G
8. 0	13. 22	034623	049627		8. 0	13. 16	035379	049446	
10. 0	12. 35	033993	049119	G	10. 0	12. 51	035530	049199	G
12. 0	10. 43	033582	049072	J H	12. 0	10. 49	035015	048935	J H
14. 0	9. 15	032816	048858		14. 0	12. 11	033647	048672	
16. 0	9. 21	033515	048698		16. 0	7. 58	033772	048257	
18. 0	7. 28	033085	048571		18. 0	9. 50	033255	048499	
20. 0	6. 2	031311	048436	J H	20. 0	7. 24	033023	048605	J H
22. 0	10. 36	031212	048622	H B	22. 0	9. 27	031951	048744	P
June 27. 0. 0	23. 21. 31	0·031543	0·048737	P	June 30. 0. 0	23. 20. 5	0·032609	0·048782	P
1. 50	22. 18	033084	049208	J M	1. 50	24. 25	034090	048886	
2. 0	21. 55	033194	049175		2. 0	24. 25	034090	048886	
2. 10	21. 39	033084	049141	J M	2. 10	24. 9	034090	048886	P
4. 0	18. 25	033531	049545	J H	4. 0	20. 35	035883	048511	J H
6. 0	13. 52	034203	049784		6. 0	18. 29	035586	048944	
8. 0	12. 44	034295	049779		8. 0	14. 3	034480	049049	
10. 0	11. 1	034137	049058	J H	10. 0	13. 37	033903	048664	J H
12. 0	10. 51	033679	049125	P	12. 0	7. 46	033825	048151	P
14. 0	9. 19	033755	048891		14. 0	6. 2	033051	048087	
16. 0	9. 5	033612	048882		16. 0	8. 36	033034	047974	
18. 0	9. 17	033493	048441		18. 0	13. 17	032592	048168	
20. 0	7 25	032378	048680	P	20. 0	5. 54	031502	048155	P
22. 0	11. 24	031229	048637	J H	22. 0	9. 13	030762	048355	J H
June 28. 0. 0	23. 9. 29	0·032182	0·048683	J H	July 1. 0. 0	23. 17. 49	0·031083	0·048514	J H
1. 50	21. 9	033061	048947		1. 50	22. 17	032901	048861	
2. 0	21. 9	033283	048888		2. 0	21. 35	032415	048874	
2. 10	21. 10	033127	048888	J H	2. 10	21. 18	032437	048874	J H
4. 0	18. 8	034226	049074	P	4. 0	17. 54	033622	049161	P
6. 0	14. 20	034294	049211		6. 0	16. 1	034881	049299	
8. 0	13. 27	034294	049078		8. 0	12. 57	035059	049251	
10. 0	12. 54	034353	048813	P	10. 0	12. 52	033733	049052	P
12. 0	12. 36	033876	049020	G	12. 0	9. 56	033542	048544	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 212°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot6$; in Vertical Plane, $23^s\cdot5$.

DECLINATION MAGNET.

June 26^d, 27^d, 29^d, 30^d, and 31^d. Remarkable changes occurred.

June 28^d. During the afternoon the usual decrease in the western declination did not take place, and during the night the motion was irregular.

June $28^d.\ 0^h$. It is suspected that this observation is in error 5^r, or that the western declination should be 23°. 17′. 19″. If the observation be correct, it represents the motion of the magnet at this time as being very different from its usual summer motion. In the Abstracts the number as observed has been used.

June 30^d. At $1^h.\ 50^m$ and at $2^h.\ 0^m$, the western declinations were the largest in the month.

July $1^d.\ 12^h$. The observer found the magnet vibrating through an arc of 2°; there was no aurora, nor any iron near the Observatory: at 14^m the magnet was stationary, and the observation was taken. The observations of the other two magnets were made at their usual times.

HORIZONTAL FORCE MAGNET.

June $26^d.\ 0^h$. The force was the smallest in the month; and between this observation and the next the change was considerable.

June 27^d. The mean daily force was the smallest in the month.

VERTICAL FORCE MAGNET.

June 26^d, 27^d, 28^d, 30^d, and July 1^d. Remarkable changes occurred.

June 30^d. The mean daily force was the smallest in the month, and at 12^h the force was less than at any other time in the month.

Daily Observations from July 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	° ′ ″			
July 2. 14. 0	23. 16. 34	0·034788	0·048584	J H	July 5. 14. 0	23. 8. 13	0·033450	0·048253	J H
16. 0	10. 31	033889	048700		16. 0	7. 36	032957	047981	
18. 0	10. 44	034140	048611		18. 0	6. 0	032767	047999	
20. 0	6. 0	032379	048251	J H	20. 0	7. 53	032947	048161	
22. 0	9. 21	031726	049055	G	22. 0	7. 42	032097	048270	
July 3. 0. 0	23. 17. 45	0·030920	0·048667	P	July 6. 0. 0	23. 11. 41	0·031663	0·048427	J H
1. 50	20. 20	033307	049037		1. 50	16. 29	032505	048400	P
2. 0	20. 2	033263	049033		2. 0	16. 42	032675	048333	
2. 10	20. 21	033219	048980	P	2. 10	16. 16	034689	048333	P
4. 0	18. 9	034109	049389	J H	4. 0	14. 19	032814	048604	J H
6. 0	14. 49	035028	049808		6. 0	13. 0	033156	048802	
8. 0	12. 24	034636	049395		8. 0	12. 21	033660	048742	
10. 0	6. 22	034887	048944	J H	10. 0	11. 32	034084	048224	J H
12. 0	3. 45	032712	048726	G	12. 0	10. 47	033560	048367	G
14. 0	10. 35	032886	048755		14. 0	9. 27	033213	048328	
16. 0	14. 5	033764	048871		16. 0	9. 46	033331	048419	
18. 0	9. 48	032921	048414		18. 0	10. 14	033316	048554	
20. 0	7. 48	032641	048477	G	20. 0	9. 45	032533	048447	G
22. 0	7. 47	031892	048445	P	22. 0	9. 18	031825	048430	P
July 4. 0. 0	23. 13. 31	0·031143	0·048420	P	July 7. 0. 0	23. 13. 12	0·032029	0·048532	P
1. 50	16. 30	032394	048671		1. 50	15. 13	033884	048741	
2. 0	16. 43	032505	048705		2. 0	15. 7	033442	048674	
2. 10	16. 20	032505	048737	P	2. 10	15. 41	033906	048641	P
4. 0	15. 46	034424	048928	G	4. 0	15. 35	034231	049082	G
6. 0	13. 25	035594	049360		6. 0	14. 21	034276	048949	
8. 0	12. 24	035834	049337		8. 0	12. 55	034010	049047	
10. 0	11. 2	034436	049352	G	10. 0	6. 28	034028	048835	G
12. 0	10. 4	034206	048907	P	12. 0	3. 51	033680	048537	P
14. 0	11. 17	034431	048658		14. 0	1. 16	032784	048487	
16. 0	8. 28	034132	048529		16. 0	5. 17	034016	048330	
18. 0	11. 24	033407	048507		18. 0	13. 57	033638	048451	
20. 0	8. 39	032743	048484	P	20. 0	13. 34	033085	048346	P
22. 0	10. 37	032634	048869	J H	22. 0	13. 16	030229	048223	J H
July 5. 0. 0	23. 14. 18	0·032459	0·049251	J H	July 8. 0. 0	23. 16. 26	0·030798	0·048487	J H
1. 50	14. 41	033960	050030		1. 50	21. 47	031965	048729	
2. 0	14. 41	033916	049910		2. 0	21. 38	031655	048676	
2. 10	14. 31	033938	049803	J H	2. 10	21. 40	031545	048669	J H
4. 0	14. 44	035924	049638	P	4. 0	18. 52	033237	049127	P
6. 0	14. 31	035703	049347		6. 0	13. 49	033016	049314	
8. 0	13. 7	035021	049245		8. 0	11. 44	033884	049075	
10. 0	12. 8	034028	048757	P	10. 0	9. 11	033471	048849	P
12. 0	8. 24	033717	048374	J H	12. 0	12. 6	033584	048687	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 212°; after July 3^d. 1^h. 50^m, 210°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 6$; in Vertical Plane $23^s \cdot 5$.

DECLINATION MAGNET.
July 3^d, 7^d, and 8^d. Remarkable changes occurred.
July 4^d and 5^d. Between these days the least difference in the mean daily values of the western declination for consecutive days occurred.
July 5^d. The daily range was the smallest in the month, being 6′. 20″.

HORIZONTAL FORCE MAGNET.
July 3^d and 4^d. Between these days the least difference in the mean daily values for consecutive days occurred.
July 3^d, 4^d, 5^d, 6^d, and 8^d. Remarkable changes occurred.
July 8^d. The mean daily force was the smallest in the month.

VERTICAL FORCE MAGNET.
July 2^d, between 20^h and 22^h, and July 5^d, between 0^h and 1^h. 50^m, considerable changes occurred.
July 6^d. The mean daily force was the smallest in the month.

Daily Observations from July 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	° ′ ″			
July 9. 14. 0	23. 11. 15	0·033677	0·047929	J H	July 12. 14. 0	23. 7. 46	0·033906	0·048773	J H
16. 0	7. 24	032905	048019		16. 0	7. 34	033918	048754	
18. 0	7. 52	033271	048290		18. 0	6. 56	033840	048645	
20. 0	11. 40	032694	048560	J H	20. 0	5. 8	032817	048814	J H
22. 0	13. 10	031654	048884	P	22. 0	10. 11	031982	048902	P
July 10. 0. 0	23. 16. 40	0·032880	0·049412	P	July 13. 0. 0	23. 18. 8	0·031729	0·049339	P
1. 50	21. 36	032062	049339		1. 50	19. 45	033560	049601	
2. 0	22. 39	031508	049326		2. 0	19. 45	034003	049467	
2. 10	22. 44	032726	049539	P	2. 10	19. 48	034003	049421	P
4. 0	16. 0	034463	049457	J H	4. 0	15. 30	035062	049276	J H
6. 0	12. 28	035217	049877		6. 0	12. 48	035541	049454	
8. 0	10. 35	034076	049611		8. 0	13. 51	035135	049427	
10. 0	11. 47	034084	049060	J H	10. 0	8. 56	034896	049416	J H
12. 0	10. 34	034593	049219	G	12. 0	9. 6	034564	049124	G
14. 0	6. 26	033729	048972		14. 0	8. 45	034644	049373	
16. 0	7. 19	033537	049275		16. 0	11. 12	034736	049222	
18. 0	5. 40	033433	049292		18. 0	7. 33	034651	048601	
20. 0	8. 41	032762	048964	G	20. 0	6. 23	033385	048632	G
22. 0	11. 52	031816	048654	P	22. 0	7. 14	032506	048712	P
July 11. 0. 0	23. 16. 51	0·032149	0·048674	P	July 14. 0. 0	23. 16. 6	0·032813	0·048938	P
1. 50	15. 36	032813	048975		1. 50	16. 22	034379	049645	
2. 0	15. 44	033256	049002		2. 0	16. 39	034821	049625	
2. 10	15. 54	033544	049035	P	2. 10	16. 38	034932	049544	P
4. 0	13. 59	034311	049484	G	4. 0	16. 5	035050	049750	G
6. 0	12. 31	034643	049350		6. 0	13. 51	035331	049717	
8. 0	12. 9	035127	049563		8. 0	11. 46	034878	049464	
10. 0	9. 29	034356	049338	G	10. 0	8. 54	034830	049329	G
12. 0	15. 45	034482	048560	P	12. 0	6. 37	034616	049222	P
14. 0	9. 11	033632	048873		14. 0	6. 28	034480	049045	
16. 0	7. 49	034261	048956		16. 0	7. 15	034617	048764	
18. 0	6. 12	034210	049024		18. 0	8. 21	034685	048659	
20. 0	6. 49	033307	049025	P	20. 0	9. 30	033306	048595	P
22. 0	9. 2	031514	049038	J H	22. 0	10. 7	033097	048811	J H
July 12. 0. 0	23. 15. 51	0·032422	0·049291	J H	July 15. 0. 0	23. 16. 9	0·033514	0·049006	J H
1. 50	16. 26	033736	050354		1. 50	19. 56	033612	049714	
2. 0	16. 26	033957	050381		2. 0	19. 34	034144	049700	
2. 10	16. 38	034179	050341	J H	2. 10	19. 37	034210	049653	J H
4. 0	13. 40	034786	050036	P	4. 0	15. 41	035584	049601	P
6. 0	11. 51	034904	049950		6. 0	13. 32	035687	049715	
8. 0	9. 53	035391	049855		8. 0	12. 29	035329	049634	
10. 0	10. 25	034683	049569	P	10. 0	10. 45	035108	049381	P
12. 0	9. 11	034431	049093	J H	12. 0	7. 40	034165	048972	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 210°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 6$; in Vertical Plane, $23^s \cdot 5$.

DECLINATION MAGNET.

July 10^d, between 2^h. 10^m and 4^h; July 11^d, between 10^h and 14^h and between 22^h and 24^h; July 12^d, between 20^h and 24^h; July 13^d, between 22^h and 24^h; and July 14^d, between 22^h and 24^h, considerable changes occurred.

VERTICAL FORCE MAGNET.

There were considerable changes in its positions on July 9^d, between 22^h and 24^h; on July 10^d, between 8^h and 10^h; on July 12^d, between 0^h and 1^h. 50^m; on July 13^d, between 16^h and 18^h; and on July 14^d, between 0^h and 1^h. 50^m.

Daily Observations from July 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	° ′ ″			
July 16. 14. 0	23. 9. 39	0·034620	0·048939	J H	July 19. 14. 0	23. 10. 50	0·034209	0·048470	P
16. 0	9. 28	034110	048600		16. 0	10. 45	033817	048606	J H
18. 0	7. 41	034468	048333		18. 0	7. 52	033903	048523	J H
20. 0	6. 19	034620	048435	J H	20. 0	5. 33	033322	048229	M
22. 0	11. 13	033986	048667	P	22. 0	9. 33	032570	048589	G
July 17. 0. 0	23. 15. 34	0·033192	0·048928	P	July 20. 0. 0	23. 15. 34	0·031927	0·048833	J H
1. 50	18. 1	033388	049183		1. 50	17. 20	033025	048864	P
2. 0	18. 10	033167	049422		2. 0	17. 12	033170	048891	
2. 10	18. 39	033366	049450	P	2. 10	17. 14	033398	048896	P
4. 0	17. 12	034684	049558	J H	4. 0	13. 36	034208	049296	J H
6. 0	13. 48	035727	049450		6. 0	11. 12	035025	049253	P
8. 0	10. 58	035519	049493		8. 0	11. 32	034899	049272	G
10. 0	11. 11	034886	049181	J H	10. 0	11. 49	034656	049205	G
12. 0	10. 3	035079	049141	G	12. 0	8. 45	034688	048909	J H
14. 0	9. 24	035023	048927		14. 0	8. 23	034462	048745	
16. 0	9. 49	035170	048800		16. 0	7. 14	034280	048682	
18. 0	5. 25	034649	048797		18. 0	7. 19	034271	048632	
20. 0	4. 48	033914	048784	G	20. 0	8. 0	034465	048581	J H
22. 0	7. 30	032862	048534	P	22. 0	9. 47	033470	048312	P
July 18. 0. 0	23. 14. 2	0·032623	0·048631	P	July 21. 0. 0	23. 14. 54	0·032795	0·048761	P
1. 50	17. 4	033559	048992		1. 50	18. 3	033970	048810	
2. 0	17. 16	034002	048992		2. 0	18. 0	034413	048850	
2. 10	16. 56	033781	048925	P	2. 10	17. 37	034413	048850	P
4. 0	15. 24	034989	049267	G	4. 0	17. 9	035367	049022	J H
6. 0	12. 33	034705	049200		6. 0	13. 8	035535	049032	
8. 0	11. 32	034904	049200		8. 0	12. 43	035472	049154	
10. 0	9. 42	034416	048977	G	10. 0	11. 8	035155	048955	J H
12. 0	9. 5	034394	048728	P	12. 0	10. 14	035238	049089	G
14. 0	8. 33	034117	048599		14. 0	9. 28	035515	048991	
16. 0	8. 59	034106	048470		16. 0	8. 42	035120	048933	
18. 0	9. 38	034312	048540		18. 0	6. 7	035017	048750	G
20. 0	7. 59	033987	048225	P	20. 0	6. 13	034175	048957	J H
22. 0	9. 37	033574	048349	J H	22. 0	9. 36	033647	048514	P
July 19. 0. 0	23. 15. 24	0·032503	0·048467	J H	July 22. 0. 0	23. 15. 43	0·033706	0·048751	P
1. 50	18. 43	033021	048681		1. 50	18. 10	033143	048841	
2. 0	18. 51	032977	048674		2. 0	17. 37	033364	048815	
2. 10	18. 45	033065	048748		2. 10	17. 31	033453	048822	P
4. 0	17. 5	033974	049015	P	4. 0	16. 19	034367	049290	J H
6. 0	12. 40	034412	049094		6. 0	13. 27	035168	049282	P
8. 0	11. 45	034804	048974	P	8. 0	11. 17	035457	049405	P
10. 0	9. 36	034320	049082	G	10. 0	11. 9	035128	048980	J H
12. 0	10. 44	034371	049005	G	12. 0	8. 22	035008	049145	P

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 210°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 23s·5.

DECLINATION MAGNET.
July 17d, 18d, 19d, and 21d. Considerable changes occurred.

HORIZONTAL FORCE MAGNET.
July 19d. The range on this day was the smallest in the month.

VERTICAL FORCE MAGNET.
July 18d. The range on this day was the smallest in the month.

Daily Observations from July 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	° ′ ″			
July 23. 14. 0	23. 7. 27	0·035181	0·048517	P	July 26. 14. 0	23. 2. 54	0·033862	0·048314	P
16. 0	7. 12	034517	048661		16. 0	3. 20	033279	048347	
18. 0	6. 13	034540	048638		18. 0	5. 13	033362	048239	
20. 0	6. 51	033759	048707	P	20. 0	7. 8	033442	047975	P
22. 0	10. 6	033336	048867	D	22. 0	11. 12	033080	047942	D
July 24. 0. 0	23. 15. 9	0·033717	0·048902	D	July 27. 0. 0	23. 16. 14	0·033323	0·047936	D
1. 50	16. 46	035300	049262		1. 50	19. 25	034980	048328	
2. 0	16. 41	035144	049242		2. 0	19. 26	035002	048328	
2. 10	16. 41	035078	049242		2. 10	19. 26	035002	048348	D
4. 0	14. 23	035265	049289		4. 0	15. 16	035230	048771	P
6. 0	13. 42	039614	049547	D	6. 0	11. 32	036132	049027	P
8. 0	23. 10. 54	035044	049552	P	8. 0	11. 44	035707	048920	J H
10. 0	22. 44. 6	034599	049314	P	10. 0	12. 10	035818	048731	P
12. 0	23. 7. 53	034850	048995	D	12. 0	7. 50	036201	048347	D
14. 0	8. 59	033304	048959		14. 0	6. 4	035434	048123	
16. 0	8. 12	034367	048797		16. 0	3. 49	035197	047786	
18. 0	5. 29	034472	048914		18. 0	3. 35	034917	047942	
20. 0	5. 29	033676	049050	D	20. 0	8. 18	035116	048184	D
22. 0	17. 35	028170	048916	J H	22. 0	11. 34	033854	048146	J H
July 25. 0. 0	23. 24. 29	0·029193	0·049305	J H	July 28. 0. 0	23. 14. 24	0·035253	0·048663	J H
1. 50	26. 47	033295	049982		1. 50	16. 27	034283	048491	
2. 0	27. 45	032697	049982		2. 0	16. 2	034593	048471	
2. 10	24. 50	031745	049989	J H	2. 10	16. 11	034549	048491	J H
4. 0	24. 55	037411	051557	D	4. 0	14. 46	035280	048908	D
6. 0	17. 13	033596	051687		6. 0	11. 55	035670	049012	
8. 0	7. 1	033589	051536		8. 0	10. 14	035818	048707	
10. 0	6. 54	031962	051082	D	10. 0	7. 59	035234	048648	D
12. 0	9. 36	032131	049614	J H	12. 0	6. 38	034868	048087	J H
14. 0	11. 31	032820	048957		14. 0	7. 47	034980	048283	
16. 0	12. 0	031042	048293		16. 0	9. 38	034270	048424	
18. 0	3. 17	031985	048641		18. 0	6. 0	034270	048156	
20. 0	9. 16	031081	048565	J H	20. 0	4. 16	033903	048297	J H
22. 0	11. 53	031920	048901	P	22. 0	9. 14	032744	048367	P
July 26. 0. 0	23. 16. 37	0·032522	0·049013	P	July 29. 0. 0	23. 16. 10	0·032631	0·048131	P
1. 50	18. 49	034003	049068		1. 50	20. 41	034225	048741	
2. 0	19. 7	034224	049001		2. 0	20. 41	034269	048714	
2. 10	18. 58	034003	048801	P	2. 10	20. 17	034447	048674	P
4. 0	17. 28	035081	048983	J H	4. 0	16. 22	035013	048779	J H
6. 0	13. 54	034412	049537		6. 0	11. 14	035884	048843	
8. 0	11. 55	034983	049308		8. 0	7. 5	036546	049082	
10. 0	9. 32	034149	048745		10. 0	6. 32	034804	048611	J H
12. 0	5. 57	035041	048591	J H	12. 0	13. 15	035060	048220	P

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 210°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.6$; in Vertical Plane, $23^s.5$.

DECLINATION MAGNET.

July 23^d, 24^d, 25^d, 26^d, and 28^d. Considerable changes occurred.
July 24^d. The daily range was the greatest in the month.
July 24^d and 25^d. The greatest difference in the mean western declinations on consecutive days occurred.
July 25^d. The mean daily western declination was the largest in the month.
July 24^d. The mean daily western declination was the smallest in the month.
July $24^d.10^h$. The western declination at this time was the smallest in the month. (See [Section of Extraordinary Observations.)
July $25^d.5^h.1^m$. The western declination was the largest in the month. (See [Section of Extraordinary Observations.)

HORIZONTAL FORCE MAGNET.

July $24^d.6^h$. The force was the greatest in the month; and at July $24^d.22^h.46^m$, the force was the smallest in the month.
July 24^d and 25^d. Considerable changes occurred.
July 25^d. The daily range was the largest in the month.
July 26^d and 27^d. The greatest difference in the mean daily values for consecutive days occurred.
July 28^d. The mean daily force was the greatest in the month.

VERTICAL FORCE MAGNET.

July 25^d. The mean daily value of the force and likewise the daily range were the greatest in the month; and on this day at $4^h.48^m$ the force was the greatest in the month.
July 25^d and 26^d. The greatest difference in the mean daily values of the force occurred.
July 25^d, 26^d, and 29^d. Considerable changes took place in the position of the magnet.
July $27^d.16^h$. The force was the least in the month.
July 27^d and 28^d. The least difference in the mean daily values of the force on consecutive days occurred.

Daily Observations from July 30 to August 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	° ′ ″			
July 30. 14. 0	23. 6. 17	0·034847	0·047905	P	Aug. 2. 14. 0	23. 9. 44	0·034422	0·047951	P
16. 0	7. 26	034046	048015		16. 0	8. 5	034482	048041	
18. 0	11. 34	034158	047925		18. 0	8. 15	034458	048171	
20. 0	7. 3	033597	048029	P	20. 0	8. 4	033905	048291	P
22. 0	10. 31	032551	048155	D	22. 0	11. 45	033200	048475	D
July 31. 0. 0	23. 14. 57	0·032524	0·047935	D	Aug. 3. 0. 0	23. 17. 42	0·032886	0·048432	D
1. 50	16. 30	034311	048304		1. 50	20. 54	033946	·048624	
2. 0	16. 45	034599	048284		2. 0	20. 33	034234	048610	
2. 10	17. 28	034976	048284	D	2. 10	20. 44	034566	048610	D
4. 0	14. 2	035094	048747	P	4. 0	17. 46	037348	048607	P
6. 0	11. 5	035281	049108		6. 0	12. 0	035422	048641	
8. 0	9. 50	035367	049006		8. 0	11. 17	037031	048607	
10. 0	6. 15	035434	048645	P	10. 0	5. 51	036940	048444	P
12. 0	8. 23	034634	048527	D	12. 0	6. 59	035227	048059	D
14. 0	8. 54	034503	048410		14. 0	6. 57	034548	048067	
16. 0	8. 7	034685	048484		16. 0	4. 22	032830	048564	
18. 0	7. 53	034681	048480		18. 0	7. 48	034448	048304	
20. 0	7. 15	033402	048343	D	20. 0	9. 51	034109	048320	
22. 0	9. 7	033041	048490	J H	22. 0	10. 32	031959	047974	D
Aug. 1. 0. 0	23. 15. 29	0·032888	0·048346	J H	Aug. 4. 0. 0	23. 20. 38	0·034267	0·048203	J H
1. 50	17. 44	034172	048525		1. 50	20. 18	033589	048878	
2. 0	18. 26	034349	048466		2. 0	20. 10	034209	048965	
2. 10	18. 41	034460	048406	J H	2. 10	20. 23	034651	048938	J H
4. 0	17. 6	035553	048839	D	4. 0	21. 56	036061	049250	D
6. 0	13. 36	034721	048955		6. 0	12. 53	037120	049776	
8. 0	11. 48	034844	048861		8. 0	11. 24	036710	049222	
10. 0	9. 17	034752	048562	D	10. 0	9. 10	036082	048749	D
12. 0	7. 52	034186	048121	J H	12. 0	8. 37	034326	047963	J H
14. 0	6. 54	034217	047809		14. 0	9. 45	034773	047892	
16. 0	7. 27	033971	047748		16. 0	7. 54	034848	048029	
18. 0	7. 12	033580	047848		18. 0	7. 50	034312	048191	
20. 0	6. 4	033295	047765	J H	20. 0	9. 0	033602	048345	J H
22. 0	10. 4	032149	048142	P	22. 0	13. 51	033937	048172	D
Aug. 2. 0. 0	23. 17. 28	0·032370	0·048045	P	Aug. 5. 0. 0	23. 15. 45	0·035436	0·048422	P
1. 50	18. 33	032846	048279		1. 50	16. 42	035588	048576	
2. 0	18. 38	032846	048279		2. 0	16. 16	036031	048576	
2. 10	18. 30	032891	048279	P	2. 10	15. 59	035854	048523	P
4. 0	15. 41	033013	048487	J H	4. 0	13. 21	036567	048825	J H
6. 0	12. 35	034199	048652		6. 0	13. 11	037138	048794	
8. 0	11. 20	035127	048492		8. 0	9. 35	036987	049017	
10. 0	10. 53	034643	048333	J H	10. 0	10. 33	036429	048574	J H
12. 0	10. 36	034548	048168	P	12. 0	8. 45	036172	048567	P

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 210°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°.3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.6$; in Vertical Plane, $23^s.5$.

DECLINATION MAGNET.
Aug. 1^d, 2^d, and 3^d. Considerable changes occurred.

HORIZONTAL FORCE MAGNET.
Aug. 2^d. The mean daily value of the force was the smallest in the month.
Aug. 3^d. Considerable changes occurred.
Aug. 4^d. The daily range was the greatest in the month.

VERTICAL FORCE MAGNET.
~~Aug. 3^d. The daily range was the smallest in the month.~~
Aug. $4^d.6^h$. The force at this observation was the greatest in the month.

Daily Observations from August 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	° ′ ″			
Aug. 6. 14. 0	23. 12. 1	0·035264	0·048473	P	Aug. 9. 14. 0	23. 9. 55	0·034734	0·048121	P
16. 0	9. 21	035146	048146		16. 0	9. 36	035297	047552	
18. 0	9. 39	035078	048204		18. 0	8. 26	035655	048148	
20. 0	8. 39	033942	048022	P	20. 0	7. 36	034054	047799	P
22. 0	11. 27	032854	048555	D	22. 0	9. 18	033101	047906	D
Aug. 7. 0. 0	23. 13. 43	0·034190	0·048635	D	Aug. 10. 0. 0	23. 16. 17	0·034452	0·047810	D
1. 50	15. 56	034520	048742		1. 50	17. 55	035209	048146	
2. 0	15. 57	034630	048742		2. 0	17. 44	035408	048173	
2. 10	15. 50	034630	048756	D	2. 10	17. 26	035695	048213	D
4. 0	13. 29	034763	048789	P	4. 0	14. 8	036304	048362	P
6. 0	12. 59	035353	049081		6. 0	11. 43	037053	048747	
8. 0	8. 38	035655	048865		8. 0	10. 35	036457	048478	
10. 0	10. 9	035237	048798	P	10. 0	11. 16	036453	048213	P
12. 0	9. 1	035268	048548	D	12. 0	10. 51	036023	048136	D
14. 0	8. 3	035161	048423		14. 0	10. 2	035669	048179	
16. 0	10. 10	034984	048383		16. 0	9. 48	034193	048356	
18. 0	11. 30	034719	048608		18. 0	6. 32	035772	048212	
20. 0	7. 11	034095	048423	D	20. 0	6. 3	034170	048198	D
22. 0	10. 52	032777	048179	J H	22. 0	11. 54	032966	047830	J H
Aug. 8. 0. 0	23. 17. 0	0·033514	0·048207	J H	Aug. 11. 0. 0	23. 18. 51	0·034930	0·048512	J H
1. 50	19. 44	034137	048930		1. 50	21. 23	036076	049214	
2. 0	19. 31	034248	048911		2. 0	21. 31	036717	049221	
2. 10	18. 50	034668	048937	J H	2. 10	21. 33	037094	049214	J H
4. 0	16. 20	035421	049361	D	4. 0	14. 59	035918	049604	D
6. 0	11. 48	034409	049443		6. 0	12. 27	034534	049326	
8. 0	7. 25	034641	049350		8. 0	10. 12	033662	048951	
10. 0	8. 17	035362	048619	D	10. 0	9. 20	035066	048479	D
12. 0	10. 6	035449	048336	J H	12. 0	9. 12	033574	048030	J H
14. 0	9. 21	034824	047611		14. 0	9. 21	033411	048083	
16. 0	7. 55	034602	047410		16. 0	8. 33	033485	048086	
18. 0	14. 27	033105	047249		18. 0	8. 30	032627	048130	
20. 0	8. 45	034298	047306	J H	20. 0	9. 4	032456	048120	J H
22. 0	12. 45	032147	047832	P	22. 0	13. 23	031407	048169	P
Aug. 9. 0. 0	23. 17. 43	0·033698	0·047995	D	Aug. 12. 0. 0	23. 19. 4	0·031913	0·048149	P
1. 50	19. 35	034019	048820		1. 50	22. 23	033722	048964	
2. 0	20. 10	033952	048820		2. 0	22. 59	034276	048964	
2. 10	19. 38	033797	048820	D	2. 10	22. 1	033943	049298	P
4. 0	15. 50	035444	049047	J H	4. 0	15. 23	034973	049195	J H
6. 0	11. 12	035358	048978		6. 0	13. 9	034802	049289	
8. 0	10. 25	034660	048653		8. 0	10. 24	034705	049092	
10. 0	11. 39	035491	048560	J H	10. 0	10. 48	034823	048623	J H
12. 0	10. 49	035096	048382	P	12. 0	9. 33	034144	049134	P

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 210°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, 20s·8.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, 24s·6; in Vertical Plane, 23s·5.

DECLINATION MAGNET.
Aug. 7d. The daily range was the smallest in the month.
Aug. 8d, 9d, 10d, and 11d. Considerable changes occurred.
Aug. 12d. 2h. The western declination was the largest in the month.

HORIZONTAL FORCE MAGNET.
Aug. 11d. 22h. The force at this observation was the smallest in the month.

VERTICAL FORCE MAGNET.
Aug. 8d and 9d. The greatest difference in the mean values for consecutive days occurred.
Aug. 8d, 9d, 11d, and 12d. Considerable changes occurred.
Aug. 10d. The mean daily force was the smallest in the month.
Aug. 11d and 12h. The least difference in the mean values for consecutive days occurred.

Daily Observations from August 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	° ′ ″			
Aug. 13. 14. 0	23. 10. 27	0·033972	0·048279	P	Aug. 16. 14. 0	23. 9. 24	0·035127	0·048200	P
16. 0	8. 48	033586	048349		16. 0	7. 36	036218	047965	
18. 0	8. 48	033176	048337		18. 0	6. 47	035664	047942	
20. 0	16. 2	032888	048486	P	20. 0	6. 47	035389	048079	P
22. 0	10. 29	031692	048539	D	22. 0	10. 11	034769	048213	D
Aug. 14. 0. 0	23. 16. 43	0·031765	0·048541	D	Aug. 17. 0. 0	23. 16. 35	0·035901	0·048111	D
1. 50	19. 46	033501	049047		1. 50	17. 32	037331	049009	
2. 0	20. 31	033657	049047		2. 0	17. 27	037486	049009	
2. 10	19. 38	033679	049027	D	2. 10	17. 24	037619	049016	D
4. 0	16. 42	034332	049332	P	4. 0	13. 43	038141	049151	P
6. 0	14. 27	034398	049314		6. 0	11. 46	038557	049289	
8. 0	11. 39	034853	049099		8. 0	11. 15	038768	049099	
10. 0	8. 12	034001	048682	P	10. 0	9. 58	038831	048780	P
12. 0	9. 34	033797	048392	D	12. 0	9. 48	038361	048517	D
14. 0	9. 21	033827	048322		14. 0	9. 17	038147	048408	
16. 0	8. 18	033679	048391		16. 0	9. 17	038250	048154	
18. 0	6. 44	033553	048341		18. 0	8. 54	038121	048276	
20. 0	6. 46	032984	048290	D	20. 0	7. 45	037785	048192	D
22. 0	11. 31	032341	048198	J H	22. 0	9. 53	036899	048268	J H
Aug. 15. 0. 0	23. 17. 20	0·032574	0·048089	J H	Aug. 18. 0. 0	23. 14. 19	0·036608	0·048323	J H
1. 50	18. 54	033546	048698		1. 50	16. 15	037982	048860	
2. 0	18. 31	033037	048672		2. 0	16. 5	038225	048840	
2. 10	18. 23	033435	048644	J H	2. 10	15. 29	038048	048860	J H
4. 0	15. 3	034536	049447	D	4. 0	14. 29	038463	049288	D
6. 0	12. 20	034466	049113		6. 0	12. 13	039068	049234	
8. 0	10. 59	034373	048997		8. 0	11. 1	039064	048966	
10. 0	9. 11	034742	048460	D	10. 0	10. 45	038843	048488	D
12. 0	8. 23	034565	048269	J H	12. 0	10. 11	038682	048167	J H
14. 0	9. 20	034029	048174		14. 0	8. 41	038565	047986	
16. 0	7. 2	034533	048016		16. 0	9. 39	038908	047990	
18. 0	6. 20	034125	048068		18. 0	7. 30	037885	047783	
20. 0	7. 6	033444	048334	J H	20. 0	5. 13	037353	047728	J H
22. 0	10. 31	032675	048130	P	22. 0	11. 18	036365	048062	P
Aug. 16. 0. 0	23. 14. 42	0·032763	0·048077	P	Aug. 19. 0. 0	23. 15. 47	0·037868	0·048255	P
1. 50	15. 55	033823	048115		1. 50	19. 2	039621	048977	
2. 0	15. 45	033889	048182		2. 0	18. 30	039400	048910	
2. 10	15. 49	033977	048196	P	2. 10	18. 30	039178	048870	P
4. 0	15. 13	034800	048344	J H	4. 0	15. 4	038655	048911	J H
6. 0	10. 41	034859	048588	J H	6. 0	12. 5	038138	048940	
8. 0	10. 55	035059	048415		8. 0	11. 0	037348	048490	
10. 0	9. 22	035059	048414		10. 0	7. 16	036543	048215	J H
12. 0	9. 45	035176	048197	J H	12. 0	9. 3	036385	048323	P

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 210°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot 6$; in Vertical Plane, $23^s\cdot 5$.

DECLINATION MAGNET.
Aug. 14d. The mean western declination was the largest in the month.
Aug. 15d, 17d, and 19d. Considerable changes occurred.

HORIZONTAL FORCE MAGNET.
Aug. 14d. Between 0h and 1h. 50m, a considerable change occurred.
Aug. 15d. The daily range was the smallest in the month.
Aug. 16d and 17d. The greatest difference in the mean values on consecutive days occurred.
Aug. 18d. The mean daily force was the largest in the month.
Aug. 19d. 1h. 50m. The force was the greatest in the month.

VERTICAL FORCE MAGNET.
Aug. 14d. The mean daily force was the greatest in the month.
Aug. 15d, 17d, and 19d. Considerable changes occurred.
Aug. 16d. The daily range was the smallest in the month.

Daily Observations from August 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	° ′ ″			
Aug. 20. 14. 0	23. 7. 50	0·035021	0·047739	P	Aug. 23. 14. 0	23. 12. 45	0·033086	0·047855	P
16. 0	9. 58	035316	047742		16. 0	11. 50	035163	048266	
18. 0	6. 59	034917	047747		18. 0	7. 53	034090	048447	
20. 0	5. 47	034226	047751	P	20. 0	7. 37	034073	048348	P
22. 0	10. 39	033399	048022	J H	22. 0	8. 38	032704	048223	D
Aug. 21. 0. 0	23. 16. 44	0·034330	0·048105	D	Aug. 24. 0. 0	23. 14. 54	0·034175	0·047917	D
1. 50	17. 29	036353	048579		1. 50	17. 45	035282	048151	
2. 0	17. 14	036308	048619		2. 0	17. 18	035193	048138	
2. 10	16. 57	036530	048646	D	2. 10	16. 40	035614	048151	D
4. 0	12. 9	035962	048804	P	4. 0	15. 5	036559	048665	P
6. 0	10. 21	035996	048594		6. 0	12. 48	036593	048841	
8. 0	10. 58	035553	048385		8. 0	8. 39	036320	048791	
10. 0	8. 20	035604	048201	P	10. 0	10. 21	035627	048499	P
12. 0	10. 2	035010	048093	J H	12. 0	10. 48	035798	048382	D
14. 0	9. 24	034917	048104	D	14. 0	9. 47	035610	048240	
16. 0	9. 53	034861	048028		16. 0	7. 50	035440	048297	
18. 0	6. 7	035292	047959	D	18. 0	7. 44	035257	048199	
20. 0	13. 2	034891	047821	P	20. 0	6. 28	034131	048286	D
22. 0	11. 6	033826	047658	J H	22. 0	11. 59	032648	048334	J H
Aug. 22. 0. 0	23. 18. 12	0·033823	0·047902	J H	Aug. 25. 0. 0	23. 16. 32	0·034280	0·048482	J H
1. 50	21. 39	033876	047888		1. 50	18. 38	035264	048874	
2. 0	20. 4	033499	047762		2. 0	18. 18	035219	048795	
2. 10	18. 59	033787	047762	J H	2. 10	18. 0	035530	048661	J H
4. 0	18. 11	034643	048492	D	4. 0	14. 13	036423	049002	D
6. 0	14. 26	035796	048717		6. 0	10. 25	036173	048888	D
8. 0	12. 49	035651	048732		8. 0	8. 54	035154	048721	J H
10. 0	9. 29	036225	048658	D	10. 0	9. 54	035575	048487	D
12. 0	23. 8. 51	035799	048366	J H	12. 0	11. 45	035502	048493	D
14. 0	22. 9. 27	035697	047096		14. 0	9. 29	035272	048080	J H
16. 0	23. 5. 35	034819	047513		16. 0	11. 39	035247	048410	J H
18. 0	5. 0	033851	047964		18. 0	3. 34	035102	048737	P
20. 0	7. 1	033451	048156	J H	20. 0	5. 50	033585	048347	M
22. 0	12. 15	032824	047897	P	22. 0	11. 5	032803	048441	D
Aug. 23. 0. 0	23. 17. 20	0·033979	0·048210	P	Aug. 26. 0. 0	23. 17. 45	0·033124	0·048496	P
1. 50	20. 0	034771	048789		1. 50	18. 31	034834	048892	D
2. 0	20. 7	034992	048749		2. 0	18. 6	035055	048912	D
2. 10	20. 42	034660	048749	P	2. 10	17. 56	035200	048924	J H
4. 0	13. 54	035559	049066	J H	4. 0	14. 4	035270	049343	D
6. 0	11. 45	036678	049130		6. 0	10. 20	035819	049062	D
8. 0	8. 22	035087	048803		8. 0	8. 13	035518	048591	J H
10. 0	5. 13	036688	048479	J H	10. 0	6. 23	035767	048454	
12. 0	8. 26	034149	047999	P	12. 0	9. 56	035439	048173	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 210°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot 6$; in Vertical Plane, $23^s\cdot 5$.

DECLINATION MAGNET.
Aug. 22^d. 14^h. The western declination was the smallest during the month.
Aug. 22^d and 23^d The greatest difference in the mean western declinations on consecutive days occurred.
Aug. 22^d, 23^d, 24^d, and 25^d. Considerable changes occurred.
Aug. 23^d. The mean daily western declination was the smallest in the month, and the daily range was the greatest in the month, being 20′. 40″.

HORIZONTAL FORCE MAGNET.
Aug. 21^d and 24^d. Considerable changes took place.

VERTICAL FORCE MAGNET.
Aug. 22^d. 14^h. The force at this observation was the smallest during the month.
Aug. 23^d. The daily range was the greatest during the month.

Daily Observations from August 27 to September 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	° ′ ″			
Aug. 27. 14. 0	23. 9. 46	0·035411	0·048076	J H	Aug. 30. 14. 0	23. 8. 33	0·037295	0·047873	J H
16. 0	10. 6	035418	047896		16. 0	8. 0	037341	047908	
18. 0	9. 14	035504	047959		18. 0	8. 8	037415	047872	
20. 0	7. 50	035195	047955	J H	20. 0	7. 7	037102	048013	J H
22. 0	9. 8	033898	048640	G	22. 0	10. 16	035640	048066	D
Aug. 28. 0. 0	23. 13. 52	0·034270	0·048389	D	Aug. 31. 0. 0	23. 17. 9	0·035058	0·048018	D
1. 50	18. 4	035537	049020		1. 50	19. 47	036837	048518	
2. 0	18. 15	035559	049020		2. 0	19. 50	036748	048505	
2. 10	18. 15	035559	049020	D	2. 10	19. 37	036792	048478	D
4. 0	15. 54	036337	048484	J H	4. 0	17. 4	036834	048802	J H
6. 0	12. 19	036405	048556		6. 0	14. 25	037464	048692	
8. 0	10. 29	036594	048414		8. 0	8. 12	038181	048719	
10. 0	10. 7	036557	048392	J H	10. 0	10. 5	038176	048347	J H
12. 0	8. 48	036364	048484	G	12. 0	9. 36	037604	048253	G
14. 0	10. 25	036785	048484		14. 0	9. 26	037416	047732	
16. 0	11. 3	037028	048537		16. 0	8. 57	037442	047748	
18. 0	8. 28	037113	048484		18. 0	7. 0	037471	047217	
20. 0	7. 3	035792	048219	G	20. 0	9. 28	037386	047925	G
22. 0	9. 42	034807	048481	D	22. 0	10. 19	035748	048006	D
Aug. 29. 0. 0	23. 15. 42	0·034952	0·048353	D	Sep. 1. 0. 0	23. 19. 11	0·036888	0·048234	D
1. 50	19. 25	036893	048597		1. 50	20. 56	037623	048349	
2. 0	19. 21	036915	048597		2. 0	20. 50	037601	048336	
2. 10	19. 9	037115	048597	D	2. 10	20. 41	037402	048309	D
4. 0	15. 48	038073	048543	G	4. 0	16. 48	037510	049051	G
6. 0	11. 45	037689	048809		6. 0	9. 11	034580	049700	
8. 0	8. 30	037623	048412		8. 0	6. 31	036964	049079	
10. 0	8. 3	037671	048274	G	10. 0	6. 4	036683	048812	G
12. 0	7. 35	037251	048327	D	12. 0	7. 41	036919	048182	D
14. 0	7. 20	036157	048149		14. 0	8. 29	036754	047816	
16. 0	7. 36	036895	048066		16. 0	7. 52	036628	047639	
18. 0	7. 18	037018	048089		18. 0	8. 4	036494	047744	
20. 0	5. 33	036320	048089	D	20. 0	14. 33	034480	047796	D
22. 0	8. 40	035342	047978	J H	22. 0	12. 12	034637	047823	J H
Aug. 30. 0. 0	23. 16. 8	0·035378	0·047845	J H	Sep. 2. 0. 0	23. 16. 55	0·034427	0·048048	J H
1. 50	18. 57	036600	048154		1. 50	17. 53	035742	048529	
2. 0	18. 30	036711	048221		2. 0	16. 47	035610	048529	
2. 10	18. 22	036888	048154	J H	2. 10	16. 56	036008	048415	J H
4. 0	16. 8	037715	049069	D	4. 0	15. 22	036816	048912	D
6. 0	10. 11	038040	048793		6. 0	9. 49	036879	049261	
8. 0	9. 35	037941	048524		8. 0	8. 54	036758	048967	
10. 0	9. 49	037863	048233	D	10. 0	5. 19	038498	048201	D
12. 0	8. 37	037620	047719	J H	12. 0	6. 27	036517	047805	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 210°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 6$; in Vertical Plane $23^s \cdot 5$.

DECLINATION MAGNET.
Aug. 28^d and 29^d. The least difference in the mean western declinations for consecutive days occurred.
Aug. 29^d, 30^d, 31^d, and Sep. 1^d and 2^d. Considerable changes occurred.
Sep. 1^d. 7^h. 20^m, 8^h. 15^m, 9^h. 0^m, and 9^h. 45^m. The western declinations were respectively 23°. 9′. 7″, 23°. 2′. 40″, 23°. 3′. 51″, and 23°. 6′. 17″.
Sep. 1^d and 2^d. The least difference in the mean western declinations for consecutive days occurred.
Sep. 2^d. The mean daily western declination was the smallest in the month.

HORIZONTAL FORCE MAGNET.
Aug. 29^d and 30^d. The least difference in the mean values of the force for consecutive days occurred.
Aug. 29^d, 31^d, and Sep. 1^d. Considerable changes occurred.
Sep. 1^d. 7^h. 20^m, 8^h. 15^m, 9^h. 0^m, and 9^h. 45^m. The corrected readings were 0·038182, 0·037960, 0·037940, and 0·038255 respectively.

VERTICAL FORCE MAGNET.
Aug. 28^d, 30^d, and Sep. 1^d. Considerable changes occurred. Sep. 1^d. The mean daily value of the force and the daily range were the greatest in the month.
Sep. 1^d. 6^h. The force was the greatest in the month.
Sep. 1^d. 7^h. 20^m, 8^h. 15^m, 9^h. 0^m, and 9^h. 45^m. The corrected readings were 0·049166, 0·048992, 0·048926, and 0·048825 respectively.

Daily Observations from September 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	° ′ ″			
Sep. 3. 14. 0	23. 10. 48	0·036749	0·047847	J H	Sep. 6. 14. 0	23. 14. 36	0·036155	0·047801	J H
16. 0	13. 6	037057	047590		16. 0	13. 45	036201	047341	
18. 0	8. 25	037022	047467		18. 0	12. 7	035255	046957	
20. 0	9. 22	036593	047537	J H	20. 0	12. 40	034403	047488	J H
22. 0	9. 33	036021	047481	G	22. 0	14. 31	033555	047662	P
Sep. 4. 0. 0	23. 19. 16	0·036996	0·047886	D	Sep. 7. 0. 0	23. 21. 6	0·034338	0·048103	D
1. 50	22. 50	037892	048310		1. 50	23. 37	035178	048664	P
2. 0	22. 57	038069	048162		2. 0	23. 49	035399	048611	
2. 10	22. 51	038424	048095	D	2. 10	23. 37	035288	048585	P
4. 0	21. 59	039081	048457	J H	4. 0	20. 42	036079	048747	J H
6. 0	17. 46	037068	048437		6. 0	16. 34	035875	048931	
8. 0	16. 8	037516	047927		8. 0	15. 16	036286	048458	
10. 0	9. 28	035910	047735	J H	10. 0	14. 38	036062	048167	J H
12. 0	12. 3	036154	047587	G	12. 0	14. 26	035790	048103	P
14. 0	17. 18	036763	047662		14. 0	15. 40	035671	047883	
16. 0	15. 59	036227	047648		16. 0	15. 26	035830	047802	
18. 0	15. 21	035861	047281		18. 0	15. 11	036149	047876	
20. 0	20. 19	035904	046889	G	20. 0	14. 1	035301	048025	P
22. 0	18. 42	033145	047167	D	22. 0	16. 11	034199	048066	D
Sep. 5. 0. 0	23. 22. 32	0·034745	0·047738	D	Sep. 8. 0. 0	23. 23. 53	0·034365	0·048035	D
1. 50	26. 34	034548	048275		1. 50	25. 17	034399	048655	
2. 0	26. 52	034924	048255		2. 0	24. 44	034531	048655	
2. 10	26. 30	035234	048201	D	2. 10	24. 10	034421	048655	D
4. 0	22. 52	035625	048632	J H	4. 0	21. 20	036612	049029	P
6. 0	18. 40	035331	048891	P	6. 0	17. 14	036174	048974	
8. 0	14. 45	035954	048743	D	8. 0	14. 14	036169	048311	
10. 0	12. 37	036094	047920	J H	10. 0	12. 43	036381	048141	P
12. 0	12. 15	035308	047928	D	12. 0	14. 5	035868	047993	D
14. 0	15. 5	035430	047794		14. 0	15. 26	036010	047909	
16. 0	11. 1	035600	047611		16. 0	15. 4	035678	047808	
18. 0	12. 57	036717	047965		18. 0	16. 24	036361	047896	
20. 0	16. 3	035573	047735	D	20. 0	12. 51	034936	047817	D
22. 0	21. 13	033920	047765	J H	22. 0	18. 19	033206	047760	J H
Sep. 6. 0. 0	23. 23. 43	0·034695	0·048033	G	Sep. 9. 0. 0	23. 25. 7	0·034211	0·047786	J H
1. 50	24. 24	035683	048213	J H	1. 50	19. 27	035741	048377	P
2. 0	24. 0	035639	048240		2. 0	19. 9	036029	048377	
2. 10	23. 53	035794	048213	J H	2. 10	18. 52	036250	048377	P
4. 0	20. 44	035758	048748	D	4. 0	20. 35	036664	049180	D
6. 0	17. 23	035826	048709		6. 0	22. 11	037196	048660	
8. 0	14. 51	036377	048540		8. 0	17. 28	037985	048055	
10. 0	9. 52	036553	048294	D	10. 0	11. 30	037959	047851	D
12. 0	13. 43	035597	048063	J H	12. 0	14. 58	037847	047449	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 210°; from Sep. 4^d. 0^h, 189°.
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, $23^s \cdot 5$.

DECLINATION MAGNET.
Sep. 4^d and 5^d. The greatest difference in the mean western declinations for consecutive days occurred.
Sep. 4^d, 5^d, 6^d, 7^d, 8^d, and 9^d. Considerable changes occurred.

HORIZONTAL FORCE MAGNET.
Sep. 4^d. 22^h. The force at this observation was the smallest during the month.
Sep. 4^d and 5^d. The greatest difference between the mean values for consecutive days took place.
Between Sep. 5^d and 6^d, and 7^d and 8^d, the least difference in the mean values for consecutive days occurred.
Sep. 5^d and 8^d. Considerable changes occurred.

VERTICAL FORCE MAGNET.
Sep. 4^d and 5^d. The least difference in the mean daily values of the force for consecutive days occurred.
Sep. 8^d and 9^d. Considerable changes took place.

Daily Observations from September 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	° ′ ″			
Sep. 10. 14. 0	23. 18. 21	0·036429	0·047031	J H	Sep. 13. 14. 0	23. 12. 50	0·037589	0·047220	G
16. 0	14. 17	036083	047278		16. 0	14. 4	037776	047742	
18. 0	16. 47	035824	047148		18. 0	13. 59	038075	047488	
20. 0	18. 9	035316	047228	J H	20. 0	12. 30	037502	047630	G
22. 0	18. 29	035049	047201	P	22. 0	16. 0	036241	047534	J H
Sep. 11. 0. 0	23. 24. 51	0·034732	0·047281	P	Sep. 14. 0. 0	23. 20. 37	0·035902	0·047361	J H
1. 50	25. 28	036115	047650		1. 50	23. 34	036734	047766	
2. 0	24. 54	035894	047650		2. 0	23. 23	036801	047766	
2. 10	24. 27	036004	047650	P	2. 10	23. 6	037000	047759	J H
4. 0	20. 39	036677	047814	J H	4. 0	21. 18	037057	048127	G
6. 0	18. 7	036115	047851		6. 0	17. 56	037471	048270	
8. 0	14. 29	035795	047672		8. 0	13. 23	036984	048083	
10. 0	11. 1	036534	047513	J H	10. 0	14. 55	037028	047956	G
12. 0	12. 30	036183	047434	P	12. 0	13. 7	037360	047443	J H
14. 0	14. 22	036364	047535		14. 0	16. 1	037159	047412	
16. 0	14. 56	036763	047602		16. 0	16. 15	037313	047452	
18. 0	16. 13	036575	047602		18. 0	15. 40	037289	047458	
20. 0	14. 23	036371	047528	P	20. 0	14. 27	036968	047726	J H
22. 0	16. 6	034681	047482	D	22. 0	15. 52	036330	047739	P
Sep. 12. 0. 0	23. 22. 52	0·035157	0·047410	D	Sep. 15. 0. 0	23. 23. 51	0·036271	0·047799	P
1. 50	25. 7	036268	047656		1. 50	23. 37	036557	048140	
2. 0	24. 23	036113	047669		2. 0	23. 46	036733	048140	P
2. 10	23. 45	036223	047669	D	2. 10	23. 26	036579	048140	D
4. 0	21. 49	037137	048130	P	4. 0	19. 55	036318	048452	J H
6. 0	19. 37	036114	048325		6. 0	17. 23	037174	048204	
8. 0	15. 31	037170	048168		8. 0	15. 33	037288	047984	J H
10. 0	13. 41	036829	047790	P	10. 0	15. 17	036992	047821	G
12. 0	12. 12	036011	047714	D	12. 0	13. 36	036830	047631	P
14. 0	16. 24	036357	047386		14. 0	13. 43	037081	047463	
16. 0	12. 53	036383	047263		16. 0	14. 39	037331	047466	
18. 0	13. 5	036360	047082		18. 0	14. 11	037818	047699	
20. 0	14. 2	035906	047067	D	20. 0	14. 0	037379	047594	P
22. 0	17. 15	035307	047188	P	22. 0	18. 4	036548	047669	D
Sep. 13. 0. 0	23. 23. 8	0·035226	0·047552	J H	Sep. 16. 0. 0	23. 22. 9	0·036261	0·047712	D
1. 50	25. 44	037622	048208		1. 50	22. 47	037647	048376	
2. 0	25. 38	037844	048149		2. 0	22. 24	037647	048376	
2. 10	25. 39	038153	048128	J H	2. 10	22. 10	037713	048369	D
4. 0	21. 55	039168	048457	D	4. 0	18. 24	037480	048538	P
6. 0	18. 4	037221	048191		6. 0	17. 19	038064	048640	
8. 0	14. 25	038209	047886		8. 0	17. 19	038374	048198	
10. 0	9. 43	038376	047663	D	10. 0	16. 29	038071	047908	P
12. 0	12. 21	037065	047481	G	12. 0	14. 34	037687	047514	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, 189°.
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, $23^s \cdot 5$.

DECLINATION MAGNET.
Sep. 11d, 12d, 13d, and 14d. Considerable changes occurred.
Sep. 16d. The daily range was the least in the month.

HORIZONTAL FORCE MAGNET.
Sep. 13d. A considerable change occurred.
Sep. 15d. The daily range was the smallest in the month.

VERTICAL FORCE MAGNET.
Sep. 13d. A considerable change occurred.

Daily Observations from September 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.	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. 17. 14. 0	23. 13. 49	0·038498	0·047386	D	Sep. 20. 14. 0	23. 12. 50	0·038032	0·047035	D
16. 0	13. 33	038485	047198		16. 0	12. 38	037882	046608	D
18. 0	13. 20	038276	047388		18. 0	16. 20	037362	046864	J H
20. 0	12. 21	037137	047199	D	20. 0	11. 51	037921	046939	P
22. 0	14. 42	036052	046750	J H	22. 0	15. 37	035596	047139	G
Sep. 18. 0. 0	23. 24. 42	0·036655	0·047002	J H	Sep. 21. 0. 0	23. 21. 30	0·035639	0·047074	P
1. 50	25. 56	037551	047613		1. 50	24. 54	036094	047522	D
2. 0	27. 8	037574	047600		2. 0	23. 49	036183	047581	
2. 10	25. 23	037242	047467	J H	2. 10	24. 9	036377	047640	D
4. 0	20. 50	037731	048115	D	4. 0	23. 27	037162	047863	G
6. 0	18. 43	038469	048097		6. 0	19. 11	037088	048124	P
8. 0	16. 30	038105	048049	D	8. 0	7. 44	037531	047938	J H
10. 0	7. 3	039093	047524	G	10. 0	15. 29	037494	047593	J H
12. 0	13. 58	038225	046857	J H	12. 0	8. 13	038519	047241	D
14. 0	11. 15	037150	046891		14. 0	13. 59	037453	047024	
16. 0	13. 17	036973	046650		16. 0	16. 44	036929	047108	
18. 0	15. 2	036881	046528		18. 0	15. 32	036540	046740	
20. 0	11. 22	036115	046730	J H	20. 0	15. 52	036952	046788	D
22. 0	17. 34	033918	046736	P	22. 0	17. 6	035541	046805	J H
Sep. 19. 0. 0	23. 27. 1	0·035523	0·047194	P	Sep. 22. 0. 0	23. 22. 26	0·036377	0·047112	J H
1. 50	24. 39	037447	047787		1. 50	24. 9	037405	047751	
2. 0	24. 54	037647	047754		2. 0	25. 36	038135	047744	
2. 10	16. 44	037757	047708	P	2. 10	25. 21	037737	047710	J H
4. 0	20. 56	037155	047814	J H	4. 0	22. 46	037426	047423	D
6. 0	16. 37	036760	047791		6. 0	20. 22	038284	048070	
8. 0	10. 32	036351	047779		8. 0	16. 44	038594	047625	
10. 0	15. 46	037595	047309	J H	10. 0	12. 24	038032	047383	D
12. 0	14. 59	036693	047126	P	12. 0	14. 43	038619	046452	J H
14. 0	14. 28	036818	047059		14. 0	14. 59	037543	046726	
16. 0	15. 48	037571	047078		16. 0	14. 35	037409	046368	
18. 0	14. 15	037406	047108		18. 0	14. 9	036582	046353	
20. 0	13. 49	036006	047065	P	20. 0	16. 9	035794	046703	J H
22. 0	19. 52	035043	047271	G	22. 0	15. 26	035266	046715	P
Sep. 20. 0. 0	23. 20. 41	0·036278	0·047455	D	Sep. 23. 0. 0	23. 22. 19	0·036198	0·046622	P
1. 50	26. 32	037664	048125		1. 50	22. 10	035953	047695	
2. 0	25. 47	037487	048045		2. 0	22. 34	036440	047681	
2. 10	26. 24	037664	048012	D	2. 10	22. 20	036440	047681	P
4. 0	25. 22	038727	048255	P	4. 0	20. 59	037104	047107	J H
6. 0	17. 9	038123	048164		6. 0	10. 58	038457	046868	
8. 0	13. 9	038344	047844	P	8. 0	16. 7	037043	046353	
10. 0	11. 3	038709	047390	G	10. 0	15. 30	037040	046167	J H
12. 0	14. 48	038236	047156	G	12. 0	15. 25	036899	045908	P

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 189°.
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, $23^s \cdot 5$.

DECLINATION MAGNET.
Sep. 18^d, 19^d, 20^d, 21^d, and 22^d. Considerable changes occurred.
Sep. $19^d.\ 2^h.\ 10^m$. It is conjectured that the micrometer-reading was 5^r too small, and if so, the resulting western declination would be 23°. 24′. 34″.
Sep. 21^d. The daily range was the greatest during the month.
Sep. $21^d.\ 7^h.\ 30^m$. The western declination at this time was the smallest in the month.

HORIZONTAL FORCE MAGNET.
Sep. 17^d and 20^d Considerable changes occurred.
Sep. 18^d. The mean daily force was the largest in the month.
Sep. $20^d.\ 14^h.\ 25^m$. The force was the greatest in the month. (See the Section of Term-Day Observations.)
Sep. 21^d. The daily range was the greatest in the month.

VERTICAL FORCE MAGNET.
Sep. 18^d and 22^d. Considerable changes occurred.
Sep. 22^d and 23^d. The greatest difference in the mean daily values on consecutive days occurred.

Daily Observations from September 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	° ′ ″			
Sep. 24. 14. 0	23. 14. 43	0·037322	0·040688	P	Sep. 27. 14. 0	23. 14. 26	0·038526	0·040385	G
16. 0	14. 28	037071	040588		16. 0	17. 1	036682	040448	
18. 0	12. 59	037139	040514		18. 0	14. 18	036707	040568	
20. 0	11. 10	036492	040561	P	20. 0	18. 37	036862	040786	G
22. 0	14. 44	034948	040510	J H	22. 0	18. 10	033770	040675	P
Sep. 25. 0. 0	23. 22. 39	0·035801	0·040336	D	Sep. 28. 0. 0	23. 26. 47	0·033888	0·040758	P
1. 50	24. 59	036872	041042		1. 50	27. 3	036561	041504	
2. 0.	24. 53	036938	041036		2. 0	27. 3	036340	041461	
2. 10	24. 19	036938	040998	D	2. 10	27. 16	036340	041428	P
4. 0	18. 42	037190	041242	P	4. 0	25. 18	036960	042069	G
6. 0	15. 28	037162	040994		6. 0	19. 40	037454	041740	
8. 0	14. 8	037411	040860		8. 0	17. 32	037554	041534	
10. 0	13. 48	037351	040506	P	10. 0	16. 6	037514	041249	G
12. 0	14. 22	037447	040657	D	12. 0	14. 30	037174	040834	P
14. 0	16. 35	037742	040437		14. 0	17. 27	036340	040572	
16. 0	14. 51	036986	040575		16. 0	16. 3	036113	040263	
18. 0	14. 38	036860	040554		18. 0	14. 31	035268	040282	
20. 0	12. 50	035459	040512	D	20. 0	16. 1	035371	040408	P
22. 0	18. 18	034404	040486	J H	22. 0	15. 46	034116	040737	D
Sep. 26. 0. 0	23. 27. 15	0·035409	0·040740	P	Sep. 29. 0. 0	23. 21. 31	0·034507	0·040853	D
1. 50	27. 34	036720	040815	J H	1. 50	24. 23	035808	041450	
2. 0	27. 39	036742	040832		2. 0	23. 52	035763	041358	
2. 10	27. 12	036742	040810	J H	2. 10	23. 34	035763	041265	D
4. 0	22. 56	037684	041497	D	4. 0	23. 1	036848	041523	P
6. 0	20. 59	036577	041180		6. 0	20. 27	036510	041377	
8. 0	16. 11	036580	041106	D	8. 0	14. 36	037335	041323	
10. 0	11. 40	036894	041140	G	10. 0	16. 49	036039	041161	P
12. 0	15. 22	036961	040572	J H	12. 0	11. 49	036437	040697	D
14. 0	18. 19	036800	040475		14. 0	16. 29	035078	040775	
16. 0	18. 8	036703	040410		16. 0	18. 4	035941	040656	
18. 0	15. 9	035932	040557		18. 0	15. 18	035875	040708	
20. 0	11. 43	035145	040766	J H	20. 0	17. 25	035233	040927	D
22. 0	13. 27	033991	040675	P	22. 0	16. 41	034807	040818	P
Sep. 27. 0. 0	23. 19. 58	0·033940	0·040520	P	Sep. 30. 0. 0	23. 19. 58	0·033635	0·040840	P
1. 50	23. 42	036516	040847		1. 50	21. 43	033665	041209	
2. 0	23. 42	036494	040847		2. 0	19. 39	033665	041226	
2. 10	23. 36	036671	040874	P	2. 10	19. 28	033665	041236	P
4. 0	20. 54	037328	041020	J H	4. 0	20. 22	035681	041492	D
6. 0	18. 48	037309	041017		6. 0	18. 5	034390	041566	
8. 0	17. 58	037457	040869		8. 0	17. 22	035610	041420	
10. 0	16. 38	037505	040737	J H	10. 0	15. 3	035976	041215	D
12. 0	14. 56	037353	040653	G	12. 0	12. 37	034964	040706	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, 189°.
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, $26^s \cdot 0$.

DECLINATION MAGNET.
Sep. 25^d, 26^d, 27^d, 28^d, and 29^d. Considerable changes occurred.
Sep. 26^d. 2^h. The western declination was the largest in the month.
Sep. 28^d. The mean daily western declination was the largest in the month.

HORIZONTAL FORCE MAGNET.
Sep. 27^d, 28^d, and 30^d. Considerable changes occurred.
Sep. 30^d. The mean daily value of the force was the smallest in the month.

VERTICAL FORCE MAGNET.
Sep. 24^d. 14^h. The adjustments were altered. (See the Introduction.)
Sep. 25^d. The mean daily value of the force was the smallest in the month.
Sep. 25^d, 28^d, and 29^d. Considerable changes occurred.
Sep. 27^d. The daily range was the smallest in the month.
Sep. 28^d. 16^h. The force was the least in the month.

Daily Observations from October 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	° ′ ″			
Oct. 1. 14. 0	23. 10. 37	0·035780	0·039786	G	Oct. 4. 14. 0	23. 14. 8	0·036790	0·040511	J H
16. 0	12. 30	035954	040341		16. 0	14. 55	037003	040333	
18. 0	13. 29	036618	040515		18. 0	14. 5	036668	040476	
20. 0	15. 44	036109	040866	G	20. 0	14. 42	036410	040273	J H
22. 0	14. 47	034890	040735	J H	22. 0	17. 31	034998	040505	P
Oct. 2. 0. 0	23. 18. 25	0·035009	0·040679	P	Oct. 5. 0. 0	23. 27. 50	0·035537	0·040786	P
1. 50	19. 7	035111	040809		1. 50	26. 12	036456	041340	
2. 0	19. 46	035333	040809		2. 0	24. 49	036677	041307	
2. 10	19. 58	035554	040820	P	2. 10	26. 1	036667	041307	P
4. 0	18. 21	035017	041202	G	4. 0	22. 12	036648	041303	J H
6. 0	16. 19	036718	041253		6. 0	19. 19	035875	041688	
8. 0	13. 59	036604	041133	G	8. 0	12. 52	036813	041194	
10. 0	14. 48	037168	040783	J H	10. 0	13. 52	036575	040773	J H
12. 0	17. 37	037674	040478	P	12. 0	15. 46	036814	040661	P
14. 0	12. 30	036508	040363		14. 0	14. 3	037412	040317	
16. 0	14. 8	036713	040338		16. 0	9. 8	036406	040056	
18. 0	13. 59	036679	040212		18. 0	14. 35	035839	040579	
20. 0	20. 3	035952	040112	P	20. 0	12. 37	035861	040797	P
22. 0	16. 4	035351	040261	D	22. 0	12. 5	034776	040709	D
Oct. 3. 0. 0	23. 23. 2	0·034322	0·040604	D	Oct. 6. 0. 0	23. 20. 12	0·034754	0·040417	D
1. 50	20. 58	036321	040819		1. 50	20. 37	035684	040688	
2. 0	20. 58	036343	040793		2. 0	20. 21	035595	040683	
2. 10	20. 55	036343	040760	D	2. 10	20. 9	035706	040683	D
4. 0	18. 22	036019	041069	P	4. 0	16. 4	036423	041004	P
6. 0	15. 2	036172	041061		6. 0	13. 40	036031	040998	
8. 0	11. 48	037035	041103		8. 0	14. 26	036457	040823	
10. 0	13. 37	037086	041076	P	10. 0	12. 35	036235	040784	P
12. 0	16. 38	037364	041000	D	12. 0	12. 18	036135	040658	D
14. 0	14. 44	036644	040896		14. 0	14. 55	036009	040534	
16. 0	15. 19	036836	040849		16. 0	11. 29	037094	040614	
18. 0	15. 30	036991	040793		18. 0	13. 42	036348	040470	
20. 0	14. 5	036795	040828	D	20. 0	11. 31	036134	040359	D
22. 0	15. 45	035827	040684	J H	22. 0	14. 25	035381	040326	J H
Oct. 4. 0. 0	23. 21. 20	0·035746	0·040736	J H	Oct. 7. 0. 0	23. 20. 19	0·034801	0·040358	J H
1. 50	23. 13	036759	041074		1. 50	22. 23	035742	040584	
2. 0	23. 39	036870	041080		2. 0	22. 23	035852	040584	
2. 10	23. 11	036870	041074	J H	2. 10	22. 7	035808	040579	J H
4. 0	18. 43	037246	041326	D	4. 0	18. 45	036423	041079	D
6. 0	14. 53	037121	041141		6. 0	16. 46	036735	040863	
8. 0	16. 1	037198	041017		8. 0	16. 1	036895	040733	
10. 0	13. 36	037195	040896	D	10. 0	14. 41	036577	040620	D
12. 0	14. 50	037045	040560	J H	12. 0	11. 54	036728	040573	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 189°.
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, $26^s \cdot 0$.

DECLINATION MAGNET.
Oct. 3^d, 4^d, 5^d, 6^d, and 7^d. Considerable changes occurred.
Oct. 5^d. The mean western declination was the largest in the month.
Oct. 5^d and 6^d. The greatest difference in the mean western declinations for consecutive days occurred.
Oct. $5^d.\ 0^h$. The western declination was the largest in the month.

HORIZONTAL FORCE MAGNET.
Oct. 4^d. The daily range was the smallest in the month.

VERTICAL FORCE MAGNET.
Oct. 4^d. The mean force was the greatest in the month.
Oct. $5^d.\ 6^h$. The force was the largest in the month.
Oct. 5^d. Between 0^h and $1^h.\ 50^m$, a considerable change occurred.

Daily Observations from October 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	° ′ ″			
Oct. 8. 14. 0	23. 14. 55	0·036137	0·040261	J H	Oct. 11. 14. 0	23. 14. 59	0·038302	0·040329	J H
16. 0	14. 58	036180	040326		16. 0	14. 47	037923	040020	
18. 0	14. 18	036246	040504		18. 0	14. 20	037896	040143	
20. 0	11. 4	036306	040536	J H	20. 0	12. 59	037515	040205	J H
22. 0	12. 25	035008	040608	D	22. 0	13. 11	037158	040053	D
Oct. 9. 0. 0	23. 18. 29	0·035897	0·040439	P	Oct. 12. 0. 0	23. 20. 30	0·038309	0·040249	D
1. 50	21. 36	037174	040566		1. 50	21. 14	038663	040424	
2. 0	21. 29	037174	040582		2. 0	21. 30	038708	040452	
2. 10	21. 26	037174	040577	P	2. 10	21. 16	038708	040484	D
4. 0	18. 32	037230	040652	J H	4. 0	17. 20	039117	040660	J H
6. 0	15. 2	037494	040571		6. 0	16. 54	039327	040564	J H
8. 0	15. 37	038257	040536		8. 0	15. 0	039726	040611	D
10. 0	13. 58	037911	040463	J H	10. 0	12. 54	039392	040549	J H
12. 0	13. 26	038041	040413	P	12. 0	12. 40	038918	040448	G
14. 0	13. 47	037982	040422		14. 0	13. 31	039604	040459	
16. 0	13. 55	037941	040353		16. 0	14. 15	039360	040721	
18. 0	12. 52	038061	040387		18. 0	14. 7	038777	040547	
20. 0	15. 37	037250	040502	P	20. 0	14. 30	038515	040848	G
22. 0	15. 7	036360	040506	D	22. 0	14. 35	037658	040631	D
Oct. 10. 0. 0	23. 18. 56	0·036075	0·040574	D	Oct. 13. 0. 0	23. 22. 29	0·038126	0·040611	D
1. 50	22. 59	038486	040866		1. 50	23. 34	039626	041201	
2. 0	23. 35	038840	040834		2. 0	23. 50	039604	041212	
2. 10	23. 32	038862	040790	D	2. 10	23. 39	039493	041190	D
4. 0	21. 4	038902	041091	P	4. 0	21. 30	039756	041585	G
6. 0	17. 36	039243	040944	J H	6. 0	19. 2	039354	041177	
8. 0	12. 50	039186	041136	D	8. 0	18. 6	040062	041013	
10. 0	10. 0	038849	041393	P	10. 0	17. 31	039822	040892	G
12. 0	12. 45	039240	040785	D	12. 0	15. 11	038929	040650	D
14. 0	14. 38	039487	040150		14. 0	16. 23	038715	040523	
16. 0	15. 7	039370	038290		16. 0	18. 20	038740	040572	
18. 0	14. 31	039457	040685		18. 0	16. 5	038368	040545	
20. 0	14. 24	038354	040553	D	20. 0	14. 35	038597	040510	D
22. 0	12. 56	036110	040751	J H	22. 0	20. 31	036512	040554	J H
Oct. 11. 0. 0	23. 19. 29	0·037229	0·040700	J H	Oct. 14. 0. 0	23. 23. 31	0·037663	0·040645	J H
1. 50	20. 3	037876	040950		1. 50	23. 24	039599	041124	
2. 0	23. 26	038097	040960		2. 0	22. 48	039444	041047	
2. 10	20. 11	038009	040960	J H	2. 10	22. 48	039488	041196	J H
4. 0	18. 7	039120	041127	D	4. 0	20. 35	038236	041372	D
6. 0	16. 40	038921	040850	D	6. 0	16. 56	038070	040696	
8. 0	15. 53	038868	040529	J H	8. 0	16. 41	037262	040524	
10. 0	14. 59	038654	040414	D	10. 0	12. 12	036860	040219	D
12. 0	15. 7	038622	040350	J H	12. 0	8. 23	035302	039531	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 189°.
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, $26^s\cdot 0$.

DECLINATION MAGNET.

Oct. 9^d, 11^d, 12^d, and 13^d. Considerable changes occurred.

Oct. $11^d.\ 2^h.\ 0^m$. The western declination looks suspicious as compared with the observation at $1^h.\ 50^m$ and at $2^h.\ 10^m$.. There was no note to the observations, and there is not sufficient evidence to authorize an alteration.

Oct. 13^d and 14^d. The least difference of the mean western declinations on consecutive days occurred.

HORIZONTAL FORCE MAGNET.

Oct. 10^d and 11^d. Considerable changes occurred.

Oct. 11^d and 12^d. The least difference of the mean forces for consecutive days occurred.

Oct. 13^d. The mean force was the largest in the month.

Oct. $13^d.\ 8^h$. The force at this time was the largest in the month.

Oct. $13^d.\ 16^h$. The reading of its thermometer was 5° greater than that used in deducing the above result: had the reading been correct, the reduced reading would be [0·03950.

VERTICAL FORCE MAGNET.

Oct. 9^d. The daily range was the smallest in the month.

Oct. 10^d, 11^d, and 14^d. Considerable changes occurred.

Oct. 11^d. The daily range was the greatest in the month, except on Jul. 26?

Oct. 12^d and 13^d. The greatest difference of the mean forces for consecutive days occurred.

Oct. $13^d.\ 16^h$. The reading of its thermometer was 5° greater than that used in deducing the above result: had the reading been correct, the reduced reading would be [0·041892.

Daily Observations from October 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.	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. 15. 14. 0	23. 10. 50	0·034243	0·042991	J H	Oct. 18. 14. 0	23. 17. 16	0·038054	0·043791	D
16. 0	14. 7	034736	043237		16. 0	24. 5	038317	043391	D
18. 0	15. 13	035140	043218		18. 0	14. 36	036999	043567	J H
20. 0	16. 16	034863	043143	J H	20. 0	14. 14	036580	043438	M
22. 0	15. 57	034505	043275	D	22. 0	14. 59	035655	043330	G
Oct. 16. 0. 0	23. 22. 21	0·034494	0·043631	D	Oct. 19. 0 0	23. 20. 53	0·035525	0·043466	D
1. 50	21. 33	036633	044331		1. 50	23. 1	036993	043911	
2. 0	21. 32	036677	044312		2. 0	22. 49	037105	043953	
2. 10	21. 9	036920	044655	D	2. 10	22. 16	036945	044007	D
4. 0	20. 22	037296	044221	J H	4. 0	20. 28	037401	044267	J H
6. 0	17. 16	037466	044173		6. 0	16. 8	037416	044227	D
8. 0	15. 6	037774	043796		8. 0	17. 20	037652	044144	G
10. 0	9. 25	036996	043733	J H	10. 0	13. 41	037896	044102	G
12. 0	14. 4	036156	043387	G	12. 0	15. 5	036291	043403	J H
14. 0	16. 31	037709	043306		14. 0	14. 32	036087	043372	
16. 0	15. 7	036384	043432		16. 0	15. 50	037809	043021	
18. 0	15. 21	037133	043633		18. 0.	14. 53	034918	042941	
20. 0	16. 18	036779	043621	G	20. 0	14. 36	035176	043036	J H
22. 0	17. 43	036019	043822	D	22. 0	16. 17	035443	043457	D
Oct. 17. 0. 0	23. 19. 58	0·036846	0·044085	D	Oct. 20. 0. 0	23. 22. 19	0·036004	0·043760	D
1. 50	17. 26	036301	044348		1. 50	21. 42	037858	044664	
2. 0	17. 11	036257	044336		2. 0	21. 32	037747	044557	
2. 10	17. 22	036766	044336	D	2. 10	21. 31	037813	044443	D
4. 0	19. 30	037305	044687	G	4. 0	19. 23	038102	044499	J H
6. 0	16. 36	037932	044316		6. 0	18. 33	037829	044102	
8. 0	16. 54	038242	044272	G	8. 0	16. 46	037180	044028	
10. 0	16. 56	038097	043739	J H	10. 0	16. 43	037199	043812	J H
12. 0	6. 36	038613	043382	D	12. 0	15. 16	036818	043573	G
14. 0	11. 56	038111	043162		14. 0	17. 25	037899	043718	
16. 0	14. 46	037012	043262		16. 0	16. 29	036368	043963	
18. 0	17. 22	037570	043526		18. 0	16. 5	036559	044114	
20. 0	16. 8	036012	043585	D	20. 0	15. 3	036368	044114	G
22. 0	15. 32	036007	043456	J H	22. 0	16. 6	035349	044102	D
Oct. 18. 0. 0	23. 20. 54	0·036399	0·043393	J H	Oct. 21. 0. 0	23. 19. 6	0·035422	0·044045	D
1. 50	22. 54	038920	044613		1. 50	20. 1	036217	044126	
2. 0	22. 33	038854	044063		2. 0	20. 2	036372	044101	
2. 10	22. 23	038477	043924	J H	2. 10	19. 59	036528	044101	D
4. 0	19. 49	038441	044228	D	4. 0	17. 31	036841	044314	G
6. 0	17. 24	038305	044074		6. 0	17. 1	036875	044087	
8. 0	17. 48	038235	043986	D	8. 0	16. 20	037166	044056	G
10. 0	14. 46	038390	043975	G	10. 0	15. 46	036851	043660	J H
12. 0	14. 26	038146	044026	G	12. 0	14. 22	036197	043568	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, 189°.
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, $24^s.2$.

DECLINATION MAGNET.
Oct. 16^d, 17^d, 18^d, 19^d, and 20^d. Considerable changes occurred.
Oct. 21^d. The daily range was the smallest in the month.

HORIZONTAL FORCE MAGNET.
Oct. $15^d.14^h$. The force at this time was the least in the month.
Oct. 16^d. The mean force was the smallest in the month.
Oct. $16^d.10^h$. The scale reading was one division larger than that used in deducing the above result: if the observation as taken were correct, the result would be 0·039210.
Oct. 16^d, 18^d, and 20^d. Considerable changes occurred.

VERTICAL FORCE MAGNET.
Oct. $15^d.14^h$. The adjustments were altered. See the Introduction.
Oct. 16^d, 19^d, and 20^d. Considerable changes occurred.
Oct. 16^d. The mean force was the smallest in the month.

Daily Observations from October 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.	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. 14. 0	23. 16. 4	0·037757	0·044083	D	Oct. 25. 14. 0	23. 14. 46	0·037853	0·043196	D
16. 0	16. 20	037924	044041		16. 0	13. 38	036568	043167	
18. 0	16. 1	038023	043933		18. 0	12. 23	036597	042978	
20. 0	13. 54	037122	043697	D	20. 0	17. 6	036727	043055	D
22. 0	16. 14	035323	043646	J H	22. 0	13. 44	035997	042956	J H
Oct. 23. 0. 0	23. 23. 12	0·035912	0·043712	J H	Oct. 26. 0. 0	23. 20. 27	0·036718	0·043239	J H
1. 50	23. 1	037373	044117		1. 50	21. 57	037500	044042	
2. 0	22. 33	037439	044060		2. 0	21. 44	037301	043948	
2. 10	22. 19	037417	044054	J H	2. 10	21. 11	036792	043898	J H
4. 0	18. 33	037895	044334	D	4. 0	18. 34	036471	044386	D
6. 0	17. 34	037784	044060		6. 0	14. 16	036210	044467	
8. 0	16. 20	038702	043844		8. 0	15. 28	037829	044817	
10. 0	15. 50	038067	043821	D	10. 0	2. 2	038173	044102	D
12. 0	15. 19	037651	043434	J H	12. 0	14. 4	037129	043707	J H
14. 0	14. 47	037159	043294		14. 0	18. 21	036869	043259	
16. 0	15. 26	036966	043247		16. 0	14. 42	036665	043335	
18. 0	14. 27	037154	043363		18. 0	14. 5	035990	042983	
20. 0	13. 11	036012	043376	J H	20. 0	12. 29	035153	042814	J H
22. 0	13. 21	035195	043422	D	22. 0	13. 39	034731	043312	D
Oct. 24. 0. 0	23. 20. 19	0·036488	0·043700	D	Oct. 27. 0. 0	23. 22. 58	0·035219	0·043513	D
1. 50	23. 43	036828	044123		1. 50	21. 19	037717	044449	
2. 0	23. 36	036982	044123		2. 0	21. 41	037939	044374	
2. 10	23. 54	037115	044135	D	2. 10	21. 39	037961	044273	D
4. 0	18. 37	037030	043995	J H	4. 0	18. 44	036944	044531	J H
6. 0	15. 55	037704	043904		6. 0	16. 57	036988	044164	
8. 0	14. 51	037403	043509		8. 0	16. 53	037708	044014	
10. 0	13. 23	036957	043602	J H	10. 0	15. 39	037024	043674	J H
12. 0	11. 25	036963	043878	G	12. 0	15. 1	037279	043825	G
14. 0	14. 21	037473	043979		14. 0	15. 49	037124	043838	
16. 0	14. 13	037864	044061		16. 0	15. 30	037386	043970	
18. 0	14. 5	038525	043790		18. 0	15. 26	037250	044007	
20. 0	15. 11	037927	043708	G	20. 0	16. 35	037010	043705	G
22. 0	15. 21	036067	043476	D	22. 0	15. 46	036102	043665	D
Oct. 25. 0. 0	23. 18. 59	0·036459	0·043269	D	Oct. 28. 0. 0	23. 22. 7	0·036412	0·043661	D
1. 50	21. 5	037310	043482		1. 50	22. 31	038752	044000	
2. 0	20. 55	037288	043501		2. 0	22. 33	038752	043982	
2. 10	20. 44	037609	043520	D	2. 10	22. 29	038840	043956	D
4. 0	18. 36	036901	044073	G	4. 0	19. 56	038406	044075	G
6. 0	17. 19	037594	043765		6. 0	17. 15	039121	043786	
8. 0	15. 56	038701	043721		8. 0	16. 39	038593	043616	
10. 0	14. 51	038221	043501	G	10. 0	14. 48	038508	043673	G
12. 0	14. 42	037667	043422	D	12. 0	14. 20	038105	043388	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, 189°.
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, $24^s \cdot 2$.

DECLINATION MAGNET.
Oct. 23^d, 24^d, 26^d, 27^d, and 28^d. Considerable changes occurred.
Oct. 26^d. The range was the greatest in the month.
Oct. 26^d. 10^h. The western declination was the smallest in the month.

HORIZONTAL FORCE MAGNET.
Oct. 27^d and 28^d. Considerable changes occurred.

VERTICAL FORCE MAGNET.
Oct. 26^d. 11^h. 19^m. 40^s. The force at this time was the least in the month, as observed in extra observations.
Oct. 27^d. A considerable change occurred.
Oct. 26^d and 27^d. The least difference in the mean values of the force for consecutive days occurred.

Daily Observations from October 29 to November 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	° ′ ″			
Oct. 29. 14. 0	23. 7.52	0·034340	0·043176	D	Nov. 1. 14. 0	23. 11. 24	0·038851	0·043218	D
16. 0	13. 40	034871	043472		16. 0	11. 11	038182	043178	
18. 0	13. 37	035358	043547		18. 0	10. 53	037898	043366	
20. 0	12. 6	035559	043583	D	20. 0	12. 6	038386	043504	D
22. 0	11. 51	034663	043664	J H	22. 0	13. 25	038352	043411	J H
Oct. 30. 0. 0	23. 18. 5	0·036105	0·043817	J H	Nov. 2. 0. 0	23. 16. 22	0·038987	0·043477	J H
1. 50	20. 12	037357	044313		1. 50	17. 20	039600	043659	
2. 0	20. 32	037379	044313		2. 0	17. 10	039666	043609	
2. 10	20. 37	037202	044288	J H	2. 10	16. 35	039644	043590	J H
4. 0	18. 31	037874	044396	D	4. 0	15. 6	040279	043730	D
6. 0	14. 24	038986	044321		6. 0	13. 52	040659	043759	
8. 0	15. 41	039323	044307		8. 0	12. 42	039667	043806	
10. 0	11. 48	038798	044984	D	10. 0	11. 15	039862	043850	D
12. 0	13. 8	038731	044192	J H	12. 0	9. 36	038551	043333	J H
14. 0	14. 30	038592	043599		14. 0	12. 20	038294	043365	
16. 0	13. 58	038554	043690		16. 0	11. 36	038580	043542	
18. 0	12. 42	038319	043784		18. 0	12. 18	037896	043323	
20. 0	11. 36	038110	043612	J H	20. 0	13. 54	038448	043618	J H
22. 0	13. 42	037432	043871	D	22. 0	12. 21	037611	043674	D
Oct. 31. 0. 0	23. 20. 2	0·037920	0·043847	D	Nov. 3. 0. 0	23. 18. 14	0·037488	0·043878	D
1. 50	20. 10	038074	043997		1. 50	18. 39	038465	044126	
2. 0	20. 10	038606	044035		2. 0	18. 49	038642	044176	
2. 10	19. 59	038716	044035	D	2. 10	18. 30	038554	044132	D
4. 0	18. 23	038638	044117	J H	4. 0	15. 53	038996	044377	J H
6. 0	14. 40	038122	043729		6. 0	14. 26	039196	043910	
8. 0	9. 21	039180	043558		8. 0	8. 42	037247	043860	
10. 0	12. 39	037793	043496	J H	10. 0	12. 50	039202	043336	J H
12. 0	13. 19	038593	043521	G	12. 0	13. 28	039269	043741	G
14. 0	18. 22	039877	044088		14. 0	13. 55	039133	043949	
16. 0	13. 7	039099	044057		16. 0	15. 59	039550	044018	
18. 0	13. 25	039542	043597		18. 0	16. 34	039661	044018	
20. 0	14. 57	039099	043502	G	20. 0	12. 32	039158	043728	G
22. 0	12. 25	037538	043333	D	22. 0	13. 39	038623	043722	D
Nov. 1. 0. 0	23. 16. 40	0·037829	0·043479	D	Nov. 4. 0. 0	23. 20. 7	0·038708	0·043879	D
1. 50	18. 24	038294	043604		1. 50	20. 17	040521	044489	
2. 0	18. 35	038493	043611		2. 0	20. 17	040499	044451	D
2. 10	18. 35	038493	043604	D	2. 10	19. 46	040477	044420	P
4. 0	15. 34	038667	043736	G	4. 0	17. 31	040451	044462	G
6. 0	13. 29	038955	043761		6. 0	15. 35	040451	044142	
8. 0	13. 37	039378	043661		8. 0	14. 46	040410	044035	
10. 0	10. 57	039293	043460	G	10. 0	13. 39	040307	043941	G
12. 0	10. 50	039224	043246	D	12. 0	13. 45	039827	043526	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, 189°.
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, $24^s \cdot 2$.

DECLINATION MAGNET.

Oct. 30^d. The mean western declination was the smallest in the month.
Nov. 2^d. The mean western declination was the smallest in the month.
Oct. 30^d, 31^d, Nov. 3^d, and 4^d. Considerable changes occurred.
Nov. 3^d. 8^h. The western declination was the smallest in the month.

HORIZONTAL FORCE MAGNET.

Oct. 30^d. The daily range was the greatest in the month.
Oct. 30^d and 31^d. The greatest difference in the mean forces for consecutive days occurred.
Nov. 3^d. 8^h. The reading as compared with the preceding and following readings appears to be incorrect; there was no note made at the time of observation, but, from the circumstance of a considerable change in the position of the Declination Magnet taking place at the same time, it is most probable that the reading is correct.
Nov. 3^d and 4^d. The greatest difference in the mean forces for consecutive days occurred.
Nov. 3^d and 4^d. Considerable changes occurred.
Nov. 4^d. The mean daily force was the largest in the month.

VERTICAL FORCE MAGNET.

Oct. 30^d, and Nov. 4^d. Considerable changes occurred.
Nov. 4^d, 1^h. 50^m. The force was the greatest in the month.
Nov. 4^d. The mean daily force was the greatest in the month.

Daily Observations from November 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	° ′ ″			
Nov. 5. 14. 0	23. 12. 49	0·038072	0·043422	D	Nov. 8. 14. 0	23. 12. 17	0·038754	0·042838	G
16. 0	12. 25	037983	043498		16. 0	17. 52	039772	043077	
18. 0	12. 8	037946	043250		18. 0	17. 21	039090	043096	
20. 0	10. 55	037301	043343	D	20. 0	16. 24	039178	043153	G
22. 0	15. 58	037592	043364	P	22. 0	16. 23	037599	042871	D
Nov. 6. 0. 0	23. 21. 48	0·038543	0·043832	J H	Nov. 9. 0. 0	23. 21. 58	0·036590	0·042759	J H
1. 50	21. 52	038896	044095	P	1. 50	20. 38	038000	043237	D
2. 0	21. 42	038896	043900		2. 0	20. 31	038200	043224	
2. 10	21. 32	038785	043900	P	2. 10	20. 18	038554	043231	D
4. 0	17. 48	038752	044103	D	4. 0	20. 9	039169	043627	P
6. 0	15. 10	039268	044038		6. 0	18. 42	039986	044412	G
8. 0	14. 46	039858	043956		8. 0	18. 9	039127	044179	
10. 0	13. 26	039409	044012	D	10. 0	15. 40	037484	043438	G
12. 0	14. 15	039080	043676	J H	12. 0	15. 53	038155	043364	D
14. 0	14. 37	039055	043548		14. 0	14. 51	037678	043490	
16. 0	13. 54	038815	043566		16. 0	15. 52	036941	043409	
18. 0	14. 14	038294	043478		18. 0	14. 2	037366	043401	
20. 0	13. 27	038108	043547	J H	20. 0	13. 22	037786	043355	D
22. 0	13. 28	037209	043572	P	22. 0	15. 49	037772	043528	J H
Nov. 7. 0. 0	23. 17. 50	0·037941	0·043780	P	Nov. 10. 0. 0	23. 17. 50	0·037540	0·043592	J H
1. 50	19. 55	039875	044044		1. 50	18. 17	038425	043846	
2. 0	19. 55	039831	044025		2. 0	18. 16	038381	043840	
2. 10	20. 6	039875	044025	P	2. 10	18. 30	038425	043846	J H
4. 0	18. 45	039358	044350	J H	4. 0	17. 7	038839	043940	D
6. 0	14. 44	040082	043916		6. 0	17. 40	040214	043893	
8. 0	14. 44	039169	044064		8. 0	16. 31	040769	044003	
10. 0	13. 12	039266	043684	J H	10. 0	16. 22	040185	043927	D
12. 0	13. 58	039310	043497	P	12. 0	16. 22	038412	043756	J H
14. 0	14. 26	038435	043471		14. 0	15. 3	037326	043504	
16. 0	14. 34	037952	043272		16. 0	13. 14	037965	043553	
18. 0	14. 3	037902	043208		18. 0	13. 39	038137	043147	
20. 0	13. 51	037949	043133	P	20. 0	13. 0	037898	043201	J H
22. 0	13. 56	037641	043209	J H	22. 0	15. 52	037927	043399	P
Nov. 8. 0. 0	23. 20. 3	0·038153	0·043580	J H	Nov. 11. 0. 0	23. 18. 7	0·037259	0·043588	P
1. 50	21. 22	038935	043744		1. 50	19. 55	038352	043978	
2. 0	20. 1	038647	043744		2. 0	19. 59	038573	043965	
2. 10	19. 18	039111	043738	J H	2. 10	19. 53	038684	043915	P
4. 0	20. 5	038896	043913	P	4. 0	18. 50	039061	043996	J H
6. 0	16. 43	039866	043636		6. 0	16. 14	038111	043838	
8. 0	16. 0	038867	043636		8. 0	15. 52	037687	043561	
10. 0	12. 17	037765	043423	P	10. 0	13. 59	037769	043738	J H
12. 0	14. 41	038629	043403	G	12. 0	15. 11	038087	043537	P

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 189°.
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, $24^s\cdot 2$.

DECLINATION MAGNET.
Nov. 6d. The range on this day was the greatest in the month.
Nov. 6d and 7d The least difference in the mean western declinations for consecutive days occurred.
Nov. 6d, 8d, and 9d. Considerable changes occurred.

HORIZONTAL FORCE MAGNET.
Nov. 7d. There was a considerable change in the position of the magnet.
Nov. 10d. 8h. The force at this observation was the greatest in the month.

VERTICAL FORCE MAGNET.
Nov. 9d. A considerable change occurred.

Daily Observations from November 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	° ′ ″			
Nov. 12. 14. 0	23. 14. 49	0·036342	0·043212	P	Nov. 15. 14. 0	23. 17. 36	0·039827	0·043249	G
16. 0	14. 32	037435	043210		16. 0	13. 51	039731	043342	
18. 0	15. 22	037128	042288		18. 0	16. 16	039857	043600	
20. 0	14. 36	037946	043185	P	20. 0	16. 47	039226	043675	G
22. 0	14. 59	037087	043066	J H	22. 0	16. 21	038566	043417	P
Nov. 13. 0. 0	23. 20. 47	0·037985	0·043433	D	Nov. 16. 0. 0	23. 23. 20	0·038556	0·043486	P
1. 50	22. 21	038653	043860		1. 50	22. 28	038795	043825	
2. 0	22. 21	038411	043816		2. 0	22. 21	038862	043793	
2. 10	21. 52	038542	043772	D	2. 10	22. 24	038862	043812	P
4. 0	22. 29	037472	044136	P	4. 0	20. 56	038784	044099	J H
6. 0	21. 2	038469	044319		6. 0	19. 25	038833	043693	G
8. 0	15. 52	037995	043978		8. 0	15. 44	039054	043888	
10. 0	14. 37	037433	043527	P	10. 0	15. 21	038770	043831	G
12. 0	15. 25	038170	043326	D	12. 0	15. 42	038505	043248	P
14. 0	17. 13	037101	043255		14. 0	14. 40	037522	042997	
16. 0	14. 12	037137	043049		16. 0	14. 6	037126	043084	
18. 0	15. 6	037280	043300		18. 0	15. 11	037093	042934	
20. 0	15. 36	038281	043426	D	20. 0	14. 18	037059	042710	P
22. 0	17. 26	038181	043259	J H	22. 0	15. 47	037281	043168	D
Nov. 14. 0. 0	23. 18. 14	0·037365	0·043293	J H	Nov. 17. 0. 0	23. 18. 28	0·037707	0·043264	D
1. 50	17. 23	037026	043118		1. 50	18. 51	038439	043614	
2. 0	17. 36	036872	043074		2. 0	18. 45	038506	043614	
2. 10	17. 18	036827	043080	J H	2. 10	18. 28	038484	043608	D
4. 0	17. 27	038521	043708	D	4. 0	16. 52	038606	043555	P
6. 0	16. 1	039037	043634		6. 0	14. 49	038595	043701	
8. 0	15. 29	039949	043742		8. 0	15. 5	038738	043669	
10. 0	14. 32	039646	043777	D	10. 0	13. 20	038271	043650	P
12. 0	10. 24	038301	043524	J H	12. 0	14. 31	038685	043646	D
14. 0	13. 31	036950	043341		14. 0	14. 31	037966	043618	
16. 0	15. 1	036824	043305		16. 0	16. 24	038010	043477	
18. 0	14. 52	037104	043198		18. 0	14. 7	037980	043424	
20. 0	14. 53	036912	042940	J H	20. 0	14. 12	037850	043388	D
22. 0	15. 13	037811	042928	D	22. 0	14. 24	038035	043366	J H
Nov. 15. 0. 0	23. 20. 9	0·038181	0·043287	D	Nov. 18. 0. 0	23. 23. 10	0·038749	0·043461	J H
1. 50	20. 19	038597	043529		1. 50	23. 27	039743	043913	
2. 0	20. 20	038575	043523		2. 0	23. 18	039787	043844	
2. 10	20. 29	038642	043529	D	2. 10	22. 49	039832	043850	J H
4. 0	18. 5	038868	043890	J H	4. 0	20. 47	038663	043685	D
6. 0	17. 38	039130	043433		6. 0	18. 56	038021	043547	
8. 0	13. 24	038676	043433		8. 0	17. 23	037497	043396	
10. 0	15. 37	038575	043313	J H	10. 0	15. 25	037526	043290	D
12. 0	14. 11	038319	043330	G	12. 0	15. 22	037954	043215	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 189°.
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, $24^s \cdot 2$.

DECLINATION MAGNET.
Nov. 13^d, 16^d, and 18^d. Considerable changes occurred.
Nov. 16^d. The mean western declination was the largest in the month.
Nov. 16^d and 17^d. The greatest difference in the mean western declinations for consecutive days occurred.
Nov. $18^d.\ 1^h.\ 50^m$. The western declination was the largest in the month.

HORIZONTAL FORCE MAGNET.
Nov. 13^d. The mean daily force was the smallest in the month.
Nov. 14^d. A considerable change occurred.

VERTICAL FORCE MAGNET.
Nov. $12^d.\ 18^h$. The force at this observation was the least in the month.
Nov. 13^d. The daily range was the greatest during the month.
Nov. 14^d. A considerable change occurred.

Daily Observations from November 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	° ′ ″			
Nov. 19. 14. 0	23. 14. 34	0·035587	0·043132	J H	Nov. 22. 14. 0	23. 14. 46	0·039305	0·042919	J H
16. 0	14. 24	035754	043025		16. 0	14. 0	039236	043018	
18. 0	14. 11	036155	043116		18. 0	12. 13	039319	042880	
20. 0	14. 15	037192	043033	J H	20. 0	13. 46	038257	042893	J H
22. 0	14. 23	039408	043423	P	22. 0	14. 54	037390	042994	D
Nov. 20. 0. 0	23. 19. 51	0·040060	0·043420	P	Nov. 23. 0. 0	23. 17. 14	0·037633	0·043148	D
1. 50	20. 2	040009	043730		1. 50	18. 53	038494	043810	D
2. 0	19. 54	039921	043718		2. 0	18. 45	038384	043772	G
2. 10	19. 44	039832	043718	P	2. 10	18. 12	038339	043760	G
4. 0	19. 10	039061	043809	J H	4. 0	19. 31	038697	043486	J H
6. 0	17. 19	038645	043340		6. 0	16. 29	038973	043192	
8. 0	16. 2	038589	043290		8. 0	14. 39	039173	042905	
10. 0	15. 8	038020	043179	J H	10. 0	13. 46	038862	042843	J H
12. 0	15. 41	038283	043162	P	12. 0	13. 26	038736	042793	G
14. 0	15. 10	037142	043141		14. 0	13. 43	039141	042762	
16. 0	14. 57	036359	043129		16. 0	15. 7	039430	043108	
18. 0	13. 16	036836	043129		18. 0	14. 29	038580	042574	
20. 0	13. 13	038249	043184	P	20. 0	14. 14	038920	042700	G
22. 0	13. 58	038220	043486	D	22. 0	14. 49	038852	042608	J H
Nov. 21. 0 0	23. 17. 37	0·039560	0·043529	D	Nov. 24. 0. 0	23. 19. 4	0·039824	0·042619	J H
1. 50	18. 13	040095	044000		1. 50	18. 40	039226	043072	
2. 0	18. 8	040184	043968		2. 0	18. 3	039204	043072	
2. 10	17. 51	040206	043942	D	2. 10	19. 8	039712	043084	J H
4. 0	16. 34	039729	043823	P	4. 0	18. 10	038403	043386	G
6. 0	14. 34	039559	043697		6. 0	17. 14	039045	043292	
8. 0	10. 27	038707	043583		8. 0	15. 52	038558	043210	G
10. 0	13. 9	039151	043560	P	10. 0	14. 3	038829	043436	D
12. 0	12. 41	039040	043690	D	12. 0	13. 45	038987	043452	D
14. 0	14. 3	039103	044370		14. 0	14. 46	038787	043234	M
16. 0	14. 50	039309	043731		16. 0	14. 58	039555	043250	P
18. 0	14. 17	039410	043643		18. 0	14. 47	039861	043512	J H
20. 0	14. 55	039558	043446	D	20. 0	15. 19	039612	043257	J H
22. 0	14. 47	039240	043444	J H	22. 0	15. 4	039242	043372	G
Nov. 22. 0. 0	23. 18. 38	0·039793	0·043377	J H	Nov. 25. 0. 0	23. 17. 33	0·038386	0·043037	P
1. 50	18. 51	039883	043520	P	1. 50	17. 50	038600	043240	J H
2. 0	18. 40	039773	043520		2. 0	17. 39	038539	043234	
2. 10	18. 41	039950	043520	P	2. 10	17. 26	038639	043261	J H
4. 0	16. 14	039834	043520	D	4. 0	16. 24	038998	043556	D
6. 0	15. 10	040479	043327		6. 0	15. 46	039371	043316	J H
8. 0	14. 46	040246	043345		8. 0	15. 37	039604	043649	G
10. 0	14. 25	040262	043243	D	10. 0	15. 9	039534	043529	G
12. 0	14. 48	039766	043074	J H	12. 0	14. 41	039217	043488	P

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 189°.
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, 24s·2.

DECLINATION MAGNET.
Nov. 20d and 24d. Considerable changes occurred.
Nov. 22d. The daily range was the smallest in the month.

HORIZONTAL FORCE MAGNET.
Nov. 19d. 14h. The force was less at this observation than at any other time during the month.
Nov. 20d. The daily range was the greatest in the month.
Nov. 20d. A considerable change occurred.
Nov. 22d. The daily range was the smallest in the month.

VERTICAL FORCE MAGNET.
Nov. 21d. 14h. The reading appears to be too large; it is probable that the reading of the scale was one division too great, and if so, the result should be 0·043740. The value used in the Abstracts is that deduced from the observation without alteration.
Nov. 21d and 22d. The least difference in the mean daily values on consecutive days occurred.
Nov. 21d, 22d, and 23d. Considerable changes occurred.
Nov. 22d and 23d. The greatest difference in the mean daily value of the force on consecutive days occurred.

Daily Observations from November 26 to December 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	° ′ ″			
Nov. 26. 14. 0	23. 13. 5	0·037874	0·043006	P	Nov. 29. 14. 0	23. 12. 43	0·038906	0·042830	G
16. 0	14. 28	038316	043272		16. 0	15. 45	038449	042818	
18. 0	13. 59	038538	043310		18. 0	15. 25	037880	042806	
20. 0	14. 11	039372	043341	P	20. 0	15. 58	038216	042706	G
22. 0	14. 59	039188	043591	D	22. 0	18. 28	037354	042584	P
Nov. 27. 0. 0	23. 19. 38	0·039273	0·043516	D	Nov. 30. 0 0	23. 20. 4	0·037791	0·042751	P
1. 50	20. 29	040217	043669		1. 50	18. 18	037246	042708	
2. 0	20. 24	040151	043669		2. 0	18. 4	037268	042708	
2. 10	20. 17	040240	043650	D	2. 10	17. 54	037467	042708	P
4. 0	18. 15	040043	044202	P	4. 0	17. 1	037698	043078	G
6. 0	16. 34	040381	043381	P	6. 0	16. 55	039860	043090	
8. 0	15. 41	040159	043365	J H	8. 0	14. 23	040013	043636	
10. 0	15. 17	040125	043457	G	10. 0	16. 0	039260	043391	G
12. 0	15. 42	040144	043231	D	12. 0	16. 36	039595	042530	P
14. 0	15. 10	039678	043136		14. 0	17. 53	039120	043076	
16. 0	16. 1	040093	042969		16. 0	18. 1	039475	042947	
18. 0	15. 17	039893	042946		18. 0	17. 42	039585	042960	
20. 0	14. 46	040184	042894	D	20. 0	15. 25	039873	042826	P
22. 0	16. 43	039857	043053	J H	22. 0	19. 3	037312	043019	D
Nov. 28. 0. 0	23. 19. 12	0·040046	0·042918	J H	Dec. 1. 0. 0	23. 22. 23	0·039641	0·043025	J H
1. 50	20. 16	040438	043164		1. 50	20. 30	040043	043239	D
2. 0	20. 14	040416	043146		2. 0	20. 2	040110	043207	
2. 10	20. 8	040394	043101	J H	2. 10	20. 2	040176	043188	D
4. 0	19. 52	040250	043489	D	4. 0	20. 31	039704	043362	P
6. 0	18. 43	039054	043427		6. 0	17. 20	039236	043283	P
8. 0	17. 2	039165	043554		8. 0	14. 24	039500	043120	J H
10. 0	15. 49	038599	043426	D	10. 0	11. 38	039757	043151	P
12. 0	14. 0	038659	042941	J H	12. 0	16. 55	040449	043205	D
14. 0	16. 18	037948	043099		14. 0	17. 5	038719	043052	
16. 0	17. 4	038222	042986		16. 0	16. 58	038416	042914	
18. 0	16. 38	038088	042925		18. 0	17. 22	038379	042833	
20. 0	16. 40	037674	042785	J H	20. 0	15. 34	038917	042708	D
22. 0	17. 59	037829	042917	D	22. 0	17. 38	038868	042568	J H
Nov. 29. 0. 0	23. 20. 57	0·039585	0·042917	P	Dec. 2. 2. 0	23. 22. 17	0·038115	0·042706	J H
1. 50	20. 37	039542	043339		1. 50	23. 46	037318	042945	
2. 0	19. 52	039542	043339		2. 0	23. 16	036521	042907	
2. 10	19. 35	039365	043327	P	2. 10	23. 14	036211	042970	J H
4. 0	20. 53	038144	043011	J H	4. 0	21. 59	039060	043443	D
6. 0	16. 46	039181	043188		6. 0	16. 38	040086	043384	
8. 0	15. 53	038346	042980		8. 0	15. 5	039831	043257	
10. 0	15. 3	038478	042975	J H	10. 0	14. 58	039934	043151	D
12. 0	15. 4	038811	043013	G	12. 0	14. 46	039204	043052	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 189°; from Nov. $27^d.0^h$, 184°.
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, $24^s·2$.

DECLINATION MAGNET.
Nov. 27^d and Dec. 2^d. Considerable changes occurred.

HORIZONTAL FORCE MAGNET.
Nov. 29^d and 30^d The least difference in the mean daily values of the force for consecutive days occurred.
Nov. 30^d, Dec. 1^d, and 2^d. Considerable changes occurred.
Dec. $1^d.12^h$. The force was the greatest in the month at the regular observation.

VERTICAL FORCE MAGNET.
Nov. 29^d. The daily range was the greatest in the month.
Nov. 30^d. The mean daily value of the force was the smallest in the month.
Nov. 30^d. Between 6^h and 8^h a considerable change occurred.

Daily Observations from December 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	° ′ ″			
Dec. 3. 14. 0	23. 17. 20	0·037717	0·042731	J H	Dec. 6. 14. 0	23. 14. 30	0·039349	0·042767	G
16. 0	17. 46	037983	042744		16. 0	13. 58	038600	042887	
18. 0	17. 13	038085	042758		18. 0	13. 14	038522	042573	
20. 0	17. 59	037518	042685	J H	20. 0	15. 41	039618	042932	G
22. 0	18. 3	038079	043058	P	22. 0	16. 31	037658	042525	J H
Dec. 4. 0. 0	23. 18. 39	0·039002	0·043171	P	Dec. 7. 0. 0	23. 19. 23	0·037476	0·042674	J H
1. 50	20. 14	039288	042974		1. 50	18. 56	037549	043154	
2. 0	20. 22	039288	042961		2. 0	18. 56	037704	043122	
2. 10	20. 27	039332	042955	P	2. 10	18. 43	037726	043059	J H
4. 0	18. 9	038947	043007	J H	4. 0	17. 2	037763	043547	G
6. 0	17. 11	039275	042998		6. 0	15. 43	037999	043534	
8. 0	14. 12	039565	043082		8. 0	15. 42	037856	043445	
10. 0	16. 11	039246	043110	J H	10. 0	14. 19	037941	043476	G
12. 0	16. 41	039840	043094	P	12. 0	16 28	037769	043200	J H
14. 0	16. 59	039108	042978		14. 0	17. 21	037704	043137	
16. 0	17. 34	039134	042830		16. 0	16. 12	038014	043175	
18. 0	17. 17	039253	042797		18. 0	16. 9	037889	042927	
20. 0	16. 48	039294	042692	P	20. 0	16. 17	037965	042880	J H
22. 0	16. 38	039497	042937	D	22. 0	16. 37	037989	042917	P
Dec. 5. 0. 0	23. 19. 25	0·038740	0·042893	D	Dec. 8. 0. 0	23. 19. 59	0·038236	0·042996	P
1. 50	20. 57	039331	043239		1. 50	19. 10	039048	043302	
2. 0	21. 27	039530	043232		2. 0	18. 56	039048	043239	
2. 10	21. 30	039508	043245	D	2. 10	18. 23	038937	043239	P
4. 0	19. 38	039637	043295	P	4. 0	19. 4	038044	043400	J H
6. 0	15. 14	039644	043315		6. 0	20. 57	037377	043256	
8. 0	15. 7	038869	043106		8. 0	16. 3	036302	043772	
10. 0	15. 23	039173	043137	P	10. 0	10. 2	036442	043002	J H
12. 0	16. 25	040150	043112	D	12. 0	14. 0	038180	042816	P
14. 0	17. 27	039928	043107		14. 0	17. 0	038534	042693	
16. 0	17. 34	040298	043055		16. 0	17. 26	038641	042629	
18. 0	16. 27	040390	042923		18. 0	20. 55	039016	042278	
20. 0	15. 34	040035	042672	D	20. 0	18. 43	039554	042020	P
22. 0	17. 29	039635	042610	J H	22. 0	16. 30	037702	042266	D
Dec. 6. 0. 0	23. 21. 12	0·038758	0·042702	P	Dec. 9. 0. 0	23. 19. 12	0·037170	0·042486	D
1. 50	21. 23	039315	042921		1. 50	20. 6	037152	042568	
2. 0	21. 15	039248	042921		2. 0	20. 57	037351	042650	
2. 10	20. 45	039049	042952	P	2. 10	20. 39	037395	042656	D
4. 0	18. 31	040072	043208	D	4. 0	18. 34	037830	042788	P
6. 0	16. 3	041065	043173		6. 0	18. 3	036922	042839	
8. 0	15. 11	040375	043157		8. 0	11. 32	039068	042911	
10. 0	14. 52	039723	043207	D	10. 0	14. 42	037695	042895	P
12. 0	11. 43	038987	042767	G	12. 0	15. 13	037924	042943	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, 184°.
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, $24^s \cdot 2$.

DECLINATION MAGNET.
Dec. 8^d and 9^d. Considerable changes occurred.

HORIZONTAL FORCE MAGNET.
Dec. 6^d. The mean daily value of the force was the greatest in the month.
Dec. 6^d. Between 20^h and 22^h there was a considerable change in the force.
Dec. 6^d and 7^d. The greatest difference in the mean daily values of the force for consecutive days occurred.

VERTICAL FORCE MAGNET.
Dec. 8^d. 8^h. The force was the greatest in the month.
Dec. 8^d. Between 8^h and 10^h a considerable change occurred.

Daily Observations from December 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	° ′ ″			
Dec. 10. 14. 0	23. 14. 34	0·036576	0·042562	D	Dec. 13. 14. 0	23. 17. 25	0·039384	0·043210	G
16. 0	14. 58	037222	042310		16. 0	15. 52	038443	043260	
18. 0	18. 50	037842	042430		18. 0	16. 44	039178	043204	
20. 0	16. 21	037229	042647	D	20. 0	18. 6	039289	043134	G
22. 0	18. 36	038034	042727	J H	22. 0	17. 59	039068	043084	D
Dec. 11. 0. 0	23. 20. 21	0·038844	0·042872	J H	Dec. 14. 0. 0	23. 21. 10	0·038725	0·043148	D
1. 50	20. 5	038905	043178		1. 50	18. 47	039776	043624	
2. 0	19. 48	038595	043159		2. 0	18. 55	039799	043624	
2. 10	20. 24	039105	043241	J H	2. 10	18. 57	039975	043624	D
4. 0	19. 26	039578	043498	D	4. 0	18. 30	040054	043529	G
6. 0	17. 22	040009	043430		6. 0	15. 59	040139	043384	
8. 0	4. 50	040216	043412		8. 0	16. 54	040574	043535	
10. 0	14. 8	038957	043085	D	10. 0	14. 23	038674	043258	G
12. 0	10. 38	039583	042641	J H	12. 0	16. 28	039305	043076	D
14. 0	16. 9	037951	042586		14. 0	16. 41	039305	043120	
16. 0	11. 13	037414	042492		16. 0	16. 23	038397	043120	
18. 0	14. 55	036735	042499		18. 0	16. 28	038172	042984	
20. 0	15. 49	037801	042613	J H	20. 0	16. 7	038130	042915	D
22. 0	17. 33	038863	042500	P	22. 0	17. 25	038698	042873	J H
Dec. 12. 0. 0	23. 20. 0	0·037612	0·042595	P	Dec. 15. 0. 0	23. 19. 34	0·038074	0·042926	J H
1. 50	23. 50	037184	042753		1. 50	20. 29	038490	043084	
2. 0	24. 5	037162	042741		2. 0	20. 6	038424	043078	
2. 10	23. 48	037162	042709	P	2. 10	20. 9	038578	043078	J H
4. 0	20. 11	038151	042967	J H	4. 0	18. 38	039305	043442	D
6. 0	14. 29	038163	042933		6. 0	16. 42	040094	043355	
8. 0	13. 41	038176	043046		8. 0	15. 54	040286	043340	
10. 0	16. 7	038055	042834	J H	10. 0	15. 23	040229	043318	D
12. 0	13. 58	037712	042343	P	12. 0	15. 20	041136	043129	J H
14. 0	16. 49	037281	042484		14. 0	15. 53	039378	042911	
16. 0	15. 49	037196	042497		16. 0	15. 41	038630	043031	
18. 0	16. 52	037469	042480		18. 0	15. 40	038862	042818	
20. 0	16. 53	037503	042337	P	20. 0	15. 37	038639	042718	J H
22. 0	17. 14	038540	042596	J H	22. 0	17. 11	038573	042769	P
Dec. 13. 0. 0	23. 18. 46	0·038013	0·042610	J H	Dec. 16. 0. 0	23. 19. 30	0·037607	0·042869	D
1. 50	20. 24	037405	042629		1. 50	20. 25	038641	043019	P
2. 0	19. 31	037338	042616		2. 0	20. 25	038419	043019	
2. 10	19. 10	037338	042616	J H	2. 10	20. 17	038198	043019	P
4. 0	18. 13	038397	042933	P	4. 0	17. 43	038390	042963	J H
6. 0	16. 12	038335	042960		6. 0	17. 34	038419	042994	
8. 0	10. 59	037221	043161		8. 0	17. 29	038346	042880	
10. 0	16. 44	037834	043099	P	10. 0	17. 16	038420	042905	J H
12. 0	14. 23	038617	043249	G	12. 0	17. 17	038759	043041	P

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 184°.
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, $24^s \cdot 2$.

DECLINATION MAGNET.
Dec. $11^d.\ 8^h$. The western declination was the smallest in the month.
Dec. 11^d, 12^d, and 13^d. Considerable changes occurred.
Dec. $12^d.\ 2^h$. The western declination was the greatest in the month.
Dec. 12^d and 13^d. The least difference in the mean western declinations for consecutive days occurred.

HORIZONTAL FORCE MAGNET.
Dec. $11^d.\ 11^h.\ 19^m$. The force was the greatest in the month, as observed in extra observations.
Dec. 12^d and 13^d. The least difference in the mean daily values of the force for consecutive days occurred.

VERTICAL FORCE MAGNET.
Dec. $11^d.\ 16^h$. The force was the smallest in the month.
Dec. 13^d and 14^d. The greatest difference in the mean daily values of the force for consecutive days occurred.
Dec. 14^d. The mean daily value of the force was the greatest in the month.
Dec. 16^d. The daily range was the smallest in the month.

Daily Observations from December 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.	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. 14. 0	23. 16. 12	0·037518	0·042455	P	Dec. 20. 14. 0	23. 17. 56	0·037364	0·042706	P
16. 0	16. 4	037348	042316		16. 0	18. 16	037642	042734	D
18. 0	16. 36	039758	042320		18. 0	17. 27	038076	042728	D
20. 0	17. 6	039203	042419	P	20. 0	16. 57	037169	042497	J H
22. 0	16. 20	038787	042839	D	22. 0	15. 51	036995	042830	G
Dec. 18. 0. 0	23. 18. 25	0·039137	0·042826	D	Dec. 21. 0. 0	23. 17. 51	0·036906	0·042555	P
1. 50	20. 21	039569	043020		1. 50	19. 26	037012	042739	J H
2. 0	20. 17	039569	043020		2. 0	19. 24	037039	042714	
2. 10	20. 15	039503	043014	D	2. 10	19. 24	037056	042714	J H
4. 0	19. 19	039600	043035	P	4. 0	18. 32	037454	042758	P
6. 0	17. 40	038913	042917		6. 0	17. 54	037778	043053	G
8. 0	14. 30	040138	043133		8. 0	17. 14	037413	042879	J H
10. 0	15. 3	039626	043196	P	10. 0	14. 8	037704	042879	D
12. 0	15. 25	037489	042956	D	12. 0	15. 33	037815	042681	P
14. 0	16. 7	037777	043007		14. 0	16. 33	036732	042665	
16. 0	17. 7	037500	042863		16. 0	16. 38	036767	042590	
18. 0	15. 4	036915	042692		18. 0	15. 46	036682	042214	
20. 0	15. 34	036580	042594	D	20. 0	15. 50	036597	042208	P
22. 0	17. 0	037205	042674	J H	22. 0	16. 8	036965	042359	D
Dec. 19. 0. 0	23. 17. 30	0·036706	0·042680	J H	Dec. 22. 0. 0	23. 18. 22	0·037518	0·042522	D
1. 50	20. 10	036573	042750		1. 50	19. 10	038198	042774	
2. 0	20. 17	036573	042756		2. 0	19. 10	038153	042761	
2. 10	20. 4	036596	042781	J H	2. 10	19. 10	038176	042761	D
4. 0	19. 29	037297	042992	D	4. 0	17. 26	037121	042669	P
6. 0	17. 19	037481	042921		6. 0	15. 58	037159	042554	
8. 0	15. 49	037748	042828		8. 0	15. 22	037573	042761	
10. 0	15. 35	038010	042954	D	10. 0	15. 9	038146	042618	P
12. 0	16. 28	037705	042050	J H	12. 0	15. 40	037696	042802	D
14. 0	16. 40	037157	042925		14. 0	16. 34	037998	042868	
16. 0	16. 41	037016	042809		16. 0	17. 1	037578	042884	
18. 0	16. 15	036808	042718		18. 0	16. 11	037500	042782	
20. 0	15. 53	036529	042655	J H	20. 0	15. 33	037468	042772	D
22. 0	18. 6	039703	043001	G	22. 0	16. 29	036937	042747	J H
Dec. 20. 0. 0	23. 19. 44	0·038974	0·042692	P	Dec. 23. 0. 0	23. 18. 50	0·037037	0·042715	J H
1. 50	20. 42	036049	042505		1. 50	19. 21	037719	043146	
2. 0	20. 42	035940	042505		2. 0	19. 19	037719	043020	
2. 10	20. 33	035916	042505	P	2. 10	19. 6	037653	042952	J H
4. 0	19. 22	035766	042844	J H	4. 0	18. 2	037746	043067	D
6. 0	18. 18	035901	042590		6. 0	15. 31	038041	042847	
8. 0	17. 22	036437	042525	J H	8. 0	15. 26	037848	042866	
10. 0	16. 36	036858	042743	G	10. 0	14. 17	037496	042726	D
12. 0	17. 18	037142	042919	G	12. 0	13. 58	037039	042456	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 184°.
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, $24^s.2$.

DECLINATION MAGNET.
Dec. 22d. The daily range was the smallest in the month, being 4′. 1″.

HORIZONTAL FORCE MAGNET.
Dec. 18d and 20d. Considerable changes occurred.
Dec. 23d. The daily range was the smallest in the month.

Daily Observations from December 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	° ′ ″			
Dec. 24. 14. 0	...	...	...	..	Dec. 27. 14. 0	23. 13. 49	0·037387	0·042270	D
16. 0	...	...	...	..	16. 0	13. 10	037159	042021	
18. 0	...	...	...	..	18. 0	12. 14	038361	041988	
20. 0	...	...	...	..	20. 0	13. 10	038148	041844	D
22. 0	...	...	...	..	22. 0	19. 17	036742	042056	J H
Dec. 25. 0. 0	...	...	...	..	Dec. 28. 0. 0	23. 18. 16	0·037012	0·042255	J H
1. 50	...	...	...	..	1. 50	23. 31	035452	042440	
2. 0	...	...	...	..	2. 0	20. 39	035917	042427	J H
2. 10	...	...	...	..	2. 10	21. 8	036493	042522	D
4. 0	...	...	...	..	4. 0	18. 32	037349	042647	D
6. 0	...	...	...	..	6. 0	16. 47	037410	042415	G
8. 0	...	...	...	..	8. 0	14. 23	036279	042665	D
10. 0	...	...	...	..	10. 0	13. 41	037608	041949	J H
12. 0	...	...	...	..	12. 0	7. 23	037645	042120	
14. 0	23. 16. 14	0·035651	0·042108	J H	14. 0	13. 54	036201	041860	
16. 0	17. 15	036072	042278		16. 0	14. 30	036161	041826	
18. 0	17. 37	036293	042341		18. 0	14. 25	036452	041988	
20. 0	15. 33	036204	042278	J H	20. 0	14. 25	036721	042050	J H
22. 0	16. 45	036529	042373	P	22. 0	15. 35	037695	042050	P
Dec. 26. 0. 0	23. 21. 13	0·038817	0·042369	P	Dec. 29. 0. 0	23. 18. 45	0·037405	0·042104	P
1. 50	23. 41	039932	042692		1. 50	20. 55	036729	042088	
2. 0	23. 47	040110	042660		2. 0	21. 5	036818	042151	
2. 10	23. 25	039910	042629	P	2. 10	21. 14	036818	042138	P
4. 0	21. 5	039733	042628	J H	4. 0	20. 5	036419	041796	J H
6. 0	20. 5	039910	042597		6. 0	19. 38	036493	042091	
8. 0	18. 54	040227	042766		8. 0	19. 15	035914	041999	
10. 0	18. 12	040179	042527	J H	10. 0	13. 58	035603	042176	J H
12. 0	18. 33	040161	042413	P	12. 0	17. 51	036139	042257	G
14. 0	18. 41	040110	042281		14. 0	17. 50	035544	042195	
16. 0	18. 46	040161	042246		16. 0	19. 41	036939	042270	
18. 0	17. 57	039770	042188		18. 0	18. 36	036102	042201	
20. 0	18. 22	039446	042145	P	20. 0	18. 33	037227	042346	G
22. 0	20. 12	039213	042176	J H	22. 0	19. 8	035828	042026	P
Dec. 27. 0. 0	23. 23. 43	0·037790	0·042618	D	Dec. 30. 0. 0	23. 19. 20	0·036282	0·041963	P
1. 50	16. 52	038707	042144		1. 50	22. 10	035599	042095	
2. 0	16. 48	038574	042100		2. 0	21. 59	035090	042126	
2. 10	16. 57	038485	042056	D	2. 10	21. 28	035090	043158	P
4. 0	16. 13	036639	042068	P	4. 0	18. 57	036412	042485	G
6. 0	15. 43	034578	042251		6. 0	17. 20	035998	042334	
8. 0	13. 59	035873	042334		8. 0	17. 36	035046	042359	G
10. 0	13. 3	036605	042113	P	10. 0	16. 3	035496	042244	J H
12. 0	13. 14	038176	042165	D	12. 0	17. 17	036027	042083	P

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 184°; from Dec. $25^d.\ 16^h.$ 180°; from Dec. $26^d.\ 22^h.$ 168°.
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, $24^s \cdot 2$.

DECLINATION MAGNET.
Dec. 26^d. The mean western declination was the largest in the month.
Dec. 27^d and 28^d. The greatest difference in the mean western declinations for consecutive days occurred.
Dec. 27^d, 28^d, and 29^d. Considerable changes occurred.
Dec. 28^d. The daily range was the greatest in the month, being 16′. 8″.
Dec. 28^d. The mean western declination was the smallest in the month.

HORIZONTAL FORCE MAGNET.
Dec. 26^d. Considerable changes occurred.
Dec. $27^d.\ 6^h$. The force was the smallest in the month.
Dec. 27^d. The daily range was the greatest in the month.
Dec. 30^d. The mean daily value of the force was the smallest in the month.

VERTICAL FORCE MAGNET.
Dec. 27^d and 28^d. The least difference in the mean daily values for consecutive days occurred.
Dec. 29^d. The mean daily value of the force was the smallest in the month.
Dec. 30^d. The daily range was the greatest in the month.

ROYAL OBSERVATORY, GREENWICH.

TERM-DAY OBSERVATIONS

OF

MAGNETOMETERS.

1843.

Term-Day Observations of January 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. 18. 10. 0	23. 6. 55	0·017167	0·032998	G	Jan. 18. 14. 0	23. 7. 28	0·016422	0·032851	J H
5	6. 56	017122	032998		5	7. 28	016400	032804	
10	6. 28	016680	032972		10	7. 11	016400	032799	
15	6. 28	016613	032934		15	7. 6	016505	032795	
20	6. 29	016547	032934		20	7. 1	016549	032817	
25	6. 29	016458	032929		25	7. 14	016283	032812	
30	6. 28	016436	032921		30	7. 22	016456	032808	
35	6. 28	016436	032925		35	7. 26	016389	032782	
40	6. 29	016436	032925		40	7. 30	016406	032813	
45	6. 29	016347	032912		45	7. 26	016362	032804	
50	6. 29	016281	032903		50	7. 26	016446	032765	
55	6. 29	016237	032891		55	7. 26	016446	032791	
Jan. 18. 11. 0	23. 6. 20	0·016192	0·032869	G	Jan. 18. 15. 0	23. 7. 22	0·016578	0·032765	J H
5	6. 25	016055	032869		5	7. 33	016578	032787	
10	6. 25	016094	032882		10	8. 2	016606	032769	
15	3. 45	016172	032908		15	8. 4	016633	032718	
20	3. 27	016189	032884		20	8. 4	016749	032691	
25	2. 30	016511	032897		25	7. 34	016378	032665	
30	1. 40	016811	032915		30	7. 28	016361	032633	
35	1. 15	017181	032941		35	7. 25	016366	032607	
40	1. 48	017398	032946		40	7. 23	016327	032581	
45	2. 34	017321	032985		45	7. 23	016310	032554	
50	2. 59	017094	032973		50	7. 23	016509	032515	
55	3. 23	016957	032961		55	7. 23	016492	032515	
Jan. 18. 12. 0	23. 3. 34	0·016824	0·032918	G	Jan. 18. 16. 0	23. 7. 24	0·016492	0·032515	J H
5	4. 19	016758	032918		5	7. 45	016492	032528	
10	4. 27	016509	032923		10	7. 51	016509	032528	
15	4. 36	016398	032906		15	8. 1	016509	032528	
20	4. 32	016415	032933		20	8. 9	016548	032528	
25	5. 23	016636	032959		25	8. 10	016703	032528	
30	5. 43	016609	032964		30	8. 10	017008	032501	
35	5. 42	016587	032969		35	8. 10	017091	032501	
40	5. 50	016560	032995		40	8. 6	017069	032501	J H
45	5. 52	016538	033009		45	7. 52	016599	032501	P
50	6. 5	016577	033026		50	8. 0	016754	032501	
55	6. 6	016577	033032		55	8. 15	017015	032506	
Jan. 18. 13. 0	23. 6. 10	0·016577	0·033010	G	Jan. 18. 17. 0	23. 8. 21	0·016815	0·032523	P
5	6. 10	016577	033010		5	8. 21	016815	032523	
10	6. 10	016466	033010		10	8. 5	016815	032527	
15	6. 10	016355	032989		15	8. 2	016793	032536	
20	6. 2	016400	032946		20	8. 10	016815	032540	
25	6. 6	016355	032946	G	25	9. 5	016815	032540	
30	6. 7	016355	032937	J H	30	8. 37	016798	032567	
35	6. 7	016355	032928		35	8. 5	016798	032567	
40	6. 9	016355	032872		40	7. 43	016798	032567	
45	6. 10	016222	032872		45	7. 42	016798	032567	
50	7. 13	016355	032894		50	7. 42	016798	032567	
55	7. 28	016355	032881		55	7. 36	016798	032567	

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, 232°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 6$; in Vertical Plane, $29^s \cdot 3$.

Jan. $18^d.\ 11^h.\ 35^m$. The western declination was smaller than at any other time during the term.
Jan. $18^d.\ 11^h.\ 40^m$. The reading of the Horizontal Force Magnet was larger than at any other time during the term.
Jan. $18^d\ 12^h.\ 55^m$. The reading of the Vertical Force Magnet was larger than at any other time during the term.

Term-Day Observations of January 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	° ′ ″			
Jan. 18. 18. 0	23. 7. 36	0·016798	0·032567	P	Jan. 18. 22. 0	23. 8. 11	0·014878	0·032396	G
5	7. 32	016798	032567		5	8. 1	014856	032396	
10	7. 32	016798	032567		10	8. 1	014861	032382	
15	7. 32	016798	032567		15	8. 19	014888	032386	
20	7. 45	016843	032567		20	8. 19	014584	032359	
25	7. 56	016798	032567		25	8. 13	014500	032333	
30	7. 56	016798	032540		30	8. 13	014550	032307	
35	7. 56	016798	032562		35	8. 32	014533	032323	
40	7. 53	016798	032570		40	8. 32	014538	032297	
45	7. 44	016798	032583		45	8. 32	014525	032270	
50	7. 33	016798	032583		50	8. 27	014593	032253	G
55	7. 26	016798	032583		55	8. 43	014686	032222	P
Jan. 18. 19. 0	23. 7. 29	0·016798	0·032583	P	Jan. 18. 23. 0	23. 8. 51	0·014576	0·032222	P
5	7. 29	016798	032583		5	9. 11	014686	032222	
10	7. 29	016798	032583		10	9. 20	014686	032222	
15	7. 29	016798	032583		15	9. 2	014686	032248	
20	7. 29	016798	032583		20	9. 5	014686	032248	
25	7. 17	016798	032583		25	9. 28	014708	032248	
30	7. 9	016798	032557		30	9. 39	014686	032274	
35	7. 9	016798	032557	P	35	9. 58	014686	032274	
40	7. 17	016975	032557	D	40	9. 58	014686	032356	
45	7. 23	016909	032548		45	10. 13	014730	032426	
50	7. 23	016865	032548		50	10. 9	014741	032426	
55	7. 25	016843	032544		55	10. 12	014730	032426	
Jan. 18. 20. 0	23. 7. 26	0·016798	0·032544	D	Jan. 19. 0. 0	23. 10. 27	0·014863	0·032452	P
5	7. 26	016776	032544		5	10. 41	014885	032469	
10	7. 29	016692	032544		10	10. 48	014863	032495	P
15	7. 29	016604	032514		15	10. 43	014863	032499	D
20	7. 25	016100	032514		20	10. 43	014725	032544	
25	7. 21	015834	032540		25	11. 15	014703	032544	
30	7. 31	015795	032517		30	11. 26	014747	032582	
35	7. 52	015773	032547		35	11. 38	014792	032604	
40	7. 52	015712	032581		40	11. 31	014809	032630	
45	7. 50	015668	032543		45	11. 28	014831	032630	
50	7. 46	015651	032564		50	11. 32	014897	032661	
55	7. 47	015673	032564		55	11. 33	014897	032678	
Jan. 18. 21. 0	23. 7. 53	0·015673	0·032564	D	Jan. 19. 1. 0	23. 11. 50	0·014986	0·032678	D
5	7. 55	015651	032560		5	11. 57	014897	032687	
10	7. 55	015478	032526		10	12. 5	014836	032660	
15	7. 41	015456	032526		15	12. 6	014924	032660	
20	7. 59	015395	032502		20	12. 6	014907	032673	D
25	7. 54	015284	032476		25	12. 42	014997	032699	J H
30	8. 3	015223	032449		30	12. 43	014997	032634	
35	8. 3	015111	032432		35	12. 43	014980	032608	
40	7. 56	014962	032427	D	40	12. 43	014980	032655	
45	7. 59	014917	032422	G	45	12. 42	014896	032655	
50	8. 8	014967	032387		50	12. 27	014963	032628	
55	8. 1	014967	032375		55	12. 20	014963	032633	

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, 232°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·6$; in Vertical Plane, $29^s·3$.

Jan. $18^d. 22^h. 25^m$. The reading of the Horizontal Force Magnet was smaller than at any other time during the term.

Jan. $18^d. 22^h. 55^m$ to $23^h. 10^m$. The reading of the Vertical Force Magnet was constant, and it was the smallest during the term.

Jan. $19^d. 1^h. 30^m$ to $1^h. 40^m$. The western declinations were larger than at any other time during the term.

Term-Day Observations of January 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	° ′ ″			
Jan. 19. 2. 0	23. 12. 19	0·015052	0·032633	J H	Jan. 19. 6. 0	23. 8. 15	0·016015	0·032598	P
5	12. 42	015096	032646		5	7. 54	016015	032598	
10	12. 36	015113	032660		10	8. 10	016015	032598	
15	12. 19	015201	032685		15	8. 35	015998	032598	
20	12. 15	015617	032724		20	8. 25	015998	032598	
25	12. 7	015528	032724		25	8. 9	015998	032598	
30	11. 49	015590	032750		30	7. 57	015981	032571	
35	11. 49	015590	032777	J H	35	7. 51	016026	032571	P
40	11. 42	015739	032803	G	40	7. 58	015915	032571	J H
45	11. 21	015756	032833		45	8. 8	015964	032571	
50	11. 11	015862	032869		50	8. 8	016009	032575	
55	11. 11	016100	032903		55	8. 8	015987	032614	
Jan. 19. 3. 0	23. 11. 11	0·015967	0·032903	G	Jan. 19. 7. 0	23. 6. 49	0·015898	0·032605	J H
5	11. 6	016056	032964		5	6. 47	015898	032614	
10	11. 1	016078	032972		10	6. 24	015765	032632	
15	10. 50	016078	032869		15	6. 51	015765	032650	
20	10. 29	016078	032912		20	6. 50	015875	032706	
25	10. 29	016078	032912		25	6. 50	015787	032733	
30	10. 24	016078	032912		30	7. 4	015826	032741	
35	10. 19	016211	032912		35	8. 38	015826	032763	
40	10. 19	016211	032912		40	6. 59	015782	032750	
45	10. 17	016277	032912		45	6. 59	015892	032755	
50	10. 17	016277	032912		50	7. 7	015981	032777	
55	10. 17	016300	032955		55	7. 8	015937	032777	J H
Jan. 19. 4. 0	23. 10. 16	0·016300	0·032955	G	Jan. 19. 8. 0	23. 7. 8	0·015915	0·032799	D
5	10. 15	016300	032964		5	7. 23	015954	032807	
10	9. 56	016145	032964		10	7. 26	015949	032786	
15	9. 56	016145	032955		15	7. 31	015943	032786	
20	9. 55	016128	032934		20	7. 29	015938	032803	
25	9. 54	016128	032912		25	7. 26	015823	032803	
30	9. 54	016194	032912		30	7. 5	015751	032799	
35	9. 53	016194	032912	G	35	6. 41	015768	032786	
40	9. 51	016177	032912	P	40	6. 15	015851	032800	
45	9. 41	016111	032912		45	6. 1	015802	032796	
50	9. 41	016111	032891		50	5. 51	015775	032792	
55	8. 38	016266	032891		55	5. 48	015863	032787	
Jan. 19. 5. 0	23. 8. 38	0·016243	0·032869	P	Jan. 19. 9. 0	23. 5. 58	0·015819	0·032787	D
5	8. 34	016155	032869		5	6. 13	015819	032787	
10	8. 34	016111	032842		10	6. 18	015797	032818	
15	8. 34	016049	032842		15	6. 19	015836	032813	
20	8. 34	016049	032816		20	6. 40	015792	032839	
25	8. 34	016049	032768		25	6. 41	015770	032839	
30	8. 1	016055	032737		30	5. 50	015698	032835	
35	7. 56	016032	032703		35	4. 48	015721	032828	
40	8. 8	016099	032681		40	4. 35	015715	032823	
45	8. 15	016060	032646		45	4. 33	015760	032845	
50	8. 15	016060	032607		50	4. 36	015782	032845	
55	8. 15	016060	032598		55	4. 37	015799	032872	

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, 232°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 6$; in Vertical Plane, $29^s \cdot 3$.

Term-Day 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	° ′ ″				d h m	° ′ ″			
Feb. 24. 10. 0	23. 1. 51	0·014655	0·033004	G	Feb. 24. 14. 0	23. 2. 21	0·014820	0·032394	D
5	1. 33	014589	033004		5	3. 5	014798	032441	
10	1. 35	014628	033025		10	3. 31	014776	032471	
15	2. 5	014628	033017		15	3. 45	014931	032484	
20	2. 13	014623	033043		20	4. 17	015197	032501	
25	2. 52	014534	033039		25	4. 45	015152	032535	
30	2. 39	014443	033066		30	4. 52	015197	032544	
35	2. 57	014398	033044		35	5. 33	015411	032548	
40	2. 29	014568	033061		40	5. 54	015234	032566	
45	2. 10	014612	033018		45	5. 23	015366	032561	
50	1. 36	014784	033045		50	5. 47	015440	032548	
55	23. 0. 18	014851	032959		55	5. 14	015285	032566	
Feb. 24. 11. 0	22. 58. 19	0·014873	0·032934	G	Feb. 24. 15. 0	23. 4. 58	0·015418	0·032553	D
5	22. 59. 15	015316	032942		5	5. 17	015506	032557	
10	23. 2. 27	015980	032964		10	5. 53	015617	032570	
15	4. 4	016246	032968		15	6. 19	015683	032587	
20	6. 53	016909	032968		20	6. 0	016038	032583	
25	11. 0	017755	032968		25	5. 19	015700	032587	
30	11. 8	017574	032852		30	3. 43	015833	032531	
35	9. 34	016931	032633		35	3. 30	016099	032510	
40	5. 7	016024	032418		40	3. 38	016055	032535	
45	2. 32	015581	032314		45	4. 9	015878	032518	
50	23. 0. 29	015382	032302		50	4. 18	015634	032505	
55	22. 59. 1	015139	032319		55	5. 16	015723	032518	D
Feb. 24. 12. 0	22. 57. 34	0·014962	0·032323	G	Feb. 24. 16. 0	23. 5. 36	0·015700	0·032527	J H
5	23. 0. 10	014477	032357		5	6. 3	015745	032548	
10	3. 52	014137	032435		10	6. 5	015855	032548	
15	6. 40	013628	032383		15	6. 5	015811	032544	
20	9. 52	013623	032461		20	5. 24	015656	032510	
25	10. 13	013844	032452		25	5. 24	015700	032501	
30	11. 17	014459	032479		30	5. 47	015695	032501	
35	9. 49	014769	032402		35	5. 47	015496	032505	
40	8. 55	015428	032394		40	5. 48	015164	032501	
45	7. 29	016092	032321		45	6. 55	015164	032544	
50	6. 4	016353	032343		50	8. 9	015164	032544	
55	4. 47	016529	032292	G	55	8. 34	015053	032488	
Feb. 24. 13. 0	23. 4. 5	0·016507	0·032292	D	Feb. 24. 17. 0	23. 9. 26	0·015053	0·032484	J H
5	2. 10	016573	032240		5	9. 34	015142	032518	
10	23. 1. 2	016507	032223		10	10. 1	015275	032518	
15	22. 59. 22	016176	032206		15	10. 53	015275	032475	
20	57. 19	016353	032172		20	11. 14	015280	032422	
25	56. 50	016242	032163		25	11. 26	015191	032431	
30	58. 3	015888	032206		30	10. 55	015258	032405	
35	58. 43	015844	032267		35	10. 39	015390	032397	
40	22. 59. 36	015578	032276		40	10. 23	015506	032362	
45	23. 0. 29	015224	032311		45	10. 19	015905	032362	
50	0. 56	014936	032324		50	9. 33	016126	032353	
55	1. 19	014980	032345		55	8. 44	016149	032323	

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, 233°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 6$; in Vertical Plane, $29^s \cdot 3$.

Feb. $24^d.\ 10^h.\ 30^m.$ The reading of the Vertical Force Magnet was larger than at any other time during the term.
Feb. $24^d.\ 11^h.\ 15^m.$ After this observation additional observations were taken. (See the Section of Extraordinary Observations.)
Feb. $24^d.\ 11^h.\ 25^m.$ The reading of the Horizontal Force Magnet was larger than at any other time during the term.
Feb. $24^d.\ 12^h.\ 20^m.$ The reading of the Horizontal Force Magnet was smaller than at any other time during the term.
Feb. $24^d.\ 13^h.\ 25^m.$ The western declination was smaller than at any other time during the term.
Feb. $24^d.\ 13^h.\ 25^m.$ The reading of the Vertical Force Magnet was smaller than at any other time during the term.
Feb. $24^d.\ 15^h.\ 40^m.$ The additional observations were discontinued.
Feb. $24^d.\ 17^h.\ 25^m.$ The western declination was larger than at any other time during the term.

Term-Day 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	° ′ ″				d h m	° ′ ″			
Feb. 24. 18. 0	23. 8. 26	0·016149	0·032328	J H	Feb. 24. 22. 0	23. 6. 52	0·015249	0·032386	J H
5	7. 55	016038	032289		5	6. 44	015316	032369	
10	7. 29	015905	032263		10	7. 5	015316	032333	
15	7. 1	015683	032263		15	7. 12	015122	032307	
20	6. 39	015966	032298		20	7. 28	015122	032289	
25	6. 39	015944	032319		25	7. 27	015105	032289	
30	6. 31	016055	032319		30	7. 26	015105	032263	
35	6. 26	016077	032336		35	7. 6	015044	032246	
40	6. 26	015740	032376		40	7. 14	014849	032271	
45	6. 23	015762	032376		45	6. 48	015336	032232	
50	6. 29	015762	032406		50	7. 49	015164	032253	
55	6. 29	015939	032406	J H	55	7. 44	015297	032227	
Feb. 24. 19. 0	23. 6. 39	0·016105	0·032419	P	Feb. 24. 23. 0	23. 7. 48	0·015319	0·032227	J H
5	6. 38	015939	032415		5	7. 50	015314	032279	
10	6. 27	015928	032415		10	8. 19	015309	032287	
15	6. 28	015939	032415		15	8. 26	015326	032289	
20	6. 24	015845	032415		20	8. 38	015343	032280	
25	6. 17	015845	032415		25	8. 39	015381	032306	
30	6. 8	015845	032415		30	8. 39	015394	032323	
35	6. 8	015845	032415		35	8. 43	015455	032349	
40	6. 11	015751	032415		40	8. 39	015516	032393	
45	6. 2	015451	032415		45	8. 57	015644	032424	J H
50	6. 2	015751	032415		50	8. 40	015371	032389	P
55	6. 15	015818	032415		55	8. 40	015479	032412	
Feb. 24. 20. 0	23. 6. 17	0·015818	0·032415	P	Feb. 25. 0. 0	23. 9. 39	0·015479	0·032416	P
5	7. 2	015929	032437		5	9. 32	015479	032421	
10	6. 46	016121	032437		10	9. 34	015258	032421	
15	6. 52	016028	032388		15	9. 42	015241	032421	
20	6. 39	016028	032388		20	9. 39	015263	032385	
25	6. 44	015956	032431		25	9. 59	015699	032394	
30	6. 32	015989	032405		30	10. 13	015722	032407	
35	6. 37	015956	032405		35	9. 48	015571	032428	
40	7. 1	015939	032405		40	9. 34	015555	032402	
45	7. 8	016049	032378		45	9. 47	015583	032402	
50	7 4	015845	032378		50	9. 56	015760	032402	
55	6. 42	015751	032378		55	9. 35	015672	032402	
Feb. 24. 21. 0	23. 6. 30	0·015788	0·032335	P	Feb. 25. 1. 0	23. 9. 44	0·015871	0·032402	P
5	6. 43	015606	032344		5	9. 50	016137	032402	D
10	6. 21	015567	032348		10	9. 55	016314	032428	
15	6. 33	015479	032335		15	9. 52	016451	032401	
20	6. 28	015445	032309		20	9. 51	016628	032418	
25	6. 2	015445	032309		25	9. 51	016522	032414	
30	6. 6	015465	032343		30	9. 46	016456	032388	
35	6. 13	015317	032352		35	9. 46	016280	032392	
40	6. 53	015300	032326		40	9. 50	016263	032396	
45	6. 47	015283	032326		45	9. 57	016285	032388	
50	6. 35	015465	032335		50	9. 57	016246	032396	
55	6. 44	015360	032335		55	9. 57	016246	032400	

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, 233°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot6$; in Vertical Plane, $29^s\cdot3$.

Term-Day Observations of February 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	° ′ ″			
Feb. 25. 2. 0	23. 9.57	0·016298	0·032400	D	Feb. 25. 6. 0	23. 7. 3	0·015980	0·032495	G
5	9.50	016268	032400		5	7. 3	015980	032495	
10	9.50	016246	032396		10	7. 2	016024	032495	
15	9.50	016246	032400		15	7. 1	016024	032538	
20	9.50	016312	032400		20	7. 2	016177	032517	
25	9.51	016290	032413		25	7.12	016177	032517	
30	9.44	016329	032431		30	7. 4	016133	032517	
35	9.43	016219	032435	D	35	6.54	016133	032508	G
40	9.39	016263	032435	P	40	6.50	016014	032504	D
45	9.32	016263	032435		45	6.49	016014	032512	
50	9.22	016064	032435		50	6.50	015970	032508	
55	9.22	016263	032435		55	6.40	015881	032499	
Feb. 25. 3. 0	23. 9.17	0·016263	0·032435	P	Feb. 25. 7. 0	23. 6.42	0·015992	0·032495	D
5	9.17	016263	032435		5	6.36	016081	032504	
10	9. 0	016064	032452		10	6.22	016081	032499	
15	9. 2	016064	032452		15	6.29	016053	032525	
20	8.56	016041	032474		20	6.24	016075	032534	
25	8.56	016041	032474		25	6.24	016031	032547	
30	8.54	016041	032474		30	6.27	016070	032569	
35	8.54	016041	032478		35	6.30	016115	032556	
40	8.47	016219	032478		40	6.27	016026	032578	
45	8.42	016174	032478		45	6.29	015866	032583	
50	8.42	016196	032478		50	6.29	015799	032604	
55	8.42	016196	032482		55	6.14	015711	032604	
Feb. 25. 4. 0	23. 8.34	0·016196	0·032482	P	Feb. 25. 8. 0	23. 6.24	0·015622	0·032591	D
5	8.26	016174	032478		5	6. 8	015888	032587	
10	8.26	016174	032478		10	6. 5	016154	032583	
15	8.30	016213	032487		15	5.27	016087	032604	
20	8.10	015947	032487		20	5.56	015617	032540	
25	8. 9	016058	032487		25	5.51	015484	032557	
30	8.28	016407	032461		30	5.18	015440	032565	
35	8. 9	016253	032461		35	5.51	015595	032561	D
40	8. 1	016292	032504		40	6.10	015767	032534	J H
45	8. 1	016292	032517		45	6. 8	015878	032547	
50	8. 1	016309	032517		50	6.23	015966	032521	
55	8. 1	016309	032517	P	55	6.24	016099	032504	
Feb. 25. 5. 0	23. 8. 1	0·016264	0·032517	G	Feb. 25. 9. 0	23. 6.24	0·016387	0·032504	J H
5	8. 1	016309	032504		5	6.25	016232	032495	
10	8. 1	016292	032495		10	5.55	016166	032497	
15	8. 1	016203	032495		15	5. 6	016183	032492	
20	8. 1	015920	032495		20	4.45	016116	032505	
25	8.16	015942	032504		25	5. 3	015983	032488	
30	8.14	015947	032504		30	5. 3	015917	032498	
35	7.21	015970	032504		35	5. 9	015912	032563	
40	7.20	016177	032495		40	5.31	016022	032533	
45	7.19	016221	032495		45	5.42	016177	032593	
50	7.18	016204	032495		50	5.30	016261	032593	
55	7. 0	016204	032495		55	5.16	016305	032581	

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, 233°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°.3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.6$; in Vertical Plane $29^s.3$.

Term-Day Observations of March 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. 22. 10. 0	23. 2. 50	0·003165	0·031564	M	Mar. 22. 14. 0	23. 3. 39	0·004698	0·030930	D
5	3. 2	002944	031572		5	2. 39	004056	030926	
10	3. 28	002882	031624		10	2. 8	003768	030926	
15	3. 56	002882	031624		15	1. 42	003525	030926	
20	4. 21	002954	031633		20	1. 15	003192	030969	
25	5. 3	002622	031628		25	1. 22	003060	030991	
30	5. 5	002538	031667		30	1. 33	002860	031016	
35	5. 0	002583	031667		35	1. 4	002661	031064	
40	4. 50	002765	031671		40	23. 0. 12	002661	031081	
45	4. 36	002809	031719		45	22. 59. 40	002727	031102	
50	4. 33	002654	031714		50	59. 25	002661	031115	
55	4. 37	002549	031706		55	59. 14	002727	031115	
Mar. 22. 11. 0	23. 4. 25	0·002593	0·031709	M	Mar. 22. 15. 0	22. 59. 13	0·002661	0·031132	D
5	4. 31	002792	031706		5	22. 59. 10	002439	031141	
10	4. 34	002703	031683		10	23. 1. 58	002201	031127	
15	4. 36	002770	031683		15	2. 50	002023	031140	
20	4. 41	002549	031661		20	2. 55	001918	031131	
25	4. 40	002526	031657		25	3. 32	001940	031148	
30	4. 54	002593	031634		30	3. 55	001967	031130	
35	5. 3	003390	031587		35	4. 7	001989	031138	D
40	5. 11	003988	031565		40	4. 36	002150	031128	J H
45	5. 2	003921	031561		45	4. 48	002217	031115	
50	4. 17	004320	031471		50	5. 4	002376	031068	
55	3. 26	004431	031367		55	5. 4	002443	031106	
Mar. 22. 12. 0	23. 2. 54	0·004121	0·031363	M	Mar. 22. 16. 0	23. 5. 0	0·002487	0·031093	J H
5	2. 41	003744	031320		5	4. 41	002642	031093	
10	2. 19	003257	031277		10	4. 45	002686	031102	
15	2. 4	002898	031364		15	4. 53	002753	031102	
20	2. 8	002809	031390		20	5. 5	002797	031102	
25	2. 9	002671	031303		25	5. 31	002797	031102	
30	2. 34	002427	031312		30	5. 20	002780	031128	
35	4. 12	002405	031325	M	35	5. 12	002669	031141	
40	2. 35	002422	031372	D	40	5. 10	002803	031128	
45	2. 59	002422	031372		45	5. 13	002780	031128	
50	2. 58	002461	031372		50	5. 40	002780	031154	
55	5. 29	002639	031372		55	5. 2	002714	031150	
Mar. 22. 13. 0	23. 7. 9	0·002439	0·031415	D	Mar. 22. 17. 0	23. 4. 42	0·002780	0·031132	J H
5	7. 25	002395	031568		5	4. 42	002697	031149	
10	9. 9	002683	031351		10	4. 42	002702	031075	
15	11. 11	003480	031415		15	4. 48	002591	031092	
20	10. 58	004167	031406		20	4. 51	002552	031104	
25	10. 16	004831	031355		25	4. 59	002685	031082	
30	9. 18	005340	031270		30	5. 12	002313	031099	
35	8. 57	005761	031257		35	4. 41	002291	031046	
40	8. 48	005606	031227		40	4. 43	002319	031019	
45	8. 6	005495	031141		45	4. 51	002319	031010	
50	6. 27	005495	031081		50	5. 33	002501	030957	
55	4. 40	005075	031016		55	5. 37	002125	030934	

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, 232°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot 6$; in Vertical Plane, $29^s\cdot 3$.

March $22^d.\ 12^h.\ 15^m$. The reading of the Vertical Force Magnet was the smallest during the term.
March $22^d.\ 13^h.\ 35^m$. The reading of the Horizontal Force Magnet was larger than at any other time during the term.

Term-Day Observations of March 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	° ′ ″			
Mar. 22. 18. 0	23. 5. 37	0·002523	0·030930	J H	Mar. 22. 22. 0	23. 6. 23	0·001980	0·031308	P
5	5. 37	003365	030952		5	6. 22	001758	031274	
10	5. 37	003121	031013		10	6. 11	001936	031300	
15	5. 55	002966	031039		15	6. 20	002002	031291	
20	5. 27	003094	031096		20	6. 3	001797	031339	
25	5. 27	003161	031109		25	6. 26	001953	031339	
30	5. 38	003161	031109		30	6. 42	001953	031366	
35	5. 26	003293	031131	J H	35	6. 44	001997	031366	
40	5. 10	003022	031179	P	40	6. 48	001903	031413	
45	5. 25	003022	031201		45	6. 36	002014	031413	
50	5. 23	003067	031201		50	6. 32	002014	031440	P
55	5. 33	002934	031228		55	7. 14	002014	031440	D
Mar. 22. 19. 0	23. 6. 1	0·002934	0·031228	P	Mar. 22. 23. 0	23. 7. 28	0·001948	0·031436	D
5	5. 49	002823	031228		5	7. 59	001881	031427	
10	5. 50	002712	031228		10	8. 15	001881	031427	
15	5. 28	002712	031250		15	8. 24	001836	031410	
20	5. 32	002695	031271		20	8. 40	001881	031397	
25	5. 32	002651	031271		25	9. 7	001859	031406	
30	5. 46	002917	031244		30	9. 32	001898	031427	
35	5. 39	002895	031266		35	9. 43	001876	031423	
40	5. 32	002767	031266		40	10. 3	001876	031397	
45	5. 38	002922	031287		45	10. 22	001853	031371	
50	5. 21	003077	031300		50	10. 18	001809	031350	
55	5. 52	003232	031330		55	10. 15	001809	031350	
Mar. 22. 20. 0	23. 5. 52	0·003343	0·031330	P	Mar. 23. 0. 0	23. 10. 34	0·001898	0·031341	D
5	6. 0	003232	031330		5	11. 2	002048	031341	P
10	6. 30	003121	031304		10	11. 26	002065	031341	
15	6. 25	003077	031304		15	11. 39	001843	031367	
20	5. 36	002883	031277		20	11. 42	001860	031363	
25	6. 28	002883	031277		25	12. 4	001877	031390	
30	6. 11	002661	031251		30	12. 28	001784	031390	
35	6. 0	002440	031251		35	14. 3	002337	031416	
40	5. 23	002401	031225		40	13. 58	002354	031416	
45	5. 35	002312	031225		45	13. 35	002022	031416	
50	5. 4	002644	031220		50	14. 14	002150	031422	
55	5. 42	002644	031241		55	13. 55	002150	031422	
Mar. 22. 21. 0	23. 5. 54	0·002622	0·031254	P	Mar. 23. 1. 0	23. 14. 7	0·002039	0·031400	P
5	5. 42	002245	031284		5	15. 0	002039	031400	
10	5. 20	002423	031258		10	14. 34	002150	031400	
15	5. 20	002533	031262		15	13. 57	001552	031366	
20	6. 7	002423	031280		20	14. 5	001713	031336	
25	6. 46	002533	031253		25	13. 49	001690	031305	
30	7. 4	002423	031274		30	13. 49	001735	031305	
35	6. 18	002201	031274		35	13. 45	001690	031305	
40	6. 41	002201	031248		40	13. 30	001673	031288	
45	6. 41	002157	031248		45	13. 30	001473	031288	
50	6. 27	002113	031252		50	13. 30	001629	031318	
55	6. 21	001802	031308		55	13. 30	001740	031318	P

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in magnetic Meridian, 232°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.6$; in Vertical Plane, $29^s.3$.

March $23^d.1^h.5^m$. The western declination was larger than at any other time during the term.

Term-Day Observations of March 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	° ′ ″			
Mar. 23. 2. 0	23. 13. 36	0·001916	0·031348	J H	Mar. 23. 6. 0	23. 7. 20	0·002232	0·031919	D
5	13. 40	001933	031409		5	6. 29	001855	031907	D
10	13. 55	002156	031462		10	5. 24	001410	031880	P
15	13. 28	002256	031519		15	4. 41	001435	031858	
20	13. 34	002627	031590		20	5. 22	001430	031875	
25	13. 50	002617	031643		25	4. 57	001230	031848	
30	13. 51	002634	031695		30	23. 2. 58	001672	031913	
35	13. 52	002451	031748		35	22. 58. 49	002337	031908	
40	13. 42	002795	031779	J H	40	22. 59. 13	002575	031942	
45	13. 23	002524	031832	G	45	23. 0. 24	002553	031916	
50	14. 13	002873	031919		50	0. 28	002243	031898	
55	13. 53	002984	031928		55	0. 51	002354	031872	
Mar. 23. 3. 0	23. 13. 42	0·002984	0·031907	G	Mar. 23. 7. 0	23. 0. 43	0·002022	0·031872	P
5	13. 8	003162	031864		5	22. 58. 38	003240	031829	
10	13. 8	002873	031885		10	58. 16	003683	031808	
15	12. 36	002763	031885		15	22. 59. 26	004037	031743	
20	12. 47	002873	031864		20	23. 0. 42	003666	031743	
25	12. 47	002873	031864		25	1. 32	003467	031743	
30	12. 20	002918	031842		30	2. 52	003001	031695	
35	12. 9	002984	031928		35	3. 14	002979	031673	
40	12. 9	002984	031928		40	3. 19	002984	031664	
45	11. 56	003206	031928		45	3. 48	002984	031630	
50	11. 36	003206	031907		50	4. 26	002984	031609	
55	11. 34	003095	031885		55	4. 57	002807	031596	
Mar. 23. 4. 0	23. 11. 22	0·002984	0·031885	G	Mar. 23. 8. 0	23. 5. 28	0·002763	0·031609	P
5	11. 19	002984	031885	G	5	5. 37	002763	031596	
10	11. 14	002984	031885	D	10	6. 9	002746	031596	
15	10. 48	002984	031902		15	6. 42	002529	031561	P
20	10. 14	002940	031894		20	6. 44	002490	031518	J H
25	10. 18	002696	031885		25	6. 42	002517	031496	
30	10. 11	002741	031872		30	6. 44	002235	031496	
35	10. 7	002475	031872		35	6. 44	002235	031469	
40	10. 1	002585	031885		40	6. 53	002218	031469	
45	10. 1	002541	031907		45	6. 57	002201	031469	
50	9. 42	002541	031915		50	8. 6	002273	031439	
55	9. 13	002453	031898		55	8. 7	002273	031439	
Mar. 23. 5. 0	23. 9. 32	0·003206	0·031907	D	Mar. 23. 9. 0	23. 8. 4	0·002206	0·031443	J H
5	9. 27	003073	031958		5	8. 2	002206	031439	
10	8. 43	002541	031958		10	8. 2	002251	031412	
15	8. 38	002342	031907		15	7. 59	002405	031386	
20	8. 33	002320	031907		20	7. 53	002388	031386	
25	8. 39	002387	031915		25	7. 37	002388	031360	
30	8. 59	002475	031924		30	7. 37	002388	031333	
35	8. 51	002541	031919		35	7. 34	002388	031307	
40	8. 58	002674	031919		40	7. 33	002371	031307	
45	9. 5	003051	031924		45	7. 22	002371	031237	
50	9. 5	002896	031932		50	7. 22	002371	031233	
55	7. 57	002719	031924		55	7. 13	002371	031228	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 232°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot 6$; in Vertical Plane, $29^s\cdot 3$.

March $23^d.\ 5^h.\ 5^m$ and $5^h.\ 10^m$. The reading of the Vertical Force Magnet was larger than at any other time during the term.
March $23^d.\ 6^h.\ 25^m$. The reading of the Horizontal Force Magnet was smaller than at any other time during the term.
March $23^d.\ 7^h.\ 10^m$. The western declination was smaller than at any other time during the term.

Term-Day Observations of April 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	° ′ ″			
Apr. 19. 10. 0	22. 37. 42	0·002977	0·031375	G	Apr. 19. 14. 0	22. 40. 47	0·002899	0·031345	J H
5	38. 4	002977	031366		5	40. 47	002899	031357	
10	38. 27	002977	031384		10	40. 47	002882	031366	
15	38. 28	002977	031384		15	40. 47	002882	031339	
20	38. 50	002955	031427		20	40. 47	002865	031339	
25	38. 55	003110	031418		25	40. 47	002865	031339	
30	38. 57	003154	031418		30	40. 47	002848	031313	
35	39. 7	003154	031427		35	40. 47	002848	031313	
40	39. 13	003199	031440		40	40. 54	002831	031335	
45	39. 18	003199	031461		45	41. 12	002831	031320	
50	39. 18	003265	031461		50	41. 51	002859	031346	
55	39. 19	003265	031461		55	41. 51	002859	031381	
Apr. 19. 11. 0	22. 39. 22	0·003221	0·031470	G	Apr. 19. 15. 0	22. 41. 51	0·003036	0·031394	J H
5	39. 22	003221	031470		5	41. 51	003019	031350	
10	39. 22	003221	031470		10	41. 51	002913	031310	
15	39. 22	003177	031470		15	41. 56	002786	031248	
20	39. 27	003154	031495		20	42. 15	002702	031195	
25	39. 27	003154	031495		25	42. 15	002729	031142	
30	39. 36	003154	031508		30	42. 35	002757	031090	
35	39. 39	003154	031513		35	42. 35	002873	031055	
40	39. 39	003154	031513		40	42. 31	002883	031027	
45	39. 41	003154	031513		45	42. 31	002866	031001	
50	39. 47	003154	031526		50	42. 40	002849	030974	
55	39. 47	003154	031526		55	42. 49	002788	030983	
Apr. 19. 12. 0	22. 39. 55	0·003154	0·031547	G	Apr. 19. 16. 0	22. 43. 7	0·002743	0·031000	J H
5	40. 14	003154	031547		5	43. 27	002743	031017	
10	40. 7	003154	031547		10	43. 27	002743	031062	
15	40. 13	003154	031547		15	44. 41	002832	031096	
20	40. 7	003110	031569		20	44. 39	002627	031122	
25	40. 5	003110	031590		25	45. 11	002627	031148	
30	39. 58	003088	031633		30	45. 4	002627	031148	
35	39. 58	003066	031633		35	45. 33	002769	031218	J H
40	40. 6	003088	031642		40	45. 4	002866	031218	P
45	40. 6	003066	031642		45	45. 58	002932	031210	
50	40. 6	003066	031633		50	45. 44	002866	031210	
55	40. 6	003066	031633	G	55	46. 3	002866	031271	
Apr. 19. 13. 0	22. 40. 6	0·003088	0·031633	J H	Apr. 19. 17. 0	22. 46. 16	0·002866	0·031271	P
5	40. 11	003071	031580		5	46. 13	002844	031271	
10	40. 11	003054	031536		10	46. 15	002959	031283	
15	40. 14	003042	031496		15	46. 15	003048	031222	
20	40. 14	002981	031443		20	46. 22	003009	031234	
25	40. 22	002969	031403		25	46. 34	003053	031208	
30	40. 22	003018	031359		30	46. 34	003036	031182	
35	40. 28	003001	031341		35	46. 34	003059	031155	
40	40. 29	002967	031349		40	47. 15	002798	031129	
45	40. 29	002933	031315		45	47. 15	002798	031111	
50	40. 47	002916	031332		50	47. 15	002781	031124	
55	40. 47	002899	031314		55	47. 15	002781	031110	

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, 235°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·6$; in Vertical Plane, $29^s·3$.

April $19^d. 10^h$. The position of the Declination Magnet is remarkable; it has been in this peculiar situation since 4^h. (See the Section of Daily Observations.)
April $19^d. 15^h. 50^m$. The reading of the Vertical Force Magnet was smaller than at any other time during the term.

Term-Day Observations of April 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	° ′ ″			
Apr. 19. 18. 0	22. 45. 43	0·002825	0·031119	P	Apr. 19. 22. 0	22. 48. 58	0·002098	0·031437	G
5	47. 31	002781	031119		5	49. 7	001987	031446	
10	47. 29	002781	031119		10	49. 7	001871	031403	
15	47. 39	002985	031119		15	49. 21	001844	031376	
20	47. 39	002985	031141		20	49. 35	001750	031401	
25	47. 39	002988	031162		25	49. 31	001767	031367	
30	48. 9	003035	031136		30	49. 34	001673	031341	
35	48. 9	003079	031136		35	49. 30	001690	031341	
40	48. 9	003146	031136		40	49. 54	001751	031237	
45	48. 9	003173	031136		45	50. 11	001724	031250	
50	47. 47	003173	031136		50	50. 34	001741	031224	
55	47. 47	003173	031136		55	51. 27	001758	031224	G
Apr. 19. 19. 0	22. 47. 47	0·003173	0·031136	P	Apr. 19. 23. 0	22. 51. 29	0·001560	0·031224	J H
5	47. 31	003173	031136		5	51. 34	001337	031228	
10	46. 59	003173	031149		10	51. 26	001687	031281	
15	46. 32	003283	031244		15	51. 52	001571	031291	
20	46. 9	003394	031231		20	51. 57	001499	031334	
25	46. 9	003394	031222		25	51. 59	001561	031378	
30	45. 47	003521	031222		30	51. 46	001312	031396	
35	45. 47	003521	031244	P	35	52. 3	001241	031419	
40	45. 47	003477	031287	D	40	52. 4	001280	031453	
45	45. 47	003367	031287		45	52. 3	001629	031455	
50	45. 52	003344	031308		50	52. 1	001402	031450	J H
55	45. 52	003256	031308		55	51. 33	001419	031434	P
Apr. 19. 20. 0	22. 45. 49	0·003300	0·031317	D	Apr. 20. 0. 0	22. 51. 45	0·001485	0·031400	P
5	45. 58	003278	031317		5	52. 7	001485	031443	
10	45. 55	003344	031330		10	52. 0	001265	031496	
15	46. 5	003344	031351		15	52. 6	001502	031549	
20	46. 5	003283	031351		20	52. 0	001282	031525	
25	46 5	003217	031351		25	52. 0	001519	031578	
30	46. 24	003195	031351		30	52. 0	001519	031630	
35	46. 34	003173	031373		35	51. 41	001316	031657	
40	46. 48	003134	031381		40	50. 53	001536	031650	
45	47. 6	003134	031394		45	51. 2	001316	031703	
50	47. 5	003045	031394		50	51. 2	001553	031782	
55	47. 41	002934	031385		55	51. 5	001553	031835	
Apr. 19. 21. 0	22. 46. 39	0·002757	0·031394	D	Apr. 20. 1. 0	22. 50. 50	0·001775	0·031814	P
5	47. 1	002735	031437		5	50. 13	002030	031818	D
10	47. 1	002624	031398		10	50. 45	002108	031832	
15	47. 1	002580	031394		15	50. 34	002148	031850	
20	47. 16	002536	031394		20	50. 1	002165	031841	
25	47. 33	002536	031424		25	50. 9	002176	031868	
30	47. 53	002474	031424		30	49. 38	002039	031881	
35	48. 20	002452	031446		35	49. 31	002122	031848	
40	48. 34	002363	031437		40	49. 26	002200	031874	
45	48. 45	002186	031437		45	49. 26	002239	031884	
50	48. 56	002142	031437		50	48. 30	002251	031867	
55	49. 5	002098	031446	D	55	48. 32	002335	031851	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, 235°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·6$; in Vertical Plane, $29^s·3$.

April $19^d. 23^h. 35^m$. The reading of the Horizontal Force Magnet was smaller than at any other time during the term.

Term-Day Observations of April 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	° ′ ″			
Apr. 20. 2. 0	22. 48. 27	0·002268	0·031851	J H	Apr. 20. 6. 0	22. 37. 25	0·003561	0·032336	G
5	48. 20	002324	031886		5	37. 20	003583	032327	
10	48. 20	002558	031909		10	37. 1	003534	032314	
15	48. 13	002791	031944		15	36. 35	003551	032314	
20	47. 42	002471	031992		20	36. 5	003568	032314	
25	47. 27	002438	031963		25	35. 42	003585	032293	
30	46. 56	002450	032012		30	35. 25	003558	032271	
35	45. 44	002484	032056	J H	35	34. 59	003619	032228	
40	45. 15	002540	032118	D	40	22. 35. 0	003724	032219	
45	45. 3	002618	032062		45	23. 6. 24	003741	032228	G
50	44. 48	002764	032101		50	6. 46	003714	032228	P
55	44. 26	002753	032102		55	7. 2	003731	032228	
Apr. 20. 3. 0	22. 44. 4	0·002709	0·032034	D	Apr. 20. 7. 0	23. 7. 2	0·003731	0·032185	P
5	43. 58	002659	032051		5	6. 57	003510	032185	
10	43. 36	002715	032022		10	5. 55	003288	032142	
15	43. 33	002932	032074		15	5. 33	003266	032142	
20	43. 26	003126	032130		20	5. 26	003466	032099	
25	42. 23	003010	032136		25	5. 17	003510	032099	
30	42. 2	003005	032131		30	5. 25	003399	032078	
35	42. 30	003044	032133		35	5. 36	003288	032078	
40	41. 57	003078	032129		40	6. 26	003444	032078	
45	41. 59	003090	032090		45	6. 31	003288	032056	
50	41. 59	003323	032143		50	4. 54	003288	032056	
55	42. 50	003335	032170		55	5. 0	003294	032013	
Apr. 20. 4. 0	22. 42. 12	0·003379	0·032170	D	Apr. 20. 8. 0	23. 4. 43	0·003294	0·032013	P
5	41. 50	003468	032187		5	4. 47	003288	031970	
10	41. 29	003335	032179		10	4. 31	003382	031943	
15	41. 12	003136	032163		15	4. 9	003271	031908	
20	41. 16	003197	032159		20	3. 49	003476	031856	
25	40. 48	003065	032195		25	3. 37	003476	031730	
30	40. 45	002998	032225		30	3. 34	003437	031804	
35	40. 47	003109	032257		35	3. 34	003331	031759	P
40	40. 12	003192	032288		40	3. 34	003225	031733	J H
45	39. 44	003126	032320		45	3. 34	003137	031706	
50	39. 39	003126	032324		50	3. 34	003120	031655	
55	39. 39	003126	032351	D	55	3. 34	003120	031704	
Apr. 20. 5. 0	22. 40. 4	0·003059	0·032308	G	Apr. 20. 9. 0	23. 3. 31	0·003230	0·031654	J H
5	39. 15	002948	032313		5	1. 23	002965	031624	
10	38. 49	002965	032317		10	0. 40	002965	031611	
15	38. 41	002982	032344		15	0. 52	002943	031624	
20	38. 14	002955	032327		20	0. 57	002971	031629	
25	38. 11	002972	032354		25	1. 18	002971	031624	
30	38. 11	002989	032359		30	1. 35	002971	031624	
35	38. 9	003006	032363		35	1. 39	002971	031620	
40	37. 47	003067	032369		40	2. 14	002931	031620	
45	37. 41	003195	032382		45	2. 35	002887	031624	
50	37. 51	003323	032373		50	2. 35	002887	031624	
55	37. 32	003340	032366		55	2. 7	002954	031624	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 235°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.6$; in Vertical Plane, $29^s.3$.

April $20^d.5^h.45^m$. The reading of the Vertical Force Magnet was the largest during the term.
April $20^d.6^h.0^m$. The cross of the Declination Magnet was very indistinct; after $6^h.40^m$ the suspension was shifted, and the magnet took up a very different position.
April $20^d.6^h.35^m$. The western declination was smaller than at any other time during the term.
April $20^d.6^h.45^m$. The reading of the Horizontal Force Magnet was larger than at any other time during the term.
April $20^d.6^h.55^m$ and $7^h.0^m$. The western declination was larger than at any other time during the term.

Term-Day Observations of May 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	° ′ ″			
May 26. 10. 0	23. 1. 4	0·035197	0·052474	G	May 26. 14. 0	22. 56. 50	0·033920	0·051766	P
5	22. 58. 1	035462	052236		5	58. 26	033920	051809	
10	56. 53	036066	052209		10	58. 26	033920	051787	
15	55. 54	036225	052241		15	58. 26	033920	051837	
20	55. 32	036518	052214		20	58. 50	034097	051851	
25	56. 3	036679	052246		25	59. 28	034141	051877	
30	57. 5	036883	052235		30	22. 59. 28	034141	051903	
35	22. 59. 29	036534	052108		35	23. 0. 11	034141	051903	
40	23. 0. 5	036229	052196		40	1. 11	034363	051988	
45	1. 5	035836	052191		45	2. 7	034473	052002	
50	1. 39	035819	052187		50	2. 7	034584	052057	
55	3. 8	034584	052161		55	2. 51	034806	052100	P
May 26. 11. 0	23. 3. 23	0·034473	0·052175	G	May 26. 15. 0	23. 3. 17	0·034828	0·052127	D
5	3. 34	034363	052211		5	2. 57	034960	052134	
10	4. 4	034916	052183		10	2. 19	035270	052134	
15	4. 43	035425	052220		15	2. 14	035470	052134	
20	5. 25	035957	052252		20	2. 22	035453	052134	
25	6. 7	036377	052266		25	2. 5	035436	052127	
30	5. 45	036178	052275		30	1. 52	035391	052127	
35	5. 11	036311	052177		35	1. 46	035374	052127	
40	4. 57	036178	052213		40	2. 1	035441	052100	
45	4. 57	036151	052177		45	2. 10	035379	052100	
50	4. 2	035974	052151		50	2. 22	035357	052074	
55	3. 29	036168	052101	G	55	2. 12	035229	052074	
May 26. 12. 0	23. 3. 28	0·036168	0·052151	P	May 26. 16. 0	23. 1. 47	0·035207	0·052074	D
5	2. 56	035947	052151		5	2. 9	035274	052074	
10	3. 1	036168	052151		10	3. 53	035451	052074	
15	3. 1	036168	052151		15	4. 5	035407	052125	
20	2. 3	036832	052151		20	4. 4	035407	052160	
25	1. 34	036633	052151		25	3. 41	035385	052189	
30	23. 0. 15	036566	052151		30	3. 51	035407	052211	
35	22. 59. 55	035725	052115		35	4. 57	035385	052218	
40	58. 51	035526	052078		40	4. 41	035385	052225	
45	58. 51	035509	052043		45	4. 41	035385	052258	
50	58. 56	035265	052016		50	4. 41	035385	052273	
55	58. 26	035071	052016		55	4. 41	035385	052300	
May 26. 13. 0	22. 58. 20	0·035027	0·051944	P	May 26. 17. 0	23. 4. 30	0·035362	0·052321	D
5	57. 38	034806	051944		5	4. 30	035385	052321	
10	57. 38	034762	051918		10	4. 30	035429	052329	
15	57. 7	034363	051876		15	4. 14	035407	052343	
20	57. 20	034186	051850		20	3. 44	035412	052343	
25	57. 20	034141	051875		25	4. 17	035528	052343	
30	57. 7	034141	051884		30	4. 9	035417	052350	
35	57. 5	034141	051865		35	4. 0	035378	052357	
40	57. 0	034141	051838		40	3. 40	035400	052357	
45	56. 44	033920	051812		45	3. 31	035294	052364	
50	56. 44	033920	051786		50	3. 27	035383	052364	
55	56. 44	033920	051759		55	3. 12	035322	052372	

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, 235°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s·8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s·6$; in Vertical Plane, $22^s·6$.

May $26^d. 10^h. 20^m$. The western declination was smaller than at any other time during the term.
May $26^d. 10^h. 30^m$. The reading of the Horizontal Force Magnet was larger than at any other time during the term.
May $26^d. 13^h. 55^m$. The reading of the Vertical Force Magnet was the smallest in the term.

Term-Day Observations of May 26 and 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	° ′ ″			
May 26. 18. 0	23. 3. 24	0·035189	0·052379	D	May 26. 22. 0	23. 6. 15	0·032396	0·052379	G
5	3. 10	035211	052379		5	6. 41	032064	052357	
10	3. 5	035144	052386		10	6. 41	032130	052278	
15	3. 14	035122	052401		15	7. 7	032241	052278	
20	2. 59	035033	052374		20	8. 21	032241	052278	
25	2. 51	034945	052374		25	8. 16	032241	052271	
30	2. 51	034945	052355	D	30	8. 49	031842	052271	
35	2. 51	034840	052335	J H	35	8. 32	032064	052278	
40	3. 1	034823	052342		40	8. 48	032081	052251	
45	2. 24	034779	052316		45	9. 6	032125	052251	
50	2. 35	034779	052316		50	9. 12	032275	052172	G
55	2. 59	034762	052290		55	9. 38	032336	052204	P
May 26. 19. 0	23. 3. 25	0·034363	0·052297	J H	May 26. 23. 0	23. 10. 2	0·032336	0·052146	P
5	2. 46	034363	052341		5	10. 20	032558	052146	
10	2. 39	034318	052290		10	10. 48	032447	052189	
15	2. 24	034318	052348		15	10. 58	032779	052189	
20	2. 26	034208	052319		20	11. 15	032823	052244	P
25	2. 29	034164	052362		25	11. 34	033111	052244	J H
30	2. 44	034097	052355		30	12. 6	033239	052171	P
35	2. 39	033965	052362		35	12. 22	033239	052156	
40	2. 31	033942	052355		40	12. 48	033056	052127	
45	2. 29	033942	052355		45	13. 4	033273	052139	
50	2. 25	033942	052355		50	13. 20	033228	052139	
55	2. 30	033760	052355		55	13. 45	033290	052165	
May 26. 20. 0	23. 2. 21	0·033672	0·052355	J H	May 27. 0. 0	23. 13. 55	0·033467	0·052136	P
5	2. 14	033672	052355		5	14. 17	033511	052107	
10	2. 14	033649	052355		10	14. 37	033750	052107	
15	2. 20	033495	052355		15	14. 43	033988	052134	
20	2. 30	033627	052290		20	15. 1	034005	052146	
25	2. 30	033384	052355		25	15. 8	034005	052138	
30	2. 26	033273	052355		30	15. 31	034243	052144	P
35	2. 23	033118	052355		35	15. 36	034243	052141	D
40	3. 4	033052	052355		40	15. 48	034349	052188	
45	3. 15	033052	052355		45	15. 57	034410	052208	
50	2. 44	032963	052355		50	16. 2	034516	052234	
55	2. 54	032963	052341		55	16. 11	034599	052247	
May 26. 21. 0	23. 3. 8	0·032830	0·052297	J H	May 27. 1. 0	23. 16. 15	0·034621	0·052247	D
5	3. 13	032830	052283		5	16. 15	034665	052225	
10	3. 40	032786	052283		10	16. 15	034754	052230	
15	4. 2	032609	052333		15	16. 22	034949	052263	
20	4. 5	032609	052359		20	16. 25	035037	052297	
25	4. 14	032582	052345		25	16. 27	035120	052323	
30	4. 32	032643	052385		30	16. 26	035231	052357	
35	4. 56	032461	052385		35	16. 26	035115	052391	
40	4. 55	032478	052405		40	16. 13	034983	052395	
45	5. 22	032362	052352		45	16. 23	035221	052415	
50	5. 10	032047	052337		50	16. 27	035265	052491	
55	6. 15	032064	052364	J H	55	16. 23	035304	052468	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, 235°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.6$; in Vertical Plane, $22^s.6$.

May $26^d.22^h.30^m$. The reading of the Horizontal Force Magnet was smaller than at any other time during the term.
May $27^d.1^h.25^m$. The western declination was larger than at any other time during the term.

Term-Day Observations of May 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	° ′ ″			
May 27. 2. 0	23. 16. 26	0·035525	0·052497	J H
5	16. 25	035525	052468	
10	16. 15	035542	052472	
15	16. 11	035272	052491	
20	15. 54	035112	052525	
25	15. 45	035085	052435	
30	15. 41	035146	052578	J H
35	15. 41	035163	052604	P
40	15. 33	035622	052485	
45	15. 19	035639	052512	
50	15. 16	035656	052748	
55	14. 58	035496	052775	
May 27. 3. 0	23. 14. 50	0·035452	0·052732	P
5	14. 40	035673	052732	
10	14. 34	035496	052746	
15	14. 18	035452	052746	
20	14. 25	035895	052775	
25	14. 18	035717	052775	
30	13. 42	035248	052775	
35	13. 32	035265	052739	
40	13. 27	035282	052739	
45	13. 11	035299	052703	
50	13. 33	035963	052703	
55	13. 33	035980	052775	
May 27. 4. 0	23. 13. 17	0·036090	0·052775	P
5	13. 20	036201	052775	
10	13. 6	035515	052775	
15	12. 44	035935	052782	
20	12. 35	035957	052801	
25	12. 10	035559	052755	
30	11. 59	035537	052769	
35	11. 39	035316	052782	
40	11. 31	035316	052782	
45	11. 31	035493	052808	
50	11. 10	035493	052808	
55	11. 7	035360	052799	P
May 27. 5. 0	23. 11. 4	0·035426	0·052821	G
5	10. 49	035404	052835	
10	10. 34	035554	052835	
15	10. 30	035571	052871	
20	10. 23	035588	052897	
25	10. 8	035605	052923	
30	10. 6	035622	052923	
35	9. 41	035528	052950	
40	9. 41	036320	052914	
45	10. 8	036448	052976	
50	10. 11	036576	053012	
55	9. 54	036703	053039	
May 27. 6. 0	23. 9. 20	0·036371	0·053039	G
5	9. 25	036327	052967	
10	9. 22	036277	052979	
15	9. 22	036294	053005	
20	9. 21	036311	053032	
25	9. 2	036218	053058	
30	8. 49	036235	053027	
35	8. 33	035985	053053	G
40	8. 36	035936	053072	J H
45	8. 42	036086	053120	
50	8. 51	036325	053139	
55	8. 53	036430	053180	
May 27. 7. 0	23. 8. 45	0·036320	0·053152	J H
5	8. 34	036124	053106	
10	8. 25	035883	053020	
15	8. 29	035877	052971	
20	8. 24	036037	052932	
25	8. 24	035937	052827	
30	8. 24	035920	052789	
35	8. 24	035836	052748	
40	8. 12	035864	052670	
45	8. 12	035935	052624	
50	8. 12	035918	052591	
55	8. 10	035879	052565	
May 27. 8. 0	23. 8. 8	0·035790	0·052565	J H
5	8. 24	036034	052565	
10	8. 32	036189	052536	
15	8. 35	036234	052565	
20	7. 55	036034	052591	
25	7. 41	035963	052588	
30	7. 21	035963	052596	
35	5. 59	035780	052623	J H
40	5. 55	035869	052663	D
45	5. 40	035864	052649	
50	5. 39	035886	052649	
55	5. 23	035969	052668	
May 27. 9. 0	23. 5. 58	0·035991	0·052668	D
5	6. 21	036036	052668	
10	6. 15	036019	052649	
15	6. 14	035957	052608	
20	5. 53	035913	052594	
25	5. 45	035940	052567	
30	5. 50	035968	052574	
35	5. 54	035929	052548	
40	5. 57	035773	052522	
45	5. 57	035712	052488	
50	6. 3	035668	052462	
55	6. 11	035540	052442	

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, 235°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.6$; in Vertical Plane, $22^s.6$.

May $27^d.6^h.55^m$. The reading of the Vertical Force Magnet was larger than at any other time during the term.

Term-Day Observations of June 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	° ′ ″			
June 21. 10. 0	23. 11. 10	0·036173	0·049665	G	June 21. 14. 0	23. 11. 13	0·034704	0·049218	D
5	11. 22	036024	049624		5	11. 16	034687	049224	
10	11. 28	035935	049592	G	10	11. 9	034714	049238	
15	11. 30	035925	049519	J M	15	11. 9	034736	049244	
20	11. 43	035785	049486		20	11. 9	034764	049239	
25	11. 50	035790	049466		25	11. 9	034808	049252	
30	12. 3	035790	049446		30	11. 9	034791	049259	
35	12. 3	035751	049413	J M	35	11. 39	034791	049259	
40	12. 10	035684	049340	G	40	11. 54	034752	049238	
45	12. 10	035618	049308		45	11. 54	034907	049238	
50	12. 15	035552	049281		50	11. 46	034913	049238	
55	12. 24	035331	049248		55	11. 49	034940	049238	
June 21. 11. 0	23. 12. 39	0·035225	0·049209	G	June 21. 15. 0	23. 11. 45	0·034945	0·049212	D
5	12. 45	035247	049222		5	11. 35	034967	049212	
10	12. 43	035297	049229		10	11. 35	035105	049185	
15	12. 48	035324	049249		15	11. 29	035171	049185	
20	12. 48	035263	049262		20	11. 24	035220	049219	
25	12. 46	035152	049269		25	11. 22	035220	049213	
30	12. 46	035157	049262		30	11. 13	035137	049233	
35	12. 45	035246	049269		35	11. 13	035115	049207	
40	12. 45	035224	049269		40	11. 26	035115	049200	
45	12. 48	035339	049262		45	11. 23	035098	049180	
50	13. 5	035229	049269		50	11. 23	035120	049200	
55	13. 5	035185	049276		55	11. 2	035186	049181	
June 21. 12. 0	23. 12. 58	0·035229	0·049269	G	June 21. 16. 0	23. 10. 51	0·035253	0·049167	D
5	12. 59	035229	049269		5	10. 52	035297	049180	
10	12. 46	035229	049269		10	10. 42	035342	049174	
15	12. 42	035229	049276		15	11. 8	035408	049174	
20	12. 41	035074	049276		20	11. 4	035408	049174	
25	12. 9	035007	049296		25	11. 7	035474	049187	
30	12. 7	035029	049286		30	11. 16	035519	049214	
35	12. 4	035051	049296		35	11. 15	035519	049227	
40	12. 3	035051	049296		40	10. 57	035519	049034	
45	12. 6	035051	049296		45	10. 49	035563	049241	
50	12. 3	035051	049309		50	10. 38	035629	049254	
55	12. 0	035051	049309		55	10. 43	035585	049254	
June 21. 13. 0	23. 11. 49	0·035096	0·049309	G	June 21. 17. 0	23. 10. 37	0·035497	0·049254	D
5	11. 49	035101	049302		5	10. 44	035502	049247	D
10	11. 43	034995	049316		10	10. 44	035502	049254	P
15	11. 32	034889	049310		15	10. 44	035468	049254	
20	11. 12	034850	049303		20	10. 47	035468	049221	
25	11. 23	034855	049290		25	10. 24	035291	049221	
30	11. 13	034883	049290		30	10. 4	035229	049181	
35	11. 20	034844	049271		35	9. 49	035207	049175	
40	11. 20	034760	049284		40	9. 42	035190	049168	
45	11. 20	034677	049257		45	9. 29	035146	049215	
50	11. 20	034677	049231		50	9. 16	035123	049202	
55	11. 13	034699	049204	G	55	9. 4	035018	049202	

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, 212°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.6$; in Vertical Plane, $23^s.5$.

June $21^d.10^h.0^m$. The reading of the Vertical Force Magnet was the largest in the term.

Term-Day Observations of June 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	° ′ ″			
June 21. 18. 0	23. 9. 0	0·034984	0·049202	P	June 21. 22. 0	23. 11. 17	0·034600	0·048941	J M
5	8. 48	034940	049175		5	11. 27	034600	048941	
10	8. 43	035028	049182		10	11. 33	034600	048941	
15	8. 32	035011	049156		15	11. 37	034600	048975	
20	8. 36	034945	049169		20	11. 54	034600	048975	
25	8. 36	034945	049136		25	12. 4	034600	048975	
30	8. 36	034945	049129		30	12. 25	034600	049008	
35	8. 18	034862	049103		35	12. 29	034600	049042	
40	8. 18	034862	049097		40	12. 46	034600	049042	
45	8. 18	034839	049104		45	13. 40	034600	049042	
50	8. 18	034817	049097		50	13. 59	034600	049042	
55	8. 8	034773	049084		55	13. 28	034600	049042	
June 21. 19. 0	23. 8. 12	0·034751	0·049057	P	June 21. 23. 0	23. 13. 49	0·034600	0·049008	J M
5	8. 27	034778	049057		5	14. 5	034600	049008	
10	8. 27	034778	049071		10	14. 20	034617	048975	
15	8. 27	034761	049071		15	14. 40	034727	048941	
20	9. 5	034872	049097		20	14. 59	034855	048908	
25	9. 5	034855	049111		25	15. 5	034855	048874	
30	9. 0	034744	049097		30	15. 21	035131	048874	J M
35	9. 50	034855	049097		35	15. 39	035094	048841	D
40	9. 50	034838	049071		40	15. 49	035155	048841	
45	9. 59	034838	049071		45	15. 55	035150	048814	
50	9. 59	034821	049085		50	16. 6	035167	048827	
55	9. 59	034804	049098		55	16. 17	035189	048814	
June 21. 20. 0	23. 10. 32	0·034770	0·049138	P	June 22. 0. 0	23. 16. 25	0·035255	0·048814	D
5	10. 32	034770	049111		5	16. 34	035277	048814	
10	10. 30	034753	049111		10	16. 39	035321	048814	
15	10. 37	034753	049085		15	16. 54	035388	048814	D
20	10. 37	034736	049125		20	17. 3	035255	048827	G
25	10. 52	034736	049119	P	25	17. 7	035255	048841	
30	10. 52	034719	049092	J M	30	17. 24	035255	048861	
35	10. 55	034719	049092		35	17. 27	035211	048861	
40	11. 0	034829	049092		40	17. 38	035167	048861	
45	11. 0	034812	049092		45	17. 47	035255	048867	
50	11. 13	034812	049066		50	18. 3	035366	048861	
55	11. 10	034795	049066		55	18. 10	035588	048841	
June 21. 21. 0	23. 11. 6	0·034840	0·049040	J M	June 22. 1. 0	23. 18. 25	0·035366	0·048807	G
5	11. 9	034840	049040		5	18. 23	035255	048833	G
10	11. 6	034889	049073		10	18. 28	035383	048893	P
15	11. 13	034889	049046		15	18. 28	035383	048953	
20	11. 16	034872	049046		20	18. 36	035600	048979	
25	11. 24	034761	049046		25	18. 42	035600	049006	
30	11. 24	034634	049020		30	18. 45	035595	049032	P
35	11. 30	034634	049054		35	18. 40	035639	049092	J M
40	11. 22	034617	048993		40	18. 40	035417	049125	
45	11. 15	034617	048993		45	18. 42	035417	049138	
50	11. 21	034617	048967		50	18. 54	035612	049131	
55	11. 21	034600	049007		55	18. 55	035452	049184	

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, 212°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot 6$; in Vertical Plane, $23^s\cdot 5$.

June $21^d.\ 18^h.\ 55^m$. The western declination was smaller than at any other time during the term.

June $21^d.\ 21^h.\ 55^m$ to $23^h.\ 5^m$. The reading of the Horizontal Force Magnet was smaller than at any other time during the term.

June 21^d and 22^d. The observations signed J. M. were made by Mr. John Morgan, one of the computers employed in the reduction of the ancient Greenwich Lunar Observations.

June $22^d.\ 1^h.\ 0^m$. This reading of the Vertical Force Magnet was the smallest in the term.

Term-Day Observations of June 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	° ′ ″			
June 22. 2. 0	23. 18. 53	0·035360	0·049203	J M	June 22. 6. 0	23. 16. 32	0·036490	0·049543	D
5	18. 53	035358	049203		5	16. 28	036490	049549	
10	18. 53	035264	049229		10	16. 20	036363	049536	
15	18. 53	035371	049163		15	16. 12	036346	049463	D
20	18. 55	035369	049223		20	16. 9	036346	049497	J M
25	18. 59	035366	049322		25	16. 0	036439	049529	
30	19. 2	035400	049256		30	15. 53	036439	049497	
35	19. 2	035544	049250		35	15. 48	036467	049497	
40	19. 2	035468	049308		40	15. 40	036489	049497	
45	18. 54	035502	049242	J M	45	15. 40	036489	049463	
50	18. 50	035359	049269	G	50	15. 32	036428	049463	
55	18. 53	035331	049269		55	15. 29	036450	049463	
June 22. 3. 0	23. 18. 53	0·035331	0·049269	G	June 22. 7. 0	23. 15. 22	0·036472	0·049497	J M
5	18. 50	035331	049295		5	15. 13	036472	049529	
10	18. 50	035331	049282		10	15. 6	036494	049470	
15	18. 48	035331	049308		15	14. 56	036472	049470	
20	18. 43	035331	049254		20	14. 48	036472	049476	
25	18. 52	035331	049248		25	14. 39	036516	049476	
30	18. 51	035331	049254		30	14. 34	036450	049430	
35	18. 51	035331	049240		35	14. 28	036361	049437	
40	18. 39	035331	049293		40	14. 22	036339	049411	
45	18. 26	035287	049293		45	14. 14	036405	049423	
50	18. 22	035287	049286		50	14. 7	036405	049397	
55	18. 22	035287	049313		55	14. 5	036428	049397	
June 22. 4. 0	23. 18. 18	0·035376	0·049366	G	June 22. 8. 0	23. 14. 3	0·036339	0·049397	J M
5	18. 9	035570	049332		5	14. 3	036105	049264	
10	18. 0	035592	049332	D	10	14. 5	036012	049344	P
15	17. 56	035653	049372		15	14. 5	035995	049351	
20	17. 43	035714	049372		20	14. 0	035850	049338	
25	17. 38	035775	049379		25	14. 3	035772	049305	
30	17. 38	035814	049359		30	13. 58	035865	049312	
35	17. 28	035876	049359		35	13. 54	035809	049285	
40	17. 23	035893	049352		40	13. 54	035770	049298	
45	17. 18	035954	049346		45	13. 56	035802	049259	
50	17. 15	035994	049332		50	13. 49	035604	049252	
55	17. 10	036082	049332		55	13. 47	035587	049272	
June 22. 5. 0	23. 17. 6	0·036166	0·049332	D	June 22. 9. 0	23. 13. 51	0·035587	0·049239	P
5	16. 56	036228	049345		5	13. 48	035587	049233	
10	17. 0	036332	049358		10	13. 48	035548	049206	
15	16. 54	036327	049391		15	13. 6	035548	049206	
20	16. 51	036455	049391		20	12. 59	035553	049212	
25	16. 47	036538	049391		25	12. 59	035558	049185	
30	16. 41	036533	049471		30	12. 59	035757	049193	
35	16. 37	036484	049490		35	12. 57	035740	049387	
40	16. 33	036390	049509		40	12. 57	035723	049173	
45	16. 33	036363	049496		45	12. 57	035723	049147	
50	16. 32	036402	049522		50	12. 55	035706	049120	
55	16. 32	036490	049516		55	12. 50	035750	049108	P

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in magnetic Meridian, 212°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot 6$; in Vertical Plane, $23^s\cdot 5$.

June $22^d.\ 2^h.\ 30^m$ to $2^h.\ 40^m$. The western declination was constant, and larger than at any other time during the term.

June $22^d.\ 5^h.\ 25^m$. The reading of the Horizontal Force Magnet was larger than at any other time during the term.

Term-Day Observations of July 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 19. 10. 0	23. 9. 36	0·034320	0·049082	G	July 19. 14. 0	23. 10. 50	0·034209	0·048470	P
5	9. 11	034320	049068		5	11. 4	034253	048444	
10	9. 24	034347	049095		10	11. 4	034253	048491	
15	9. 25	034413	049075		15	11. 4	034310	048465	
20	9. 45	034463	049069		20	11. 4	034209	048518	
25	9. 51	034468	049042		25	11. 4	034209	048518	
30	9. 58	034468	049016		30	11. 4	034192	048492	
35	10. 1	034451	048996		35	11. 4	034192	048492	
40	10. 7	034456	048969		40	10. 57	034192	048499	
45	10. 8	034439	048943		45	10. 57	034192	048485	
50	10. 6	034417	048923		50	10. 57	034192	048485	
55	10. 6	034400	048924		55	10. 57	034192	048459	
July 19. 11. 0	23. 10. 16	0·034472	0·048925	G	July 19. 15. 0	23. 11. 1	0·034170	0·048493	P
5	10. 34	034583	048931		5	11. 1	034153	048493	
10	10. 33	034627	048905		10	11. 1	034136	048506	
15	10. 51	034627	048885		15	11. 7	034025	048506	
20	10. 57	034671	048905		20	11. 7	034008	048506	
25	11. 6	034566	048938		25	10. 54	034124	048506	
30	11. 5	034566	048945		30	11. 6	034013	048520	
35	10. 53	034455	048945		35	11. 6	033996	048552	
40	10. 53	034477	048992		40	11. 9	033868	048586	
45	10. 57	034460	048992		45	11. 9	033851	048586	
50	10. 55	034394	048992		50	11. 9	033834	048599	
55	10. 47	034349	049005		55	10. 51	034078	048599	P
July 19. 12. 0	23. 10. 44	0·034371	0·049005	G	July 19. 16. 0	23. 10. 45	0·033817	0·048606	J H
5	10. 44	034354	048966		5	10. 45	033800	048646	
10	10. 48	034337	048913		10	10. 45	033783	048620	
15	10. 29	034348	048873		15	10. 52	034005	048600	
20	10. 29	034375	048847		20	10. 52	033988	048567	
25	10. 27	034380	048794		25	10. 52	033971	048541	
30	10. 24	034369	048748		30	11. 1	034192	048548	
35	10. 26	034396	048695	G	35	11. 1	034175	048495	
40	10. 28	034379	048636	P	40	10. 7	034224	048468	
45	10. 28	034345	048576		45	10. 7	034318	048375	
50	10. 35	034328	048549		50	10. 1	034345	048423	
55	10. 24	034311	048537		55	9. 19	034328	048476	
July 19. 13. 0	23. 10. 22	0·034294	0·048531	P	July 19. 17. 0	23. 9. 20	0·034156	0·048397	J H
5	10. 22	034294	048531		5	9. 13	034156	048397	
10	10. 28	034233	048543		10	9. 6	034090	048430	
15	10. 23	034277	048516		15	9. 4	033935	048456	
20	10. 27	034260	048516		20	8. 10	033974	048456	
25	10. 27	034260	048523		25	8. 7	033974	048456	
30	10. 27	034260	048497		30	8. 16	033996	048470	
35	10. 45	034243	048497		35	8. 16	033930	048470	
40	10. 45	034243	048497		40	8. 16	034013	048497	
45	10. 50	034226	048497		45	8. 2	033947	048483	
50	10. 41	034204	048470		50	7. 53	033859	048483	
55	10. 48	034209	048470		55	7. 52	033947	048483	

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, 210°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 6$; in Vertical Plane, $23^s \cdot 5$.

Term-Day Observations of July 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	° ′ ″			
July 19. 18. 0	23. 7. 52	0·033903	0·048523	J H	July 19. 22. 0	23. 9. 33	0·032570	0·048589	G
5	8. 1	033991	048537		5	9. 36	032525	048572	
10	7. 51	033991	048510		10	9. 51	032525	048569	
15	7. 7	033864	048510		15	9. 51	032592	048575	
20	7. 11	033952	048551		20	10. 38	032592	048589	
25	7. 11	033935	048544		25	10. 38	032592	048622	
30	7. 10	033935	048544		30	10. 47	032481	048622	
35	7. 8	033935	048537		35	11. 2	032481	048622	
40	7. 6	033940	048544		40	11. 33	032614	048609	G
45	6. 48	033874	048551		45	11. 42	032614	048636	H
50	6. 51	033874	048525		50	11. 57	032592	048636	H
55	6. 26	033857	048525		55	12. 15	032370	048636	P
July 19. 19. 0	23. 6. 14	0·033524	0·048525	J H	July 19. 23. 0	23. 12. 20	0·032215	0·048622	P
5	6. 0	033397	048532	J H	5	12. 31	032149	048648	
10	5. 48	033330	048479	M	10	12. 57	032149	048674	
15	6. 0	033291	048471		15	13. 31	032193	048701	
20	5. 52	033186	048433		20	13. 57	032259	048727	
25	5. 50	033235	048406		25	14. 12	032149	048727	
30	5. 34	033240	048420		30	14. 22	032104	048754	
35	5. 28	033174	048393		35	14. 42	032149	048780	
40	5. 17	033223	048341		40	15. 5	032171	048780	
45	5. 16	033206	048327		45	15. 20	032149	048806	
50	5. 17	033228	048274		50	15. 12	032038	048806	
55	5. 26	033256	048255		55	15. 24	031927	048833	P
July 19. 20. 0	23. 5. 33	0·033322	0·048229	M	July 20. 0. 0	23. 15. 34	0·031927	0·048833	J H
5	5. 28	033189	048329		5	15. 50	031944	048833	
10	5. 28	033084	048143		10	15. 58	032027	048833	
15	6. 27	033217	048189		15	16. 6	032111	048773	
20	6. 36	033177	048329		20	16. 9	032128	048792	
25	6. 20	033089	048215		25	16. 22	032167	048866	
30	6. 18	033089	048215		30	16. 34	032184	048866	
35	6. 16	033005	048316		35	16. 52	032290	048859	
40	6. 12	032983	048229		40	16. 59	032285	048839	
45	6. 22	032944	048270		45	16. 55	032302	048819	J H
50	6. 43	032855	048276		50	17. 0	032319	048826	P
55	6. 45	032772	048337		55	17. 5	032336	048752	
July 19. 21. 0	23. 6. 50	0·032661	0·048337	M	July 20. 1. 0	23. 17. 8	0·032353	0·048752	P
5	7. 3	032728	048350	M	5	17. 3	032370	048778	
10	7. 14	032546	048369	G	10	17. 14	032387	048804	
15	7. 24	032546	048369		15	17. 14	032387	048799	P
20	7. 44	032563	048409		20	17. 20	032670	048825	J H
25	8. 8	032563	048409		25	17. 22	032709	048818	
30	8. 11	032519	048409		30	17. 16	032726	048812	
35	8. 11	032536	048409		35	17. 17	032770	048838	
40	7. 58	032558	048436		40	17. 23	032854	048870	J H
45	8. 44	032575	048488		45	17. 23	033025	048838	P
50	9. 5	032575	048502		50	17. 20	033025	048864	
55	9. 20	032592	048555		55	17. 20	033042	048891	

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, 210°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s.8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s.6$; in Vertical Plane, $23^s.5$.

July $19^d.19^h.45^m$. The western declination was smaller than at any other time during the term.

July $19^d.20^h.10^m$. The reading of the Vertical Force Magnet was smaller than at any other time during the term.

July $19^d.23^h.55^m$ to $20^d.0^h.10^m$. The reading of the Horizontal Force Magnet was smaller than at any other time during the term.

Term-Day Observations of July 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	° ′ ″			
July 20. 2. 0	23. 17. 12	0·033170	0·048891	P	July 20. 6. 0	23. 11. 12	0·035025	0·049253	P
5	17. 14	033187	048883		5	11. 7	035025	049253	
10	17. 14	033398	048896		10	10. 58	035042	049273	
15	17 14	033415	048949		15	11. 3	035042	049273	
20	16. 55	033670	048948		20	11. 6	035170	049299	
25	16. 55	033687	049001		25	11. 6	035148	049293	
30	16. 40	033766	049014		30	11. 6	035121	049279	
35	16. 23	033800	049046	P	35	11. 2	035231	049273	
40	17. 34	033772	049119	J H	40	10. 58	035226	049393	
45	15. 58	033873	049139		45	10. 58	035138	049286	
50	15. 57	033890	049198		50	10. 58	035155	049305	
55	15. 29	033769	049251		55	11. 0	035155	049305	
July 20. 3. 0	23. 15. 32	0·033759	0·049225	J H	July 20. 7. 0	23. 11. 2	0·035127	0·049326	P
5	15. 19	033759	049237		5	11. 11	035105	049272	
10	15. 14	033753	049204		10	11. 11	035105	049272	P
15	15. 5	033753	049224		15	11. 11	035110	049272	G
20	14. 51	033753	049264		20	11. 13	035110	049265	
25	14. 35	033748	049250		25	11. 14	035110	049265	
30	14. 21	033970	049277		30	11. 13	035132	049259	
35	14. 13	033970	049276		35	11. 23	034093	049259	
40	14. 7	033970	049256		40	11. 23	035049	049286	
45	13. 52	033970	049269		45	11. 23	035049	049272	
50	13. 40	034208	049269		50	12. 58	035032	049272	
55	13. 38	034208	049289		55	11. 30	035032	049272	
July 20. 4. 0	23. 13. 36	0·034208	0·049296	J H	July 20. 8. 0	23. 11. 32	0·034899	0·049272	G
5	13. 30	034208	049322		5	11. 35	034877	049306	
10	13. 18	034225	049349		10	11. 41	034993	049306	
15	13. 2	034225	049375		15	11. 43	034661	049272	
20	12. 55	034087	049395		20	11. 44	034644	049272	
25	12. 54	034286	049408		25	11. 46	034600	049272	
30	12. 45	034259	049428		30	11. 49	034600	049205	
35	12. 40	034259	049454		35	11. 51	034583	049205	
40	12. 34	034276	049407		40	11. 45	034583	049239	
45	12. 26	034293	049407		45	11. 50	034588	049272	
50	12. 25	034293	049473		50	11. 50	034610	049286	
55	12. 16	034532	049486		55	11. 55	034593	049272	
July 20. 5. 0	23. 12. 8	0·034549	0·049533	J H	July 20. 9. 0	23. 11. 55	0·034593	0·049272	G
5	12. 1	034549	049493		5	11. 55	034615	049272	
10	11. 58	034792	049466		10	11. 55	034676	049265	
15	11. 53	034814	049459		15	11. 55	034676	049265	
20	11. 51	034880	049400		20	11. 45	034605	049265	
25	11. 46	035075	049400		25	11. 39	034583	049252	
30	11. 44	035119	049400		30	11. 28	034583	049239	
35	11. 35	035097	049374	J H	35	11. 32	034600	049239	
40	11. 25	035163	049387	P	40	11. 37	034600	049225	
45	11. 22	035053	049320		45	11. 46	034661	049232	
50	11. 14	035025	049293		50	11. 52	034661	049219	
55	11. 15	035025	049260		55	11. 49	034678	049205	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, 210°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot 6$; in Vertical Plane, $23^s\cdot 5$.

July $20^d.\ 2^h.\ 40^m$. The western declination was larger, if the observation be correct, than at any other time during the term, but it is probable that in this observation, as well as that at $7^h.\ 50^m$, the reading of the micrometer was one revolution in error.

July $20^d.\ 5^h.\ 0^m$. The reading of the Vertical Force Magnet was the largest in the term.

July $20^d.\ 6^h.\ 35^m$. The reading of the Horizontal Force Magnet was larger than at any other time during the term.

Term-Day Observations of August 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	° ′ ″			
Aug. 25. 10. 0	23. 9. 54	0·035575	0·048487	D	Aug. 25. 14. 0	23. 9. 29	0·035272	0·048080	J H
5	9. 27	035685	048493		5	9. 21	035140	048093	
10	9. 6	035796	048487		10	9. 1	035100	048060	
15	9. 52	035663	048500		15	9. 6	034945	048060	
20	10. 2	035641	048487		20	9. 6	034973	048074	
25	10. 11	035376	048474		25	9. 30	034906	048100	
30	10. 11	035309	048467		30	9. 45	035044	048079	
35	10. 2	035287	048460		35	9. 41	035072	048086	
40	10. 7	035265	048460		40	10. 59	035248	048100	
45	10. 28	035231	043467		45	11. 51	035253	048174	
50	10. 48	035841	048474		50	12. 18	035170	048154	
55	11. 14	035575	048487		55	13. 24	035236	048155	
Aug. 25. 11. 0	23. 11. 4	0·035619	0·048487	D	Aug. 25. 15. 0	23. 14. 16	0·035219	0·048148	J H
5	11. 19	035818	048481		5	14. 37	035236	048154	
10	11. 17	035796	048493		10	14. 28	035320	048153	
15	11. 13	035685	048481		15	14. 18	035315	048112	
20	11. 13	035514	048474		20	13. 22	035421	048139	
25	11. 8	035491	048467		25	11. 5	035637	048118	
30	11. 8	035514	048467		30	11. 7	035742	048285	
35	11. 3	035580	048474		35	11. 13	035671	048205	
40	11. 5	035430	048474		40	10. 59	035600	048224	
45	11. 20	035651	048481		45	10. 32	035705	048277	
50	11. 24	035585	048481		50	10. 44	035345	048364	
55	11. 44	035519	048493		55	10. 49	035518	048344	
Aug. 25. 12. 0	23. 11. 45	0·035502	0·048493	D	Aug. 25. 16. 0	23. 11. 39	0·035247	0·048410	J H
5	11. 42	035661	048460		5	10. 16	035269	048417	
10	11. 29	035446	048453		10	9. 20	035269	048390	
15	11. 11	035478	048407		15	7. 58	035202	048377	J H
20	11. 27	035372	048368		20	8. 13	035269	048377	P
25	11. 33	035554	048349		25	6. 59	035247	048370	
30	11. 37	035698	048315		30	6. 31	035274	048417	
35	11. 48	035836	048256		35	6. 18	035406	048429	
40	11. 23	035775	048236		40	6. 44	035119	048429	
45	11. 3	035669	048203		45	6. 50	035119	048429	
50	10. 27	035569	048169		50	6. 55	035119	048429	
55	10. 17	035507	048143	D	55	6. 57	035119	048429	
Aug. 25. 13. 0	23. 10. 19	0·035867	0·048136	J H	Aug. 25. 17. 0	23. 6. 35	0·035008	0·048436	P
5	11. 32	036087	048136		5	6. 29	035008	048443	
10	10. 55	035894	048145		10	5. 36	035119	048449	
15	10. 55	035960	048085		15	5. 34	035119	048463	
20	10. 50	036098	048151		20	4. 52	035008	048563	
25	10. 50	036364	048271		25	4. 31	035008	048587	
30	10. 50	036120	048179		30	4. 31	034991	048630	
35	10. 45	035926	048258		35	3. 45	034991	048638	
40	10. 40	035816	048205		40	3. 39	035013	048671	
45	10. 20	035511	048139		45	3. 31	035036	048671	
50	10. 11	035412	048119		50	3. 32	035036	048671	
55	9. 51	035405	048106		55	3. 34	035102	048711	

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, 210°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 6$; in Vertical Plane, $23^s \cdot 5$.

Aug. 25^d. 14^h. 10^m and 14^h. 15^m. The reading of the Vertical Force Magnet was smaller than at any other time during the term.

Term-Day Observations of August 25 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.	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. 25. 18. 0	23. 3. 34	0·035102	0·048737	P	Aug. 25. 22. 0	23. 11. 5	0·032803	0·048441	D
5	2. 56	035102	048737		5	11. 33	032559	048441	
10	3. 40	035146	048737		10	11. 45	032559	048414	
15	3. 37	035146	048737		15	10. 17	032360	048447	
20	4. 4	035102	048737		20	11. 50	032382	048453	
25	4. 11	035102	048737		25	12. 28	032427	048453	
30	3. 45	034925	048737		30	12. 31	032444	048479	
35	3. 11	034880	048737		35	12. 50	032576	048479	
40	2. 48	034925	048671		40	13. 4	032561	048473	D
45	3. 39	034991	048685		45	13. 17	032495	048493	J H
50	3. 59	034549	048671		50	13. 44	033115	048473	
55	3. 52	034637	048671		55	14. 31	033204	048499	
Aug. 25. 19. 0	23. 10. 9	0·034505	0·048638	P	Aug. 25. 23. 0	23. 14. 29	0·032731	0·048432	J H
5	10. 9	034465	048611		5	15. 25	032438	048472	
10	10. 9	034320	048551		10	15. 16	032699	048526	
15	4. 22	034198	048551		15	15. 24	032799	048505	
20	7. 15	033782	048524		20	15. 37	032794	048498	
25	7. 31	033970	048498		25	15. 43	032634	048511	J H
30	7. 48	033510	048472		30	15. 44	032651	048504	P
35	7. 38	033675	048445	P	35	15. 50	032734	048565	
40	7. 55	033304	048479	M	40	17. 2	032901	048565	
45	8. 2	033331	048466		45	17. 15	032476	048510	
50	7. 18	033381	048439		50	17. 34	032714	048537	
55	7. 29	033334	048433		55	17. 34	033152	048537	
Aug. 25. 20. 0	23. 5. 50	0·033585	0·048347	M	Aug. 26. 0. 0	23. 17. 45	0·033124	0·048496	P
5	8. 32	033518	048441		5	18. 26	033585	048522	
10	8. 21	033651	048354		10	18. 26	033602	048489	
15	6. 45	033846	048540		15	18. 26	034310	048482	
20	9. 36	033890	048487		20	18. 46	033773	048577	
25	9. 26	033779	048480		25	18. 52	033857	048575	
30	9. 30	033818	048427		30	19. 5	033785	048602	
35	8. 54	033840	048434		35	19. 12	034267	048628	
40	8. 31	033619	048451		40	19. 12	034267	048587	
45	8. 6	033663	048454		45	19. 30	034505	048587	
50	7. 59	033725	048387		50	19. 30	034412	048681	
55	8. 40	033702	048387		55	19. 11	033986	048687	
Aug. 25. 21. 0	23. 9. 40	0·033437	0·048414	M	Aug. 26. 1. 0	23. 19. 11	0·034224	0·048667	P
5	9. 42	033481	048414		5	18. 32	034534	048693	D
10	9. 12	033321	048473		10	19. 18	034667	048719	
15	9. 43	033188	048441		15	19. 0	034845	048780	
20	8. 59	033205	048414		20	19. 0	034933	048799	
25	10. 19	032646	048454		25	19. 8	034906	048812	
30	10. 19	032846	048307		30	18. 59	034884	048846	
35	10. 22	033062	048360	M	35	18. 49	034906	048872	
40	10. 24	032946	048354	D	40	18. 47	034795	048885	
45	9. 19	032902	048407		45	18. 31	034773	048865	
50	10. 17	033029	048441		50	18. 31	034834	048892	
55	11. 15	032963	048434		55	18. 27	034768	048924	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, 210°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s\cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s\cdot 6$; in Vertical Plane, $23^s\cdot 5$.

Aug. $25^d.\ 18^h.\ 40^m$. The western declination was smaller than at any other time during the term.

Aug. $25^d.\ 19^h.\ 0^m$. It is conjectured that the readings of the micrometer in this and in the two following observations, were 5^r too small, and if so, the western declination should be 23°. 2′. 4″ at each of the observations.

Aug. $25^d.\ 22^h.\ 15^m$. This reading of the Horizontal Force Magnet was the smallest in the term.

Aug. $26^d.\ 0^h.\ 45^m$ and $0^h.\ 50^m$. The western declination was larger than at any other time during the term.

Term-Day Observations of August 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	° ′ ″			
Aug. 26. 2. 0	23. 18. 6	0·035055	0·048912	D	Aug. 26. 6. 0	23. 10. 20	0·035819	0·049062	D
5	18. 9	034940	048918	J H	5	10. 12	035642	049055	
10	17. 56	035200	048924		10	10. 10	035620	049055	
15	18. 2	035655	048884		15	10. 10	035620	049055	
20	17. 43	035694	048957		20	10. 10	035553	049055	
25	17. 31	035467	048944		25	10. 10	035553	049055	
30	17. 12	035745	049003		30	10. 10	035576	049055	
35	17. 9	035297	048983	J H	35	10. 0	035487	049036	
40	16. 44	035314	049063	P	40	9. 58	035421	049003	
45	16. 31	035348	049009		45	9. 57	035443	048989	
50	16. 13	035365	049035		50	9. 55	035487	048976	
55	16. 26	035642	049062		55	9. 50	035399	048969	
Aug. 26. 3. 0	23. 16. 7	0·035637	0·049035	P	Aug. 26. 7. 0	23. 9. 46	0·035377	0·048949	D
5	16. 15	035859	049047		5	9. 48	035399	048895	
10	15. 57	035831	049027		10	9. 47	035404	048869	
15	15. 57	035876	049060		15	9. 35	035492	048869	
20	15. 57	035915	049086		20	8. 4	035431	048821	
25	15. 42	035893	049139		25	8. 9	035431	048775	
30	15. 19	035799	049165		30	8. 13	035458	048737	
35	15. 2	035467	049205		35	8. 12	035480	048737	D
40	15. 4	035705	049204		40	8. 11	035552	048703	J H
45	14. 36	035368	049230		45	8. 11	035530	048677	
50	14. 36	035368	049283		50	8. 8	035756	048643	
55	14. 17	035297	049304		55	8. 10	035778	048617	
Aug. 26. 4. 0	23. 14. 4	0·035270	0·049343	P	Aug. 26. 8. 0	23. 8. 13	0·035518	0·048591	J H
5	14. 4	035270	049323		5	8. 13	035518	048605	
10	13. 56	035331	049323		10	8. 10	035584	048578	
15	13. 56	035331	049310		15	8. 0	035767	048578	
20	13. 23	035126	049253		20	7. 53	035789	048571	
25	13. 12	035126	049256		25	7. 40	035877	048571	
30	13. 2	035126	049256		30	7. 27	035882	048578	
35	12. 51	035143	049256		35	7. 27	035882	048564	
40	12. 51	035099	049209		40	7. 34	035882	048538	
45	12. 19	034922	049203		45	7. 32	035622	048559	
50	12. 19	034939	049189		50	6. 57	035467	048485	
55	12. 1	035071	049189		55	5. 7	035467	048512	
Aug. 26. 5. 0	23. 12. 1	0·035110	0·049156	P	Aug. 26. 9. 0	23. 4. 32	0·035516	0·048446	J H
5	11. 50	035177	049122	P	5	3. 48	036186	048513	
10	11. 50	035133	049089	D	10	3. 57	036479	048473	
15	11. 36	035177	049115		15	4. 49	036611	048480	
20	11. 27	035177	049115		20	5. 19	036528	048560	
25	11. 23	035310	049115		25	5. 19	036445	048527	
30	11. 20	035531	049122		30	5. 35	036251	048460	
35	11. 16	035797	049122		35	6. 5	035923	048500	
40	11. 3	035908	049122		40	6. 20	035791	048474	
45	10. 53	035908	049109		45	6. 25	035995	048501	
50	10. 43	035797	049109		50	6. 23	035911	048486	
55	10. 27	035819	049075		55	6. 23	035784	048461	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 210°.
Reading of Torsion-Circle for Horizontal Force Magnetometer, 317°. Reading for Brass Bar in the same position, 358°. 3′.
Time of Vibration of Horizontal Force Magnetometer, $20^s \cdot 8$.
Time of Vibration of Vertical Force Magnetometer in Horizontal Plane, $24^s \cdot 6$; in Vertical Plane, $23^s \cdot 5$.

Aug. 26^d. 4^h. 0^m. The reading of the Vertical Force Magnet was the largest in the term.

Aug. 26^d. 9^h. 15^m. The reading of the Horizontal Force Magnet was larger than at any other time during the term.

Term-Day Observations of September 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. 20. 10. 0	23. 11. 3	0·038709	0·047390	G	Sep. 20. 14. 0	23. 12. 50	0·038032	0·047035	D
5	11. 51	038421	047390		5	14. 8	037944	047029	
10	12. 23	038266	047356		10	12. 45	037904	047028	
15	12. 23	038133	047356		15	16. 5	037733	047009	
20	11. 48	038349	047344		20	23. 10	038840	047022	
25	11. 17	038549	047344		25	25. 37	039664	047090	
30	11. 33	039168	047364		30	24. 7	039602	047037	
35	12. 3	038881	047337		35	23. 3	039298	046676	
40	12. 4	038787	047363		40	20. 40	039010	046523	
45	12. 0	038610	047324		45	18. 34	038882	046476	
50	12. 1	038588	047324		50	18. 12	038976	046437	
55	12. 24	038566	047311		55	18. 39	038782	046444	
Sep. 20. 11. 0	23. 12. 45	0·038610	0·047332	G	Sep. 20. 15. 0	23. 18. 20	0·038676	0·046471	D
5	13. 0	038371	047305		5	17. 49	038565	046511	
10	13. 6	038293	047272		10	16. 30	038437	046504	
15	13. 21	038259	047266		15	15. 45	038420	046532	
20	13. 30	038225	047307		20	15. 1	038227	046518	
25	14. 12	038191	047274		25	13. 57	038028	046506	
30	14. 18	038157	047260		30	13. 20	038011	046519	
35	14. 31	038251	047248		35	13. 3	038016	046552	
40	14. 35	038217	047215		40	12. 37	038087	046565	
45	14. 33	038249	047189		45	12. 41	037960	046593	
50	14. 27	038260	047174		50	12. 39	037921	046586	
55	14. 43	038336	047148		55	12. 8	037837	046600	
Sep. 20. 12. 0	23. 14. 48	0·038236	0·047156	G	Sep. 20. 16. 0	23. 12. 38	0·037882	0·046608	D
5	14. 48	038285	047189		5	12. 53	038058	046608	
10	14. 48	038318	047176		10	12. 45	038240	046622	
15	14. 41	038234	047170		15	12. 31	038245	046635	
20	14. 41	038217	047143		20	12. 25	038206	046642	
25	14. 41	038134	047164		25	12. 13	038233	046642	D
30	14. 40	038166	047138		30	12. 9	037858	046609	J H
35	14. 36	038149	047158		35	12. 30	037885	046575	
40	14. 25	038243	047164		40	13. 1	037890	046616	
45	14. 26	038270	047198		45	13. 53	037829	046603	
50	14. 33	038145	047178		50	13. 50	037922	046630	
55	14. 39	038064	047172		55	13. 47	037994	046611	
Sep. 20. 13. 0	23. 14. 38	0·037959	0·047160	G	Sep. 20. 17. 0	23. 13. 31	0·037955	0·046604	J H
5	14. 39	038047	047160		5	13. 27	037888	046658	
10	14. 20	038141	047196		10	13. 16	037977	046671	
15	14. 20	038124	047139		15	13. 13	037955	046678	
20	14. 32	038218	047127	G	20	13. 27	037512	046658	
25	14. 30	038223	047186	D	25	13. 34	037512	046658	
30	14. 24	038140	047153		30	14. 34	037335	046671	
35	14. 8	038184	047220		35	14. 30	037318	046748	
40	13. 55	038189	047161		40	14. 51	037296	046745	
45	13. 35	038128	047107		45	14. 56	037274	046745	
50	13. 34	038144	047074		50	15. 38	037362	046745	
55	13. 11	038138	047061		55	16. 24	037296	046858	

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, 189°.
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, 23s·5.

Sep. 20d. 14h. 25m. The reading of the Horizontal Force Magnet was larger than at any other time during the term.
Sep. 20d. 14h. 50m. The reading of the Vertical Force Magnet was smaller than at any other time during the term.

Term-Day Observations of September 20 and 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	° ′ ″			
Sep. 20. 18. 0	23. 16. 20	0·037362	0·046864	J H	Sep. 20. 22. 0	23. 15. 37	0·035596	0·047139	G
5	16. 13	037406	046851		5	15. 39	035574	047153	
10	16. 19	037434	046832		10	15. 13	035425	047145	
15	16. 10	037434	046838		15	15. 0	035452	047179	
20	16. 33	037528	046845		20	16. 0	035435	047220	
25	16. 47	037550	046812		25	16. 14	035418	047220	
30	16. 56	037864	046793		30	16. 14	035223	047193	
35	17. 16	037842	046772		35	17. 8	034847	047193	
40	18. 19	037781	046760		40	17. 12	034830	047193	G
45	17. 52	037914	046726		45	17. 30	034260	047174	J H
50	17. 24	037808	046707		50	17. 47	034486	047160	
55	17. 10	037720	046688		55	18. 8	034690	047247	
Sep. 20. 19. 0	23. 16. 27	0·037720	0·046674	J H	Sep. 20. 23. 0	23. 18. 39	0·034673	0·047155	J H
5	16. 5	037587	046674		5	18. 35	034673	047155	
10	15. 34	037715	046714		10	18. 13	035333	047148	
15	14. 54	037759	046774		15	18. 58	034890	047155	
20	14. 39	037870	046800		20	18. 48	035083	047108	J H
25	13. 46	037909	046800	J H	25	19. 19	035239	047094	P
30	13. 0	037887	046827	P	30	19. 54	035256	047081	
35	12. 27	037887	046827		35	19. 30	035588	047108	
40	12. 27	037904	046853		40	20. 26	035715	047128	
45	12. 31	037859	046853		45	20. 41	035826	047141	
50	12. 31	037859	046807		50	21. 7	035843	047141	
55	11. 51	037921	046927		55	21. 7	035843	047081	
Sep. 20. 20. 0	23. 11. 51	0·037921	0·046939	P	Sep. 21. 0. 0	23. 21. 30	0·035639	0·047074	P
5	11. 10	037876	046912		5	22. 28	036005	047047	
10	11. 16	037683	046926		10	22. 6	035817	047126	
15	11. 37	037333	046920		15	22. 3	035851	047139	
20	11. 49	037223	047019		20	21. 27	035996	047153	
25	11. 37	037095	047019		25	21. 48	036013	047151	
30	11. 41	036984	046992		30	22. 11	036002	047145	
35	12. 6	036967	047006		35	21. 47	036058	047153	
40	12. 13	036950	047059		40	22. 25	036320	047179	
45	12. 13	036977	047033		45	22. 36	036354	047244	
50	12. 22	036916	047033		50	24. 8	036814	047251	
55	11. 57	036916	047047		55	25. 25	036958	047277	
Sep. 20. 21. 0	23. 11. 52	0·036899	0·047021	P	Sep. 21. 1. 0	23. 24. 44	0·036626	0·047331	P
5	12. 7	036899	047021		5	24. 39	036693	047330	J H
10	11. 55	036695	047047		10	25. 0	036405	047390	
15	12. 12	036513	047047		15	25. 3	036648	047424	
20	12. 9	036463	047073		20	25. 25	036826	047417	
25	12. 2	036303	047073		25	25. 22	036715	047443	
30	12. 35	036320	047106		30	25. 27	036693	047477	
35	12. 29	036448	047106	P	35	25. 19	036405	047496	J H
40	13. 24	036382	047119	G	40	25. 16	036360	047522	D
45	14. 38	036243	047119		45	24. 55	035984	047535	
50	14. 49	036177	047172		50	24. 54	036094	047522	
55	15 12	035707	047139		55	24. 18	036272	047549	

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, 189°.
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, $23^s \cdot 5$.

Sep. $20^d.\ 22^h.\ 45^m$. The reading of the Horizontal Force Magnet was smaller than at any other time during the term.

Term-Day Observations of September 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	° ′ ″			
Sep. 21. 2. 0	23. 23. 49	0·036183	0·047581	D	Sep. 21. 6. 0	23. 19. 11	0·037088	0·048124	P
5	23. 50	036333	047607		5	19. 4	037000	048124	
10	24. 9	036377	047640		10	19. 9	037000	048065	
15	24. 17	036527	047647		15	17. 47	037238	048065	
20	25. 6	036744	047647		20	17. 36	037526	048058	
25	25. 35	036960	047686		25	17. 56	037681	048058	
30	25. 41	036960	047720		30	18. 8	037698	048058	
35	25. 15	036512	047739		35	18. 3	037477	048018	
40	25. 1	036507	047673		40	17. 47	037477	047991	
45	24. 41	036479	047699		45	17. 47	037494	047991	
50	24. 35	036524	047713		50	18. 28	038601	047991	
55	24. 28	036563	047725		55	18. 24	038268	047991	
Sep. 21. 3. 0	23. 24. 26	0·036762	0·047752	D	Sep. 21. 7. 0	23. 17. 29	0·037715	0·047978	P
5	24. 13	036818	047778		5	17. 16	036608	047891	
10	23. 55	036724	047818		10	16. 50	036497	047891	
15	24. 0	036847	047825		15	12. 51	035705	047911	
20	24. 13	037086	047811		20	10. 6	035705	047830	
25	24. 35	037606	047837		25	5. 51	036591	047830	
30	24. 45	037623	047837	D	30	4. 0	037477	047897	
35	24. 24	037485	047851	G	35	4. 8	037902	047964	P
40	24. 3	037364	047811		40	6. 11	035888	047938	J H
45	24. 3	037443	047837		45	7. 51	035777	047998	
50	24. 3	037460	047844		50	9. 5	035627	048012	
55	24. 1	037273	047870		55	8. 46	035406	047952	
Sep. 21. 4. 0	23. 23. 27	0·037162	0·047863	G	Sep. 21. 8. 0	23 7. 44	0·037531	0·047938	J H
5	23. 29	037273	047877		5	8. 5	036983	047851	
10	23. 19	037400	047849		10	10. 2	037757	047918	
15	22. 58	037400	047843		15	11. 23	037873	047892	
20	22. 46	037400	047843		20	11. 48	037834	047819	
25	22. 39	037307	047869		25	12. 25	037878	047819	
30	22. 30	037196	047882		30	13. 27	037397	047772	
35	22. 12	037102	047888		35	13. 33	037441	047726	
40	22. 10	037324	047888		40	14. 2	037358	047686	
45	21. 52	037451	047914		45	15. 21	037358	047645	
50	20. 37	037562	047941		50	15. 20	037119	047652	
55	19. 55	037689	047967		55	15. 30	037075	047626	
Sep. 21. 5. 0	23. 19. 44	0·037689	0·047994	G	Sep. 21. 9. 0	23. 15. 30	0·036874	0·047593	J H
5	18. 31	037689	048034		5	15. 45	037007	047580	
10	18. 31	037706	048060		10	15. 48	037295	047600	
15	18. 3	037817	048073		15	15. 48	037295	047593	
20	18. 8	038233	048073		20	15. 51	037449	047586	
25	18. 11	038388	048126		25	15. 58	037295	047593	
30	18. 12	038516	048160		30	16. 4	037295	047600	
35	18. 18	038294	048152		35	16. 4	037449	047626	
40	18. 57	038294	048166	G	40	16. 1	037140	047593	
45	19. 26	037868	048084	P	45	15. 56	037228	047533	
50	19. 28	037647	048111		50	15. 55	037317	047593	
55	19. 6	037177	048131		55	15. 30	037472	047593	J H

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 189°.
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, $23^s \cdot 5$.

Sep. $21^d.\ 2^h.\ 30^m$. The western declination at this time was the largest in the term.
Sep. $21^d.\ 5^h.\ 40^m$. The reading of the Vertical Force Magnet was the largest in the term.
Sep. $21^d.\ 7^h.\ 30^m$. The western declination was smaller than at any other time during the term.

Term-Day Observations of October 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. 18. 10. 0	23. 14. 46	0·038390	0·043975	G	Oct. 18. 14. 0	23. 17. 16	0·038054	0·043791	D
5	14. 33	038323	044026		5	17. 5	037966	043784	
10	14. 58	038346	044038		10	17. 5	037988	043784	
15	15. 29	038412	044038		15	16. 35	038032	043784	
20	15. 30	038811	044038		20	17. 12	037971	043784	
25	15. 20	038811	044026		25	17. 46	037971	043784	
30	14. 51	038102	044026		30	18. 20	037949	043764	
35	14. 46	038146	044038		35	18. 26	037904	043770	
40	14. 44	038146	044076		40	18. 10	037932	043764	
45	15. 9	038235	044076		45	17. 45	038109	043764	
50	15. 18	038323	044089		50	17. 30	038131	043764	
55	15. 18	038323	044057		55	17. 15	038131	043757	
Oct. 18. 11. 0	23. 15. 23	0·038368	0·044057	G	Oct. 18. 15. 0	23. 16. 59	0·038176	0·043745	D
5	14. 48	038478	044057		5	17. 15	038131	043706	
10	14. 44	038522	044057		10	18. 7	038092	043687	
15	13. 35	038545	044057		15	19. 0	037804	043655	
20	13. 24	038412	044038		20	19. 52	037588	043630	
25	15. 13	038545	044026		25	20. 50	037455	043578	
30	15. 16	038478	044026		30	22. 2	037438	043584	
35	15. 16	038478	044026		35	22. 57	037460	043545	
40	15. 13	038478	044026		40	23. 47	037554	043526	
45	15. 16	038368	044026		45	24. 13	037664	043493	
50	15. 16	038412	044026		50	24. 14	037780	043481	
55	14. 26	038212	044057		55	24. 0	038002	043436	
Oct. 18. 12. 0	23. 14. 26	0·038146	0·044026	G	Oct. 18. 16. 0	23. 24. 5	0·038317	0·043391	D
5	14. 26	038057	044057		5	24. 5	038715	043384	
10	14. 25	037908	044049		10	23. 30	039092	043384	
15	14. 20	037885	044036		15	22. 1	039424	043366	D
20	14. 17	037797	043996		20	20. 42	039685	043329	J H
25	14. 25	037714	043996		25	18. 43	039795	043322	
30	14. 38	037714	043951		30	18. 42	039795	043266	
35	14. 43	037653	043925		35	16. 46	039795	043247	
40	14. 33	037675	043898		40	16. 10	039680	043247	
45	14. 39	037658	043845		45	16. 1	039237	043215	
50	14. 56	037658	043819		50	14. 29	039170	043215	
55	15. 14	037641	043793		55	14. 17	039015	043253	
Oct. 18. 13. 0	23. 15. 17	0·037707	0·043812	G	Oct. 18. 17. 0	23. 13. 33	0·038794	0·043247	J H
5	15. 18	037707	043825		5	13. 38	038152	043247	
10	15. 19	037707	043825		10	13. 54	037908	043316	
15	15. 32	037685	043825	G	15	13. 50	037709	043310	
20	15. 45	037646	043810	D	20	14. 0	037449	043361	
25	16. 33	037712	043817		25	14. 26	037172	043448	
30	16. 30	037712	043810		30	14. 30	037094	043467	
35	16. 38	037734	043810		35	14. 30	037116	043511	
40	16. 47	037739	043791		40	14. 30	037210	043537	
45	17. 1	037783	043791		45	14. 30	037232	043556	
50	17. 11	037828	043791		50	14. 31	037210	043557	
55	16. 56	037850	043791		55	14. 32	037033	043588	

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, 189°.
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, $24^s.2$.

Oct. $18^d.15^h.50^m$. The western declination was larger than at any other time during the term.

Oct. $18^d.16^h.25^m$ to $16^h.35^m$. The reading of the Horizontal Force Magnet was constant, and was larger than at any other time during the term.

Term-Day Observations of October 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	° ′ ″			
Oct. 18. 18. 0	23. 14. 36	0·036999	0·043567	J H	Oct. 18. 22. 0	23. 14. 59	0·035655	0·043330	G
5	14. 48	036965	043508		5	15. 7	035721	043305	
10	15. 0	036798	043480		10	15. 52	035832	043330	
15	15. 7	036675	043445		15	15. 34	035721	043324	
20	14. 59	036669	043392		20	16. 6	035416	043330	
25	15. 26	036701	043339		25	16. 4	035372	043330	
30	15. 23	036756	043286		30	15. 44	035372	043330	G
35	15. 25	036611	043207		35	15. 50	035483	043330	H
40	15. 23	036439	043249		40	16. 21	035466	043336	
45	15. 20	036343	043291		45	17. 2	035577	043336	
50	15. 21	036379	043211		50	17. 29	035577	043387	
55	15. 17	036225	043153		55	17. 11	035577	043387	H
Oct. 18. 19. 0	23. 15. 3	0·036325	0·043104	J H	Oct. 18. 23. 0	23. 17. 11	0·035355	0·043399	G
5	14. 58	036446	043073		5	18. 13	035466	043387	
10	14. 56	036496	043106		10	17. 55	035483	043387	
15	14. 45	036944	043163		15	18. 48	035500	043400	
20	14. 38	036910	043163		20	18. 52	036070	043425	
25	14. 40	036738	043176		25	20. 11	035959	043413	G
30	14. 24	036433	043258		30	20. 43	035490	043439	J H
35	14. 16	036554	043279	J H	35	20. 22	035396	043414	
40	14. 18	036559	043324	M	40	20. 6	035302	043451	
45	14. 23	036409	043349		45	20. 8	035297	043302	J H
50	14. 21	036525	043400		50	20. 7	035314	043283	D
55	14. 22	036552	043463		55	20. 7	035442	043460	
Oct. 18. 20. 0	23. 14. 14	0·036580	0·043438	M	Oct. 19. 0. 0	23. 20. 53	0·035525	0·043466	D
5	14. 27	036314	043462		5	20. 47	035525	043453	
10	14. 13	036269	043443		10	21. 17	035658	043486	
15	13. 57	036247	043449		15	21. 15	035636	043519	
20	14. 7	036164	043441		20	21. 23	035680	043551	
25	14. 14	036297	043409		25	21. 57	035968	043583	
30	14. 5	036230	043432		30	21. 50	035786	043557	
35	14. 4	036341	043431		35	21. 42	035941	043565	D
40	14. 9	036368	043469		40	21. 44	035985	043655	J H
45	13. 48	036435	043443		45	21. 59	036228	043667	
50	14. 2	036479	043435		50	22. 10	036339	043630	
55	13. 54	036413	043421		55	22. 23	036205	043636	
Oct. 18. 21. 0	23. 13. 38	0·036285	0·043388	M	Oct. 19. 1. 0	23. 22. 15	0·036295	0·043657	J H
5	13. 56	036241	043382		5	22. 21	036373	043677	
10	13. 49	036108	043406		10	22. 36	036276	043697	
15	13. 40	036019	043374		15	22. 24	036291	043724	
20	13. 54	036191	043361		20	22. 21	036197	043777	
25	14. 7	035970	043366		25	22. 23	036148	043765	
30	14. 2	036080	043372		30	22. 19	036337	043778	
35	14. 17	036125	043384	M	35	22. 32	036376	043805	
40	14. 32	036053	043376	G	40	22. 30	036587	043832	J H
45	14. 56	036053	043356		45	22. 40	036666	043858	D
50	14. 56	036053	043356		50	23. 1	036993	043911	
55	14. 59	036031	043330		55	22. 49	037005	043937	

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, 189°.
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, $24^s \cdot 2$.

Oct. 18^d $19^h.$ $5^m.$ This reading of the Vertical Force Magnet was the smallest in the term.
Oct. $18^d.$ $23^h.$ $45^m.$ The reading of the Horizontal Force Magnet was smaller than at any other time during the term.

Term-Day Observations of October 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	° ′ ″			
Oct. 19. 2. 0	23. 22. 49	0·037105	0·043953	D	Oct. 19. 6. 0	23. 16. 8	0·037416	0·044227	D
5	22. 8	036972	044000		5	16. 8	037632	044215	
10	22. 16	036945	044007		10	16. 8	037760	044216	
15	22. 16	036984	044009		15	16. 14	037976	044216	
20	22. 29	037112	044067		20	16. 25	038170	044231	
25	22. 38	037107	044094		25	16. 33	038187	044257	
30	22. 38	036924	044120	D	30	16. 37	038248	044265	
35	22. 24	036698	044160	J H	35	16. 52	038309	044285	
40	22. 15	036892	044142		40	17. 8	038393	044266	
45	21. 22	037091	044176		45	17. 16	038343	044273	
50	21. 22	037130	044164		50	17. 16	038382	044262	
55	21. 12	036948	044134		55	17. 12	038488	044282	
Oct. 19. 3. 0	23. 21. 12	0·036921	0·044134	J H	Oct. 19. 7. 0	23. 17. 12	0·038416	0·044309	D
5	21. 1	036721	044160		5	17. 16	038394	044277	
10	21. 3	037115	044123		10	17. 20	038372	044252	
15	21. 6	037265	044201		15	17. 17	038350	044233	
20	21. 15	037348	044220		20	17. 25	038289	044214	
25	21. 15	037277	044266		25	17. 25	038355	044195	
30	21. 4	037138	044292		30	17. 19	038370	044189	D
35	21. 4	037266	044261		35	16. 58	038444	044183	G
40	20. 55	037155	044288		40	17. 2	038338	044183	D
45	20. 41	037084	044176		45	17. 27	038338	044170	D
50	20. 47	037234	044209		50	17. 29	038205	044164	G
55	20. 34	037273	044241		55	17. 20	038139	044164	
Oct. 19. 4. 0	23. 20. 28	0·037401	0·044267	J H	Oct. 19. 8. 0	23. 17. 20	0·037652	0·044144	G
5	20. 27	037246	044305		5	17. 20	037519	044114	
10	20. 26	037240	044257		10	16. 5	037431	044114	
15	20. 24	037147	044225		15	16. 1	037475	044114	
20	20. 4	037452	044257		20	15. 18	037475	044114	
25	19. 59	037424	044232		25	14. 48	037541	044114	
30	19. 54	037508	044266		30	14. 8	037608	044104	
35	19. 49	037658	044247	J H	35	13. 59	037652	044104	
40	19. 46	037834	044273	D	40	13. 51	037896	044114	
45	19. 29	037851	044291		45	13. 51	038072	044133	
50	19. 28	037891	044305		50	13. 31	037874	044114	
55	19. 53	037620	044305		55	13. 2	037652	044102	
Oct. 19. 5. 0	23. 19. 36	0·037615	0·044294	D	Oct. 19. 9. 0	23. 12. 44	0·037652	0·044102	G
5	19. 17	037482	044288		5	12. 36	037829	044102	
10	18. 52	036530	044288		10	13. 1	037896	044114	
15	18. 29	035976	044181		15	13. 22	037874	044114	
20	16. 0	036154	044200		20	13. 22	037674	044114	
25	15. 47	036641	044226		25	14. 30	037652	044114	
30	16. 17	037017	044282		30	14. 31	037652	044121	
35	16. 10	036884	044276		35	14. 22	037652	044121	
40	16. 25	036973	044265		40	14. 17	037475	044102	
45	16. 33	037194	044278		45	13. 34	037541	044102	
50	15. 58	037283	044253		50	13. 32	037763	044102	
55	16. 24	037438	044227		55	13. 36	037829	044114	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, 189°.
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, $24^s.2$.

Oct. $19^d.4^h.50^m$ and $4^h.55^m$. The readings of the Vertical Force Magnet at these times were the largest in the term.
Oct. $19^d.9^h.5^m$. The western declination at this time was the smallest in the term.

Term-Day Observations of November 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	° ′ ″			
Nov. 24. 10. 0	23. 14. 3	0·038829	0·043436	D	Nov. 24. 14. 0	23. 14. 46	0·038787	0·043234	M
5	14. 5	038895	043449		5	14. 54	038854	043259	
10	14. 13	039050	043442		10	15. 14	038920	043259	
15	14. 21	039161	043436		15	15. 34	038942	043297	
20	14. 25	039116	043449		20	15. 41	038854	043285	
25	14. 19	039072	043431		25	15. 26	038876	043241	
30	14. 19	038939	043424		30	15. 23	038898	043291	
35	14. 19	038895	043393		35	15. 57	038898	043298	M
40	14. 31	038983	043380		40	16. 23	038765	043353	P
45	14. 41	039005	043380		45	16. 7	038854	043242	
50	14. 53	039116	043368		50	16. 7	038920	043242	
55	14. 23	039161	043368		55	15. 57	038965	043248	
Nov. 24. 11. 0	23. 14. 29	0·039249	0·043375	D	Nov. 24. 15. 0	23. 15. 48	0·039009	0·043275	P
5	14. 28	039272	043395		5	15. 48	039203	043275	
10	13. 59	039266	043402		10	15. 50	039203	043288	
15	14. 4	039296	043384		15	15. 48	039220	043313	
20	14. 0	039340	043417		20	15. 48	039137	043262	
25	13. 48	039251	043411		25	15. 25	039276	043262	
30	13. 48	039246	043424		30	15. 25	039315	043262	
35	13. 48	039218	043418		35	15. 25	039332	043262	
40	13. 41	039174	043431		40	15. 30	039482	043262	
45	13. 33	039058	043425		45	15. 30	039499	043256	
50	13. 44	039102	043431		50	15. 30	039516	043250	
55	13. 45	039075	043464		55	14. 58	039538	043250	
Nov. 24. 12. 0	23. 13. 45	0·038987	0·043452	D	Nov. 24. 16. 0	23. 14. 58	0·039555	0·043250	P
5	13. 36	038965	043445		5	14. 41	039555	043276	
10	13. 37	038965	043406		10	14. 30	039578	043276	
15	13. 28	038898	043406		15	14. 22	039578	043276	
20	13. 36	038881	043400		20	14. 22	039591	043303	
25	13. 51	038881	043393		25	14. 22	039617	043303	
30	14. 7	038881	043393		30	14. 22	039617	043303	
35	14. 18	038859	043393	D	35	14. 30	039617	043329	
40	14. 21	038775	043361	M	40	14. 33	039612	043329	
45	14. 57	038842	043361		45	14. 33	039612	043329	
50	16. 14	038753	043374		50	14. 33	039612	043329	
55	16. 36	038820	043374		55	14. 33	039612	043355	
Nov. 24. 13. 0	23. 17. 46	0·039085	0·043322	M	Nov. 24. 17. 0	23. 14. 38	0·039634	0·043382	P
5	17. 58	039218	043316		5	14. 48	039678	043382	
10	17. 56	039174	043304		10	14. 48	039678	043369	
15	17. 19	039152	043240		15	14. 48	039695	043369	
20	16. 27	039102	043217		20	14. 44	039739	043383	
25	15. 26	039102	043217		25	14. 45	039805	043383	
30	14. 52	039102	043211		30	14. 45	039805	043364	
35	14. 17	038970	043231		35	14. 29	039850	043364	P
40	14. 20	038965	043193		40	14. 24	039778	043391	J H
45	14. 45	038920	043193		45	14. 24	039822	043505	
50	14. 53	038898	043207		50	14. 29	039822	043505	
55	14. 50	038765	043238		55	14. 41	039884	043505	

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, 189°.
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, $24^s \cdot 2$.

Nov. $24^d.\ 12^h.\ 15^m$. The western declination was smaller than at any other time during the term.

Term-Day Observations of November 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	° ′ ″			
Nov. 24. 18. 0	23. 14. 47	0·039861	0·043512	J H	Nov. 24. 22. 0	23. 15. 4	0·039242	0·043372	G
5	14. 53	039867	043512		5	15. 17	039220	043370	
10	14. 56	039867	043493		10	15. 14	039220	043376	
15	15. 7	039867	043493		15	15. 16	038936	043350	
20	15. 10	039805	043461		20	15. 23	038782	043304	
25	15. 11	039805	043461		25	15. 44	038743	043266	
30	15. 21	039744	043461		30	15. 43	038698	043240	
35	15. 18	039744	043448		35	15. 46	038726	043240	
40	15. 18	039705	043398		40	16. 6	038726	043232	
45	15. 2	039705	043398		45	15. 58	038709	043199	
50	15. 2	039688	043398		50	16. 21	038709	043172	
55	15. 2	039688	043336		55	16. 22	038522	043178	G
Nov. 24. 19. 0	23. 15. 2	0·039732	0·043310	J H	Nov. 24. 23. 0	23. 16. 28	0·038499	0·043158	D
5	15. 2	039732	043341		5	16. 46	038566	043152	
10	15. 2	039732	043340		10	16. 41	038539	043133	
15	15. 2	039732	043348		15	16. 47	038561	043152	
20	15. 4	039710	043327		20	17. 4	038600	043119	
25	15. 7	039688	043327		25	17. 16	038556	043131	
30	15. 12	039661	043327		30	17. 30	038683	043144	D
35	15. 12	039661	043327		35	17. 30	038573	043093	P
40	15. 14	039661	043263		40	17. 30	038462	043074	
45	15. 8	039678	043263		45	17. 50	038479	043074	
50	15. 58	039678	043301		50	17. 39	038413	043061	
55	14. 58	040053	043319		55	17. 31	038386	043043	
Nov. 24. 20. 0	23. 15. 19	0·039612	0·043257	J H	Nov. 25. 0. 0	23. 17. 33	0·038386	0·043037	P
5	15. 19	039545	043244		5	17. 40	038386	043037	P
10	15. 17	039323	043194		10	18. 1	038452	043037	D
15	15. 17	039523	043257		15	17. 49	038247	043086	D
20	15. 13	039340	043283		20	17. 56	038403	043131	P
25	15. 15	039340	043283		25	18. 3	038403	043081	
30	15. 14	039357	043283		30	17. 45	038403	043087	
35	14. 54	039247	043283		35	17. 57	038403	043087	
40	14. 44	039269	043283	J H	40	18. 5	038420	043152	
45	14. 34	039247	043283	G	45	18. 3	038530	043152	
50	14. 39	039264	043283		50	18. 4	038658	043171	
55	14. 39	039441	043295		55	18. 13	038658	043171	
Nov. 24. 21. 0	23. 14. 39	0·039707	0·043322	G	Nov. 25. 1. 0	23. 18. 16	0·038547	0·043171	P
5	14. 41	039707	043341		5	18. 12	038525	043171	
10	14. 39	039707	043348		10	18. 17	038596	043190	
15	14. 30	039707	043290		15	18. 5	038447	043202	
20	14. 20	039663	043372		20	17. 53	038386	043202	P
25	14. 17	039663	043372		25	17. 48	038342	043190	D
30	14. 23	039618	043372		30	18. 19	038435	043209	
35	14. 25	039530	043372		35	18. 1	038545	043221	
40	16. 2	039552	043372		40	17. 43	038484	043221	D
45	14. 42	039330	043372		45	17. 47	038749	043240	J H
50	14. 45	039441	043372		50	17. 50	038600	043240	
55	14. 45	039485	043372		55	17. 50	038556	043234	

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, 189°.
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, $24^s.2$.

Nov. $24^d.19^h.0^m$ to 15^m. The reading of the Horizontal Force Magnet was larger than at any other time during the term.
Nov. $24^d.21^h.40^m$. It is probable that the micrometer-reading for the observation of the declination is one revolution in error.
Nov. $25^d.0^h.0^m$ to 10^m. The reading of the Vertical Force Magnet was the smallest in the term.
Nov. $25^d.0^h.15^m$. The reading of the Horizontal Force Magnet was smaller than at any other time during the term.
Nov. $25^d.1^h.30^m$. The western declination was larger than at any other time during the term.

Term-Day Observations of November 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	° ′ ″			
Nov. 25. 2. 0	23. 17. 39	0·038539	0·043234	J H	Nov. 25. 6. 0	23. 15. 46	0·039371	0·043316	J H
5	17. 39	038556	043279		5	15. 42	039432	043362	
10	17. 26	038639	043261		10	15. 41	039510	043421	
15	17. 22	038855	043292		15	15. 38	039373	043421	
20	17. 17	038828	043351		20	15. 37	039473	043474	
25	17. 14	038889	043339		25	15. 30	039756	043521	
30	17. 9	038862	043429		30	15. 31	039507	043574	
35	17. 9	038901	043430	J H	35	15. 31	039546	043632	
40	17. 4	038851	043430	D	40	15. 31	039563	043622	
45	17. 9	038780	043437		45	15. 29	039553	043660	
50	16. 59	038664	043502		50	15. 24	039503	043700	
55	16. 57	038841	043540		55	15. 32	039498	043722	J H
Nov. 25. 3. 0	23. 16. 55	0·038925	0·043561	D	Nov. 25. 7. 0	23. 15. 32	0·039582	0·043775	G
5	16. 40	038880	043561		5	15. 27	039493	043762	
10	16. 35	038902	043536		10	15. 30	039493	043762	
15	16. 51	038947	043542		15	15. 31	039449	043762	
20	16. 34	039053	043548		20	15. 31	039560	043743	
25	16. 33	038964	043548		25	15. 31	039604	043712	
30	16. 21	038942	043542		30	15. 38	039604	043712	
35	16. 19	038964	043549		35	15. 35	039604	043680	
40	16. 12	039025	043543		40	15. 33	039604	043661	
45	16. 12	038981	043536		45	15. 33	039626	043661	
50	16. 12	038981	043524		50	15. 33	039626	043661	
55	16. 23	038981	043536		55	15. 38	039626	043649	
Nov. 25. 4. 0	23. 16. 24	0·038998	0·043556	D	Nov. 25. 8. 0	23. 15. 37	0·039604	0·043649	G
5	16. 27	039042	043550		5	15. 37	039604	043649	
10	16. 17	039064	043556		10	15. 37	039604	043624	
15	16. 7	039064	043550		15	15. 35	030604	043617	
20	15. 55	039109	043544		20	15. 34	039604	043617	
25	15. 55	039242	043537		25	15. 32	039604	043617	
30	15. 48	039264	043518		30	15. 32	039587	043617	G
35	15. 53	039197	043511	D	35	15. 26	039432	043617	P
40	16. 10	039175	043511	J H	40	15. 26	039543	043535	
45	16. 10	039175	043505		45	15. 12	039432	043535	
50	16. 10	039308	043511		50	15. 9	039321	043535	
55	16. 13	039220	043511		55	15. 4	039432	043523	
Nov. 25. 5. 0	23. 16. 13	0·039463	0·043485	J H	Nov. 25. 9. 0	23. 14. 57	0·039526	0·043523	P
5	16. 13	039441	043498		5	14. 41	039526	043517	
10	16. 9	039458	043485		10	14. 49	039543	043543	
15	16. 5	039524	043485		15	14. 58	039515	043536	
20	15. 56	039386	043435		20	14. 46	039537	043524	
25	15. 56	039475	043441		25	14. 48	039577	043512	
30	15. 56	039475	043441		30	14. 46	039594	043539	
35	16. 1	039447	043435		35	14. 48	039594	043520	
40	16. 1	039536	043435		40	14. 51	039611	043508	
45	16. 1	039642	043441		45	14. 58	039566	043497	
50	16. 1	039442	043372		50	15. 7	039495	043529	
55	15. 51	039459	043422		55	15. 7	039563	043529	P

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

Reading of Torsion-Circle of Meridional Magnet for Brass Bar resting in Magnetic Meridian, 189°.
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, $24^s.2$.

Nov. $25^d.7^h.0^m$. The reading of the Vertical Force Magnet was larger than at any other time during the term.

Term-Day Observations of December 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. 20. 10. 0	23. 16. 36	0·036858	0·042743	G	Dec. 20. 14. 0	23. 17. 56	0·037364	0·042706	P
5	16. 53	036858	042757		5	17. 58	037364	042700	
10	17. 0	036875	042751		10	17. 58	037364	042706	
15	16. 57	036830	042739		15	17. 24	037364	042732	
20	16. 59	036870	042810		20	17. 24	037408	042726	
25	16. 59	036914	042830		25	17. 24	037518	042726	
30	16. 59	036914	042863		30	17. 28	037602	042734	
35	16. 46	037042	042876		35	17. 45	037557	042709	
40	16. 40	036997	042902		40	17. 45	037513	042696	
45	16. 40	036997	042902		45	17. 56	037447	042716	
50	16. 44	037036	042942		50	18. 5	037602	042703	
55	16. 44	037059	042968		55	18. 7	037381	042691	
Dec. 20. 11. 0	23. 16. 37	0·037053	0·042995	G	Dec. 20. 15. 0	23. 18. 9	0·037398	0·042692	P
5	16. 34	037031	042995		5	18. 14	037619	042692	
10	16. 52	037031	042995		10	18. 14	037596	042686	
15	16. 53	037031	042995		15	18. 11	037547	042680	
20	17. 2	037053	042982		20	18. 8	037459	042706	
25	17. 2	037053	042963		25	18. 10	037437	042706	
30	17. 9	037098	042963		30	18. 10	037432	042706	
35	17. 18	037142	042963		35	18. 18	037432	042706	P
40	17. 23	037186	042982		40	18. 17	037476	042700	D
45	17. 23	037098	042982		45	18. 17	037537	042744	
50	17. 23	037142	042932		50	18. 14	037603	042738	
55	17. 19	037142	042919		55	18. 22	037581	042738	
Dec. 20. 12. 0	23. 17. 18	0·037142	0·042919	G	Dec. 20. 16. 0	23. 18. 16	0·037642	0·042734	D
5	17. 18	037142	042873		5	18. 14	037664	042759	
10	17. 18	037142	042873		10	18. 18	037687	042740	
15	16. 54	037386	042847		15	18. 23	037709	042715	
20	15. 54	037629	042820		20	18. 13	037687	042702	
25	15. 48	037762	042801		25	18. 20	037687	042708	
30	15. 57	037585	042763	G	30	18. 21	037576	042708	
35	16. 29	037164	042737	P	35	18. 17	037576	042708	
40	16. 58	037142	042737		40	18. 15	037576	042690	
45	17. 7	037142	042704		45	18. 14	037642	042696	
50	17. 14	037142	042704		50	18. 9	037687	042683	
55	17. 16	037142	042671		55	18. 7	037687	042658	
Dec. 20. 13. 0	23. 17. 6	0·037142	0·042638	P	Dec. 20. 17. 0	23. 18. 25	0·037642	0·042658	D
5	17. 6	037142	042638		5	18. 35	037532	042727	
10	17. 35	037142	042665		10	18. 24	037593	042665	
15	17. 57	037142	042665		15	18. 22	037659	042653	
20	17. 33	037142	042659		20	18. 11	037698	042692	
25	17. 36	037098	042646		25	17. 55	037743	042680	
30	17. 31	037142	042672		30	17. 44	037848	042693	
35	17. 31	037364	042659		35	17. 39	037915	042693	
40	17. 33	037364	042659		40	17. 37	037932	042706	
45	17. 41	037364	042680		45	17. 36	037976	042681	
50	17. 41	037364	042680		50	17. 34	038015	042702	
55	17. 50	037364	042680		55	17. 32	038015	042708	

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, 184°.
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, 24s·2.

Term-Day Observations of December 20 and 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	° ′ ″			
Dec. 20. 18. 0	23. 17. 27	0·038076	0·042728	D	Dec. 20. 22. 0	23. 15. 51	0·036995	0·042830	G
5	17. 28	038054	042722		5	15. 53	036928	042803	
10	17. 21	038121	042715		10	16. 1	036928	042777	
15	17. 21	038121	042696		15	16. 1	036928	042777	
20	17. 21	038076	042715		20	16. 9	036995	042699	
25	17. 25	038143	042715		25	16. 15	036995	042692	
30	17. 25	038059	042749		30	16. 16	036995	042666	
35	17. 23	038037	042736	D	35	16. 25	036995	042639	
40	17. 23	037993	042742	J H	40	16. 28	036995	042601	
45	17. 23	037993	042717		45	16. 35	036928	042601	
50	17. 23	037993	042679		50	16. 42	037039	042599	
55	17. 23	038015	042667		55	16. 56	037150	042573	G
Dec. 20. 19. 0	23. 17. 15	0·037976	0·042660	J H	Dec. 20. 23. 0	23. 17. 2	0·037083	0·042509	P
5	17. 22	038153	042667		5	17. 8	037083	042503	
10	17. 22	037932	042667		10	17. 15	037216	042503	
15	17. 19	037755	042660		15	17. 26	037172	042515	
20	17. 14	037710	042641		20	17. 29	037039	042509	
25	17. 4	037710	042654		25	17. 31	037039	042515	
30	17. 4	037440	042641		30	17. 38	037039	042548	
35	17. 4	037285	042629		35	17. 48	037039	042548	
40	16. 59	037285	042629		40	17. 42	037039	042535	
45	16. 58	037218	042629		45	17. 42	037039	042535	
50	16. 56	037396	042623		50	17. 52	036928	042535	
55	16. 57	037152	042515		55	17. 39	036818	042529	
Dec. 20. 20. 0	23. 16. 57	0·037169	0·042497	J H	Dec. 21. 0. 0	23. 17. 51	0·036906	0·042555	P
5	16. 57	037235	042497		5	17. 54	036818	042555	
10	16. 47	037585	042655		10	17. 54	036818	043576	
15	16. 44	037496	042681		15	17. 55	036818	043576	
20	16. 41	037602	042662		20	18. 6	036923	042608	P
25	16. 38	037602	042689		25	18. 10	037012	042602	D
30	16. 37	037619	042721		30	18. 12	037012	042641	
35	16. 29	037641	042721		35	18. 17	037056	042647	
40	16. 24	037658	042761		40	18. 26	037051	042699	
45	16. 20	037658	042787		45	18. 33	036918	042705	
50	16. 19	037719	042793		50	18. 39	036830	042718	
55	16. 15	037719	042819		55	18. 55	036808	042718	
Dec. 20. 21. 0	23. 16. 10	0·037714	0·042827	J H	Dec. 21. 1. 0	23. 18. 56	0·036825	0·042739	D
5	16. 7	037692	042827		5	18. 56	036869	042733	
10	16. 1	037692	042827		10	19. 1	036891	042701	
15	16. 1	037692	042827		15	19. 6	036847	042701	
20	15. 59	037692	042827		20	19. 9	036896	042708	
25	15. 55	037692	042802		25	19. 13	036918	042701	
30	15. 49	037664	042834		30	19. 20	036984	042701	
35	15. 45	037620	042847	J H	35	19. 20	037029	042714	
40	15. 46	037532	042815	G	40	19. 24	037034	042714	
45	15. 46	037354	042803		45	19. 30	037012	042726	D
50	15. 46	037133	042803		50	19. 26	037012	042739	J H
55	15. 46	037066	042803		55	19. 26	036967	042714	

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, 184°.
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, $24^s \cdot 2$.

Dec. $20^d.\ 18^h.\ 25^m$. The reading of the Horizontal Force Magnet was the largest in the term.

Dec. $20^d.\ 20^h.\ 0^m$ and $20^h.\ 5^m$. These readings of the Vertical Force Magnet were the smallest in the term.

Dec. $20^d.\ 21^h.\ 55^m$. The reading of the Horizontal Force Magnet was smaller than at any other time during the term.

Dec. $21^d.\ 1^h.\ 45^m$. The western declination was larger than at any other time during the term.

Term-Day Observations of December 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	° ′ ″			
Dec. 21. 2. 0	23. 19. 24	0·037039	0·042714	J H	Dec. 21. 6. 0	23. 17. 54	0·037778	0·043053	G
5	19. 24	037017	042714		5	17. 59	037711	043053	
10	19. 24	037056	042714		10	18. 3	037675	043053	
15	19. 20	037073	042790		15	18. 6	037601	043053	
20	19. 15	037400	042784		20	18. 5	037556	043022	
25	19. 13	037129	042746		25	17. 56	037490	042990	G
30	19. 6	037080	042754		30	17. 47	037446	042984	J H
35	19. 9	037030	042767	J H	35	17. 40	037468	042933	
40	18. 58	036937	042792	P	40	17. 22	037446	042939	
45	18. 58	036954	042824		45	17. 22	037446	042977	
50	18. 52	037103	042824		50	17. 24	037634	042977	
55	18. 52	037192	042812		55	17. 21	037379	042977	
Dec. 21. 3. 0	23. 18. 44	0·037231	0·042819	P	Dec. 21. 7. 0	23. 17. 9	0·037379	0·042927	J H
5	18. 44	037209	042819		5	17. 15	037379	042908	
10	18. 39	037253	042819		10	17. 15	037423	042908	
15	18. 35	037293	042806		15	17. 15	037423	042908	
20	18. 33	037403	042806		20	17. 0	037534	042908	
25	18. 29	037403	042768		25	17. 0	037556	042914	
30	18. 29	037465	042795		30	17. 24	037640	042940	
35	18. 29	037420	042783		35	17. 34	037573	042928	
40	18. 32	037465	042777		40	17. 36	037573	042890	
45	18. 32	037482	042777		45	17. 36	037573	042877	
50	18. 30	037482	042770		50	17. 36	037573	042877	
55	18. 30	037459	042764		55	17. 41	037573	042865	
Dec. 21. 4. 0	23. 18. 32	0·037454	0·042758	P	Dec. 21. 8. 0	23. 17. 14	0·037413	0·042879	J H
5	18. 27	037499	042758		5	17. 24	037413	042911	
10	18. 18	037499	042732		10	17. 8	037497	042886	
15	17. 42	037482	042720		15	16. 53	037469	042823	
20	17. 39	037482	042693		20	16. 41	037442	042867	
25	17. 40	037482	042668		25	16. 10	037464	042849	
30	17. 31	037465	042661		30	15. 56	037548	042849	
35	17. 31	037420	042680	P	35	15. 53	037587	042882	J H
40	17. 31	037354	042635	G	40	15. 27	037321	042908	D
45	17. 33	037337	042654		45	15. 29	037404	042914	
50	17. 33	037337	042667		50	15. 47	037576	042940	
55	17. 33	037337	042667		55	15. 50	037505	042940	
Dec. 21. 5. 0	23. 17. 33	0·037386	0·042628	G	Dec. 21. 9. 0	23. 15. 35	0·037335	0·042954	D
5	17. 32	037386	042680		5	15. 35	037593	042948	
10	17. 31	037381	042669		10	15. 33	037593	042942	
15	17. 6	037420	042722		15	15. 24	037616	042942	
20	17. 6	037459	042774		20	15. 25	037638	042935	
25	17. 6	037454	042801		25	15. 33	037616	042935	
30	17. 24	037471	042854		30	15. 30	037571	042929	
35	17. 24	037516	042854		35	15. 30	037571	042923	
40	17. 40	037621	042894		40	15. 30	037593	042923	
45	17. 49	037660	042947		45	15. 25	037571	042923	
50	17. 50	037677	042947		50	15. 9	037593	042910	
55	17. 50	037739	043000		55	14. 9	037660	042898	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, 184°.
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, $24^s\cdot2$.

Dec. $21^d.\ 6^h.\ 0^m$ to 15^m. The reading of the Vertical Force Magnet was constant and the largest in the term.

Dec. $21^d.\ 9^h.\ 55^m$. The western declination was smaller than at any other time during the term.

ROYAL OBSERVATORY, GREENWICH.

EXTRAORDINARY OBSERVATIONS

OF

MAGNETOMETERS.

1843.

Extraordinary Observations of January 2 and 23, February 6 and 13.

Göttingen Mean Time (Astronomical Reckoning).	Western Declination.	Observer.	Reading for Hor. Force in parts of the whole Hor. Force corrected for Temperature.	Observer.	Reading for Vert. Force in parts of the whole Vert. Force corrected for Temperature.	Observer.
d h m s	° ′ ″					
Jan. 2. 3. 57. 30					0·032849	JH
4. 0. 0	23. 25. 6	JH				
4. 2. 30			0·010653	JH		
5. 57. 30					032478	
6. 0. 0	17. 33					
2. 30			014094			
9. 0	19. 34		013696		032379	
11. 0	19. 2		013430		032379	
17. 0	20. 34		013119		032319	
22. 0	21. 26		012986		032276	
6. 40. 0	21. 27				032336	
7. 57. 30						
8. 0. 0	10. 38					
2. 30			014492			
3. 0	9. 13		014382		032293	
6. 0	7. 21		014736		032293	
8. 0	7. 22		014741		032266	
10. 0	7. 53		015095		032283	
13. 0	9. 36		015361		032292	
15. 0	10. 27		015654		032269	
18. 0	12. 48		016229		032265	
21. 0	15. 44		016301		032234	
23. 0	16. 8		016345		032230	
25. 0	16. 54		016151		032204	
28. 0	19. 13		015487		032131	
30. 0	19. 28		015293		032095	
32. 0	19. 36		015116		032082	
39. 0	19. 49		014169		031988	
8. 54. 0	19. 3		013061		031863	
9. 11. 0	16. 56		013311		031952	
22. 0	18. 5		013709		031952	
9. 57. 30					031909	JH
10. 0. 0	20. 38	JH				
10. 2. 30			013759	JH		
11. 57. 30					031470	G
12. 0. 0	9. 32	G				
2. 30			015695	G		
15. 0	11. 48		015031		031492	
12. 16. 0	14. 20		014411		031458	
13. 16. 0	18. 19		012390			
13. 57. 30					031341	G
14. 0. 0	18. 51	G				
14. 2. 30			012573	G		
Jan. 23. 9. 57. 30					0·033234	D
10. 0. 0	23. 6. 22	D				
10. 2. 30			0·015564	D		
11. 57. 30					032943	P
12. 0. 0	22. 59. 7	P				
2. 30			016595	P		
24. 34	57. 1					

Göttingen Mean Time (Astronomical Reckoning).	Western Declination.	Observer.	Reading for Hor. Force in parts of the whole Hor. Force corrected for Temperature.	Observer.	Reading for Vert. Force in parts of the whole Vert. Force corrected for Temperature.	Observer.
d h m s	° ′ ″					
Jan. 23. 12. 37. 34	22. 58. 52	P				
12. 58. 34	22. 55. 53					
13. 18. 34	23. 1. 35					
41. 34	3. 52					
13. 57. 30					0·032851	P
14. 0. 0	3. 16	P				
14. 2. 30			0·015573	P		
Feb. 6. 7. 57. 30					0·033497	P
8. 0. 0	23. 12. 26	P				
8. 2. 30			0·015112	P		
9. 57. 30					033601	P
10. 0. 0	22. 45. 59					
2. 30			015616	P		
13. 18	22. 56. 52					
21. 3	23. 0. 19					
25. 3	0. 29					
31. 3	4. 6					
37. 3	6. 21					
40. 3	7. 21					
43. 3	8. 30					
46. 3	9. 22					
49. 3	10. 4					
52. 3	10. 13					
55. 3	9. 52					
10. 58. 3	9. 43	P				
11. 39. 5	13. 59	G	016070	G	033181	G
49. 58	14. 13					
11. 57. 30						
12. 0. 0	14. 5				033403	
2. 30			016326			
20. 40	11. 25					
12. 25. 40	10. 48					
13. 0. 0	12. 16					
50. 40	14. 14					
13. 57. 30					033120	G
14. 0. 0	14. 25	G				
14. 2. 30			015684	G		
Feb. 13. 7. 57. 30					0·032787	JH
8. 0. 0	23. 12. 19	JH				
8. 2. 30			0·016191	JH		
9. 57. 30					032597	
10. 0. 0	0. 28					
10. 2. 30			015303			
4. 0	23. 0. 24		015303		032615	
9. 0	22. 58. 47		015701		032658	
14. 0	59. 2		015967		032696	
10. 19. 0	59. 2	JH	015967	JH	032692	JH

Jan. 2d. A change of 7′. 33″ having taken place in the position of the Declination Magnet between 4h and 6h, extra observations were commenced.

Jan. 2d, civil reckoning. During the time of the continuance of the extraordinary observations, the greatest and least declinations were at 4h and 8h. 6m; the greatest and least readings of the Horizontal Force Magnet were at 8h. 23m and 4h. 2m. 30s; and of the Vertical Force Magnet at 3h. 57m. 30s and 11h. 57m. 30s, respectively.

Jan. 3d, civil reckoning. During the time of the extra observations, the greatest and least western declinations were at 2d. 14h and 2d. 12h. 15m; the greatest and least readings of the Horizontal Force Magnet were at 2d. 12h. 2m. 30s and 2d. 13h. 16m; and of the Vertical Force Magnet at 2d. 12h. 15m and 2d. 13h. 57m. 30s.

Jan. 23d. A change of 7′. 15″ having taken place in the position of the Declination Magnet between 10h and 12h, extra observations were commenced.

Jan. 23d, civil reckoning, During the time of the extra observations, the greatest and least western declinations were at 10h and 12h; and on the 24th, civil day, at Jan. 23d. 13h. 41m. 34s, and 12h. 58m. 34s (the latter being the least for the month).

Feb. 6d. A change of 26′. 27″ having taken place in the positions of the Declination Magnet between 8h and 10h, extra observations were commenced.

Feb. 6d. 10h. 46m. 3s to 10h. 58m. 3s. The Declination Magnet being tolerably steady, and the Horizontal Force Magnet and the Vertical Force Magnet being both without motion during this period, the observations were discontinued: they were resumed at 11h. 39m. 5s.

Feb. 6d, civil reckoning. During the time of the extra observations, the greatest and least western declinations were at 11h. 49m. 58s and 10h (the latter being the least for the month); and on Feb. 7th, civil reckoning, the greatest and least western declinations were at 6d. 14h and 6d. 12h. 25m. 40s.

Feb. 6d. 11h. 39m. 5s. Extra observations were resumed.

Feb. 13d. A change of 11′. 51″ having taken place in the position of the Declination Magnet, extra observations were commenced.

Feb. 13d, civil reckoning. During the time of the extra observations, the greatest and least western declinations were at 18h. 0m and 10h. 9m; the greatest and least readings of the Horizontal Force Magnet were at 8h. 2m. 30s, and at 10h. 2m. 30s and 10h. 4m. 0s; and of the Vertical Force Magnet at 7h. 57m. 30s and 9h. 57m. 30s.

Extraordinary Observations of February 16 and 24.

Göttingen Mean Time (Astronomical Reckoning).	Western Declination.	Obs.	Reading for Hor. Force in parts of the whole Hor. Force corrected for Temperature.	Obs.	Reading for Vert. Force in parts of the whole Vert. Force corrected for Temperature.	Obs.
d h m s	° ′ ″					
Feb. 16. 5.57.30					0·033305	G
6. 0. 0	23.13.15	G				
6. 2.30			0·016623	G		
7.57.30					033202	
8. 0. 0	1.44					
1. 0	2.49		016170		033210	
2. 0	3.34		016237		033202	
2.30			016369			
5. 0	4.39		016104		033197	
7. 0	5.11		015993		033180	
9. 0	5.16		015683		033159	
11. 0	5.30		015572		033154	
11.30	5.16		015395		033129	
13. 0	5.29		015370		033129	
14. 0	5.29		015306		033120	
15. 0	5.15		015107		033099	
17. 0	4.48		015107		033099	
18. 0	4.43		015240		033094	
19. 0	4.39		015373		033094	
20. 0	4.46		015373		033094	
21. 0	5. 2		015395		033099	
22. 0	5.13		015417		033099	
27. 0	5.28		015262		033077	
29. 0	5. 6		015350		033056	
44. 0	6.34		014962		032952	
8.59. 0	6.21		014838		032871	
9.14. 0	5.54		014789		032798	
29. 0	6.36		014562		032742	
44. 0	7.41		014884		032737	
9.57.30					032920	G
10. 0. 0	9. 5	G				
10. 2.30			014834	G		
Feb. 24. 3.57.30					0·032790	P
4. 0. 0	23.23. 3	P				
4. 2.30			0·015190	P		
5.57.30	10.53				033263	
6. 0. 0						
6. 2.30			013981			
10.31	5.38		014424		033194	
14.31	4.29		014424		033340	
18.31	3.23		014534		033328	
35.31	3. 0		013538		033349	
6.52.31	3. 3		014645		033392	
7.57.30					033478	P
8. 0. 0	6.16	P				
8. 2.30			013207	P		
9.57.30					033004	G
10. 0. 0	1.51	G				
2.30			014655	G	033004	
5. 0	1.33					

Göttingen Mean Time (Astronomical Reckoning).	Western Declination.	Obs.	Reading for Hor. Force in parts of the whole Hor. Force corrected for Temperature.	Obs.	Reading for Vert. Force in parts of the whole Vert. Force corrected for Temperature.	Obs.
d h m s	° ′ ″					
Feb. 24. 10. 7.30			0·014589	G	0·033025	G
10. 0	23. 1.35	G				
12.30			014628		033017	
15. 0	2. 5					
17.30			014628		033043	
20. 0	2.13					
22.30			014623		033039	
25. 0	2.52					
27.30			014534		033066	
30. 0	2.39					
32.30			014443		033044	
35. 0	2.57					
37.30			014398		033061	
40. 0	2.29					
42.30			014568		033018	
45. 0	2.10					
47.30			014612		033045	
50. 0	1.36					
52.30			014784		032959	
55. 0	23. 0.18					
10.57.30			014851		032934	
11. 0. 0	22.58.19					
2.30			014873		032942	
5. 0	22.59.15					
7.30			015316		032964	
10. 0	23. 2.27					
12.30			015980		032968	
15. 0	4. 4					
17.30			016246		032968	
18.31			016733			
20. 0	6.53					
20.30	7.47					
21. 0	10.12		017131			
22. 0	9.21		018308			
22.30			016909		032968	
23. 0	10. 4		017618			
24. 0	10.24		018194			
25. 0	11. 0		017818			
26. 0	11.19		017840			
26.30	11.19					
27.30	11.27		017755		032852	
28. 0	11.28		017795			
29. 0	11.28		017773		032744	
30. 0	11. 8		017751		032744	
31. 0	10.56		017574		032633	
32. 0	10.22		017396		032603	
32.30			017574		032633	
33. 0	10. 9		017286		032560	
34. 0			017153		032534	
35. 0	9.34					
35.30	8.10					

Feb. 16d. A change of 11′.31″ having taken place in the position of the Declination Magnet between 6h and 8h, extra observations were commenced.

Feb. 16d, civil reckoning. During the time of the extra observations, the greatest and least western declinations were at 6h and 8h; the greatest and least readings of the Horizontal Force Magnet were at 6h.2m.30s and 9h.29m; and of the Vertical Force Magnet at 5h.57m 30s and 9h.44m.

Feb. 24d. A change of 12′.10″ having taken place in the position of the Declination Magnet between 4h and 6h, extra observations were commenced.

Feb. 24d, civil reckoning. During the extra observations the greatest and least western declinations were at 4h and 12h; the greatest and least readings of the Horizontal Force Magnet were at 11h.41m and 8h.2m.30s; and of the Vertical Force Magnet at 7h.57m.30s and 11h.45m.

Extraordinary Observations of February 24.

Göttingen Mean Time (Astronomical Reckoning).	Western Declination.	Observer.	Reading for Hor. Force in parts of the whole Hor. Force corrected for Temperature.	Observer.	Reading for Vert. Force in parts of the whole Vert. Force corrected for Temperature.	Observer.	Göttingen Mean Time (Astronomical Reckoning).	Western Declination.	Observer.	Reading for Hor. Force in parts of the whole Hor. Force corrected for Temperature.	Observer	Reading for Vert. Force in parts of the whole Vert. Force corrected for Temperature.	Observer.
d h m s	° ′ ″						d h m s	° ′ ″					
Feb. 24. 11. 36. 0	23. 7. 26	G					Feb. 24. 12. 17. 30	23. 7. 45	G	0 ·013628	G	0 ·032461	G
37. 0	7. 12						18. 0	8. 57		013547		032413	
37. 30			0 ·016931	G	0 ·032418	G	19. 0	9. 33		013567		032413	
38. 0	6. 26		016466		032388		20. 0	9. 52		013589		032400	
38. 30	6. 3		016466		032366		21. 0	10. 12		013589		032400	
39. 0	5. 40		016422		032345		22. 0	10. 12					
40. 0	5. 7		018460		032332		22. 30			013623		032452	
41. 0	4. 41		019080		032319		23. 0	10. 12					
42. 0	4. 0						24. 0			013589		032400	
42. 30			016024		032314		25. 0	10. 12		013699		032400	
43. 0	3. 35		015913		032302		26. 0	10. 12		013699		032400	
44. 0	3. 6		015759		032289		27. 0	11. 5		014120		032366	
45. 0	2. 32		015626		032289		27. 30			013844		032479	
46. 0	2. 9		015581		032289		28. 0	11. 10		014120		032366	
47. 0	1. 48		015581		032302		29. 0	11. 17		014120		032332	
47. 30			015581		032302		30. 0	11. 17		014154		032375	
48. 0	1. 15		015581		032302		31. 0	10. 50		014397		032375	
49. 0	2. 23		015559		032314		32. 0	10. 26					
50. 0	0. 29		015537		032314		32. 30			014459		032402	
51. 0	23. 0. 4		015426		032319		33. 0	10. 12		014636		032371	
52. 0	22. 59. 39						34. 0	10. 11		014747		032345	
52. 30			015382		032319		35. 0	9. 49					
53. 0	59. 36		015426		032319		36. 0	9. 47		014924		032311	
54. 0			015249		032314		37. 0	9. 29		014968		032311	
55. 0	59. 1		015183		032314		37. 30			014769		032394	
56. 0	58. 43		015183		032314		38. 0	9. 0		015030		032293	
57. 0	58. 34		015139		032327		39. 0	8. 55		015163		032280	
57. 30			015139		032323		40. 0	8. 55		015207		032280	
58. 0	57. 51		015095		032332		41. 0	8. 31		015317		032280	
11. 59. 0	57. 40		015095		032332		42. 0	8. 13					
12. 0. 0	57. 34		015072		032332		42. 30			015428		032321	
1. 0	57. 34		015072		032336		43. 0	7. 54		015672		032278	
2. 0	57. 34		014962		032357		44. 0	7. 38		015760		032278	
2. 30			014962		032357		45. 0	7. 29		015871		032278	
3. 0	58. 47		014740		032357		46. 0	7. 0		016026		032259	
3. 30	22. 58. 52		015117		032366		47. 0	6. 47					
4. 0			014940		032366		47. 30			016092		032343	
5. 0	23. 0. 10		014499		032400		48. 0	6. 30		016181		032263	
6. 0	2. 30		014297		032409		49. 0	6. 4		016225		032246	
7. 0	3. 25						50. 0	6. 4		016270		032246	
7. 30			014477		032435		51. 0	5. 54		016314		032212	
8. 0	3. 36						52. 0	5. 21					
9. 0			014363		032400		52. 30			016353		032292	
10. 0	3. 52		014363		032400		53. 0	5. 8		016358		032242	
11. 0	5. 6		014010		032362		54. 0	4. 58		016336		032212	
12. 30			014137		032383		55. 0	4. 47					
13. 0	6. 9		013921		032357		56. 0	4. 35	G	016512	G	032203	G
14. 0	6. 11		013921		032409		12. 57. 30			016529	D	032292	D
15. 0	6. 40		013855		032409		13. 0. 0	4. 5	D				
16. 0	6. 53		013855		032409		2. 0	3. 26		016507		032219	
17. 0	8. 4						2. 30			016507		032240	

Feb. 25^{d}, civil reckoning. During the extra observations the greatest and least western declinations were at 24^{d}. 12^{h}. 30^{m} and 24^{d}. 13^{h}. 24^{m}; the greatest and least readings of the Horizontal Force Magnet were at 24^{d}. 13^{h}. 7^{m}. 30^{s} and 24^{d}. 12^{h}. 18^{m}; the greatest readings of the Vertical Force Magnet were at 24^{d}. 15^{h}. 12^{m}. 30^{s}, 15^{h}. 20^{m}, and 15^{h}. 22^{m}. 30^{s}, and the least at 24^{d}. 13^{h}. 19^{m}.

Extraordinary Observations of February 24.

Göttingen Mean Time (Astronomical Reckoning).	Western Declination.	Observer.	Reading for Hor. Force in parts of the whole Hor. Force corrected for Temperature.	Observer.	Reading for Vert. Force in parts of the whole Vert. Force corrected for Temperature.	Observer.	Göttingen Mean Time (Astronomical Reckoning).	Western Declination.	Observer.	Reading for Hor. Force in parts of the whole Hor. Force corrected for Temperature.	Observer.	Reading for Vert. Force in parts of the whole Vert. Force corrected for Temperature.	Observer.
d h m s	° ′ ″						d h m s	° ′ ″					
Feb. 24. 13. 5. 0	23. 2. 10	D					Feb. 24. 13. 54. 0	23. 1. 8	D	0·014958	D	0·032249	D
6. 0	1. 45		0·016507	D	0·032210	D	55. 0	1. 19		014980		032253	
7. 30			016573		032223		57. 0	1. 51					
8. 0	1. 20		016529		032193		57. 30			014980		032394	
10. 0	1. 2						13. 59. 0	2. 16		014953		032406	
11. 0	0. 31		016375		032184		14. 0. 0	2. 21		014864		032428	
12. 0	23. 0. 13		016264		032180		2. 0	2. 30					
12. 30			016507		032206		2. 30			014820		032441	
14. 0	22. 59. 52		016242		032167		5. 0	3. 5		014820		032458	
15. 0	59. 22		016176		032154		7. 0	3. 17					
16. 0	58. 18		016154		032124		7. 30			014798		032471	
17. 0	57. 57		016154		032120		9. 0	3. 23		014798		032480	
17. 30			016176		032172		10. 0	3. 31		014997		032480	
19. 0	57. 33		016132		032111		12. 0	3. 39					
20. 0	57. 19						12. 30			014776		032484	
21. 0	57. 4		016132		032111		15. 0	3. 45		014820		032492	
22. 0	56. 54						17. 0	3. 45					
22. 30			016353		032163		17. 30			014931		032501	
24. 0	56. 48		016176		032554		19. 0	4. 7		015152		032518	
25. 0	56. 50						20. 0	4. 17		015097		032531	
26. 0	57. 19		016198		032141		22. 0	4. 27					
27. 30			016242		032206		22. 30			015197		032535	
28. 0	57. 31		016220		032171		23. 0	4. 27		015197		032535	
29. 0	57. 43						25. 0	4. 45		015197		032540	
30. 0	58. 3		015954		032184		27. 0	4. 48					
31. 0	58. 6		015932		032188		27. 30			015152		032544	
32. 0	58. 7						28. 0	4. 48		015086		032544	
32. 30			015888		032267		30. 0	4. 52		015130		032544	
33. 0	58. 34		015888		032188		32. 0	5. 8					
34. 0			015844		032197		32. 30			015197		032548	
35. 0	58. 43						35. 0	5. 33		015351		032557	
36. 0	58. 56		015844		032197		37. 0	5. 45					
37. 0	59. 10						37. 30			015411		032566	
37. 30			015844		032276		39. 0	5. 56		015395		032561	
38. 0	59. 21		015755		032197		40. 0	5. 54		015373		032561	
40. 0	59. 36		015711		032206		42. 0	5. 42					
41. 0	59. 45		015666		032206		42. 30			015234		032561	
42. 0	22. 59. 56						45. 0	5. 23		015241		032548	
42. 30			015578		032311		47. 0	5. 30					
44. 0	23. 0. 15		015445		032206		47. 30			015366		032548	
45. 0	0. 29		015401		032206		50. 0	5. 47		015462		032566	
46. 0	0. 40		015246		032219		52. 0	5. 42					
47. 0	0. 30						52. 30			015440		032566	
47. 30			015224		032324		55. 0	5. 14		015307		032557	
48. 0	0. 45		015135		032219		57. 0	5. 1					
49. 0	0. 49		015047		032327		14. 57. 30			015285		032553	
50. 0	0. 56		014980		032236		15. 0. 0	4. 58		015418		032561	
51. 0	0. 47		014936		032236		2. 30			015418		032557	
52. 0	1. 0						5. 0	5. 17					
52. 30			014936		032345		7. 30			015506		032570	
53. 0	1. 2		014936		032240		10. 0	5. 53					

Extraordinary Observations of February 24, March 7, April 5, 6, and 19.

Göttingen Mean Time (Astronomical Reckoning).	Western Declination.	Observer.	Reading for Hor. Force in parts of the whole Hor. Force corrected for Temperature.	Observer.	Reading for Vert. Force in parts of the whole Vert. Force corrected for Temperature.	Observer.
d h m s	° ′ ″					
Feb. 24. 15. 12. 30			0·015617	D	0·032587	D
15. 0	23. 6. 19	D				
17. 30			015682		032583	
20. 0	6. 0		015905		032587	
22. 0	5. 37					
22. 30			016038		032587	
25. 0	5. 19		015816		032548	
27. 0	4. 41					
27. 30			015700		032531	
29. 0	4. 4		015683		032543	
30. 0	3. 43		015728		032570	
32. 0	3. 35					
32. 30			015833		032510	
35. 0	3. 30	D	015927		032527	
15. 37. 30			016099	D	032535	D
Mar. 7. 7. 57. 30					0·033195	G
8. 0. 0	23. 14. 44	G				
2. 30			9·998538	G		
18. 5	6. 4		999003		032971	
29. 0	6. 57					
31. 0	7. 3		999114		032928	
34. 0	7. 3		999114		032928	
36. 0	7. 3		999114		032928	
38. 0	7. 3		999114		032928	
43. 0	7. 28		9·999712		032808	
8. 51. 0	8. 1	G	0·000353	G	032713	G
Apr. 5. 3. 57. 30					0·032456	P
4. 0. 0	23. 17. 47	P				
4. 2. 30			0·003735	P		
5. 57. 30					034318	
6. 0. 0	5. 21					
2. 30			003037			
11. 2	12. 49					
16. 2	12. 32					
18. 2	11. 24					
20. 2	10. 33					
23. 2	10. 59					
25. 2	10. 34					
27. 2	10. 9					
29. 2	9. 8					
31. 2	7. 55					
33. 0	7. 36					
36. 2	7. 29					
39. 2	9. 14					
41. 2	9. 56					
43. 2	9. 32					
45. 2	8. 43					
47. 2	8. 48					
49. 2	8. 57					

Göttingen Mean Time (Astronomical Reckoning).	Western Declination.	Observer.	Reading for Hor. Force in parts of the whole Hor. Force corrected for Temperature.	Observer.	Reading for Vert. Force in parts of the whole Vert. Force corrected for Temperature.	Observer.
d h m s	° ′ ″					
Apr. 5. 6. 51. 2	23. 9. 8	P				
6. 53. 2	23. 9. 22					
7. 57. 30					0·033108	P
8. 0. 0	22. 58. 12					
8. 2. 30			9·996735	P		
9. 57. 30					032343	P
10. 0. 0	59. 1	P				
10. 2. 30			9·996519	P		
11. 40. 30	51. 24	G	0·000607	G	031865	G
11. 57. 30					031840	
12. 0. 0	51. 25					
2. 30			0·000252			
19. 30	55. 3		9·999001		031729	
29. 30	56. 37		998950		031588	
12. 39. 30	58. 6		9·998894		031444	
13. 57. 30					030215	
14. 0. 0	22. 59. 11		0·002230		030215	
2. 30			0·002230			
14. 28. 48	23. 1. 29	G	9·999197	G	030602	G
Apr. 6. 5. 57. 30					0·032614	G
6. 0. 0	23. 15. 43	G				
6. 2. 30			0·002651	G		
7. 57. 30					031926	
8. 0. 0	8. 0					
8. 2. 30			003094			
9. 38. 51	23. 1. 44					
53. 51	22. 53. 18		001787		031634	
9. 57. 30					032009	
10. 0. 0	53. 8		002330		032141	
2. 30			002349			
10. 3. 52	22. 53. 34	G	001928	G	031987	G
Apr. 19. 2. 7. 30					0·031705	P
10. 0	23. 12. 38	P				
2. 12. 30			0·002015	P		
3. 57. 30		P			032377	JH
4. 0. 0	22. 42. 28	JH				
2. 30			003206	JH		
7. 0	41. 44		003206		032291	
9. 0	41. 47		003140		032282	
15. 0	41. 24		003140		032215	
22. 0	40. 28		003191		032204	
24. 0	40. 28		003225		032182	
39. 0	39. 51		002882		032149	
4. 56. 0	38. 29		002695		032106	
5. 14. 0	37. 51		003162		032076	
44. 0	36. 33		003069		031977	
5. 57. 30					032112	
6. 0. 0	35. 1					
6. 2. 30			003059			

March 7d. 8h. 18m. 5s. A change of 8′. 40″ having taken place in the position of the Declination Magnet since the observation at 8h, extra observations were commenced: after 8h. 51m, the magnets were examined every quarter of an hour for some time, but no change to any amount took place.

March 7d, civil reckoning. During the extra observations the greatest and least western declinations were at 8h and 8h. 18m. 5s; the greatest and least readings of the Horizontal Force Magnet were at 8h. 51m and 8h. 2m. 30s; and of the Vertical Force Magnet at 8h. 18m. 5s and 8h. 51m.

April 5d. A change of 12′. 26″ having taken place in the position of the Declination Magnet between 4h and 6h, extra observations were commenced.

April 5d, civil reckoning, During the extra observations the greatest and least western declinations were at 4h and 11h. 40m. 30s; the greatest and least readings of the Vertical Force Magnet were at 5h. 57m. 30s and 11h. 57m. 30s.

April 6d. A change of 7′. 43″ in the positions of the Declination Magnet having taken place between 6h and 8h, extra observations were taken.

April 6d, civil reckoning. During the extra observations the greatest and least western declinations were at 6h and 10h; the greatest and least readings of the Horizontal Force Magnet at 6d. 6h and 5d. 12h. 39m. 30s; and of the Vertical Force Magnet at 6d. 5h. 57m. 30s and 5d. 13h. 57m. 30s.

April 19d. A change of 30′. 10″ having taken place in the position of the Declination Magnet between 2h. 10m and 4h, extra observations were commenced.

April 19d, civil reckoning. During the extra observations the greatest and least western declinations were at 2h. 10m and 6h; the greatest and least readings of the Horizontal Force Magnet were at 8h. 2m. 30s and 20h. 12m. 30s; and of the Vertical Force Magnet at 3h. 57m. 30s and 2h. 7m. 30s.

Extraordinary Observations of April 19, 20, 21, and May 6.

Göttingen Mean Time (Astronomical Reckoning).	Western Declination.	Obs.	Reading for Hor. Force in parts of the whole Hor. Force corrected for Temperature.	Obs.	Reading for Vert. Force in parts of the whole Vert. Force corrected for Temperature.	Obs.	Göttingen Mean Time (Astronomical Reckoning).	Western Declination.	Obs.	Reading for Hor. Force in parts of the whole Hor. Force corrected for Temperature.	Obs.	Reading for Vert. Force in parts of the whole Vert. Force corrected for Temperature.	Obs.
d h m s	° ′ ″						d h m s	° ′ ″					
Apr. 19. 7. 30. 0	22. 36. 34	JH	0·003468	JH	0·031858	JH	May 6. 11. 18. 0	22. 49. 52	JH	0·026382	JH	0·052217	JH
7. 57. 3					031772	JH	21. 0	46. 53		025369		051548	
8. 0. 0	36. 30	JH					22. 0	44. 56		026255		051599	
8. 2. 30			003512	JH			23. 0	42. 49		026675		051620	
							25. 0	42. 24		026719		051620	
Apr. 20. 21. 57. 30					0·031099	P	27. 0	42. 20		025573		051297	
22. 0. 0	22. 42. 59	P					29. 0	41. 48		024843		051008	
22. 2. 30			0·002090	P			31. 0	44. 28		025862		051081	
23. 57. 30					031531		32. 0	44. 46		025818		051015	
21. 0. 0. 0	23. 9. 27						34. 0	48. 36		025335		050838	
1. 18. 44	12. 27				031187		36. 0	48. 33		025003		050766	
23. 44	12. 27				031187	P	37. 0	54. 2		024339		050996	
1. 49. 14	13. 4	P					38. 0	56. 13		023990		051251	
							39. 0	56. 23		024056		051677	
May 6. 9. 57. 30					0·055188	JH	40. 0	56. 4		023879		052002	
10. 0. 0	22. 47. 29	JH					42. 0	54. 25		024189		052472	
2. 30			0·034678	JH			44. 0	50. 49		025013		052821	
3. 0	49. 58		034997		055001		46. 0	46. 31		026054		052972	
4. 0	49. 58		034510		054980		48. 0	45. 22		026431		052900	
5. 0	49. 58		034243		054936		50. 0	46. 16		026409		052872	
7. 0	49. 29		033403		054777		52. 0	44. 1		026812		053037	
9. 0	48. 55		032739		054712		54. 0	36. 23		027720	JH	053298	JH
10. 0	48. 55		032517		054712		56. 0	33. 41	JH				
12. 0	48. 51		032296		054734		11. 57. 30					053033	D
14. 0	48. 24		032279		054758		12. 0. 0	28. 29	D				
16. 0	48. 24		032190		054758		2. 30			029443	D		
18. 0	48. 6		033456		054758		4. 0	27. 22		028589		053228	
20. 0	48. 9		032544		054758		6. 0	23. 27		028898		053379	
23. 0	48. 46		032544		054652		8. 0	22. 41		029452		053394	
25. 0	48. 55		032500		054580		10. 0	(12)		029740		053408	
29. 0	49. 47		032500		054472		12. 0	(12)		030448		053408	
47. 0	52. 13		028498		052414		14. 0	(12)		030780		053474	
48. 0	52. 43		028498		052400		16. 0	(12)		031245		053503	
50. 0	53. 19		028376		052414		18. 0	(12)		031776		053553	
51. 0	52. 48		028365		052421		20. 0	26. 19		032109		053596	
52. 0	52. 8		028586		052493		22. 0	29. 41		032618		053611	
53. 0	52. 6		028764		052544		23. 0	30. 35		032552		053647	
56. 0	52. 8		029207		052631		25. 0	31. 52		032463		053740	
57. 0	53. 52		029185		052703		26. 0	32. 20		032175		053755	
10. 58. 0	53. 38		028941		052689		27. 0	32. 21		032330		053871	
11. 0. 0	54. 1		029367		052683		28. 0	30. 56		032441		053922	
2. 0	53. 35		029389		052755		29. 0	30. 13		033149		053936	
4. 0	53. 4		029455		052755		30. 0	30. 14		033149		054044	
6. 0	53. 33		028702		052546		30. 30	30. 13		033216		054101	
7. 0	54. 0		027175		052344		31. 0	29. 49		033437		054152	
8. 0	53. 20		027153		052286		32. 0	30. 13		033703		054152	
9. 0	53. 14		027153		052243		33. 0	31. 22		034145		054152	
11. 0	53. 36		027153		052387		34. 0	32. 42		034345		054101	
13. 0	53. 43		026936		052513		35. 0	33. 32		034544		054130	
14. 0	53. 47		026936		052585		36. 0	34. 35		034566		054123	
17. 0	53. 15		026272		052440		37. 0	35. 31		034278		054101	

April 20^{d}. A change of 26′. 28″ having occurred between April 20^{d}. 22^{h} and April 21^{d}. 0^{h}, in the position of the Declination Magnet, extra observations were commenced.

May 6^{d}. A change of 17′ having taken place in the position of the Declination Magnet between 8^{h} and 10^{h}, and considerable changes having also taken place in the positions of the Horizontal Force and Vertical Force Magnets, extra observations were immediately commenced.

May 6^{d}. 10^{h}. A slight auroral light was visible.

May 6^{d}. 10^{h}. 29^{m}. The disturbance being considered to be slight, the observer left the Observatory, but he returned on seeing the great brilliancy of the aurora, at 10^{h}. 40^{m}. (For a detailed account of this aurora, see the Extraordinary Meteorological Observations.)

May 6^{d}, civil reckoning. During the extra observations, the greatest and least western declinations were at 11^{h}. 39^{m} and 11^{h}. 56^{m}; the greatest and least readings of the Horizontal Force Magnet were at 10^{h}. 3^{m} and 11^{h}. 40^{m} (the latter being the smallest for the month); and of the Vertical Force Magnet at 9^{h}. 57^{m}. 30^{s} and 11^{h}. 36^{m} (the latter being the smallest for the month).

May 6^{d}. 12^{h}. 10^{m} to 18^{m}. The cross of the Declination Magnet was out of range, its reading being about 10′ different from that at the preceding observation; the western declination was therefore, between these times, about 22°. 12′. This number has not been used in deducing the yearly range.

May 7^{d}, civil reckoning. During the extra observations, the greatest and least western declinations were at 6^{h}. 12^{m}. 54^{s} and 6^{h}. 12^{m}. 8^{s} (the latter being the smallest for the year); the greatest and least readings of the Horizontal Force Magnet were at 6^{d}. 12^{h}. 40^{m} and 6^{d}. 12^{h}. 4^{m}; and of the Vertical Force Magnet at 6^{d}. 14^{h}. 8^{m} and 6^{d}. 12^{h}. 4^{m}.

Extraordinary Observations of May 6, and July 24 and 25.

Göttingen Mean Time (Astronomical Reckoning).	Western Declination.	Observer.	Reading for Hor. Force in parts of the whole Hor. Force corrected for Temperature.	Observer.	Reading for Vert. Force in parts of the whole Vert. Force corrected for Temperature.	Observer.	Göttingen Mean Time (Astronomical Reckoning).	Western Declination.	Observer.	Reading for Hor. Force in parts of the whole Hor. Force corrected for Temperature.	Observer.	Reading for Vert. Force in parts of the whole Vert. Force corrected for Temperature.	Observer.
d h m s	° ′ ″						d h m s	° ′ ″					
May 6. 12. 38. 0	22. 37. 48	D	0·034876	D	0·054123	D	July 24. 11. 43. 0	23. 12. 17	D	0·034840	D	0·049022	D
39. 0	41. 23		035164		054116		45. 0	12. 9		034823		049022	
39. 30	43. 40		035119		054080		47. 0	12. 9		034823		048995	
40. 0	46. 9		035275		054094		49. 0	11. 50		034823		048995	
41. 0	47. 22		035208		054080		51. 0	11. 39		034845		048995	
42. 0	48. 48		035164		054101		53. 0	11. 47		034828		048995	
43. 0	49. 52		035164		054123		55. 0	11. 29		034828		048995	
44. 0	51. 37		035252		054080		11. 57. 30					048955	
45. 0	53. 20		035009		054180		12. 0. 0	7. 53					
46. 0	54. 15		034987		054152		2. 30			034850			
47. 0	58. 24		034544		054211		4. 0	10. 53		034872		048995	
48. 0	58. 34		034323		054225		9. 0	11. 3		034894		048969	
49. 0	59. 16		034145		054232		14. 0	11. 29		034899		048969	
50. 0	59. 40		034056		054239		19. 0	11. 30		034882		048943	
51. 0	22. 59. 59		033990		054254		24. 0	11. 37		034848		048943	
52. 0	23. 0. 23		033813		054283		33. 0	11. 38		034831		048916	
53. 0	0. 56		033592		054297		39. 0	11. 41		034858		048890	
54. 0	1. 19		033459		054297		45. 0	11. 41		034630		048890	
55. 0	1. 15		033061		054311		12. 56. 0	11. 48		034807		048837	
56. 0	1. 1		032861		054318		13. 57. 30					048959	
57. 0	1. 3		032618		054318		14. 0. 0	8. 59					
12. 58. 0	1. 19		032308		054347		14. 2. 30			033304			
13. 0. 0	0. 51		032042		054547		15. 57. 30					048797	
1. 0	23. 0. 29		031776		055083		16. 0. 0	8. 12					
2. 0	22. 59. 46		031622		054376		16. 2. 0			034367			
3. 0	58. 53		031555		054441		17. 57. 30					048914	
4. 0	58. 23		031445		054564		18. 0. 0	5. 29					
5. 0	54. 13		031445		054579		18. 2. 30			034474			
6. 0	53. 50		031445		054737		19. 57. 30					049050	D
7. 0	54. 1		031599		054823		20. 0. 0	5. 29	D				
9. 0	54. 13		031666		054838		20. 2. 30			033676	D		
11. 0	56. 59		031644		054838		21. 57. 30					048916	JH
13. 0	22. 58. 31		031754		054874		22. 0. 0	17. 35	JH				
15. 0	23. 0. 6		031821		054888		2. 30			028170	JH		
19. 0	22. 57. 44		031887		054967		6. 0	21. 46		027727		048902	
25. 0	56. 23		031887		055271		8. 0	22. 28		027694		048928	
29. 0	53. 21		031998		055314		10. 0	22. 24		027535		048981	
35. 0	53. 29		031976		055379		12. 0	22. 17		027487		048994	
40. 0	54. 1		032241		055617		23. 0	24. 12		027745		048987	
49. 0	54. 13		032330		055956		25. 0	24. 14		027824		049033	
13. 54. 0	56. 6		032197		056029		29. 0	24. 45		027796		049113	
14. 0. 0	55. 51		032175		056108		22. 46. 0	22. 27		027193		049006	
5. 0	58. 3		032463		056245		23. 5. 0	23. 2		027897		049118	
8. 0	57. 55		032596		056281		28. 0	24. 38		028335		049178	
14. 24. 0	58. 3	D	032552	D	056266	D	44. 0	26. 20		029016		049285	
							23. 57. 30					049305	
July 24. 9. 57. 30					0·049314	P							
10. 0. 0	22. 44. 6	P					July 25. 0. 0. 0	24. 29					
10. 2. 30			0·034599	P			2. 30			029193			
11. 39. 0	23. 13. 16	D	034840	D	049022	D	11. 0	27. 44		029260		049298	
41. 0	12. 46		034840		049022		27. 0	30. 39		031213		049735	

May 6d. 13h. 1m. 0s. It is probable that in this observation of the Vertical Force Magnet the reading of the scale was one division too great, and if so, the result should be 0·054362.

July 24d. 11h. 39m. Considerable changes having taken place in the positions of the magnets since 8h, extra observations were commenced, and continued until 12h. 56m, but the disturbance had previously ceased.

July 24d, civil reckoning. During the extra observations the greatest and least western declinations were at 11h. 39m and 10h; the greatest and least readings of the Horizontal Force Magnet were at 11h. 51m and 10h. 2m. 30s; and of the Vertical Force Magnet at 9h. 57m. 30s and 11h. 55m.

July 24d. A change of 12′. 6″ in the position of the Declination Magnet having taken place between 20h and 22h, extra observations were commenced; at 4h on July 25d, the magnets were undergoing considerable changes in their positions, and extra observations were immediately commenced.

July 24d. 22h. 46m. The reading of the Horizontal Force Magnet was less at this observation than at any other during the month.

Extraordinary Observations of July 25 and September 23.

Göttingen Mean Time (Astronomical Reckoning).	Western Declination.	Obs.	Reading for Hor. Force in parts of the whole Hor. Force corrected for Temperature.	Obs.	Reading for Vert. Force in parts of the whole Vert. Force corrected for Temperature.	Obs.	Göttingen Mean Time (Astronomical Reckoning).	Western Declination.	Obs.	Reading for Hor. Force in parts of the whole Hor. Force corrected for Temperature.	Obs.	Reading for Vert. Force in parts of the whole Vert. Force corrected for Temperature.	Obs.
d h m s	° ′ ″						d h m s	° ′ ″					
July 25. 1. 47. 30					0·049982	JH	July 25. 4. 41. 0	23. 25. 18	D	0·036156	D	0·051696	D
50. 0	23. 26. 47	JH					42. 0	25. 14		036593		051696	
52. 30			0·033295	JH			43. 0	25. 46		037058		051749	
1. 57. 30					049982		44. 0	26. 26		037479		051783	
2. 0. 0	27. 45						45. 0	27. 14		037811		051810	
2. 30			032697				46. 0	28. 14		037877		051810	
7. 30					049989		47. 0	28. 36		037501		051810	
10. 0	24. 50						48. 0	28. 59		037434		051823	
12. 30			031745				49. 0	28. 33		036571		051796	
2. 37. 0	12. 37	JH	033198	JH	049940	JH	50. 0	27. 32		036327		051763	
3. 57. 30					051557	D	51. 0	26. 17		036526		051749	
4. 0. 0	24. 55	D					52. 0	26. 5		036969		051783	
2. 30			037411	D			53. 0	26. 55		037479		051796	
3. 0	31. 55		036968		051423		54. 0	28. 42		038010		051796	
4. 0	32. 53		036370		051437		55. 0	30. 43		037700		051796	
5. 0	32. 23		036215		051490		56. 0	32. 26		037611		051743	
6. 0	31. 48		036016		051490		57. 0	33. 1		037036		051669	
7. 0	31. 13		035883		051477		58. 0	32. 56		036815		051642	
8. 0	31. 6		035507		051477		4. 59. 0	33. 36		036677		051656	
9. 0	29. 58		035153		051430		5. 0. 0	34. 10		036344		051609	
10. 0	27. 2		035059		051469		1. 0	34. 37		036146		051582	
11. 0	26. 14		035059		051476		2. 0	33. 44		035436		051543	
12. 0	25. 34		035170		051509		3. 0	34. 12		035061		051516	
13. 0	24. 45		035435		051503		4. 0	33. 52		034883		051516	
14. 0	24. 50		035701		051536		5. 0	33. 12		034551		051503	
15. 0	25. 17		035900		051583		6. 0	32. 35		034529		051503	
16. 0	25. 17		036316		051609		7. 0	32. 40		034413		051562	
17. 0	27. 2		036603		051629		9. 0	32. 3		034302		051581	
18. 0	29. 8		036781		051623		11. 0	30. 4		033727		051581	
19. 0	31. 0		036293		051602		13. 0	28. 9		033727		051588	
20. 0	32. 10		035607		051409		15. 0	27. 7		033971		051648	
21. 0	32. 29		035231		051396		17. 0	26. 4		034010		051701	
22. 0	31. 57		034943		051389		19. 0	26. 16		034054		051728	
23. 0	32. 23		034434		051389		22. 0	24. 15		033961		051741	
24. 0	31. 6		034478		051362		25. 0	21. 59		033827		051741	
25. 0	29. 16		034301		051349		28. 0	20. 21		033340		051715	
26. 0	28. 3		034256		051356		31. 0	19. 30		033579		051735	
27. 0	27. 51		034500		051362		34. 0	19. 57		033978		051727	
28. 0	27. 19		034345		051356		39. 0	22. 57		034044		051754	
29. 0	27. 14		034212		051356		45. 0	21. 25		033933		051660	
30. 0	27. 52		034102		051362		52. 0	20. 35		033995		051687	
31. 0	27. 52		033903		051369		5. 57. 30					051687	D
32. 0	26. 24		033703		051369		6. 0. 0	17. 13	D				
33. 0	26. 7		033631		051409		6. 2. 30			033596	D		
34. 0	24. 47		033521		051403								
35. 0	24. 3		033609		051423		Sep. 23. 5. 57. 30					0·046868	JH
36. 0	23. 29		033920		051456		6. 0. 0	23. 10. 58	JH				
37. 0	23. 24		034052		051476		2. 30			0·038457	JH		
38. 0	23. 38		034318		051496		9. 0	18. 9		037704		046801	
39. 0	24. 2		034716		051529		19. 0	18. 24		037367		046675	
40. 0	24. 34		035493		051616		44. 0	19. 31		036405		046567	

July 25^{d}, civil reckoning. During the extra observations the greatest and least western declinations were at 5^{h}. 1^{m} and 20^{h} (the former being the largest in the year); the greatest and least readings of the Horizontal Force Magnet were at 25^{d}. 4^{h}. 54^{m} and 24^{d}. 22^{h}. 46^{m}; and of the Vertical Force Magnet at 25^{d}. 4^{h}. 48^{m} and 24^{d}. 12^{h}. 56^{m}.

Sep. 23^{d}. A change of 10′. 1″ having taken place in the position of the Declination Magnet between 4^{h} and 6^{h}, extra observations were commenced.

Extraordinary Observations of September 23, October 26, and December 11.

Göttingen Mean Time (Astronomical Reckoning).	Western Declination.	Observer.	Reading for Hor. Force in parts of the whole Hor. Force corrected for Temperature.	Observer.	Reading for Vert. Force in parts of the whole Vert. Force corrected for Temperature.	Observer.	Göttingen Mean Mean (Astronomical Reckoning).	Western Declination.	Observer.	Reading for Hor. Force in parts of the whole Hor. Force corrected for Temperature.	Observer.	Reading for Vert. Force in parts of the whole Vert. Force corrected for Temperature.	Observer.
d h m s	° ′ ″						d h m s	° ′ ″					
Sep. 23. 7. 4. 0	23. 19. 0	JH	0·036904	JH	0·046500	JH	Oct. 26. 12. 0. 0	23 14 4	JH				
7. 24. 0	19. 0	JH	036943	JH	046386	JH	12. 2. 30			0·037129	JH		
Oct. 26. 7. 57. 30					0·044817	G	Dec. 11. 8. 4. 0	23. 7. 16	D	0·040260	D	0·043412	D
8. 0. 0	23. 15. 28	G	0·037829	G			6. 0	7. 43		040392		043386	
8. 2. 30							9. 0	8. 12		040548		043360	
9. 57. 30					044102		11. 0	9. 18		040597		043333	
10. 0. 0	2. 2						14. 0	9. 29		040642		043327	
2. 30			038173				16. 0	10. 19		040730		043282	
3. 0	4. 45		038173		040047		18. 0	9. 28		040708		043269	
5. 30	5. 26		038151		040112		21. 0	11. 54		040625		043198	
9. 30	6. 10		038156		040096		23. 0	12. 14		040580		043186	
11. 30	6. 38		038134		040085		26. 0	12. 59		040558		043141	
13. 30	6. 57		038072		040059		29. 0	13. 41		040452		043116	
15. 30	6. 57		038095		040038		33. 0	14. 10		040364		043077	
19. 30	7. 42		038100		039994		8. 57. 0	15. 18		038461		043012	
24. 30	7. 57		038122		040032		9. 4. 0	15. 34		038399		043012	
29. 30	8. 4		038061		040006		10. 0	15. 51		038488		042999	
10. 34. 0	8. 51	G	038061	G	040006	G	9. 45. 0	16. 29		038913		043119	
11. 19. 40	11. 57	JH	037977	JH	039784	JH	10. 20. 0	14. 45		038891		043098	
11. 57. 30					043707	JH	11. 19. 0	14. 45		041110		043018	
							11. 24. 0	14. 45	D	040446	D	043075	D

Sep. 23d, civil reckoning. During the extra observations the greatest and least western declinations were at 6h. 44m and 6h; the greatest and least readings of the Horizontal Force Magnet were at 6h. 2m. 30s and 6h. 44m; and of the Vertical Force Magnet at 6h. 9m and 7h. 24m.

Oct. 26d. A change of 13′. 26″ in the position of the Declination Magnet having taken place between 8h and 10h, extra observations were commenced.

Oct. 26d, civil reckoning. During the extra observations the greatest and least western declinations were at 8h and 10h (the latter being the least for the month); the greatest and least readings of the Horizontal Force Magnet were at 10h and 12h. 2m. 30s; and of the Vertical Force Magnet at 7h. 57m. 30s and 11h. 19m. 40s.

Dec. 11d. A change of 12′. 32″ having taken place in the position of the Declination Magnet between 6h and 8h, extra observations were taken.

Dec. 11d, civil reckoning. During the extra observations the greatest and least western declinations were at 9h. 45m and 8h. 4m; the greatest and least readings of the Horizontal Force Magnet were at 11h. 19m and 9h. 4m (the former being the greatest for the month); and of the Vertical Force Magnet at 8h. 4m and 9h. 10m.

ROYAL OBSERVATORY, GREENWICH.

OBSERVATIONS

OF

THE MAGNETIC DIP.

1842 and 1843.

DAY and APPROXIMATE HOUR, 1842.	Letter referring to Needle.	Whether moved from its bearing subsequently to the last Observation.	Observations with the marked End of the Needle pointing downwards. Marked Side of Needle East. Graduated Face of Circle (1) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (3) West. Circle Reading Upper.	Lower.	Marked Side of Needle West. Graduated Face of Circle (4) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (2) West. Circle Reading Upper.	Lower.	Observations with the unmarked end of the Needle pointing downwards. Marked Side of Needle West. Graduated Face of Circle (4) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (2) West. Circle Reading Upper.	Lower.	Marked Side of Needle East. Graduated Face of Circle (1) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (3) West. Circle Reading Upper.	Lower.	Resulting Dip.	Observer.
d h			° ′	′	′	′	° ′	′		′	° ′	′	′	′	° ′	′	′	′	° ′	
Nov. 17. 23	A 1		68. 89	86	49	46	69. 0	6	6	10	68. 78	75	33	33	67. 12	11	85	90	68. 45 ·00	G
	A 2		68. 54	52	54	54	68. 69	70	54	54	68. 74	68	54	57	68. 71	69	23	24	68. 56 ·00	
Nov. 20. 21	A 1		68. 60	58	50	48	68. 64	65	48	52	69. 18	18	2	1	68. 51	51	40	44	68. 57 ·00	
	A 2		68. 66	65	43	44	68. 46	45	71	72	69. 6	6	4	5	68. 61	61	31	31	68. 56 ·25	
Nov. 24. 3	A 1		68. 67	64	50	49	68. 68	68	50	52	68. 63	62	40	38	69. 17	15	0	2	68. 59 ·00	
	A 2		68. 58	57	51	51	68. 71	69	57	59	69. 8	8	18	16	68. 62	62	34	34	68. 59 ·75	
Nov. 27. 21	A 1		68. 60	58	42	42	68. 65	66	49	55	68. 42	42	39	35	69. 31	30	0	0	68. 56 ·25	
	A 2		68. 66	64	48	48	69. 0	0	6	6	68. 64	64	36	38	68. 65	65	48	48	68. 56 ·50	
Dec. 1. 3	A 1		68. 57	57	50	50	68. 72	73	43	43	68. 63	65	37	36	68. 81	80	55	56	68. 57 ·25	
	A 2		68. 57	57	45	45	68. 64	66	54	55	68. 69	69	54	53	68. 68	67	53	52	68. 58 ·00	
Dec. 4. 21	A 1		68. 71	70	45	44	68. 60	60	38	41	68. 63	63	57	57	68. 64	64	38	38	68. 54 ·50	
	A 2		68. 55	54	37	37	68. 70	70	50	50	68. 55	55	57	56	68. 63	64	50	49	68. 54 ·50	
Dec. 8. 3	A 1		68. 69	68	43	42	68. 72	71	53	53	69. 27	27	7	8	68. 58	58	34	35	69. 0 ·50	
	A 2		68. 63	62	47	49	69. 13	12	3	2	68. 63	63	56	56	68. 66	64	55	57	69. 0 ·75	
Dec. 11. 21	A 1		69. 37	37	0	0	68. 46	46	26	28	69. 0	0	1	1	68. 61	62	50	50	68. 57 ·75	
	A 2		68. 63	62	44	45	68. 74	73	50	51	69. 2	2	0	0	68. 72	73	40	40	68. 58 ·25	
Dec. 15. 3	A 1		68. 73	72	53	52	68. 60	60	45	47	68. 62	62	52	50	69. 12	14	6	4	69. 0 ·25	
	A 2		68. 64	62	50	51	68. 71	70	56	57	69. 2	2	0	0	68. 81	80	57	58	69. 2 ·50	
Dec. 18. 21	A 1		68. 60	58	47	48	68. 60	64	35	38	68. 65	65	49	50	68. 80	82	43	42	68. 55 ·50	
	A 2		68. 61	61	51	53	68. 55	55	53	55	68. 60	60	55	55	68. 67	68	45	45	68. 56 ·25	G

Nov. 17d. 23h. With the needle marked A 1 there is little doubt, that in the first observation with the unmarked end dipping, the readings should have been 69°. 12′ and 69°. 11′; and if so, the resulting dip would be 68°. 59′·4.

Nov. 27d. 21h. The first observation of A 1, unmarked end pointing downwards, is the mean of several readings.

DAY and APPROXIMATE HOUR, 1842.	Letter referring to Needle.	Whether moved from its bearing subsequently to the last Observation.	Observations with the marked End of the Needle pointing downwards. Marked Side of Needle East. Graduated Face of Circle (1) East. Circle Reading Upper.	Lower.	(3) West. Upper.	Lower.	West. Graduated Face of Circle (4) East. Upper.	Lower.	(2) West. Upper.	Lower.	Observations with the unmarked End of the Needle pointing downwards. Marked Side of Needle West. Graduated Face of Circle (4) East. Upper.	Lower.	(2) West. Upper.	Lower.	East. Graduated Face of Circle (1) East. Upper.	Lower.	(3) West. Upper.	Lower.	Resulting Dip.	Observer.
d h			° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	
Dec. 22. 3	A 1		69.26	28	6	9	68.31	29	47	47	69.13	17	7	11	68.44	44	51	50	68.59·00	M
	A 2		68.59	57	45	47	68.75	76	40	40	68.51	53	52	54	69.16	15	0	0	68.58·00	M
Dec. 29. 3	A 1		68.58	57	30	28	69.10	15	2	6	68.55	54	53	51	68.85	90	57	63	68.59·75	D
	A 2		68.65	65	50	50	68.55	56	45	43	68.66	65	50	49	68.66	68	57	59	68.56·75	D
1843.																				
Jan. 1. 21	A 1		68.70	68	43	39	68.62	64	46	51	68.38	38	82	82	68.56	58	78	76	68.59·50	G
	A 2		68.63	64	48	49	68.60	60	62	58	68.75	77	52	52	68.65	64	55	55	69. 0·00	
Jan. 8. 21	A 1		68.90	85	50	50	68.50	53	40	43	69. 5	5	2	2	68.75	72	48	48	69. 0·00	
	A 2		68.72	72	53	53	68.53	53	48	48	68.46	48	48	48	69.30	32	1	0	68.59·00	G
Jan. 12. 3	A 1		68.77	75	48	51	68.60	62	45	48	68.55	55	44	40	69.24	27	5	10	69. 0·25	D
	A 2		69. 4	2	8	8	68.62	62	41	42	68.56	57	55	58	68.60	59	70	72	68.59·50	
Jan. 15. 21	A 1		68.66	64	48	46	68.60	64	46	50	68.80	77	46	44	68.73	76	51	55	68.59·00	
	A 2		68.56	56	43	45	68.71	72	55	56	68.72	71	59	60	68.64	65	44	48	68.58·50	D
Jan. 22. 21	A 1		68.89	87	49	48	68.50	53	49	48	68.55	55	67	65	68.62	65	42	45	68.58·25	JH
	A 2		68.56	58	43	45	68.68	70	57	57	69.20	20	0	0	68.55	57	45	47	68.58·50	JH
Jan. 26. 3	A 1		68.52	55	45	46	69.10	12	6	3	68.80	77	35	37	68.73	78	48	44	68.58·75	G
	A 2		68.50	54	50	50	68.75	74	58	59	68.84	82	55	56	68.52	55	50	53	68.59·75	G
Jan. 30. 21	A 1		68.59	52	45	42	69.15	17	2	6	69.20	17	9	7	68.55	58	30	36	68.59·25	D
	A 2		68.62	62	48	48	68.67	67	46	48	68.50	52	45	46	69.11	13	6	7	68.57·50	D
Feb. 2. 3	A 1		69.10	10	0	0	68.56	56	65	62	68.48	46	60	60	68.63	62	42	42	68.57·50	JH
	A 2		68.55	52	40	42	68.75	75	40	38	69.12	12	15	15	68.50	50	60	60	68.58·50	JH

DAY and APPROXIMATE HOUR, 1843.	Letter referring to Needle.	Whether moved from its bearing subsequently to the last Observation.	Observations with the marked End of the Needle pointing downwards.								Observations with the unmarked End of the Needle pointing downwards.								Resulting Dip.	Observer.
			Marked Side of Needle East.				Marked Side of Needle West.				Marked Side of Needle West.				Marked Side of Needle East.					
			Graduated Face of Circle (1) East.		(3) West.		Graduated Face of Circle (4) East.		(2) West.		Graduated Face of Circle (4) East.		(2) West.		Graduated Face of Circle (1) East.		(3) West.			
			Circle Reading																	
			Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.		
d h			° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	
Feb. 5. 21	A 1		68. 64	62	34	35	69. 24	26	3	8	68. 63	64	55	55	68. 58	60	60	62	69. 0 ·75	D
	A 2		68. 64	64	52	52	68. 70	70	51	52	69. 12	12	3	4	68. 65	66	49	51	69. 1 ·00	
Feb. 12. 21	A 1		68. 70	70	56	55	68. 76	80	45	50	68. 60	60	43	41	68. 68	70	55	58	68. 59 ·75	
	A 2		68. 60	61	45	46	68. 75	75	30	32	68. 68	70	56	57	68. 75	78	58	60	68. 59 ·13	D
Feb. 16. 3	A 1		68. 35	35	70	70	69. 10	10	0	0	69. 10	7	0	0	68. 67	70	37	39	68. 58 ·75	JH
	A 2		68. 60	58	50	50	68. 57	55	33	35	69. 14	12	1	5	68. 63	65	58	58	68. 57 ·13	JH
Feb. 19. 21	A 1		68. 50	48	45	44	68. 61	64	47	53	68. 68	67	55	53	69. 5	7	7	11	68. 58 ·00	D
	A 2		68. 52	51	42	42	68. 70	72	59	61	69. 7	8	0	0	68. 66	67	47	48	68. 58 ·25	D
Feb. 23. 3	A 1		68. 75	72	53	50	68. 63	63	51	56	68. 76	74	45	45	69. 26	30	0	5	69. 4 ·00	G
	A 2		68. 65	65	47	47	68. 76	76	52	54	69. 22	20	7	8	68. 68	71	50	51	69. 3 ·75	G
Feb. 26. 21	A 1		68. 63	61	45	42	68. 58	61	63	67	69. 10	10	5	6	69. 0	4	10	12	69. 2 ·25	D
Mar. 2. 20	A 1		68. 90	90	58	56	68. 50	52	65	64	68. 70	70	50	50	68. 65	67	47	48	69. 2 ·00	JH
	A 2		68. 65	65	52	52	68. 63	64	50	50	68. 52	52	60	61	68. 57	57	75	75	69. 0 ·25	JH
Mar. 5. 21	A 1		68. 69	67	51	48	68. 67	70	47	50	68. 72	72	45	43	68. 50	53	58	58	68. 57 ·50	D
	A 2		68. 51	51	37	38	68. 61	62	38	38	68. 85	85	50	51	68. 59	59	55	55	68. 54 ·50	D
Mar. 9. 3	A 1		68. 82	87	40	44	69. 20	25	11	10	68. 80	81	45	45	68. 82	80	31	30	69. 4 ·50	G
	A 2		69. 28	28	12	12	68. 58	57	70	70	68. 70	70	53	53	68. 56	56	50	51	69. 4 ·50	G
Mar. 12. 21	A 1		68. 69	67	45	42	69. 8	12	1	3	68. 76	75	48	45	68. 53	57	54	58	68. 59 ·50	D
	A 2		68. 62	62	56	56	69. 10	12	4	6	68. 66	66	52	53	68. 55	56	54	54	69. 0 ·25	D

March 9d. 3h. Each observation was the mean of two readings generally, and sometimes of three; the individual readings differed as much as 20′ between themselves. The agate planes were free from dust, and every thing appeared to be in good order.

DAY and APPROXIMATE HOUR, 1843.	Letter referring to Needle.	Whether moved from its bearing subsequently to the last Observation.	Observations with the marked End of the Needle pointing downwards.								Observations with the unmarked End of the Needle pointing downwards.								Resulting Dip.	Observer.
			Marked Side of Needle East.				Marked Side of Needle West.				Marked Side of Needle West.				Marked Side of Needle East.					
			Graduated Face of Circle (1) East.		(3)W est.		Graduated Face of Circle (4) East.		(2) West.		Graduated Face of Circle (4) East.		(2) West.		Graduated Face of Circle (1) East.		(3) West.			
			Circle Reading		Circle Reading		Circle Reading		Circle Reading		Circle Reading		Circle Reading		Circle Reading		Circle Reading			
			Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.		
d h			° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	
Mar. 16. 2	A 1		68. 69	71	47	47	68. 60	60	51	52	68. 75	75	52	52	68. 70	70	57	57	69. 0 ·25	JH
	A 2		68. 52	52	60	60	68. 70	70	53	55	69. 8	10	5	7	68. 60	60	50	48	69. 0 ·00	JH
Mar. 19. 21	A 1		68. 72	68	58	55	68. 63	66	45	50	68. 75	73	53	50	68. 75	77	42	43	69. 0 ·25	D
	A 2		68. 60	60	42	42	69. 7	8	5	7	68. 52	55	70	72	68. 70	71	52	54	69. 0 ·25	D
Mar. 30. 2	A 1		68. 71	71	38	40	69. 19	23	1	1	68. 58	58	45	49	69. 12	12	0	0	69. 1 ·00	G
Apr. 2. 21	A 1		68. 70	72	59	60	68. 61	61	52	53	68. 78	79	53	53	68. 68	68	38	35	69. 0 ·00	
	A 2		68. 63	62	55	56	68. 67	66	58	58	69. 5	5	2	2	68. 62	62	45	45	68. 59 ·50	G
Apr. 9. 21	A 1		68. 56	54	40	40	69. 10	10	3	3	69. 14	16	0	0	68. 50	50	62	63	68. 59 ·75	JH
	A 2		68. 54	55	49	50	68. 53	52	70	71	68. 80	78	54	54	68. 58	60	48	50	68. 59 ·00	
Apr. 16. 21	A 1		68. 50	52	45	45	69. 8	10	2	4	68. 82	81	48	50	68. 80	78	45	45	69. 0 ·25	
	A 2		68. 68	67	45	47	69. 10	10	0	2	69. 12	12	0	2	68. 55	55	52	53	69. 0 ·50	JH
Apr. 23. 21	A 1		68. 70	75	40	43	68. 60	58	50	45	69. 10	12	6	10	69. 2	4	1	0	69. 0 ·25	D
	A 2		68. 60	60	45	45	69. 2	3	0	0	69. 9	10	2	3	69. 1	0	1	1	69. 0 ·00	
Apr. 27. 20	A 1		68. 51	50	58	57	68. 68	71	59	56	68. 70	70	55	53	68. 64	67	58	60	69. 0 ·75	
	A 2		68. 50	50	48	48	69. 7	8	6	7	68. 70	70	58	60	69. 1	2	5	4	69. 0. 75	D
Apr. 30. 21	A 1		69. 13	15	0	0	68. 57	58	48	50	68. 75	72	52	52	68. 55	55	50	50	68. 59 ·00	JH
	A 2		68. 48	50	60	60	68. 62	62	48	47	68. 72	70	52	54	68. 72	72	57	59	68. 59 ·00	
May 4. 2	A 1		69. 15	15	10	10	68. 55	55	50	48	68. 70	70	55	55	68. 65	67	45	46	68. 59 ·50	
	A 2		68. 65	65	52	52	68. 60	60	58	57	69. 16	15	10	10	68. 50	50	40	42	68. 59 ·00	
May 7. 21	A 1		68. 60	60	55	55	69. 0	0	5	5	68. 60	58	65	65	68. 55	53	60	60	69. 0 ·25	

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d h			° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	
May 11. 2	A 1		68. 75	75	56	58	68. 48	50	38	40	68. 76	76	45	45	68. 82	80	55	55	68. 59 ·50	JH
	A 2		69. 22	22	7	6	68. 50	52	55	55	68. 47	47	72	72	68. 62	64	50	51	69. 0 ·75	
May 14. 21	A 1		68. 76	73	60	58	68. 44	48	50	52	68. 71	68	56	53	68. 68	71	42	46	68. 58 ·50	
	A 2		68. 65	66	55	55	68. 73	74	40	40	68. 62	62	55	55	68. 71	72	50	52	68. 59 ·25	JH
May 18. 3	A 1		68. 61	63	38	42	68. 72	72	45	50	69. 25	27	2	1	68. 62	60	55	55	69. 0 ·75	G
	A 2		68. 71	72	58	59	68. 60	60	50	51	69. 4	5	0	1	68. 60	60	50	50	68. 59 ·50	G
May 21. 21	A 1		68. 63	60	53	52	68. 83	85	58	60	68. 56	54	56	55	68. 70	73	41	45	69. 0 ·25	D
	A 2		68. 61	60	55	56	68. 65	65	42	44	69. 20	20	11	11	68. 62	63	40	41	68. 59 ·75	D
May 25. 2	A 1		68. 75	75	55	55	68. 60	60	55	55	69. 5	5	20	20	68. 50	50	55	56	69. 1 ·75	JH
	A 2		68. 63	65	50	51	69. 20	20	15	15	68. 60	61	45	46	68. 60	60	55	57	69. 1 ·50	JH
May 28. 21	A 1		68. 52	50	36	34	69. 22	26	12	16	68. 70	68	48	45	68. 64	68	55	59	69. 0 ·25	D
June 1. 2	A 1		69. 12	10	5	4	68. 58	58	60	60	68. 67	68	48	50	68. 70	70	45	45	69. 0 ·25	JH
June 4. 21	A 1		68. 57	58	62	62	68. 70	69	55	55	68. 60	56	62	62	69. 12	10	0	3	69. 2 ·00	
	A 2		68. 65	63	50	52	68. 65	66	54	55	68. 74	75	51	52	68. 74	73	51	51	69. 0 ·50	JH
June 8. 3	A 1		68. 70	71	46	46	69. 7	10	15	15	68. 70	68	42	35	68. 75	77	41	43	69. 0 ·75	G
June 11. 21	A 1		68. 65	61	40	42	68. 58	55	48	50	68. 79	71	53	53	69. 25	25	0	5	69. 0 ·50	
	A 2		68. 65	61	50	50	68. 68	68	48	50	68. 71	74	58	58	68. 68	70	47	48	68. 59 ·50	G
June 15. 2	A 1		68. 77	77	57	60	68. 63	65	55	65	68. 79	75	35	40	68. 77	82	47	60	69. 3 ·75	P
	A 2		68. 67	66	45	50	68. 88	90	27	35	68. 80	80	52	60	69. 10	12	10	15	69. 4 ·25	P

DAY and APPROXIMATE HOUR, 1843.	Letter referring to Needle.	Whether moved from its bearing subsequently to the last Observation.	Observations with the marked End of the Needle pointing downwards. Marked Side of Needle East. Graduated Face of Circle (1) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (3) West. Circle Reading Upper.	Lower.	Marked Side of Needle West. Graduated Face of Circle (4) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (2) West. Circle Reading Upper.	Lower.	Observations with the unmarked End of the Needle pointing downwards. Marked Side of Needle West. Graduated Face of Circle (4) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (2) West. Circle Reading Upper.	Lower.	Marked Side of Needle East. Graduated Face of Circle (1) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (3) West. Circle Reading Upper.	Lower.	Resulting Dip.	Observer.
d h			° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	
June 18. 21	A 1		68. 65	70	48	58	68. 90	88	55	58	68. 50	52	45	60	68. 66	63	48	50	69. 0·25	P
June 25. 21	A 1		69. 15	12	5	7	68. 77	78	57	68	68. 67	63	37	40	68. 83	85	43	53	69. 4·25	
	A 2		68. 60	58	45	49	68. 85	82	58	66	69. 17	15	11	15	68. 68	69	40	45	69. 4·00	P
June 29. 2	A 1		68. 80	80	42	40	68. 65	65	57	60	68. 68	66	50	53	68. 72	70	57	55	69. 1·25	JH
	A 2		68. 60	60	45	42	69. 20	20	7	10	68. 52	54	50	52	69. 12	10	0	0	69. 0·75	JH
July 2. 21	A 1		68. 67	63	55	58	68. 85	90	44	55	68. 72	71	37	38	68. 77	80	58	64	69. 3·50	P
	A 2		68. 70	67	50	58	68. 63	64	38	46	68. 74	70	47	50	68. 62	64	47	53	68. 57·75	P
July 6. 2	A 1		69. 0	0	8	10	68. 75	73	52	50	68. 70	71	35	37	69. 25	23	0	0	69. 3·00	JH
	A 2		68. 70	68	57	55	68. 65	65	52	50	69. 20	21	20	18	68. 50	50	35	35	69. 0·75	JH
July 9. 21	A 1		69. 4	3	17	18	68. 63	70	37	42	68. 55	60	55	56	69. 18	21	0	10	69. 3·00	P
	A 2		68. 47	47	33	35	68. 82	84	48	53	68. 83	81	57	62	68. 70	67	35	40	68. 57·75	
July 16. 21	A 1		68. 80	86	50	45	68. 55	54	50	47	69. 15	24	5	10	68. 54	53	46	40	68. 59·75	
	A 2		68. 80	85	35	36	68. 24	30	52	55	68. 60	65	52	55	68. 57	60	50	50	68. 53·00	P
July 23. 21	A 1		68. 65	67	55	55	69. 22	20	0	0	68. 56	57	77	75	68. 53	55	55	56	69. 3·00	JH
	A 2		68. 43	44	65	67	69. 15	15	10	11	68. 78	76	50	50	68. 78	80	47	48	69. 3·50	JH
July 27. 2	A 1		68. 72	73	28	30	68. 70	67	59	57	68. 56	57	66	70	68. 73	70	57	53	69. 0·00	D
	A 2		69. 13	14	5	6	68. 78	77	52	52	68. 62	62	58	60	68. 45	44	56	57	69. 1·25	D
July 30. 21	A 1		68. 57	58	72	70	68. 50	50	70	70	68. 55	56	74	75	68. 50	50	60	61	69. 1·00	JH
	A 2		68. 63	65	52	50	69. 5	3	19	18	68. 50	51	57	55	69. 0	0	12	14	69. 1·50	JH

DAY and APPROXIMATE HOUR, 1843.	Letter referring to Needle.	Whether moved from its bearing subsequently to the last Observation.	Observations with the marked End of the Needle pointing downwards. Marked Side of Needle East. Graduated Face of Circle (1) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (3) West. Circle Reading Upper.	Lower.	Marked Side of Needle West. Graduated Face of Circle (4) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (2) West. Circle Reading Upper.	Lower.	Observations with the unmarked End of the Needle pointing downwards. Marked Side of Needle West. Graduated Face of Circle (4) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (2) West. Circle Reading Upper.	Lower.	Marked Side of Needle East. Graduated Face of Circle (1) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (3) West. Circle Reading Upper.	Lower.	Resulting Dip.	Observer.
d h			° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	
Aug. 6. 21	A 1		68. 80	78	50	52	68. 55	56	50	50	69. 10	8	0	2	68. 72	71	50	52	69. 1·00	JH
	A 2		68. 52	51	48	50	69. 8	8	10	12	68. 65	67	60	58	69. 0	2	12	12	69. 2·25	JH
Aug. 10. 2	A 1		68. 82	79	48	46	68. 50	48	75	78	68. 66	65	45	48	68. 75	72	60	58	69. 2·25	D
	A 2		68. 45	46	58	60	69. 10	10	1	2	69. 4	4	4	5	69. 0	2	7	6	69. 1·50	D
Aug. 13. 22	A 1		68. 60	60	56	57	68. 68	67	60	58	69. 0	2	5	6	68. 70	70	50	49	69. 1·00	JH
	A 2		68. 48	50	44	44	69. 20	22	4	5	69. 3	4	4	5	69. 4	4	10	12	69. 2·75	JH
Aug. 17. 2	A 1		68. 63	60	44	41	69. 10	15	2	6	68. 68	69	48	46	68. 59	63	49	52	68. 58·50	D
	A 2		68. 61	60	55	55	69. 10	12	8	8	68. 71	70	38	38	68. 61	62	42	42	68. 58·50	D
Aug. 20. 21	A 1		68. 75	72	45	45	68. 60	62	40	38	69. 20	19	2	0	68. 65	65	58	58	69. 0·25	JH
	A 2		68. 47	45	46	49	69. 12	11	15	15	69. 8	7	7	5	68. 48	48	60	60	69. 0·25	
Aug. 24. 2	A 1		68. 65	63	58	60	69. 10	8	5	5	68. 46	47	45	46	69. 2	3	8	8	68. 59·75	
	A 2		68. 50	50	47	49	69. 10	9	8	10	68. 72	72	51	50	68. 70	68	52	52	69. 0·00	JH
Aug. 27. 21	A 1		68. 35	37	70	75	68. 55	55	45	42	68. 68	71	55	57	68. 75	75	51	50	68. 57·25	D
	A 2		68. 71	72	52	53	68. 68	68	45	44	68. 72	73	52	53	68. 61	61	50	50	68. 59·00	D
Aug. 31. 3	A 1		68. 68	67	57	56	69. 20	23	5	5	68. 68	65	54	54	68. 69	70	50	51	69. 4·00	G
	A 2		68. 61	61	45	45	68. 75	78	47	48	69. 29	28	25	23	68. 69	70	35	38	69. 3·50	G
Sep. 3. 21	A 1		68. 66	69	46	49	68. 67	65	47	44	68. 62	64	54	56	68. 76	76	61	58	69. 0·00	D
	A 2		68. 56	58	37	38	69. 11	10	6	5	68. 69	70	53	53	68. 70	70	50	52	68. 59·25	D
Sep. 6. 3	A 1		68. 80	78	55	55	68. 63	62	52	52	68. 42	42	82	82	69. 22	22	7	5	69. 5·00	G
	A 2		69. 8	5	16	14	69. 20	18	12	12	68. 55	55	55	57	68. 72	70	52	53	69. 6·00	G

Aug. 31^{d}. 3^{h}. The needle A 1 moved sluggishly.

Sep. 6^{d}. 3^{h}. The needle A 1 was troublesome to use; it would frequently settle at 70° and 71°, and it was only by repeatedly raising the needle from the agate planes that it would assume its usual position.

DAY and APPROXIMATE HOUR, 1843.	Letter referring to Needle.	Whether moved from its bearing subsequently to the last Observation.	Observations with the marked End of the Needle pointing downwards. Marked Side of Needle East. Graduated Face of Circle (1) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (3) West. Circle Reading Upper.	Lower.	Marked Side of Needle West. Graduated Face of Circle (4) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (2) West. Circle Reading Upper.	Lower.	Observations with the unmarked end of the Needle pointing downwards. Marked Side of Needle West. Graduated Face of Circle (4) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (2) West. Circle Reading Upper.	Lower.	Marked Side of Needle East. Graduated Face of Circle (1) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (3) West. Circle Reading Upper.	Lower.	Resulting Dip.	Observer.
d h			° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	
Sep. 10. 21	A 1		69. 8	10	0	0	68. 55	55	57	58	68. 60	60	55	55	68. 82	80	53	53	69. 1·25	G
	A 2		68. 61	62	55	57	69. 11	10	2	3	68. 75	74	53	53	68. 70	70	45	45	69. 1·50	G
Sep. 14. 3	A 2		68. 76	75	49	48	68. 79	80	55	55	69. 17	17	9	9	68. 63	61	33	35	69. 2·50	D
Sep. 17. 21	A 2		68. 34	36	35	35	69. 23	23	10	9	69. 15	14	20	20	68. 56	56	48	50	69. 0·25	JH
Sep. 23. 3	A 2	Not moved									68. 25	30	50	50	68. 72	84	56	60		P
Sep. 24. 21	A 2		68. 63	65	50	49	69. 12	11	8	9	69. 18	20	15	12	68. 52	52	32	35	69. 1. 50	JH
Sep. 28. 3	A 1		69. 14	11	7	4	68. 60	64	51	55	69. 26	25	18	20	68. 35	38	30	35	69. 0·75	D
	A 2		68. 76	76	55	57	69. 11	11	9	11	68. 58	58	60	60	68. 58	58	43	45	69. 1·50	
Oct. 1. 21	A 1		68. 72	70	52	49	68. 73	75	57	60	69. 29	31	8	9	68. 41	45	33	30	69. 1·00	
	A 2		68. 72	73	40	40	69. 23	25	10	10	68. 68	68	51	50	68. 65	65	35	40	69. 1·00	D
Oct. 2. 21	A 2	Not moved									69. 15	15	16	17	68. 60	58	50	50		JH
Oct. 5. 3	A 1		68. 68	65	46	42	69. 3	6	2	6	69. 29	26	7	5	68. 48	45	48	52	69. 1·25	D
	A 2		69. 10	10	0	1	68. 55	55	58	60	69. 22	22	8	8	68. 70	72	52	51	69. 4·50	
Oct. 12. 3	A 1		69. 17	14	10	7	68. 53	55	47	50	69. 19	17	0	2	68. 55	58	52	54	69. 2·00	
Oct. 15. 21	A 1		69. 12	9	9	6	68. 47	50	59	63	69. 20	20	6	8	68. 37	40	36	38	68. 58·75	
	A 2		69. 7	9	4	2	68. 53	54	64	63	69. 4	5	9	11	68. 52	53	40	41	68. 59·50	D
Oct. 16. 3	A 2	Not moved									68. 55	55	35	37	69. 24	22	8	9		JH
Oct. 22. 21	A 1		68. 40	42	40	40	69. 17	17	15	13	68. 50	52	45	46	69. 23	23	10	11	69. 0·25	
	A 2		68. 50	50	48	48	69. 15	15	0	0	69. 10	10	10	9	68. 60	62	50	50	69. 0·50	JH
Oct. 23. 3	A 2	Not moved	68. 84	85	53	53	69. 3	4	5	5										D

Sep. 10d. 21h. Each observation of A 1 is the mean of several readings; the needle was sluggish in its motions. After this observation the needle was most carefully examined, and it was found that the bearing parts of the axis were much scratched: the needle was sent to Mr. Barrow for repair.

Sep. 23d. 3h. The readings differ so much from the corresponding readings on September 17 as to cause a doubt of the correctness of the observations on this day.

Sep. 28d. 3h. The needle A 1 had been returned by Mr. Barrow.

DAY and APPROXIMATE HOUR, 1843.	Letter referring to Needle.	Whether moved from its bearing subsequently to the last Observation.	Observations with the marked End of the Needle pointing downwards. Marked Side of Needle East. Graduated Face of Circle (1) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (3) West. Circle Reading Upper.	Lower.	Marked Side of Needle West. Graduated Face of Circle (4) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (2) West. Circle Reading Upper.	Lower.	Observations with the unmarked End of the Needle pointing downwards. Marked Side of Needle West. Graduated Face of Circle (4) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (2) West. Circle Reading Upper.	Lower.	Marked Side of Needle East. Graduated Face of Circle (1) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (3) West. Circle Reading Upper.	Lower.	Resulting Dip.	Observer.
d h			° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	
Oct. 27. 3	A 1		69. 22	20	9	7	68. 47	50	40	38	69. 32	30	35	30	68. 50	50	30	28	69. 5·50	G
	A 2		69. 2	0	2	3	69. 11	9	7	8	69. 6	8	7	5	68. 69	69	47	47	69. 3·75	G
Oct. 29. 21	A 1		68. 30	32	35	37	69. 25	23	20	20	68. 56	57	55	57	69. 10	8	10	11	69. 0·50	JH
	A 2		68. 47	49	48	50	68. 70	72	55	53	69. 15	16	23	22	69. 10	12	0	1	69. 3·75	JH
Oct. 30. 3	A 2	Not moved	68. 58	55	47	48	69. 22	24	14	16										D
Nov. 2. 3	A 1		68. 55	57	72	70	68. 75	76	50	50	69. 16	16	15	16	68. 40	40	42	42	69. 0·75	JH
	A 2		68. 55	56	47	47	69. 15	15	8	7	68. 75	75	50	51	68. 60	60	55	57	69. 1·00	JH
Nov. 2. 21	A 2	Not moved									68. 65	67	50	50	69. 2	2	4	5		G
Nov. 5. 21	A 1		69. 32	32	11	9	68. 38	39	28	27	69. 20	20	10	10	68. 38	40	25	27	68. 55·50	
	A 2		68. 58	57	64	63	68. 43	40	65	66	68. 65	66	57	55	68. 66	66	55	56	68. 58·75	G
Nov. 6. 3	A 2	Not moved	68. 62	62	51	52	69. 14	15	18	20										D
Nov. 9. 3	A 1		69. 16	15	10	10	68. 40	42	53	51	68. 70	71	55	53	68. 69	71	50	48	69. 0·25	JH
	A 2		68. 65	66	50	50	68. 78	78	50	50	69. 18	17	12	11	68. 58	58	40	40	69. 1·25	
Nov. 9. 21	A 2	Not moved									69. 24	22	0	0	68. 76	77	50	48		JH
Nov. 12. 21	A 1		69. 12	12	0	0	68. 54	57	41	44	68. 80	78	54	51	68. 50	52	36	39	68. 56·25	D
	A 2		68. 66	67	35	34	69. 11	12	5	7	69. 18	18	12	12	68. 54	55	30	30	68. 59·00	D
Nov. 13. 3	A 2	Not moved	68. 73	77	52	57	68. 65	70	30	30										P
Nov. 16. 3	A 1		69. 22	20	10	10	68. 70	70	35	37	68. 61	60	50	52	68. 70	70	48	50	69. 1·00	JH
	A 2		68. 64	64	48	50	68. 65	67	55	56	68. 82	81	55	53	68. 58	60	50	52	69. 0·00	JH
Nov. 17. 21	A 2	Not moved									68. 75	73	55	60	68. 63	65	42	47		P

Oct. 27d. 3h. The readings of A 1 differ from their usual readings; those of A 2 are more consistent.
Nov. 5d. 21h. The readings of A 1 were satisfactory.

DAY and APPROXIMATE HOUR, 1843.	Letter referring to Needle.	Whether moved from its bearing subsequently to the last Observation.	Observations with the marked End of the Needle pointing downwards.								Observations with the unmarked End of the Needle pointing downwards.								Resulting Dip.	Observer.
			Marked Side of Needle East.				Marked Side of Needle West.				Marked Side of Needle West.				Marked Side of Needle East.					
			Graduated Face of Circle (1) East.		(3) West.		Graduated Face of Circle (4) East.		(2) West.		Graduated Face of Circle (4) East.		(2) West.		Graduated Face of Circle (1) East.		(3) West.			
			Circle Reading		Circle Reading		Circle Reading		Circle Reading		Circle Reading		Circle Reading		Circle Reading		Circle Reading			
			Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.	Upper.	Lower.		
d h			° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	
Nov. 19. 21	A 1		68. 66	64	55	52	69. 8	10	0	3	68. 66	65	54	52	68. 56	58	54	52	68. 59 ·75	D
	A 2		68. 74	73	57	58	68. 80	81	52	52	68. 71	70	58	60	68. 69	70	40	40	69. 2 ·75	D
Nov. 20. 3	A 2	Not moved	68. 55	55	65	66	68. 68	70	55	56										JH
Nov. 23. 3	A 1		69. 10	8	9	6	68. 65	68	49	52	69. 38	38	3	5	68. 50	54	26	29	69. 1 ·25	D
	A 2		68. 56	57	59	60	69. 15	16	5	7	69. 2	3	5	5	68. 58	59	49	51	69. 1 ·75	D
Nov. 26. 21	A 1		69. 12	12	12	10	68. 57	58	40	42	69. 20	22	15	15	68. 50	50	38	37	69. 0 ·50	JH
	A 2		68. 68	68	55	54	68. 70	72	50	50	68. 65	67	52	54	68. 60	63	45	47	68. 58 ·75	JH
Nov. 28. 3	A 2	Not moved	69. 5	5	6	7	69. 9	11	6	7										D
Nov. 30. 3	A 1		69. 12	12	5	5	68. 55	56	37	44	69. 20	20	5	3	68. 52	55	33	43	68. 58 ·50	P
	A 2		68. 58	57	45	47	68. 72	75	48	55	68. 80	82	50	57	68. 56	57	38	38	68. 57 ·25	P
Nov. 30. 21	A 2	Not moved									69. 25	26	0	0	68. 54	53	35	37		JH
Dec. 3. 21	A 1		69. 8	7	4	2	68. 53	56	40	44	69. 30	28	10	8	68. 43	46	55	56	69. 0 ·50	
	A 2		68. 72	72	59	60	69. 22	23	5	5	69. 5	5	10	12	68. 59	60	31	33	69. 3 ·25	D
Dec. 4. 3	A 2	Not moved	68. 60	60	52	52	69. 0	3	20	21										JH
Dec. 7. 3	A 1		69. 13	10	20	21	68. 45	52	77	85	69. 10	5	0	1	68. 52	53	37	45	69. 3 ·00	P
	A 2		68. 52	50	43	45	68. 82	85	55	62	68. 63	63	48	50	68. 67	68	43	47	68. 57 ·75	P
Dec. 8. 21	A 2	Not moved									68. 74	73	50	49	68. 66	68	45	46		D
Dec. 10. 21	A 1		69. 12	12	17	15	68. 50	52	50	50	69. 15	13	5	5	68. 55	53	56	57	69. 2 ·25	JH
	A 2		68. 65	65	50	48	69. 10	12	10	11	68. 80	81	45	47	68. 80	80	40	40	69. 2 ·75	JH
Dec. 11. 3	A 2	Not moved	69. 22	22	3	3	69. 7	9	1	2										D

DAY and APPROXIMATE HOUR, 1843.	Letter referring to Needle.	Whether moved from its bearing subsequently to the last Observation.	Observations with the marked End of the Needle pointing downwards. Marked Side of Needle East. Graduated Face of Circle (1) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (3) West. Circle Reading Upper.	Lower.	Marked Side of Needle West. Graduated Face of Circle (4) East Circle Reading Upper.	Lower.	Graduated Face of Circle (2) West. Circle Reading Upper.	Lower.	Observations with the unmarked End of the Needle pointing downwards. Marked Side of Needle West. Graduated Face of Circle (4) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (2) West. Circle Reading Upper.	Lower.	Marked Side of Needle East. Graduated Face of Circle (1) East. Circle Reading Upper.	Lower.	Graduated Face of Circle (3) West. Circle Reading Upper.	Lower.	Resulting Dip.	Observer.
d h			° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	′	′	′	° ′	
Dec. 14. 3	A 1		69. 7	6	6	9	68. 15	16	35	39	69. 36	38	4	2	68. 55	58	30	32	68. 54·25	D
	A 2		68. 63	64	52	52	68. 79	80	53	53	68. 66	67	58	58	68. 63	64	40	41	68. 59·50	D
Dec. 14. 21	A 2	Not moved									68. 70	70	58	58	68. 52	50	32	35		G
Dec. 17. 21	A 1		69. 22	20	25	25	68. 37	38	40	38	69. 10	12	12	12	68. 45	45	43	44	68. 59·25	JH
	A 2		68. 56	57	45	45	68. 77	76	60	58	69. 15	12	5	5	68. 60	60	45	43	69. 0·00	JH
Dec. 18. 3	A 2	Not moved	69. 30	30	30	30	68. 30	33	35	35										P
Dec. 28. 3	A 1		69. 26	25	20	20	68. 37	40	38	47	69. 25	20	8	8	68. 51	56	30	38	69. 0·75	
	A 2		68. 65	60	55	58	69. 13	18	10	15	68. 82	80	55	57	68. 60	60	40	46	69. 3·50	P
Dec. 31. 21	A 1		68. 60	60	60	58	68. 75	75	50	50	69. 22	20	5	6	68. 60	60	37	38	69. 1·00	JH
	A 2		68. 60	60	57	57	69. 8	6	10	8	68. 80	82	55	54	68. 60	62	38	40	69. 1·00	JH

Dec. 14d. 3h. The observation of A 1 with the marked side of needle West, the graduated face of circle East, and the marked end of the needle dipping was repeated as follows:

1st	upper reading	68°. 30′,	lower reading	68°. 32′,	the needle being raised in its Y's and dropped upon the agate planes.	
2nd	,,	69. 1	,,	69. 2	,,	,,
3rd	,,	68. 25	,,	68. 30	,,	,,
4th	,,	69. 5	,,	69. 6	,,	,,
5th	,,	69. 10	,,	69. 12	,,	,,

so that it would not take any definite position: it is believed that every thing was in good order.

ROYAL OBSERVATORY, GREENWICH.

ORDINARY METEOROLOGICAL OBSERVATIONS.

1843.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Jan. 0. 14	..	..	..	..	..	..	..	..	WNW	...	½ to 4	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	WNW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	NW	...	..	..	..	..	..	..	..
22	30·166	36·0	34·0	2·0	..	..	54·2 35·4	— 26·0	NNW	N by W	..	¼	0·00	0·00	0·000	½	..
Jan. 1. 0	30·160	37·0	34·0	3·0	..	..	..	..	NNW	NW	..	¼	..	..	..	0	..
2	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	Transit
4	..	35·7	32·1	3·6	..	..	..	..	NNW	Calm	..	..	..	..	..	½	..
6	..	..	..	..	..	..	..	..	WNW	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	W by S	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
14	29·990	31·0	30·0	1·0	..	..	..	..	W by S	WSW	..	¼	..	..	..	0	..
16	29·968	31·4	30·7	0·7	30·5	0·9	..	..	W	WSW	..	¼	..	..	..	1	..
18	29·933	32·5	31·1	1·4	..	..	..	..	WNW	WNW	..	¼	..	..	..	0	..
20	29·926	32·5	31·5	1·0	..	..	..	..	WNW	WNW	..	½	..	..	..	6	..
22	29·949	34·4	32·6	1·8	31·5	2·9	38·1 29·4	— 18·5	NNW	NNW	..	¼	0·00	0·00	0·000	8	..
Jan. 2. 0	29·951	36·1	34·6	1·5	..	..	..	..	NNW	NNW	..	¼	..	..	..	9	..
2	29·927	35·5	32·6	2·9	..	..	..	..	NNW	NNW	..	¼	..	..	..	4	Transit
4	29·931	35·0	32·4	2·6	27·5	7·5	..	..	NW	N by W	..	¼	..	..	..	½	..
6	29·959	34·0	31·5	2·5	..	..	..	..	NNW	N by W	..	¼	..	..	..	1	..
8	29·978	31·2	29·5	1·7	..	..	..	..	NNW	N by W	..	¼	..	..	..	1	..
10	30·000	30·4	29·0	1·4	29·0	1·4	..	..	NNW	N by W	..	¼	..	..	..	0	..
12	30·010	29·3	28·2	1·1	..	..	..	..	Calm	N	..	¼	..	..	..	0	..
14	30·016	29·4	27·8	1·6	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	30·026	26·5	25·2	1·3	23·0	3·5	..	..	Calm	Calm	..	..	..	..	..	0	..
18	30·050	25·7	26·2	−0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	30·079	25·0	26·0	−1·0	23·0	2·0	..	..	Calm	W	..	¼	..	..	..	0	..
22	30·119	25·7	25·5	0·2	19·5	6·2	36·4 24·0	— 12·3	Calm	W	..	¼	0·00	0·00	0·000	0	..
Jan. 3. 0	30·128	29·9	29·1	0·8	..	..	..	..	Calm	W	..	¼	..	..	..	9	..
2	30·121	33·6	31·2	2·4	..	..	..	..	Calm	W	..	¼	..	..	..	6	Transit
4	30·144	33·5	31·6	1·9	30·0	3·5	..	..	Calm	W	..	¼	..	..	..	10	..
6	30·149	31·7	31·1	0·6	..	..	..	..	Calm	W	..	¼	..	..	..	9	..
8	30·144	32·2	31·5	0·7	..	..	..	..	Calm	W	..	¼	..	..	..	10	..
10	30·100	33·1	31·5	1·6	28·5	4·6	..	..	Calm	W	..	¼	..	..	..	9½	..
12	30·061	35·0	32·2	2·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·015	35·2	33·2	2·0	..	..	..	..	Calm	SW	..	½	..	..	..	10	..
16	29·959	37·5	34·9	2·6	34·0	3·5	..	..	SSW	SW	..	½	..	..	..	10	..
18	29·885	39·8	37·5	2·3	..	..	..	..	SSW	SW	0 to 1	¾	..	..	..	10	..
20	29·816	40·5	39·1	1·4	..	..	..	..	SSW	SW	1 to 3	1	..	..	..	10	..
22	29·784	40·2	39·7	0·5	39·0	1·2	40·5 25·0	— 16·8	SSW	SW	2 to 3	¾	0·00	0·01	0·020	10	..
Jan. 4. 0	29·784	40·7	40·6	0·1	..	..	..	..	WNW	SW	0 to ½	¾	..	..	..	10	..
2	29·803	41·1	40·4	0·7	..	..	..	..	WNW	SW	..	¾	..	..	..	10	..
4	29·851	40·5	37·3	3·2	35·5	5·0	..	..	WNW	NW	½ to 1½	½	..	..	..	4	Transit
6	29·892	38·4	35·3	3·1	..	..	..	..	WNW	NW	..	¼	..	..	..	0	..
8	29·919	35·3	33·0	2·3	..	..	..	..	WSW	NW	..	(¼+)	..	..	..	0	..

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.

The comparisons in the foot-notes are limited to the month and to the ordinary observations, unless the contrary is expressed: for the values referred to, see the page on which the note appears, or in the Abstracts.

The Maximum Radiation Thermometer was under repair: every part of each instrument was minutely examined, and found to be in perfectly [good order.

DRY THERMOMETER.

Jan. 2d. 18h and 20h. The readings were lower than those of the Wet Thermometer.

Jan. 2d. 20h. The reading was the lowest in the month at the two-hourly observations.

Jan. 3d. The mean daily temperature was the lowest in the month.

GENERAL REMARKS.	Observer.
Light clouds: hazy in S. and S.E.	J H
Nearly cloudless; the clouds are of no numerical amount.	G
A few light clouds W. of the zenith: hazy: the air is much colder.	J H
Cloudless.	
Vapour E. and S. of the zenith.	
Cloudless.	
Fleecy clouds and scud.	J H
Fleecy clouds and haze.	D
Cirro-stratus and haze.	
Cirri and haze.	
A few light cirri in various directions.	D
Haze and vapour.	J H
,,	
Cloudless: the stars appear dim.	J H
,, ,,	G
,, ,,	
,, ,.	
,, ,,	
,, ,,	G
,, hazy.	D
Fleecy clouds and haze.	
,, ,,	
The sky is nearly overcast: cirro-stratus.	D
Scud and vapour.	G
Overcast: a very black cloud.	J H
Cirro-stratus: a few stars are visible S. of the zenith.	G
Overcast: cirro-stratus.	J H
,, cirro-stratus and scud.	P
,, ,, the wind in moderate gusts.	
,, ,, ,,	
,, ,, ,,	P
,, cirro-stratus: rain falling.	J H
Overcast: cirro-stratus: rain falling: a heavy squall of hail and rain at $23^h.\ 42^m$.	
,, ,, no rain falling.	J H
The greater portion of the sky South of the zenith is covered with clouds, the remainder being clear: hazy in the North.	P
Cloudless: the stars shine faintly on account of vapour: a fog is rapidly rising.	
,, a very thin fog is still prevalent.	

TEMPERATURE OF THE DEW POINT.

Jan. $2^d.\ 22^h$. The lowest reading in the month occurred. Jan. 3^d. The mean daily value was the lowest in the month.

Jan. 3^d and 4^d. The greatest difference of the mean daily values for consecutive days in the month occurred.

ELASTIC FORCE OF VAPOUR AND WEIGHT OF VAPOUR IN A CUBIC FOOT OF AIR.

Jan. 3^d. The mean daily values were the least in the month.

Jan. 3^d and 4^d. The greatest difference of the mean daily values for consecutive days in the month occurred.

WEIGHT OF A CUBIC FOOT OF AIR.

Jan. 3^d. The mean daily value was the greatest in the month.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Jan. 4. 10	29·908	34·3	32·3	2·0	30·0	4·3	..	..	WSW	NW	0 to ½	½	..	..	..	0	..
12	29·906	34·2	32·9	1·3	..	..	..	..	WSW	WNW	..	¼	..	..	..	0	..
14	29·880	34·2	33·5	0·7	..	..	..	..	WSW	W	..	¼	..	..	..	0	..
16	29·866	34·0	33·1	0·9	32·0	2·0	..	..	WSW	W	..	¼	..	..	..	0	..
18	29·828	35·5	34·0	1·5	..	..	..	..	WSW	W	0 to ½	¼	..	..	..	½	..
20	29·791	35·3	34·2	1·1	..	..	..	..	WSW	W by S	0 to 1½	½	..	..	..	0	..
22	29·744	37·7	36·2	1·5	35·0	2·7	42·7 33·7	— 26·0	WSW	W	½ to 2	¾	0·00	0·00	0·020	9	..
Jan. 5. 0	29·695	39·8	39·0	0·8	..	..	..	..	W	W by N	..	¼	..	..	..	10	..
2	29·693	37·5	36·4	1·1	..	..	..	..	NNW	N	½ to 1	1	..	..	..	6	..
4	29·760	38·5	36·0	2·5	34·0	4·5	..	..	NNW	N	½ to 1	¾	..	..	..	¼	Transit
6	29·851	36·0	33·1	2·9	..	..	..	..	NNW	N	½ to 2	¾	..	..	..	0	..
8	29·916	35·8	32·7	3·1	..	..	..	..	NNW	N	½ to 2	¾	..	..	..	0	..
10	29·931	36·0	35·3	0·7	35·0	1·0	..	..	NNW	N	½ to 3	1	..	..	..	0	..
12	29·972	35·3	32·7	2·6	..	..	..	..	NW	N	..	½	..	..	..	0	..
14	29·981	33·2	32·5	0·7	..	..	..	..	W	N	..	½	..	..	..	0	..
16	29·996	33·2	31·8	1·4	30·5	2·7	..	..	WNW	N	..	½	..	..	..	0	..
18	29·997	32·3	31·9	0·4	..	..	..	..	WNW	N	..	¼	..	..	..	0	..
20	29·999	35·2	33·5	1·7	..	..	..	..	NW	NW	..	¼	..	..	..	0	..
22	30·019	35·0	33·0	2·0	29·0	6·0	40·5 32·5	— 23·0	W	W	..	¼	0·00	0·00	0·020	9	In Equator
Jan. 6. 0	30·017	36·5	34·5	2·0	..	..	..	..	W	W	..	¼	..	..	..	10	..
2	29·984	37·8	36·2	1·6	..	..	..	..	Calm	W	..	¼	..	..	..	10	..
4	29·987	37·6	36·3	1·3	33·5	4·1	..	..	Calm	W	..	¼	..	..	..	10	..
6	29·968	36·5	36·2	0·3	..	..	..	..	Calm	W	..	¼	..	..	..	10	Transit
8	29·941	39·6	39·0	0·6	..	..	..	..	SW	W	..	¼	..	..	..	10	..
10	29·929	40·6	40·2	0·4	39·5	1·1	..	..	WSW	W	..	¼	..	..	..	9	..
12	29·904	41·5	41·3	0·2	..	..	..	..	WSW	W	..	½	..	..	..	2	..
14	29·898	43·3	43·2	0·1	..	..	..	..	WSW	W	..	½	..	..	..	10	..
16	29·906	43·3	42·7	0·6	42·5	0·8	..	..	W	W	..	½	..	..	..	10	Apogee
18	29·886	39·9	39·5	0·4	..	..	..	..	WSW	W	..	¼	..	..	..	8	..
20	29·873	40·0	38·5	1·5	..	..	..	..	WSW	W	..	¼	..	..	..	10	..
22	29·846	41·2	39·8	1·4	37·0	4·2	45·5 34·7	— 30·8	SW	W	..	¼	0·02	0·08	0·200	10	..
Jan. 7. 0	29·803	43·7	42·7	1·0	..	..	..	..	SW	W	½ to 1	½	..	..	..	8	..
2	29·739	43·3	41·5	1·8	..	..	..	..	WSW	W by S	½ to 1½	¼	..	..	..	7	..
4	29·695	44·3	42·7	1·6	39·5	4·8	..	..	WSW	W by S	½ to 2	½	..	..	..	10	..
6	29·672	42·8	41·0	1·8	..	..	..	..	WSW	W by S	½ to 1½	1	..	..	..	9	Transit
8	29·612	43·4	41·5	1·9	..	..	..	..	WSW	W by S	½ to 2	1	..	..	..	7	..
10	29·568	43·3	41·8	1·5	42·3	1·0	..	..	WSW	W by S	1 to 3	1	..	..	..	8	..
12	29·516	43·7	41·8	1·9	..	..	..	..	WSW	W by S	½ to 3½	1	..	..	..	9	..
14	..	..	..	..	..	..	..	..	WSW	...	2 to 3	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	WSW	...	2 to 3½	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	WSW	...	2 to 3½	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	WNW	...	½ to 5	..	..	..	..	..	..
22	29·304	37·3	36·6	0·7	..	..	46·2 36·8	— 35·0	W	W	0 to 1	1½	0·11	0·15	0·345	10	..
Jan. 8. 0	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	W	...	1 to 3½	..	..	..	..	..	..

DRY THERMOMETER.
Jan. 6d and 7d. The difference of the mean daily temperatures was considerable.

TEMPERATURE OF THE DEW POINT.
Jan. 6d and 7d. The difference of the mean daily values was considerable.

MINIMUM THERMOMETER.
Jan, 5d. 22h. The reading was higher than that of the Dry Thermometer at 18h.

GENERAL REMARKS.	Observer.
Cloudless: hazy: the wind is blowing occasionally in moderate gusts.	P
,,	J H
,,	
,,	
A few small clouds N. E. of the zenith; the sky is otherwise clear.	
Cloudless.	J H
The sky is principally covered with a loose scud, passing from W. S.W.; near the S. horizon it is clear.	G
Cirro-stratus and scud.	
A low scud passing quickly from the N.: a thick haze about the S., W., and N.W.: near the zenith some silvery-white cumuli: occasional gleams of sunshine: rain fell at about $0^h.40^m$.	G
A few light cirri.	J H
Cloudless.	
,,	J H
,, the wind blows in gusts to 2.	H B
,,	G
Cloudless, but the stars shine dimly.	
,,	
,,	
,,	G
Cirro-stratus and haze.	J H
Cirro-stratus and haze.	J H
Overcast.	H B
,,	G
,, rain falling.	H B
,, [the horizon are very black.	
A few stars have been occasionally visible about the zenith, and at times the place of the Moon has been visible: the clouds near	G
A few light clouds in the North: in ten minutes after the observation the sky became overcast.	H B
Overcast.	
,,	
The sky is nearly overcast: a few stars are visible in the zenith.	
Overcast.	H B
,, cirro-stratus.	J H
Cirro-stratus and scud: gusts of wind.	
,, ,,	J H
Cirro-stratus: gusts of wind.	H B
Cirro-stratus and light rain: the Moon's place visible: a large halo round the Moon.	
Cirro-stratus: a large halo round the Moon: a few stars are visible in the zenith through thin clouds: gusts of wind.	
A few stars are visible through the clouds: the wind is blowing in gusts.	H B
Cirro-stratus and scud.	J H
Rain falling: the wind is in gusts to 2.	G

WIND AS RECORDED BY THE ANEMOMETER.

Jan. 7d. From $16^h.30^m$ to $16^h.50^m$ there was a pressure varying from 4lbs. to 2lbs. on the square foot; at $16^h.52^m$ the pressure was $2\frac{1}{2}$lbs.; and it suddenly increased to 7lbs. at 54^m, and blew with this pressure till $17^h.0^m$; at $17^h.2^m$ the pressure was 4lbs., and continued at about 4lbs. till the regular observation at 18^h.

AMOUNT OF CLOUDS.

Jan. 5d. The mean daily value was the least in the month.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Jan. 8. 4	..	..	..	..	..	..	..	..	WSW	...	½ to 1	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	WSW	...	0 to ½	..	..	..	..	..	Transit
8	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	1st Qr.
10	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	NW	...	0 to 2	..	..	..	..	..	..
14	29·346	32·7	30·3	2·4	..	..	..	..	WNW	WNW	½ to 1½	1½	..	..	..	0	..
16	29 418	31·0	29·5	1·5	27·0	4·0	..	..	W	NW	..	¾	..	..	..	0	..
18	29·484	31·0	29·9	1·1	..	..	..	..	NNW	NNW	½ to 2	¾	..	..	..	2	..
20	29·498	31·0	30·1	0·9	..	..	..	..	WNW	WNW	..	½	..	..	..	1	..
22	29·587	33·6	31·9	1·7	29·8	3·8	40·4 30·8	— 20·8	W	W	..	¼	0·11	0·00	0·345	0	..
Jan. 9. 0	29·613	36·2	34·1	2·1	..	..	..	..	W	W	0 to 1	¼	..	..	..	4	..
2	29·569	37·8	35·3	2·5	..	..	..	..	WSW	W	..	¼	..	..	..	10	..
4	29·510	37·7	35·7	2·0	33·5	4·2	..	..	WSW	WSW	0 to ½	¾	..	..	..	6	..
6	29·412	40·0	38·3	1·7	..	..	..	..	SW	WSW	1 to 4½	1	..	..	..	10	..
8	29·269	42·0	40·7	1·3	..	..	..	..	SW	WSW	3½ to 4½	1	..	..	..	10	Transit
10	29·123	43·7	43·0	0·7	42·5	1·2	..	..	SW	WSW	4 to 7	1½	..	..	..	10	..
12	29·040	45·9	44·7	1·2	..	..	..	..	WSW	WSW	4 to 7	1½	..	..	..	10	..
14	28·967	45·2	43·7	1·5	..	..	..	..	WSW	WSW	3 to 4	1	..	..	..	10	..
16	28·901	43·0	41·3	1·7	41·9	1·1	..	..	WSW	WSW	½ to 1	1	..	..	..	8	..
18	28·831	39·5	39·3	0·2	..	..	..	..	WSW	WSW	3½ to 4	2	..	..	..	10	..
20	28·765	37·4	36·6	0·8	..	..	..	..	WSW	SW	1½ to 2	1	..	..	..	8	..
22	28·790	34·8	33·8	1·0	33·5	1·3	46·5 33·1	52·3 24·7	W	WNW	3 to 3½	1½	0·15	0·14	0·495	9	..
Jan. 10. 0	28·844	38·2	35·3	2·9	..	..	..	..	W	W	4 to 7	1½	..	..	..	8	..
2	28·892	41·2	37·1	4·1	..	..	..	..	W	WNW	7 to 12	2	..	..	..	2	..
4	28·967	37·8	35·4	2·4	30·0	7·8	..	..	W	W	4 to 5	1½	..	..	..	1	..
6	28·998	37·7	34·7	3·0	..	..	..	..	WSW	W	1 to 2½	½	..	..	..	8	..
8	28·990	36·5	34·4	2·1	..	..	..	..	WSW	W	3 to 4½	¾	..	..	..	7	Transit
10	28·997	35·8	34·2	1·6	32·5	3·3	..	..	WSW	W	3 to 4	½	..	..	..	5	..
12	28·994	34·4	33·2	1·2	..	..	..	..	WSW	WSW	1 to 2	¾	..	..	..	1	..
14	28·979	33·2	32·2	1·0	..	..	..	..	WSW	W	0 to ½	½	..	..	..	0	..
16	29·004	32·9	32·2	0·7	31·5	1·4	..	..	WSW	W	..	½	..	..	..	0	..
18	28·987	32·3	31·2	1·1	..	..	..	..	WSW	W	..	¼	..	..	..	0	..
20	29·004	32·4	31·0	1·4	..	..	..	..	WSW	W	..	¼	..	..	..	0	..
22	29·012	32·7	31·1	1·6	28·5	4·2	39·9 31·5	50·0 24·8	WSW	WSW	..	¼	0·15	0·00	0·495	0	..
Jan. 11. 0	29·009	36·3	34·0	2·3	..	..	..	..	Calm	WSW	..	¼	..	..	..	0	..
2	28·963	37·2	34·8	2·4	..	..	..	..	Calm	W by S	..	¼	..	..	..	0	..
4	28·931	36·9	34·5	2·4	31·0	5·9	..	..	Calm	SW	..	¼	..	..	..	10	..
6	28·875	34·3	33·3	1·0	..	..	..	..	Calm	WSW	..	¼	..	..	..	10	..
8	28·817	32·2	32·0	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
10	28·756	31·5	31·5	0·0	31·5	0·0	..	..	Calm	Calm	..	..	..	..	..	10	..
12	28·665	31·1	31·0	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	28·611	31·6	31·3	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	28·593	31·5	31·3	0·2	30·5	1·0	..	..	Calm	Calm	..	..	..	..	..	10	..
18	28·566	31·4	31·3	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	28·599	32·0	31·7	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	28·656	31·7	31·2	0·5	29·5	2·2	37·4 30·8	48·2 26·0	Calm	Calm	..	..	0·15	00·0	0·495	10	..

BAROMETER.
Jan. 9d and 10d. The difference of the mean daily heights was great.

DRY THERMOMETER.
Jan. 9d. The daily range was the greatest in the month.

MAXIMUM THERMOMETER.
Jan. 10d. 22h. The reading was lower than that of the Dry Thermometer at 10d. 2h.

GENERAL REMARKS.	Observer.
Cloudless.	J H
,, At 15h. 52m a most splendid meteor shot from Regulus and passed near β Leonis.	
Vapour and scud.	
Light clouds East of the zenith.	J H
Cloudless.	D
Cirri.	H B
Cirro-strati.	H B
Scud and light clouds.	J H
Overcast: rain falling.	
,, ,,	
,, ,, strong gusts of wind.	J H
,, violent gusts of wind.	H B
,,	
Partly clear: violent gusts of wind.	
Very heavy rain.	
Cloudy, a few stars have been visible for a short time.	H B
Cirro-stratus and scud: a heavy squall of sleet and rain at 21h. 25m, during which there was a great gloom.	D
Cirro-stratus and scud.	D
Light fleecy clouds and scud.	J H
Light fleecy clouds passing rapidly from the West.	H B
Cirro-strati: the place of the Moon is visible.	
The sky is nearly covered with cirro-strati: the Moon and a few stars are visible: a coloured corona around the Moon, and also	
The Moon is shining through light fleecy clouds. [two concentric rings.	H B
Thin white clouds are passing from the West: the sky is generally very clear, and the stars shine brightly.	G
Within ten minutes after the last observation the few clouds entirely dispersed, leaving a splendidly clear sky; since that time there have been occasionally a few white clouds which have risen in the N.W., and passed over very rapidly to the S.E., but at no time to any numerical amount.	
Cloudless: the Moon is setting over London unobscured by either smoke or cloud.	
,, a faint indication of the zodiacal light about Spica; at least there is a luminosity there which exists no where else.	
,,	G
,,	J H
,,	
,, hazy.	J H
Overcast.	G
,, snow has been falling during the last hour.	
,, snow has been falling since the last observation; about one inch is now on the ground.	
Snow ceased falling about half an hour after the last observation.	G
Overcast: light clouds.	J H
,, ,,	
,, snow falling thickly: the surface of the mercury of the barometer is slightly concave.	
,, snow falling.	
,, the snow has ceased: the mercury is convex at the surface as usual.	J H
,,	H B

MAXIMUM RADIATION THERMOMETER.

Jan. 9d. 22h. The instrument had been received from the maker at noon on Jan. 9.

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

Jan. 9d. At 16h. 40m it was 3lbs.; at 17h. 0m it was 1½lb., and continued thus till 17h. 25m, at which time it was 2lbs.; at 17h. 28m it was 5lbs., and a sudden gust at 17h. 30m was 14lbs.; at 17h. 31m it was 10lbs.; at 17h. 35m it was 5½lbs.; at 17h. 40m it was 10lbs.; at 17h. 45m it was 4½lbs.; at 17h. 50m it was 7lbs.; and at 17h. 55m it was 4lbs., and continued between 3lbs. and 4lbs. till the regular observation at 18h.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Raingauge No. 1, (Osler's)	RAIN. Reading of Raingauge No. 2.	RAIN. Stand of Raingauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Jan. 12. 0	28·733	32·2	31·5	0·7	..	..	..	..	N	Calm	..	..	..	..	..	10	..
2	28·810	34·0	32·6	1·4	..	..	..	..	NNW	Calm	..	..	..	..	..	10	..
4	28·879	33·8	32·1	1·7	31·5	2·3	..	..	NNW	NW	..	$\frac{1}{4}$	..	..	..	8	..
6	28·973	30·3	28·8	1·5	..	..	..	..	W	W	..	$\frac{1}{2}$	..	..	..	6	..
8	29·029	27·2	27·0	0·2	..	..	..	..	WSW	W	..	$\frac{1}{4}$	..	..	..	0	..
10	29·049	28·1	27·8	0·3	26·5	1·6	..	..	W by S	Calm	..	..	..	..	..	0	Transit
12	29·055	30·0	29·5	0·5	..	..	..	..	WSW	W	..	$\frac{1}{4}$	..	..	..	0	..
14	28·961	31·4	30·6	0·8	..	..	..	..	SSW	SSW	..	$\frac{1}{4}$	..	..	..	10	..
16	28·840	34·6	31·8	2·8	32·5	2·1	..	..	SSW	S	..	$\frac{1}{2}$	..	..	..	10	..
18	28·638	36·1	35·0	1·1	..	..	..	..	SSW	S	$4\frac{1}{2}$ to 6	$\frac{1}{2}$	..	..	..	10	..
20	28·440	37·8	37·4	0·4	..	..	..	..	SSW	S	9 to 12	2	..	..	..	10	..
22	28·261	40·8	39·2	1·6	39·0	1·8	41·8 26·5	42·0 19·6	SW	SSW	8	$1\frac{1}{2}$	0·45	0·45	0·945	7	..
Jan. 13. 0	28·200	43·5	40·2	3·3	..	..	..	..	SW	SW	9	2	..	..	..	6	..
2	28·104	43·2	40·8	2·4	..	..	..	..	SW	SW	13	$3\frac{1}{2}$	..	..	..	10	..
4	28·223	39·4	38·4	1·0	35·5	3·9	..	..	WSW	WSW	6 to 10	3	..	..	..	9	..
6	28·296	37·6	37·4	0·2	..	..	..	..	WSW	WSW	15	4	..	..	..	10	Greatest declination N.
8	28·438	39·2	36·0	3·2	..	..	..	..	WSW	WSW	8	3	..	..	..	2	..
10	28·527	38·3	35·3	3·0	32·0	6·3	..	..	WSW	WSW	8 to 10	$2\frac{1}{2}$	..	..	..	8	Transit
12	28·590	39·3	36·0	3·3	..	..	..	..	WSW	WSW	8 to 11	$2\frac{1}{2}$	..	..	..	$9\frac{1}{2}$	..
14	28·634	38·5	35·1	3·4	..	..	..	..	WSW	WSW	11	3	..	..	..	10	..
16	28·698	37·6	34·2	3·4	29·5	8·1	..	..	W by S	WSW	12	3	..	..	..	10	..
18	28·776	37·2	33·6	3·6	..	..	..	..	W by S	WSW	5 to 8	$2\frac{1}{2}$	..	..	..	10	..
20	28·870	35·6	32·2	3·4	..	..	..	..	W by S	WSW	6	2	..	..	..	2	..
22	28·950	36·5	32·3	4·2	24·5	12·0	40·0 34·7	43·0 29·2	WSW	WSW	3	$1\frac{1}{2}$	0·45	0·00	0·985	1	..
Jan. 14. 0	28·924	36·7	34·0	2·7	..	..	..	..	SW	WSW	1 to 2	$1\frac{1}{2}$	..	..	..	$9\frac{3}{4}$	..
2	28·797	37·7	35·2	2·5	..	..	..	..	SSW	WSW	..	1	..	..	..	10	..
4	28·600	36·1	35·5	0·6	35·0	1·1	..	..	SSE	SSE	1 to 3	1	..	..	..	10	..
6	28·426	34·5	34·0	0·5	..	..	..	..	SW	SSW	..	$\frac{1}{2}$	..	..	..	6	..
8	28·409	35·0	34·0	1·0	..	..	..	..	SW	SW	..	$\frac{1}{4}$	..	..	..	3	..
10	28·436	34·8	34·2	0·6	34·0	0·8	..	..	W	W by S	..	$\frac{1}{4}$	..	..	..	10	..
12	28·668	30·8	30·7	0·1	..	..	..	..	NNW	NNW	4 to 9	$1\frac{1}{2}$	..	..	..	10	Transit
14	..	..	..	..	..	..	..	..	W	...	0 to $\frac{1}{2}$	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
22	28·817	33·4	32·1	1·3	..	..	40·0 29·1	40·3 23·2	Calm	WSW	..	$\frac{1}{4}$	0·57	0·16	1·135	10	..
Jan. 15. 0	28·786	33·7	32·0	1·7	..	..	..	..	WNW	W by S	..	$\frac{1}{4}$	..	..	..	3	..
2	28·776	34·8	33·0	1·8	..	..	..	..	WNW	W	..	$\frac{1}{4}$	..	..	..	0	..
4	28·820	33·6	31·5	2·1	..	..	..	..	WNW	W	..	$\frac{1}{4}$	..	..	..	2	..
6	..	..	..	..	..	..	..	..	W	...	..	..	..	..	..	..	..
8	28·896	31·3	31·0	0·3	..	..	..	..	WNW	W by N	0 to 2	$\frac{1}{2}$	..	..	..	7	..
10	..	..	..	..	..	..	..	..	W	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	W	...	..	..	..	..	..	..	Transit
14	29·085	29·5	28·7	0·8	..	..	..	..	W	W	..	$\frac{1}{4}$	..	..	..	0	..
16	29·133	30·5	29·4	1·1	27·0	3·5	..	..	W	W	..	$\frac{1}{4}$	..	..	..	0	..
18	29·147	32·0	30·7	1·3	..	..	..	..	W	W by S	..	$\frac{1}{4}$	..	..	..	10	..

BAROMETER.

Jan. 12d. 16h to 20h. The reading decreased at the rate of 0in·1 per hour. (See the Section of Extraordinary Observations.)

Jan. 12d and 13d. The difference of the mean daily heights was great.

Jan. 13d. The daily range was the largest in the year, being 0in·857; the mean daily height was the lowest in the month; and at 2h the reading was the lowest in the year at the regular observations; at 0h. 53m the minimum reading took place, being 28in·096, a lower reading than has occurred since 1821, Dec. 24d, at 17h. (See the Section of Extraordinary Observations.)

DRY THERMOMETER.

Jan. 12d and 13d. The greatest difference of the mean daily temperatures for consecutive days in the month occurred, except between Jan. 5. d h.

TEMPERATURE OF THE DEW POINT.

Jan. 13d. 22h. The difference between it and the temperature of the air was the greatest in the month.

Jan. 14d. The difference between the mean daily value and that of the temperature of the air was the greatest in the month.

GENERAL REMARKS.	Observer.
Overcast: snow falling.	H B
,,	H B
Cirro-stratus and scud.	D
Cirro-stratus: the Moon is shining.	H B
Cloudless.	H B
,,	G
,, a slight breeze: at $12^h.\ 10^m$ a large halo and corona were visible around the Moon.	H B
Overcast: cirro-stratus.	
,, rain falling.	
,, heavy rain falling: gusts of wind.	
,, heavy rain: the surface of the mercury in the barometer is concave.	H B
Cirro-stratus and scud: heavy gusts of wind to 2+.	D
Cirro-stratus and scud: violent squalls of wind and rain: heavy gusts of wind to 3+.	
Overcast: heavy masses of scud are passing over rapidly: violent squalls at intervals: gusts of wind to $4\frac{1}{2}$.	D
A large quantity of scud is passing over, so as to leave the sky at one time partly clear in some places, and covered in other places: at present it is nearly covered: the wind frequently in gusts to 4.	H B
Heavy rain with frequent gusts of wind.	
The sky is nearly cloudless: the wind is not so violent.	
The Moon is shining through thin fleecy clouds.	H B
Large fleecy clouds and scud are passing with great velocity over the Moon, which is occasionally visible: the wind is blowing	D
Overcast: large masses of scud are in every part of the sky: the wind is constant to 3. [frequently to $3\frac{1}{2}$+.	
There has been no change since the last observation: the wind blows in gusts to 4.	
Overcast: cirro-stratus and scud: the Moon is quite obscured, but her place is faintly discernible in the horizon.	
Cloudy in the horizon: the rest of the sky is clear.	D
Light scud, principally S. of the zenith.	J H
Cirro-stratus and scud.	
Overcast: cirro-stratus.	J H
,, ,, rain falling: immediately after the observation the rain became mixed with sleet.	D
With the exception of a few straggling clouds, the sky S. of the zenith is clear; the other portion is still quite overcast: snow commenced falling at $4^h.\ 40^m$, and continued until $5^h.\ 25^m$.	
Light clouds here and there: the horizon is generally cloudy.	
Overcast: the Moon is visible through the clouds.	D
,, squalls of sleet: the wind rising.	J H
Overcast: a little snow is falling.	D
The clouds cleared off at about $23^h.\ 40^m$: at present there are a few light clouds: hazy.	J H
Cloudless.	D
Cumuli: very hazy.	H B
Fleecy clouds and haze.	D
Cloudless: at $13^h.\ 22^m$ a lunar halo was visible.	J H
,,	
Overcast: cirro-stratus.	

WEIGHT OF A CUBIC FOOT OF AIR.
Jan. 12d and 13d. The greatest difference of the mean daily values for consecutive days in the month occurred.
Jan. 13d. The mean daily value was the least in the month.

DEGREE OF HUMIDITY.
Jan. 14d. The mean daily value was the least in the month.

MAXIMUM THERMOMETER.
Jan. 13d. 22h. The reading must be erroneous; see the reading of the Dry Thermometer at 0h and 2h: no use was made of this reading.

PRESSURE OF THE WIND AND DIRECTION.
Jan. 12d. 18h. For the character of this gale, see the Extraordinary Observations: at Jan. 12d. 23h. 49m. 46s, a pressure of 25lbs. took place.
Jan. 12d. 18h and 20h. The estimated strengths of the wind are irreconcileable with the pressures at the Anemometer; the observations were made by an inexperienced observer. Mr. Glaisher estimated the strengths at 3 and at 3 + respectively.
Jan. 14d. For particulars of frequent squalls and changes of direction. See the Section of Extraordinary Observations.

RAIN. Jan. 13d. 22h. The reading of Crosley's gauge is supposed to be in error, as no rain had fallen; the reading should have been the same as that at 12d. 22h.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Jan. 15. 20	29·183	33·1	31·8	1·3	..	..	..	..	W	W by S	0 to ½	¼	..	..	..	10	..
22	29·264	38·1	35·4	2·7	33·5	4·6	38·8 28·4	46·5 19·3	NW	N	1½ to 5	1	0·57	0·00	1·135	10	Full
Jan. 16. 0	29·366	38·5	36·2	2·3	..	..	..	..	NNW	N by W	3 to 5	¾	..	..	..	4	..
2	29·455	39·4	37·0	2·4	..	..	..	..	NNW	N	1 to 2½	½	..	..	..	0	..
4	29·577	38·5	36·5	2·0	34·0	4·5	..	..	NNW	N by W	..	½	..	..	..	0	..
6	29·649	37·0	35·2	1·8	..	..	..	..	NNW	N	..	½	..	..	..	0	..
8	29·746	36·5	34·8	1·7	..	..	..	..	NW	N	..	½	..	..	..	3	..
10	29·808	37·5	36·1	1·4	34·0	3·5	..	..	NW	N by E	..	¼	..	..	..	10	..
12	29·893	38·0	36·5	1·5	..	..	..	..	NNW	NNW	..	¼	..	..	..	10	..
14	29·941	36·0	34·8	1·2	..	..	..	..	NNW	NNW	..	¼	..	..	..	0	Transit
16	30·005	35·6	34·6	1·0	34·0	1·6	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·025	34·6	33·6	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
20	30·076	33·6	32·7	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
22	30·120	34·8	33·7	1·1	32·5	2·3	39·9 33·3	34·2 24·8	Calm	Calm	..	..	0·57	0·00	1·135	10	..
Jan. 17. 0	30·116	37·4	36·8	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
2	30·116	39·8	38·4	1·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
4	30·110	41·0	39·2	1·8	40·0	1·0	..	..	SW	SW	..	¼	..	..	..	10	..
6	30·105	39·5	39·1	0·4	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
8	30·103	41·2	40·6	0·6	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
10	30·126	42·1	41·7	0·4	41·5	0·6	..	..	WSW	SW	..	¼	..	..	..	10	..
12	30·138	42·0	41·6	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·155	42·0	41·8	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
16	30·182	40·3	39·7	0·6	39·0	1·3	..	..	Calm	Calm	..	..	..	..	..	7	..
18	30·195	42·0	41·6	0·4	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
20	30·226	42·3	42·0	0·3	..	..	..	..	Calm	SW	..	¼	..	..	..	10	..
22	30·262	43·5	43·2	0·3	42·5	1·0	43·5 35·8	44·0 32·0	Calm	WSW	..	¼	0·57	0·00	1·155	8	..
Jan. 18. 0	30·284	47·0	46·2	0·8	..	..	..	..	Calm	WSW	..	¼	..	..	..	8	..
2	30·287	49·1	48·0	1·1	..	..	..	..	Calm	WSW	..	¼	..	..	..	10	..
4	30·321	48·2	47·5	0·7	46·5	1·7	..	..	Calm	WSW	..	¼	..	..	..	10	..
6	30·331	46·1	45·5	0·6	..	..	..	..	Calm	W	..	¼	..	..	..	10	..
8	30·362	45·3	44·8	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	30·388	43·2	43·0	0·2	43·0	0·2	..	..	Calm	Calm	..	..	..	..	..	6	Perigee
12	30·405	40·9	40·2	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
14	30·400	35·5	35·5	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	30·402	35·7	35·6	0·1	35·5	0·2	..	..	Calm	Calm	..	..	..	..	..	10	Transit
18	30·399	35·6	35·6	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·414	35·2	35·2	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·437	35·2	35·2	0·0	35·0	0·2	50·9 35·0	59·1 30·5	Calm	Calm	..	..	0·57	0·00	1·155	10	..
Jan. 19. 0	30·430	37·2	37·5	−0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
2	30·408	41·0	41·1	−0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
4	30·396	41·9	41·9	0·0	42·0	−0·1	..	..	Calm	Calm	..	..	..	..	..	10	..
6	30·396	43·0	42·6	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	30·391	42·0	41·5	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	30·378	42·0	41·5	0·5	41·0	1·0	..	..	Calm	Calm	..	..	..	..	..	10	..
12	30·344	42·2	41·5	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	In Equator
14	30·314	41·3	41·0	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..

BAROMETER.

Jan. 16^{d} and 17^{d}. The greatest difference of the mean daily heights for consecutive days in the year occurred, being 0^{in}·640.
Jan. 18^{d}. 22^{h}. The highest reading in the year at the two-hourly observations; the same reading occurred December 13^{d}. 22^{h}.
Jan. 18^{d}. 22^{h}. This reading is 2^{in}·341 higher than that at Jan. 13^{d}. 0^{h}. 53^{m}. (See Section of Extraordinary Observations.)
Jan. 19^{d}. The mean daily height was the greatest in the month.

DRY THERMOMETER.

Jan. 17^{d}, 18^{d}, and 19^{d}. The difference of the mean daily temperatures was considerable.
Jan. 19^{d}. 0^{h} and 2^{h}. The readings were lower than those of the Wet Thermometer.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus.	J H
,,	H B
Light clouds and cirro-stratus scattered over the sky.	D
Nearly cloudless: a small cumulus S. of the zenith is the only cloud, and that is of no numerical amount.	D
Cloudless.	J H
,, hazy.	
Light clouds and scud.	
Cirro-stratus and light scud; the latter passing quickly from N. by E.	J H
,,	D
Cloudless.	
Cirro-stratus and scud.	
The sky is nearly covered with fleecy clouds.	
Cirro-stratus and fleecy clouds.	D
Overcast.	H B
Nearly overcast: a few breaks near the zenith.	
Overcast: cirro-stratus.	H B
,, ,,	D
,, a misty rain falling.	
,,	
,,	D
,,	B
,, cirro-stratus and scud.	
The Moon is shining through white clouds.	
Overcast.	
,, a thin rain is falling.	B
Scud and cirro-stratus: hazy.	J H
Scud and cirro-stratus: hazy.	
,,	J H
Cirro-stratus and scud.	B
,,	
,,	B
The zenith and parts around it partially clear; the Moon is shining through broken clouds.	G
A small quantity of cloud in the N.W.: hazy.	G
Foggy: the Moon is visible.	J H
,,	J H
Overcast: the fog is as dense as before: the Moon's position is but just visible.	P
,, foggy.	D
,, ,,	G
,, the fog continues as dense as before.	P
,, ,,	J H
,, the Sun has not been seen to day.	G
,, the fog continues.	P
,, cirro-stratus.	P
,,	D
,,	P
,, a very thin rain indeed (hardly perceptible) falling.	

TEMPERATURE OF THE DEW POINT.

Jan. 17d and 18d. The difference of the mean daily values was considerable.
Jan. 19d. The mean daily value was the same as the mean daily value of the temperature of the air.
Jan. 19d. 4h. It was higher than that of the Dry Thermometer.

ADDITIONAL WEIGHT OF VAPOUR REQUIRED FOR COMPLETE SATURATION OF A CUBIC FOOT OF AIR.

Jan. 19d. The mean daily value was 0gr·00: this is one of the three days in the year in which the air was saturated all day.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Jan. 19. 16	30·285	41·0	40·7	0·3	39·0	2·0	..	..	Calm	Calm	..	..	..	..	..	10	Transit
18	30·244	39·0	38·8	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·224	37·5	37·0	0·5	..	..	..	..	ESE	E	..	(¼–)	..	..	..	10	..
22	30·218	37·7	37·1	0·6	36·0	1·7	44·2 35·2	44·8 33·2	ESE	E by S	..	¼	0·57	0·00	1·165	10	..
Jan. 20. 0	30·190	38·3	37·4	0·9	..	..	..	..	ENE	E by S	..	¼	..	..	..	10	..
2	30·128	38·7	37·8	0·9	..	..	..	..	ENE	E by S	..	¼	..	..	..	10	..
4	30·096	38·2	37·2	1·0	36·0	2·2	..	..	ENE	ENE	..	¼	..	..	..	10	..
6	30·068	36·0	35·2	0·8	..	..	..	..	NE	ENE	..	¼	..	..	..	10	..
8	30·046	36·0	35·2	0·8	..	..	..	..	ENE	E by N	..	¼	..	..	..	10	..
10	30·022	35·8	35·0	0·8	33·5	2·3	..	..	ENE	E by N	..	¼	..	..	..	10	..
12	29·989	36·2	35·7	0·5	..	..	..	..	Calm	E by N	..	¼	..	..	..	10	..
14	29·952	36·1	35·6	0·5	..	..	..	..	Calm	E by S	..	¼	..	..	..	10	..
16	29·937	34·0	33·6	0·4	33·0	1·0	..	..	Calm	Calm	..	..	..	..	..	10	Transit
18	29·918	32·5	32·2	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·920	30·3	30·2	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·931	29·9	31·3	–1·4	29·0	0·9	39·4 29·1	41·1 23·7	Calm	Calm	..	..	0·57	0·00	1·165	7	..
Jan. 21. 0	29·942	35·0	34·1	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
2	29·926	36·2	35·1	1·1	..	..	..	..	Calm	S by W	..	¼	..	..	..	10	..
4	29·925	36·7	35·5	1·2	34·0	2·7	..	..	Calm	SW	..	¼	..	..	..	10	..
6	29·935	36·1	34·8	1·3	..	..	..	..	Calm	SW	..	¼	..	..	..	10	..
8	29·956	36·0	35·0	1·0	..	..	..	..	Calm	SW	..	¼	..	..	..	10	..
10	29·948	37·7	36·5	1·2	34·0	3·7	..	..	Calm	SW	..	¼	..	..	..	10	..
12	29·952	38·7	37·5	1·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	29·953	40·6	39·8	0·8	..	..	39·8 31·8	41·0 20·7	Calm	SSW	..	¼	0·57	0·00	1·165	10.	..
Jan. 22. 0	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	29·932	41·5	41·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	3rd Qr.
16	29·932	42·3	42·0	0·3	42·0	0·3	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·931	42·2	42·0	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
20	29 944	41·9	41·5	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·946	42·6	42·2	0·4	41·0	1·6	43·0 39·6	45·5 33·4	Calm	S	..	¼	0·57	0·00	1·165	10	..
Jan. 23. 0	29·928	46·0	44·2	1·8	..	..	..	..	S	S	..	¼	..	..	..	7	..
2	29·885	44·2	43·5	0·7	..	..	..	..	S	S	..	¼	..	..	..	10	..
4	29·849	43·7	42·8	0·9	42·5	1·2	..	..	S	S	0 to ½	¼	..	..	..	9	..
6	29·845	43·4	42·1	1·3	..	..	..	..	S	S	½ to 1½	¼+	..	..	..	10	..
8	29·839	43·3	42·0	1·3	..	..	..	..	S	S	½ to 2½	½	..	..	..	10	..
10	29·813	42·2	41·5	0·7	41·5	0·7	..	..	S	S	½ to 3	½	..	..	..	10	..

BAROMETER.
Jan. 21d. The daily range was the smallest in the month.

DRY THERMOMETER.
Jan. 20d. 22h. The reading was lower than that of the Wet Thermometer.

WEIGHT OF A CUBIC FOOT OF AIR.
Jan. 20d and 21d. The least difference of the mean daily values for consecutive days in the month occurred.

GENERAL REMARKS.	Observer.
Overcast: a very thin rain falling: gentle airs occasionally rising.	P
,, ,,	
,, ,,	P
,,	J H
Cirro-stratus and scud.	
,, the clouds appear dense, and there are appearances of rain.	J H
Overcast: cirro-stratus.	P
,, ,, Shortly after the preceding observation the clouds became much broken, and large portions of blue sky were visible in every direction.	
,, ,,	P
,, ,,	
,, ,, as nearly calm as possible.	J H
,, ,, ,,	
,, ,,	
,, ,,	
Cirro-stratus: a damp fog.	J H
,, ,,	D
Overcast: cirro-stratus.	
,,	D
,, the clouds are denser than at the last observation.	J H
,,	
,, very dark.	
,,	J H
,,	D
,, stratus. A very narrow streak of light to no numerical amount is near the horizon in the S.	G
,, a thin misty rain falling.	D
,,	
,,	
,,	D
The sky is covered with a very thin veil of cloud, through which blue sky is faintly visible.	P
Cumuli and scud; breaks in every direction.	
Overcast: cirro-stratus and scud.	P
Cirro-stratus and scud: clear breaks in the zenith.	D
Overcast: cirro-stratus.	
,, ,,	
,, ,,	D

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Jan. 23. 12	29·808	42·4	41·5	0·9	..	..	..	..	S	S	½ to 1	½	..	..	..	10	,.
14	29·788	42·2	41·3	0·9	..	..	..	..	S	S	½ to 1	¾	..	..	..	10	..
16	29·753	42·7	41·7	1·0	..	..	..	..	S	S	1 to 3	¾	..	..	..	10	..
18	29·758	43·5	43·1	0·4	..	..	..	..	S	S	½ to 2	½	..	..	..	10	..
20	29·756	44·0	43·6	0·4	..	..	..	..	S by E	S	..	½	..	..	..	10	Transit
							46·4	52·4									
22	29·787	45·0	44·5	0·5	44·5	0·5	41·9	32·0	S	S	..	¼	0·57	0·02	1·210	10	..
Jan. 24. 0	29·779	45·5	45·0	0·5	..	..	..	..	Calm	S	..	¼	..	..	..	10	..
2	29·751	46·1	45·6	0·5	..	..	..	..	Calm	S	..	¼	..	..	..	10	..
4	29·744	46·2	45·8	0·4	46·0	0·2	..	..	Calm	S	..	¼	..	..	..	10	..
6	29·747	46·0	45·5	0·5	..	..	..	..	Calm	S	..	½	..	..	..	10	..
8	29·768	45·7	45·5	0·2	..	..	..	..	Calm	S	..	¼	..	..	..	10	..
10	29·788	45·5	45·4	0·1	43·5	2·0	..	..	Calm	S	..	¼	..	..	..	10	..
12	29·821	45·7	45·2	0·5	..	..	..	..	Calm	SSW	..	¼	..	..	..	10	..
14	29·821	45·3	44·8	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·857	44·2	43·2	1·0	42·0	2·2	..	..	SW	Calm	..	..	..	..	..	10	..
18	29·855	40·4	40·3	0·1	..	..	..	..	W	Calm	..	..	..	..	..	5	..
20	29·891	41·2	40·8	0·4	..	..	..	..	WSW	Calm	..	..	..	..	..	10	Transit
							46·9	46·4									
22	29·927	40·7	40·4	0·3	39·5	1·2	40·3	34·0	WSW	WSW	..	¼	0·57	0·00	1·210	0	..
Jan. 25. 0	29·950	45·5	44·0	1·5	..	..	..	..	WSW	WNW	..	¼	..	..	..	10	..
2	29·944	47·5	45·6	1·9	..	..	..	..	WSW	W by N	..	¼	..	..	..	9	..
4	29·969	47·3	45·1	2·2	43·0	4·3	..	..	WSW	W	..	¼	..	..	..	10	..
6	29·973	44·7	43·1	1·6	..	..	..	..	WSW	W	..	¼	..	..	..	10	..
8	29·988	44·7	43·3	1·4	..	..	..	..	WSW	W	..	¼	..	..	..	5	..
10	29·989	44·7	44·7	0·0	44·5	0·2	..	..	WSW	W	..	¼	..	..	..	10	..
12	29·985	46·1	45·1	1·0	..	..	..	..	WSW	WSW	0 to ½	½	..	..	..	10	..
14	29·959	46·2	45·0	1·2	..	..	..	..	WSW	WSW	½ to 1½	½	..	..	..	10	..
16	29·940	46·2	45·0	1·2	44·5	1·7	..	..	WSW	SW	1 to 2	½	..	..	..	10	..
18	29·923	46·0	45·1	0·9	..	..	..	..	WSW	SW	½ to 1½	½	..	..	..	10	..
20	29·907	46·2	45·0	1·2	..	..	..	..	WSW	SW	½ to 2	¾	..	..	..	10	..
							48·5	56·9									
22	29·913	47·1	45·7	1·4	44·0	3·1	40·9	36·5	WSW	WSW	½ to 3	½+	0·57	0·00	1·215	10	Transit
Jan. 26. 0	29·934	47·9	46·7	1·2	..	..	..	..	WSW	SW by W	..	¼	..	..	..	10	Greatest declination S.
2	29·926	49·8	48·5	1·3	..	..	..	..	WSW	SW by W	..	¼	..	..	..	10	..
4	29·936	49·5	48·5	1·0	47·0	2·5	..	..	WSW	WSW	..	¼	..	..	..	10	..
6	29·952	48·0	47·0	1·0	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
8	29·961	48·0	47·0	1·0	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
10	29·960	46·6	46·1	0·5	46·0	0·6	..	..	WSW	WSW	..	¼	..	..	..	10	..
12	29·938	47·7	47·3	0·4	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
14	29·905	48·1	47·5	0·6	..	..	..	..	WSW	WSW	0 to ½	1	..	..	..	10	..
16	29·901	49·2	48·6	0·6	48·0	1·2	..	..	WSW	WSW	..	½	..	..	..	10	..
18	29·873	49·3	48·4	0·9	..	..	..	..	WSW	WSW	0 to ½	½+	..	..	..	10	..
20	29·853	49·0	47·6	1·4	..	..	..	..	WSW	WSW	½ to 2	1+	..	..	..	10	..
							50·6	51·2									
22	29·859	50·0	48·7	1·3	48·0	2·0	45·6	42·0	WSW	WSW	1 to 3	¾	0·57	0·00	1·215	10	Transit
Jan. 27. 0	29·918	52·7	50·6	2·1	..	..	..	..	WSW	WSW	½ to 3½	¾	..	..	..	10	..
2	29·818	52·5	50·3	2·2	..	..	..	..	WSW	WSW	2½ to 3½	1	..	..	..	10	..
4	29·834	52·0	50·2	1·8	49·5	2·5	..	..	WSW	WSW	1 to 2½	¾	..	..	..	10	..
6	29·831	50·5	48·6	1·9	..	..	..	..	WSW	WSW	1 to 2½	1+	..	..	..	9	..

BAROMETER.

Jan. 25d and 26d. The least difference in the mean daily heights for consecutive days in the month occurred.

DRY THERMOMETER.

Jan. 26d. The least daily range occurred.

TEMPERATURE OF THE DEW POINT.

Jan. 23d. 16h. The observation was omitted by inadvertence.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and scud: the wind in moderate gusts, and apparently increasing: a misty rain falling.	P
,, ,, the weather as before, except that the wind is still increasing in strength and the rain falls in large drops.	
,, every thing as before.	
,, cirro-stratus and scud: a thin misty rain falling, and the wind in more moderate gusts.	
,, ,,	P
,, ,,	D
Overcast: cirro-stratus.	
,, ,,	D
,, rain falling: cirro-stratus and scud.	P
,, cirro-stratus and scud: the clouds appear much thinner in the zenith and around it.	
,, ,, a thin misty rain occasionally falling.	
,, ,, a thin misty rain falling, so very thin, however, as to be hardly perceptible.	P
,, a dense black stratus; no scud.	G
No change.	
Overcast and dark. About one hour since, a portion of the northern sky was clear, and some stars in Ursa Major were shining.	
The sky is about one-half covered with cloud: at about $17^h.\ 15^m$ the clouds dispersed, and the sky was for a short time clear.	
Some breaks have been seen since the last observation: the clouds have moved from the West for the last hour; the sky is now [quite overcast, and very dark.	G
Cloudless.	J H
Cirro-stratus and scud.	
,, a few slight breaks in the N.W.	
The sky is wholly covered with a thin cloud: the Sun's place is visible.	J H
No change.	G
About one-half of the sky is clear; cloud still prevails near the N., and frequently the S. is covered with clouds.	
One unbroken sheet of black cloud: very dark.	G
,, ,,	
,, ,,	
,, ,,	
Overcast: a few drops of rain fell at $18^h.\ 10^m$.	
,,	
,, cirro-stratus and scud: the wind in heavy gusts.	D
Overcast: cirro-stratus and scud: the wind has greatly subsided since the last observation.	P
,, ,,	
,, ,,	P
,, cirro-stratus.	D
,, ,,	
,, ,, a few stars have been visible in the zenith since the last observation.	
,, cirro-stratus and scud.	D
,, the clouds at times partially clearing off: the wind in gusts.	P
,, the wind in gusts.	
,, ,,	
,, the wind increasing.	P
Cirro-stratus and scud: gusts of wind.	J H
Cirro-stratus and scud; gusts of wind.	
,, ,,	J H
Overcast: cirro-stratus and scud: occasionally breaks take place in different parts of the sky: the wind in gusts.	P
The clouds are much broken: the wind is increasing, and blows in heavier gusts; the lulls in the wind are, at times, of long duration.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Jan. 27. 8	29·823	50·5	49·2	1·3	..	..	..	..	WSW	WSW	1½ to 2½	1	..	..	..	10	..
10	29·796	52·2	50·8	1·4	50·0	2·2	..	..	WSW	WSW	2 to 3	1	..	..	..	10	..
12	29·786	52·3	51·2	1·1	..	..	..	..	WSW	WSW	0 to ½	¾	..	..	..	10	..
14	29·789	52·3	51·3	1·0	..	..	..	..	WSW	WSW	½ to 2	1	..	..	..	10	..
16	29·735	52·3	51·3	1·0	50·0	2·3	..	..	WSW	WSW	2½ steady	1	..	..	..	10	..
18	29·714	53·0	51·8	1·2	..	..	..	..	SW	WSW	2½ to 3	1½	..	..	..	10	..
20	29·681	53·3	52·2	1·1	..	..	..	..	SW	WSW	3 to 4	1½	..	..	..	10	..
22	29·676	54·5	53·0	1·5	52·0	2·5	54·9 50·6	58·8 46·8	SW	WSW	3 to 4	1	0·57	0·00	1·215	10	..
Jan. 28. 0	29·673	55·7	53·5	2·2	..	..	..	..	WSW	WSW	3 to 4½	1	..	..	..	9	Transit
2	29·650	55·0	51·7	3·3	..	..	..	..	WSW	WSW	4 to 7	1	..	..	..	5	..
4	29·641	53·5	49·7	3·8	47·0	6·5	..	..	WSW	WSW	3 to 5	1½	..	..	..	3	..
6	29·660	50·5	47·8	2·7	..	..	..	..	WSW	WSW	3½ to 5	1½	..	..	..	2	..
8	29·706	51·0	48·5	2·5	..	..	..	..	W	WSW	1½ to 2	1½	..	..	..	10	..
10	29·769	49·2	47·0	2·2	45·0	4·2	..	..	WNW	WSW	½ to 3	1	..	..	..	2	..
12	29·818	47·6	44·7	2·9	..	..	..	..	WNW	WSW	0 to ½	1	..	..	..	5	..
14	..	..	..	..	..	..	..	..	W	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
22	29·811	51·5	50·5	1·0	..	..	57·0 44·9	67·0 39·2	WSW	WSW	2 to 3	1	0·57	0·00	1·215	10	..
Jan. 29. 0	..	..	..	..	..	..	..	..	WSW	...	3 to 4½	..	..	..	..	..	Transit
2	..	..	..	..	..	..	..	..	WSW	...	3 to 4½	..	..	..	..	..	..
4	29·770	51·7	50·0	1·7	..	..	..	..	WSW	WSW	1½ to 3	1	..	..	..	10	..
6	..	52·2	50·5	1·7	..	..	..	..	WSW	WSW	1½ to 4	1	..	..	..	8	..
8	..	..	..	..	..	..	..	..	WSW	...	1 to 2	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	WSW	...	2 to 4	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	WSW	...	3 to 6	..	..	..	..	..	..
14	29·683	49·7	47·5	2·2	..	..	..	..	WSW	WSW	1 to 3½	1	..	..	..	10	..
16	29·652	49·1	47·2	1·9	45·0	4·1	..	..	WSW	WSW	3 to 4	1	..	..	..	10	..
18	29·627	49·5	47·8	1·7	..	..	..	..	WSW	WSW	3 to 4¼	1½	..	..	..	10	..
20	29·593	48·0	47·5	0·5	..	..	..	..	SW	WSW	3 to 4	1½	..	..	..	10	..
22	29·632	50·3	49·3	1·0	48·0	2·3	54·7 48·6	56·7 43·6	WSW	W	2 to 3	1	0·57	0·00	1·215	10	..
Jan. 30. 0	29·648	52·0	50·2	1·8	..	..	..	..	WSW	WSW	1½ to 3½	¾	..	..	..	2	Transit
2	29·610	53·1	49·5	3·6	..	..	..	..	WSW	W by S	3½ to 6	1½	..	..	..	1	New
4	29·653	52·1	48·0	4·1	44·0	8·1	..	..	WSW	W by S	3 to 4	1	..	..	..	2	..
6	29·714	48·5	43·6	4·9	..	..	..	..	W	W by S	1 to 3	1	..	..	..	½	..
8	29·756	44·6	43·1	1·5	..	..	..	..	SW	SW	..	¼	..	..	..	½	..
10	29·794	44·0	42·1	1·9	41·0	3·0	..	..	WSW	WSW	½ to 1	½	..	..	..	3	..
12	29·827	42·0	40·6	1·4	..	..	..	..	WSW	WSW	..	¼	..	..	..	3	..
14	29·846	41·0	40·1	0·9	..	..	..	.	SW	SW	..	¼	..	..	..	2	..
16	29·847	40·4	39·5	0·6	39·5	0·6	..	..	SW	SW	..	¼	..	..	..	4	..
18	29·851	39·8	38·9	0·9	..	..	..	..	SW	SW	..	¼	..	..	..	3	..
20	29·843	39·4	38·5	0·9	..	..	..	..	SSW	SSW	..	¼	..	..	..	3	..
22	29·838	44·0	43·3	0·7	43·0	1·0	54·4 39·5	67·3 33·7	SSW	SSW	..	¼	0·57	0·00	1·215	10	..
Jan. 31. 0	29·814	48·5	47·8	0·7	..	..	..	[illegible]	SW	SSW	..	¼	..	..	..	10	..
2	29·785	49·2	48·8	0·4	..	..	..		SW	SSW	½ to 2	¼	..	..	..	10	Transit

DRY THERMOMETER.

Jan. 28d. The mean daily temperature was the highest in the month; and at 0h the reading was the highest in the month at the two-hourly observations.

Jan. 30d. 6h. The excess of its reading above that of the Wet Thermometer was the greatest in the month.

TEMPERATURE OF THE DEW POINT.

Jan. 27d. 22h. This reading was higher than any which occurred between Jan. 1 and April 1.

Jan. 28d. The mean daily value was the highest in the month.

GENERAL REMARKS.	Observer.
Overcast: the wind is still blowing in heavy gusts.	P
,, frequent lulls in the wind: at 10h. 15m a gust of wind at the Anemometer recording a pressure of 5lbs.	P
,, the wind frequently surges among the trees: the reflexion of the London lights is 2° or 3° higher than usual, therefore	G
,, the wind in gusts to 1½. [the clouds are high.	
,, the wind in occasional gusts to 1½: very dark.	
,, a few drops of rain since the last observation: frequent gusts of wind to 2.	
,, the wind is still high, frequent gusts to 2 and 2½.	G
,, cirro-stratus and scud.	J H
Cirro-stratus and scud.	
Scud and light clouds.	J H
Cirro-cumuli about the place of the Sun; near the zenith are several tufts of cirri; the remainder of the sky is clear: a remarkable	G
Nearly cloudless: scud passing quickly from the W.: wind in gusts to 2. [sky for the time of the year.	
Since the last observation the sky has been nearly covered with dark scud: at present only a few stars are visible about the zenith,	
A few clouds in the N.; the remainder of the sky is clear. [but the break is to no numerical amount.	G
Scud and cirro-stratus.	J H
Overcast: cirro-stratus and scud.	
Overcast: cirro-stratus and scud: the wind is in gusts.	
Breaks in every direction.	J H
	P
Overcast: a few stars seen at intervals: gusts of wind.	J H
,, ,,	
,, ,,	
,, ,,	J H
,, scud passing over from the W.	G
The clouds broke at about 22h. 40m: at present a few cirri are scattered over the sky.	D
A few light clouds here and there: a very fine day.	D
Loose scud in every direction.	P
A few clouds only in the western horizon.	P
Nearly cloudless.	D
Clouds in the horizon: hazy.	P
,, ,,	D
Vapour in the horizon.	
Heavy vapour: the stars shine very dimly.	
,,	
,,	D
Overcast: cirro-stratus.	P
Overcast: cirro-stratus.	P
,, rain falling.	P

ELASTIC FORCE OF VAPOUR AND WEIGHT OF A CUBIC FOOT OF AIR.

Jan. 28d. The mean daily values were the greatest in the month.

ADDITIONAL WEIGHT OF VAPOUR REQUIRED FOR COMPLETE SATURATION OF A CUBIC FOOT OF AIR.

Jan. 28d. The mean daily value was the greatest in the month.

MINIMUM THERMOMETER.

Jan, 27d. 22h. The reading was higher than that of the Dry Thermometer at 6h and 8h.

Jan. 30d. 22h. The reading was higher than that of the Dry Thermometer at 20h.

AMOUNT OF CLOUDS.

Jan, 28d. With but a few exceptions the sky has been nearly covered with clouds since Jan. 18d; it is the longest period of cloudy sky [in the month.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Raingauge No 1, (Osler's)	RAIN. Reading of Raingauge No. 2.	RAIN. Stand of Raingauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Jan. 31. 4	29·771	49·8	48·1	1·7	48·0	1·8	..	..	SW	SW	½ to 3½	¾	..	..	..	5	..
6	29·768	48·6	46·9	1·7	..	..	..	..	SW	SW	½ to 3	½	..	..	..	10	..
8	29·759	48·4	46·2	2·2	..	..	..	..	SW	SW	½ to 2½	¾	..	..	..	8	..
10	29·739	49·0	47·0	2·0	46·5	2·5	..	..	SW	SW	3 to 5	1	..	..	..	10	..
12	29·727	48·8	48·3	0·5	..	..	..	..	SW	SW	3 constant	¾	0·57	0·03	1·250	10	..
14	29·726	49·7	49·2	0·5	..	..	..	..	SW	SW	3 to 3½	1	..	..	..	10	..
16	29·750	49·8	49·2	0·6	48·3	1·5	..	..	WSW	SW	..	½	..	..	..	10	..
18	29·768	48·5	48·5	0·0	..	..	..	..	WSW	SW	..	¼	..	..	..	10	..
20	29·788	46·7	46·0	0·7	..	..	..	..	WSW	SW	..	¼	..	..	..	5	..
22	29·824	46·2	45·2	1·0	42·0	4·2	51·3 43·7	52·3 40·9	SW	WSW	..	¼	0·57	0·00	1·250	2	..
Feb. 1. 0	29·833	49·5	47·5	2·0	..	..	..	..	WSW	WSW	..	¼	..	..	..	2	..
2	29·801	51·0	47·2	3·8	..	..	..	..	SW	WSW	..	½	..	..	..	3	Transit
4	29·783	49·4	46·5	2·9	45·5	3·9	..	..	SW	SSW	..	¼	..	..	..	1	..
6	29·775	46·3	44·6	1·7	..	..	..	..	SSW	SSW	0 to ½	¼	..	..	..	1	..
8	29·762	46·8	45·2	1·6	..	..	..	..	SW	SSW	2 to 3	(½+)	..	..	..	1	..
10	29·740	47·0	45·0	2·0	44·0	3·0	..	..	SW	SSW	1½ to 3½	1	..	..	..	6	..
12	29·732	48·3	46·1	2·2	..	..	..	..	SW	WSW	1 to 3½	1	..	..	..	10	..
14	29·697	48·1	46·0	2·1	..	..	..	..	SW	WSW	1½ to 3½	1+	..	..	..	10	..
16	29·656	48·8	47·0	1·8	46·0	2·8	..	..	SW	SW	2 to 4	2	..	..	..	8	..
18	29·595	48·7	48·2	0·5	..	..	..	..	SSW	SW	1 to 2	2	..	..	..	10	..
20	29·527	48·9	48·2	0·7	..	..	..	..	SSW	SW	3½ to 4	2—	..	..	..	10	..
22	29·496	49·2	48·5	0·7	47·0	2·2	51·5 46·8	62·0 41·2	SSW	SW	4½ to 8	1½	0·57	0·03	1·285	10	..
Feb. 2. 0	29·542	44·0	44·0	0·0	..	..	..	..	W	SW	½ to 1	1½	..	..	..	10	..
2	29·568	42·0	41·8	0·2	..	..	..	..	WSW	SW	0 to 1	1	..	..	..	10	Transit
4	29·589	43·2	42·2	1·0	41·0	2·2	..	..	WSW	W	½ to 1	½	..	..	..	10	..
6	29·636	42·2	39·5	2·7	..	..	..	..	WSW	WSW	½ to 2	½	..	..	..	10	In Equator
8	29·675	41·6	38·6	3·0	..	..	..	..	WSW	WSW	0 to ½	¾	..	..	..	8	..
10	29·694	40·2	37·0	3·2	31·5	8·7	..	..	WSW	WSW	0 to ½	¾	..	..	..	9	..
12	29·657	39·7	37·0	2·7	..	..	..	..	SW	WSW	½ to 2	¾	..	..	..	8	..
14	29·605	40·5	39·7	0·8	..	..	..	..	SW	SW by W	1½ to 3	1	..	..	..	10	..
16	29·551	38·4	37·4	1·0	36·5	1·9	..	..	SW	WSW	1 to 3½	¾	..	..	..	10	..
18	29·509	37·5	36·0	1·5	..	..	..	..	SW	WSW	2 to 3½	1	..	..	..	1	..
20	29·460	37·5	35·8	1·7	..	..	..	..	SW	WSW	2 to3	¾	..	..	..	8	..
22	29·387	40·0	37·0	3·0	36·5	3·5	50·0 36·9	49·5 30·5	SW	SW	3 to 4	¾	0·67	0·30	1·535	½	..
Feb. 3. 0	29·273	43·9	41·1	2·8	..	..	..	..	SW	WSW	3 to 5	1	..	..	..	10	..
2	29·142	42·0	41·1	0·9	..	..	..	..	SW	WSW	3 to 6	¾	..	..	..	10	..
4	29·016	42·4	40·7	1·7	39·0	3·4	..	..	WSW	WSW	3 to 4	1	..	..	..	8	Transit
6	29·014	33·5	33·0	0·5	..	..	..	..	W	WSW	0 to ½	1½	..	..	..	9	..
8	29·024	33·0	31·6	1·4	..	..	..	..	WNW	WSW	½ to 1	1	..	..	..	10	..
10	29·041	31·2	31·2	0·0	..	..	..	..	NNW	WSW	½ to 4	1	..	..	..	10	..
12	29·113	28·4	26·1	2·3	..	..	..	..	NNW	NNW	½ to 3	1	..	..	..	0	Apogee
14	29·166	26·2	23·6	2·6	..	..	..	..	NNW	NNW	1½ to 3½	1	..	..	..	0	..
16	29·183	23·0	22·5	0·5	22·0	1·0	..	..	NW	NW	1 to 3½	1½	..	..	..	10	..
18	29·184	26·0	24·1	1·9	..	..	..	..	NNW	NNW	5 to 11	3	..	..	..	9	..
20	29·275	26·1	25·0	1·1	..	..	..	..	NNW	NNW	3 to 5	1½	..	..	..	6	..
22	29·237	33·3	31·3	2·0	28·0	5·3	45·3 22·5	54·0 22·2	WNW	NNW	2 to 4½	1	0·72	0·01	1·660	9½	..

BAROMETER.
Feb. 2d and 3d. A great difference of the mean daily heights occurred.

DRY THERMOMETER.
Feb. 1d. The mean daily temperature was the highest in the month, and at 2h the reading was the highest in the month.
Feb. 2d and 3d. The greatest difference of the mean daily temperatures for consecutive days in the month occurred.
Feb. 3d. The daily range was the greatest in the month.

TEMPERATURE OF THE DEW POINT.
Jan. 31d. 16h. This reading was higher than any other in the month of February.
Feb. 1d. The mean daily value was the highest in the month.
Feb. 3d. 10h. The observation was omitted by inadvertence.
Feb. 3d and 4d. The greatest difference of the mean daily values for consecutive days in the month occurred.

Feb. 3d. The daily range was the greatest in the month.
Feb. 3d and 4d. A great difference of the mean daily temperatures occurred.
Feb. 2d and 3d. The difference of the mean daily values was considerable.

GENERAL REMARKS.	Observer.
The sky W. of the zenith is nearly clear; the remainder is mostly covered with cirro-stratus: gusts of wind.	D
Overcast: cirro-stratus.	
Cirro-stratus and vapour: gusts of wind.	
Overcast.	D
,, a rather thick, misty rain falling.	P
,, a thin, misty rain falling: at $16^h.\ 20^m$ a sudden gust of wind of 4lbs. pressure was recorded at the Anemometer.	
,,	
,,	
Light scud in every direction.	P
Scud and light clouds.	J H
Scud and light clouds.	
Scud and light clouds, principally East and South of the zenith.	J H
Patches of cirro-cumuli and light scud in various directions.	P
A line of dark clouds only in the western horizon.	
A few clouds in the W.S.W., and also in the northern horizon: hazy.	
The stars are faintly shining in the zenith and in other parts of the sky: hazy: the wind in gusts, and increasing in power.	P
A few stars are occasionally seen; at present the sky is quite cloudy: the wind blows in gusts to $1\frac{1}{2}$, and surges among the trees.	G
The stars about the zenith are occasionally visible: the wind has been in frequent gusts to 2, but generally to $1\frac{1}{2}$.	
The same: the wind in gusts to $2\frac{1}{2}$.	
Overcast: a small, misty rain falling: very dark: the wind in gusts to $2\frac{1}{2}$.	
A small, misty rain has fallen at times since the last observation: the wind still continues high: scud passing from the W.	G
Dashing rain: wind in gusts to 2: squally: the surface of the mercury in the barometer is oscillating very perceptibly.	J H
Overcast: squally.	
,, cirro-stratus: slight rain.	J H
,, large masses of dark scud are passing from the W.	G
Cirro-stratus and scud.	
Stratus and scud everywhere, except in the S. E. of the zenith, where a few stars are shining.	
The same.	G
Cirro-stratus and scud.	J H
Overcast: cirro-stratus and scud.	
,, heavy vapour and scud: a few stars have been occasionally seen since the last observation.	
The clouds have suddenly dispersed; the stars are now particularly bright.	
A few very small cirri low in the East horizon; otherwise scud is generally scattered over the sky.	J H
A few light clouds in the horizon in the S.W.: cirri S. of the zenith: gusts of wind to 1+.	D
Overcast: cirro-stratus and scud: gusts of wind to $1\frac{1}{2}$.	
,, cirro-stratus: gusts of wind: rain falling.	D
Cirro-stratus and scud: at $4^h.\ 12^m$ a very violent squall of sleet and rain, accompanied by gusts of wind to $2\frac{1}{2}$: the temperature fell	J H
A slight break in the N. W.; otherwise overcast. [nearly 8° in a short time after the squall.	
Overcast.	
,, occasional falls of snow during gusts of wind.	J H
Cloudless: a sharp frost.	D
,, ,, [seen.	
The sky again became overcast about an hour since, and it still continues so: snow falling rather thickly: a few stars are occasionally	
Cirro-stratus and scud: one or two stars are visible: a strong gale of wind.	
The clouds cleared off within a quarter of an hour after the last observation, since which time the sky has been generally clear: at present the clouds are again collecting, and three-fifths of the heavens are overcast: at $20^h.\ 10^m$ the sky was covered.	D
Stratus and scud.	J H

ELASTIC FORCE OF VAPOUR AND WEIGHT OF A CUBIC FOOT OF AIR.

Feb. 1^d. The mean daily values were the greatest in the month.

PRESSURE IN POUNDS ON THE SQUARE FOOT AND DIRECTION OF THE WIND FROM THE ANEMOMETER.

Feb. 3^d. From 4^h to $4^h.\ 10^m$ the direction was W. S.W.: at $4^h.\ 11^m$ a sudden change to the N.W. took place: between $4^h.\ 11^m$ and $5^h.\ 10^m$ the change was slow and constant, the direction at the latter time being W.S.W.: the changes after this time are represented by the regular observations.

Feb. 3^d. 4^h. The pressure was 3lbs. to 4lbs. and continued so till $1^h.\ 10^m$: at $4^h.\ 11^m$ a sudden wind blew with a pressure of 8lbs., and then gradually decreased till $4^h.\ 25^m$, when it was calm, and continued so till $6^h.\ 40^m$: after this time the pressures are well represented by the regular observations.

RAIN.

Jan. $31^d.\ 12^h$. The amount collected during the month of January in the rain-gauge No. 4, was $1^{in}\cdot35$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Feb. 4. 0	29·175	34·3	33·1	1·2	..	..	..	..	NW	NNW	3 to 8	2	..	..	..	10	..
2	29·267	35·2	33·0	2·2	..	..	..	..	N by E	N	8 to 20	3½	..	..	..	5	..
4	29·470	36·7	34·2	2·5	30·0	6·7	..	..	N	N	4 to 5	2	..	..	..	5	Transit
6	29·567	34·1	31·6	2·5	..	..	..	..	N	N	2 to 5	1	..	..	..	0	..
8	29·610	35·2	32·4	2·8	..	..	..	..	NNW	N	3½ to 4½	¾	..	..	..	10	..
10	29·645	32·5	32·1	0·4	32·0	0·5	..	..	NNW	N	0 to 1	¾	..	..	..	10	..
12	29·663	33·1	31·8	1·3	..	..	..	..	N by W	N	1 to 3½	1	..	..	..	10	..
14	..	..	..	..	..	..	..	..	N by W	...	½ to 3	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	N by W	...	0 to 1	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	N	...	0 to ½	..	..	..	..	..	..
22	29·729	33·1	32·2	0·9	..	..	31·0 27·7	48·0 24·2	N	N	½ to 2	¼	0·72	0·00	1·660	2	..
Feb. 5. 0	..	..	..	..	..	..	..	..	NNW	...	0 to 2	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	NNW	...	1 to 4	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
6	29·710	33·6	33·2	0·4	..	..	..	..	NNW	NW	..	¼	..	..	..	0	Transit
8	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
14	29·730	30·1	29·9	0·2	..	..	..	..	NNW	N	..	½	..	..	..	0	..
16	29·738	30·0	29·8	0·2	29·5	0·5	..	..	NNW	N	..	½	..	..	..	0	..
18	29·755	31·1	30·6	0·5	..	..	..	..	NNW	N	..	½	..	..	..	7	..
20	29·767	32·2	32·1	0·1	..	..	..	..	N	N	..	¼	..	..	..	10	..
22	29·788	34·0	33·5	0·5	32·0	2·0	36·0 28·7	48·8 19·8	N	NNW	..	¼	0·72	0·00	1·660	9	..
Feb. 6. 0	29·773	36·1	34·3	1·8	..	..	..	..	NNW	NNW	..	¼	..	..	..	10	..
2	29·732	36·2	34·3	1·9	..	..	..	..	NNW	N	..	½	..	..	..	10	..
4	29·690	34·3	34·0	0·3	33·5	0·8	..	..	NNW	NNW	..	¼+	..	..	..	10	..
6	29·675	33·6	33·4	0·2	..	..	..	..	NNW	N by W	..	½	..	..	..	10	Transit
8	29·702	33·1	32·7	0·4	..	..	..	..	N	N by W	..	(¼+)	..	..	..	9	..
10	29·714	32·5	32·1	0·4	32·5	0·0	..	..	N	N	..	(¼+)	..	..	..	9½	..
12	29·728	31·5	31·0	0·5	..	..	..	..	N	Calm	..	..	..	..	..	4	..
14	29·740	32·0	31·5	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·748	32·2	31·8	0·4	31·5	0·7	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·796	33·2	32·6	0·6	..	..	..	..	ENE	Calm	..	..	..	..	..	10	..
20	29·837	32·5	32·2	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
22	29·885	32·0	31·3	0·7	30·5	1·5	36·3 31·3	42·7 23·6	Calm	NE	..	¼	0·72	0·00	1·660	3	..
Feb. 7. 0	29·906	34·3	33·7	0·6	..	..	..	..	NNE	NE	..	¼	..	..	..	10	..
2	29·904	34·3	33·5	0·8	..	..	..	..	N	NE	..	¼	..	..	..	10	..
4	29·845	33·2	33·0	0·2	32·5	0·7	..	..	NNW	NE	..	¼	..	..	..	10	..
6	29·813	32·6	32·4	0·2	..	..	..	..	NNW	NW	..	¼	..	..	..	10	Transit
8	29·796	32·9	32·6	0·3	..	..	..	..	N	N	..	¼	..	..	..	10	1st Qr.
10	29·801	34·0	33·8	0·2	34·0	0·0	..	..	N	Calm	..	..	..	..	..	10	..
12	29·809	34·5	34·3	0·2	..	..	..	..	NNE	Calm	..	..	..	..	..	10	..
14	29·809	34·8	34·6	0·2	..	..	..	..	ENE	Calm	..	..	..	..	..	10	..
16	29·843	34·8	34·6	0·2	33·5	1·3	..	..	E	NNE	..	¼	..	..	..	10	..

MAXIMUM THERMOMETER.

Feb. 4d. 22h. This reading is erroneous; no use has been made of it.

CLOUDS.

Feb. 7d. 0h. From this time to 9d. 22h the sky was covered with cloud; it is the longest period of cloudy sky in the month, except that following Feb. 17d. 8h, and the period following Feb. 23d. 12h.

GENERAL REMARKS.	Observer.
Overcast: sleet and snow falling, though thinly.	P
Loose scud in every direction: the wind has been gradually veering towards the North since the last observation.	P
Large masses of scud are passing over from the N.	D
Cloudless.	
Overcast: cirro-stratus: Moon's place visible.	
,, occasional squalls of sleet and snow.	D
,, sleet falling: frequent squalls of snow and sleet.	P
Fleecy clouds and scud in various directions.	P
The sky is cloudless, with the exception of a single cloud in the W. to no numerical amount.	
Cloudless: the observer has seldom seen so clear a night.	
,,	
The larger stars only are visible; the smaller ones being obscured by a dense haze, which began about 30^m since.	
Overcast.	P
Cirro-stratus: hazy.	J H
Cirro-stratus: hazy.	
Overcast: cirro-stratus: at $1^h.\ 40^m$ a squall of sleet and hail.	J H
,, sleet falling: about 15^m after the observation a fall of snow took place, but continued only a few minutes; it was succeeded, as before, by sleet.	P
Overcast: a thin rain falling: snow falls occasionally, which, however, thaws while falling.	
The clouds are much broken, a few stars being visible in different directions: the Moon is also visible: more extensive breaks frequently occur.	
The clouds, as before, are much broken, but now chiefly in the zenith.	P
Clouds all round the horizon; the zenith and its neighbourhood are clear.	G
Partially clear since the last observation: about an hour, or a little more, since, clouds in bars from N. to S. collected, and from that time it has been quite cloudy; the sky is now very black.	
Not a break since the last observation: slight snow now falling.	
Overcast: very dark.	
Clear at intervals since the last observation: a little snow has fallen between the observations.	G
Light clouds: hazy.	J H
Stratus: hazy.	
Overcast: sleet falling.	
,, ,,	J H
,, snow falling thickly.	P
,, snow and sleet falling.	D
,, rain with sleet has been falling.	G
,, the rain has ceased.	J H
,, cirro-stratus.	
,, ,,	

Feb. $4^d.\ 2^h$. At about this time several coal ships were forced from their anchors, and driven on shore in Woolwich Reach, also several barges were sunk, and the watermen at Greenwich stated to Mr. Glaisher that forty of their boats were sunk at Greenwich. The tide was very high, and the water extended about 250 feet up Church Street, leading from the river: at the time the strength of the wind was steady at $3\frac{1}{2}$, and in frequent gusts to 4 and 4+.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Raingauge No. 1, (Osler's)	RAIN. Reading of Raingauge No. 2.	RAIN. Stand of Raingauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Feb. 7. 18	29·874	35·0	34·7	0·3	..	..	..	..	E	Calm	..	..	..	..	..	10	..
20	29·918	33·7	33·2	0·5	..	..	..	..	E	NNE	..	¼	..	..	..	10	..
22	29·960	34·6	33·1	1·5	32·5	2·1	35·9 32·3	38·2 29·5	ENE	ENE	..	¼	0·76	0·50	1·975	10	..
Feb. 8. 0	29·966	35·2	33·3	1·9	..	..	..	..	NE	ENE	..	¼	..	..	..	10	..
2	29·947	37·0	35·1	1·9	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
4	29·952	37·3	35·1	2·2	32·5	4·8	..	..	NE	ENE	..	¼	..	..	..	10	..
6	29·947	37·0	35·0	2·0	..	..	..	..	NE	ENE	..	¼	..	..	..	10	..
8	29·959	36·2	34·8	1·4	..	..	..	..	NE	NE	..	¼	..	..	..	10	Transit
10	29·954	36·4	35·0	1·4	34·0	2·4	..	..	NE	NE	..	¼	..	..	..	10	..
12	29·931	36·5	35·6	0·9	..	..	..	..	NE	NE	0 to ½	¼	..	..	..	10	..
14	29·904	36·3	36·0	0·3	..	..	..	..	NNE	NNE	..	¼	..	..	..	10	..
16	29·881	36·3	36·0	0·3	36·0	0·3	..	..	NNE	NNE	..	¼	..	..	..	10	..
18	29·866	36·2	35·6	0·6	..	..	..	..	NNE	NNE	..	¼	..	..	..	10	..
20	29·866	36·0	35·6	0·4	..	..	..	..	NNE	NNE	..	¼	..	..	..	10	..
22	29·869	37·1	36·4	0·7	35·0	2·1	37·8 35·2	38·5 32·2	NNE	NNE	..	¼	0·76	0·02	1·996	10	..
Feb. 9. 0	29·867	38·0	37·2	0·8	..	..	..	..	NNE	NNE	..	¼	..	..	..	10	..
2	29·848	39·0	37·6	1·4	..	..	..	..	NNE	NNE	..	¼	..	..	..	10	..
4	29·836	37·6	37·0	0·6	37·0	0·6	..	..	NE	NE	..	¼	..	..	..	10	..
6	29·813	37·5	36·4	1·1	..	..	..	..	NE	NE	..	¼	..	..	..	9¾	..
8	29·813	36·9	35·6	1·3	..	..	..	..	NE	NE	..	¼	..	..	..	10	Transit
10	29·806	36·5	35·7	0·8	36·0	0·5	..	..	NE	NNE	..	¼	..	..	..	10	..
12	29·775	36·2	35·9	0·3	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
14	29·760	36·0	35·5	0·5	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
16	29·758	34·6	34·1	0·5	33·8	0·8	..	..	NE	NE	..	¼	..	..	..	10	Greatest declination N.
18	29·765	35·0	33·6	1·4	..	..	..	..	NE	NE	½ to 1½	½+	..	..	..	9	..
20	29·770	35·0	33·3	1·7	..	..	..	..	NE	NE	½ to 1	½+	..	..	..	9½	..
22	29·782	34·5	32·7	1·8	30·5	4·0	38·8 34·5	39·8 29·8	NNE	NE	½ to 1½	½	0·81	0·06	2·105	2	..
Feb. 10. 0	29·775	36·5	34·3	2·2	..	..	..	..	NNE	NE	½ to 4	½	..	..	..	5	..
2	29·743	38·2	35·0	3·2	..	..	..	..	NNE	NE	½ to 1	½	..	..	..	6	..
4	29·719	38·0	35·3	2·7	34·0	4·0	..	..	NNE	NE	..	¼	..	..	..	8	..
6	29·703	35·5	33·8	1·7	..	..	..	..	N	NNE	..	¼	..	..	..	1	..
8	29·735	34·0	32·8	1·2	..	..	..	..	N	NNE	..	¼	..	..	..	1	..
10	29·759	32·7	31·8	0·9	30·8	1·9	..	..	NNE	NNE	..	¼+	..	..	..	½	Transit
12	29·761	33·0	32·8	0·2	..	..	..	..	N	NNE	..	¼	..	..	..	10	..
14	29·745	34·1	33·1	1·0	..	..	..	..	N	NE	..	½	..	..	..	10	..
16	29·743	34·0	33·2	0·8	32·0	2·0	..	..	N	Calm	..	..	..	..	..	10	..
18	29·746	34·8	34·3	0·5	..	..	..	..	N	NNE	..	¼	..	..	..	10	..
20	29·748	34·7	34·0	0·7	..	..	..	..	N	NNE	..	¼	..	..	..	10	..
22	29·782	35·7	35·2	0·5	35·0	0·7	39·1 32·3	45·7 23·2	N by W	NNE	..	¼−	0·81	0·00	2·110	10	..
Feb. 11. 0	29·797	37·6	36·7	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
2	29·793	40·7	39·0	1·7	..	..	..	..	Calm	NNE	..	¼	..	..	..	9½	..
4	29·794	40·3	38·4	1·9	36·0	4·3	..	..	Calm	NE by N	..	¼	..	..	..	10	..
6	29·811	38·7	36·8	1·9	..	..	..	..	ENE	E	..	¼	..	..	..	10	..
8	29·854	37·0	36·2	0·8	..	..	..	..	NE	E	..	¼	..	..	..	10	..

Eb.

BAROMETER.

~~July~~ 8d. 0h. The reading at this hour and the mean daily height on the 8th day, were respectively the greatest in the month.

WEIGHT OF A CUBIC FOOT OF AIR.

Feb. 9d and 10d. The least difference in the mean daily values for consecutive days in the month occurred.

MAXIMUM THERMOMETER.

Feb. 9d. 22h. The reading was lower than that of the Dry Thermometer at 2h.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus.	J H
,, ,,	J H
,,	D
Overcast.	D
,,	P
,, cirro-stratus.	J H
,, ,, the clouds are denser.	
,, ,,	
,, ,,	J H
,, ,,	D
,, ,, the air damp.	
,, ,, ,,	
,, ,, misty.	
,, ,, ,,	D
,, ,,	P
Overcast: cirro-stratus: a thin rain falling.	
,, cirro-stratus and scud.	P
,, ,, a thin mist falling.	D
A break in the N. horizon; otherwise overcast.	
Overcast: cirro-stratus.	
,, ,, rain slightly falling.	D
,, ,, ,,	P
,, rain falling.	
,, ,,	
Stars are faintly shining in the zenith, and in other directions.	
A few slight breaks in and about the zenith: the clouds are much broken.	P
A few light clouds S. of the zenith.	J H
Cirro-stratus E. of the zenith: light scud in various directions.	
Cirro-stratus and scud.	J H
,, clear in the N. horizon.	D
Small fragments of scud in various parts of the sky.	D
Scud in the W. horizon; a few scattered clouds are occasionally passing over: a fine double corona appeared aroud the Moon shortly after this observation, the outer circle being of a greenish blue.	P
A few clouds only in the western horizon, though scud is constantly, and in large quantities, passing over the heavens.	P
A short time after the last observation, clouds began to collect, and when they passed the Moon a corona appeared round her; since that time, the sky has become quite covered with cloud: the Moon is not visible.	G
Overcast.	
,, but the clouds are lighter near the horizon in the N.	
,, very dark.	
,,	G
,,	J H
Overcast.	
Cirro-stratus and scud: breaks N. of the zenith.	J H
Overcast: stratus.	G
,, ,,	
The clouds in some parts are thinner than in others: the Moon is occasionally seen.	

RAIN.

Feb. 7^{d}. 22^{h}. The rain registered by the Anemometer was only 0$^{in.}$04; on examination of the instrument, there did not appear to be any cause for its failing to register.

Feb. 10^{d}. 22^{h}. The reading of Crosley's gauge is supposed to be slightly in error; no rain had fallen, nor had any deposition of moisture taken place; the reading most probably should have been the same as that at 9^{d}. 22^{h}.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Raingauge No. 1, (Osler's)	RAIN. Reading of Raingauge No. 2.	RAIN. Stand of Raingauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Feb. 11. 10	29·895	36·6	35·0	1·6	34·0	2·6	..	..	NE	E	..	¼	..	..	..	10	Transit
12	29·904	36·0	35·0	1·0	..	..	..	..	NE	E	..	¼	..	..	..	10	..
14	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	NNE	...	0 to ½	..	..	..	..	..	..
22	29·965	36·3	35·5	0·8	..	..	41·7 35·6	43·3 32·5	NNE	NE	½ to 1½	¼	0·81	0·00	2·110	10	..
Feb. 12. 0	..	..	..	..	..	..	..	..	NE	...	½ to 3	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	ENE	...	1 to 2	..	..	..	..	..	..
4	29·927	39·5	37·6	1·9	..	..	..	..	ENE	ENE	½ to 1	¼	..	..	..	10	..
6	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	NE	...	0 to ¼	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	Transit
14	29·935	34·5	32·7	1·8	..	..	..	..	E	E	..	¼	..	..	..	0	..
16	29·920	32·0	31·0	1·0	30·0	2·0	..	..	E	E	..	¼–	..	..	..	0	..
18	29·921	30·5	29·5	1·0	..	..	..	..	E	E	..	¼–	..	..	..	0	..
20	29·921	29·9	29·0	0·9	..	..	..	..	E	E	..	¼–	..	..	..	½	..
22	29·908	34·8	33·3	1·5	36·0	−1·2	40·3 30·3	46·7 16·2	E	E by N	..	¼	0·81	0·00	2·110	0	..
Feb. 13. 0	29·892	37·2	34·7	2·5	..	..	..	..	E	E by S	..	¼	..	..	..	0	..
2	29·864	39·0	36·0	3·0	..	..	..	..	ENE	E	..	¼	..	..	..	¼	..
4	29·833	38·0	35·1	2·9	30·0	8·0	..	..	E	E	..	¼	..	..	..	0	..
6	29·809	32·6	31·0	1·6	..	..	..	..	Calm	E by S	..	¼	..	..	..	0	..
8	29·801	30·1	29·0	1·1	..	..	..	..	Calm	E by S	..	¼	..	..	..	0	..
10	29·782	28·0	28·0	0·0	27·0	1·0	..	..	Calm	E	..	¼	..	..	..	0	..
12	29·757	27·5	28·0	−0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	Transit
14	29·723	26·5	27·2	−0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·670	24·0	25·3	−1·3	23·5	0·5	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·664	24·0	24·5	−0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·639	24·5	24·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
22	29·620	26·7	26·3	0·4	26·0	0·7	39·0 22·4	39·5 11·0	Calm	Calm	..	..	0·81	0·00	2·110	5	..
Feb. 14. 0	29·601	33·1	31·4	1·7	..	..	..	..	Calm	Calm	..	..	..	..	..	9¾	..
2	29·539	35·7	34·2	1·5	..	..	..	..	Calm	W by N	..	¼	..	..	..	9¾	..
4	29·515	34·7	33·8	0·9	33·5	1·2	..	..	NW	Calm	..	..	..	..	..	10	..
6	29·510	33·5	32·5	1·0	..	..	..	..	NNW	N	..	¼	..	..	..	10	..
8	29·524	29·7	29·2	0·5	..	..	..	..	N	N	..	¼	..	..	..	10	Full
10	29·522	27·6	26·1	1·5	20·0	7·6	..	..	N	N	..	¼	..	..	..	10	..
12	29·486	27·3	25·0	2·3	..	..	..	..	N	Calm	..	..	..	..	..	10	Transit
14	29·463	23·5	22·2	1·3	..	..	..	..	N	N	..	¼	..	..	..	9	..
16	29·427	21·6	20·5	1·1	21·0	0·6	..	..	N	N	..	¼	..	..	..	2	..
18	29·399	21·1	20·1	1·0	..	..	..	..	N	N	..	¼	..	..	..	0	..
20	29·370	22·2	21·5	0·7	..	..	..	..	N	Calm	..	..	..	..	..	10	..
22	29·360	24·5	24·0	0·5	17·0	7·5	36·7 20·3	43·0 7·0	N	N	..	¼	0·81	0·00	2·125	9	..
Feb. 15. 0	29·322	26·7	26·5	0·2	..	..	..	..	N	N	..	¼	..	..	..	10	..

BAROMETER.

Feb. 13d, 14d, and 15d. Great differences of the mean daily heights.

DRY THERMOMETER.

Feb. 13d. 12h, 14h, 16h, and 18h. The readings were below those of the Wet Thermometer.

Feb. 14d. 18h. The reading was the smallest in the year.

Feb. 15d. The mean daily temperature was the lowest in the year.

TEMPERATURE OF THE DEW POINT.

Feb. 12d. 22h. The observation is evidently wrong: it is supposed that an error of 5° was made in reading off the instrument, and the reading is used as 31° in subsequent calculations.

Feb. 14d. 16h. The reading is in error several degrees; it is supposed that the mercury was in the black ball or below 15°: no use has been made of this observation.

Feb. 15d. The mean daily value was the lowest in the year.

GENERAL REMARKS.	Observer.
The clouds in some parts are thinner than in others: the Moon is occasionally seen.	G
Overcast: one unbroken cloud.	J H
Overcast: a thin misty rain falling.	D
Overcast: cirro-stratus.	D
Cloudless.	J H
,,	
,,	
A few small clouds in the horizon only.	J H
Cloudless.	P
Cloudless: a few loose cumuli have passed since the last observation.	G
A few cumuli in the North horizon.	D
Cloudless: a splendid day for February.	J H
,,	
,,	
,, a beautiful night.	J H
,,	D
,, light fog.	
The fog increased considerably in density until $15^h.25^m$, shortly after which time it again almost entirely disappeared: at $15^h.10^m$ a faint corona was visible about the Moon: at the present time the sky is quite cloudless.	
Foggy: the Astronomical Observatory is invisible from the Magnetic Observatory.	
Cloudless: the trees are covered with rime.	D
The haze is so very thick as to resemble clouds: foggy.	P
Nearly overcast, a break or two only being in the zenith: hazy and foggy.	P
A break or two only, of small extent in the zenith, the rest of the sky being covered with cirro-stratus and scud: hazy and foggy.	D
Overcast: hazy and foggy.	
,, cirro-stratus: misty rain falling.	
,, ,,	
,, ,,	D
,, ,,	P
A few breaks are visible about the place of the Moon; the rest of the sky being still overcast, though the clouds are broken.	
Scud in the S. and S.W., the rest of the sky being free from clouds: haze is somewhat thick, being at times like a film of clouds, nearly obscuring the stars: clouds at times floating over.	
Cloudless: a slight haze still remains in the western horizon.	
A thin veil of cloud covering the whole of the sky: foggy: excessively cold.	P
Cirro-stratus: the air is very cold.	J H
Cirro-stratus.	J H

ELASTIC FORCE OF VAPOUR AND WEIGHT OF VAPOUR IN A CUBIC FOOT OF AIR.
Feb. 15^d. The mean daily values were the least in the year.

WEIGHT OF A CUBIC FOOT OF AIR.
Feb. 15^d. The mean daily value was the greatest in the month.

RAIN.
Feb. $14^d.22^h$. The increase in the reading of Crosley's gauge was occasioned by the deposition of moisture.

AMOUNT OF CLOUDS.
Feb. 13^d. The mean daily value was the least in the month: this is one of the five days considered cloudless during the year.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Feb. 15. 2	29·286	27·5	28·5	−1·0	..	..	..	..	N	N	..	¼	..	..	..	10	,,
4	29·237	27·8	27·2	0·6	22·5	5·3	..	..	N	N	..	¼	..	..	..	10	..
6	29·230	26·0	25·1	0·9	..	..	..	..	N	N	..	¼+	..	..	..	10	..
8	29·220	26·1	24·8	1·3	..	..	..	..	N	N	..	¼	..	..	..	9	..
10	29·205	25·6	24·7	0·9	18·6	7·0	..	..	N	N	..	¼+	..	..	..	9¾	..
12	29·188	25·5	24·0	1·5	..	..	..	..	N	N	..	¼	..	..	..	10	..
14	29·184	24·5	23·5	1·0	..	..	..	..	N by W	N	..	¼	..	..	..	7	Transit Perigee
16	29·138	23·8	22·6	1·2	20·5	3·3	..	..	N by W	N	..	¼	..	..	..	10	..
18	29·090	24·2	23·2	1·0	..	..	..	..	N	Calm	..	..	..	..	..	10	..
20	29·104	23·8	23·0	0·8	..	..	..	..	N	NNE	..	¼	..	..	..	10	..
22	29·097	26·5	24·7	1·8	17·5	9·0	26·1 23·3	31·7 12·5	N by W	N	..	¼	0·81	0·00	2·125	9	In Equator
Feb. 16. 0	29·096	30·7	29·0	1·7	..	..	..	..	N by E	N	..	¼	..	..	..	10	..
2	29·088	32·1	30·7	1·4	..	..	..	..	NNE	N by E	..	¼	..	..	..	10	..
4	29·078	31·8	30·8	1·0	22·5	9·3	..	..	N	N by E	..	¼	..	..	..	10	..
6	29·082	30·3	28·8	1·5	..	..	..	..	N	NNE	0 to ½	¼	..	..	..	10	..
8	29·122	30·1	28·5	1·6	..	..	..	..	N	NE	0 to ½	½	..	..	..	10	..
10	29·129	29·2	28·1	1·1	22·0	7·2	..	..	N	NE	..	¾	..	..	..	10	..
12	29·169	28·0	27·0	1·0	..	..	..	..	N	NNE	..	¼	..	..	..	9	..
14	29·190	26·0	25·4	0·6	..	..	..	..	NNW	NNE	..	¼	..	..	..	1	Transit
16	29·253	26·0	24·8	1·2	20·0	6·0	..	..	NNW	NNE	..	¼	..	..	..	½	..
18	29·288	23·7	23·0	0·7	..	..	..	..	NNW	NNE	..	¼	..	..	..	0	..
20	29·338	22·0	21·5	0·5	..	..	..	..	NNW	NNE	..	¼	..	..	..	0	..
22	29·394	25·6	25·0	0·6	16·5	9·1	32·1 21·5	38·0 8·5	NNW	N	..	¼	0·81	0·00	2·125	0	..
Feb. 17. 0	29·426	33·4	30·5	2·9	21·5	11·9	..	..	NNE	N	..	¼	..	..	..	0	..
2	29·415	36·5	31·6	4·9	23·0	13·5	..	..	NE	N	..	¼	..	..	..	2	..
4	29·408	35·5	31·5	4·0	26·5	9·0	..	..	...	N by E	..	¼	..	..	..	4	..
6	29·393	30·7	29·5	1·2	..	..	..	..	ENE	N by E	1 to 5	¼	..	..	..	7	..
8	29·385	30·5	29·3	1·2	..	..	..	..	ENE	N by E	1 to 5	¼	..	..	..	10	..
10	29·366	32·3	31·1	1·2	28·5	3·8	..	..	ENE	N by E	1½ to 5	¼	..	..	..	10	..
12	29·312	32·5	31·8	0·7	..	..	..	..	ENE	NE	1 to 7	1	..	..	..	10	..
14	29·301	32·1	31·6	0·5	..	..	..	..	...	NE	..	1½	..	..	..	10	..
16	29·290	30·9	30·5	0·4	30·0	0·9	..	..	...	NE	..	2	..	..	..	10	Transit
18	29·271	30·6	30·4	0·2	..	..	..	..	...	NE	..	2	..	..	..	10	..
20	29·303	30·5	30·2	0·3	..	..	..	..	...	NE	..	1½	..	..	..	10	..
22	29·308	31·3	30·5	0·8	27·5	3·8	36·8 26·5	60·2 16·8	ENE	NE	2 to 7	1¾	0·81	0·00	2·125	10	..
Feb. 18. 0	29·319	32·5	31·3	1·2	..	..	..	..	NE	NE	3 to 8	1½	..	..	..	10	..
2	29·313	32·2	31·2	1·0	..	..	..	..	NE	NE	4 to 5	2½	..	..	..	10	..
4	29·309	32·9	32·0	0·9	28·0	4·9	..	..	NE	NE	3½ to 6	1½	..	..	..	10	..
6	29·308	33·0	32·2	0·8	..	..	..	..	ENE	NE	2 to 5	1	..	..	..	10	..
8	29·322	33·5	32·6	0·9	..	..	..	..	ENE	NE	3 to 4	1	..	..	..	10	..
10	29·337	33·5	32·1	1·4	31·0	2·5	..	..	ENE	ENE	3 constant	1	..	..	..	10	..
12	29·337	33·3	32·2	1·1	..	..	..	..	ENE	NE	1 to 3	½	..	..	..	10	..
14	..	..	..	..	..	..	..	..	ENE	...	2½ to 4	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	ENE	...	1½ to 3½	..	..	..	..	..	Transit
18	..	..	..	..	..	..	..	..	ENE	...	1½ to 2	..	..	..	..	..	..

DRY THERMOMETER.
Feb. 15h. 2h. The reading was lower than that of the Wet Thermometer.
Feb. 17d. 2h. The greatest difference for the month between its reading and that of the Wet Thermometer occurred.

TEMPERATURE OF THE DEW POINT.
Feb. 16d. 4h. The greatest difference for the month between it and that of the temperature of the the air occurred.
Feb. 16d. 22h. The reading was the lowest in the year.
Feb. 17d. The greatest difference for the month between its mean daily value and that of the temperature of the air occurred.
Feb. 17d and 18d. The difference on its mean daily values was considerable.

ADDITIONAL WEIGHT OF VAPOUR REQUIRED FOR COMPLETE SATURATION OF A CUBIC FOOT OF AIR.
Feb. 17d. The mean daily value was the greatest in the month.

GENERAL REMARKS.	Observer.
Cirro-stratus: a little snow falling.	D
Overcast: a dense stratus: thin flakes of snow falling. [vation.	P
,, snow still falling, though thinly, and lying on the ground: it has continued to fall in this manner since the former obser-	
The clouds are broken in every direction, so that it is alternately clear and cloudy; at present, however, the breaks are chiefly in the zenith and small: the Moon is just rising, imbedded in clouds: the snow has ceased falling.	
Scud and cirro-stratus covering nearly the whole of the sky, but a few stars being visible: the Moon is imbedded in clouds.	P
The sky is wholly covered with stratus and scud: the Moon's place is not discernible.	G
The Moon has been occasionally visible during the last hour; at present no clouds are near her, but a halo of 44° diameter is visible: the whole sky is misty, and clouds prevail in the horizon.	
Within a half-hour after the last observation bars of clouds formed, and shortly the whole sky became covered, and so it remains:	
Uniformly overcast: scud passing from the S.W. [upper current S.W.	
,,	G
Cirro-stratus and scud.	J H
Cirro-stratus and scud.	
,,	J H
The sky is wholly covered with cloud: a good deal of scud passing from the W.	G
With the exception of a slight break in the clouds in the N., but to no numerical extent, the sky is quite overcast.	
The sky is very black: the clouds are very high, the reflexion from the London lights being some degrees higher than usual.	
No change.	G
Cirro-stratus and scud: a halo round the Moon of 24° in diameter.	J H
Scud and light clouds.	
Nearly cloudless.	
Cloudless.	
,,	J H
,,	D
Cloudless.	
White cumuli scattered here and there.	D
Cirro-stratus and light scud.	J H
,,	
Overcast.	
,,	J H
,, snow has been falling, more or less, since $10^h.\ 20^m$, and still continues to fall.	D
,, snow is falling slightly.	
,, ,,	
,, ,,	
,, ,,	D
,, snow is still slightly falling: the general depth of the snow, by estimation, is about five inches: the wind is blowing in heavy gusts.	P
Overcast: the snow has ceased falling: the wind is still blowing in heavy gusts.	
,, a great drift of snow, in consequence of the heavy wind, which blows in very heavy gusts: no snow is at present falling.	P
,, no snow falling.	D
,,	
,,	
,,	D
,, the wind has greatly subsided: no snow falling.	P

DEGREE OF HUMIDITY.

Feb. 17^d. The mean daily value was the least in the month.

ANEMOMETER.

Feb. $17^d.\ 5^h.\ 50^m$. The traversing board had so moved that only three hour spaces had passed the pencils, it was then started; at $20^h.\ 6^m$ it was found that the traversing board had not moved after $12^h.\ 10^m$: Mr. Glaisher at 21^h examined every part of the instrument and found all in good order, he started it and it worked well afterwards: it is supposed that the clamp had been imperfectly pinched.

Feb. $17^d.\ 6^h$, 8^h, and 10^h. The estimated strengths of the wind are irreconcileable with the pressures at the Anemometer: those at the Anemometer are undoubtedly right: those by estimation should have been from 1 to 2: it is supposed that, the wind being from the East nearly, the Observer did not feel it press against himself, in consequence of many high trees being in that direction.

CLOUDS.

Feb. $17^d.\ 8^h$ to $20^d.\ 22^h$. The sky was covered with clouds; it is the longest period of cloudy sky in the month, except the period following Feb. $23^d.\ 12^h$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Feb. 18. 20	..	..	..	..	..	..	..	..	ENE	...	3½ to 4	..	..	..	..	..	..
22	29·316	35·4	32·7	2·7	..	..	33·1 32·0	33·2 29·0	NE	NE	2 to 3	1	0·81	0·00	2·125	10	..
Feb. 19. 0	..	..	..	..	..	..	..	..	ENE	...	1 to 3½	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	ENE	...	½ constant	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	ENE	...	½ to 1	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	ENE	...	½ to 1	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	ENE	...	½ to 2½	..	..	..	..	..	..
14	29·180	36·0	35·6	0·4	..	..	..	..	E	ENE	2½ to 3	2	..	..	..	10	..
16	29·156	36·2	36·1	0·1	34·5	1·7	..	..	E	ENE	1 to 3	2	..	..	..	10	..
18	29·156	36·3	36·1	0·2	..	..	..	..	E	ENE	½ to 2	2½	..	..	..	10	Transit
20	29·166	36·3	36·1	0·2	..	..	..	..	E	ENE	½ constant	1¾	..	..	..	10	..
22	29·174	36·7	36·2	0·5	35·5	1·2	37·1 31·3	36·7 30·7	ENE	ENE	¾ to 1	¾	1·06	0·35	2·550	10	..
Feb. 20. 0	29·190	37·5	37·2	0·3	..	..	..	..	E	E	..	½	..	..	..	10	..
2	29·172	37·5	37·1	0·4	..	..	..	..	ENE	E	..	¾	..	..	..	10	..
4	29·173	37·5	37·2	0·3	36·0	1·5	..	..	E	E	..	¼+	..	..	..	10	..
6	29·198	36·7	36·6	0·1	..	..	..	..	Calm	E	..	¼	..	..	..	10	..
8	29·214	36·8	36·7	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	29·253	36·9	36·7	0·2	37·0	—0·1	..	..	Calm	Calm	..	..	..	..	..	10	..
12	29·267	36·0	36·0	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·254	36·8	36·4	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
16	29·233	37·6	37·5	0·1	37·5	0·1	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·245	39·0	38·7	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
20	29·266	39·5	39·2	0·3	..	..	..	..	Calm	SSE	..	¼	..	..	..	8	..
22	29·298	42·8	42·0	0·8	41·0	1·8	42·9 35·8	46·0 31·9	Calm	S by E	..	¼	1·11	0·08	2·600	1	..
Feb. 21. 0	29·317	47·2	45·7	1·5	..	..	..	..	Calm	S by E	..	¼	..	..	..	1	3rd Qr.
2	29·299	49·1	47·1	2·0	..	..	..	..	Calm	S by E	..	¼	..	..	..	7	..
4	29·298	49·4	47·5	1·9	45·0	4·4	..	..	Calm	S by E	..	¼	..	..	..	8	..
6	29·290	45·2	44·2	1·0	..	..	..	..	Calm	SE	..	¼	..	..	..	5	..
8	29·274	40·7	40·2	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	4	..
10	29·246	39·6	39·3	0·3	39·0	0·6	..	..	Calm	ESE	..	¼	..	..	..	10	..
12	29·212	40·2	39·8	0·4	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
14	29·178	40·5	40·1	0·4	..	..	..	..	NE	Calm	..	..	..	..	..	10	..
16	29·140	40·0	39·8	0·2	39·0	1·0	..	..	NE	ENE	..	¼	..	..	..	10	..
18	29·138	40·9	40·7	0·2	..	..	..	..	Calm	ESE	..	¼	..	..	..	10	..
20	29·151	42·5	42·1	0·4	..	..	..	..	Calm	S	..	¼	..	..	..	10	Transit
22	29·174	43·8	42·8	1·0	42·0	1·8	51·9 39·7	70·3 26·8	SSE	S by E	..	¼	1·25	0·10	2·735	8	..
Feb. 22. 0	29·205	46·6	45·1	1·5	..	..	..	..	Calm	S	..	¼	..	..	..	10	..
2	29·211	49·5	48·1	1·4	..	..	..	..	Calm	S	..	¼	..	..	..	10	..
4	29·218	49·3	47·0	2·3	46·0	3·3	..	..	Calm	SSW	..	¼	..	..	..	9	..
6	29·238	48·0	45·6	2·4	..	..	..	..	Calm	SSW	..	¼	..	..	..	9	Greatest declination S.
8	29·245	44·2	43·0	1·2	..	..	..	..	Calm	SSW	..	¼	..	..	..	1	..

DRY THERMOMETER.

Feb. 20d. The daily range was the smallest in the year.

Feb. 20d and 21d. A great difference of the mean daily temperatures occurred.

TEMPERATURE OF THE DEW POINT.

Feb. 20d. The mean daily value was the same as that of the temperature of the air.

ADDITIONAL WEIGHT OF VAPOUR REQUIRED FOR COMPLETE SATURATION OF A CUBIC FOOT OF AIR.

Feb. 20d. The mean daily value was 0gr·00: this is one of the three days in the year during which the air was quite saturated with moisture.

GENERAL REMARKS.	Observer.
A very slight rain falling: the wind still continues to blow strongly.	G
Overcast: a thin but close rain is falling, and the thaw is going rapidly forward: the wind is also rapidly increasing: at $14^h.12^m$	P
,, rain is still falling, though hardly so fast as before. [the rain increasing and falling in larger drops.	
The same in every respect, with the single exception that the rain is falling faster.	
The same: most of the snow has disappeared during the night: the electrical instruments were not affected by the snow.	P
Overcast: rain falling.	J H
Overcast: rain falling.	
,, ,,	J H
,, a thin rain occasionally falling.	P
,, the air is very moist.	
,, ,, a dense fog has lately risen, and is still increasing in density.	
,, foggy: the air is still very moist.	P
,, ,, ,,	G
The fog has cleared away: a few stars are now and then seen about the zenith: it is remarkably black.	
No fog: the sky overcast and very black: there is occasionally a very gentle air from the S. E.	
No change: a gentle air occasionally passes from the S. E., and the clouds apparently move from the S. W.	
The clouds are much broken, and scud is passing under them from the W.; the clouds became broken about half an hour after the last observation: a large quantity of snow yet remains; in places sheltered from the East wind it is a foot in depth.	G
A few light clouds, principally S. of the zenith.	J H
A few light clouds.	
Cirro-stratus and scud: clouds came up at $1^h.15^m$.	J H
A scuddy kind of cumuli nearly covers the sky: a fine blue sky is seen between them: the motion of the clouds is from the S.	G
Detached, loose clouds, of a woolly nature, are equally distributed over the sky, with the blue sky between them.	
Within 20° of the horizon all round is a uniform dark mass of cloud; above the cloud the stars are shining everywhere, but dimly, and they have a watery appearance.	
The clouds came up from the South, at about $8^h.40^m$, and quite covered the sky; they must, however, be thin about the zenith, as stars have been seen pretty constantly in that direction.	G
Overcast: cirro-stratus.	J H
,, ,, rain falling.	
,, ,, ,,	
,, ,, ,,	
,, rain falling slightly.	J H
Cirro-stratus and scud.	D
Overcast: cirro-stratus and scud.	P
,, ,,	D
Cirro-stratus and scud.	J H
,,	
A few fragments of scud.	

WEIGHT OF A CUBIC FOOT OF AIR.

Feb. 20^d and 21^d. The greatest difference of the mean daily values for consecutive days in the month occurred.

Feb. 22^d. The mean daily value was the least in the month.

MINIMUM THERMOMETER.

Feb. $21^d.22^h$. The reading was higher than that of the Dry Thermometer at 10^h.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0 – 10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Feb. 22. 10	29·262	42·5	42·0	0·5	41·0	1·5	..	..	Calm	SSE	..	¼	..	..	..	0	..
12	29·277	42·6	41·5	1·1	..	..	..	..	S	S	..	¼	..	..	..	1	..
14	29·290	44·4	43·4	1·0	..	..	..	..	SSW	SSW	..	¼	..	..	..	6	..
16	29·297	43·5	42·5	1·0	42·0	1·5	..	..	SSW	Calm	..	..	..	..	..	7	..
18	29·318	43·0	42·1	0·9	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
20	29·350	42·0	41·3	0·7	..	..	..	..	SSW	Calm	..	..	..	..	..	10	Transit
22	29·364	45·6	44·3	1·3	42·2	3·4	50·9 42·3	55·0 35·0	SSW	S by W	..	¼–	1·25	0·02	2·755	10	..
Feb. 23. 0	29·377	47·3	45·0	2·3	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
2	29·374	48·2	46·5	1·7	..	..	..	..	Calm	E	..	¼–	..	..	..	9	..
4	29·374	46·4	44·9	1·5	44·5	1·9	..	..	ENE	ENE	..	¼	..	..	..	7	..
6	29·397	44·7	43·8	0·9	..	..	..	..	ENE	ENE	..	¼	..	..	..	10	..
8	29·410	41·4	41·0	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
10	29·434	38·9	38·6	0·3	38·5	0·4	..	..	E by N	Calm	..	..	..	..	..	0	..
12	29·449	39·0	38·5	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·463	38·2	38·0	0·2	..	..	..	..	E	E	..	¼–	..	..	..	10	..
16	29·464	37·3	37·2	0·1	37·0	0·3	..	..	E	E	..	¼	..	..	..	10	..
18	29·482	36·8	36·5	0·3	..	..	..	..	ENE	E	..	¼	..	..	..	10	..
20	29·511	36·8	36·5	0·3	..	..	..	..	ENE	E by N	..	¼	..	..	..	10	..
22	29·533	37·0	36·2	0·8	34·5	2·5	50·6 36·1	75·2 30·7	ENE	E by N	..	¼	1·25	0·00	2·755	10	Transit
Feb. 24. 0	29·553	38·4	37·5	0·9	..	..	..	..	ENE	E	..	¼	..	..	..	10	..
2	29·534	41·5	39·7	1·8	..	..	..	..	ENE	E	..	¼	..	..	..	8	..
4	29·515	41·5	39·2	2·3	38·0	3·5	..	..	ENE	ENE	0 to ½	¼	..	..	..	10	..
6	29·525	39·4	37·5	1·9	..	..	..	..	ENE	NE	0 to ½	¼+	..	..	..	10	..
8	29·547	37·8	36·8	1·0	..	..	..	..	ENE	NE	0 to ½	¼	..	..	..	10	..
10	29·565	37·2	36·2	1·0	35·0	2·2	..	..	NE	ENE	..	½	..	..	..	10	..
12	29·552	35·6	34·8	0·8	..	..	..	..	NE	E	..	¼	..	..	..	10	..
14	29·534	34·8	34·0	0·8	..	..	..	..	NE	ENE	..	¼	..	..	..	10	..
16	29·523	34·5	33·1	1·4	31·0	3·5	..	..	NE	ENE	..	½	..	..	..	10	..
18	29·501	34·0	32·8	1·2	..	..	..	..	NE	E by N	..	½	..	..	..	10	..
20	29·508	34·2	33·3	0·9	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
22	29·518	35·2	34·4	0·8	34·0	1·2	42·0 34·0	47·0 33·2	NE	ENE	..	½	1·25	0·00	2·755	10	Transit
Feb. 25. 0	29·513	36·1	35·2	0·9	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
2	29·498	36·5	35·5	1·0	..	..	..	..	ENE	ENE	..	¼	..	..	..	10	..
4	29·491	36·0	35·1	0·9	35·8	0·2	..	..	ENE	NE	..	¼	..	..	..	10	..
6	29·508	34·8	34·2	0·6	..	..	..	..	ENE	NE	..	¼	..	..	..	10	..
8	29·512	34·0	33·5	0·5	..	..	..	..	NE	E by N	..	¼	..	..	..	10	..
10	29·520	32·2	32·0	0·2	31·0	1·2	..	..	NNE	ENE	..	¼	..	..	..	10	..
12	29·512	32·2	32·0	0·2	..	..	..	..	NNE	ENE	..	¼	..	..	..	10	..
14	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	29·499	35·7	34·7	1·0	..	..	36·1 32·5	37·0 24·0	Calm	NNE	..	¼	1·49	0·58	3·275	10	Transit
Feb. 26. 0	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..

BAROMETER.

Feb. 24d and 25d. The least difference of the mean daily heights for consecutive days in the month occurred.

Feb. 25d. The daily range was the smallest in the month.

DRY THERMOMETER.

Feb. 23d and 24d. A great difference of the mean daily temperatures occurred.

TEMPERATURE OF THE DEW POINT.

Feb. 23d and 24d. A great difference of the mean daily values occurred.

GENERAL REMARKS.	Observer.
Cloudless: several fine meteors have been observed since $9^h.40^m$: a short time before $9^h.40^m$ a heavy shower of rain fell.	J H
A few clouds in the S. W. and S. near the horizon.	D
The sky S. of the zenith is quite cloudy, the other parts are still nearly clear.	
Cirro-stratus and scud: extensive breaks in the South.	
Overcast: cirro-stratus.	
,, ,,	D
,, cirro-stratus and scud: the clouds occasionally clear away and leave extensive breaks: the cirro-stratus is very thin in every direction.	P
Breaks of small extent in every direction: the clouds in the N. and N. W. are of a darker appearance than those in the other parts of the sky, which are of a light, fleecy character.	
An extensive break in the East, and a few of trifling magnitude near the zenith: scud and cirro-stratus.	P
Cirro-stratus and scud: large breaks N. and N. E. of the zenith.	D
Overcast: cirro-stratus.	
Cloudless: the clouds disappeared at about 7^h.	
,, hazy.	D
,, misty.	P
,, a rather thick fog.	
,, ,,	
,,	
,,	P
,, a small misty rain falling.	J H
Cloudless: a small misty rain falling.	D
Scud and cirro-stratus.	J H
Overcast: cirro-stratus and scud.	P
,, ,,	
,, a very thin misty rain falling.	P
,, very black: a thin misty rain falling.	G
No change.	D
Overcast: very dark.	D
,,	J H
,, gusts of wind.	J H
,, cirro-stratus and scud.	P
Scud passing quickly from the East: a cold misty rain falling.	
Overcast: a few drops of rain falling.	
,, a thin rain falling.	
,, rain falling (thinly).	P
,, light rain falling mixed with sleet.	G
,, rain and sleet falling.	D
,, snow falling.	J H
,, ,,	
,, a rapid thaw: there are about five inches of snow on the level ground.	J H

MAXIMUM THERMOMETER.

Feb. $25^d.22^h$. The reading was lower than that of the Dry Thermometer at 2^h.

MINIMUM THERMOMETER.

Feb. $22^d.22^h$. The reading was higher than that of the Dry Thermometer at 20^h.

Feb. $25^d.22^h$. The reading was higher than those of the Dry Thermometer at 10^h and 12^h.

CLOUDS.

Feb. $23^d.12^h$. From this time to the end of the month the sky was overcast; it is the longest period of cloudy sky in the month.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Feb. 26. 4	29·381	35·7	34·7	1·0	..	..	..	..	E	E by S	..	¼	..	..	..	10	..
6	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	S E	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	ESE	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	..
14	29·063	33·7	32·7	1·0	..	..	..	..	E	E	..	¼	..	..	..	10	..
16	28·981	34·3	33·7	0·6	32·0	2·3	..	..	E	E	0 to 1½	¼	..	..	..	10	..
18	28·931	35·0	34·5	0·5	..	..	..	..	E	E	0 to ½	¼	..	..	..	10	..
20	28·873	35·5	35·0	0·5	..	..	..	..	E	E	0 to ½	¼	..	..	..	10	..
22	28·820	36·6	35·1	1·5	35·5	1·1	37·6 33·4	43·7 29·5	E	E	0 to 2	½	1·49	0·03	3·330	10	..
Feb. 27. 0	28·789	38·6	37·9	0·7	..	..	..	..	ENE	E	½ to 1	¼	..	..	..	10	Transit
2	28·750	39·8	39·0	0·8	..	..	..	..	E	E	½ to 2	¼	..	..	..	10	..
4	28·748	39·0	38·3	0·7	37·5	1·5	..	..	E	E	..	¼	..	..	..	10	..
6	28·733	38·7	38·1	0·6	..	..	..	..	ENE	E	..	¼	..	..	..	10	..
8	28·749	38·6	37·9	0·7	..	..	..	..	ENE	E	..	½	..	..	..	10	..
10	28·756	38·7	38·2	0·5	38·0	0·7	..	..	ENE	E	..	¼	..	..	..	10	..
12	28·767	38·0	37·5	0·5	..	..	..	..	NE	NE	..	½	..	..	..	10	..
14	28·771	38·0	37·1	0·9	..	..	..	..	NE	NE	..	½	..	..	..	10	..
16	28·784	38·0	36·9	1·1	36·5	1·5	..	..	NE	NE	0 to ½	½	..	..	..	10	..
18	28·809	38·0	36·7	1·3	..	..	..	..	NNE	NNE	0 to ½	½	..	..	..	10	..
20	28·866	37·8	36·5	1·3	..	..	..	..	NNE	NNE	0 to 1	½	..	..	..	10	..
22	28·924	38·5	37·0	1·5	35·0	3·5	40·1 36·6	41·0 33·6	NNE	N	1 to 2½	¾	1·59	0·10	3·465	10	..
Feb. 28. 0	28·990	39·5	38·1	1·4	..	..	..	..	N	N	2 to 3½	¾	..	..	..	10	Transit
2	29·050	40·0	38·5	1·5	..	..	..	..	N	N	½ constant	¼+	..	..	..	10	..
4	29·198	40·5	38·1	2·4	36·0	4·5	..	..	N	N	½ to 1	¼	..	..	..	10	..
6	29·198	39·1	37·1	2·0	..	..	..	..	N	N	½ to 1	¼	..	..	..	10	..
8	29·264	37·9	36·4	1·5	..	..	..	..	N	N	..	¼	..	..	..	10	..
10	29·320	36·6	36·3	0·3	36·0	0·6	..	..	N	N	..	¼	..	..	..	10	..
12	29·361	36·5	36·2	0·3	..	..	..	..	N	N	..	¼	1·59	0·02	3·480	10	..
14	29·423	35·5	35·0	0·5	..	..	..	..	NNE	N	..	¼	..	..	..	10	..
16	29·467	35·0	34·0	1·0	32·5	2·5	..	..	NNE	N	..	¼−	..	..	..	10	..
18	29·508	33·5	32·6	0·9	..	..	..	..	NNE	Calm	..	..	..	..	..	10	New
20	29·550	33·0	32·3	0·7	..	..	..	..	N by E	N	..	¼	..	..	..	8	..
22	29·593	34·3	33·4	0·9	31·0	3·3	40·9 33·0	42·7 25·2	N by E	N	..	½	1·59	0·00	3·480	1	..
Mar. 1. 0	29·614	36·6	32·5	4·1	..	..	..	..	NNE	NE	..	½	..	..	..	8	Transit
2	29·627	38·9	35·0	3·9	..	..	..	..	NE	NE	..	½	..	..	..	5	..
4	29·647	36·6	32·2	4·4	31·0	5·6	..	..	NE	ENE	..	¼	..	..	..	4	..
6	29·697	32·0	31·7	0·3	..	..	..	..	E by N	NE	..	¼	..	..	..	10	..
8	29·724	32·0	31·8	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	29·754	32·5	31·8	0·7	31·5	1·0	..	..	Calm	Calm	..	..	..	..	..	10	..

BAROMETER.

Feb. 27d. The mean daily height was the lowest in the month.

Feb. 27d. 6h. The reading was the lowest in the month.

Feb. 28d and March 1d. The greatest difference of the mean daily heights for consecutive days in February and March occurred.

March 1d and 2d. The difference of the mean daily heights was considerable.

DIRECTION OF THE WIND BY THE ANEMOMETER.

March 1d. 4h. 30m. It was E. N. E. and then gradually changed, and at 4h. 55m it was N., and continued at this direction till 5h. 2m; at this time it began to change back again, and at 5h. 12m, it was E. N. E.

GENERAL REMARKS.	Observer.
Overcast: a rapid thaw: the clouds are lighter.	J H
During the day the barometer reading continually decreased, and rather quickly during the evening: by 26d. 5h the reading was a quarter of an inch less than it was at 25d. 12h, and at every inspection of the instrument after this time it was less and less. During the night of Saturday five inches of snow fell, the greater part of which is melted, producing something less than half an inch of water.	G
Overcast.	J H
,,	
,,	
,, a misty rain falling: gusts of wind.	J H
,, rain falling.	D
Overcast: rain falling.	
,, ,,	D
Scud and cirro-stratus: rain falling.	J H
,, ,,	
,, small rain falling.	
Cirro-stratus: rain falling.	J H
,, ,,	D
,, no rain falling.	
,,	
Overcast: cirro-stratus.	
,, ,,	D
,, cirro-stratus and scud: the wind in gusts.	P
Overcast: a thin rain falling.	
,, cirro-stratus and scud.	P
,, ,,	D
,, ,,	
,, ,,	
,, ,, rain falling.	D
,, ,,	P
,, the air is damp and moist.	
,, the night is almost calm, a light air only occasionally rising to subside again.	
,, cirro-stratus and scud: the clouds much broken.	
Loose scud in every direction.	P
Light cumuli and scud: ice is still on the lead over the Library.	J H
Fine white rocky cumuli near the horizon; above them in the S., cirro-stratus and scud prevail, and in the N. a nimbus, from which small frozen particles are falling: occasional patches of blue sky everywhere.	G
Large pyramidal white cumuli near the horizon; detached cumuli, with a fine blue sky between them everywhere else: there have been some fine specimens of cumuli and cirro-cumuli since the last observation: the whole mass of clouds has moved from the E. or the N.E. during the morning.	G
The sky is clear in the zenith, the other portions of it being generally covered with light clouds, with the exception of the N N. W. portion, which is covered with dark, slate-coloured clouds of an electrical appearance: at 4h. 35m hail began to fall, and continued to do so until 5h. 15m, when it changed to snow, which began falling in large flakes.	P
Overcast: snow is falling very thickly, and the ground is already covered: cumulo-strati in the N.W., having an electrical appearance.	
Overcast: the snow ceased falling almost immediately after the last observation; a few stars are occasionally visible in the zenith.	
,, snow has just again began falling thinly: shortly after the observation stars appeared in and near the zenith, the rest of the sky being still overcast: at 10h. 25m the sky became nearly cloudless: foggy.	P

WEIGHT OF A CUBIC FOOT OF AIR.

Feb. 28d and March 1d. The difference of the mean daily values was considerable.

RAIN.

Feb. 28d. 12h. The amount collected during the month of February in the rain-gauge No. 4, was 2in. 39.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Mar. 1. 12	29·782	30·7	30·6	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	In Equator
14	29·805	29·2	29·2	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·813	29·0	29·0	0·0	29·0	0·0	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·828	30·0	29·7	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
20	29·853	30·8	30·2	0·6	..	..	..	..	Calm	NW	..	¼	..	..	..	10	..
22	29·871	32·1	31·1	1·0	27·0	5·1	40·9 29·2	61·8 17·2	NNW	NNW	..	¼	1·59	0·00	3·480	2	..
Mar. 2. 0	29·884	36·7	34·0	2·7	..	..	..	..	NNW	N by W	..	½	..	..	..	3	..
2	29·879	38·7	34·8	3·9	..	..	..	..	NNW	N	..	¼	..	..	..	8	Transit
4	29·881	37·5	34·7	2·8	29·5	8·0	..	..	N	N	..	½	..	..	..	10	..
6	29·905	37·0	34·0	3·0	..	..	..	..	NNW	N	..	¼	..	..	..	9	..
8	29·926	35·0	32·6	2·4	..	..	..	..	NNW	N	..	¼	..	..	..	8	..
10	29·948	33·2	31·5	1·7	30·0	3·2	..	..	NNW	N	..	½	..	..	..	2	..
12	29·936	31·0	30·1	0·9	..	..	..	..	NNW	N	..	½	..	..	..	1	..
14	29·947	30·2	29·2	1·0	..	..	..	..	NNW	N	..	¼	..	..	..	2	..
16	29·965	29·5	28·4	1·1	26·5	3·0	..	..	NNW	N	..	¼	..	..	..	0	..
18	29·965	29·1	28·7	0·4	..	..	..	..	N	N	..	¼	..	..	..	0	..
20	29·973	29·5	29·0	0·5	..	..	..	..	NNE	N by E	..	¼	..	..	..	10	..
22	29·993	31·2	30·3	0·9	30·0	1·2	40·6 29·0	61·8 11·4	NNE	NNE	..	¼	1·59	0·00	3·480	10	..
Mar. 3. 0	30·004	33·9	32·0	1·9	..	..	..	..	N	NNE	..	¼	..	..	..	2	Apogee
2	29·989	38·4	34·2	4·2	..	..	..	..	NNW	N	..	¼	..	..	..	2	Transit
4	29·999	38·1	34·1	4·0	29·5	8·6	..	..	NNW	N	..	¼	..	..	..	9	..
6	30·012	36·5	33·2	3·3	..	..	..	..	N	N	..	¼	..	..	..	8	..
8	30·047	34·0	32·0	2·0	..	..	..	..	N	N	..	¼	..	..	..	0	..
10	30·057	31·5	30·5	1·0	29·0	2·5	..	..	N	N	..	¼	..	..	..	0	..
12	30·099	31·9	31·1	0·8	..	..	..	..	N	N	..	¼	..	..	..	3	..
14	30·122	32·4	31·7	0·7	..	..	..	..	N	N	..	¼	..	..	..	10	..
16	30·139	32·6	31·9	0·7	30·5	2·1	..	..	N	N	..	¼	..	..	..	10	..
18	30·169	32·2	31·5	0·7	..	..	..	..	N	N	..	¼	..	..	..	10	..
20	30·203	31·8	31·1	0·7	..	..	..	..	N	N	..	¼	..	..	..	8	..
22	30·227	34·3	33·2	1·1	32·5	1·8	39·7 31·3	66·7 19·2	N	N	..	¼	1·59	0·00	3·480	9½	..
Mar. 4. 0	30·261	38·1	36·2	1·9	..	..	..	..	N	Calm	..	..	..	..	..	9½	..
2	30·262	39·6	36·5	3·1	..	..	..	..	N by W	N	..	¼	..	..	..	9	Transit
4	30·268	39·5	36·0	3·5	31·0	8·5	..	..	NNW	N	..	¼	..	..	..	10	..
6	30·272	37·5	35·1	2·4	..	..	..	..	Calm	Calm	..	..	..	..	..	4	..
8	30·290	32·2	30·6	1·6	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
10	30·304	31·5	30·2	1·3	30·0	1·5	..	..	Calm	N by W	..	¼	..	..	..	0	..
12	30·304	29·5	31·6	−2·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	30·314	37·0	33·0	4·0	30·0	7·0	41·8 26·5	60·9 15·3	Calm	Calm	..	..	1·59	0·00	3·480	½	..
Mar. 5. 0	..	..	..	..	..	..	..	..	W	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
4	30·266	40·2	36·5	3·7	34·0	6·2	..	..	WSW	WSW	..	¼	..	..	..	10	Transit
6	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..

BAROMETER.

March 4d. 22h. The reading was the highest in the month.

DRY THERMOMETER.

March 3d. The mean daily temperature was the lowest in the month.

March 4d. 12h. The reading is lower than that of the Wet Thermometer; there is no doubt of the incorrectness of the latter, both from the circumstance of its being higher than that of the Dry, and from the relation between it and the preceding readings.

GENERAL REMARKS.	Observer.
Cloudless; stars being visible near the horizon all round, but they are small, and shine dimly.	G
,, there are occasionally light airs from the N.	
,,	
Several clouds near the horizon all round; other clouds about the zenith: the stars are very dull.	
At about $19^h.\ 20^m$ the sky became quite cloudy, and still continues so.	G
Light clouds: hazy.	J H
Cumuli: hazy.	
Cumulo-strati, cumuli, and scud.	J H
,, ,,	G
The sky is almost wholly covered with small cumuli and scud; blue sky is seen in many places; apparently there is no upper cloud.	
The clouds are broken about the zenith, and a few stars are shining; everywhere else the sky is quite cloudy.	
Near the horizon, in the N. and N.W., there are a few clouds; with that exception it is cloudless.	G
Vapour: hazy.	J H
Vapour in every direction.	
Cloudless: the stars shine dimly.	
,, very clear.	
Overcast: cirro-stratus.	J H
,,	D
The clouds broke at $22^h.\ 40^m$: at present, cumuli are scattered in various parts of the sky.	
Cumuli scattered as at the last observation.	D
Cirro-stratus and scud.	J H
,,	
Cloudless: hazy. [N. N. E. to S. S.W.	
,, but the stars appear dim and watery in many parts of the sky: several meteors have been observed since $8^h.\ 0^m$, moving	J H
Heavy vapour S. of the zenith, and cirro-stratus near the horizon in the S.W.: the stars in all other parts of the sky look dim.	D
Overcast: cirro-stratus.	
,, ,,	
,, ,,	
Cirro-stratus: blue sky N. of the zenith, and in the N. E. horizon.	D
A single break only, N.W. of the zenith, though others are repeatedly taking place; the rest of the sky is covered with loose scud and cirro-stratus.	P
Cirro-stratus and scud covering the greater part of the sky, a few small breaks being scattered here and there.	
A single break in the East, cirro-stratus and scud covering the rest of the heavens.	P
Overcast: cirro-stratus.	D
The northern portion of the sky is quite clear; in the other parts fleecy clouds are prevalent.	
Cloudless: hazy.	
,, ,,	D
,, the haze has wholly disappeared.	P
A few light clouds S. of the zenith: a fine morning.	D
Overcast: cirro-stratus.	D

TEMPERATURE OF THE DEW POINT.

March 2d. 16h. This reading was the lowest in the month; the same reading occurred on the 7th day at 10h.

March 3d. The mean daily value was the lowest in the month.

ELASTIC FORCE OF VAPOUR AND WEIGHT OF VAPOUR IN A CUBIC FOOT OF AIR.

March 3d. The mean daily values were the least in the month.

MINIMUM THERMOMETER.

March 1d. 22h. The reading was higher than that of the Dry Thermometer at 16h.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Mar. 5. 8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	30·220	34·2	32·2	2·0	..	..	..	..	Calm	S	..	¼	..	..	..	10	..
16	30·198	35·0	33·2	1·8	31·0	4·0	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·180	35·1	33·4	1·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·179	36·5	34·6	1·9	..	..	..	..	Calm	SSW	..	¼	..	..	..	10	..
22	30·181	39·0	36·7	2·3	32·0	7·0	43·8 33·2	61·0 22·7	Calm	SW by S	..	¼	1·59	0·00	3·480	10	..
Mar. 6. 0	30·181	40·2	38·0	2·2	..	..	..	..	Calm	SSW	..	¼	..	..	..	10	..
2	30·158	41·3	39·0	2·3	..	..	..	..	Calm	SSW	..	¼	..	..	..	10	..
4	30·145	42·0	39·5	2·5	36·5	5·5	..	..	Calm	Calm	..	..	..	..	..	10	Transit
6	30·148	40·0	38·0	2·0	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
8	30·155	35·5	34·5	1·0	..	..	..	..	Calm	SSW	..	¼	..	..	..	3	..
10	30·153	31·8	31·3	0·5	31·0	0·8	..	..	Calm	SSW	..	¼	..	..	..	0	..
12	30·147	30·4	29·5	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	30·143	29·0	28·5	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	30·116	29·2	31·0	−1·8	27·0	2·2	..	..	Calm	Calm	..	..	..	..	..	0	..
18	30·117	27·5	27·7	−0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	30·126	28·1	28·1	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
22	30·122	35·0	31·5	3·5	28·0	7·0	43·6 26·7	53·0 12·5	Calm	SW	..	¼	1·59	0·00	3·480	0	..
Mar. 7. 0	30·119	39·8	36·4	3·4	..	..	..	..	ENE	E	..	¼	..	..	..	2	..
2	30·155	41·5	38·1	3·4	..	..	..	..	ENE	E	..	¼	..	..	..	1	..
4	30·098	41·5	38·2	3·3	35·5	6·0	..	..	ENE	E	..	½	..	..	..	0	..
6	30·094	37·2	35·0	2·2	..	..	..	..	ENE	E	..	¼	..	..	..	0	Transit
8	30·104	33·0	31·8	1·2	..	..	..	..	ENE	Calm	..	..	..	..	..	0	..
10	30·111	32·5	29·7	2·8	26·5	6·0	..	..	ENE	Calm	..	..	..	..	..	0	..
12	30·113	31·1	30·8	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	30·124	29·7	30·8	−1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
16	30·129	30·5	30·2	0·3	28·0	2·5	..	..	Calm	Calm	..	..	..	..	..	4	..
18	30·142	30·7	30·5	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
20	30·171	32·2	31·7	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
22	30·187	35·6	34·7	0·9	34·0	1·6	42·9 29·3	67·0 17·8	NE	NE	..	¼	1·59	0·00	3·480	0	..
Mar. 8. 0	30·212	40·6	37·9	2·7	..	..	..	..	NE	NE	..	¼	..	..	..	5	..
2	30·219	42·3	39·1	3·2	..	..	..	..	NE	ENE	..	¼	..	..	..	7	..
4	30·229	41·8	38·7	3·1	34·0	7·8	..	..	ENE	E	..	¼	..	..	..	3	..
6	30·226	38·0	36·0	2·0	..	..	..	..	ENE	E by N	..	¼	..	..	..	½	Transit
8	30·240	33·7	32·5	1·2	..	..	..	..	Calm	E by N	..	¼	..	..	..	0	..
10	30·249	32·0	31·2	0·8	30·0	2·0	..	..	Calm	E	..	¼	..	..	..	¼	..
12	30·279	32·1	30·9	1·2	..	..	..	..	ENE	ENE	..	¼	..	..	..	10	..
14	30·272	32·4	31·2	1·2	..	..	..	..	ENE	ENE	..	¼	..	..	..	10	..
16	30·265	32·8	31·4	1·4	30·0	2·8	..	..	ENE	ENE	..	¼	..	..	..	10	..
18	30·269	33·0	32·5	0·5	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
20	30·278	33·5	32·0	1·5	..	..	..	..	ENE	E	..	¼	..	..	..	10	..
22	30·288	34·1	32·5	1·6	32·0	2·1	44·1 31·5	62·7 21·0	E	E by N	..	¼	1·59	0·00	3·480	10	1st Qr.
Mar. 9. 0	30·285	36·3	34·8	1·5	..	..	..	..	E	E	..	(¼)	..	..	..	10	Greatest declination N.
2	30·261	38·0	36·0	2·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..

BAROMETER.

March 9d. The mean daily height was the greatest in the month.

DRY THERMOMETER.

March 6d. 16h. The reading was lower than that of the Wet Thermometer; but the latter is undoubtedly erroneous, arising most probably from the circumstance of imperfect formation of ice on the bulb: the readings were correct.

March 6d. 18h. The reading was the lowest in the month; it was lower than that of the Wet Thermometer.

March 7d. 14h. The reading was less than that of the Wet Thermometer: the readings were correct.

GENERAL REMARKS.	Observer.
Overcast.	P
,,	
,,	
,,	P
,, cirro-stratus and scud: nearly calm.	J H
,, ,,	
,, ,,	J H
,, stratus.	P
Breaks of small extent in every direction,	
Scud in the S. S.W. extending to the zenith.	
Cloudless.	P
,,	
,, frost.	
,, rime collecting.	
,,	G
,, this has been a very fine night, the sky being clear without intermission: frost throughout the night.	G
Cloudless.	J H
A few light cumuli, principally E. of the zenith.	
A few light cumuli in various directions: a very fine day.	J H
A few cumuli near the North horizon, but scarcely to any numerical extent.	G
Cloudless.	
,,	
,,	G
,,	J H
Heavy vapour.	
,,	
Scud and vapour.	
,,	J H
Cloudless.	D
Cumuli scattered equally about the sky. [of the heavens.	
The greater part of the sky N.E. of the zenith is clear; cirro-stratus and cumulo-stratus are generally prevalent over the remainder	D
Cumuli and fleecy clouds.	J H
A few cumuli low in the western horizon.	
Cloudless.	
A few light cirri W. of the zenith.	J H
Overcast: cirro-stratus.	D
,, ,,	
,, ,,	
,,	
,,	D
,,	P
,,	
,,	P

ADDITIONAL WEIGHT OF VAPOUR REQUIRED FOR COMPLETE SATURATION OF A CUBIC FOOT OF AIR.
March 8d. The mean daily value was the smallest in the month; the same amount took place on the 15th day.

WEIGHT OF A CUBIC FOOT OF AIR.
March 9d. The mean daily value was the greatest in the month.

AMOUNT OF CLOUDS.
March 7d. The mean daily value was the least in the month; it is one of the five days in the year considered cloudless.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Mar. 9. 4	30·256	37·4	35·0	2·4	33·0	4·4	..	..	Calm	Calm	..	..	..	..	..	10	..
6	30·254	36·1	34·6	1·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	30·254	35·6	34·0	1·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
10	30·236	31·4	30·4	1·0	30·0	1·4	..	..	Calm	Calm	..	..	..	..	..	0	..
12	30·213	31·2	30·4	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·189	31·7	31·1	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
16	30·157	31·8	31·1	0·7	30·5	1·3	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·136	33·2	32·1	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·100	34·8	33·4	1·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·090	38·5	36·7	1·8	34·5	4·0	39·2 29·9	42·8 17·2	Calm	SSW	..	¼	1·59	0·00	3·480	10	..
Mar. 10. 0	30·048	42·3	39·7	2·6	..	..	..	..	Calm	SSW	..	¼	..	..	..	10	..
2	30·009	42·7	39·8	2·9	..	..	..	..	Calm	SSW	..	¼	..	..	..	10	..
4	29·954	42·0	40·0	2·0	39·0	3·0	..	..	SSW	SSW	..	¼	..	..	..	10	..
6	29·962	40·5	38·2	2·3	..	..	..	..	Calm	SSW	..	¼	..	..	..	10	..
8	30·057	38·5	36·8	1·7	..	..	..	..	Calm	SSW	..	¼	..	..	..	10	Transit
10	29·965	37·4	36·1	1·3	35·0	2·4	..	..	Calm	SSW	..	¼	..	..	..	10	..
12	29·988	35·8	34·8	1·0	..	..	..	..	Calm	S	..	¼	..	..	..	10	..
14	30·008	33·5	32·5	1·0	..	..	..	..	Calm	S	..	¼	..	..	..	9	..
16	30·001	35·0	34·0	1·0	33·0	2·0	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·044	35·0	34·0	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·056	35·6	34·2	1·4	..	..	..	..	Calm	SW	..	¼	..	..	..	10	..
22	30·082	39·6	36·6	3·0	32·0	7·6	43·6 33·7	45·8 22·3	Calm	Calm	..	..	1·59	0·00	3·480	10	..
Mar. 11. 0	30·099	43·1	39·6	3·5	..	..	..	..	Calm	S by E	..	¼	..	..	..	8	..
2	30·066	44·5	41·0	3·5	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
4	30·055	44·4	40·8	3·6	32·5	11·9	..	..	Calm	Calm	..	..	..	..	..	10	..
6	30·032	42·8	40·0	2·8	..	..	..	..	Calm	W	..	¼	..	..	..	10	..
8	30·038	41·5	39·1	2·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
10	30·017	41·0	38·4	2·6	38·0	3·0	..	..	Calm	Calm	..	..	..	..	..	10	..
12	29·996	40·0	38·3	1·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	...	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	...	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	...	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	...	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	29·816	43·9	43·0	0·9	..	..	45·6 39·7	57·2 35·4	Calm	WSW	..	¼	1·59	0·00	3·480	10	..
Mar. 12. 0	...	..	..	..	..	..	..	..	WSW	...	0 to 1	..	..	..	..	..	..
2	...	..	..	..	..	..	..	..	WSW	...	½ to 1	..	..	..	..	..	..
4	29·671	48·0	46·3	1·7	..	..	..	..	WSW	WSW	½ to 2	½	..	..	..	10	..
6	...	..	..	..	..	..	..	..	SW	...	½ to 1	..	..	..	..	..	..
8	29·627	47·5	46·0	1·5	..	..	..	..	WSW	WSW	½ to 2	½	..	..	..	10	..
10	...	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	Transit
12	...	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
14	29·610	43·2	42·5	0·7	..	..	..	..	W	WNW	..	¼	..	..	..	3	..
16	29·602	39·2	38·5	0·7	36·0	3·2	..	..	Calm	WNW	..	¼	..	..	..	1	..
18	29·612	36·8	35·5	1·3	..	..	..	..	Calm	WSW	..	¼	..	..	..	1	..
20	29·618	35·8	35·8	0·0	..	..	..	..	Calm	WSW	..	¼	..	..	..	1	..
22	29·627	42·6	40·2	2·4	38·0	4·6	50·2 35·3	54·5 27·8	WSW	W	..	(¼)	1·59	0·00	3·480	1	..

BAROMETER.

March 10d. 8h. The reading appears to be wrong, as compared with the adjacent readings: on examining the original reading, which was 30in·101, it seems probable that a transposition has taken place in the figures, and that the true reading was 30in·011, and if so, the corrected reading would be 29in·967: the number used in subsequent calculations has been 30in·057.

March 10d and 11d. The least difference of the mean daily heights for consecutive days in the month occurred.

GENERAL REMARKS.	Observer.
Overcast.	D
,,	
,, the clouds are lighter S. E. of the zenith.	
Cloudless: hazy: the clouds cleared away gradually since the last observation.	D
Overcast: the sky has been alternately clear and cloudy since 10^h, and it became wholly overcast shortly before this observation: the clouds move from the S.	P
A few stars are faintly shining in the zenith and S. E. of it; the rest of the sky is overcast.	
Overcast.	
,,	P
,,	
,,	J H
Overcast.	J H
,,	P
,,	
,,	
,, a few drops of rain.	J H
,,	P
The sky is quite covered with clouds, which are thinner in some places than in others: the Moon is visible imbedded in cloud.	G
Overcast, with the exception of a little clear sky in the N.W.: since the last observation the sky continued cloudless for about half an hour.	
,, very black indeed: quite cloudy since the last observation.	
No change since the last observation.	G
,,	
Overcast.	J H
Cumuli and scud: hazy.	
,, hazy N. of the zenith.	J H
The sky is covered with a thin cloud and scud; there are occasionally gentle airs from the West.	G
Overcast: she became obscured.	
Since the last observation it has been quite cloudy; the Moon, however, has always been visible till within ten minutes since, when	G
Overcast.	D
,, one impervious cloud.	J H
,, cirro-stratus.	P
Overcast: cirro-stratus.	D
,, ,, the wind is in moderate gusts.	P
White fleecy clouds moving from the N.W by W.	J H
,,	
A few small clouds in the E. horizon.	
A few light clouds.	J H
Cirri in different parts of the sky: rather hazy.	P

March $12^d.\ 21^h$ to 22^h. Mr. Glaisher observed two coronæ around the Sun, exhibiting the prismatic colours; the one near the Sun was at the distance of about the Sun's diameter from him, and it was yellow; the radius of the other was about 3°, the outermost part red, the next light green, the next blue, and then violet, with a faint inner circle of red: between 23^h and 24^h exactly the same phenomena were exhibited.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Raingauge No. 1, (Osler's)	RAIN. Reading of Raingauge No. 2.	RAIN. Stand of Raingauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Mar. 13. 0	29·624	48·5	44·0	4·5	..	..	..	..	WSW	WSW	0 to 1½	½	..	..	..	5	..
2	29·593	50·5	46·2	4·3	..	..	..	..	WSW	WSW	0 to 2	½	..	..	..	9	..
4	29·571	50·0	45·1	4·9	37·5	12·5	..	..	WSW	W	0 to 2	¾	..	..	..	10	..
6	29·557	47·2	43·5	3·7	..	..	..	..	WSW	W	..	½	..	..	..	10	..
8	29·537	45·0	42·5	2·5	..	..	..	..	SW	W	..	½	..	..	..	10	..
10	29·498	42·7	41·9	0·8	41·0	1·7	..	..	SSW	W	..	¼	..	..	..	10	Transit
12	29·430	44·0	43·1	0·9	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
14	29·364	45·5	45·0	0·5	..	..	..	..	SSW	SSW	½ to 1½	¾	..	..	..	10	..
16	29·313	47·0	46·1	0·9	46·0	1·0	..	..	SW	SW	1 to 4	1	..	..	..	10	..
18	29·316	46·1	45·6	0·5	..	..	..	..	SW	SW	0 to ½	½	..	..	..	10	..
20	29·321	47·1	46·4	0·7	..	..	..	..	WSW	SW	..	½	..	..	..	10	..
22	29·363	50·0	47·3	2·7	46·0	4·0	51·2 42·7	72·0 38·9	WSW	W by N	..	½	1·67	0·07	3·606	8	..
Mar. 14. 0	29·397	52·2	48·0	4·2	..	..	..	..	WSW	W	2 to 4	½	..	..	..	9¾	..
2	29·425	52·2	48·3	3·9	..	..	..	..	WSW	W	0 to ½	¼+	..	..	..	10	..
4	29·442	55·0	49·8	5·2	44·5	10·5	..	..	WSW	WSW	2 to 3	½	..	..	..	8	..
6	29·475	51·1	47·6	3·5	..	..	..	..	WSW	WSW	..	¼	..	..	..	9	..
8	29·504	48·6	47·2	1·4	..	..	..	..	Calm	WSW	..	¼	..	..	..	10	..
10	29·518	47·8	46·6	1·2	46·5	1·3	..	..	SW	SW	..	½	..	..	..	10	..
12	29·515	47·8	47·0	0·8	..	..	..	..	SW	SW	..	¼+	..	..	..	10	Transit
14	29·516	48·0	47·0	1·0	..	..	..	..	WSW	SW	0 to 2	½	..	..	..	10	..
16	29·520	48·0	47·0	1·0	47·0	1·0	..	..	SW	SW	..	½	..	..	..	10	..
18	29·534	48·5	47·8	0·7	..	..	..	..	WSW	SW	..	¼+	..	..	..	10	..
20	29·577	49·0	48·8	0·2	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
22	29·674	44·7	44·0	0·7	43·5	1·2	55·4 44·0	70·3 42·0	NNE	NNE	..	¼	1·67	0·00	3·615	10	..
Mar. 15. 0	29·729	45·7	44·5	1·2	..	..	..	..	N	NNE	..	¼	..	..	..	10	..
2	29·759	46·5	45·0	1·5	..	..	..	..	Calm	NNE	..	¼−	..	..	..	10	..
4	29·781	48·5	45·8	2·7	45·0	3·5	..	..	WNW	Calm	..	..	..	..	..	10	..
6	29·811	47·9	46·3	1·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	29·831	47·2	45·6	1·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	29·843	46·5	45·8	0·7	45·5	1·0	..	..	Calm	Calm	..	..	..	..	..	10	In Equator
12	29·849	46·2	46·0	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
14	29·862	46·3	46·1	0·2	..	..	..	..	Calm	WSW	..	¼−	..	..	..	10	..
16	29·857	46·8	46·5	0·3	45·5	1·3	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·875	46·7	46·5	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Full
20	29·892	47·7	47·3	0·4	..	..	..	..	Calm	WSW	..	¼−	..	..	..	10	..
22	29·907	49·5	48·6	0·9	49·0	0·5	49·7 45·3	52·5 42·8	Calm	WSW	..	¼	1·67	0·02	3·640	10	..
Mar. 16. 0	29·916	51·2	49·8	1·4	..	..	..	..	Calm	Calm	.	..	..	..	..	10	Perigee
2	29·889	55·5	52·3	3·2	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
4	29·889	53·3	51·6	1·7	50·0	3·3	..	..	Calm	Calm	..	..	..	..	..	10	..
6	29·875	52·2	50·8	1·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	29·871	48·0	46·1	1·9	..	..	..	..	Calm	Calm	..	..	..	..	..	½	..
10	29·869	43·5	42·3	1·2	40·0	3·5	..	..	Calm	Calm	..	..	..	..	..	5	..
12	29·857	40·9	40·5	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	9½	..
14	29·824	40·2	39·7	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	9	Transit
16	29·798	40·5	40·1	0·4	40·0	0·5	..	..	Calm	Calm	..	..	..	..	..	5	..
18	29·795	40·2	39·7	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..

BAROMETER.

March 14d and 15d. The difference of the mean daily heights was considerable.

DRY THERMOMETER.

March 13d and 14d. The difference of the mean daily temperatures was considerable.

March 15d. The daily range was the smallest in the month.

GENERAL REMARKS.	Observer.
Cumuli scattered over the sky.	D
Cirro-stratus and scud.	D
,,	J H
,,	
Overcast: cirro-stratus: the Moon is just visible.	
,, the Moon is just visible: a halo faintly seen.	J H
,, slight rain falling.	D
,, rain falling.	
,, gusts of wind to 1½: at 16h. 20m the wind blew steadily for a short time recording a pressure of 6lbs. on the square foot.	
,, cirro-stratus and scud.	
,, ,, a thin misty rain falling.	D
Scud flying rapidly from W. by N., also cumuli from the same quarter: nimbi continually floating over the zenith: wind blowing in gusts.	P
Nearly overcast, there being a few small breaks only in the N. N.W.: the wind in rather heavy gusts.	
Overcast: cirro-stratus and scud: the wind in moderate gusts (it has lulled much since the preceding observation) to ¾.	P
Cirro-stratus and scud.	D
,, a little rain fell after the observation.	
,, the Moon's place visible.	
Overcast.	D
,, cirro-stratus and scud: a thin rain falling.	P
,, ,, a surging wind.	
,, ,,	
,, ,,	
,, ,, rain falling: foggy.	P
,, a small rain falling.	J H
Overcast: the rain ceased falling at 22h. 40m.	
,, a great gloom has prevailed since 0h; hazy and thick in the N. & N. E., but much lighter in other directions.	J H
,, foggy; very gloomy.	P
,, the fog has disappeared: gloomy.	
,, a few drops of rain falling: gloomy.	
,, rain falling.	P
,, drizzling rain.	J H
,, ,,	
,, the rain has ceased falling.	
,, cirro-stratus.	
,, ,,	J H
,, ,,	D
Overcast: cirro-stratus.	P
Cumulo-strati, with cirro-stratus and scud: a break or two in and about the zenith.	P
Overcast: cirro-stratus.	J H
Cirro-stratus and scud: the clouds move from the S., and the vanes point S. E.	
Cloudless, with the exception of a few small clouds in the north-west, near the horizon.	
Light clouds and vapour: a halo around the Moon, its diameter being 48°.	J H
Cirro-stratus: the Moon is shining through the clouds.	D
,, ,,	
Light clouds and vapour	
Cloudy in the horizon in the W. and S.; otherwise clear.	

TEMPERATURE OF THE DEW POINT.

March 13d and 14d. The difference of the mean daily values was considerable.

March 15d. The difference between its mean daily value and that of the temperature of the air was the smallest in the month; the same difference took place on the 16th day.

DEGREE OF HUMIDITY.

March 15d. The mean daily value was the greatest in the month.

CLOUDS.

March 14d. 8h to 16d. 6h. The sky was covered with clouds; it is the longest period of cloudy sky in the month.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Mar. 16. 20	29·802	38·8	38·8	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
22	29·788	49·3	47·9	1·4	47·5	1·8	56·5 36·7	68·8 28·0	Calm	Calm	..	..	1·67	0·00	3·640	½	..
Mar. 17. 0	29·787	56·6	52·6	4·0	..	..	..	..	Calm	SSW	..	¼	..	..	..	¾	..
2	29·760	60·5	54·4	6·1	..	..	..	..	WSW	WSW	..	¼	..	..	..	0	..
4	29·746	59·2	53·1	6·1	49·0	10·2	..	..	Calm	SW	..	¼	..	..	..	0	..
6	29·748	55·8	51·8	4·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
8	29·758	49·4	47·0	2·4	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
10	29·760	45·1	44·5	0·6	45·0	0·1	..	..	Calm	Calm	..	..	..	..	..	4	..
12	29·751	44·0	43·2	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
14	29·749	42·8	42·5	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	0	Transit
16	29·711	39·2	39·1	0·1	39·0	0·2	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·724	38·5	38·5	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	29·742	37·8	38·0	−0·2	..	..	..	..	Calm	SW	..	¼	..	..	..	0	..
22	29·770	47·0	44·7	2·3	42·5	4·5	62·4 36·9	79·4 25·7	Calm	Calm	..	..	1·67	0·00	3·640	0	..
Mar. 18. 0	29·771	56·5	52·7	3·8	..	..	..	..	Calm	WSW	..	¼	..	..	..	1	..
2	29·760	59·8	54·4	5·4	..	..	..	..	Calm	Calm	..	..	..	..	..	4	..
4	29·750	61·7	55·8	5·9	51·0	10·7	..	..	Calm	Calm	..	..	..	..	..	0	..
6	29·756	58·2	51·8	6·4	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
8	29·759	53·0	50·1	2·9	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
10	29·764	48·0	47·4	0·6	47·5	0·5	..	..	Calm	Calm	..	..	..	..	..	0	..
12	29·778	44·1	43·7	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	29·793	45·0	44·7	0·3	..	..	63·7 39·7	84·8 29·7	ENE	NE	..	¼	1·67	0·00	3·640	10	..
Mar. 19. 0	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
4	29·753	43·0	42·5	0·5	..	..	..	..	ENE	NE	..	¼	..	..	..	10	..
6	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	..
14	29·653	43·5	43·5	0·0	..	..	..	..	ENE	ENE	..	¾	..	..	..	10	..
16	29·620	42·5	42·5	0·0	42·0	0·5	..	..	E	ENE	..	½	..	..	..	10	Transit
18	29·602	42·0	41·9	0·1	..	..	..	..	E	ENE	..	½	..	..	..	10	..
20	29·574	42·0	41·9	0·1	..	..	..	..	E	ENE	..	¼	..	..	..	7	..
22	29·558	49·2	48·3	0·9	48·0	1·2	50·2 41·2	65·8 35·2	E	NE	..	¼	1·67	0·00	3·640	3	..
Mar. 20. 0	29·534	56·5	53·0	3·5	..	..	..	..	E	E	..	¼	..	..	..	½	..
2	29·496	58·5	54·5	4·0	..	..	..	..	E	E	..	¼	..	..	..	1	..
4	29·455	55·3	52·0	3·3	49·0	6·3	..	..	ESE	ESE	..	¼	..	..	..	3	..
6	29·431	57·0	52·0	5·0	..	..	..	..	Calm	SE	..	¼	..	..	..	4	..
8	29·412	52·0	49·1	2·9	..	..	..	..	Calm	SSE	..	¼	..	..	..	1	..
10	29·402	52·5	49·7	2·8	48·0	4·5	..	..	Calm	SE	..	¼	..	..	..	10	..

DRY THERMOMETER.

March 17d. 20h. The reading was lower than the reading of the Wet Thermometer.

March 18d. The daily range was the largest in the month.

March 18d. 4h. The reading was the highest in the month.

March 18d. 6h. The greatest difference between its reading and that of the Wet Thermometer during the month occurred; this is the first instance since 1842, Sep. 30d. 2h, of so large a difference.

GENERAL REMARKS.	Observer.
Light clouds.	D
A few cirrus clouds in the N.W.; otherwise cloudless: hazy.	P
Cirri in different directions, and a few cumuli in the N.W. horizon; also a few light clouds in the eastern horizon.	
Nearly cloudless: a single small cirrus cloud S. of the zenith, but to no numerical amount.	P
Cloudless: a very fine day.	D
,, ,, immediately after this observation, a phenomenon, having the appearance of a curiously formed cloud, appeared in the W. (This proved to be the tail of the Great Comet of 1843.)	
Cloudless: a train of light, mentioned at the last observation, was seen. (See the volume of Astronomical Observations.)	
Cirri in the zenith: cirro-stratus in the S. E.	D
Cirri in various directions; scud and cirro-stratus in the S. and S.E.	P
Cloudless.	
,,	
,, heavy vapour.	
,, ,,	P
,, hazy.	J H
Vapour: hazy: a solar halo has been visible since the last observation, its diameter was 46°.	
Vapour, and a light fog, or a kind of blue mist.	J H
Cloudless, but the vapour is heavy in the horizon; also a light fog.	P
,, but still very hazy in the whole horizon: the Sun is imbedded in mist and vapour.	
,, the tail of the Great Comet was visible.	
,, the tail of the Comet has disappeared: hazy: a thin fog in the low ground.	P
Vapour, principally about the Moon.	J H
Overcast: a misty, damp air: the moisture is dripping from the trees.	
,, a damp air.	
,, a misty, damp air.	
,, ,,	
,, ,,	
Vapour and light scud, principally East of the zenith.	J H
Scud and cirri in every direction; the scud is chiefly in the East.	P
A few cirri N. of the zenith; otherwise cloudless.	D
A few light clouds.	D
Light clouds: hazy in the North.	J H
,,	
Scud West of the zenith: a careful search has been made for any appearance of the stream of light observed frem the Magnetic Grounds on Friday and Saturday evenings, the (17th and 18th) but nothing bearing any resemblance to it has been perceived.	
Overcast: rain fell between $9^h.\ 25^m$ and $9^h.\ 40^m$; no rain at the present time.	J H

TEMPERATURE OF THE DEW POINT.

March $18^d.\ 4^h$. This was the highest reading in the month: at $21^d.\ 4^h$ and $23^d.\ 22^h$ the same reading occurred.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Mar. 20. 12	29·380	51·6	49·2	2·4	..	..	..	..	S	S	..	¼	..	..	..	3	..
14	29·378	49·2	47·9	1·3	..	..	..	..	S by E	S	..	¼	..	..	..	2	..
16	29·376	48·6	47·5	1·1	47·0	1·6	..	..	S	S	..	¼	..	..	..	10	..
18	29·377	45·6	45·0	0·6	..	..	..	..	S	S	..	¼	..	..	..	1	Transit
20	29·385	47·6	46·9	0·7	..	..	..	..	S	S	..	¼	..	..	..	3	..
							60·3	80·7									
22	29·372	53·8	50·5	3·3	48·5	5·3	45·7	37·7	S	S by E	..	¼	1·67	0·00	3·645	6	..
Mar. 21. 0	29·356	56·4	52·2	4·2	..	..	..	..	SE	SSE	½ to 2½	½	..	..	..	8	..
2	29·322	57·1	52·5	4·6	..	..	..	..	SSE	S by E	0 to 1	½	..	..	..	7	..
4	29·318	56·4	51·6	4·8	48·0	8·4	..	..	SSE	S	½ to 1½	½	..	..	..	9	..
6	29·320	55·1	51·1	4·0	..	..	..	..	Calm	S by E	..	¼	..	..	..	6	..
8	29·318	51·7	49·2	2·5	..	..	..	..	Calm	SSE	..	¼	..	..	..	10	..
10	29·300	50·6	48·0	2·6	47·5	3·1	..	..	Calm	SSE	..	¼	..	..	..	3	..
12	29·281	52·6	49·0	3·6	..	..	..	..	SSE	SSE	..	½	..	..	..	10	Greatest declination S.
14	29·267	51·9	49·2	2·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·243	50·9	48·5	2·4	46·5	4·4	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·257	50·4	48·3	2·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
20	29·287	48·0	47·7	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
							59·2	75·5									
22	29·310	53·8	50·8	3·0	48·5	5·3	48·9	41·8	Calm	S by E	..	¼	1·76	0·13	3·805	9	..
Mar. 22. 0	29·322	56·7	53·0	3·7	..	..	..	..	Calm	S by E	..	¼	..	..	..	9	..
2	29·318	58·7	54·3	4·4	..	..	..	..	SE	S by W	..	½	..	..	..	8	..
4	29·317	55·3	52·8	2·5	51·0	4·3	..	..	Calm	S by E	..	¼	..	..	..	10	..
6	29·311	55·7	53·0	2·7	..	..	..	..	Calm	ESE	..	¼	..	..	..	3	..
8	29·278	52·0	50·2	1·8	..	..	..	..	E	SE	..	¼	..	..	..	2	..
10	29·277	50·6	49·1	1·5	50·0	0·6	..	..	ENE	Calm	..	..	..	..	..	8	..
12	29·265	54·2	50·8	3·4	..	..	..	..	Calm	S	..	½	..	..	..	10	3rd Qr.
14	29·241	50·5	49·2	1·3	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
16	29·262	50·2	49·0	1·2	48·0	2·2	..	..	Calm	S	..	¼	..	..	..	10	..
18	29·284	50·0	48·5	1·5	..	..	..	..	Calm	S	..	¼	..	..	..	10	..
20	29·307	50·5	48·1	2·4	..	..	..	..	S	S	0 to 2	½	..	..	..	7	Transit
							60·4	77·0									
22	29·350	52·5	50·0	2·5	47·0	5·5	48·9	41·0	S	SW	0 to ½	½	1·76	0·00	3·805	10	..
Mar. 23. 0	29·381	54·0	51·0	3·0	..	..	..	..	SSW	S	0 to ½	½	..	..	..	10	..
2	29·411	55·1	51·0	4·1	..	..	..	..	S by W	S	..	¼	..	..	..	9¾	..
4	29·424	55·4	51·2	4·2	46·0	9·4	..	..	Calm	SW	..	¼	..	..	..	9	..
6	29·451	53·2	49·5	3·7	..	..	..	..	Calm	SSW	..	¼	..	..	..	1	..
8	29·448	49·7	46·6	3·1	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
10	29·466	46·8	45·5	1·3	44·0	2·8	..	..	E by N	NE	..	½	..	..	..	½	..
12	29·454	45·6	44·9	0·7	..	..	..	..	E	E	..	¼	..	..	..	½	..
14	29·449	45·0	44·4	0·6	..	..	..	..	ENE	E	..	¼	..	..	..	½	..
16	29·424	48·0	47·5	0·5	47·5	0·5	..	..	E	E	..	¼	..	..	..	10	..
18	29·431	49·8	49·2	0·6	..	..	..	..	ENE	E	½ to 3½	¾	..	..	..	10	..
20	29·437	48·7	48·2	0·5	..	..	..	..	ENE	ENE	½ to 3	¾	..	..	..	10	Transit
							57·0	71·8									
22	29·463	54·3	52·2	2·1	51·0	3·3	44·9	36·2	E	E	..	¼	1·76	0·00	3·830	8	..
Mar. 24. 0	29·463	58·5	52·7	5·8	..	..	..	..	ESE	E	0 to ½	½	..	..	..	8	..
2	29·483	60·0	53·8	6·2	..	..	..	..	SE	E	0 to 1	¾	..	..	..	8	..
4	29·512	58·5	52·5	6·0	45·0	13·5	..	..	SE	ESE	½ to 1	¾	..	..	..	9	..

BAROMETER.

March 21d, 16h. The reading was the lowest in the month.

March 22d. The mean daily height was the lowest in the month.

DRY THERMOMETER.

March 22d. The mean daily temperature was the highest in the month.

March 24d and 25d. The greatest difference in the mean daily temperatures for consecutive days in the month occurred.

TEMPERATURE OF THE DEW POINT.

March 24d and 25d. The greatest difference of the mean daily values for consecutive days in the month occurred.

GENERAL REMARKS.	Observer.
Scud and vapour: a little rain has fallen since the last observation.	D
Vapour in the horizon in the S.W.: scud S.E. of the zenith.	
Overcast: cirro-stratus.	
A few clouds in the S.E. near the horizon; otherwise clear.	
Light clouds.	D
Cirri and cirro-cumuli in every direction.	P
Cirri, cirro-stratus, and scud, covering the greater part of the sky: the wind increasing.	
Cumulo-strati, cirro-stratus, and masses of loose scud: the wind is blowing in moderate gusts.	P
Cirro-stratus and scud: the wind is in gusts.	D
Fleecy clouds and cirro-stratus.	
Overcast: cirro-stratus.	
Heavy vapour: the stars became visible at $8^h.\ 50^m$.	D
Overcast: cirro-stratus: the wind increasing.	P
,, ,, nearly calm, the wind having much subsided.	
,, cirro-stratus and scud.	
,, rain falling.	
,, a fine, steady rain falling.	P
Cirro-stratus and scud.	J H
Cirro-stratus and scud.	
Cumuli and scud.	J H
Overcast, cirro-stratus, and scud, with dark cumuli in the northern and western horizon: gloomy.	P
Scud and cumuli, chiefly in the W.S.W. and N., the rest of the sky being almost free from cloud. [visible.	
Dark clouds in the W. and S.W. horizon, and, scattered more thinly, in other parts of the sky. The tail of the Great Comet was	P
A few stars near the zenith: calm and pleasant.	M
Thoroughly black.	M
The sky is nearly clear S. of the zenith; cirro-stratus and vapour prevail in every other part.	D
Overcast.	J H
,,	J H
Cirri and scud in every direction.	P
Cirro-stratus and scud.	D
Overcast: cirro-stratus.	
Cirro-stratus and scud.	J H
The clouds are much broken everywhere, and clear blue sky seen: the Sun is frequently visible.	G
A few clouds in the W. and S.W. horizon.	D
Dark scud in different parts of the sky, but chiefly in the horizon.	P
Vapour in the W., near the horizon. The tail of the Great Comet was visible.	J H
,,	D
,,	
Overcast.	
,, rain falling.	
,,	D
Cirri and loose scud in considerable masses in every direction, the breaks being chiefly in the East.	P
Cirro-stratus and scud, the breaks being in the South and East, near to the horizon.	
,, breaks in the North and in the East.	P
With the exception of a small portion of the sky in the W., the whole sky is covered with a white cirro-stratus: under the cloud in the N.W., about an altitude of 45°, are three curiously-curved black linear clouds.	G

ADDITIONAL WEIGHT OF VAPOUR REQUIRED FOR COMPLETE SATURATION OF A CUBIC FOOT OF AIR.

March 21d. The mean daily value was the greatest in the month.

WEIGHT OF A CUBIC FOOT OF AIR.

March 22d. The mean daily value was the least in the month.

March 22d and 23d. The greatest difference of the mean daily values for consecutive days in the month occurred.

DIRECTION OF THE WIND BY THE ANEMOMETER.

March 23d. 18h. The pressure recorded was during a squall: the direction of the wind at $17^h.\ 50^m$ was E.; at $17^h.\ 55^m$ it was S.S.E.; and by 18h it was E.N.E.; and it was E. at $18^h.\ 20^m$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Raingauge No. 1, (Osler's)	RAIN. Reading of Raingauge No. 2.	RAIN. Stand of Raingauge No. 3, (Crosley's)	Amount of Clouds 0 – 10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Mar. 24. 6	29·558	56·2	51·5	4·7	..	..	..	..	SE	SE	..	¼	..	..	..	8	..
8	29·592	50·7	48·7	2·0	..	..	..	..	ESE	Calm	..	..	..	..	..	1	..
10	29·613	47·4	46·2	1·2	46·0	1·4	..	..	Calm	Calm	..	..	..	..	..	0	..
12	29·622	49·0	46·7	2·3	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·639	45·5	45·5	0·0	..	..	..	..	E	ENE	..	¼	..	..	..	0	..
16	29·642	44·0	43·5	0·5	43·0	1·0	..	..	E	ENE	..	½	..	..	..	3	..
18	29·637	44·0	43·0	1·0	..	..	..	..	E	ENE	0 to ½	¼+	..	..	..	Cirr	..
20	29·638	43·2	41·6	1·6	..	..	..	..	ENE	NE	1 to 2	¾	..	..	..	1	Transit
22	29·641	45·5	42·5	3·0	41·5	4·0	61·0 42·7	80·8 63·8	NE	E by N	1 to 4	¾	1·76	0·00	3·830	3	..
Mar. 25. 0	29·634	47·1	43·1	4·0	..	..	..	..	NE	E by N	½ to 3	1	..	..	..	3	..
2	29·618	48·1	43·2	4·9	..	..	..	..	ENE	E	2½ to 6	1½	..	..	..	2	..
4	29·596	47·2	42·0	5·2	35·0	12·2	..	..	ENE	ENE	2 to 4½	½	..	..	..	6	..
6	29·596	47·2	42·0	5·2	..	..	..	..	ENE	ENE	1 to 5	1	..	..	..	3	..
8	29·619	44·3	40·2	4·1	..	..	..	..	ENE	NE	1½ to 4	2	..	..	..	1	..
10	29·622	42·7	39·3	3·4	35·5	7·2	..	..	ENE	NE	1½ to 3½	2	..	..	..	0	..
12	29·641	41·0	38·0	3·0	..	..	..	..	ENE	NE	1½ to 3½	2	..	..	..	0	..
14	..	..	..	..	..	..	..	..	ENE	...	1½ to 3	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	ENE	...	½ to 1	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	ENE	...	1½ to 3	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	ENE	...	1 to 3	..	..	..	..	..	..
22	29·655	45·2	40·7	4·5	..	..	50·4 36·7	63·6 27·5	ENE	ENE	3 to 9	1½	1·76	0·00	3·830	0	Transit
Mar. 26. 0	..	..	..	..	..	..	..	..	ENE	...	3 to 7	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	ENE	...	5 to 6	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	ENE	....	4 to 6	..	..	..	..	..	..
6	29·608	41·7	38·5	3·2	..	..	..	..	ENE	ENE	4 to 5	1½	..	..	..	1	..
8	..	..	..	..	..	..	..	..	ENE	...	1 to 4	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	ENE	...	3 to 4	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	ENE	...	3 to 4	..	..	..	..	..	..
14	29·603	36·3	34·1	2·2	..	..	..	..	ENE	ENE	2½ constan	1½	..	..	..	10	..
16	29·603	36·3	34·5	1·8	32·5	3·8	..	..	ENE	ENE	1½ to 3	1	..	..	..	10	..
18	29·605	36·1	34·5	1·6	..	..	..	..	ENE	ENE	1 to 2	½	..	..	..	10	..
20	29·628	36·5	34·7	1·8	..	..	..	..	ENE	ENE	1 to 2	½	..	..	..	10	..
22	29·616	39·5	37·1	2·4	34·0	5·5	48·4 35·8	60·2 29·0	ENE	E	2 to 3	½	1·76	0·00	3·830	9	Transit
Mar. 27. 0	29·619	38·6	35·9	2·7	..	..	..	..	ENE	E by N	½ to 2	¾	..	..	..	10	..
2	29·623	40·5	37·2	3·3	..	..	..	..	ENE	E by N	½ to 1½	½	..	..	..	10	..
4	29·609	39·4	36·7	2·7	33·0	6·4	..	..	ENE	E by N	0 to 2	¾	..	..	..	10	..
6	29·614	38·5	36·1	2·4	..	..	..	..	ENE	E by N	0 to ½	¾	..	..	..	10	..
8	29·623	37·6	35·6	2·0	..	..	..	..	ENE	E	0 to ½	½	..	..	..	10	..
10	29·619	37·0	35·5	1·5	33·0	4·0	..	..	ENE	E by N	..	½	..	..	..	10	..
12	29·606	39·6	37·6	2·0	..	..	..	..	NE	Calm	..	..	..	..	..	10	..
14	29·599	39·7	37·6	2·1	..	..	..	..	ENE	Calm	..	..	..	..	..	10	..
16	29·601	38·0	36·8	1·2	34·0	4·0	..	..	ENE	NE	..	¼	..	..	..	10	..
18	29·610	38·4	37·0	1·4	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
20	29·624	39·4	37·8	1·6	..	..	..	..	ENE	NE	..	¼	..	..	..	9½	..
22	29·641	45·5	41·8	3·7	38·5	7·0	45·4 36·7	57·2 31·0	ENE	ENE	0 to 1	¼	1·76	0·00	3·830	6	Transit

BAROMETER.
March 27d. The daily range was the smallest in the month.

TEMPERATURE OF THE DEW POINT.
March 25d. The difference between its mean daily value and that of the temperature of the air was the largest in the month.

DEGREE OF HUMIDITY.
~~Feb~~. 25d. The mean daily value was the smallest in the month.

GENERAL REMARKS.	Observer.
Cirro-stratus generally all over the sky; near the S. horizon it is clear: the Sun shines now and then, but is generally behind dark cirro-strati.	G
A loose black fibrous cloud in the N. and N.N.W.; every other part of the sky is cloudless: within the last hour several lines [of cloud, of a deep red colour, in the S. and W.	G
Cloudless.	G
,, an extremely fine night.	P
,,	
Clouds are now coming up from the East, and extending from the horizon to within about 45° of the zenith; the other part of the sky is, at present, totally free from cloud.	
A few lines of cloud only in the eastern, southern, and western horizon: the air seems somewhat damp.	
Cirri thinly scattered about the sky in the N. and W., but more profusely South of the zenith.	
Light fleecy clouds and scud.	J H
Light fleecy clouds and scud: the wind blowing in gusts.	
Light clouds and scud: strong gusts of wind.	J H
Scud and cirro-stratus (the latter lining the horizon): breaks in various directions, but chiefly North of the zenith: the wind in rather heavy gusts and apparently increasing.	P
Light fleecy clouds and scud; wind blowing in gusts.	J H
Dark lines of cloud in the W. and N.W. horizon, and thin, fleecy clouds in other parts of the sky: the wind in heavy gusts.	P
Cloudless: the wind is blowing in heavy gusts.	P
,, strong gusts of wind.	J H
,, the wind blows in heavy gusts.	P
A few light clouds are scattered over the sky.	D
Overcast.	J H
,, strong gusts of wind.	
,, the wind has subsided.	
,,	J H
Cirro-stratus and scud: gusts of wind.	D
Overcast: cirro-stratus.	
,, ,,	D
Cirro-stratus and scud.	J H
,, heavy clouds.	
,,	
Overcast: very dark.	J H
,, ,,	D
,, ,,	
,, ,,	
,, cirro-stratus.	
Breaks North of the zenith.	D
Cumuli, cumulo-strati, and scud: breaks in every part of the sky.	P

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Mar. 28. 0	29·652	47·8	43·8	4·0	..	..	..	..	ENE	ENE	..	¼	..	..	..	7	..
2	29·670	47·5	42·7	4·8	..	..	..	..	ENE	E	0 to ½	½	..	..	..	4	..
4	29·661	47·6	41·4	6·2	29·0	18·6	..	..	ENE	ENE	..	¼	..	..	..	4	..
6	29·673	43·2	39·5	3·7	..	..	..	..	ENE	ENE	..	½	..	..	..	3	..
8	29·695	38·5	36·2	2·3	..	..	..	..	ENE	ENE	..	¼	..	..	..	1	..
10	29·730	35·5	34·2	1·3	32·0	3·5	..	..	ENE	ENE	..	¼	..	..	..	0	..
12	29·730	32·6	31·8	0·8	..	..	..	..	NE	ENE	..	¼	..	..	..	0	..
14	29·746	33·0	32·1	0·9	..	..	..	..	NE	ENE	..	¼	..	..	..	9	..
16	29·753	32·1	31·8	0·3	31·5	0·6	..	..	NE	ENE	..	¼	..	..	..	1	..
18	29·778	31·1	31·0	0·1	..	..	..	..	NE	ENE	..	¼	..	..	..	1	In Equator
20	29·811	33·8	33·1	0·7	..	..	..	..	NE	ENE	..	¼	..	..	..	1	..
22	29·851	43·1	40·0	3·1	35·0	8·1	49·8 30·8	67·0 18·5	NE	ENE	..	¼	1·76	0·00	3·830	1	..
Mar. 29. 0	29·854	49·5	43·7	5·8	..	..	..	..	ENE	ENE	0 to ½	¼	..	..	..	1	Transit
2	29·863	51·6	45·5	6·1	..	..	..	..	E	ENE	..	¼	..	..	..	¼	..
4	29·865	50·6	45·7	4·9	37·0	13·6	..	..	E	E	..	¼	..	..	..	3	..
6	29·874	48·0	43·7	4·3	..	..	..	..	E	E	..	¼	..	..	..	5	..
8	29·874	42·4	40·2	2·2	..	..	..	..	ESE	E	..	¼	..	..	..	3	..
10	29·882	39·6	39·0	0·6	37·5	2·1	..	..	ESE	E	..	½	..	..	..	0	..
12	29·869	37·7	37·2	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	½	..
14	29·855	37·2	36·5	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	4	..
16	29·808	36·0	34·6	1·4	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
18	29·790	35·0	34·4	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
20	29·768	43·7	41·2	2·5	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
22	29·748	49·0	47·1	1·9	44·5	4·5	53·6 34·9	70·2 22·3	S	S	..	¼	1·76	0·00	3·830	10	..
Mar. 30. 0	29·720	54·6	50·0	4·6	..	..	..	..	S	S	..	¼	..	..	..	10	Transit
2	29·673	55·2	50·8	4·4	..	..	..	..	SSW	S by W	..	¼	..	..	..	10	Apogee
4	29·633	52·5	49·0	3·5	45·0	7·5	..	..	SSW	S by W	0 to ½	¾	..	..	..	10	..
6	29·595	50·5	49·3	1·2	..	..	..	..	S	S by W	0 to 1	1	..	..	..	10	..
8	29·565	50·1	49·5	0·6	..	..	..	..	S	SSW	0 to 1½	1	..	..	..	10	..
10	29·531	50·5	49·5	1·0	49·0	1·5	..	..	S	SSW	..	¾	..	..	..	10	..
12	29·490	51·1	49·6	1·5	..	..	..	..	S	S	0 to 2	½	..	..	..	10	New
14	29·456	51·2	49·8	1·4	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
16	29·428	47·5	47·4	0·1	47·0	0·5	..	..	SSW	Calm	..	..	..	..	..	5	..
18	29 389	48·4	47·5	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
20	29·367	50·2	49·0	1·2	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
22	29·350	55·1	52·5	2·6	50·5	4·6	56·4 47·7	64·0 37·2	Calm	Calm	..	..	1·76	0·00	3·830	9	..
Mar. 31. 0	29·326	57·0	53·1	3·9	..	..	..	..	S	SSE	0 to 1½	¼	..	..	..	10	Transit
2	29·283	54·2	51·8	2·4	..	..	..	..	Calm	S by W	..	½	..	..	..	10	..
4	29·268	50·5	50·0	0·5	50·0	0·5	..	..	SSW	S by W	..	¼	..	..	..	10	..
6	29·270	51·0	50·3	0·7	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
8	29·302	49·6	49·0	0·6	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
10	29·346	49·4	48·6	0·8	48·5	0·9	..	..	WSW	SW	0 to ½	¼	..	..	..	10	..
12	29·399	47·3	46·7	0·6	..	..	..	..	WSW	SW	0 to ½	½	1·86	0·08	3·955	10	..
14	29·399	48·8	48·0	0·8	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
16	29·406	48·8	48·0	0·8	48·0	0·8	..	..	SW	Calm	..	..	..	..	..	10	..

BAROMETER.
March 30d. The daily range was the greatest in the month.
March 30d and 31d. The greatest difference of the mean heights for consecutive days in the month occurred.
DRY THERMOMETER.
March 29d and 30d. The difference of the mean daily temperatures was great.
TEMPERATURE OF THE DEW POINT.
March 28d. 4h. The greatest difference between it and that of the air during the month occurred.
March 29d. 16h. The observation was omitted by inadvertence.
March 29d and 30d. The difference of the mean daily values was great. March 31d. The mean daily value was the highest in the month.

GENERAL REMARKS.	Observer.
Cumuli near the horizon in the S; blue sky above them reaching to the zenith; all the northern portion of the sky is covered with cumulo-stratus and scud. [from the E.S.E.	G
Detached cumuli are equally distributed over every part of the sky, with blue sky between them; scud under the cumuli passing	G
Light clouds, chiefly cirri, scattered in every direction.	D
Light clouds and haze.	
Stratus near the W. horizon.	
The comet was carefully looked for until $8^h.\ 50^m$, but not the slightest appearance of it could be seen: the horizon was covered with strati and haze: at present the sky is cloudless.	D
Cloudless, though very hazy in the S. horizon. [since the last observation.	P
A few stars are faintly shining in the zenith and in the N.: the clouds have been gradually spreading themselves over the sky	
Clouds in the S. horizon, the rest of the sky being at present clear.	
Cirri in various directions, and a few lines of dark cloud in the eastern horizon: a slight hoar frost: misty.	
A few mottled clouds only in the S. and S.E.: the hoar frost is still on the ground: hazy in the South.	P
A few light clouds: hazy.	J H
A few light clouds: hazy.	
,, vapour.	J H
Light scud in different directions, and clouds of a denser character in the S. and S.W. horizon: a few small cumuli also in the	P
Loose scud in every part of the sky, and cirro-stratus in the western horizon. [S.W. horizon.	
Scud thinly scattered in every direction: very clear in the W. horizon.	
Cloudless. The tail of the Great Comet was visible.	P
Vapour in the South horizon.	J H
Scud and vapour.	
,,	
,,	
,,	J H
Overcast: cirro-stratus and vapour.	D
Overcast: cirro-stratus and vapour.	
,,	D
,,	J H
,, small rain at intervals.	
,, ,, squally.	
,, very dark.	J H
,, ,,	D
,,	
Clear in the zenith; cloudy in the remaining part of the sky.	
Cirro-stratus and vapour.	
,,	D
Cirro-stratus and scud:	J H
Cirro-stratus and scud.	
,, rain fell for a short time about $1^h.\ 25^m$.	J H
Overcast: rain falling.	D
,, the rain ceased at $4^h.\ 40^m$.	
,,	
,, very dark.	D
,, the clouds came up at about $11^h.\ 40^m$, and slowly covered the sky: the heavens have been totally free from clouds for a considerable period between this and the former observation.	P
Overcast.	
,,	

ELASTIC FORCE OF VAPOUR AND WEIGHT OF A CUBIC FOOT OF AIR.

March 31d. The mean daily values were the greatest in the month.

WEIGHT OF A CUBIC FOOT OF AIR.

March 31d and April 1d. The least difference of the mean daily values for consecutive days during March and April occurred.

MINIMUM THERMOMETER.

March 30d. 22h. The reading was higher than that of the Dry Thermometer at 16h.

RAIN.

March 31d. 12h. The amount collected during the month of March in the rain-gauge No. 4, was $0^{in.}\cdot 51$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Mar. 31. 18	29·409	48·8	48·0	0·8	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
20	29·423	49·6	48·5	1·1	..	..	..	..	S by W	SW	0 to ½	¼	..	..	..	10	..
22	29·415	50·8	50·0	0·8	48·5	2·3	59·2 47·5	72·5 40·4	S by W	SSW	2½ to 4	1	1·86	0·00	3·960	10	..
Apr. 1. 0	29·396	55·8	53·1	2·7	..	..	..	..	SSW	SSW	3 to 10	2	..	..	..	9	..
2	29·408	56·2	53·7	2·5	..	..	..	..	SSW	SSW	2 to 5	1½	..	..	..	9	Transit
4	29·379	58·4	55·2	3·2	53·5	4·9	..	..	SW	SSW	3 to 7	1½	..	..	..	9	..
6	29·379	54·5	52·7	1·8	..	..	..	..	WSW	SSW	2½ to 5	2	..	..	..	10	..
8	29·399	50·1	49·8	0·3	..	..	..	..	SW	SW	½ to 2	2	..	..	..	10	..
10	29·432	51·0	50·5	0·5	50·0	1·0	..	..	WSW	SW	½ to 2½	¾	..	..	..	10	..
12	29·471	50·5	50·0	0·5	..	..	..	..	WSW	SW	0 to ½	¾	..	..	..	10	..
14	...	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
16	...	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
18	...	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
20	...	..	..	..	..	..	..	..	SW	...	2 to 6	..	..	..	..	..	..
22	29·421	55·7	52·5	3·2	..	..	58·7 50·1	67·0 47·0	SW	SW	2 to 4	2	1·95	0·19	4·120	10	..
Apr. 2. 0	...	..	..	..	..	..	..	..	SW	...	1½ to 4½	..	..	..	..	..	..
2	...	..	..	..	..	..	..	..	SW	...	2 to 4½	..	..	..	..	..	Transit
4	...	..	..	..	..	..	..	..	SW	...	3 to 5	..	..	..	..	..	..
6	...	..	..	..	..	..	..	..	WSW	...	½ to 1½	..	..	..	..	..	..
8	...	..	..	..	..	..	..	..	SW	...	1 to 2	..	..	..	..	..	..
10	...	..	..	..	..	..	..	..	SW	...	0 to ½	..	..	..	..	..	..
12	...	..	..	..	..	..	..	..	SW	...	0 to 2	..	..	..	..	..	..
14	29·600	50·3	48·6	1·7	..	..	..	..	SW	SW	½ to 3	1½	..	..	..	9	..
16	29·591	50·5	49·0	1·5	48·0	2·5	..	..	SW	SW	1 to 1½	1	..	..	..	10	..
18	29·606	50·5	48·7	1·8	..	..	..	..	SW	SW	1 to 3½	1	..	..	..	9	..
20	29·654	52·5	50·4	2·1	..	..	..	..	WSW	SW	1 to 1½	1	..	..	..	9	..
22	29·699	53·3	51·5	1·8	51·0	2·3	59·2 48·3	70·0 45·5	WSW	W	0 to ½	¼	1·95	0·00	4·120	9	..
Apr. 3. 0	29·713	57·6	53·6	4·0	..	..	..	..	WSW	W by S	0 to ½	¼	..	..	..	9	..
2	29·698	59·2	54·6	4·6	..	..	..	..	SW	W by S	..	¼	..	..	..	10	..
4	29·658	59·5	54·7	4·8	51·0	8·5	..	..	Calm	SW	..	¼	..	..	..	8	Transit
6	29·622	54·0	50·7	3·3	..	..	..	..	Calm	SW	..	¼	..	..	..	10	..
8	29·583	50·7	48·6	2·1	..	..	..	..	Calm	SW	..	¼	..	..	..	10	..
10	29·548	48·5	47·2	1·3	46·0	2·5	..	..	Calm	SW	..	¼	..	..	..	9	..
12	29·466	49·6	47·5	2·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·418	48·5	47·0	1·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·344	48·6	48·1	0·5	48·0	0·6	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·307	48·5	48·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·288	49·6	49·4	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·253	54·0	53·3	0·7	51·8	2·2	59·7 48·2	74·5 41·8	Calm	Calm	..	..	2·14	0·30	4·360	10	..
Apr. 4. 0	29·226	56·3	54·6	1·7	..	..	..	..	Calm	S by W	..	¼	..	..	..	10	..
2	29·198	52·0	51·8	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
4	29·256	45·6	45·7	−0·1	46·0	−0·4	..	..	WSW	WSW	2 to 9	1½	..	..	..	10	Transit
6	29·323	47·1	45·1	2·0	..	..	..	..	WSW	WSW	2½ to 9	2	..	..	..	10	..
8	29·386	48·4	44·8	3·6	..	..	..	..	WSW	WSW	3½ to 6	1+	..	..	..	10	..

BAROMETER.

April 3d and 4d. The difference of the mean daily heights was considerable.

April 4d. The mean daily height was the least in the month.

April 4d. 2h. The reading was the lowest in the month.

April 4d and 5d. The greatest difference of the mean daily heights for consecutive days in the month occurred.

DRY THERMOMETER.

April 1d. The daily range was the smallest in the month.

April 4d. 4h. The reading was lower than that of the Wet Thermometer.

GENERAL REMARKS.	Observer.
Overcast.	P
,, cirro-stratus and scud.	P
Cirro-stratus and scud: rain falling.	J H
Cirro-stratus and scud.	D
,,	J H
,, nimbi are continually passing over: a wild-looking sky.	P
Overcast: rain falling: squally: extensive breaks are momentarily taking place: the wind is increasing.	
,, cirro-stratus and scud: nimbi, as before, are constantly passing over the zenith: the scud is low, and of a wild and threatening character.	
Overcast: cirro-stratus and scud: the wind much less violent: squalls of rain at $10^h.\ 30^m$: a few stars are visible S. of the zenith.	P
,, cirro-stratus: squalls of rain at intervals.	J H
Cirro-stratus, and large quantities of quickly moving scud: a gale of wind with gusts frequently to 3.	G
Vapour: strong gusts of wind.	J H
Overcast ,,	
Cirro-stratus and scud.	
,,	J H
,,	D
Cirro-stratus and scud.	
,,	D
,,	J H
,,	
,,	
,,	J H
Overcast: cirro-stratus and scud: at $11^h.\ 25^m$ the greater part of the sky was clear, but it remained so a very short time; at $11^h.\ 50^m$ it was again nearly covered: several flashes of sheet lightning have been visible since the last observation.	D
Overcast: heavy rain falling.	
,, no rain falling.	
,, cirro-stratus and scud.	
,, ,, rain falling steadily.	D
,, ,, rain was falling a short time previously to the observation.	P
Overcast: cirro-stratus and scud: dark cumulo-strati in the N. horizon.	
,, a fine steady rain falling.	P
,, rain without intermission since the last observation: strong gusts of wind.	D
,, cirro-stratus and scud: the wind has been blowing a gale since $3^h.\ 40^m$: the rain ceased falling at about $5^h.\ 15^m$.	
,, ,,	

MINIMUM THERMOMETER.

March $31^d.\ 22^h.$ The reading was higher than that of the Dry Thermometer at $12^h.$

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

April $4^d.\ 2^h.\ 40^m$ it was calm; at $2^h.\ 45^m$ a pressure of $\frac{1}{2}$lb.; at $3^h.\ 5^m$ a pressure of 1lb.; at $3^h.\ 6^m$ a pressure of 7lbs.; a steady gale after this time which is well represented by the regular observations, excepting a gust of wind of 12lbs. at $5^h.\ 20^m$; another of 13lbs. at $5^h.\ 50^m$; and another of 13lbs. at $8^h.\ 40^m$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Apr. 4. 10	29·448	47·0	44·0	3·0	41·0	6·0	..	..	WSW	WSW	4 to 6	1½	..	..	..	10	..
12	29·480	45·4	43·2	2·2	..	..	..	..	WSW	WSW	4 to 8	2	..	..	..	9½	..
14	29·503	43·5	42·0	1·5	..	..	..	..	WSW	WSW	3 to 6	2½	..	..	..	0	..
16	29·519	42·7	41·5	1·2	40·5	2·2	..	..	WSW	WSW	2 to 3½	1½	..	..	..	0	..
18	29·557	42·1	41·7	0·4	..	..	..	..	WSW	WSW	0 to 2	1½	..	..	..	0	..
20	29·590	44·9	42·9	2·0	..	..	..	..	WSW	WSW	0 to 1	1	..	..	..	0	..
22	29·630	50·0	46·5	3·5	44·0	6·0	56·1 41·3	65·4 38·0	WSW	WSW	1 to 3.	1	2·34	0·32	4·655	5	..
Apr. 5. 0	29·653	48·0	45·6	2·4	..	..	..	..	WSW	WSW	0 to 4	1	..	..	..	7	..
2	29·679	48·8	49·1	−0·3	..	..	..	..	W	WSW	0 to 2	¾	..	..	..	6	..
4	29·696	54·4	49·3	5·1	45·0	9·4	..	..	W	WSW	½ to 4	1	..	..	..	3	Transit
6	29·765	53·0	49·3	3·7	..	..	..	..	WSW	W by S	½ to 2	¾	..	..	..	4	Greatest declination N.
8	29·812	49·0	46·5	2·5	..	..	..	..	WSW	W by S	..	½	..	..	..	½	..
10	29·852	44·7	43·0	1·7	43·0	1·7	..	..	WSW	W by S	..	¼	..	..	..	¼	..
12	29·881	42·2	40·8	1·4	..	..	..	..	SW	W	..	¼	..	..	..	9	..
14	29·862	42·2	41·0	1·2	..	..	..	..	SW	Calm	..	..	..	..	..	10	..
16	29·840	43·0	41·6	1·4	40·0	3·0	..	..	SSW	Calm	..	..	..	..	..	8	..
18	29·811	42·1	42·0	0·1	..	..	..	..	S	SW	..	¼	..	..	..	6	..
20	29·789	47·2	46·1	1·1	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
22	29·738	49·7	48·2	1·5	46·5	3·2	55·9 41·5	76·0 38·4	SSW	SSW	..	¼	2·36	0·02	4·675	10	..
Apr. 6. 0	29·685	49·7	49·0	0·7	..	..	..	..	SSW	SSW	½ to 1	¾	..	..	..	10	..
2	29·646	53·0	52·2	0·8	..	..	..	..	SW	SSW	½ to 1	1	..	..	..	10	..
4	29·615	54·7	53·5	1·2	50·0	4·7	..	..	SW	W	½ to 2	½	..	..	..	10	..
6	29·595	54·7	53·0	1·7	..	..	..	..	WSW	W	½ to 2	½	..	..	..	10	Transit
8	29·577	52·2	51·0	1·2	..	..	..	..	SW	SW	0 to 1	1	..	..	..	10	..
10	29·552	51·5	50·5	1·0	49·5	2·0	..	..	SW	S	1 to 2½	1½	..	..	..	10	..
12	29·526	52·0	51·0	1·0	..	..	..	..	WSW	SSW	1½ to 3½	1½	..	..	..	10	..
14	29·500	51·5	50·6	0·9	..	..	..	..	SW	SW	1½ to 3	2	..	..	..	10	..
16	29·494	51·1	50·5	0·6	49·0	2·1	..	..	WSW	SW	1½ to 5	2	..	..	..	10	..
18	29·480	51·5	50·5	1·0	..	..	..	..	WSW	WSW	1 to 3	¾	..	..	..	10	..
20	29·484	51·7	50·7	1·0	..	..	..	..	SW	WSW	1 to 3	1	..	..	..	10	..
22	29·442	53·4	52·2	1·2	51·0	2·4	55·2 49·1	58·7 47·3	SW	SW	1 to 4	1	2·36	0·00	4·685	10	..
Apr. 7. 0	29·433	53·6	53·0	0·6	..	..	..	..	WSW	SW	0 to 4	1½	..	..	..	10	..
2	29·422	60·6	57·2	3·4	..	..	.	..	WSW	SW	0 to 3	1	..	..	..	8	..
4	29·392	58·3	55·5	2·8	53·0	5·3	..	..	WSW	SW	0 to 4	1½	..	..	..	7	..
6	29·376	53·5	51·4	2·1	..	..	..	..	SW	SW	½ to 4	2	..	..	..	9	Transit
8	29·368	51·5	49·8	1·7	..	..	..	..	SW	SW	0 to 5	1½	..	..	..	10	..
10	29·352	49·2	48·1	1·1	46·5	2·7	..	..	SW	SW	0 to 1	1	..	..	..	¼	..
12	29·301	50·7	49·5	1·2	..	..	..	..	SW	SW	0 to 2½	1	..	..	..	10	1st Qr.
14	29·275	46·2	46·3	−0·1	..	..	..	..	WSW	SW	0 to 2½	1½	..	..	..	10	..
16	29·280	44·9	44·5	0·4	44·5	0·4	..	..	WSW	SW	0 to 1	½	..	..	..	10	..
18	29·345	47·0	46·2	0·8	..	..	..	..	WSW	WSW	½ to 2½	1	..	..	..	9	..
20	29·413	47·2	45·1	2·1	..	..	..	..	W by S	WSW	½ to 3	1	..	..	..	2	..
22	29·460	51·0	46·5	4·5	44·0	7·0	60·7 45·2	70·0 41·0	WSW	WSW	1 to 5	1¾	2·50	0·24	4·925	6	..

BAROMETER.
April 6d and 7d. The difference of the mean daily heights was considerable.
April 7d and 8d. The least difference of the mean daily heights for consecutive days in the month occurred.

DRY THERMOMETER.
April 5d. 2h. The reading, as also that of the Wet Thermometer, was noted as being correct; it is probable that the dry bulb was wetted by the rain, though this [was not noted by the Observer.
April 7d. 14h. The reading was lower than that of the Wet Thermometer.

TEMPERATURE OF THE DEW POINT.
April 6d. The difference of its mean daily value and that of the temperature of the air was the least in the month.
April 7d. The mean daily value was the highest in the month.
April 7d and 8d. The greatest difference of the mean daily values for consecutive days in the month occurred.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and scud: the Moon's place is visible.	D
A few stars are faintly shining a few degrees South of the zenith: the wind is rapidly rising.	P
Cloudless: a gale of wind: lulls of some duration frequently occur: hazy: the stars are large and distorted.	
,,	
A few clouds only in the north-eastern horizon.	
Cloudless: lulls in the wind of considerable duration.	P
Cirro-stratus and scud.	J H
Cumuli and scud.	
A heavy shower at $1^h.\ 40^m$: at present no rain: cumuli and scud: at $2^h.\ 5^m$ a shower of hail fell.	J H
Cumuli, cumulo-strati, and scud: the wind is blowing in gusts: the specimens of cumulo-strati are very fine.	P
Cumuli, cumulo-strati, and large masses of scud. [equal to $1\frac{1}{2}$ diameter of the Moon: hazy.	
A few clouds only in the western horizon: there is a small corona around the Moon; its diameter, as nearly as can be judged, is	
Cloudless, with the exception of a few cirri near the Moon: the corona is still visible, but its diameter has increased to double that of the Moon.	P
The sky is almost wholly covered with dark clouds in bars all over the sky, a few of the principal stars alone being visible: in the North there is an unusual light, quite white, probably aurora.	G
Quite cloudy.	
Alternately some stars are shining, and then the sky is covered with cloud; at present some stars are shining near the zenith.	
All round the horizon cloudy: a portion of sky is clear about the zenith, and in the S. of the zenith.	
The sky is uniformly covered with cloud, below which a dark quickly-moving scud is passing from the S.W.	G
Overcast: cirro-stratus.	J H
Overcast: cirro-stratus: gusts of wind.	
Cirro-stratus and scud.	J H
,, ,,	G
The sky quite covered with cirro-stratus and scud: near the West horizon there is a bright narrow break in the clouds, but to no numerical extent: the wind is in frequent gusts to 1.	
The sky is principally covered with scud, very large quantities of which have passed from the W. since the last observation: the	
Cirro-stratus: wind in gusts to 2, and rising. [Moon is occasionally seen.	G
Overcast: cirro-stratus: gusts of wind.	J H
,, very dark.	
,, ,,	
,, cirro-stratus and scud.	
,, ,,	J H
,, slight rain.	D
Overcast: slight rain: the wind blowing in heavy gusts.	P
Large cumulo-strati S. of the zenith; cirro-stratus in every other part of the sky: the wind blows in strong gusts occasionally to $1\frac{1}{2}$.	D
Cirro-stratus and scud.	J H
,,	
,,	
A few light clouds: at $9^h.\ 49^m$ a vivid flash of lightning in the E. S. E.	J H
Overcast: cirro-stratus and scud: a little rain falling.	D
,, ,, heavy rain falling.	
,, ,, slight rain: between this and the last observation, the wind has blown a strong gale in gusts frequently to $2\frac{1}{2}$; it has however again lulled, and is calmer at the present time than at any other period during the night previously to this observation.	
Cirro-stratus and scud: breaks in various parts of the sky.	
Fragments of scud passing over rapidly: cumulo-stratus in the S. horizon.	D
Cumuli, cumulo-strati, and scud in every direction.	P

ELASTIC FORCE OF VAPOUR AND WEIGHT OF VAPOUR IN A CUBIC FOOT OF AIR.
April 7d. The mean daily values were the greatest in the month.
WEIGHT OF A CUBIC FOOT OF AIR.
April 7d. The mean daily value was the least in the month.
DEGREE OF HUMIDITY.
April 6d. The mean daily value was the largest in the month.
MINIMUM THERMOMETER.
April 7d. 22h. The reading was higher than that of the Dry Thermometer at 16h.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Raingauge No. 1, (Osler's)	RAIN. Reading of Raingauge No. 2.	RAIN. Stand of Raingauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Apr. 8. 0	29·472	52·5	47·0	5·5	..	..	..	..	WSW	WSW	1½ to 5	2	..	..	..	6	..
2	29·457	55·6	49·5	6·1	..	..	..	..	WSW	WSW	4 to 7	2½	..	..	..	5	..
4	29·447	56·0	49·7	6·3	42·0	14·0	..	..	WSW	WSW	3 to 7	1½	..	..	..	3	..
6	29·449	52·7	48·0	4·7	..	..	..	..	WSW	WSW	3 to 6	1½	..	..	..	3	..
8	29·475	47·4	44·5	2·9	..	..	..	..	WSW	WSW	½ to 3	¾	..	..	..	0	Transit
10	29·492	45·6	42·9	2·7	40·0	5·6	..	..	WSW	WSW	0 to ½	½	..	..	..	0	..
12	29·495	43·3	41·4	1·9	..	..	..	..	WSW	W by S	..	¼+	..	..	..	¼	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
22	29·504	43·4	41·2	2·2	..	..	56·7 41·4	71·7 36·2	ENE	ENE	..	½	2·50	0·00	4·925	10	..
Apr. 9. 0	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	E by N	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	Transit
10	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
14	29·661	35·3	34·2	1·1	..	..	..	..	N by E	N by E	..	¼	..	..	..	9½	..
16	29·703	34·5	33·5	1·0	31·0	3·5	..	..	NNE	N by E	..	¼	..	..	..	10	..
18	29·743	34·0	33·0	1·0	..	..	..	..	NNE	N by E	..	¼	..	..	..	10	..
20	29·776	34·8	33·5	1·3	..	..	..	..	NNE	N by E	..	¼	..	..	..	7	..
22	29·811	41·6	38·0	3·6	37·0	4·6	47·0 33·9	67·0 24·5	NNE	NNW	..	¼	2·50	0·00	4·925	1	..
Apr. 10. 0	29·813	44·0	38·6	5·4	..	..	..	..	NNW	NNW	..	¼	..	..	..	7	..
2	29·793	45·5	40·5	5·0	..	..	..	..	W	NNW	..	¼	..	..	..	5	..
4	29·795	39·8	38·5	1·3	37·0	2·8	..	..	WSW	WSW	..	½	..	..	..	10	..
6	29·794	39·0	37·6	1·4	..	..	..	..	W	WSW	..	½	..	..	..	9½	..
8	29·810	33·6	33·3	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
10	29·817	33·0	32·5	0·5	31·2	1·8	..	..	Calm	NW	..	¼–	..	..	..	0	Transit
12	29·827	34·2	32·1	2·1	..	..	..	..	NNW	NNW	..	¼	..	..	..	1	..
14	29·831	32·0	31·0	1·0	..	..	..	..	WNW	NNW	..	¼	..	..	..	6	..
16	29·851	29·0	30·6	–1·6	27·0	2·0	..	..	WNW	NW	..	¼	..	..	..	0	..
18	29·857	29·3	28·8	0·5	..	..	..	..	W by N	NW	..	¼	..	..	..	0	..
20	29·877	32·3	30·5	1·8	..	..	..	..	WNW	NW	..	¼	..	..	..	0	..
22	29·883	37·6	34·4	3·2	27·5	10·1	47·5 28·8	69·3 22·0	NNW	NNW	..	¼	2·50	0·00	4·950	5	..
Apr. 11. 0	29·883	41·5	35·6	5·9	..	..	..	..	N	NNW	..	¼	..	..	..	4	..
2	29·880	42·5	37·1	5·4	..	..	..	..	NNW	NW	..	¼	..	..	..	4	..
4	29·876	44·0	38·3	5·7	30·5	13·5	..	..	NW	NW	0 to ½	¼	..	..	..	1	..
6	29·869	41·6	36·0	5·6	..	..	..	..	NNW	NNW	..	¼	..	..	..	3	..
8	29·885	40·1	35·7	4·4	..	..	..	..	Calm	NNW	..	¼	..	..	..	3	..
10	29·895	35·1	33·7	1·4	30·0	5·1	..	..	Calm	Calm	..	..	..	..	..	0	Transit
12	29·895	32·5	31·9	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·873	30·4	30·0	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·855	28·9	28·6	0·3	28·5	0·4	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·841	28·2	28·4	–0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	¼	..
20	29·848	32·4	30·6	1·8	..	..	..	..	Calm	Calm	..	..	..	..	..	0	In Equator
22	29·843	39·2	36·0	3·2	32·0	7·2	46·1 27·2	63·5 17·8	N	N	..	¼+	2·50	0·00	4·950	8	..

DRY THERMOMETER.

April 10d. 16h. The reading was lower than that of the Wet Thermometer; the readings, and also that of the Dew Point, were marked correct.

April 11d. 18h. The lowest reading in the month occurred, and the reading was lower than the reading of the Wet Thermometer.

TEMPERATURE OF THE DEW POINT.

April 11d. 4h. This reading was set down 20°·5, and has been altered conjecturally to 30°·5; the latter reading is used in the Abstracts.

DEGREE OF HUMIDITY.

April 11d. The mean daily value was the least in the month.

GENERAL REMARKS.	Observer.
Cumuli, cumulo-strati, and scud in every direction.	P
Cumuli, cumulo-strati, and wild-looking scud: the barometer has slightly fallen since 0^h: the wind is increasing.	P
Cumuli and cumulo-strati in various directions.	D
Cumuli and light fleecy clouds.	J H
Cloudless.	D
,,	D
A few light clouds are passing over the sky, being detatched from apparently larger masses jnst emerging above the W.S.W. horizon: these loose masses first appeared at about $11^h.40^m$.	P
Overcast: cirro-stratus: the clouds are much thinner in the horizon in the N. E., where a few dark cumuli are also visible: very cold and gloomy.	
A few stars are faintly shining around the zenith, and in the N. E.	
Overcast: the positions of a few larger stars in the zenith are faintly marked: extremely dark.	
,, cirro-stratus: the clouds are thinner in the N. and E. horizon.	
Scud and cirro-strati in various directions: a thin fog prevalent.	P
Light clouds and vapour.	J H
Cumuli and cumulo-strati in various directions.	D
Cumuli: hazy: snow fell for about 2^m at about $0^h.40^m$.	J H
Overcast: cirro-stratus and scud; also large cumulo-strati: hazy. [cold.	P
Dark scud and cirro-stratus covering nearly the whole of the sky, the few breaks being in and around the zenith: hazy: extremely	
Dark clouds with dense vapour in the whole horizon; the rest of the sky is free from clouds: shortly after the last observation,	
Cloudless, but foggy. [a shower of hail fell.	P
A few fleecy clouds in the W. and N.W.	J H
Scud and fleecy clouds.	
Cloudless.	
,,	
Hazy, but no cloud.	J H
Cumuli scattered over the sky: hazy.	D
Cumuli scattered over the sky: hazy.	
Cumuli in various directions: ,,	D
,,	J H
Cumuli: hazy.	
Scud: hazy.	
Cloudless: hazy.	J H
,, ,,	D
,, ,,	
,, ,,	
Light clouds in the horizon in the W. and S.: the ground is white with hoar frost: hazy.	
Cloudless: hazy.	D
Cumulo-strati, cirro-strati, and scud: hazy: the breaks are chiefly in the zenith, and are of small extent.	P

PRESSURE AND DIRECTION OF THE WIND AT THE ANEMOMETER.

April $10^d.2^h.40^m$. The wind suddenly blew with a pressure of 3lbs. on the square foot: at $2^h.45^m$ it had decreased to 1lb., and then increased to 4lbs. by $2^h.50^m$; at $2^h.52^m$ the pressure was 3lbs., and it gradually decreased to $\frac{1}{2}$lb., and then it was calm at $3^h.5^m$; the direction at $2^h.35^m$ was W.; at $2^h.40^m$ it was N.N.W., and continued thus till $3^h.10^m$, when it gradually veered to the W.: another squall took place at $6^h.15^m$, the pressure suddenly increasing from 0lb. to 3lbs., and this pressure continued till $6^h.25^m$, when it suddenly decreased to 0lb.: the direction at $6^h.10^m$ was W., and at $6^h.15^m$ it was N.N.W.; after $6^h.25^m$ it gradually veered towards the W.: during both squalls, hail, rain, and snow fell.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Apr.12. 0	29·835	40·5	36·8	3·7	..	..	..	..	N	N by E	..	¼	..	..	..	7	..
2	29·812	41·3	36·5	4·8	..	..	..	..	N	N by E	..	¼	..	..	..	9	..
4	29·794	41·0	36·2	4·8	25·0	16·0	..	..	NNW	NW	..	¼	..	..	..	9	..
6	29·777	40·2	35·3	4·9	..	..	..	..	NW	NW	..	¼	..	..	..	10	..
8	29·756	36·2	33·6	2·6	..	..	..	..	Calm	Calm	..	..	..	..	..	4	..
10	29·738	34·5	31·6	2·9	26·0	8·5	..	..	Calm	Calm	..	..	..	..	..	4	..
12	29·698	32·6	30·5	2·1	..	..	..	..	Calm	Calm	..	..	..	..	..	7	Transit
14	29·662	31·8	30·0	1·8	..	..	..	..	WSW	Calm	..	..	..	..	..	10	..
16	29·638	33·2	31·4	1·8	27·5	5·7	..	..	WNW	Calm	..	..	..	..	..	10	..
18	29·636	32·4	32·2	0·2	..	..	..	..	W	Calm	..	..	..	..	..	10	..
20	29·673	33·5	33·5	0·0	..	..	..	..	N	N	..	¼	..	..	..	10	..
							44·9	69·0									
22	29·714	35·0	34·5	0·5	31·0	4·0	31·7	24·8	N	Calm	..	..	2·50	0·00	4·950	10	..
Apr.13. 0	29·746	39·3	36·7	2·6	..	..	..	..	N	NNE	..	¼	..	..	..	9	..
2	29·747	43·0	38·9	4·1	..	..	..	..	N	N	..	½	..	..	..	1	..
4	29·773	42·4	38·8	3·6	31·0	11·4	..	..	NNE	N	0 to 2	½	..	..	..	4	..
6	29·798	43·6	39·6	4·0	..	..	..	..	N	N	..	¼	..	..	..	4	..
8	29·836	36·6	35·2	1·4	..	..	..	..	N	N	..	¼	..	..	..	1½	..
10	29·865	36·2	34·2	2·0	32·2	4·0	..	..	NNW	N	..	¼	..	..	..	0	..
12	29·889	31·6	31·4	0·2	..	..	..	..	Calm	N	..	¼	..	..	..	0	Transit
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Perigee
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SW	...	1 to 2½	..	..	..	..	..	..
							48·5	70·0									
22	29·807	44·7	41·3	3·4	..	..	30·2	21·0	WSW	W	½ to 5	1 to 2	2·50	0·00	4·950	10	..
Apr.14. 0	..	..	..	..	..	..	..	..	WSW	...	4 to 7	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	WSW	...	3½ to 5	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	WSW	...	3½ to 6	..	..	..	..	..	Full
6	29·802	50·8	47·8	3·0	..	..	..	..	W by S	W by S	½ to 1	2	..	..	..	10	..
8	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	Transit
14	29·926	47·1	46·2	0·9	..	..	..	..	WSW	SW	..	¼	..	..	..	10	..
16	29·946	47·2	46·2	1·0	44·0	3·2	..	..	Calm	SW	..	½	..	..	..	10	..
18	29·970	47·1	46·1	1·0	..	..	..	..	Calm	SW	..	½	..	..	..	10	..
20	29·995	48·5	47·4	1·1	..	..	..	..	Calm	SW	..	½	..	..	..	10	..
							52·3	57·3									
22	30·021	51·6	49·6	2·0	48·0	3·6	45·4	41·6	Calm	Calm	..	..	2·50	0·00	4·950	10	..
Apr.15. 0	30·017	57·7	53·4	4·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
2	30·006	57·1	52·6	4·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
4	29·993	56·1	52·3	3·8	47·0	9·1	..	..	Calm	WSW	..	½	..	..	..	10	..
6	29·974	53·5	50·7	2·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	29·962	52·4	49·6	2·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
10	29·970	50·5	48·7	1·8	45·0	5·5	..	..	Calm	Calm	..	..	..	..	..	10	..
12	29·944	49·6	47·7	1·9	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
							58·7	72·0									
22	29·730	55·5	51·0	4·5	..	..	47·4	45·0	ENE	ESE	..	½	2·50	0·00	4·950	1	..

BAROMETER.
April 14d. 22h. The highest reading in the month occurred.
April 15d. The mean daily height was the greatest in the month.

DRY THERMOMETER.
April 12d. The mean daily temperature was the lowest in the month.

TEMPERATURE OF THE DEW POINT.
April 12d. The mean daily value was the lowest in the month; and at 4h the reading was the lowest in the month.

GENERAL REMARKS.	Observer.
Cumuli, cumulo-strati, and scud, in large masses: hazy.	P
Cirro-stratus and scud covering the greater part of the sky: hazy.	P
Cirro-stratus and scud: hazy.	D
,, a little snow has fallen since the last observation.	
Cirro-stratus N. of the zenith: hazy.	
Light clouds: hazy.	D
Scud, cirro-stratus, and cirri, in every direction.	P
Overcast: cirro-stratus and scud.	
,, ,,	
,, the ground is quite covered with snow, which is falling in fine powder.	
,, the snow has ceased falling: breaks in the zenith; at $20^h.\ 5^m$ the Sun was shining, and a thaw going forward.	P
Cirro-stratus: hazy.	J H
[blue sky is seen, and there appears to be no upper cloud.	
Large cumuli all around near the horizon; cumulo-stratus about the zenith; there are several breaks in the clouds, through which	G
Cumuli and scud.	J H
Cumuli, cumulo-strati. and scud: squally.	P
Large masses of dark scud S. and S.E. of the zenith: hazy: squally: a few small cumuli in the southern horizon.	
Dark scud in the northern, western, and south-western horizon: a thin fog rising.	
Cloudless: the haze somewhat thick.	P
,, ,,	J H
The sky is uniformly covered with cirro-stratus: the wind blows in frequent gusts to 2, and occasionally to $2\frac{1}{2}$.	G
Overcast: the sky has been covered with cirro-stratus throughout the day: gusts of wind to $2\frac{1}{2}$.	G
,, cirro-stratus.	J H
,, ,,	
,, ,,	
,, ,,	J H
,, ,,	D
Overcast: cirro-stratus.	G
,, ,,	D
,, ,,	J H
,, ,,	
,, ,,	
,,	J H
,, ,,	D
A few cumuli in different directions, and a few strati near the horizon in the N.: a fine clear morning.	G

ELASTIC FORCE OF VAPOUR AND WEIGHT OF VAPOUR IN A CUBIC FOOT OF AIR.
April 12d. The mean daily values were the least in the month.

WEIGHT OF A CUBIC FOOT OF AIR.
April 12d. The mean daily value was the greatest in the month.

CLOUDS.
April 13d. 22h to after 15d. 12h. The sky was overcast; it is the longest period of cloudy sky in the month.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Apr. 16. 0	..	..	..	..	..	..	..	..	ENE	...	½ to 1	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	ENE	...	0 to ½	..	..	..	..	..	..
4	29·721	58·4	52·7	5·7	..	..	..	..	ENE	ENE	..	¼	..	..	..	3	..
6	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
14	29·694	44·6	43·6	1·0	..	..	..	..	NNE	Calm	..	..	..	..	..	10	Transit
16	29·703	44·2	43·5	0·7	43·5	0·7	..	..	NNE	Calm	..	..	..	..	..	10	..
18	29·724	43·0	42·5	0·5	..	..	..	..	N	Calm	..	..	..	..	..	10	..
20	29·751	45·5	44·2	1·3	..	..	..	..	N	Calm	..	..	..	..	..	8	..
22	29·768	52·7	49·5	3·2	46·0	6·7	61·6 42·8	77·3 36·2	NNE	Calm	..	..	2·50	0·00	4·950	8	..
Apr 17. 0	29·789	58·7	53·0	5·7	..	..	..	..	NE	NE	..	½	..	..	..	3	..
2	29·796	62·8	56·2	6·6	..	..	..	..	NE	NE	..	¼	..	..	..	4	..
4	29·814	64·3	57·6	6·7	47·5	16·8	..	..	NNE	NE	..	¼	..	..	..	9	..
6	29·851	59·0	54·2	4·8	..	..	..	..	NE	NE	..	¼	..	..	..	9	..
8	29·892	55·6	51·7	3·9	..	..	..	..	Calm	NE	..	¼	..	..	..	10	..
10	29·939	51·4	48·0	3·4	46·0	5·4	..	..	Calm	NE	..	..	..	..	..	5	..
12	29·959	45·6	43·7	1·9	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·964	44·0	42·2	1·8	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·963	41·9	41·0	0·9	40·0	1·9	..	..	Calm	Calm	..	..	..	..	..	2	Transit
18	29·979	39·3	39·0	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
20	29·997	47·2	45·3	1·9	..	..	..	..	Calm	Calm	..	..	..	..	..	¼	Greatest declination S.
22	30·011	53·0	48·8	4·2	44·0	9·0	67·7 40·1	86·5 29·8	Calm	Calm	..	..	2·50	0·00	4·950	0	..
Apr. 18. 0	30·009	59·7	52·0	7·7	..	..	..	..	Calm	ENE	..	¼	..	..	..	½	..
2	29·975	63·3	54·3	9·0	..	..	..	..	Calm	E by N	..	¼	..	..	..	0	..
4	29·946	61·2	54·0	7·2	43·0	18·2	..	..	ENE	ENE	..	¼	..	..	..	6	..
6	29·939	56·5	51·4	5·1	..	..	..	..	E	E	..	¼–	..	..	..	8	..
8	29·940	51·8	48·0	3·8	..	..	..	..	Calm	ESE	..	¼–	..	..	..	3	..
10	29·945	47·5	45·8	1·7	43·0	4·5	..	..	Calm	Calm	..	..	..	..	..	0	..
12	29·939	43·2	42·4	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
14	29·918	40·5	40·5	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	6	..
16	29·903	40·5	40·5	0·0	40·0	0·5	..	..	E	Calm	..	..	..	..	..	10	Transit
18	29·900	40·8	40·8	0·0	..	..	..	..	E	Calm	..	..	..	..	..	10	..
20	29·879	42·8	42·7	0·1	..	..	..	..	E	E	..	¼	..	..	..	10	..
22	29·856	46·5	45·7	0·8	45·0	1·5	67·7 39·5	92·8 30·5	E	ENE	..	¼	2·50	0·00	4·950	10	..
Apr. 19. 0	29·831	51·7	49·2	2·5	..	..	..	..	ENE	E	..	¼	..	..	..	4	..
2	29·784	60·0	54·7	5·3	..	..	..	..	ENE	E	..	¼	..	..	..	4	..
4	29·736	59·5	53·7	5·8	45·0	14·5	..	..	E	E	..	¼	..	..	..	2	..
6	29·714	55·5	51·7	3·8	..	..	..	..	E	E	..	¼	..	..	..	2	..
8	29·694	49·6	47·9	1·7	..	..	..	..	E	E	..	¼	..	..	..	9	..
10	29·692	47·2	46·5	0·7	45·0	2·2	..	..	E	E	..	¼	..	..	..	7	..
12	29·665	44·8	44·7	0·1	..	..	..	..	Calm	E	..	¼	..	..	..	0	..
14	29·624	44·3	44·1	0·2	..	..	..	..	Calm	E	..	¼	..	..	..	0	..
16	29·587	43·3	43·3	0·0	42·5	0·8	..	..	Calm	Calm	..	..	..	..	..	4	..
18	29·569	43·8	43·8	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	8	Transit
20	29·569	51·2	50·5	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
22	29·593	58·6	55·6	3·0	54·0	4·6	63·8 42·5	86·0 33·0	WSW	Calm	..	..	2·50	0·00	4·950	6	..

BAROMETER.

April 16d. 20h. This reading of the barometer was recorded 29in. 651 : it is altered conjecturally, and the value as altered has been used in the means.

DRY THERMOMETER.

April 18d. The daily range was the largest in the month.

April 18d. 2h. The greatest difference between its reading and that of the Wet Thermometer occurred; it is the largest difference since 1842, Aug. 26d. 2h.

April 19d and 20d. The greatest difference of the mean daily temperatures for consecutive days in the month occurred; this was the only case in the month in which the difference for consecutive days was great.

GENERAL REMARKS.	Observer.
The day has continued very fine; a few cumuli have been generally visible, and also a few cirri of a fleecy character, which still prevail.	G
Overcast.	D
,,	
,,	
Breaks about the place of the Sun: cirro-stratus.	D
Cirro-cumuli, cirri, and scud, in every direction.	P
Scud in different parts of the sky.	
Cumuli and loose scud in various directions.	P
Cirro-stratus and scud: a very fine day.	D
,,	
,,	
Cirro-stratus in the horizon on all sides: vapour in the zenith.	D
Cloudless.	P
,,	
Cirri and scud in the S. and S.E.	
Scud and cirri in different parts of the sky.	
A few light cirri only in the West: hazy.	P
Cloudless.	J H
Light vapour.	
Cloudless.	J H
Light scud, cumuli, and cirri; the cumuli, and the greater part of the clouds South of the zenith, are near the horizon: hazy.	P
Scud and cirro-stratus covering the greater part of the sky: hazy.	
Cirro-strati and cirri, principally in the West and North: hazy: the wind in light airs.	
Cloudless: the stars, however, appear small by reason of the haze.	P
Vapour, principally N. of the zenith.	J H
,, a misty damp air.	
,, ,,	
,, ,,	
,, ,,	J H
,, ,,	D
Light clouds and haze: cumuli in the S.W. near the horizon.	D
Scud, cirri, and cirro-cumuli; the latter very small, and beautifully formed: hazy.	P
Light clouds.	J H
,,	
Cirro-stratus and scud.	J H
About the zenith, and a little N.W. of it, the stars are shining brightly. [Meteorological Observations.)	G
Cloudless, but the stars appear small: it has been clear about half an hour; flashes of lightning still continue. (See Term-day	G
Cloudless: the stars seem dim and watery.	J H
Fleecy clouds and scud.	J H
Scud and cirro-stratus in every direction.	P
Cirro-stratus and fleecy clouds.	D
Cirro-cumuli are prevalent every where above 20° from the horizon: the horizon is misty.	G

TEMPERATURE OF THE DEW POINT.

April 18d. The difference between its mean daily value and that of the temperature of the air was the greatest in the month; and at 4h the greatest difference between it and the temperature of the air occurred.

ADDITIONAL WEIGHT OF VAPOUR REQUIRED FOR COMPLETE SATURATION OF A CUBIC FOOT OF AIR.

April 18d. The mean daily value was the greatest in the month.

WEIGHT OF A CUBIC FOOT OF AIR.

April 19d and 20d. The greatest difference of the mean daily values for consecutive days in the month occurred.

AMOUNT OF CLOUDS.

April 18d. The mean daily value was the smallest in the month.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Apr. 20. 0	29·612	64·6	59·0	5·6	..	..	..	..	WSW	W	..	1/4	..	..	..	2	..
2	29·616	66·5	58·5	8·0	..	..	..	..	WSW	W by S	0 to 1/2	1/4	..	..	..	2	..
4	29·606	66·1	57·8	8·3	50·0	16·1	..	..	WSW	WSW	..	1/2	..	..	..	4	..
6	29·626	62·6	56·4	6·2	..	..	..	..	W	W	..	1/4	..	..	..	1	..
8	29·638	57·5	52·7	4·8	..	..	..	..	WSW	W	..	1/4	..	..	..	7	..
10	29·680	54·2	51·6	2·6	46·0	8·2	..	..	Calm	W	..	1/4	..	..	..	4	..
12	29·680	50·2	49·5	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
14	29·693	47·5	47·3	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
16	29·709	46·5	46·5	0·0	46·5	0·0	..	..	Calm	Calm	..	..	..	..	..	9	..
18	29·729	44·9	44·6	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	8	Transit
20	29·747	49·5	48·4	1·1	..	..	..	..	Calm	WSW	..	1/4	..	..	..	8	..
22	29·743	58·9	54·1	4·8	49·0	9·9	70·8 / 45·3	89·1 / 40·0	Calm	WSW	..	1/4	2·50	0·00	4·950	1	..
Apr. 21. 0	29·747	60·6	55·5	5·1	..	..	..	..	WSW	Calm	..	..	..	..	..	2	..
2	29·749	64·2	57·0	7·2	..	..	..	..	WSW	SW	..	1/4	..	..	..	2	3rd Qr.
4	29·742	60·6	54·4	6·2	46·0	14·6	..	..	SW	SW	..	1/4	..	..	..	5	..
6	29·738	58·3	52·7	5·6	..	..	..	..	WSW	WSW	..	1/4	..	..	..	2	..
8	29·752	51·4	49·0	2·4	..	..	..	..	SSW	SSW	..	1/4	..	..	..	1	..
10	29·747	48·5	47·1	1·4	46·5	2·0	..	..	Calm	S	..	1/4	..	..	..	2	..
12	29·733	48·5	46·8	1·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·708	48·1	47·5	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·705	48·7	48·1	0·6	47·5	1·2	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·696	48·5	48·2	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·708	49·5	49·1	0·4	..	..	..	..	Calm	SSW	..	1/4—	..	..	..	10	Transit
22	29·737	53·2	50·8	2·4	49·0	4·2	66·5 / 48·0	88·0 / 39·0	WSW	W by S	..	1/4	2·55	0·08	5·055	9	..
Apr. 22. 0	29·767	54·1	50·3	3·8	..	..	..	..	WSW	WSW	0 to 2	3/4	..	..	..	9	..
2	29·778	57·5	49·5	8·0	..	..	..	..	WSW	W by S	1 to 3	3/4	..	..	..	7	..
4	29·806	52·7	49·5	3·2	45·0	7·7	..	..	WSW	SW	2 1/2 to 4	1	..	..	..	4	..
6	29·858	48·5	44·1	4·4	..	..	..	..	WSW	SSW	2 to 3	1	..	..	..	2	..
8	29·901	45·2	42·0	3·2	..	..	..	..	WSW	WSW	..	1/4—	..	..	..	1/4	..
10	29·903	41·0	39·2	1·8	39·0	2·0	..	..	SW	WSW	..	1/4	..	..	..	1/4	..
12	29·922	40·8	39·0	1·8	..	..	..	..	SW	WSW	..	3/4	..	..	..	0	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
22	29·959	48·7	46·5	2·2	..	..	58·7 / 37·0	74·3 / 24·0	Calm	SSW	..	1/4	2·59	0·05	5·095	9	..
Apr. 23. 0	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
4	29·930	54·7	49·5	5·2	..	..	..	..	Calm	SSW	..	1/4	..	..	..	8	..
6	29·926	50·8	47·0	3·8	..	..	..	..	Calm	S	..	1/4	..	..	..	7	..
8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	29·910	40·0	39·5	0·5	..	..	..	..	Calm	SW	..	1/4	..	..	..	0	..
16	29·911	37·5	37·3	0·2	36·5	1·0	..	..	Calm	SW	..	1/4	..	..	..	0	..
18	29·907	35·0	35·0	0·0	..	..	..	..	Calm	SW	..	1/4	..	..	..	1	..
20	29·915	42·8	41·4	1·4	..	..	..	..	Calm	SSW	..	1/4	..	..	..	4	Transit
22	29·911	52·5	47·5	5·0	41·5	11·0	58·6 / 36·0	85·8 / 24·0	NE	E	..	1/4	2·59	0·00	5·160	5	..

DRY THERMOMETER.
April 20d. The mean daily temperature was the highest in the month; and at 2h the reading was the highest in the month.

MINIMUM THERMOMETER.
April 20d. 22h and 23d. 22h. The reading on each day was higher than that of the Dry Thermometer at 18h.

GENERAL REMARKS.	Observer.
Scud in every direction, and cumuli in the W. and S. horizon.	P
Light cumuli scattered over the sky.	J H
The sky in and about the zenith is mostly covered with cirri, and mottled cirro-stratus: in the N. horizon, there are a few small	D
Cirri to the W. and N. of the zenith: this has been a fine day. [cumuli; the remainder is clear.	G
Scud beautifully tinged by the setting Sun, scattered in every direction.	P
Heavy vapour and scud.	J H
Heavy vapour.	D
,, cirro-stratus in the S. horizon.	
Cirro-stratus and heavy vapour.	
Cirro-stratus and scud.	
Fleecy clouds and cirro-stratus.	D
Scud and cumuli in the S. horizon.	P
Cumuli, cumulo-strati, and scud.	
Cumuli and loose scud, the former lining the whole horizon.	P
Light clouds in the zenith; cumuli are scattered over the remainder of the sky.	D
Cirri N. of the zenith: cumuli in the whole horizon.	
A few clouds near the W. and W. N.W. horizon.	
Cirro-stratus in the N. and N.W. horizon: the stars S. of the zenith are occasionally obscured by vapour.	D
Overcast: heavy vapour: the clouds came up about $11^h.\ 15^m$.	P
,, a thin rain falling.	
,, ,,	
,, ,,	
,, a thin rain is still falling.	P
Cirro-stratus and scud.	J H
Cirro-stratus, cumulo-stratus, and scud, with occasional passing showers.	
Cumulo-stratus, cirro-stratus, and scud.	J H
,, ,, squally.	P
Cumuli and scud.	
A few clouds only in the W. horizon.	
A long, dark bank of cloud a few degrees above the North horizon, near which is a very bright light resembling auroral light.	P
Cloudless.	J H
Cirro-stratus and scud.	
Cirro-stratus and scud: hazy.	J H
Cumuli, cumulo-strati, and scud: very hazy.	P
Cloudlesss: the stars appear dim and watery.	J H
,,	
Light scud.	
Vapour and light scud.	J H
Cumuli and scud.	D

PRESSURE OF THE WIND AT THE ANEMOMETER IN POUNDS ON THE SQUARE FOOT.

April 22^h. At $2^h.\ 40^m$ a pressure of 5lbs. occurred in a squall, and at $5^h.\ 10^m$ a gust of $5\frac{1}{2}$lbs. took place.

RAIN.

April $23^d.\ 22^h$. The reading of Crosley's gauge is increased by the deposition of moisture.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Apr. 24. 0	29·898	55·2	49·6	5·6	..	..	..	..	ENE	E	..	¼	..	..	..	6	..
2	29·892	57·0	50·5	6·5	..	..	..	..	ENE	E	..	½	..	..	..	6	..
4	29·884	55·5	50·2	5·3	43·5	12·0	..	..	E	E	..	¼	..	..	..	7	..
6	29·894	49·6	46·5	3·1	..	..	..	..	E	E	0 to ½	¼	..	..	..	1	..
8	29·907	44·5	40·5	4·0	..	..	..	..	Calm	E	..	¼	..	..	..	1	..
10	29·914	41·5	38·7	2·8	36·0	5·5	..	..	Calm	E	..	¼	..	..	..	1	..
12	29·902	37·6	36·4	1·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·859	34·5	34·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·802	33·5	33·0	0·5	33·0	0·5	..	..	Calm	Calm	..	..	..	..	..	1	..
18	29·750	35·9	35·1	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	9½	..
20	29·695	43·2	41·5	1·7	..	..	..	..	Calm	S	..	¼	..	..	..	10	..
22	29·631	46·5	44·2	2·3	41·0	5·5	60·6 34·2	82·5 21·8	Calm	S	..	¾	2·59	0·00	5·165	10	Transit
Apr. 25. 0	29·560	47·7	45·5	2·2	..	..	..	..	SSE	S	½ to 2½	¾	..	..	..	10	In Equator
2	29·473	46·1	45·9	0·2	..	..	..	..	SSE	S	2 to 4½	1½	..	..	..	10	..
4	29·456	52·7	48·8	3·9	44·2	8·5	..	..	WSW	W	0 to 3	¾	..	..	..	7	..
6	29·490	50·2	45·8	4·4	..	..	..	..	W	NW	½ to 3	1+	..	..	..	6	..
8	29·522	46·5	42·8	3·7	..	..	..	..	WSW	W	0 to 2½	¾	..	..	..	0	..
10	29·552	41·2	39·2	2·0	38·0	3·2	..	..	SW	SW	..	¼	..	..	..	0	..
12	29·546	41·7	40·5	1·2	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
14	29·531	40·5	39·1	1·4	..	..	..	..	SSW	SW	..	¼	..	..	..	2	..
16	29·512	38·5	37·5	1·0	36·5	2·0	..	..	SSW	SW	..	½	..	..	..	¼	..
18	29·499	39·8	38·8	1·0	..	..	..	..	SSW	SW	..	¼	..	..	..	9	..
20	29·507	35·0	35·1	−0·1	..	..	..	..	SW	WSW	..	¼	..	..	..	10	..
22	29·550	38·5	38·2	0·3	37·5	1·0	54·1 35·9	62·4 31·4	WSW	WSW	..	½	2·79	0·30	5·440	10	Transit
Apr. 26. 0	29·567	44·5	41·8	2·7	..	..	..	..	W	WSW	0 to 2½	½	..	..	..	9	..
2	29·585	50·7	44·3	6·4	..	..	..	..	WSW	WSW	..	¼	..	..	..	5	..
4	29·574	51·1	45·1	6·0	36·0	15·1	..	..	WSW	WNW	0 to 1	¼	..	..	..	5	..
6	29·571	49·6	45·0	4·6	..	..	..	..	SW	W	0 to ½	¼	..	..	..	1½	..
8	29·579	44·7	41·1	3·6	..	..	..	..	SW	SW	..	¼	..	..	..	2	..
10	29·539	43·9	41·2	2·7	38·0	5·9	..	..	SSW	SW	..	¼	..	..	..	10	Apogee
12	29·558	38·8	38·6	0·2	..	..	..	..	WSW	Calm	..	..	..	..	..	10	..
14	29·554	36·6	36·5	0·1	..	..	..	..	SSW	Calm	..	..	..	..	..	0	..
16	29·574	38·0	38·0	0·0	38·0	0·0	..	..	WSW	Calm	..	..	..	..	..	10	..
18	29·622	38·0	37·5	0·5	..	..	..	..	NNW	N	..	¼	..	..	..	10	..
20	29·673	40·7	39·8	0·9	..	..	..	..	NNW	N	..	¼	..	..	..	9	..
22	29·697	43·0	41·0	2·0	37·5	5·5	54·9 37·5	75·0 31·7	NNW	NW	..	¼	2·83	0·07	5·515	10	Transit
Apr. 27. 0	29·758	50·2	46·6	3·6	..	..	..	..	N	N	..	¼−	..	..	..	8	..
2	29·774	54·0	48·4	5·6	..	..	..	..	NNE	NN E	..	¼	..	..	..	8	..
4	29·784	52·1	48·1	4·0	44·0	8·1	..	..	Calm	E	..	¼	..	..	..	7	..
6	29·786	52·3	48·7	3·6	..	..	..	..	Calm	ESE	..	¼	..	..	..	7	..
8	29·802	46·7	44·7	2·0	..	..	..	..	Calm	S	..	¼	..	..	..	6	..
10	29·808	47·2	44·0	3·2	40·5	6·7	..	..	Calm	S	..	¼	..	..	..	6	..

BAROMETER.

April 24d. The daily range was the smallest in the month.

April 24d and 25d. The difference of the mean daily heights was considerable.

April 25d. The daily range was the greatest in the month.

DRY THERMOMETER.

April 25d. 20h. The reading was lower than that of the Wet Thermometer.

ADDITIONAL WEIGHT OF VAPOUR REQUIRED FOR COMPLETE SATURATION OF A CUBIC FOOT OF AIR.

April 24d. The mean daily value was the least in the month.

GENERAL REMARKS.	Observer.
Cumulo-strati and scud: somewhat hazy.	P
Cumulo-strati, cumuli, and scud.	D
Cumuli and scud.	J H
A few light cumuli.	
Light clouds.	
Vapour near the W. horizon.	J H
Cloudless.	D
,,	
A few light clouds in the zenith.	
With the exception of a break in the E. horizon, the whole sky is covered with a thin cirro-stratus.	
Overcast, cirro-stratus: the Sun's place is visible.	D
,, ,,	P
Overcast, cirro-stratus: rain falling.	J H
,, a fine, steady rain falling.	P
The rain continued falling till about $3^h.\ 30^m$; since that time scud in large quantities have passed over, and at present scud is spread generally over the sky: cumuli near the horizon in the N.	G
A large and black nimbus covers the zenith, and the whole of the southern portion of the sky: occasional showers of rain since the last observation: thunder in the S. E. at $6^h.\ 3^m$.	G
Cloudless.	D
,,	D
Overcast: the clouds began to come up from the W. S. W. at about 11^h.	P
Clouds in the S.W., S., and S. E., the rest of the sky being free from clouds, though at the same time the stars appear small.	
A few clouds only in the N. horizon: the twilight in the E. strong.	
Nearly overcast: a thin rain falling.	
Overcast: large flakes of snow falling; it began about 10^m before the observation.	P
Cirro-stratus and scud.	J H
Cirro-stratus and scud: a shower of rain and hail at $23^h.\ 50^m$.	
Scud and light fleecy clouds.	J H
Cumuli, cumulo-strati, and scud: squally.	P
Cirro-stratus (consisting of a narrow band) lining the horizon from W. to N. E., the rest of the sky being entirely free from clouds.	
Scud and cirro-stratus in the S.W. and W.	
Overcast: a few stars are occasionally visible S. E. of the zenith.	P
,, a slight rain falling: since the last observation rain has been falling heavily: at about $10^h.\ 40^m$, in a squall, the wind blew with a force of 2, and shifted from W. to W. S.W.; it however subsided into a calm at the cessation of the squall.	G
At 13^h a star was seen in the N.W., and then some were visible in the N., and successively in the zenith, S.W., and lastly in the S. E.; and by $13^h.\ 15^m$ there was not a cloud, the clouds appearing to dissipate; at present it is cloudless.	
Within a half-an-hour after the last observation the sky was quite covered with clouds, and it continues so.	
Overcast: a break near the horizon in the East, but to no numerical extent.	
The clouds became broken about a quarter of an hour since: at present the sun shines very faintly, but the clouds are becoming much thinner near him: to the N. there is some faint blue sky visible.	G
Overcast: cirro-stratus	J H
Scud and cirro-stratus; the breaks being chiefly S. and S. E. of the zenith.	P
Cumulo-strati and large masses of scud: hazy.	P
Loose fleecy cumuli in the S.: the Sun is shining through stratus, but does not cast any shadow. [of the sky.	G
The Sun is still shining so as to cast a faint shadow: the sky is generally hazy, with some loose cumuli about the southern portion	
Hazy: some faint blue sky to the S. and about the zenith; ill-defined cumuli about the horizon and all around: a short time since the Sun was behind fine, rocky cumuli, above which there was a fine fan of solar rays.	
Some stars are shining in the E. and N., and a few are shining near the horizon in the S.; very black cloud over every other part [of the sky.	G

MINIMUM THERMOMETER.

April $24^d.\ 22^h$. The reading was higher than that of the Dry Thermometer at 16^h.
April $25^d.\ 22^h$. The reading was higher than that of the Dry Thermometer at 20^h.
April $26^d.\ 22^h$. The reading was higher than that of the Dry Thermometer at 14^h.

PRESSURE OF THE WIND AT THE ANEMOMETER IN POUNDS ON THE SQUARE FOOT.

April $26^d.\ 4^h.\ 35^m$. A gust of $3\frac{1}{2}$ lbs. took place; and another gust of 5 lbs. at $10^h.\ 45^m$ took place.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Apr. 27. 12	29·812	40·5	39·5	1·0	..	..	..	..	Calm	SW	..	¼	..	..	..	1	..
14	29·826	39·5	38·7	0·8	..	..	..	..	Calm	SW	..	¼	..	..	..	10	..
16	29·750	38·2	37·3	0·9	36·5	1·7	..	..	Calm	SW	..	¼	..	..	..	7	..
18	29·728	40·0	38·2	1·8	..	..	..	..	Calm	SW	..	¼	..	..	..	9	..
20	29·703	45·3	43·3	2·0	..	..	..	..	SSW	SW	0 to ½	¾	..	..	..	10	..
22	29·662	49·6	45·2	4·4	41·5	8·1	59·7 37·4	82·9 28·0	S	S	0 to ½	¼	2·83	0·00	5·515	10	..
Apr. 28. 0	29·630	52·0	46·5	5·5	..	..	..	..	SSE	S	0 to 3	1	..	..	..	10	Transit
2	29·604	49·7	48·0	1·7	..	..	..	..	SSE	S	½ to 1½	¾	..	..	..	10	..
4	29·569	50·7	50·0	0·7	49·0	1·7	..	..	S by E	S	0 to 2	¾	..	..	..	10	..
6	29·537	49·8	49·3	0·5	..	..	..	..	S	S	0 to 1½	1½	..	..	..	10	..
8	29·562	48·3	47·7	0·6	..	..	..	..	Calm	S	..	½	..	..	..	10	..
10	29·630	45·8	45·5	0·3	45·0	0·8	..	..	Calm	S	..	¼	..	..	..	9	..
12	29·578	44·8	44·5	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
14	29·580	43·6	43·2	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·560	42·8	42·5	0·3	42·5	0·3	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·563	42·7	42·5	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·576	46·5	45·4	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·580	51·2	48·2	3·0	47·7	3·5	55·7 41·8	70·8 25·2	Calm	Calm	..	..	2·83	0·00	5·555	10	..
Apr. 29. 0	29·595	54·7	49·6	5·1	..	..	..	..	NNE	Calm	..	..	..	..	..	7	Transit
2	29·586	56·6	50·5	6·1	..	..	..	..	NNE	Calm	..	..	..	..	..	8	..
4	29·574	57·2	52·1	5·1	44·0	13·1	..	..	NE	Calm	..	..	..	..	..	9	New
6	29·587	53·2	50·5	2·7	..	..	..	..	E	E by S	..	¼	..	..	..	10	..
8	29·616	51·0	48·4	2·6	..	..	..	..	E	E	..	¼	..	..	..	9	..
10	29·639	48·2	47·2	1·0	46·0	2·2	..	..	E	E	..	¼	..	..	..	10	..
12	29·619	47·3	47·2	0·1	..	..	..	..	NE	Calm	..	..	..	..	..	10	..
14	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	E by N	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	E by N	...	..	..	..	..	..	..	..
22	29·725	60·1	54·6	5·5	47·0	13·1	60·9 46·0	84·0 38·7	E	ENE	0 to 2	½	2·83	0·00	5·565	1	..
Apr. 30. 0	..	..	..	..	..	..	..	..	ENE	...	½ to 2	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	Transit
4	..	..	..	..	..	..	..	..	ENE	...	0 to ½	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	ENE	...	0 to ½	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	ENE	...	0 to 2	..	..	..	..	..	..
14	29·846	52·6	49·8	2·8	..	..	..	..	ENE	ENE	½ to 1½	1	..	..	..	0	..
16	29·864	51·5	49·2	2·3	46·2	5·3	..	..	ENE	ENE	½ to 2	¾	..	..	..	0	..
18	29·893	49·7	47·6	2·1	..	..	..	..	ENE	ENE	..	¾	..	..	..	0	..
20	29·923	56·3	53·0	3·3	..	..	..	..	ENE	E by N	½ to 2½	½	..	..	..	0	..
22	29·966	60·9	54·8	6·1	46·5	14·4	67·3 48·6	84·2 39·5	ENE	E	1 to 3	¼	2·83	0·00	5·565	¼	..
May. 1. 0	29·981	64·1	56·8	7·3	..	..	..	..	E	E	2 to 3½	¼	..	..	..	¾	..
2	29·994	66·2	58·5	7·7	..	..	..	..	E	E	1 to 2	½	..	..	..	¼	Transit
4	29·986	65·3	57·0	8·3	48·5	16·8	..	..	ENE	E by N	1 to 4	¾	..	..	..	0	..
6	29·987	62·5	54·7	7·8	..	..	..	..	ENE	ENE	½ to 1½	1	..	..	..	0	..

BAROMETER.

April 28d. 4h. The reading was recorded 0in·1 less than that above: it was altered conjecturally, and the value as altered was used in the means.

TEMPERATURE OF THE DEW POINT.

May 1d. The difference between its mean daily value and that of the temperature of the air was the greatest during the month: the same difference occurred on the second day.

GENERAL REMARKS.	Observer.
Vapour: hazy.	J H
Overcast.	
An extensive break W. of the zenith; otherwise the sky is generally covered with fleecy clouds and scud.	
Cirro-stratus and scud.	
,,	J H
Overcast: cirro-stratus and scud.	D
Overcast: cirro-stratus and scud.	P
,, ,, rain falling.	P
,, rain falling.	J H
,, ,,	
,, the rain ceased falling about 7^h.	
Cirro-stratus and scud.	J H
,, clear in the zenith.	D
Overcast: cirro-stratus.	
,, ,,	
,, ,,	
,, ,,	D
,, ,,	P
Cirro-stratus and scud.	J H
Cumuli and cirro-stratus.	J H
,,	D
Overcast: cirro-stratus.	
Fleecy clouds and cirro-stratus.	
Overcast: a very thin rain falling.	D
,,	P
A few light clouds: a fine morning.	D
Cloudless.	P
,,	
,,	
,,	P
A few light cirri W. of the zenith; otherwise clear.	J H
Light cirri.	
,,	J H
Cloudless.	P
,,	

ADDITIONAL WEIGHT OF VAPOUR REQUIRED FOR COMPLETE SATURATION OF A CUBIC FOOT OF AIR.

May 1^d. The mean daily value was the greatest in the month.

AMOUNT OF CLOUDS.

May 1^d and 2^d. The mean daily value on each of these days was the same, and they are two of the days out of the five in the year considered cloudless: the period from April $30^d.\ 14^h$ to May $2^d.\ 12^h$, was the longest period of clear sky in the year.

RAIN.

April $30^d.\ 12^h$. The amount collected during the month of April in the rain-gauge No. 4, was $1^{in.}72$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
May 1. 8	30·014	57·0	51·2	5·8	..	..	..	..	ENE	ENE	0 to 1½	½	..	..	..	0	..
10	30·047	52·4	50·0	2·4	47·0	5·4	..	..	ENE	ENE	..	¼+	..	..	..	0	..
12	30·057	50·0	47·2	2·8	..	..	..	..	ENE	ENE	½ to 1½	¾	..	..	..	0	..
14	30·059	49·1	47·0	2·1	..	..	..	..	ENE	ENE	..	½	..	..	..	0	..
16	30·050	47·8	46·0	1·8	44·0	3·8	..	..	E by N	ENE	..	½	..	..	..	0	..
18	30·026	51·0	48·5	2·5	..	..	..	..	E	ENE	..	¼	..	..	..	0	..
20	30·029	54·1	50·0	4·1	..	..	..	..	ENE	ENE	..	¼	..	..	..	0	..
22	30·020	59·2	54·5	4·7	48·0	11·2	68·3 46·3	83·0 35·8	E	ENE	..	½	2·83	0·00	5·565	0	..
May 2. 0	29·988	64·0	56·2	7·8	..	..	..	..	E	ENE	0 to 1½	½	..	..	..	1	..
2	29·962	65·2	56·6	8·6	..	..	..	..	E	ENE	0 to 2	½	..	..	..	0	Transit
4	29·938	63·4	54·9	8·5	39·0	24·4	..	..	E	ENE	0 to ½	½	..	..	..	0	..
6	29·902	60·3	51·6	8·7	..	..	..	..	E by N	ENE	0 to ½	½	..	..	..	¼	..
8	29·904	55·0	48·3	6·7	..	..	..	..	E by N	ENE	..	¼	..	..	..	¼	..
10	29·898	50·3	47·1	3·2	41·5	8·8	..	..	ENE	Calm	..	..	..	..	..	0	..
12	29·883	44·5	44·0	0·5	..	..	..	..	NE	Calm	..	..	..	..	..	0	Greatest declination N.
14	29·853	41·6	41·8	-0·2	..	..	..	..	NNE	NNE	..	¼	..	..	..	¼	..
16	29·824	41·0	40·9	0·1	41·0	0·0	..	..	NNE	NNE	..	¼	..	..	..	10	..
18	29·804	41·7	41·5	0·2	..	..	..	..	NNE	NNE	..	¼	..	..	..	10	..
20	29·780	44·3	43·5	0·8	..	..	..	..	NNE	NNE	..	¼	..	..	..	10	..
22	29·790	48·0	46·6	1·4	42·5	5·5	67·4 40·3	84·8 33·0	ENE	E by N	..	¼	2·83	0·00	5·565	10	..
May 3. 0	29·761	52·7	50·2	2·5	..	..	..	..	NE	ENE	..	¼	..	..	..	3	..
2	29·740	59·7	56·5	3·2	..	..	..	..	ENE	E	..	¼−	..	..	..	8	..
4	29·711	61·3	57·7	3·6	54·0	7·3	..	..	ESE	ESE	..	¼	..	..	..	1	Transit
6	29·699	59·6	56·9	2·7	..	..	..	..	Calm	E by S	..	¼	..	..	..	2	..
8	29·697	51·1	50·3	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
10	29·712	46·6	46·8	-0·2	47·0	-0·4	..	..	Calm	Calm	..	..	..	..	..	3	..
12	29·701	44·0	44·0	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·679	45·5	45·6	-0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·678	45·8	45·8	0·0	45·5	0·3	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·670	46·8	46·8	0·0	..	..	..	..	Calm	S	..	..	..	..	..	10	..
20	29·667	55·4	53·8	1·6	..	..	..	..	Calm	W	..	¼	..	..	..	9	..
22	29·653	57·5	55·2	2·3	52·0	5·5	65·8 44·4	86·0 36·5	W	SW	..	¼	2·85	0·01	5·590	4	..
May 4. 0	29·637	61·2	57·8	3·4	..	..	..	..	SW	SW	..	¼	..	..	..	7	..
2	29·642	64·2	59·2	5·0	..	..	..	..	SW	W	..	¼	..	..	..	7	..
4	29·599	63·8	58·0	5·8	50·5	13·3	..	..	SW	W	0 to 2	1	..	..	..	5	Transit
6	29·599	56·7	53·3	3·4	..	..	..	..	SW	W	0 to ½	¼	..	..	..	4	..
8	29·598	53·1	51·0	2·1	..	..	..	..	SW	W	..	½	..	..	..	8	..
10	29·598	48·7	48·5	0·2	48·5	0·2	..	..	SW	W	..	¼	..	..	..	2	..
12	29·582	47·1	46·7	0·4	..	..	..	..	SW	Calm	..	..	..	..	..	0	..
14	29·564	48·6	48·0	0·6	..	..	..	..	SW	Calm	..	..	..	..	..	6	..
16	29 556	49·2	48·6	0·6	47·5	1·7	..	..	SW	Calm	..	..	..	..	..	7	..
18	29·557	50·7	50·1	0·6	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
20	29·572	52·0	51·5	0·5	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
22	29·579	54·8	53·0	1·8	52·0	2·8	67·2 47·1	83·6 42·3	SSW	WSW	..	¼	2·93	0·11	5·695	9	..
May 5. 0	29·575	61·0	56·6	4·4	..	..	..	..	SSW	SW	0 to ½	¼	..	..	..	8	..
2	29·575	59·0	55·3	3·7	..	..	..	..	SSW	SW	0 to ½	¾	..	..	..	8	..

BAROMETER.

May 5d. The daily range was the least in the month.

DRY THERMOMETER.

May 2d. 6h. The greatest difference for the month between its readings and those of the Wet Thermometer occurred.

May 2d and 3d. A great difference of the mean daily temperatures occurred.

May 2d. 14h; 3d. 10h and 14h. The readings were lower than those of the Wet Thermometer.

May 5d and 6d. The greatest difference of the mean daily temperatures for consecutive days in the month occurred: the same difference took place between 30d and 31d.

GENERAL REMARKS.	Observer.
Cloudless.	P
,, the wind in light airs.	P
,, hazy: the stars appear dim and watery.	J H
,, ,,	
,,	
,,	
,,	J H
,,	D
Light clouds.	
Cloudless.	D
,,	J H
A few light cirri N. and W. of the zenith.	
,,	
Cloudless: a splendid evening.	J H
,,	D
A few clouds E. of the zenith.	
Overcast: cirro-stratus.	
,, ,,	
,, ,,	D
,, ,,	P
Scud and cirro-cumuli chiefly S. of the zenith.	
Cirro-stratus and scud.	P
Cirri S. of the zenith; every other part of the sky is free from cloud.	D
Cirri scattered over the sky, principally in the zenith.	
Dark clouds in the S. E. near the horizon; a few clouds are also near the N. horizon.	
Light clouds N.W. of the zenith: cirro-stratus in the N. and N.W. near the horizon.	D
The clouds began to increase almost immediately after 10^h, and continued increasing until $11^h.\ 40^m$, when no star was visible: at present there is a fog.	G
Overcast: fog; slight rain has been falling for half an hour.	
,, no fog: rain falling.	
There are a few unimportant breaks in the clouds towards the East, but not to any numerical extent.	
The clouds are a little broken about the place of the Sun; the general character of the clouds is cirro-stratus.	G
Scud and imperfectly-formed cirro-cumuli scattered over a great portion of the sky.	P
Scud and cirro-stratus: hazy.	
Cumuli, cumulo-strati, and scud: hazy.	P
Cumuli with a fine blue sky between them: a scud passing from the S.W.	G
Bars of cirri whose direction is N. and S.: some cumuli in all directions: a little scud from the West.	
Cirro-stratus and scud; the zenith however is cloudless, and a bright streak of clear sky is in the N.W.	
Nearly cloudless, there being only a few clouds near the horizon.	G
Cloudless.	P
Stars in and South of the zenith, and a few in the S. E.	
Scud in every direction, and dark cirro-strati in the Eastern horizon.	
Overcast: cirro-stratus and scud: gloomy.	
,, a fine, steady rain falling.	P
Scud and cirro-stratus.	J H
Scud and cirro-stratus.	
,, a slight passing shower.	J H

TEMPERATURE OF THE DEW POINT.
May $2^d.\ 4^h$. The greatest difference between it and that of the temperature of the air occurred.

DEGREE OF HUMIDITY.
May 2^d. The mean daily value was the least in the month.

MINIMUM THERMOMETER.
May $3^d.\ 22^h$. The reading was higher than that of the Dry Thermometer at 12^h.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
May 5. 4	29·554	59·5	54·7	4·8	50·0	9·5	..	..	SSW	SSW	0 to 1½	¾	..	..	..	4	..
6	29·565	57·1	53·2	3·9	..	..	..	..	SSW	SSW	..	½	..	..	..	1½	Transit
8	29·554	53·4	51·6	1·8	..	..	..	..	Calm	SSW	..	¼	..	..	..	8	..
10	29·560	51·1	50·8	0·3	49·0	2·1	..	..	Calm	Calm	..	..	..	..	..	8	..
12	29·552	50·4	50·3	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·494	50·3	50·3	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·416	50·8	50·8	0·0	50·0	0·8	..	..	Calm	SSW	..	¼	..	..	..	10	..
18	29·361	51·0	50·9	0·1	..	..	..	..	Calm	SSW	..	¼	..	..	..	10	..
20	29·301	52·3	52·1	0·2	..	..	..	..	Calm	SSW	..	¼	..	..	..	10	..
22	29·231	53·2	52·9	0·3	53·0	0·2	64·2 50·2	81·5 48·2	SSW	SSW	..	¼	3·60	0·74	6·350	10	..
May 6. 0	29 244	45·0	45·0	0·0	..	..	..	..	NW	NW	0 to 4	1½	..	..	..	10	..
2	29·381	39·3	39·0	0·3	..	..	..	..	WSW	W	1 to 4	2	..	..	..	10	..
4	29·423	46·5	45·7	0·8	44·0	2·5	..	..	WSW	WSW	1 to 2	¾	..	..	..	10	..
6	29·455	46·6	46·0	0·6	..	..	..	..	WSW	W by S	..	½	..	..	..	9	Transit
8	29·480	46·5	45·3	1·2	..	..	..	..	WSW	WSW	..	¼	..	..	..	3	..
10	29·516	43·7	41·0	2·7	40·0	3·7	..	..	WSW	WSW	..	¼	..	..	..	2	..
12	29·533	39·8	38·5	1·3	..	..	..	..	SW	WSW	..	¼	..	..	..	0	..
14	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	29·505	55·7	51·0	4·7	..	..	60·5 35·4	79·5 29·0	SSW	WSW	..	¼	3·69	0·27	6·586	3	1st Qr.
May 7. 0	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
2	29·505	52·8	49·7	3·1	..	..	..	..	SSW	SW	..	¼	..	..	..	8	..
4	..	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..
6	29·468	50·6	47·3	3·3	..	..	..	..	S	S by W	..	¼	..	..	..	8	..
8	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	Transit
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	29·482	39·1	39·1	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
16	29·470	37·4	37·4	0·0	37·5	−0·1	..	..	Calm	Calm	..	..	..	..	..	4	..
18	29·464	39·4	39·1	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·474	42·8	42·5	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·453	44·5	44·6	−0·1	43·5	1·0	58·4 37·3	80·2 28·0	Calm	Calm	..	..	3·83	0·25	6·779	10	..
May 8. 0	29·421	44·8	44·9	−0·1	..	..	..	..	NNW	NW	..	¼	..	..	..	10	..
2	29·435	48·2	46·8	1·4	..	..	.	..	NE	NNE	..	¼	..	..	..	10	..
4	29·444	45·8	44·6	1·2	45·5	0·3	..	..	NE	NE	..	¼	..	..	..	10	..
6	29·448	45·2	43·6	1·6	..	..	..	..	NE	NE	..	¼	..	..	..	10	..
8	29·458	43·0	43·0	0·0	..	..	..	..	N by W	N	..	¼	..	..	..	10	Transit
10	29·464	42·8	42·6	0·2	43·0	−0·2	..	..	N by W	N	..	¼	..	..	..	10	..
12	29·450	43·0	43·0	0·0	..	..	..	..	N by W	Calm	..	..	..	..	..	10	..
14	29·444	43·6	43·5	0·1	..	..	..	..	NNW	N	..	¼	..	..	..	10	..
16	29·432	43·5	43·7	−0·2	42·5	1·0	..	..	NNW	N	..	¼	..	..	..	10	..
18	29·442	44·6	44·7	−0·1	..	..	..	..	N by W	N	..	¼	..	..	..	10	..
20	29·481	46 9	46·8	0·1	..	..	..	..	N	N by E	..	½	..	..	..	10	..
22	29·517	47·1	46·6	0·5	46·0	1·1	48·4 38·0	56·0 42·0	NNE	NNE	..	½	4·05	0·44	7·210	10	..

BAROMETER.
May 5d. 22h. The lowest reading in the month occurred.

DRY THERMOMETER.
May 5d. 22h to 6d. 2h. The decrease in the reading is remarkable.
May 7d. 16h. The reading was the lowest in the month.
May 7d. 22h. The reading was lower than that of the Wet Thermometer.
May 8d. The mean daily temperature was the lowest in the month.
May 8d. 0h, 16h, and 18h. The readings were lower than those of the Wet Thermometer.

GENERAL REMARKS.	Observer.
[are momentarily floating over.	
Cumuli and cumulo-strati lining the whole horizon, and large quantities of scud in other parts of the sky: large masses of the latter	P
A few cumuli in the horizon, with scud scattered in different directions.	
Cirri and scud diffused over every part of the sky; in the W. however, the clouds are denser, resembling cirro-strati: a few drops of rain have been falling since $7^h.\ 35^m$.	
Breaks, extending almost in a direct line from the S. to the N. horizon, the rest of the sky being covered with dark clouds resembling nimbi: the rain ceased at about $9^h.\ 40^m$.	P
Cirro-stratus and scud: rain falling slightly.	J H
,, heavy rain falling.	
,, rain falling.	
,, slightly raining.	
,, ,,	J H
Continual rain since the last observation.	D
Overcast: cirro-stratus and scud: rain falling: extremely gloomy.	P
,, the rain falling fast.	P
,, slightly raining.	J H
Cirro-stratus and scud: occasional showers since the last observation.	
,, no rain since the last observation.	
Light clouds and scud: a fine aurora was visible shortly after this observation.	J H
Cloudless: strong auroral lights in the North.	D
Cumuli, cumulo-strati, and scud.	P
Cumuli and cumulo-strati: a squall of hail at $23^h.\ 40^m$, during which the thermometer fell to 48°.	G
Cumuli, cirro-strati, and scud: squally.	P
Cirro-stratus in the horizon, and also S. E. of the zenith; every other part of the sky is clear.	D
,, and vapour.	
Overcast: cirro-stratus and vapour.	
,, a thin, misty rain falling.	D
,, heavy rain falling.	P
Overcast: heavy rain falling.	
,, squalls of rain.	P
,, rain falling.	D
,, slightly raining.	
,, ,,	
,, rain falling.	D
,, ,,	P
,, ,,	
,, ,,	
,, ,,	
,, the rain is very thin.	P
,, rain falling steadily.	J H

TEMPERATURE OF THE DEW POINT.

May 7d. 16h. The reading was the lowest in the month. [air occurred.

May 8d. The mean daily value was the lowest in the month, and the least difference between it and that of the mean temperature of the

ELASTIC FORCE OF VAPOUR AND WEIGHT OF VAPOUR IN A CUBIC FOOT OF AIR.

May 8d. The mean daily values were the least in the month.

ADDITIONAL WEIGHT OF VAPOUR REQUIRED FOR COMPLETE SATURATION OF A CUBIC FOOT OF AIR.

May 8d. The mean daily value was the smallest in the month; during the greater part of the day the air was saturated with moisture.

DEGREE OF HUMIDITY.

May 8d. The mean daily value was the greatest in the month.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
May 9. 0	29·552	51·0	48·7	2·3	..	..	..	..	NE	NNE	..	½	..	..	..	10	..
2	29·586	52·1	48·9	3·2	..	..	..	..	ENE	NE	0 to 1	½	..	..	..	7	..
4	29·611	51·8	48·8	3·0	45·5	6·3	..	..	ENE	E	0 to ½	½	..	..	..	7	In Equator
6	29·657	50·8	47·9	2·9	..	..	..	..	ENE	ENE	..	½	..	..	..	9	..
8	29·692	48·0	46·5	1·5	..	..	..	..	NE	ENE	..	½	..	..	..	7	Transit
10	29·726	45·7	45·6	0·1	44·0	1·7	..	..	NE	ENE	..	¼	..	..	..	9¾	..
12	29·767	43·1	43·1	0·0	..	..	..	..	NE	ENE	..	¼	..	..	..	¼	..
14	29·787	43·6	43·5	0·1	..	..	..	..	NE	ENE	..	¼	..	..	..	9½	..
16	29·801	44·3	44·2	0·1	43·5	0·8	..	..	NE	ENE	..	¼	..	..	..	10	..
18	29·829	45·2	45·0	0·2	..	..	..	..	NE	Calm	..	.	..	..	..	10	..
20	29·867	51·3	49·5	1·8	..	..	..	..	NE	ENE	..	¼	..	..	..	6	..
22	29·900	51·0	49·2	1·8	47·0	4·0	56·6 42·8	71·2 35·5	ENE	NE	..	¼	4·05	0·00	7·210	8	..
May 10. 0	29·932	54·1	51·2	2·9	..	..	..	..	NE	E	..	¼	..	..	..	10	..
2	29·935	57·8	54·0	3·8	..	..	..	..	NE	ENE	..	¼	..	..	..	10	..
4	29·973	54·1	51·0	3·1	47·0	7·1	..	..	E	ENE	..	½	..	..	..	10	..
6	29·974	53·6	49·5	4·1	..	..	..	..	E	ENE	..	½	..	..	..	3	..
8	30·002	48·7	47·3	1·4	..	..	..	..	Calm	ENE	..	½	..	..	..	3	..
10	30·028	45·0	43·9	1·1	42·0	3·0	..	..	Calm	ENE	..	¼	..	..	..	0	Transit
12	30·038	42·5	42·5	0·0	..	..	..	..	Calm	E	..	¼	..	..	..	2	..
14	30·046	40·0	40·0	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
16	30·052	42·3	42·0	0·3	42·0	0·3	..	..	Calm	Calm	..	..	..	..	..	10	..
18	30·071	43·7	43·7	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·086	46·2	46·2	0·0	..	..	..	..	NNE	N	..	¼−	..	..	..	10	..
22	30·095	51·0	49·0	2·0	48·5	2·5	59·8 39·9	80·5 29·5	ENE	Calm	..	..	4·05	0·00	7·210	10	..
May 11. 0	30·093	55·6	52·5	3·1	..	..	..	..	NE	Calm	..	..	..	..	..	10	..
2	30·084	58·0	54·2	3·8	..	..	..	..	ENE	E	..	¼	..	..	..	8	..
4	30·077	57·5	52·5	5·0	45·5	12·0	..	..	E	E	..	¼	..	..	..	10	..
6	30·064	56·1	51·5	4·6	..	..	..	..	Calm	ENE	..	¼	..	..	..	10	..
8	30·076	52·2	50·0	2·2	..	..	..	..	Calm	ENE	..	¼	..	..	..	10	..
10	30·085	49·6	48·6	1·0	47·5	2·1	..	..	Calm	Calm	..	..	..	..	..	10	Transit
12	30·080	45·0	44·0	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	30·074	42·6	41·6	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	½	..
16	30·068	41·5	41·1	0·4	41·0	0·5	..	..	Calm	Calm	..	..	..	..	..	0	..
18	30·060	42·0	41·6	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	0	Perigee
20	30·051	53·0	49·0	4·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
22	30·049	59·5	53·2	6·3	47·2	13·3	64·0 40·3	87·6 31·5	Calm	Calm	..	..	4·05	0·00	7·210	6	..
May 12. 0	30·022	63·2	56·5	6·7	..	..	..	..	SW	SW	..	¼−	..	..	..	6	..
2	29·991	64·7	57·0	7·7	..	..	..	..	SW	Calm	..	..	..	..	..	9¾	..
4	29·956	61·2	54·6	6·6	46·5	14·7	..	..	SW	SSW	..	¼	..	..	..	9	..
6	29·921	59·8	54·4	5·4	..	..	..	..	SW	SSW	..	¼	..	..	..	10	..
8	29·903	53·5	52·0	1·5	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
10	29·867	51·8	51·4	0·4	51·0	0·8	..	..	Calm	SSW	..	¼	..	..	..	10	..
12	29·823	52·7	51·5	1·2	..	..	..	..	SSW	SSW	..	½	..	..	..	10	Transit
14	29·789	53·5	53·0	0·5	..	..	..	..	WSW	Calm	..	..	..	..	..	10	..
16	29·771	53·0	52·1	0·9	52·0	1·0	..	..	WSW	WSW	0 to ½	1	..	..	..	10	..
18	29·785	51·3	50·0	1·3	..	..	..	..	WSW	W	0 to ½	¼	..	..	..	10	..

BAROMETER.

May 9d. The daily range was the greatest in the month.

May 9d and 10d. The greatest difference of the mean daily heights for consecutive days in the month occurred.

May 11d. The mean daily height was the greatest in the month; and at 0h the highest reading occurred.

DRY THERMOMETER.

May 12d. The daily range was the greatest in the month.

GENERAL REMARKS.	Observer.
Overcast: no rain falling.	J H
Cumuli and scud.	J H
Scud and cirro-stratus: squally.	P
Cumuli, scud, and cirro-stratus: the cumuli are in the S. horizon. [an electrical character.	
Cumulo-strati, cirro-stratus, and scud: the clouds are thin South of the zenith, and the cumulo-strati (near the N. horizon) are of	P
The clouds are broken about the Moon.	J H
A few light clouds S. of the zenith.	
Cirro-stratus and scud.	
,,	
,,	J H
,,	D
Cumulo-stratus and scud.	G
Overcast: cirro-stratus and scud.	P
Cirro-stratus and scud.	J H
Cumuli and scud.	
Cirro-stratus and scud.	
Cloudless.	J H
A few clouds low down in the S. and also about the place of the Moon.	G
The Moon is imbedded in white clouds, and all the southern sky to the same height as the Moon is also covered with cloud; a few clouds are also about the zenith.	
Within ten minutes after the last observation the few clouds which then prevailed, spread over the sky, and since that time it has	
Overcast: the clouds have been quite unbroken since the last observation. [been quite cloudy.	
Still overcast, without the slightest change.	G
,,	D
Cirro-stratus: since the last observation several clear breaks have appeared, and the Sun has been occasionally shining; the sky,	
Cirro-stratus and cumulo-stratus: hazy. [however, at present, is quite covered.	D
Cumulo-stratus and scud.	G
No change in the last two hours.	
,,	
Overcast: the clouds broke at about ten minutes after the observation at 10^h.	G
Cloudless: hazy.	D
A few small clouds North of the zenith.	
Cloudless.	
,,	
,,	
Cirri and cirro-cumuli are scattered profusely in every direction: light airs occasionally springing up.	D
Cumuli, cumulo-strati, and scud, in every direction: hazy: the wind very light.	P
Cumuli, cumulo-strati, cirro-strati, and scud, cover the whole of the sky, with very few exceptions: hazy: a moderate breeze, equal in force to $\frac{1}{2}$ or $\frac{3}{4}$, sprang up at about $2^h.\ 9^m$.	P
Cirro-stratus, cumulo-stratus, and scud.	D
Overcast: cumulo-stratus and cirro-stratus.	
,, rain falling.	
,, ,,	D
,, no rain falling.	P
,, [Anemometer.	
,, cirro-stratus and scud: the wind rising: at about 16^h a gust of wind of 3 lbs. pressure took place, as recorded by the	
,, ,, the clouds are much broken and thinner to windward: squally: gusts of wind occasionally rising.	

WEIGHT OF A CUBIC FOOT OF AIR.

May 10^d and 11^d. The least difference in the mean daily values for consecutive days occurred.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Raingauge No. 1, (Osler's)	RAIN. Reading of Raingauge No. 2.	RAIN. Stand of Raingauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
May 12. 20	29·801	52·0	49·5	2·5	..	..	..	..	WSW	WSW	½ to 1	¾	..	..	..	10	..
22	29·804	55·8	52·1	3·7	49·5	6·3	69·5 51·3	91·3 49·2	WSW	WSW	0 to 1½	½	4·05	0·00	7·260	10	..
May 13. 0	29·805	57·5	52·6	4·9	..	..	..	..	WNW	W by S	0 to 1	¾	..	..	..	9	..
2	29·807	62·2	55·5	6·7	..	..	..	..	WNW	WSW	0 to 2½	¾	..	..	..	7	..
4	29·786	62·8	55·7	7·1	47·0	15·8	..	..	WNW	W	0 to 1	¾	..	..	..	4	..
6	29·780	61·6	55·8	5·8	..	..	..	..	W	W	..	¼	..	..	..	2	..
8	29·816	56·3	52·5	3·8	..	..	..	..	WNW	W	..	¼–	..	..	..	6	..
10	29·803	51·0	49·2	1·8	47·5	3·5	..	..	Calm	W	..	¼–	..	..	..	2	..
12	29·801	47·1	46·1	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	2	Transit
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Full
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	29·683	57·7	54·8	2·9	..	..	65·7 45·0	84·0 41·2	Calm	S	..	¼	4·05	0·00	7·260	10	..
May 14. 0	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	29·398	50·1	50·1	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
16	29·382	50·0	49·8	0·2	48·5	1·5	..	..	Calm	Calm	..	..	..	..	..	9½	..
18	29·387	51·0	50·3	0·7	..	..	..	..	Calm	SSW	..	¼	..	..	..	6	..
20	29·386	53·7	53·1	0·6	..	..	..	..	Calm	SSW	..	¼	..	..	..	10	..
22	29·397	55·1	53·9	1·2	52·0	3·1	64·0 54·5	76·0 47·4	SW	SSW	0 to ½	½	4·22	0·20	7·430	10	..
May 15. 0	29·406	56·5	53·7	2·8	..	..	..	..	SW	SW	0 to 2	½	..	..	..	10	..
2	29·408	58·6	55·5	3·1	..	..	..	..	SW	SW	0 to 3½	¾	..	..	..	8	..
4	29·418	55·4	53·1	2·3	52·0	3·4	..	..	SW	SW by W	..	½	..	..	..	9	..
6	29·396	59·8	55·3	4·5	..	..	..	..	SW	SW	..	½	..	..	..	9	Greatest declination S.
8	29·405	53·2	51·2	2·0	..	..	..	..	S	SW	..	½	..	..	..	9	..
10	29·403	50·6	49·1	1·5	47·5	3·1	..	..	Calm	SW	..	½	..	..	..	10	..
12	29·379	49·3	48·7	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·340	48·8	48·2	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
16	29·309	48·5	48·4	0·1	48·5	0·0	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·302	49·1	48·9	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·288	52·5	51·4	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
22	29·279	56·9	54·5	2·4	50·5	6·4	64·7 49·4	82·1 45·7	Calm	Calm	..	..	4·24	0·06	7·500	9¾	..
May 16. 0	29·286	60·3	56·8	3·5	..	..	..	..	NE	Calm	..	..	..	..	..	9	..
2	29·295	62·6	58·1	4·5	..	..	..	..	Calm	Calm	..	..	..	..	..	9½	..
4	29·311	57·9	54·5	3·4	48·0	9·9	..	..	Calm	NE	..	¼	..	..	..	9	..
6	29·314	53·7	52·1	1·6	..	..	..	..	W	W	..	¼	..	..	..	9	..
8	29·345	52·6	51·4	1·2	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
10	29·360	51·4	51·0	0·4	51·0	0·4	..	..	Calm	Calm	..	..	..	..	..	10	..

BAROMETER.

May 16d. The least mean daily height for the month occurred.

MINIMUM THERMOMETER.

May 14d. 22h. The reading is in error; possibly it should have been 49°·5; no further use has been made of this reading.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and scud: the wind in moderate gusts.	P
Cirro-stratus and scud.	J H
Cirro-stratus and scud.	J H
Cirro-stratus and light fleecy clouds.	P
Cumuli, cumulo-strati, and scud.	
Cirro-strati and scud, chiefly in the western horizon: hazy.	
Scud scattered in every direction: cirro-stratus in the western horizon.	
Loose scud in the S. and S.W.: hazy in the neighbourhood of the Moon.	P
Light clouds S. of the zenith, about the place of the Moon.	J H
Overcast: cirro-stratus.	G
Cirro-stratus and scud.	J H
,,	
,,	
Cirro-stratus and dark, heavy scud.	J H
Overcast: cirro-stratus and scud: squalls of rain.	P
Overcast: cirro-stratus, cumulo-stratus, and scud: squalls of rain. [wind in gusts.	D
Cumulo-stratus and scud: fine blue sky in the N. E: a very dense cumulo-stratus cloud is at present N.W. of the zenith: the	D
Occasional showers: cirro-stratus and scud.	J H
,, ,,	
,, ,,	
Overcast: cirro-stratus: rain falling.	J H
,, ,, ,,	D
,, ,, thin rain falling.	
,, ,, no rain falling.	
,, ,,	
Breaks in and S. of the zenith.	D
Cumulo-strati, cirro-strati, and scud: squalls of rain are somewhat frequent.	P
Cumulo-strati and scud are scattered over the sky: hazy: there are a few small breaks in different directions.	
Cumuli, cumulo-strati, and scud; but one small break in the zenith: hazy: at $2^h.8^m$ a distant clap of thunder was heard; the direction from which the sound came was not ascertained: the clouds are moving very slowly from the N. E. or N. N. E.	P
Cumulo-strati, cirro-strati, and scud: frequent squalls of rain.	D
Cirro-strati, cumulo-strati, and scud.	
Overcast: cirro-stratus and scud: at $7^h.26^m$ a loud clap of thunder from dark clouds in the N.; another clap, of longer duration, but not so distinctly audible as the former, occurred at $7^h.55^m$; the latter was from clouds in N.N.E.: a thin rain is falling.	
Overcast: cirro-stratus.	D

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°		°			from lbs. to lbs.		in.	in.	in.		
May 16. 12	29·354	49·0	49·0	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	9¾	..
14	29·345	49·0	48·9	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·329	49·0	48·8	0·2	48·5	0·5	..	..	Calm	Calm	..	..	..	..	..	10	Transit
18	29·333	49·5	49·5	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·351	52·0	51·6	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·382	51·4	51·0	0·4	50·5	0·9	64·7 49·3	87·0 44·3	Calm	Calm	..	..	4·26	0·07	7·555	10	..
May 17. 0	29·400	50·3	50·3	0·0	..	..	..	..	NE	ENE	..	¼	..	..	..	10	..
2	29·417	53·7	53·1	0·6	..	..	..	..	NNE	ENE	..	¼	..	..	..	10	..
4	29·441	54·5	52·7	1·8	52·0	2·5	..	..	ENE	NE	..	¼	..	..	..	10	..
6	29·479	51·7	50·7	1·0	..	..	..	..	E	NE	..	¼	..	..	..	10	..
8	29·481	49·7	49·0	0·7	..	..	..	..	ENE	NE	..	¼	..	..	..	10	..
10	29·564	48·6	47·5	1·1	46·2	2·4	..	..	NE	Calm	..	..	..	..	..	10	..
12	29·606	46·7	45·5	1·2	..	..	..	..	NNE	ENE	..	½	..	..	..	9½	..
14	29·615	44·0	43·3	0·7	..	..	..	..	N	NE	0 to 1	½	..	..	..	8	..
16	29·628	44·6	43·6	1·0	42·0	2·6	..	..	N	NE	0 to ½	½	..	..	..	10	Transit
18	29·661	44·5	43·7	0·8	..	..	..	..	N	NE	..	½	..	..	..	10	..
20	29·731	45·7	44·0	1·7	..	..	..	..	N	NE	0 to ½	½	..	..	..	10	..
22	29·705	47·5	45·5	2·0	43·3	4·2	57·6 44·0	73·9 39·1	N	N	0 to ½	¼	4·46	0·20	7·760	10	..
May 18. 0	29·729	51·6	49·0	2·6	..	..	..	..	NNE	N	0 to ½	½	..	..	..	10	..
2	29·741	49·4	47·0	2·4	..	..	..	..	NNE	N	..	¼	..	..	..	10	..
4	29·748	49·5	47·5	2·0	43·0	6·5	..	..	NNE	N	..	½	..	..	..	10	..
6	29·757	48·3	46·8	1·5	..	..	..	..	N	N	..	½	..	..	..	10	..
8	29·823	46·2	45·3	0·9	..	..	..	..	NNE	N	..	½	..	..	..	4	..
10	29·790	45·6	44·6	1·0	43·0	2·6	..	..	N	N	..	½	..	..	..	10	..
12	29·796	45·7	45·0	0·7	..	..	..	..	N	Calm	..	..	..	..	..	10	..
14	29·788	45·5	44·6	0·9	..	..	..	..	N	NNE	..	¼	..	..	..	10	..
16	29·774	45·2	44·5	0·7	44·5	0·7	..	..	NNE	NNE	..	¼	..	..	..	10	..
18	29·766	45·5	45·2	0·3	..	..	..	..	NNE	NNE	..	¼	..	..	..	10	Transit
20	29·780	47·6	47·5	0·1	..	..	..	..	NNE	NE	..	¼	..	..	..	10	..
22	29·786	53·6	50·6	3·0	47·8	5·8	52·2 44·8	59·7 41·0	E	ENE	..	½	4·52	0·08	7·850	9	..
May 19. 0	29·804	54·0	51·0	3·0	..	..	..	..	E	ENE	0 to ½	½	..	..	..	9¾	..
2	29·783	56·3	52·8	3·5	..	..	..	..	ENE	ENE	0 to ½	½	..	..	..	9	..
4	29·790	53·5	50·5	3·0	47·0	6·5	..	..	E	ENE	..	¼	..	..	..	10	..
6	29·790	51·5	49·2	2·3	..	..	..	..	E	E	0 to ½	¼	..	..	..	10	..
8	29·785	49·7	48·4	1·3	..	..	..	..	E	E	..	¼	..	..	..	9	..
10	29·788	49·2	48·6	0·6	48·5	0·7	..	..	E	E	..	¼	..	..	..	10	..
12	29·772	49·1	48·9	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·739	47·7	48·0	−0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
16	29·719	48·5	47·7	0·8	46·0	2·5	..	..	Calm	Calm	..	..	..	..	..	3	..
18	29·727	48·0	46·5	1·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
20	29·732	53·0	50·2	2·8	..	..	..	..	ESE	E	..	¼	..	..	..	6	..
22	29·739	57·1	52·1	5·0	49·5	7·6	58·2 47·5	77·5 34·8	ESE	ESE	..	½	4·52	0·00	7·850	7	..
May 20. 0	29·721	59·1	54·8	4·3	..	..	..	..	E	E	½ to 2	½	..	..	..	7	..
2	29·711	56·5	52·3	4·2	..	..	..	..	E by N	E	1½ to 3½	¾	..	..	..	7	..
4	29·690	53·2	49·6	3·6	45·5	7·7	..	..	E by N	E	½ to 3	¾	..	..	..	8½	..

BAROMETER.

May 17d and 18d. The difference of the mean daily heights for consecutive days was considerable.

DRY THERMOMETER.

May 18d. The daily range was the least in the month.

May 19d. 14h. The reading was lower than that of the Wet Thermometer.

GENERAL REMARKS.	Observer.
A few stars only are visible to the E. of the zenith: a thin rain is falling.	P
Overcast: cirro-stratus, and loose, dark masses of scud.	
,, ,, a few drops of rain are falling. [the zenith.	
,, cirro-stratus and scud: the cirro-stratus is breaking up, and forming itself into cirro-cumuli in and to the W. and E. of	
,, cirro-strati and electrical cumulo-strati, very dark, and extending nearly to the zenith in the North.	P
Overcast: cirro-stratus: rain falling.	J H
Overcast: rain has been falling heavily since the last observation.	G
Cirro-stratus and scud: rain falling slightly.	J H
Overcast: cirro-stratus and scud.	P
,, ,, rain falling.	
,, ,, a thin rain falling. [observation.	
,, cirro-stratus and dark scud flying low from the eastward: rain has been falling at intervals since the preceding	P
Cirro-stratus and scud.	J H
,,	
Overcast: cirro-stratus.	
Cirro-stratus and scud.	
,,	J H
,,	D
Cirro-stratus and scud.	
Overcast: cirro-stratus and scud.	D
,, ,, a shower of rain falling.	J H
Cirro-stratus and scud.	
Cumulo-stratus and scud.	
Cirro-stratus and scud.	J H
Overcast; one unbroken cloud.	D
,, cirro-stratus.	
,, ,,	
,, ,, rain falling.	
,, ,, ,,	D
Cirro-stratus and scud: breaks of small extent in the zenith, and East of it.	P
A small break or two South of the zenith, the rest of the sky being covered with cirro-stratus and scud.	
Cumuli, cirro-stratus, and scud: the clouds are much broken in various directions, but chiefly to the East of the zenith, where there are several small breaks.	P
Cirro-stratus and scud.	J H
Cirro-stratus and large quantities of scud.	G
Cirro-stratus and scud.	D
Overcast: cirro-stratus and scud.	D
,, a few stars are occasionally faintly seen in, and around, the zenith.	P
Stars are faintly shining in the zenith, and, occasionally, in its immediate neighbourhood: very hazy.	
Scud in greater or smaller quantities in every direction: hazy.	
Loose scud in every direction.	
Scud and cirri in every part of the sky, and cirro-stratus in the horizon: hazy.	P
Cirro-stratus and scud.	J H
[tion.	
A quantity of loose scud: the Sun is frequently shining: the wind variable, the direction having been South since the last observa-	G
Light clouds and scud.	J H
Cirro-stratus and scud, the breaks being in the North, and also in the East; they are momentarily changing their positions, and are, with these changes, of greater or less extent.	P

MINIMUM THERMOMETER.

May 16^{d}. 22^{h}. The reading was higher than that of the Dry Thermometer at 12^{h}, 14^{h}, and 16^{h}.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
May 20. 6	29·655	51·5	49·8	1·7	..	..	..	..	E	E	1 to 2½	1	..	..	..	10	..
8	29·633	50·0	48·5	1·5	..	..	..	..	E	E	½ to 1½	¾	..	..	..	10	..
10	29·588	50·1	49·1	1·0	47·5	2·6	..	..	E	E	½ to 2½	1	..	..	..	10	..
12	29·575	50·7	49·7	1·0	..	..	..	..	ESE	E	0 to ½	1	..	..	..	10	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	3rd Qr.
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	29·547	60·8	57·3	3·5	..	..	61·1 50·3	80·5 47·3	Calm	S	..	¾	4·67	0·22	8·050	9	..
May 21. 0	29·536	60·2	57·7	2·5	..	..	..	..	S	S	..	¾	..	..	..	10	..
2	..	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..
4	29·505	60·5	56·3	4·2	..	..	..	..	S	S	..	¾	..	..	..	7	..
6	..	..	..	..	..	..	..	..	S	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	29·544	46·1	46·0	0·1	..	..	..	..	Calm	SSW	..	¼	..	..	..	8	..
16	29·542	44·7	44·6	0·1	43·5	1·2	..	..	Calm	SSW	..	¼	..	..	..	6	..
18	29·556	45·5	45·5	0·0	..	..	..	..	Calm	SSW	..	¼	..	..	..	1	..
20	29·562	56·2	53·0	3·2	..	..	..	..	Calm	SSW	..	¼	..	..	..	1	Transit
22	29·559	59·1	55·8	3·3	52·0	7·1	63·8 44·4	79·0 39·3	Calm	SSW	..	½	4·68	0·00	8·075	8	..
May 22. 0	29·565	59·1	56·7	2·4	..	..	..	..	SSW	SSW	..	¼	..	..	..	8	..
2	29·552	59·6	57·2	2·4	..	..	..	..	Calm	S	..	¼	..	..	..	7	..
4	29·597	59·0	56·0	3·0	53·0	6·0	..	..	SSW	W	..	¼	..	..	..	10	..
6	29·549	57·5	55·0	2·5	..	..	..	..	SW	WSW	..	¼	..	..	..	10	In Equator
8	29·554	55·1	53·0	2·1	..	..	..	..	Calm	WSW	..	¼	..	..	..	8	..
10	29·586	52·1	51·1	1·0	49·0	3·1	..	..	Calm	Calm	..	..	..	..	..	9	..
12	29·586	49·0	48·8	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	4	..
14	29·592	47·7	47·7	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
16	29·590	49·4	49·1	0·3	49·0	0·4	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·588	50·0	49·6	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·598	53·1	52·0	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
22	29·594	60·0	57·5	2·5	53·6	6·4	65·6 48·1	86·9 42·9	Calm	S	..	¼–	4·77	0·05	8·140	6	..
May 23. 0	29·586	61·8	58·7	3·1	..	..	..	..	Calm	Calm	..	..	..	..	..	9½	..
2	29·590	58·0	56·8	1·2	..	..	..	..	E	E	..	¼–	..	..	..	10	..
4	29·562	58·7	56·5	2·2	55·0	3·7	..	..	E	E	..	¼	..	..	..	10	..
6	29·554	55·5	54·4	1·1	..	..	..	..	E	E	..	¼	..	..	..	10	..
8	29·542	55·4	54·7	0·7	..	..	..	..	NE	ENE	..	¼	..	..	..	10	..
10	29·509	53·4	52·8	0·6	52·0	1·4	..	..	ENE	Calm	..	..	..	..	..	10	..
12	29·465	54·0	53·5	0·5	..	..	..	..	ENE	Calm	..	..	..	..	..	9	..
14	29·430	53·4	53·2	0·2	..	..	..	..	NE	Calm	..	..	..	..	..	10	..
16	29·417	52·9	52·8	0·1	52·0	0·9	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·383	53·0	52·5	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..

BAROMETER.

May 22d and 23d. The least difference of the mean daily heights for consecutive days in the month occurred.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and scud: the wind increasing.	P
,, ,,	
,, ,, the sky is very threatening: rain has been lightly falling since the preceding observation.	P
,, very gloomy.	J H
Cirro-stratus and scud.	J H
Heavy cumulo-strati, nimbi, and scud cover the sky: rain is occasionally falling: the thermometer has fallen 3° during the last hour.	G
Scud and cirro-stratus.	J H
Scud and cirro-stratus.	
,,	
A few light clouds.	
,,	J H
Cumuli, cumulo-strati, and scud: breaks in various directions.	P
Cumulo-strati and scud.	D
,, a heavy shower of rain began falling at about $1^h.\ 30^m$, and continued for about a quarter of an hour.	D
Cirro-stratus and scud: large cumulo-strati North of the zenith.	J H
,,	
,, breaks South of the zenith.	
,,	J H
Cirro-stratus North of the zenith; the remainder of the sky is clear.	D
A few stars only are shining S. E. of the zenith; overcast elsewhere: since the last observation the sky has been nearly clear, the clouds having come up suddenly about a quarter of an hour since.	
Overcast: cirro-stratus: rain falling.	
,, ,,	
,, ,,	D
Breaks in every direction; the clouds consist of cumuli, cirro-strati, and scud: squalls of rain occasionally.	P
A few small breaks in the East, the rest of the sky being covered with cumuli, cumulo-strati, cirro-strati, and dark scud.	
Overcast: cirro-stratus and scud: rain falling: it commenced about $1^h.\ 50^m$.	P
,, ,, no rain falling.	D
,, cirro-stratus.	D
Large heavy clouds everywhere: a large quantity of scud is rapidly passing over from the S., though on the surface of the earth there is a sensible wind from the E. N. E.: near the horizon in the S. the clouds are broken and slightly coloured.	G
Heavy electrical clouds and nimbi in all directions: rain is falling heavily: several flashes of lightning have been visible since the last observation.	G
Stars are faintly seen in and about the zenith; the rest of the sky is overcast: flashes of lightning are seen occasionally in the N.W., proceeding from an elongated and light-coloured cumulus.	P
Overcast: cirro-stratus and scud: a single star is faintly seen in the zenith.	
,, ,, a thin rain falling.	
,, ,, the scud is floating from the eastward.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
May 23. 20	29·366	53·5	53·7	−0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
22	29·385	55·1	54·9	0·2	54·0	1·1	65·9 52·6	90·2 49·8	Calm	Calm	..	..	5·10	0·35	8·450	10	Apogee
May 24. 0	29·418	61·0	58·0	3·0	..	..	..	..	SSW	S	..	½	..	..	..	10	..
2	29·438	63·5	60·1	3·4	..	..	..	..	SSW	S	..	½	..	..	..	10	..
4	29·416	62·3	58·5	3·8	53·5	8·8	..	..	SW	S	..	¼	..	..	..	10	..
6	29·428	61·3	57·2	4·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	29·477	56·5	54·0	2·5	..	..	..	..	Calm	SSW	..	¼−	..	..	..	6	..
10	29·448	52·0	51·0	1·0	51·0	1·0	..	..	Calm	Calm	..	..	..	..	..	3	..
12	29·462	49·6	48·7	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
14	29·460	50·3	49·6	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·457	49·8	49·2	0·6	48·5	1·3	..	..	W	W	..	¼	..	..	..	9½	..
18	29·466	49·2	48·6	0·6	..	..	..	..	Calm	W	..	¼	..	..	..	5	..
20	29·505	58·0	54·9	3·1	..	..	..	..	Calm	W	..	¼	..	..	..	2	..
22	29·513	60·5	56·6	3·9	52·0	8·5	65·8 48·5	84·0 43·2	WSW	W	..	¼	5·10	0·00	8·455	5	Transit
May 25. 0	29·507	62·1	57·0	5·1	..	..	..	..	WSW	W	..	½	..	..	..	5	..
2	29·560	61·0	56·5	4·5	..	..	..	..	WSW	W by S	..	½	..	..	..	9	..
4	29·528	62·6	58·5	4·1	51·5	11·1	..	..	WSW	W	..	¼	..	..	..	3	..
6	29·544	61·7	55·5	6·2	..	..	..	..	WSW	SW	..	1	..	..	..	3	..
8	29·548	59·0	55·2	3·8	..	..	..	..	SW	WSW	..	¼	..	..	..	3	..
10	29·578	51·5	49·4	2·1	48·0	3·5	..	..	Calm	Calm	..	..	..	..	..	2	..
12	29·560	49·2	47·5	1·7	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·575	47·6	47·5	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·589	47·4	47·0	0·4	46·0	1·4	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·599	51·0	50·0	1·0	..	..	..	..	WSW	SW	..	¼	..	..	..	4	..
20	29·594	57·6	55·0	2·6	..	..	..	..	WSW	SW	..	¼	..	..	..	9	..
22	29·589	63·8	58·9	4·9	56·0	7·8	69·3 47·3	90·1 41·5	WSW	WSW	0 to 1	½	5·10	0·00	8·470	6	Transit
May 26. 0	29·582	63·6	57·9	5·7	..	..	..	..	SSW	SSW	0 to 3	¾	..	..	..	7	..
2	29·562	58·0	54·5	3·5	..	..	..	..	SSW	SSW	..	½	..	..	..	10	..
4	29·515	53·0	52·0	1·0	50·5	2·5	..	..	S	SSW	..	¼	..	..	..	10	..
6	29·453	55·3	54·7	0·6	..	..	..	..	SW	SSW	..	¼	..	..	..	10	..
8	29·431	54·0	52·6	1·4	..	..	..	..	SSW	SSW	..	½	..	..	..	3	..
10	29·430	53·0	52·0	1·0	51·0	2·0	..	..	WSW	W	..	¼	..	..	..	10	..
12	29·449	52·8	52·2	0·6	..	..	..	..	WSW	Calm	..	..	..	..	..	9	..
14	29·464	52·3	51·4	0·9	..	..	..	..	WSW	Calm	..	..	..	..	..	9½	..
16	29·465	46·6	46·5	0·1	46·5	0·1	..	..	SSW	SW	..	¼	..	..	..	1	..
18	29·453	50·5	49·4	1·1	..	..	..	..	SSW	SSW	..	¼	..	..	..	10	..
20	29·436	55·3	53·8	1·5	..	..	..	..	SSW	SW	..	½	..	..	..	9	..
22	29·414	59·8	56·7	3·1	55·0	4·8	66·7 47·5	83·0 41·5	SW	W	0 to ¾	1	5·10	0·00	8·520	9½	..
May 27. 0	29·388	60·7	58·4	2·3	..	..	..	..	SSW	SSW	0 to 1½	¾	..	..	..	10	Transit
2	29·395	62·5	58·5	4·0	..	..	..	..	SW	SSW	2 to 3	1	..	..	..	10	..
4	29·324	59·2	57·5	1·7	..	..	..	..	WSW	WSW	0 to 3	1+	..	..	..	7	..

DRY THERMOMETER.
May 23d. 20h. The reading was lower than that of the Wet Thermometer.

WEIGHT OF A CUBIC FOOT OF AIR.
May 24d. The mean daily value was the lowest in the month.

MINIMUM THRMOMETER.
May 26d. 22h. The reading was higher than that of the Dry Thermometer at 16h.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and scud.	P
,, ,,	J H
Overcast: cirro-stratus and scud.	
Cirro-stratus and scud.	J H
Overcast: a thin cirro-stratus, also cumuli in the north-western horizon: the wind very light.	P
,, ,, cumuli in the same position as before: the Sun is shining through the cirro-stratus.	
The sky W. of the zenith is generally free from cloud, and breaks are also in every other direction: a narrow break of clear sky appeared in the S. shortly after 6^h, and has been gradually extending itself to the present time.	
Dark patches of scud are thinly scattered over the sky: in the N.W. there is a bright light, probably zodiacal, but the twilight is at present too strong to determine that fact.	P
Dark masses of scud everywhere, floating from the S.: a good many stars are shining.	G
At present quite overcast: at times, since the last observation, the sky has been partially clear, and at other times quite cloudy.	
The sky is nearly wholly covered with scud, the only break in which is in the E. near the place of the Moon; and the whole mass is moving from the S.	
The sky is dotted with small cumuli everywhere, also to the S. of the zenith there are some cirri and cirro-cumuli, the intermediate spaces being of a pale blue: the motion of the clouds is from the W.	
White cumuli near the horizon, and cirri and cirro-cumuli near the zenith: almost immediately after the last observation the sky became nearly free from clouds: a very fine morning.	G
Scud and cirro-stratus.	J H
Cumuli in every direction.	
Cirro-stratus and scud: gusts of wind.	J H
Cumuli in every direction: scud passing from the W.: a few cirri S. of the zenith.	G
Fine white cumuli near the horizon all round: deep blue sky everywhere: this has been a fine day.	
Tufts of cirri in all directions, which slowly move from the S. S.W.: curved lines of cirri still higher are moving from the S. S. E.: scud which is lower than the cirri moves from the S.W., and the current near the surface of the earth is from the W. S.W.	
The highest current is still from the S. S. E., which is unusual; the middle current from the S. S.W.: cirri in bars and long lines.	G
Splendidly clear.	J H
Cloudless.	
,,	
Scud and cirro-stratus.	
,,	J H
Cumulo-stratus and scud: the wind is blowing in gusts.	D
Cumulo-stratus and scud: the wind blowing in gusts.	
Overcast: cirro-stratus, cumulo-stratus, and scud: slight rain falling: the wind is in gusts.	D
,, ,, rain falling.	J H
,, ,, no rain falling.	
Cirro-stratus and scud.	J H
Dark scud and stratus clouds everywhere.	G
The stars are faintly shining in and about the zenith.	P
Nearly overcast, there being only a few stars visible N. of the zenith: light airs occasionally.	P
Cirro-stratus low in the horizon to the N. and S.	D
Overcast: cirro-stratus.	D
Cirro-stratus and scud.	J H
Large masses of cloud and scud are passing from the W.	G
Overcast: cirro-stratus and scud: squally.	P
Scud and cirro-stratus: showers at intervals.	J H
Breaks in every direction, but chiefly in the S. and S.W. horizon: cumuli and cumulo-strati in the S.: squally.	P

PRESSURE OF THE WIND AT THE ANEMOMETER IN POUNDS ON THE SQUARE FOOT.

May $27^d.\ 2^h.\ 5^m.$ In a squall a pressure of 6lbs. took place, and another of 5lbs., at $2^h.\ 17^m.$

RAIN.

May $24^d.\ 22^h$ and $25^d.\ 22^h.$ The respective increases in the readings of Crosley's gauge are owing to the deposition of moisture.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°				from lbs. to lbs.		in.	in.	in.		
May 27. 6	29·310	58·8	55·2	3·6	..	..	..	..	WSW	SW	2 to 5	2	..	..	..	5	..
8	29·308	55·1	52·8	2·3	..	..	..	..	SW	SW	0 to 1	1	..	..	..	3	..
10	29·320	52·2	51·6	0·6	51·0	1·2	..	..	WSW	SW	..	¼	..	..	..	10	..
12	29·342	48·5	48·5	0·0	..	..	..	..	WSW	SW	..	¼	..	..	..	10	..
14	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
22	29·423	55·5	53·6	1·9	50·0	5·5	66·7 44·8	69·0 46·8	WSW	SW	..	¼	5·24	0·25	8·750	9	..
May 28. 0	..	..	..	..	..	..	..	..	SW	...	0 to 2½	..	..	..	..	..	Transit
2	..	..	..	..	..	..	..	..	SW	...	0 to ½	..	..	..	..	..	..
4	29·481	53·2	51·7	1·5	..	..	..	..	...	N	..	¼	..	..	..	10	..
6	..	..	..	..	..	..	..	..	...	...	..	..	..	..	..	..	..
8	29·583	52·9	50·5	2·4	..	..	..	..	N	N	..	¼	..	..	..	9	..
10	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	29·739	45·6	45·5	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·757	44·4	43·7	0·7	42·5	1·9	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·780	46·2	45·2	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·811	48·7	46·7	2·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	New
22	29·822	48·3	45·7	2·6	46·0	2·3	64·1 45·2	87·4 36·2	Calm	ESE	..	½	5·29	0·12	8·860	10	..
May 29. 0	29·837	45·8	45·2	0·6	..	..	..	..	NE	E	..	½	..	..	..	10	Transit
2	29·837	47·2	46·5	0·7	..	..	..	..	E by N	E	..	½	..	..	..	10	..
4	29·843	51·2	50·4	0·8	48·0	3·2	..	..	Calm	Calm	..	..	..	..	..	9¾	..
6	29·859	53·1	50·0	3·1	..	..	..	..	Calm	E	..	¼—	..	..	..	4	..
8	29·884	49·0	47·5	1·5	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
10	29·917	45·4	44·8	0·6	44·2	1·2	..	..	Calm	Calm	..	..	..	..	..	0	..
12	29·949	43·0	42·7	0·3	..	..	..	..	Calm	SW	..	¼	..	..	..	0	..
14	29·953	42·5	42·0	0·5	..	..	..	..	Calm	SW	..	¼	..	..	..	3	..
16	29·956	40·1	39·8	0·3	38·0	2·1	..	..	Calm	Calm	..	..	..	..	..	4	Greatest declination N.
18	29·969	38·2	38·2	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	29·989	50·7	48·5	2·2	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
22	29·995	58·8	53·0	5·8	44·0	14·8	60·1 38·5	75·8 29·3	Calm	Calm	..	..	5·39	0·08	8·980	4	..
May 30. 0	29·998	59·8	54·5	5·3	..	..	..	..	SW	ESE	..	¼	..	..	..	8	..
2	29·956	60·1	54·5	5·6	..	..	..	..	SSW	SSW	..	¼+	..	..	..	8	Transit
4	29·942	57·6	53·0	4·6	47·5	10·1	..	..	SW	SW	0 to ¾	¾	..	..	..	10	..
6	29·920	56·9	52·7	4·2	..	..	..	..	SW	SW	..	½	..	..	..	9	..
8	29·906	53·5	50·1	3·4	..	..	..	..	SW	SW	..	½	..	..	..	9	..
10	29·890	50·5	48·2	2·3	46·0	4·5	..	..	SSW	SW	..	½	..	..	..	10	..
12	29·858	50·0	48·5	1·5	..	..	..	..	S	S	..	¼	..	..	..	10	..
14	29·809	49·7	48·9	0·8	..	..	..	..	S	S	..	¼	..	..	..	10	..
16	29·762	50·9	50·4	0·5	50·5	0·4	..	..	SSW	SSW	..	¼	..	..	..	10	..
18	29·739	52·8	52·4	0·4	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
20	29·746	56·5	55·9	0·6	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
22	29·755	59·5	57·8	1·7	56·5	3·0	66·4 50·3	89·0 47·5	WSW	WSW	..	¼+	5·40	0·01	9·000	10	..

DRY THERMOMETER.

May 30d and 31d. The greatest difference of the mean daily temperatures for consecutive days in the month occurred: the same difference took place between 5d and 6d.

TEMPERATURE OF THE DEW POINT.

May 30d and 31d. The greatest difference of the mean daily values for consecutive days in the month occurred.

WEIGHT OF A CUBIC FOOT OF AIR.

May 29d. The mean daily value was the greatest in the month.

May 30d and 31d. The greatest difference of the mean daily values for consecutive days in the month occurred.

GENERAL REMARKS.	Observer.
Large, whitish clouds nearly cover the northern portion of the sky: a few cumuli near the horizon in the N.; the remainder of the sky cloudless: the wind in gusts to $2\frac{1}{2}$.	G
Scud and cirro-stratus.	J H
Overcast: cirro-stratus and scud.	D
Cloudless: the clouds had almost disappeared at $10^h.\ 50^m$: the night is now remarkably fine.	P
Massive cumulo-strati in every part of the sky: heavy showers of rain this morning.	D
Overcast: cirro-stratus and scud: a few cumulo-strati are in the N.: heavy rain falling: the direction of the wind changed at about $3^h.\ 40^m$: a thunder storm. (See the Section of Extraordinary Meteorological Observations.)	P
Cirro-stratus and scud.	D
Overcast.	P
,, the clouds are much broken in the East, and in other directions.	
,, the clouds are still much broken.	
,, rain has just commenced falling, though slightly: a few light airs occasionally spring up from the N. E.	P
Cirro-stratus and scud: rain falling slightly.	J H
Cirro-stratus and scud: rain falling heavily.	
,, rain at intervals.	J H
Nearly overcast, a small break being in the W. N.W. horizon; a few cumulo-strati near the same position: the general character of the clouds is that of cirro-stratus and scud: rain occasionally falling in light showers.	P
Cumuli, cumulo-strati, and light scud in every direction: the maximum temperature has taken place within the last hour: hazy.	
Cumulo-strati, dense haze, and light scud: the Sun has the appearance of a large ball of fire as he is approaching the horizon.	
Cloudless, but the haze in the horizon is very dense: fog also in the low grounds.	P
,, hazy.	J H
Vapour.	
Heavy vapour in various directions.	
Cloudless.	
Light clouds and vapour.	J H
Cirri and cirro-cumuli scattered over the sky: hazy.	D
Within the last half hour clouds have collected everywhere; at present the sky is nearly covered with white, loose, woolly clouds.	G
Large fleecy cumuli almost cover the sky.	D
Cirro-stratus and scud.	J H
,,	
,,	
,, gusts of wind.	J H
Overcast: rain falling slightly.	D
,, ,,	
,, cirro-stratus.	
,, ,,	
,, ,, a thin rain falling.	D
,, cirro-stratus and dark scud: the cirro-stratus is by no means dense, breaks of small extent being occasionally visible; the Sun at times is visible through breaks in the clouds.	P

MINIMUM THERMOMETER.

May $28^d.\ 22^h$. The reading was higher than that of the Dry Thermometer at 16^h.
May $29^d.\ 22^h$. The reading was higher than that of the Dry Thermometer at 18^h.
May $30^d.\ 22^h$. The reading was higher than that of the Dry Thermometer at 12^h and 14^h.

ANEMOMETER.

May $28^d.\ 7^h.\ 10^m$. At this time it was found that the traversing-board had not moved since 2^h; there did not appear to be any cause for its stopping; it was immediately set to work again.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
May 31. 0	29·758	61·3	58·5	2·8	..	..	..	..	WSW	SW	0 to ½	¼	..	..	..	10	..
2	29·787	67·7	62·2	5·5	..	..	..	..	SW	SW	..	½	..	..	..	9½	Transit
4	29·737	65·8	62·2	3·6	60·0	5·8	..	..	SW	SW	0 to 1½	¼	..	..	..	10	..
6	29·731	63·0	60·4	2·6	..	..	..	..	SW	SW	0 to ½	¼	..	..	..	9	..
8	29·722	60·5	58·3	2·2	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
10	29·707	57·9	56·2	1·7	55·0	2·9	..	..	SSW	SW	..	½	..	..	..	10	..
12	29·688	55·7	54·7	1·0	..	..	..	..	SSW	SW	..	½	5·40	0·00	9·010	9½	..
14	29·655	55·3	54·3	1·0	..	..	..	..	SSW	Calm	..	..	..	..	..	10	..
16	29·600	54·8	54·6	0·2	54·5	0·3	..	..	S	SW	..	½	..	..	..	10	..
18	29·574	56·3	55·2	1·1	..	..	..	..	S	SW	..	½	..	..	..	10	..
20	29·570	58·7	58·2	0·5	..	..	..	..	SSW	WSW	..	¼	..	..	..	10	..
22	29·558	62·7	60·5	2·2	59·0	3·7	68·8 55·3	87·5 53·8	SSW	SW	..	½	5·45	0·04	9·070	10	..
June 1. 0	29·544	64·3	61·5	2·8	..	..	..	..	SSW	SW	..	½	..	..	..	10	..
2	29·527	64·4	62·0	2·4	..	..	..	..	SSW	SW	..	½	..	..	..	10	..
4	29·499	65·1	61·4	3·7	59·8	5·3	..	..	S by W	WSW	..	¼	..	..	..	10	Transit
6	29·462	64·5	61·0	3·5	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
8	29·436	60·9	58·9	2·0	..	..	..	..	Calm	SW	..	½	..	..	..	5	..
10	29·434	56·5	55·8	0·7	55·0	1·5	..	..	Calm	SW	..	¼	..	..	..	½	..
12	29·410	55·1	55·0	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
14	29·356	55·0	54·6	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·296	53·5	53·5	0·0	53·0	0·5	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·252	55·5	55·4	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·202	57·5	57·1	0·4	..	..	..	..	E by N	E by S	..	..	..	..	..	10	..
22	29·189	58·0	57·4	0·6	56·0	2·0	68·0 53·5	76·4 49·1	SSE	S by E	0 to 3	¼	5·50	0·08	9·130	10	..
June 2. 0	29·210	61·5	57·5	4·0	..	..	..	..	SSW	SSE	1½ to 4	1	..	..	..	10	..
2	29·211	64·0	58·7	5·3	..	..	..	..	SSW	S	0 to 3½	1½	..	..	..	10	..
4	29·164	63·2	57·2	6·0	56·2	7·0	..	..	S	S	1 to 4	1¾	..	..	..	5	Transit
6	29·169	55·7	55·0	0·7	..	..	..	..	S	S	½ to 3½	2	..	..	..	10	..
8	29·125	55·2	53·0	2·2	..	..	..	..	S by W	S by W	1 to 3	1	..	..	..	4	..
10	29·123	53·6	52·2	1·4	51·5	2·1	..	..	S by W	S by W	½ to 4	1	..	..	..	10	..
12	29·171	52·5	51·2	1·3	..	..	..	..	SSW	S	1 to 4	1	..	..	..	8	..
14	29·232	52·1	51·0	1·1	..	..	..	..	SSW	SSW	0 to ½	1	..	..	..	8	..
16	29·253	52·5	51·0	1·5	50·0	2·5	..	..	SSW	SSW	0 to ½	¾	..	..	..	8	..
18	29·283	53·0	51·1	1·9	..	..	..	..	SSW	SW	0 to 1	¾	..	..	..	10	..
20	29·305	55·0	52·8	2·2	..	..	..	..	S by W	SW	0 to 2	¾	..	..	..	10	..
22	29·339	59·5	56·0	3·5	53·0	6·5	66·1 51·3	78·0 48·0	S	SSW	..	¼	5·56	0·04	9·230	8	..
June 3. 0	29·360	62·0	58·0	4·0	..	..	..	..	SSW	SSW	0 to 1½	½	..	..	..	8	..
2	29·351	65·6	59·1	6·5	..	..	..	..	SSW	SSW	0 to 1½	¾	..	..	..	6	..
4	29·366	61·6	56·5	5·1	51·0	10·6	..	..	SSW	W	0 to 1½	1½	..	..	..	8	..

BAROMETER.

June 1d and 2d. The difference of the mean daily heights was considerable.
June 2d. The mean daily height was the lowest in the month.
June 2d. 10h. The lowest reading during the month occurred.

DRY THERMOMETER.

May 31d. 2h. The reading was the highest in the month; and the mean daily temperature of 31d was the highest in the month.

TEMPERATURE OF THE DEW POINT.

May 31d. The mean daily value was the highest during the month; and at 4h the highest reading in the month occurred.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and dark scud: a few drops of rain are falling.	P
The sky is nearly covered with cirro-stratus and scud, there being but a few small breaks 10° or 15° S.E. of the zenith: the Sun occasionally shines through the cirro-stratus.	P
Overcast: cirro-stratus and cumulo-stratus: a very dense nimbus is at present between the zenith and the S. horizon.	D
Cirro-stratus: several breaks are S. and E. of the zenith: a little rain fell directly after the last observation, and also about $4^h.40^m$.	
Overcast: cirro-stratus.	
,, ,,	D
A few stars are dimly seen about the zenith; the sky is otherwise covered with black cloud, and the night is very dark: a mild night.	G
At $12^h.30^m$ rain began falling, which still continues: overcast.	
Rain still continues falling.	
No rain is falling: the sky is overcast, and low scud is moving from the S.W.	
Overcast: cirro-stratus, nimbi, and scud.	G
,, cirro-stratus and scud: rain falling occasionally: the clouds seem, on the whole, much thinner.	P
Overcast: cirro-stratus and scud.	
,, ,, gloomy.	P
The sky is nearly wholly covered with white scuddy cumuli, slowly moving from the W.S.W.: there are breaks here and there in the clouds, and blue sky is seen, from which it would appear that there is no upper cloud.	G
The sky is quite covered with white cloud, of no particular modification; in some places the clouds are apparently thinner than in others.	
The greater portion of the southern hemisphere is clear; some large dark clouds in the northern, below which is a slow moving scud from the West.	
For one hour after the last observation it was alternately clear and cloudy; since that time it has become cloudless; and at present there is only a long, narrow, dark cloud in the N.W.	G
Clear only in the S., the rest of the sky being obscured by dark clouds, which have been slowly coming up from the W.N.W.	P
Overcast. [since $11^h.30^m$: calm on the surface of the Earth.	
,, a bright red glow in the E. N. E. horizon: the cirro-stratus appears thinner in the N.W.	
,, a light air occasionally springs up.	
,, a thin rain falling.	P
,, rain falling.	J H
Cirro-stratus and scud: the rain ceased falling at about $22^h.40^m$: gusts of wind.	
,, gusts of wind.	J H
The whole horizon is lined with cumuli, lying tier upon tier; light scud is also flying low, with cirri, apparently motionless, and at a great elevation; on the whole, the sky has a wild and threatening appearance.	P
Overcast: within 20^m after the last observation the sky was entirely obscured: rain is now falling violently: the wind in heavy and frequent gusts to 3.	
Cumuli, cirri, and scud; the latter moving from the S. S.W. at a low elevation: the rain ceased at $6^h.20^m$, and since that time the clouds have been becoming less in numerical amount.	
Overcast: a thin rain falling: a few minutes previously to the observation many extensive breaks existed: the general character of the sky is, and has been since the last observation, momentarily clear and cloudy, with a thin rain occasionally.	P
Cirro-stratus and scud.	J H
,,	
,,	
,,	
,,	J H
Cumulo-strati and scud.	D
Cumulo-strati and scud.	D
The whole horizon is lined with either cumuli or cumulo-strati, the latter predominating in the N. and N.W.; also, large masses of light scud in every direction: the wind is blowing in gusts.	P
White cumuli everywhere; a fine day.	G

ELASTIC FORCE OF VAPOUR AND WEIGHT OF VAPOUR IN A CUBIC FOOT OF AIR.
May 31^d. The mean daily values were the greatest in the month.

WEIGHT OF A CUBIC FOOT OF AIR.
June 2^d. The mean daily value was the least in the month.

MINIMUM THERMOMETER.
May $31^d.22^h$. The reading was higher than that of the Dry Thermometer at 16^h.

RAIN.
May $31^d.12^h$. The amount collected during the month of May in rain-gauge No. 4, was $3^{in}.75$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
June 3. 6	29·390	62·7	57·2	5·5	..	..	..	..	SSW	SW	0 to 1	½	..	..	..	5	Transit
8	29·417	56·8	54·5	2·3	..	..	..	..	SSW	SW	..	½	..	..	..	3	..
10	29·458	51·1	50·0	1·1	49·0	2·1	..	..	Calm	SW	..	½	..	..	..	3	..
12	29·471	48·6	48·3	0·3	..	..	..	..	Calm	SW	..	¼	..	..	..	0	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	29·526	61·2	57·5	3·7	..	..	68·2 47·1	84·5 38·6	SE	SSE	..	¼	5·56	0·00	9·240	8	..
June 4. 0	..	..	..	..	..	..	..	..	SSE	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	SSE	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	S	...	0 to ½	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	S by E	...	..	..	..	..	..	..	Transit
8	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
14	29·665	44·6	43·6	1·0	..	..	..	..	Calm	SSW	..	¼	..	..	..	0	..
16	29·666	43·7	43·1	0·6	43·0	0·7	..	..	Calm	SSW	..	¼	..	..	..	0	..
18	29·662	44·9	44·0	0·9	..	..	..	..	Calm	SSW	..	¼	..	..	..	0	..
20	29·675	55·1	51·7	3·4	..	..	..	..	WSW	SW	..	¼	..	..	..	1	..
22	29·674	61·2	54·9	6·3	47·5	13·7	68·7 42·9	84·2 37·3	WSW	SW	..	½	5·56	0·00	9·255	6	..
June 5. 0	29·673	59·3	53·7	5·6	..	..	..	..	...	SSW	..	¾	..	..	..	8	..
2	29·680	60·5	54·8	5·7	..	..	..	..	...	SW	..	1	..	..	..	9½	..
4	29·673	57·5	52·5	5·0	46·0	11·5	..	..	...	SSW	..	¾	..	..	..	9	1st Qr.
6	29·672	53·4	51·0	2·4	..	..	..	..	S by E	SSW	..	½	..	..	..	8	Transit
8	29·673	51·9	48·8	3·1	..	..	..	..	S	S by W	..	½	..	..	..	3	..
10	29·682	48·8	47·5	1·3	47·0	1·8	..	..	SSE	S	..	¼	..	..	..	4	In Equator
12	29·681	46·5	46·0	0·5	..	..	..	..	Calm	Calm	.	..	..	..	..	3	..
14	29·671	45·5	45·2	0·3	..	..	..	..	Calm	S by E	..	¼	..	..	..	¼	..
16	29·660	44·0	43·8	0·2	43·5	0·5	..	..	Calm	Calm	..	..	..	..	..	¼	..
18	29·669	45·5	45·2	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	3	
20	29·676	52·5	51·2	1·3	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
22	29·681	54·0	50·6	3·4	49·5	4·5	64·9 43·4	80·2 36·0	Calm	Calm	..	..	5·56	0·01	9·280	10	..
June 6. 0	29·676	56·8	53·2	3·6	..	..	..	..	NNE	Calm	..	..	..	..	..	10	..
2	29·690	55·5	52·5	3·0	..	..	..	..	WSW	W by S	..	¼	..	..	..	9	..
4	29·692	52·8	50·9	1·9	49·5	3·3	..	..	NNW	NW	..	¼	..	..	..	9¾	..
6	29·707	54·7	51·6	3·1	..	..	..	..	NNW	NNW	..	(¼–)	..	..	..	6	..
8	29·717	52·5	50·5	2·0	..	..	..	..	NNW	NNW	..	¼	..	..	..	7	Transit
10	29·751	50·4	49·1	1·3	47·5	2·9	..	..	NNW	NNW	..	¼	..	..	..	6	..

BAROMETER.

June 5d. The daily range was the smallest in the month.

DRY THERMOMETER.

June 4d. 16h. The lowest reading in the month occurred.

June 6d. The mean daily temperature was the lowest in the month; and at 12h the reading was lower than that of the Wet Thermometer.

GENERAL REMARKS.	Observer.
Cumuli, cumulo-strati, and light scud.	P
Cumuli and scud.	J H
Cirro-stratus and scud.	J H
Cloudless.	D
The whole horizon is lined with densely-packed cumuli; scud and cirro-cumuli are scattered over the remainder of the sky: a few drops of rain are falling from a small nimbus now passing over the zenith.	P
Cloudless: hazy.	D
,, ,,	
,,	
A few cumuli near the horizon.	D
Cumulo-strati, with dark and light scud, are scattered in every direction.	P
Breaks in different directions, but chiefly in the zenith; the rest of the sky being covered with cumulo-strati, cirro-strati, and scud: the wind is blowing in gusts to 1 or 1½.	
A break or two in the zenith, and in the eastern horizon, but of small extent; the rest of the sky is covered with cirro-stratus and scud: the wind is blowing in gusts.	P
Cirro-stratus and scud: a heavy shower of rain fell at about $2^h.\ 40^m$: strong gusts of wind.	D
,, squalls of rain.	
Loose cumuli, and fragments of scud in various directions.	
Light fleecy clouds in the zenith: clouds are also scattered about other parts of the sky: the air is very cold.	D
Dark cirro-stratus enveloping the Moon, and lining a large portion of the W. S.W. horizon; scud, also, in detached portions in other directions: the air is unusually cold.	P
A few patches of scud are scattered about the sky: since the last observation the sky has been alternately clear and cloudy, the clouds coming slowly up from the South.	
Here and there a few small patches of scud; otherwise cloudless, the sky being beautifully clear.	
Scud and undefined clouds E. and S. of the zenith; the sky West of the zenith being totally free from clouds.	
Cumuli in the S.W. and N. horizon; and dark, finely-formed cumulo-strati in the East, extending nearly to the zenith: detached portions of scud also in different directions.	P
Overcast: cirro-stratus: rain falling.	D
Overcast: cirro-stratus.	
Cirro-stratus and scud.	D
,, nimbi are continually passing over: a break is in the E. horizon: rain, which has been falling since $3^h.\ 20^m$, ceased at the time of the observation.	P
Cumuli, cumulo-strati, cirri, and light fleecy clouds, together with cirro-stratus lining the N.W. horizon: the break in the E. horizon, mentioned in the last observation, became larger, and other breaks soon appeared in every direction.	
Cirro-stratus and fleecy clouds scattered in every direction, the former prevailing most in the N.W. horizon: large, and dark masses of scud are occasionally passing over.	
Cirro-stratus and scud extending from S. S.W. to N., reaching to the zenith; scud also in other parts of the sky, the eastern portion being, however, tolerably free from it.	P

ANEMOMETER.

June $4^d.\ 3^h.\ 20^m$. The wind suddenly blew with a pressure of 4lbs.; at $3^h.\ 32^m$ it had decreased to 2lbs.; and immediately afterwards it decreased to ½lb.: the direction was S. during the squall.

June $5^d.\ 0^h$, 2^h, and 4^h. The observer had omitted to clamp the traversing-board to the traversing-line at the time of changing the sheet: at $4^h.\ 45^m$ it was clamped and set going.

RAIN.

June $3^d.\ 22^h$, and $4^d.\ 22^h$. The respective increases in the reading of Crosley's gauge are owing to the deposition of moisture.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
June 6. 12	29·775	48·4	48·6	−0·2	..	..	..	..	Calm	NW	..	¼	..	..	..	10	..
14	29·777	49·3	48·8	0·5	..	..	.	..	WNW	Calm	..	..	..	..	..	10	..
16	29·788	45·7	44·7	1·0	44·3	1·4	..	..	W	Calm	..	..	..	..	..	10	..
18	29·788	46·0	45·0	1·0	..	..	..	..	W	Calm	..	..	..	..	..	10	..
20	29·799	51·2	49·6	1·6	..	..	..	..	WSW	W	..	½	..	..	..	5	..
22	29·783	55·5	50·5	5·0	43·0	12·5	58·0 45·2	70·4 39·2	W	SW	..	½	5·58	0·02	9·320	10	..
June 7. 0	29·772	55·5	51·4	4·1	..	..	..	..	SW	SW	0 to ½	¼	..	..	..	10	..
2	29·758	58·0	54·9	3·1	..	..	..	..	SW	SW	0 to ½	¼	..	..	..	10	..
4	29·720	58·4	54·6	3·8	50·0	8·4	..	..	SW	WSW	0 to ½	1	..	..	..	10	..
6	29·696	55·0	52·2	2·8	..	..	..	..	SSW	SW	0 to ½	½	..	..	..	10	..
8	29·658	53·2	50·8	2·4	..	..	..	..	SSW	SW	..	¾	..	..	..	10	Transit
10	29·627	51·7	50·3	1·4	49·5	2·2	..	..	S by W	SSW	0 to ½	¾	..	..	..	10	..
12	29·527	51·6	50·6	1·0	..	..	..	..	SSW	SSW	0 to 3	1	..	..	..	10	..
14	29·450	51·2	48·9	2·3	..	..	..	..	SSW	SSW	½ to 5	2	..	..	..	10	..
16	29·370	50·0	49·5	0·5	49·0	1·0	..	..	S	SSW	2 to 4	2	..	..	..	10	..
18	29·321	51·4	51·0	0·4	..	..	..	..	S	SSW	1 to 6	2	..	..	..	10	..
20	29·287	55·0	54·0	1·0	..	..	..	..	SSW	SSW	½ to 4	1½	..	..	..	10	..
22	29·290	58·5	54·0	4·5	51·2	7·3	61·2 49·9	73·8 48·5	SW	SSW	½ to 4	1½	5·69	0·11	9·475	3	..
June 8. 0	29·286	60·2	55·5	4·7	..	..	..	..	SW	SSW	½ to 3½	1	..	..	..	6	..
2	29·268	65·7	58·3	7·4	..	..	..	..	SW	SSW	3 to 5	2	..	..	..	3	..
4	29·256	60·2	54·5	5·7	47·0	13·2	..	..	SW	SSW	3 to 4	2	..	..	..	5	..
6	29·236	57·5	53·2	4·3	..	..	..	..	SSW	SSW	3 to 5	1½	..	..	..	3	..
8	29·223	54·6	51·3	3·3	..	..	..	..	SSW	SSW	3 to 5	2	..	..	..	7	..
10	29·200	53·7	50·5	3·2	47·0	6·7	..	..	SSW	SW	4 constant	2	..	..	..	10	Transit
12	29·153	52·2	51·0	1·2	..	..	..	..	SSW	SW	5 to 7	2	..	..	..	10	..
14	29·129	52·7	51·5	1·2	..	..	..	..	SW	SW	3 to 6	2½	..	..	..	10	..
16	29·157	51·7	49·8	1·9	48·0	3·7	..	..	SW	SW	1 to 2	1	..	..	..	10	..
18	29·190	53·3	51·0	2·3	..	..	..	..	WSW	SW	2 to 4	¾	..	..	..	9	Perigee
20	29·232	56·2	53·0	3·2	..	..	..	..	WSW	SW	3 to 4	¾	..	..	..	9¾	..
22	29·270	61·6	56·4	5·2	54·5	7·1	66·0 51·2	80·4 48·5	WSW	SW	3 to 6	1½	5·69	0·01	9·490	7	..
June 9. 0	29·312	61·7	57·0	4·7	..	..	..	..	WSW	SW	2 to 4½	1	..	..	..	8	..
2	29·357	60·2	57·0	3·2	..	..	..	..	WSW	WSW	1½ to 4½	1	..	..	..	7	..
4	29·368	62·0	55·5	6·5	53·0	9·0	..	..	W by S	WSW	2 to 6	1½	..	..	..	3	..
6	29·414	59·2	54·0	5·2	..	..	..	..	W	WSW	2 to 6	½	..	..	..	7	..
8	29·468	55·8	51·8	4·0	..	..	..	..	WSW	WSW	1 to 2	1	..	..	..	10	..
10	29·510	54·0	50·5	3·5	47·3	6·7	..	..	SW	WSW	½ to 2	¾	..	..	..	10	Transit
12	29·547	52·0	50·0	2·0	..	..	..	..	SW	WSW	0 to 2½	¾	..	..	..	10	..

BAROMETER.

June 7d and 8d. The greatest difference of the mean heights for consecutive days in the month occurred.

June 9d. The daily range was the greatest in the month.

June 9d and 10d. The difference of the mean daily heights was considerable.

WEIGHT OF A CUBIC FOOT OF AIR.

June 7d and 8d. The greatest difference of the mean daily values for consecutive days in the month occurred.

GENERAL REMARKS.	Observer.
A few stars are shining here and there, but the breaks are to no numerical amount.	G
The sky became uniformly covered with dark cloud a short time after the last observation, and some rain began to fall about $13^h.10^m$: at present it is quite cloudy, but no rain is falling.	
Overcast.	
The sky is quite covered: to the North of the zenith there are many parallel lines of cloud, their direction being East and West; all South of the zenith is uniformly covered.	
Loose woolly cumuli in all directions: hazy.	G
Overcast: cirro-stratus.	D
Overcast: cirro-stratus.	
,, ,,	D
,, ,,	G
,, a large quantity of scud: a very thin rain is falling.	
,, cirro-stratus and scud.	
Light rain has been falling for the last half-hour: overcast.	G
Overcast: cirro-stratus and scud: rain falling: strong gusts of wind.	D
,, ,, heavy gusts of wind.	
,, ,, ,, rain falling.	
,, ,, a thin rain falling: strong gusts of wind.	
,, ,, the Sun's place is visible.	D
Cumuli in the whole horizon, densely packed with large masses of loose scud in every direction: the wind at times is in unusually strong gusts.	P
Cumuli, cumulo-strati, and large masses of white scud in all parts of the sky: the gusts of wind are not so heavy.	
,, a few imperfectly formed cumulo-strati, and large masses of light scud: the quantity of cloud is continually varying: wind in heavy gusts.	P
Large cumulo-strati are floating over rapidly from the S. S.W.: cumuli are scattered about in various directions: scud in an under current N. of the zenith: a few drops of rain fell at $3^h.40^m$: heavy gusts of wind.	D
Cumuli and scud: strong gusts of wind.	D
Cumuli and dark scud, passing quickly from the S. S.W.: the wind is blowing in gusts to 3 frequently: a gale of wind has blown all day.	G
Scud and large clouds are passing from the S. S.W.: the wind is blowing in gusts to 3.	G
Overcast: cirro-stratus and dark scud: a thin rain falling: it began at about $11^h.45^m$: the wind blows in extremely heavy gusts.	P
,, ,, the gusts of wind seem heavier.	
,, ,, the scud is lighter and the cirro-stratus apparently thinner: the wind has much abated, though some of the gusts are still very heavy.	
Breaks in the zenith and in other directions: they first appeared in the E. horizon almost immediately after the last observation: the wind still continues to decrease.	
A few small breaks a little S. of the zenith, the rest of the sky being overcast: the gusts of wind are more moderate.	P
Cirro-stratus and scud: generally clear S. of the zenith: strong gusts of wind frequently.	D
Large loose cumulo-strati S. of the zenith: a very stormy looking nimbus in the N.: gusts of wind: squalls of rain since the last observation.	
Large cumulo-strati and nimbi are continually passing over: the appearance of the sky is very stormy: several squalls of rain since the last observation: gusts of wind to $1\frac{1}{2}$.	D
Cumuli and large masses of light scud, both of which predominate in the W. S.W. horizon: the wind in heavy gusts: the clouds are variable.	P
Cumulo-strati, cirro-stratus, and masses of dark scud: the weather again looks threatening: the wind is more moderate, with frequent lulls.	
A few very small patches of blue sky visible, but which will not affect the notation: cirro-stratus and scud is the prevailing cloud: frequent lulls in the wind.	
Overcast, by a thick dark scud; breaks are of frequent occurrence: the wind is moderate, and at the same time cold.	P
,, there is no upper cloud, the scud moving from the W. S.W.	G

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
June 9. 14	29·563	49·3	48·3	1·0	..	..	..	..	SW	WSW	..	½	..	..	..	5	..
16	29·571	50·3	49·0	1·3	48·0	2·3	..	..	SW	WSW	..	½	..	..	..	10	..
18	29·607	49·8	48·3	1·5	..	..	..	..	SW	WSW	0 to ½	½	..	..	..	10	..
20	29·627	52·5	50·2	2·3	..	..	..	..	WSW	WSW	0 to ½	½	..	..	..	10	..
22	29·666	56·7	52·2	4·5	50·0	6·7	64·1 49·1	77·5 44·8	W	W	½ to 2	½	5·71	0·03	9·540	9	..
June 10. 0	29·688	54·5	52·2	2·3	..	..	..	..	W	W by N	0 to 2	½	..	..	..	10	..
2	29·728	52·5	51·5	1·0	..	..	..	..	WNW	WNW	0 to 1½	1½	..	..	..	10	..
4	29·753	55·7	53·8	1·9	51·0	4·7	..	..	WSW	W	..	½	..	..	..	9½	..
6	29·779	55·3	52·0	3·3	..	..	..	..	NW	NNW	½ to 2½	1½	..	..	..	10	..
8	29·805	54·8	52·3	2·5	..	..	..	..	W	WNW	..	½−	..	..	..	8	..
10	29·831	53·2	50·5	2·7	47·0	6·2	..	..	WSW	NNW	..	¼	..	..	..	8	..
12	29·860	50·6	48·5	2·1	..	..	..	..	W	W	..	¼	..	..	..	10	Transit
14	..	..	..	..	..	..	..	..	NW	...	0 to ½	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	WNW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	NW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	WNW	...	..	..	..	..	..	..	..
22	29·944	56·5	52·2	4·3	..	..	62·2 47·8	80·0 41·5	NW	NW	..	¼	5·76	0·05	9·625	9	..
June 11. 0	..	..	..	..	..	..	..	..	NNW	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	NW	...	0 to 1	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	NW	...	..	..	..	..	..	..	..
6	29·905	57·5	53·0	4·5	..	..	..	..	N	NNW	0 to ½	¼	..	..	..	9¾	..
8	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	Transit
14	29·923	49·6	49·0	0·6	..	..	..	..	N	N	..	¼	..	..	..	10	..
16	29·915	49·2	48·5	0·7	48·5	0·7	..	..	N	N	..	¼	..	..	..	10	Greatest declination S.
18	29·915	49·4	48·6	0·8	..	..	..	..	N	N	0 to ½	¼	..	..	..	10	..
20	29·908	50·5	49·8	0·7	..	..	..	..	NNE	N	0 to ½	¼	..	..	..	10	Full
22	29·892	53·2	50·8	2·4	49·0	4·2	60·0 48·8	71·7 42·1	N	N	0 to ½	¼	5·78	0·02	9·675	10	..
June 12. 0	29·873	57·0	53·5	3·5	..	..	..	..	NNE	N	0 to 1	¼	..	..	..	9¾	..
2	29·866	55·7	54·2	1·5	..	..	..	..	NNE	N by E	0 to 1½	¼	..	..	..	10	..
4	29·850	57·8	55·4	2·4	53·0	4·8	..	..	NNE	N by E	0 to 1	¼	..	..	..	10	..
6	29·830	56·2	54·8	1·4	..	..	..	..	NNE	N by E	..	¼	..	..	..	10	..
8	29·837	54·2	53·0	1·2	..	..	..	..	Calm	NNE	..	¼	..	..	..	5	..
10	29·856	51·6	50·5	1·1	50·0	1·6	..	..	ENE	NE	..	¼	..	..	..	10	..
12	29·843	51·5	50·5	1·0	..	..	..	..	NE	NE	..	¼+	..	..	..	10	..
14	29·824	49·8	49·1	0·7	..	..	..	..	NNE	NE	..	¼−	..	..	..	10	Transit
16	29·782	49·5	49·0	0·5	48·0	1·5	..	..	NNE	NE	..	¼	..	..	..	10	..
18	29·763	49·4	49·4	0·0	..	..	..	..	NNE	N	0 to ½	½	..	..	..	10	..
20	29·738	49·0	49·1	−0·1	..	..	..	..	NNE	N	0 to 1½	½	..	..	..	10	..
22	29·732	50·1	49·6	0·5	49·5	0·6	58·9 48·8	71·6 46·6	N	N	1 to 2	½	5·88	0·29	9·965	10	..
June 13. 0	29·717	50·8	50·6	0·2	..	..	..	..	N	N	..	¼	..	..	..	10	..

DRY THERMOMETER.

June 12d. 20h. The reading was lower than that of the Wet Thermometer.

June 13d. The range was the least in the month.

June 13d and 14d. The greatest difference of the mean daily temperatures for consecutive days in the month occurred.

TEMPERATURE OF THE DEW POINT.

June 13d. The mean daily value was the same as that of the air.

June 13d and 14d. The difference of the mean daily values was great.

GENERAL REMARKS.	Observer.
The zenith and the S. portion of the sky are generally clear, though the stars look dim: the wind somewhat abated at about 13^h: the horizon is cloudy in all directions.	G
The part of the sky mentioned as being clear at the last observation remained so but for a very short time, and it is now quite cloudy, the sky being covered with the same kind of cloud which has prevailed for the last ten hours.	
No change: gusts of wind to $\frac{3}{4}$.	
Precisely the same.	G
Cirro-stratus and scud: a few clear breaks here and there.	D
Cirro-stratus, nimbi, and scud: a heavy shower of rain and hail fell at $23^h.\ 35^m$.	
Overcast: rain falling: heavy showers since the last observation.	D
A heavy shower of rain was falling for a few minutes about a quarter of an hour since: at present, the sky is nearly wholly covered with scud and cirro-stratus: a blue haze on the ground.	G
Overcast: strong gusts of wind since the last observation: the haze or mist still continues.	
Cirro-cumuli N. of the zenith, the rest of the sky being covered with a low dark scud: there is apparently no upper cloud: the wind lulled considerably after 6^h.	
The northern portion of the sky is clear, every other part cloudy.	G
Since the last observation, the sky has been nearly clear, and it continued so until within a few minutes of this observation: at present, however, every part of the heavens is covered with cirro-stratus and scud.	D
A few breaks in the clouds about the place of the Sun, the sky being otherwise overcast.	G
Cirro-stratus and dark scud, with cumuli and thick haze.	P
Overcast: a thin rain falling.	D
,, cirro-stratus.	
,,	
,, a thin rain falling.	D
,, cirro-stratus and dark scud.	P
A few small breaks only in the zenith, the rest of the sky being overcast: the clouds are lighter, however, in every part.	
Overcast: a thin rain is falling.	P
,, cirro-stratus.	D
,, ,,	
Cumulo-stratus and scud: nimbi in the N.: the sky S. of the zenith is nearly clear, a few detached clouds only are scattered about:	
Overcast: cirro-stratus. [a little rain fell soon after the last observation.	D
,, ,,	P
,, ,, a few drops of rain falling.	
,, ,, a thin rain falling.	
,, rain falling.	
,, ,,	P
,, ,,	D
Overcast: rain falling.	

ADDITIONAL WEIGHT OF VAPOUR REQUIRED FOR COMPLETE SATURATION OF A CUBIC FOOT OF AIR.

June 13^d. The mean daily value was $0^{in}.00$: the air during the whole day was saturated with moisture; this is one of the three days in the year in which complete saturation prevailed.

ANEMOMETER.

June $10^d.\ 2^h$. During a squall at $3^h.\ 30^m$ a pressure of 4lbs. for three minutes took place: at $3^h.\ 45^m$ during another squall a pressure of $4\frac{1}{2}$lbs. for a few minutes occurred.

AMOUNT OF CLOUDS.

June $11^d.\ 14^h$ to $14^d.\ 22^h$. The sky was generally clouded: it is the longest cloudy period of any in the month.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
June 13. 2	29·697	53·0	52·7	0·3	..	..	..	..	N	N	..	¼	..	..	..	10	..
4	29·681	54·9	54·8	0·1	54·8	0·1	..	..	NNE	N	..	¼	..	..	..	10	..
6	29·684	54·2	54·3	−0·1	..	..	..	..	NNE	N by E	..	¼	..	..	..	10	..
8	29·701	54·5	54·5	0·0	..	..	..	..	N by E	N by E	..	¼–	..	..	..	10	..
10	29·711	54·0	54·1	−0·1	54·5	−0·5	..	..	Calm	N by E	..	¼–	..	..	..	10	..
12	29·728	54·0	54·2	−0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·753	54·1	54·2	−0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
16	29·760	54·6	54·6	0·0	55·0	−0·4	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·777	55·6	55·8	−0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·807	57·2	57·2	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·818	61·1	59·8	1·3	58·5	2·6	61·1 51·8	65·4 51·0	Calm	Calm	..	..	5·95	0·20	10·160	10	..
June 14. 0	29·838	63·5	62·0	1·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
2	29·851	65·2	62·7	2·5	..	..	..	..	Calm	E	..	¼	..	..	..	10	..
4	29·850	64·7	63·1	1·6	61·0	3·7	..	..	NE	E	..	¼	..	..	..	10	..
6	29·845	62·4	60·8	1·6	..	..	..	..	ENE	E	..	¼	..	..	..	10	..
8	29·863	60·0	59·0	1·0	..	..	..	..	Calm	E	..	¼	..	..	..	10	..
10	29·883	57·0	57·0	0·0	57·0	0·0	..	..	Calm	E	..	¼	..	..	..	10	..
12	29·882	55·5	55·5	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	9½	..
14	29·868	56·3	55·1	1·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·852	56·6	56·5	0·1	56·5	0·1	..	..	Calm	Calm	..	..	..	..	..	10	Transit
18	29·855	57·5	57·1	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·862	59·6	58·6	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·872	65·5	62·1	3·4	61·0	4·5	68·2 57·0	80·5 50·6	NE	Calm	0 to ½	..	5·99	0·04	10·244	8	..
June 15. 0	29·879	66·3	60·2	6·1	..	..	..	..	ENE	E	0 to 1	½	..	..	..	0	..
2	29·869	67·5	59·3	8·2	..	..	..	..	ENE	E	0 to 1½	½	..	..	..	0	..
4	29·863	66·6	60·4	6·2	53·0	13·6	..	..	...	E	..	½	..	..	..	½	..
6	29·833	65·2	59·2	6·0	..	..	..	.	...	ENE	..	¼	..	..	..	1	..
8	29·834	61·1	56·8	4·3	..	..	..	..	NE	NE	..	¼	..	..	..	0	..
10	29·845	53·6	50·2	3·4	47·0	6·6	..	..	Calm	NE	..	¼	..	..	..	0	..
12	29·851	50·7	49·4	1·3	..	..	..	..	Calm	Calm	..	..	..	..	..	4	..
14	29·829	51·3	50·5	0·8	..	..	..	..	NE	Calm	..	..	..	..	..	9¾	..
16	29·811	52·6	51·2	1·4	51·2	1·4	..	..	NE	Calm	..	..	..	..	..	10	Transit
18	29·819	53·8	52·5	1·3	..	..	..	..	ENE	Calm	..	..	..	..	..	5	..
20	29·826	60·8	58·1	2·7	..	..	..	..	ENE	Calm	..	..	..	..	..	0	..
22	29·827	65·2	59·0	6·2	56·0	9·2	69·0 51·6	94·2 40·4	E	NE	..	¼	5·99	0·00	10·244	9	..
June 16. 0	29·840	68·0	57·9	10·1	..	..	..	..	NE	NE	0 to 2	¼	..	..	..	0	..
2	29·830	69·1	60·2	8·9	..	..	..	..	ENE	NE	½ to 2	½	..	..	..	½	..
4	29·814	68·7	58·8	9·9	48·8	19·9	..	..	ENE	NE	0 to 1½	¼	..	..	..	½	..
6	29·804	67·2	59·5	7·7	..	..	..	..	ENE	NE	0 to 1	½	..	..	..	0	..
8	29·816	62·8	56·7	6·1	..	..	..	..	ENE	ENE	..	¼	..	..	..	0	..
10	29·836	57·0	53·7	3·3	52·3	4·7	..	..	Calm	Calm	..	..	..	..	..	0	..
12	29·874	53·3	51·7	1·6	..	..	..	..	Calm	E	..	¼	..	..	..	0	..
14	29·863	50·5	49·5	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
16	29·864	47·6	47·2	0·4	47·0	0·6	..	..	Calm	Calm	..	..	..	..	..	0	Transit
18	29·878	49·8	49·3	0·5	..	..	..	..	N	E	..	¼	..	..	..	10	..

DRY THERMOMETER.

June 13d. 6h, 10h, 12h, 14h, and 18h. The readings were lower than those of the Wet Thermometer.

June 16d. The mean daily temperature was the highest in the month.

TEMPERATURE OF THE DEW POINT.

June 13d. 10h and 16h. The readings were higher than those of the Dry Thermometer.

June 14d. The mean daily value was the highest during the month: at 4h and 22h the highest readings in the month occurred.

ELASTIC FORCE OF VAPOUR AND WEIGHT OF A CUBIC FOOT OF AIR.

June 14d. The mean daily value was the greatest in the month.

GENERAL REMARKS.	Observer.
Overcast: steady rain falling.	D
,, the rain is thinner.	P
,, a thin rain is still falling.	
,, a thick, misty rain falling.	
,, a thin rain falling: it has more than once ceased for a longer or shorter time since the last observation: a thin fog.	P
,, slight rain continues falling.	G
,, no rain falling.	
,, a thick fog.	
,, the fog, though less dense, still continues.	
,, no fog.	G
,, a thin rain falling.	D
Overcast: a thin rain falling.	
,, no rain falling.	D
,,	G
,,	
,, a few drops of rain have been falling.	
Rain was falling at about $9^h.20^m$, after which the lower stratum of clouds became broken, but there was an upper cloud moving from the S. E.; at present the sky is very similar, with a few nimbi scattered in various directions.	G
Cirro-stratus and scud: a few stars are now shining in the zenith.	D
Overcast: rain falling.	
,,	
,, cirro-stratus.	
,, ,,	D
Cumuli and large masses of loose and compact scud: the quantity of cloud is variable: the air is extremely close.	P
Cloudless: there is not a particle of cloud or haze to be seen; even the atmosphere over London is not discoloured.	
,, the horizon is still wholly free from haze.	P
A few cumuli only, in the N. horizon.	D
A few light cumuli.	
Cloudless.	
,,	D
Dark clouds in the southern and northern horizon, with scud in every direction: the sky is alternately clear and cloudy.	P
Cirro-stratus and scud: a few small breaks in the zenith: clouds came up from the S. E. and S. soon after the last observation, and covered the greater part of the sky: the clouds are now moving from the E., or E. by S.	
Overcast: cirro-stratus and scud.	
Loose masses of scud are scattered in every direction.	
Cloudless.	P
Cirro-stratus and scud: the sky clouded over rather suddenly at about $21^h.35^m$.	D
Cloudless: the clouds have gradually disappeared since the last observation.	
Light cumuli N. of the zenith.	D
A few small and imperfectly formed cumuli, in the N. and W. and in the S. horizon.	P
Cloudless: the horizon is totally free from haze.	
,,	
,, light airs occasionally spring up: the whole northern horizon is extremely clear.	P
,,	G
A long, narrow cloud above the Moon; the sky is otherwise clear, but hazy.	
Cloudless.	
About one hour and a half since, the whole sky became rather suddenly covered with cloud, and continues so.	

MINIMUM THERMOMETER.

June $14^d.22^h$. The reading is much higher than that of the Dry Thermometer at 12^h; and it is higher than those at 14^h and 16^h.

June $15^d.22^h$. The reading was higher than that of the Dry Thermometer at 12^h.

ANEMOMETER.

June $15^d.7^h$. It was found that the Observer who had changed the sheet at $14^d.22^h$ had omitted to remove the traversing-board which had been in connexion with the clock from $13^d.22^h$; and in consequence the whole apparatus had become blocked at 3^h.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
June 16. 20	29·890	52·6	51·6	1·0	..	..	..	..	N	NE	..	½	..	..	..	10	..
22	29·884	58·6	56·5	2·1	54·0	4·6	69·9 48·4	93·3 38·0	NNE	N	..	¼	5·99	0·00	10·244	9	..
June 17. 0	29·874	67·5	62·0	5·5	..	..	..	..	NE	NNE	..	¼	..	..	..	4	..
2	29·885	72·5	65·6	6·9	..	..	..	..	E by N	E	0 to 1	¼	..	..	..	3	..
4	29·861	71·1	64·3	6·8	58·0	13·1	..	..	E	E	0 to ½	¼	..	..	..	3	..
6	29·863	67·4	61·8	5·6	..	..	..	..	E by S	E	..	¼	..	..	..	3	..
8	29·857	61·5	58·0	3·5	..	..	..	..	E	E	..	¼	..	..	..	5	..
10	29·870	55·4	54·7	0·7	..	..	..	..	ESE	E	..	¼	..	..	..	2	..
12	29·873	54·4	53·6	0·8	..	..	..	..	ENE	NE	..	¼	..	..	..	10	..
14	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	Transit
20	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
22	29·815	57·7	56·0	1·7	..	..	73·8 50·6	101·0 48·6	NE	NE	..	¼	5·99	0·00	10·244	10	..
June 18. 0	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
2	29·789	66·5	63·4	3·1	..	..	..	..	ENE	E	..	¼	..	..	..	10	..
4	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	ESE	...	..	..	..	..	..	..	..
8	29·711	60·2	59·1	1·1	..	..	..	..	Calm	E	..	¼	..	..	..	6	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	29·702	53·0	52·5	0·5	..	..	..	..	NE	NE	..	¼	..	..	..	4	In Equator
16	29·690	50·6	50·2	0·4	50·0	0·6	..	..	NNE	NNE	..	¼	..	..	..	1	..
18	29·693	52·1	51·3	0·8	..	..	..	..	NNE	NNE	..	¼	..	..	..	10	Transit
20	29·712	51·6	50·6	1·0	..	..	..	..	NE	NNE	..	¼	..	..	..	10	..
22	29·711	55·8	54·0	1·8	52·0	3·8	70·0 50·5	94·4 45·1	NNE	NNE	0 to ½	¼	5·99	0·00	10·250	10	..
June 19. 0	29·736	56·8	54·7	2·1	..	..	..	..	NNE	NNE	0 to 1	¼	..	..	..	10	..
2	29·742	62·4	59·0	3·4	..	..	..	..	NNE	NNE	0 to ½	¼	..	..	..	10	..
4	29·740	60·6	57·1	3·5	55·0	5·6	..	..	NNE	NNE	0 to 1½	½	..	..	..	10	..
6	29·773	56·1	53·2	2·9	..	..	..	..	NNE	NNE	0 to 1½	½	..	..	..	10	..
8	29·797	53·9	50·7	3·2	..	..	..	..	NNE	NNE	0 to ½	½	..	..	..	10	..
10	29·844	52·0	48·8	3·2	46·0	6·0	..	..	NE	NNE	0 to ½	½	..	..	..	10	3rd Qr.
12	29·851	50·6	48·6	2·0	..	..	..	..	NE	NNE	..	¼	..	..	..	10	..
14	29·864	50·0	47·5	2·5	..	..	..	..	NE	NNE	..	¼	..	..	..	10	..
16	29·882	49·6	46·8	2·8	43·0	6·6	..	..	NNE	NNE	..	¼	..	..	..	10	..
18	29·898	50·0	47·7	2·3	..	..	..	..	NNE	NNE	..	¼—	..	..	..	10	Transit
20	29·924	51·0	49·2	1·8	..	..	..	..	NNE	NNE	..	¼—	..	..	..	10	..
22	29·961	51·8	49·1	2·7	47·5	4·3	65·1 50·3	78·2 47·0	N by E	N	..	½	5·99	0·00	10·250	10	..
June 20. 0	30·000	55·0	51·2	3·8	..	..	..	..	N	N	..	½	..	..	..	10	..
2	30·010	55·5	51·8	3·7	..	..	..	..	N	N	..	¼	..	..	..	10	..
4	30·013	56·6	52·9	3·7	47·5	9·1	..	..	N	N	..	¼—	..	..	..	10	..
6	30·022	55·7	51·7	4·0	..	..	..	..	N	N	..	¼—	..	..	..	10	..
8	30·032	53·4	49·8	3·6	..	..	..	..	N	N	..	¼—	..	..	..	10	..
10	30·045	51·8	48·5	3·3	53·0	−1·2	..	..	N	N	..	¼	..	..	..	10	..
12	30·059	50·6	47·8	2·8	46·5	4·1	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·047	46·2	44·8	1·4	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..

BAROMETER.

June 20d. The mean daily height was the greatest in the month.

June 20d. 12h. The highest reading in the month occurred.

June 20d and 21d. The least difference of the mean daily heights for consecutive days in the month occurred.

DRY THERMOMETER.

June 20d and 21d. The difference in the mean daily temperatures was great.

GENERAL REMARKS.	Observer.
Overcast: since the cloud came up no change has taken place.	G
Breaks in the N. near the horizon.	D
Cumuli scattered over the sky.	
Cumuli in various directions.	
Cirri S. of the zenith: a few small cumuli are near the horizon in the S. E.	D
Scattered cirri everywhere.	G
Linear cirri and tufts of cirri all over the sky.	
A few lines of stratus to the North and a few bars of cirri to the S.; everywhere else clear.	G
Overcast: one unbroken cloud covers the whole sky.	D
,, cirro-stratus.	D
Overcast: a faint solar halo has been visible since $23^h.\ 30^m$.	G
Fleecy clouds S. of the zenith; light clouds and haze in other directions.	D
Cirro-stratus in the whole horizon, and also in different parts of the sky.	
,, and vapour in the horizon: clear in every other direction.	
Overcast: cirro-stratus.	
,, ,,	D
,, cirro-stratus and scud.	P
Overcast: cirro-stratus and scud.	J M
,, ,, the clouds are slightly broken in the N.	J M
,, cirro-stratus.	D
,, ,,	D
,, ,,	J M
,, ,,	J M
,, ,,	P
,, ,,	
,, ,,	
,, ,,	
,, ,,	P
,, ,,	J M
Overcast: cirro-stratus.	
,, ,,	J M
,, ,, a few breaks are E. of the zenith, but they are to no numerical extent.	P
,, ,, a few small breaks have been occasionally visible since the last observation.	P
,, portions of blue sky are visible in every direction through a thin film of cloud: the cirro-stratus exhibits a tendency to	J M
,, cirro-stratus. [break up.	J M
,, one uniform cloud.	G
Cloudless, but the stars are dim and small: at $12^h.\ 55^m$, a break appeared in the clouds in the E., and within five minutes afterwards the whole of the sky was clear, with the exception of a break of cloud in the W.	

TEMPERATURE OF THE DEW POINT.

June $17^d.\ 22^h$. The observation was omitted by inadvertence.

June $20^d.\ 10^h$. The observation is evidently erroneous; this was remarked by the succeeding observer, who at 12^h repeated the observation.

WEIGHT OF A CUBIC FOOT OF AIR.

June 20^d. The mean daily value was the greatest in the month.

MINIMUM THERMOMETER.

June $19^d.\ 22^h$. The reading was higher than those of the Dry Thermometer at 14^h, 16^h, and 18^h.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0 – 10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
June 20. 16	30·039	44·1	43·2	0·9	42·0	2·1	..	..	Calm	Calm	..	..	..	..	..	3	Apogee
18	30·035	46·6	45·0	1·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·031	55·7	52·0	3·7	..	..	..	..	Calm	SSE	..	very light	..	..	..	3	Transit
22	29·996	60·3	55·0	5·3	48·0	12·3	63·2 44·1	85·6 33·2	Calm	WSW	..	¼	5·99	0·00	10·250	4	..
June 21. 0	29·986	60·3	56·6	3·7	..	..	..	..	WSW	WSW	..	¼	..	..	..	2	..
2	29·967	68·0	59·5	8·5	..	..	..	..	WSW	WSW	..	¼	..	..	..	2	..
4	29·922	70·7	60·3	10·4	49·0	21·7	..	..	W	W	..	½	..	..	..	3	..
6	29·891	68·0	60·5	7·5	..	..	..	..	WSW	WSW	..	¼	..	..	..	8	..
8	29·881	63·5	59·4	4·1	..	..	..	..	SSW	WSW	..	¼	..	..	..	10	..
10	29·895	59·5	56·8	2·7	55·5	4·0	..	..	SW	W	..	¼	..	..	..	10	..
12	29·886	56·3	54·8	1·5	..	..	..	..	Calm	SW	..	¼	..	..	..	9	..
14	29·876	54·1	53·4	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
16	29·869	53·3	52·8	0·5	52·5	0·8	..	..	Calm	Calm	..	..	..	..	..	6	..
18	29·866	54·7	54·0	0·7	..	..	..	..	Calm	WSW	..	¼	..	..	..	10	..
20	29·881	57·5	56·0	1·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
22	29·860	61·2	57·3	3·9	52·8	8·4	71·8 53·0	97·0 40·0	N	Calm	..	..	5·99	0·00	10·250	10	..
June 22. 0	29·879	65·6	60·1	5·5	..	..	..	..	N	N by W	..	very light	..	..	..	9½	..
2	29·882	68·8	62·4	6·4	..	..	..	..	N	NNW	..	¼	..	..	..	10	..
4	29·884	68·2	60·4	7·8	51·0	17·2	..	..	NNE	N	..	very light	..	..	..	8	..
6	29·886	60·9	57·5	3·4	..	..	..	..	E	E	..	¼	..	..	..	9	..
8	29·931	56·4	52·8	3·6	..	..	..	..	E by S	E	..	¼	..	..	..	5	..
10	29·925	52·5	50·8	1·7	49·0	3·5	..	..	Calm	E	..	¼—	..	..	..	¾	..
12	29·947	48·5	48·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·947	46·5	46·5	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·936	44·5	44·5	0·0	44·5	0·0	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·945	45·7	45·4	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	29·951	58·1	54·7	3·4	..	..	..	..	Calm	Calm	..	..	..	..	..	0	Transit
22	29·945	63·7	58·3	5·4	48·5	15·2	72·4 44·8	103·3 34·6	NNE	Calm	..	..	5·99	0·00	10·250	4	..
June 23. 0	29·945	66·7	59·5	7·2	..	..	..	..	N	N by E	..	½	..	..	..	3	..
2	29·931	70·4	60·9	9·5	..	..	..	..	NE	Calm	..	..	..	..	..	1	..
4	29·913	71·3	61·3	10·0	50·0	21·3	..	..	N	N	..	¼	..	..	..	1	..
6	29·902	70·3	60·2	10·1	..	..	..	..	N	N	..	¼	..	..	..	0	..
8	29·898	62·8	58·4	4·4	..	..	..	..	Calm	ESE	..	nearly calm	..	..	..	0	..
10	29·910	54·6	52·8	1·8	51·5	3·1	..	..	Calm	ESE	..	nearly calm	..	..	..	0	..
12	29·899	51·0	50·8	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·898	50·0	49·6	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
16	29·892	50·0	49·6	0·4	48·5	1·5	..	..	Calm	Calm	..	..	..	..	..	1	..
18	29·883	50·5	50·0	0·5	..	..	..	..	Calm	E	..	¼—	..	..	..	7	..
20	29·898	55·0	52·9	2·1	..	..	..	..	NE	E by N	..	¼—	..	..	..	10	..
22	29·906	61·1	55·6	5·5	51·0	10·1	75·9 50·4	104·1 38·0	NE	NE	..	¼	5·99	0·00	10·250	5	Transit
June 24. 0	29·904	64·7	58·2	6·5	..	..	..	..	NNE	NE	..	very light	..	..	..	8	..
2	29·889	67·6	58·5	9·1	..	..	..	..	NNE	N	..	¼	..	..	..	3	..
4	29·863	66·5	59·0	7·5	49·5	17·0	..	..	N by E	NNE	0 to ½	½	..	..	..	8	..
6	29·859	62·5	57·0	5·5	..	..	..	..	NNE	NE	..	¼	..	..	..	7	..
8	29·856	59·3	55·1	4·2	..	..	..	..	NE	NE	..	¼	..	..	..	3	..
10	29·859	54·3	51·1	3·2	48·0	6·3	..	..	NE	NNE	..	¼	..	..	..	10	..

WEIGHT OF A CUBIC FOOT OF AIR.

June 23d and 24d. The least difference of the mean daily values for consecutive days in the month occurred.

MINIMUM THERMOMETER.

June 22d. 22h. The reading was higher than that of the Dry Thermometer at 16h.

June 23d. 22h. The reading was higher than those of the Dry Thermometer at 14h, 16h, and 18h.

GENERAL REMARKS.	Observer.
Strati to the N.; otherwise cloudless.	G
The sky is wholly covered with a large kind of cirro-cumulus.	
A fine morning: a fleecy cloud is spread thinly over a large part of the sky.	G
Light clouds are scattered over the whole of the sky.	J M
Light clouds are scattered over the whole of the sky.	
A few light clouds near the Sun; otherwise cloudless.	J M
Cirri and light fleecy clouds.	D
Cirro-cumuli and scud in every direction: hazy.	P
The sky is wholly covered with a fleecy kind of cumulo-stratus and scud, all moving slowly from the W. S.W.: this has been a fine day.	J M
Overcast: cirro-stratus.	G
A few stars are just visible: the sky is generally covered with a thin cirro-stratus.	G
The greater part of the sky N. of the zenith is covered with cirro-stratus: the rest of the sky is nearly clear: the stars however do	D
Cirro-stratus and haze. [not shine brightly.	D
Overcast: cirro-stratus and scud.	P
,, ,, hazy: a thin fog is prevalent.	P
,, ,, a few small breaks in various parts of the sky.	J M
Cirro-stratus and scud: breaks near the horizon in the N.	D
,, an extensive break in the N. horizon.	J M
Cumulo-strati all round near the horizon: some patches of blue sky near the zenith; small fleecy cumuli in other directions.	G
Large cumulo-strati in every direction: breaks in the S., near the horizon.	D
Cumuli and cumulo-strati.	J M
Scud in the W.; and also in the S., but more scattered.	P
Cloudless.	D
,,	
,,	
,,	
,,	D
Fine cumulo-strati and dense haze in the western horizon: cumuli and large masses of white scud are scattered rather thickly over the rest of the sky.	P
Cumulo-strati, cumuli, and large masses of white scud, are scattered over the sky.	P
A few cumuli all round within 40° of the horizon, and moving from the East nearly; otherwise cloudless.	J H
Cumuli scattered here and there.	D
Cloudless.	
,, this has been a very fine day.	
,,	D
,, hazy: the twilight in the N.W. is very strong.	P
A few clouds only in the western horizon and East of the zenith: hazy.	
A few clouds are scattered here and there.	
Cirro-stratus, and large masses of dark and white scud are scattered in every direction.	
Overcast: cirro-stratus and scud.	P
Large breaks are now in every part of the sky: cumuli and cirro-strati are the modifications of cloud.	D
Cumulo-strati, cumuli, and masses of scud are scattered in all portions of the sky.	
Cumuli and cumulo-strati.	D
Cumuli, cirro-strati, and large masses of black and white scud are scattered in every direction: the quantity of cloud is variable.	P
Imperfectly formed cumuli and scud, in large masses in every direction: the quantity of cloud is still variable.	
Scud in detached portions are scattered thinly in every direction, though more so in the South.	
The sky overcast by scud only: a few minutes before the observation many breaks were visible.	P

AMOUNT OF CLOUDS.

June 23d. The mean daily value was the least in the month.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
June 24. 12	29·873	52·2	49·2	3·0	..	..	..	..	NNE	NNE	..	¼	..	..	..	10	..
14	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
22	29·823	54·5	51·8	2·7	..	..	69·8 49·8	97·3 47·5	N	N	..	¼	5·99	0·00	10·250	10	Transit
June 25. 0	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
6	29·761	64·5	57·8	6·7	..	..	..	..	NE	NNE	..	½	..	..	..	7	..
8	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
14	29·791	46·3	45·8	0·5	..	..	..	..	NNE	Calm	..	..	..	..	..	0	..
16	29·784	46·7	46·2	0·5	46·0	0·7	..	..	NNE	NE	..	¼	..	..	..	10	..
18	29·781	48·2	47·2	1·0	..	..	..	..	NNE	NE	..	¼	..	..	..	10	..
20	29·778	51·2	49·7	1·5	..	..	..	..	NNE	ENE	..	¼	..	..	..	10	..
22	29·780	58·7	55·4	3·3	52·0	6·7	68·0 45·3	90·0 37·3	NNE	Calm	..	..	5·99	0·00	10·250	9	..
June 26. 0	29·778	63·6	58·0	5·6	..	..	..	..	NE	ENE	..	¼	..	..	..	9	Transit
2	29·770	68·5	60·0	8·5	..	..	..	..	NE	ENE	..	¼	..	..	..	6	Greatest declination N.
4	29·754	68·3	61·0	7·3	52·0	16·3	..	..	ENE	ENE	..	¼	..	..	..	7	..
6	29·735	65·6	60·2	5·4	..	..	..	..	ENE	ENE	..	¼	..	..	..	9	..
8	29·735	63·3	59·5	3·8	..	..	..	..	ENE	ENE	..	¼	..	..	..	4	..
10	29·745	56·4	53·5	2·9	50·0	6·4	..	..	E	E	..	¼	..	..	..	7	..
12	29·751	52·7	51·3	1·4	..	..	..	..	S	S	..	¼	..	..	..	3	..
14	29·736	50·0	48·8	1·2	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
16	29·699	46·5	46·0	0·5	45·0	1·5	..	..	Calm	S	..	¼	..	..	..	3	..
18	29·683	50·5	49·5	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
20	29·680	58·7	56·2	2·5	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
22	29·647	67·0	59·0	8·0	55·6	11·4	73·5 47·0	101·5 39·0	Calm	Calm	..	..	5·99	0·00	10·250	¼	..
June 27. 0	29·646	71·8	60·0	11·8	..	..	..	..	WSW	Calm	..	..	..	..	..	6	Transit
2	29·612	75·0	62·4	12·6	..	..	..	..	SW	Calm	..	..	..	..	..	8	..
4	29·578	70·7	60·0	10·7	46·0	24·7	..	..	SW	Calm	..	..	..	..	..	9	..
6	29·560	67·1	61·1	6·0	..	..	..	..	N	NNE	..	½	..	..	..	7	..
8	29·566	61·4	57·0	4·4	..	..	..	..	N by E	NNE	..	½	..	..	..	8	New
10	29·577	56·3	53·0	3·3	50·0	6·3	..	..	N	Calm	..	..	..	..	..	10	..
12	29·552	53·2	51·0	2·2	..	..	..	..	NNE	N	..	¼	..	..	..	10	..
14	29·547	51·4	49·1	2·3	..	..	..	..	N	N	..	¼	..	..	..	10	..
16	29·512	51·0	48·7	2·3	46·0	5·0	..	..	NNW	Calm	..	..	..	..	..	10	..
18	29·509	49·6	47·3	2·3	..	..	..	..	NNW	N	..	¼	..	..	..	3	..
20	29·511	53·7	49·1	4·6	..	..	..	..	NNW	N	..	¼	..	..	..	9¾	..
22	29·511	52·8	49·0	3·8	41·0	11·8	77·3 50·2	106·6 42·3	NNW	NNW	..	½	5·99	0·00	10·250	10	..
June 28. 0	29·510	55·5	51·0	4·5	..	..	..	..	N	NNW	..	½	..	..	..	10	..
2	29·512	58·0	52·0	6·0	..	..	..	..	N	NNW	..	½	..	..	..	8	Transit
4	29·513	61·7	56·6	5·1	48·2	13·5	..	..	N	N	..	½	..	..	..	8	..

DRY THERMOMETER.

June 27d. The range was the greatest in the month.

June 27d. 2h. The highest reading in the month occurred; and the greatest difference between its reading and that of the Wet Thermometer in the year occurred, except in the case of the readings of July 5d.

June 27d and 28d. The difference of the mean daily temperatures was great.

TEMPERATURE OF THE DEW POINT.

June 27d. 4h. The greatest difference between it and the temperature of the air occurred.

June 27d. 22h. The reading was the lowest in the month.

GENERAL REMARKS.	Observer.
The sky is wholly covered with cirro-stratus and scud, and it has been so since the last observation; the scud which then covered the sky became gradually denser till the present time.	G
Overcast: cirro-stratus and scud.	P
Small elongated cumuli near the horizon in the W. and W. S.W.; larger ones also in the S.; large masses of scud are scattered thickly over the rest of the sky.	P
Cloudless, but the stars appear small.	G
Almost immediately after the last observation long lines of dark cloud appeared in the N., and gradually spread over the whole sky,	
Overcast. [which continues quite covered with cirro-stratus.	
,,	G
Scud and cumuli apparently at a small elevation.	J H
Cumuli and scud.	
Cumuli and cumulo-strati.	J H
Large white cumuli in all directions: fine blue sky to the South between the clouds.	G
Cumulo-strati near the horizon; cumuli and scud very nearly cover the remainder of the sky.	
Detached cumuli all round: near the zenith long lines of woolly cirri: a fine blue sky.	
A large dark cloud of the cirro-stratus character in the North: many clouds, with much scud to the South.	G
Scud in various directions.	J H
The sky has been much obscured by scud at intervals since 12^h: at present it is cloudless, but the stars appear dim.	
Scud in various directions.	
Light scud principally North of the zenith.	
Vapour and light scud.	J H
A few imperfectly formed cirri here and there: very hazy in the horizon.	P
Fine large white cumuli in all directions; a few cirri also near the zenith: a fine day.	G
The sky is generally covered with large white cumuli and cumulo-strati, with a few cirri.	J M
Cumuli: hazy.	J H
Cumuli and light vapour.	
Scud and cirro-stratus: the air is close.	
Cirro-stratus and scud: electrical clouds are prevalent: the clouds have assumed a denser appearance since the last observation.	J H
Overcast: dense cirro-stratus: the night is extremely dark.	P
,, ,, the clouds are not so black.	
,, ,,	
Scud is scattered about the sky, but chiefly in the South: the cirro-stratus became somewhat broken in the North soon after the last observation.	
A few very small breaks only here and there, the rest of the sky being covered with cirro-stratus, dark cumuli, and scud.	P
Cumulo-stratus, cirro-stratus, and scud: a close, gloomy morning.	J H
Cumulo-stratus, cirro-stratus, and scud.	
Cirro-stratus, cumulo-stratus, and scud.	J H
Cumulo-strati, cirro-strati, and scud, in unconnected masses: the clouds from the West to the North have the appearance of being highly electrical.	P

ADDITIONAL WEIGHT OF VAPOUR REQUIRED FOR COMPLETE SATURATION OF A CUBIC FOOT OF AIR.

June 27^d. The mean daily value was the greatest in the month.

MINIMUM THERMOMETER.

June 26^d. 22^h. The reading was higher than that of the Dry Thermometer at 16^h.

June 27^d. 22^h. The reading was higher than that of the Dry Thermometer at 18^h.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
June 28. 6	29·539	55·8	51·6	4·2	..	..	..	..	N	N	..	¼	..	..	..	10	..
8	29·555	54·3	50·5	3·8	..	..	..	..	N	NNE	..	½	..	..	..	7	..
10	29·586	51·6	49·0	2·6	46·0	5·6	..	..	N	NNE	..	¼	..	..	..	8	..
12	29·608	49·7	47·5	2·2	..	..	..	..	NW	NNE	..	¼	..	..	..	5	..
14	29·612	48·0	44·7	3·3	..	..	..	..	NW	NE	..	½	..	..	..	2	..
16	29·614	47·2	43·5	3·7	40·0	7·2	..	..	NW	N	..	¼	..	..	..	9	..
18	29·623	45·4	43·4	2·0	..	..	..	..	W	WNW	..	½	..	..	..	4	..
20	29·641	50·1	46·0	4·1	..	..	..	.	WNW	N	..	½	..	..	..	10	..
22	29·643	54·5	48·5	6·0	38·5	16·0	64·5 43·5	82·5 34·2	NW	Calm	..	..	5·99	0·00	10·250	10	..
June 29. 0	29·654	59·1	52·1	7·0	..	..	..	..	NNW	N	..	½	..	..	..	8	..
2	29·665	56·7	51·1	5·6	..	..	..	..	NW	NW	..	½	..	..	..	10	Transit
4	29·655	59·1	53·0	6·1	44·5	14·6	..	..	NW	NNW	..	¾	..	..	..	9	..
6	29·654	59·8	53·2	6·6	..	..	..	..	NW	NW	..	½	..	..	..	10	..
8	29·680	59·1	54·0	5·1	..	..	..	..	NW	NNW	..	¼	..	..	..	10	..
10	29·701	55·3	51·7	3·6	46·2	9·1	..	..	Calm	NNW	..	¼	..	..	..	6	..
12	29·714	52·2	49·5	2·7	..	..	..	..	Calm	NNW	..	¼	..	..	..	3	..
14	29·714	52·1	50·0	2·1	..	..	..	..	Calm	NW	..	¾	..	..	..	10	..
16	29·714	52·7	51·0	1·7	46·0	6·7	..	..	Calm	NW	..	½	..	..	..	10	..
18	29·737	54·0	52·0	2·0	..	..	..	..	WSW	WNW	..	½	..	..	..	10	..
20	29·756	56·5	53·5	3·0	..	..	..	..	W by S	WNW	..	½	..	..	..	10	..
22	29·759	59·6	53·2	6·4	46·2	13·4	64·0 52·1	80·3 42·5	W by S	W	..	½	5·99	0·00	10·250	10	..
June 30. 0	29·768	60·0	53·9	6·1	..	..	..	..	WSW	W	..	½	..	..	..	10	..
2	29·779	60·6	55·0	5·6	..	..	..	..	W	WNW	0 to ½	½	..	..	..	10	..
4	29·770	60·1	54·5	5·6	47·0	13·1	..	..	WSW	W by S	0 to 1	½	..	..	..	10	Transit
6	29·764	59·7	54·5	5·2	..	..	..	..	WSW	W	..	½	..	..	..	10	..
8	29·784	57·5	53·5	4·0	..	..	..	..	WSW	W	..	¼	..	..	..	8	..
10	29·799	54·7	52·2	2·5	50·5	4·2	..	..	SW	W by S	..	¼	..	..	..	9	..
12	29·801	53·5	51·8	1·7	..	..	..	..	SW	W	..	½	5·99	0·00	10·250	10	..
14	29·798	52·8	51·4	1·4	..	..	..	..	SW	W	..	¼	..	..	..	10	..
16	29·809	51·6	51·2	0·4	50·5	1·1	..	..	Calm	W	..	¼	..	..	..	7	..
18	29·829	55·2	53·7	1·5	..	..	..	..	SW	W	..	½	..	..	..	9	..
20	29·857	60·5	57·3	3·2	..	..	..	..	SW	W	..	¼	..	..	..	3	..
22	29·874	63·7	58·5	5·2	55·0	8·7	65·2 52·3	71·0 41·5	WSW	W	..	¼	5·99	0·00	10·250	10	..
July 1. 0	29·885	67·0	61·5	5·5	..	..	..	..	WSW	W	0 to 1	½	..	..	..	10	..
2	29·901	64·8	59·0	5·8	..	..	..	..	WSW	W	..	½	..	..	..	10	..
4	29·892	69·6	62·7	6·9	55·5	14·1	..	..	SSW	WSW	..	¾	..	..	..	9	Transit
6	29·890	65·5	60·2	5·3	..	..	..	..	SSW	WSW	0 to 1	¾	..	..	..	9	..
8	29·897	60·5	57·5	3·0	..	..	..	..	SSW	WSW	..	½	..	..	..	3	..
10	29·899	55·7	53·3	2·4	52·0	3·7	..	..	S by W	SW	..	½	..	..	..	3	..
12	29·900	52·5	51·5	1·0	..	..	..	..	S by W	SW	..	¼	..	..	..	4	..
14	..	..	..	..	..	..	..	..	S by W	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SSW	...	½ to 2	..	..	..	..	..	..

TEMPERATURE OF THE DEW POINT.

June 29d. The greatest difference of its mean daily temperature and that of the air occurred.

June 29d. The mean daily value was the lowest during the month.

June 29d and 30d. The greatest difference of its mean daily values for consecutive days in the month occurred.

ELASTIC FORCE OF VAPOUR AND WEIGHT OF VAPOUR IN A CUBIC FOOT OF AIR.

June 29d. The mean daily values were the least in the month.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and scud: there is a small narrow break a few degrees above the horizon in the North, but it is to no numerical amount.	P
Dark cirro-stratus lining the horizon from the W. S.W. to the N. N.W.; imperfectly formed cirro-cumuli in and around the zenith; and loose scud scattered about the rest of the sky.	
Scud and cirro-stratus: the breaks are much scattered.	P
,, ,, and the sky is tolerably clear in the North.	G
Almost immediately after 12h the sky became nearly cloudless, a few clouds only remaining low down in the South, and they have continued there since: at present the same.	
Scud everywhere, except near the horizon from S. to N. E.: the air is very cold.	
Cumulo-strati near the horizon in the S. and in the N.: cirri near the zenith in lines.	
Scud and cirro-stratus cover the sky.	G
,,	J H
Cumuli and scud: hazy.	
Scud and cirro-stratus: gloomy.	
,, electrical clouds S. and S. E. of the zenith.	J H
Cirro-stratus and scud: gloomy.	G
The sky is wholly covered with a small kind of cumuli touching each other near the zenith; cirro-stratus all round below them, and beneath the clouds there is scud.	
The N. E. and S. E. portions of the sky are generally clear, every other part is nearly covered with cloud, the modification being mostly cirro-stratus and cumuli: a dense mist on the earth's surface.	G
Scud North of the zenith: light vapour is generally prevalent.	J H
Overcast: cirro-stratus and scud.	
,, ,,	
,, ,,	
,, ,, hazy.	J H
,, ,, a few breaks are occasionally visible.	P
Overcast: cirro-stratus and scud.	
,, ,, the scud is rather high.	P
Cirro-stratus and scud.	J H
,,	
,, breaks in various directions.	
,,	J H
Overcast: cirro-stratus and scud; the night is extremely dark.	P
,, ,,	
Breaks of smaller or greater extent in every direction.	
,,	
Cirro-stratus in the South horizon, and scud scattered over the other parts of the sky.	P
Cirro-stratus and scud.	J H
Cirro-stratus and scud.	
,,	J H
Nearly the whole sky is covered with dark and imperfectly formed cumuli, cirro-stratus, and scud: hazy.	P
Cirro-stratus and scud, with dark cumuli: the breaks are chiefly in the South.	
Cirro-stratus in the W. and N.W., with light scud scattered thinly over many other parts of the sky: East of the zenith, the sky is perfectly clear.	
Thin lines of dark scud are scattered in every direction.	P
Cirro-stratus and scud.	J H

MINIMUM THERMOMETER.
June 30d. 22h. The reading was higher than that of the Dry Thermometer at 16h.

DEGREE OF HUMIDITY.
June 29d. The mean daily value was the least in the month.

RAIN.
June 30d. 12h. The amount collected during the month of June in the rain-gauge No. 4, was 1in. 30.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
July 1. 18	..	..	..	..	..	..	..	..	SSW	...	0 to ½	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SSW	...	½ to 1	..	..	..	..	..	..
22	29·861	66·7	63·0	3·7	..	..	70·5 53·1	— 44·0	SSW	W by S	½ to 1	¾	5·99	0·00	10·250	8	..
July 2. 0	..	..	..	..	..	..	..	..	SW	...	1 to 3	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	SW	...	1 to 3½	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	SW	...	1 to 3½	..	..	..	..	..	Transit
6	..	..	..	..	..	..	..	..	SW	...	½ to 2½	..	..	..	..	..	..
8	29·880	69·0	64·7	4·3	..	..	..	..	SSW	W	0 to ½	1	..	..	..	2	..
10	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SSW	...	0 to 2	..	..	..	..	..	..
14	29·879	58·5	57·7	0·8	..	..	..	..	SSW	SW	0 to 1	1	..	..	..	2	..
16	29·874	58·5	57·7	0·8	56·2	2·3	..	..	SSW	SW	..	¾	..	..	..	10	In Equator
18	29·860	59·6	57·5	2·1	..	..	..	..	SSW	SW	..	1	..	..	..	0	..
20	29·871	64·5	60·3	4·2	..	..	..	..	SSW	SW	½ to 3	1	..	..	..	1	..
22	29·861	71·3	65·9	5·4	60·5	10·8	75·5 58·6	98·0 48·5	SSW	SW	½ to 2	1	5·99	0·00	10·250	5	..
July 3. 0	29·854	73·0	67·0	6·0	..	..	..	..	SSW	SW	0 to 3	1	..	..	..	4	..
2	29·853	75·5	68·0	7·5	..	..	..	..	SW	SW	0 to 3	1	..	..	..	6	..
4	29·861	75·8	68·5	7·3	60·0	15·8	..	..	WSW	WSW	0 to 3	¾	..	..	..	3	..
6	29·868	67·6	63·6	4·0	..	..	..	..	SSW	WSW	0 to ½	1	..	..	..	9	Transit
8	29·871	65·5	62·2	3·3	..	..	..	..	SSW	WSW	..	¾	..	..	..	9	..
10	29·875	61·1	59·7	1·4	58·0	3·1	..	..	Calm	WSW	..	½	..	..	..	4	..
12	29·880	60·9	59·5	1·4	..	..	..	..	Calm	SW	..	¼	..	..	..	10	..
14	29·878	59·8	58·7	1·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·866	59·8	58·6	1·2	57·0	2·8	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·872	59·7	59·5	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·875	60·3	60·1	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·878	62·5	62·0	0·5	60·0	2·5	78·9 59·1	97·0 54·5	Calm	Calm	..	..	6·00	0·04	10·283	10	..
July 4. 0	29·854	66·0	64·5	1·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
2	29·829	70·6	67·0	3·6	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
4	29·809	75·2	69·0	6·2	63·0	12·2	..	..	Calm	SW	..	¼	..	..	..	5	..
6	29·779	74·2	67·4	6·8	..	..	..	..	Calm	SSW	..	¼	..	..	..	5	Transit
8	29·766	68·7	64·5	4·2	..	..	..	..	Calm	S	..	¼	..	..	..	7	1st Qr.
10	29·758	61·5	60·5	1·0	59·8	1·7	..	..	Calm	S	..	¼	..	..	..	5	..
12	29·727	58·8	58·7	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
14	29·698	57·7	57·6	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	6	..
16	29·643	57·0	57·1	–0·1	56·0	1·0	..	..	Calm	Calm	..	..	..	..	..	1	..
18	29·633	57·2	57·2	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	½	..
20	29·607	70·0	68·3	1·7	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
22	29·637	82·1	73·5	8·6	64·0	18·1	77·9 57·1	102·0 48·2	S by E	S	..	¼	6·00	0·00	10·283	1	..

BAROMETER.
July 3d. The daily range was the smallest during the month.

DRY THERMOMETER.
July 4d. 16h. The reading was lower than that of the Wet Thermometer.
July 4d and 5d. The difference of the mean daily temperatures was considerable.

GENERAL REMARKS.	Observer.
Cirro-stratus and scud: the wind is in gusts.	J H
Light clouds: cumuli.	
The clouds have suddenly disappeared within the last fifteen minutes.	
Cirro-stratus and scud.	
Cloudless.	
A few light clouds.	J H
Large white masses of scud are flying from the S.W. with great rapidity: a pale blue sky.	G
White scud scattered plentifully over that portion of the sky N. of the zenith, the southern portion being tolerably free from cloud; the quantity of cloud is, however, continually varying: the wind in gusts to about $1\frac{1}{2}$.	P
White scud scattered in every direction; there is also an upper cloud consisting of cirri with no apparent motion.	P
Light fleecy clouds.	J H
Cirro-stratus and scud.	
,, the clouds frequently appear in heavy masses near the zenith and S. of it.	
,,	J H
At $10^h.\ 30^m$ the sky became overcast, and it continues so.	G
Overcast.	
,, very black: there has not been a break in the cloud since $10^h.\ 30^m$.	
A thin rain has been falling during the last hour: overcast.	
A thick small rain has been falling this last hour: overcast.	G
Overcast: cirro-stratus and scud: the rain has ceased for some considerable time.	P
Overcast: cirro-stratus and scud.	
Cirro-stratus and scud: there is an extensive and clear break in the southern horizon.	P
White flat cumuli spread over the greater part of the sky: cirri in curved lines about the zenith, and between the cumuli in other parts of the sky: the blue sky is pale.	G
Fine white cirro-cumuli in the zenith, and in the S.W. and N.W. of it: cirri in other directions: white cumuli near the horizon.	
Thin cirro-stratus: a nimbus in the N.: cirri and cirri-cumuli have been prevalent since 6^h: four mock suns are now visible, one on each side of the Sun in a horizontal plane, and one above and below him in a vertical plane.	
The mock suns continued visible about a half an hour; since that time it has been alternately clear, and a great part of the sky is covered with cloud; at present it is free from cloud S. and W. of the zenith, and yet there is an appearance of clouds round the Moon: stratus clouds to the N.	G
Dark scud scattered about the sky, but chiefly in the S. and S. E., from the latter of which quarters it appears to be slowly rising: calm on the surface of the earth.	P
The zenith and its neighbourhood are mostly free from clouds; the rest of the sky is covered, with a few partial exceptions, with cirro-stratus and scud: the quantity of cloud has been more or less, at different times, since the last observation.	
Cirro-stratus in the N.W. horizon; the rest of the sky is free from cloud.	
A few clouds only in the horizon in N.W. and in the W.: a rather thick fog has arisen in the eastern portion of the Park since the last observation.	
Three small tiers of connected cumuli in the N.W. horizon, and a few cirri a little S. of the zenith: the fog has disappeared: since the last observation there has been a rise in the temperature of $12^{\circ}\cdot 8$.	P
A few light clouds: extremely warm.	J H

WEIGHT OF A CUBIC FOOT OF AIR.

July 3^d and 4^d. The least difference of the mean daily values for consecutive days in the month occurred.

MINIMUM THERMOMETER.

July $2^d.\ 22^h$. The reading was higher than those of the Dry Thermometer at 14^h and 16^h.

July $4^d.\ 22^h$. The reading was higher than that of the Dry Thermometer at 16^h.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
July 5. 0	29·592	84·8	76·0	8·8	..	..	..	..	SSW	SSE	..	½	..	..	..	3	..
2	29·574	81·7	71·2	10·5	..	..	..	..	SSE	S	..	¼	..	..	..	8	Perigee
4	29·507	87·3	74·6	12·7	65·0	22·3	..	..	SE	S by E	0 to 3	¾	..	..	..	3	..
6	29·475	81·7	71·2	10·5	..	..	..	..	SSE	S	..	½	..	..	..	7	..
8	29·514	72·8	68·3	4·5	..	..	..	..	SSW	SSW	..	¼	..	..	..	8	Transit
10	29·550	64·8	58·0	6·8	53·0	11·8	..	..	SW	SSW	..	½	..	..	..	9¾	..
12	29·583	61·1	58·2	2·9	..	..	..	..	SW	SW	..	½	..	..	..	9¾	..
14	29·593	58·2	56·1	2·1	..	..	..	..	SSW	SW	..	½	..	..	..	9¾	..
16	29·602	55·8	54·2	1·6	53·0	2·8	..	..	SW	SW	..	½	..	..	..	10	..
18	29·613	54·5	53·8	0·7	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
20	29·638	56·7	56·0	0·7	..	..	..	..	S	SW	..	¼	..	..	..	10	..
22	29·649	64·0	60·5	3·5	55·5	8·5	89·8 55·8	107·5 52·2	SW	WSW	..	½	6·17	0·20	10·470	6	..
July 6. 0	29·671	66·8	60·0	6·8	..	..	..	..	SW	WSW	..	½	..	..	..	10	..
2	29·677	70·4	62·2	8·2	..	..	..	..	SW	WSW	..	½	..	..	..	9½	..
4	29·682	67·0	59·5	7·5	50·0	17·0	..	..	WSW	WSW	..	½	..	..	..	9½	..
6	29·685	65·0	60·0	5·0	..	..	..	..	S	SW	..	¼	..	..	..	9	..
8	29·688	61·4	58·1	3·3	..	..	..	..	Calm	SW	..	¼—	..	..	..	9	Transit
10	29·693	59·0	56·7	2·3	55·0	4·0	..	..	Calm	SW	..	¼—	..	..	..	9	..
12	29·717	58·8	53·9	4·9	..	..	..	..	WNW	Calm	..	..	..	..	..	10	..
14	29·712	56·8	51·7	5·1	..	..	..	..	WNW	W	..	¼	..	..	..	10	..
16	29·743	53·5	52·0	1·5	49·0	4·5	..	..	WSW	W	..	¼	..	..	..	10	..
18	29·759	51·7	50·2	1·5	..	..	..	..	WSW	W	..	¼	..	..	..	5	..
20	29·798	58·5	54·8	3·7	..	..	..	..	WSW	W	..	¼	..	..	..	0	..
22	29·820	64·0	57·2	6·8	53·0	11·0	71·0 52·2	— 45·4	SW	WSW	..	½	6·17	0·00	10·470	6	..
July 7. 0	29·824	62·1	58·8	3·3	..	..	..	..	SSW	SSW	0 to 1	½	..	..	..	10	..
2	29·823	65·4	59·6	5·8	..	..	..	..	SSW	SSW	½ to 3	1	..	..	..	9¾	..
4	29·819	66·8	59·8	7·0	53·0	13·8	..	..	SW	SW	1 to 3	1	..	..	..	5	..
6	29·824	64·5	58·3	6·2	..	..	..	..	SW	SW	½ to 2	1	..	..	..	3	..
8	29·822	60·0	55·8	4·2	..	..	..	..	SW	SW	..	¾	..	..	..	7	..
10	29·833	56·2	53·7	2·5	50·0	6·2	..	..	S	S	..	½	..	..	..	4	Transit
12	29·824	54·8	53·5	1·3	..	..	..	..	S	S	..	½	..	..	..	4	..
14	29·811	55·8	54·5	1·3	..	..	..	..	SSW	S	..	½	..	..	..	10	..
16	29·795	53·3	52·8	0·5	52·0	1·3	..	..	Calm	S	..	¼	..	..	..	10	..
18	29·801	53·5	53·2	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·774	55·7	55·2	0·5	..	..	..	..	Calm	S	..	¼	..	..	..	10	..
22	29·772	59·4	57·8	1·6	53·5	5·9	70·9 53·4	85·0 47·2	Calm	Calm	..	..	6·42	0·27	10·725	10	..
July 8. 0	29·748	62·5	59·3	3·2	..	..	..	..	Calm	S by E	..	¼	..	..	..	10	..
2	29·729	57·1	56·1	1·0	..	..	..	..	Calm	SSW	..	¼	..	..	..	10	..
4	29·703	59·8	57·0	2·8	55·0	4·8	..	..	NW	W	..	¼—	..	..	..	10	..

BAROMETER.

July 5d. The mean daily height was the lowest during the month.

DRY THERMOMETER.

July 5d. The mean daily temperature was the highest in the year; and at 4h the reading was the highest in the year; and the daily range on this day was the greatest [in the year.

July 5d. 4h. The greatest difference between its reading and that of the Wet Thermometer in the year occurred.

July 5d and 6d. The difference of the mean daily temperatures was 10°: the same difference occurred between Sep. 29d and 30d: there is only one instance in the year in which the difference for consecutive days was greater than 10°, viz., between Oct. 11d and 12d.

TEMPERATURE OF THE DEW POINT.

July 5d. The mean daily value was the highest in the month, and the difference between it and that of the air was the greatest in the month.

July 5d and 6d. The greatest difference of its mean daily values for consecutive days in the month occurred.

ELASTIC FORCE OF VAPOUR AND WEIGHT OF VAPOUR IN A CUBIC FOOT OF AIR.—July 5d. The mean daily values were the greatest in the month.

GENERAL REMARKS.	Observer.
A few light clouds S. of the zenith: cumuli and fleecy clouds in the N.	J H
Cirro-stratus and fleecy clouds: the air is very close.	J H
Much cirrus cloud is scattered about, with undefined clouds in the horizon from S. to W.: a rather strong breeze has just sprung up.	P
Scud, cirri, and cirro-stratus: the sky E. of the meridian is nearly free from cloud.	
Clouds of no definite modification are scattered in every direction, more thinly, however, in the zenith, than elsewhere: there are two strata of clouds.	
A long and narrow break in the N.W. horizon, the rest of the sky being covered with cirro-stratus and scud.	P
Nearly overcast: cirro-stratus and scud.	J H
,, ,,	
Overcast: cirro-stratus and scud: rain falling.	
,, cirro-stratus: rain falling.	
,, ,, slightly raining.	J H
The zenith and its neighbourood wholly free from cloud; broken scud and cirro-strati are scattered over the remainder of the sky.	P
Overcast: cirro-stratus and scud: breaks are continually occurring.	
Nearly overcast: cirro-stratus and scud: the cloud in the zenith is broken: hazy: the wind in light airs.	P
Cirro-stratus and scud.	J H
Cumulo-stratus, cirro-stratus, and scud.	
Cirro-stratus and scud.	
,, the air close.	J H
,, ,,	G
Overcast.	
,,	
The greater part of the southern portion of the sky is free from cloud, while the greater part of the northern portion is covered: some cirro-cumuli about the zenith and S.W. of it: stratus to the N. and E.: the Sun's place is just visible.	
At about $18^h.\ 40^m$, the Sun broke through the clouds, since which time it has been shining brightly and the clouds have quite disappeared: it is a fine morning.	G
Cumuli, cumulo-strati, and large masses of scud.	P
Overcast: cirro-stratus and scud: a thin rain falling: during the observation the shower ceased, and the southern part of the sky presented numerous and large breaks, with cumuli in the S. horizon.	
A few very trifling breaks in the zenith and E. of it, the sky being generally covered with cirro-stratus, heavy cumuli, and cumulo-strati: the rain recommenced soon after the last observation, and continued for some time.	P
Fine, white, bold cumuli with edges well defined, equally distributed over the sky; a few cirri above, and fine blue sky between the cumuli.	G
Large white cumuli as before, but less numerous, moving from the W.: a fine blue sky: there have been gusts of wind to 2 since the last observation.	
The sky N. of the zenith is covered with cloud: the S. portion of the sky presents a similar appearance to that registered at the last observation.	
Some cirri about the place of the Moon, and detached dark small clouds to the N.: since the last observation the sky has varied in appearance very much, being at times quite cloudy, and then suddenly clear.	G
Cirro-cumuli, dark strati, and scud, chiefly, however, in the S. and N.	P
Overcast: a dense cirro-stratus: the sky became overcast soon after the last observation.	
,, cirro-stratus and scud: the cirro-stratus looks much thinner in some places than in others.	
,, a fine, steady rain falling.	
,, a few drops of rain only falling.	P
,, the rain has ceased falling.	J H
Overcast: a few drops of rain falling.	
,, rain falling slightly.	J H
,, there seems to be no upper cloud, as many breaks, some of great extent, were visible a few minutes since in different directions.	P

ADDITIONAL WEIGHT OF VAPOUR REQUIRED FOR COMPLETE SATURATION OF A CUBIC FOOT OF AIR.

July 5^d. The mean daily value was the greatest in the month.

WEIGHT OF A CUBIC FOOT OF AIR.

July 5^d. The mean daily value was the least in the year. July 5^d and 6^d. The greatest difference of the mean daily values for consecutive days in the month [occurred.

DEGREE OF HUMIDITY.

July 5^d. The mean daily value was the least in the year.

MINIMUM THERMOMETER.

July $5^d.\ 22^h$ and $6^d.\ 22^h$. The reading was higher than that of the Dry Thermometer at 18^h.

July $7^d.\ 22^h$. The reading was higher than that of the Dry Thermometer at 16^h.

AMOUNT OF CLOUDS.

July 5^d. The mean daily value was the least in the month.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
July 8. 6	29·719	57·9	55·3	2·6	..	..	..	..	W	WSW	..	¼–	..	..	..	7	..
8	29·735	57·7	55·8	1·9	..	..	..	..	Calm	SW	..	¼–	..	..	..	6	..
10	29·763	54·0	53·2	0·8	53·2	0·8	..	..	Calm	SW	..	¼–	..	..	..	½	Transit
12	29·792	51·0	51·0	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	29·852	60·2	58·0	2·2	..	..	66·1 47·3	80·0 40·2	NNW	Calm	..	..	6·67	0·29	11·065	8	..
July 9. 0	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	Greatest declination S.
2	29·856	68·2	61·2	7·0	..	..	..	..	N by W	W	..	¼	..	..	..	5	..
4	..	..	..	..	..	..	..	..	N	...	..	..	..	..	..	..	..
6	29·834	61·5	60·5	1·0	..	..	..	..	N	NNE	..	¼	..	..	..	10	..
8	..	..	..	..	..	..	..	..	NE	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	ENE	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
14	29·852	52·2	52·1	0·1	..	..	..	..	Calm	NE	..	¼	..	..	..	2	..
16	29·853	52·5	52·2	0·3	51·0	1·5	..	..	Calm	NE	..	¼	..	..	..	0	..
18	29·844	53·1	52·5	0·6	..	..	..	..	Calm	NE	..	¼	..	..	..	3	..
20	29·840	59·8	57·0	2·8	..	..	..	..	NNW	NE	..	¼	..	..	..	3	..
22	29·827	66·6	60·2	6·4	53·0	13·6	74·9 51·3	102·0 40·0	NNW	N	½ to 3	½	6·79	0·14	11·130	4	..
July 10. 0	29·827	66·2	59·7	6·5	..	..	..	..	N	N by W	½ to 3½	¾+	..	..	..	10	..
2	29·816	63·5	57·8	5·7	..	..	..	..	N	N by W	0 to 2	¾	..	..	..	10	..
4	29·811	63·0	58·0	5·0	54·0	9·0	..	..	N	N	½ to 4½	¼	..	..	..	10	..
6	29·796	65·7	60·0	5·7	..	..	..	..	N	N	0 to 3	¼	..	..	..	8	..
8	29·811	62·0	58·0	4·0	..	..	..	..	N	N	0 to ½	¼	..	..	..	6	..
10	29·835	59·0	55·7	3·3	54·0	5·0	..	..	N	N	0 to ½	¼	..	..	..	10	..
12	29·835	58·4	55·5	2·9	..	..	..	..	N	N	0 to ½	½	..	..	..	10	Transit
14	29·853	57·0	54·8	2·2	..	..	..	..	N	N	..	1	..	..	..	10	..
16	29·844	55·5	54·5	1·0	53·5	2·0	..	..	N	NNE	..	1½	..	..	..	10	..
18	29·862	55·0	54·2	0·8	..	..	..	..	N	NNE	..	1	..	..	..	10	..
20	29·885	55·7	55·0	0·7	..	..	..	..	N	N	..	1	..	..	..	10	..
22	29·909	57·5	56·3	1·2	55·0	2·5	68·7 54·8	— 53·2	N	N	0 to 1	¾	6·79	0·00	11·130	10	..
July 11. 0	29·925	58·2	57·4	0·8	..	..	..	..	N	N	0 to ½	¾	..	..	..	10	..
2	29·949	60·7	59·0	1·7	..	..	..	..	N	N	0 to 2	¾	..	..	..	10	..
4	29·968	61·7	59·8	1·9	58·5	3·2	..	..	N	NE	0 to 2½	1	..	..	..	10	..
6	29·983	59·2	57·6	1·6	..	..	..	..	NNE	NE	0 to ½	1	..	..	..	10	Full
8	30·002	57·2	56·2	1·0	..	..	..	..	N	NE	..	¾	..	..	..	10	..
10	30·034	55·5	54·2	1·3	53·5	2·0	..	..	N	NE	0 to 1½	1	..	..	..	10	..
12	30·042	54·3	53·2	1·1	..	..	..	..	NNE	NE	..	¼	..	..	..	10	Transit
14	30·037	54·0	53·2	0·8	..	..	..	..	NNE	NE	..	¼	..	..	..	10	..
16	30·038	52·8	52·0	0·8	51·0	1·8	..	..	NNE	NE	..	¼–	..	..	..	10	..
18	30·046	53·3	52·7	0·6	..	..	..	..	N	NE	..	¼	..	..	..	10	..
20	30·067	56·2	55·0	1·2	.	..	..	..	NNE	NE	..	¼	..	..	..	8	..
22	30·070	61·6	59·2	2·4	56·0	5·6	65·9 52·8	74·0 49·0	N	N	..	¼	6·79	0·00	11·130	7	..

DRY THERMOMETER.
July 11d. The daily range was the least in the month.

TEMPERATURE OF THE DEW POINT.
July 11d. The least difference between its mean daily value and that of the air occurred.

ADDITIONAL WEIGHT OF VAPOUR REQUIRED FOR COMPLETE SATURATION OF A CUBIC FOOT OF AIR.
July 11d. The mean daily value was the least in the month.

DEGREE OF HUMIDITY.
July 11d. The mean daily value was the greatest in the month.

GENERAL REMARKS.	Observer.
Densely-packed cumuli and cumulo-strati in the S.; cumuli are also near the horizon in the W. S.W.; the rest of the sky is mostly covered with large cumulo-strati and undefined clouds.	P
A single cumulus in the S. horizon, and a few also in the western; cirri and scud are plentifully scattered over the rest of the sky, though more thinly S. of the zenith: slightly hazy in the N.W.	
Lines of cloud of a deep blue in the N. and W. horizon, with a few small patches of scud here and there: the clouds went off gradually after the last observation.	P
Cloudless.	J H
The sky is nearly covered with ill-defined cumuli and scud; the sky continued cloudless until after 15^h.	G
Ill-defined cumuli and haze.	
Nimbi and scud: at $6^h.\ 34^m$ rain began to fall, and continued for some time.	G
Light clouds.	J H
Cloudless.	
Light fleecy clouds.	
Vapour, and light fleecy clouds.	J H
Cumuli, cirri, and scud in every direction.	P
Overcast: cirro-stratus and scud.	
,, ,, very gloomy.	P
Cirro-stratus and scud.	J H
,, the air is close.	
,, ,, the clouds appear of an electrical character in the S.W.	
Overcast: cirro-stratus and scud: the clouds have become denser since the last observation.	J H
,, ,, the clouds still continue very dense.	G
,, ,, the wind is rising; gusts to $1\frac{1}{2}$.	
,, ,, the wind is blowing in gusts to 2.	
No change whatever.	
Overcast: a few drops of rain have fallen since the last observation.	G
,, cirro-stratus and scud: very gloomy and cold.	P
Overcast: cirro-stratus and scud: at $23^h.\ 40^m$ a shower of rain fell.	
,, ,,	P
,, ,, the wind in frequent gusts to $1\frac{1}{2}$, and sometimes to 2.	G
No change.	
,,	
,,	G
Overcast: cirro-stratus and scud.	P
,, ,,	
,, ,,	
,, ,, the cirro-stratus appears in some parts much thinner.	
Extensive breaks in several directions, the general character of the clouds being cirro-stratus and scud.	P
Cirro-stratus: hazy: light clouds North of the zenith.	J H

AMOUNT OF CLOUDS.

July $10^d.\ 10^h$ to $14^d.\ 0^h$. The sky was generally covered with cloud: it is the longest period of cloudy sky in the month.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
July 12. 0	30·051	69·1	62·5	6·6	..	..	..	..	N	N	..	¼	..	..	..	9½	..
2	30·036	71·7	66·2	5·5	..	..	..	..	Calm	N	..	¼–	..	..	..	9	..
4	30·012	70·2	64·2	6·0	60·2	10·0	..	..	Calm	Calm	..	..	..	..	..	10	..
6	29·985	69·5	65·0	4·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	29·986	65·2	61·2	4·0	..	..	..	..	NNW	Calm	..	..	..	..	..	10	..
10	29·989	61·6	59·3	2·3	57·5	4·1	..	..	Calm	Calm	..	..	..	..	..	10	..
12	29·993	59·5	58·2	1·3	..	..	..	..	Calm	SW	..	¼–	..	..	..	10	..
14	29·960	58·0	56·9	1·1	..	..	..	..	Calm	SW	..	¼–	..	..	..	9	Transit
16	29·947	58·1	57·2	0·9	55·0	3·1	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·938	59·3	58·2	1·1	..	..	..	..	Calm	SW	..	¼	..	..	..	10	..
20	29·932	60·1	59·1	1·0	..	..	..	..	Calm	SW	..	¼	..	..	..	10	..
22	29·922	67·8	63·3	4·5	60·0	7·8	76·9 55·3	101·5 53·5	Calm	SW	..	¼–	6·80	0·01	11·155	7	..
July 13. 0	29·920	66·2	62·7	3·5	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
2	29·915	60·0	59·3	0·7	..	..	..	..	Calm	W	..	¼–	..	..	..	10	..
4	29·899	60·7	60·3	0·4	58·0	2·7	..	..	Calm	Calm	..	..	..	..	..	10	..
6	29·893	62·0	61·0	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	29·887	62·3	60·7	1·6	..	..	..	..	Calm	Calm	..	..	..	..	..	6	..
10	29·911	60·3	59·3	1·0	57·5	2·8	..	..	N	Calm	..	..	..	..	..	10	..
12	29·907	55·5	55·1	0·4	..	..	..	..	N	Calm	..	..	..	..	..	10	..
14	29·903	56·6	56·6	0·0	..	..	..	..	NNW	Calm	..	..	..	..	..	10	Transit
16	29·902	56·8	56·8	0·0	57·0	−0·2	..	..	N	Calm	..	..	..	..	..	10	..
18	29·912	55·4	55·4	0·0	..	..	..	..	N	Calm	..	..	..	..	..	10	..
20	29·925	56·8	56·5	0·3	..	..	..	..	NNE	ENE	..	¼	..	..	..	10	..
22	29·954	58·6	57·0	1·6	56·0	2·6	69·9 55·8	86·2 52·0	N	N by E	..	¼–	7·00	0·40	11·460	10	..
July 14. 0	29·958	64·0	60·6	3·4	..	..	..	..	N	N	..	¼	..	..	..	7	..
2	29·955	69·2	64·2	5·0	..	..	..	..	NNE	N	..	¼	..	..	..	6	..
4	29·944	68·8	63·2	5·6	58·5	10·3	..	..	N	NE	..	¼	..	..	..	3	..
6	29·932	68·2	63·2	5·0	..	..	..	..	Calm	NE	..	¼	..	..	..	6	..
8	29·935	64·0	60·7	3·3	..	..	..	..	Calm	N	..	¼	..	..	..	9	..
10	29·949	62·6	60·0	2·6	58·0	4·6	..	..	Calm	Calm	..	..	..	..	..	10	..
12	29·941	59·0	57·8	1·2	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
14	29·934	56·6	56·6	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
16	29·926	54·5	54·5	0·0	54·0	0·5	..	..	Calm	Calm	..	..	..	..	..	7	Transit
18	29·936	55·0	54·6	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
20	29·935	62·6	60·3	2·3	..	..	..	..	Calm	SW	..	¼	..	..	..	2	..
22	29·947	67·2	62·7	4·5	62·2	5·0	74·0 55·4	93·7 50·0	Calm	SW	..	¼	7·00	0·00	11·460	½	..
July 15. 0	29·943	69·8	63·0	6·8	..	..	..	..	W by S	WSW	..	¼	..	..	..	5	..
2	29·938	73·6	66·1	7·5	..	..	..	..	W	W	..	½	..	..	..	4	..
4	29·930	73·0	64·6	8·4	60·0	13·0	..	..	WSW	W by S	..	¼	..	..	..	7	..
6	29·929	70·5	65·0	5·5	..	..	..	..	W	W by N	..	¼–	..	..	..	10	..

BAROMETER.

July 14d and 15d. The least difference of the mean daily heights for consecutive days in the month occurred; between 21d and 22d the same difference took place.

MINIMUM THERMOMETER.

July 13d. 22h. The reading was higher than those of the Dry Thermometer at 12h and 18h.

July 14d. 22h. The reading was higher than those of the Dry Thermometer at 16h and 18h.

GENERAL REMARKS.	Observer.
Cirro-stratus: hazy.	J H
Fleecy clouds: hazy.	J H
Overcast: cirro-stratus: the clouds have a highly electrical appearance, especially in the North and West: occasional light airs from the N. N. E.	P
Overcast: cirro-stratus: a few electrical cumulo-strati in the northern horizon: in the S. S. E. the cirro-stratus looks thinner.	
,, ,, light airs occasionally spring up from the N. W.: the air is very close and oppressive.	
,, cirro-stratus and scud; the motion of the latter is from the N. N. W., and very slow.	P
,, cirro-stratus.	J H
Breaks in the zenith: fleecy clouds about the Moon.	
Overcast.	
Cirro-stratus and scud.	
,,	J H
A thin cirro-stratus and scud, with cumulo-strati in the South.	P
Overcast: cirro-stratus and scud.	
,, cirro-stratus: a fine steady rain falling; it began at $1^h.\ 15^m$.	P
,, ,, very gloomy N. of the zenith: a fog to the N. of a copper colour, so dense that an object can scarcely be seen at the distance of 200 yards.	J H
Cirro-stratus and scud: much less gloomy than at 4^h: a little rain has fallen since that time.	
,,	
,,	J H
,, the clouds became less dense about a quarter of an hour since, and the Moon was just visible, but the sky continues covered, though the clouds are lighter in some parts than in others.	G
The lighter parts of the sky, mentioned in the last note, continued for a very short time, when the clouds became black everywhere, and uniformly covered the sky.	
Overcast.	
,, a fine steady rain is falling: the morning is dark and gloomy; the rain was very transitory.	
,,	G
,, cirro-stratus and dark scud; the altitude of the latter is nearly equal to that of the cirro-stratus.	P
Breaks in every direction, the clouds consisting of large masses of scud, and imperfectly formed cumulo-strati.	
Cumuli and imperfectly formed cumulo-strati and scud.	P
Cumuli and cumulo-strati in the N.W.; at other parts of the sky detached cumuli.	G
Cumulo-strati, principally in the S.W., W., and N.W.: the E. portion of the sky is partially covered with small detached cumuli, some of which are of a woolly appearance: the zenith is clear.	
The sky is almost wholly covered with a light scud moving from the N., and ill-formed cumuli: in the N.W. the rays of the Sun rise upwards between breaks in the scud, and also all the scud and cumuli near the Sun is highly coloured red.	
Overcast, with dark cirro-strati and scud.	G
Scud in the E.; the rest of the sky is free from cloud.	P
Scud in every direction.	
Cirri and cirro-cumuli of a fine crimson colour in every direction.	
Cirro-cumuli scattered over the heavens.	
,, in different directions, with mottled cirri: the cirro-cumulus has, since day-break, been of the most perfect character, and of every variety and size.	P
A few light cirri and fleecy clouds in various directions.	J H
Light clouds (cirro-cumuli) scattered over the sky.	
,, principally cumuli.	J H
Compact scud, extending from the whole horizon to the zenith in some parts, and about half way in others; the breaks are chiefly E. of the zenith.	P
Overcast: cirro-stratus: the sky became overcast almost immediately after the preceding observation.	

ANEMOMETER.

July $13^d.\ 10^h.\ 25^m$. At this time a sudden pressure of $4\frac{1}{2}$lbs. took place: at $10^h.\ 28^m$ no pressure was recorded.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
July 15. 8	29·941	67·5	64·5	3·0	..	..	..	..	Calm	W by S	..	¼–	..	..	..	6	..
10	29·972	64·5	63·0	1·5	61·8	2·7	..	..	Calm	W by S	..	¼–	..	..	..	2	..
12	30·002	63·3	62·1	1·2	..	..	..	..	Calm	W	..	¼–	..	..	..	9	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	30·093	67·2	62·4	4·8	..	..	76·0 57·2	100·8 51·0	Calm	W	..	¼	7·00	0·00	11·460	8	In Equator
July 16. 0	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
2	30·084	76·3	68·1	8·2	..	..	..	..	WSW	W by S	..	½	..	..	..	7	..
4	..	..	..	..	..	..	..	..	W	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	W	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
14	30·124	58·1	57·5	0·6	..	..	..	..	SW	WSW	..	½	..	..	..	0	..
16	30·122	58·1	57·1	1·0	55·0	3·1	..	..	Calm	WSW	..	¼	..	..	..	9	Transit
18	30·118	59·6	59·5	0·1	..	..	..	..	Calm	W by S	..	¼	..	..	..	8	..
20	30·137	63·7	61·7	2·0	..	..	..	..	Calm	WSW	..	¼	..	..	..	9	..
22	30·122	73·0	66·2	6·8	62·2	10·8	79·4 58·4	103·4 52·1	SW	WSW	..	½	7·00	0·00	11·460	1½	..
July 17. 0	30·117	78·0	69·5	8·5	..	..	..	..	SW	WSW	..	¼+	..	..	..	6	..
2	30·085	76·6	69·2	7·4	..	..	..	..	SW	WSW	..	¼	..	..	..	7	..
4	30·071	79·0	70·2	8·8	60·5	18·5	..	..	W	WSW	..	¼	..	..	..	3	..
6	30·032	76·0	68·7	7·3	..	..	..	..	W	WSW	..	¼	..	..	..	3	..
8	30·030	72·4	67·0	5·4	..	..	..	..	WSW	WSW	..	¼	..	..	..	4	..
10	30·033	66·0	63·0	3·0	61·0	5·0	..	..	SSW	WSW	..	¼	..	..	..	9	..
12	30·014	63·7	62·2	1·5	..	..	..	..	SSW	SW	..	¼	..	..	..	0	..
14	29·973	59·6	58·5	1·1	..	..	..	..	SSW	SW	..	¼	..	..	..	3	..
16	29·942	58·0	57·2	0·8	56·0	2·0	..	..	WSW	W	..	1	..	..	..	10	..
18	29·909	59·5	58·2	1·3	..	..	..	..	SSW	W	..	1	..	..	..	10	Transit
20	29·875	62·2	60·8	1·4	..	..	..	..	SW	W	0 to ½	1	..	..	..	2	..
22	29·840	68·7	64·0	4·7	58·0	10·7	82·4 58·1	106·5 52·0	SW	WSW	¾ to 3	1	7·00	0·00	11·460	7	..
July 18. 0	29·806	70·3	64·6	5·7	..	..	..	..	WSW	SW	1 to 4	1½	..	..	..	7	..
2	29·771	72·0	64·8	7·2	..	..	..	..	WSW	SW	1½ to 3	1½	..	..	..	7	..
4	29·746	69·2	64·4	4·8	58·0	11·2	..	..	WSW	WSW	0 to ½	1½	..	..	..	10	..
6	29·724	61·8	61·4	0·4	..	..	..	..	SW	W	..	1	..	..	..	10	..
8	29·688	60·3	60·2	0·1	..	..	..	..	SW	W	..	¼	..	..	..	10	..
10	29·659	59·1	58·8	0·3	58·3	0·8	..	..	SW	SW	..	¼	..	..	..	10	Apogee
12	29·633	57·3	57·0	0·3	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
14	29·634	54·0	53·8	0·2	..	..	..	..	NW	Calm	..	..	..	..	..	10	..
16	29·616	52·5	52·0	0·5	51·5	1·0	..	..	NW	WNW	..	¼	..	..	..	10	..
18	29·629	52·0	51·4	0·6	..	..	..	..	NW	WNW	..	¼	..	..	..	10	Transit
20	29·633	56·0	53·7	2·3	..	..	..	..	NNW	N	..	¼	..	..	..	3	..
22	29·627	61·1	56·7	4·4	53·0	8·1	75·0 52·3	94·5 45·0	WNW	NW	..	¼	7·42	0·73	11·990	8	..

BAROMETER.

July 17d and 18d. The greatest difference of the mean daily heights for consecutive days in the month occurred.

July 18d. The daily range was the greatest in the month.

DRY THERMOMETER.

July 17d, 18d, and 19d. The differences of the mean daily temperatures were great.

July 18d. 6h, 8h, and 10h. The bulb was quite dry at these times.

GENERAL REMARKS.	Observer.
Scud, a few cirri, and undefinable clouds: slightly hazy in the western horizon. [of the zenith.	P
Dark clouds near the horizon in the N. and N.W., with a few patches of scud here and there, and a species of cirro-cumulus N.E.	P
Vapour and scud: stars are visible in and about the zenith.	J H
Cirro-stratus and haze: the breaks are N. of the zenith.	P
Cumulo-strati, cirro-strati, scud, and haze: cumuli and cirri S. of the zenith.	P
Cloudless: a fine moonlight night.	J H
Cirro-stratus and scud.	
Scud is generally scattered over the sky.	
Cirro-stratus and scud.	JH
Cumuli and light scud.	P
Cumuli, compact scud in the West and N.W., and loose scud in other directions.	
Densely packed cumuli lining the horizon, and large masses of scud scattered in every direction.	P
Light fleecy cumuli.	J H
,,	
Light fleecy cumuli and cumulo-strati S. of the zenith.	
Cirro-stratus and scud.	J H
With the exception of a few lines of cirri N. of the zenith, which are brightly illuminated by the Moon, the sky is cloudless: the cirri are not sufficient to be represented numerically: the sky appears to be perfectly free from vapour: the Moon, Jupiter, Saturn, and Mars are shining with unusual brilliancy.	G
Cirri in the N., N. E., and S.; the remainder of the sky is clear.	
Cirro-stratus covers the sky: at about one hour since, the cirri spread so as to obscure every part of the sky.	
Overcast: cirro-stratus.	
Almost immediately after 18^h the clouds became broken, and in a short time afterwards the sky became cloudless and continued so for some time, when large masses of scud and large cirro-stratus collected; since that time the appearance of the sky has continued the same, being about one-fifth covered with cloud: the Sun is shining very brightly.	G
Cumuli; a few cirri, at a considerable altitude, and large masses of stormy-looking scud, flying low: the cirri are in motion, moving from the W.S.W.	P
Cumuli and scud; there is also an upper cloud consisting of cirri, apparently without motion.	
Cirro-strati and scud, above which are cirri.	P
Cirro-stratus and scud, with nimbi everywhere.	G
A steady thin rain has been falling since $4^h.\ 35^m$, and is falling now.	
At $6^h.\ 10^m$ the rain came in larger drops, and since that time a fine, steady rain has fallen. [$0^{in}.4$ have fallen.	
A fine, steady rain has continued ever since the last observation; Crosley's rain-gauge now reads $11^{in}.895$; within the last four hours	G
Overcast: a very violent rain falling: about $10^h.\ 10^m$ the rain ceased for a short period.	P
,, the rain has ceased.	
,, cirro-stratus, which is thin, the outline of the Moon being distinctly marked.	
,, ,, the place of the Moon is now invisible; the clouds look thinner in the N. E. horizon.	
A kind of cirro-stratus sinking below the horizon in the S. E., and cirri in every direction: very hazy in the South.	P
Cumuli: hazy.	H

TEMPERATURE OF THE DEW POINT.

July $17^d.\ 4^h$. The difference between it and the temperature of the air was considerable.

July 18^d and 19^d. The difference of the mean daily values was considerable.

MINIMUM THERMOMETER.

July $16^d.\ 22^h$. The reading was higher than those of the Dry Thermometer at 14^h and 16^h.

July $17^d.\ 22^h$. The reading was higher than that of the Dry Thermometer at 16^h.

July $18^d.\ 22^h$. The reading was higher than that of the Dry Thermometer at 18^h.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
July 19. 0	29·613	65·1	57·5	7·6	..	..	..	..	W by S	W by N	..	½	..	..	..	8	..
2	29·598	62·1	57·0	5·1	..	..	..	..	W by N	W by S	..	¼	..	..	..	9	3rd Qr.
4	29·563	66·6	61·5	5·1	56·0	10·6	..	..	W by N	W by S	0 to ½	½	..	..	..	8	..
6	29·567	59·5	56·2	3·3	..	..	..	..	NW	NNW	..	½	..	..	..	8	..
8	29·576	56·6	53·0	3·6	..	..	..	..	NW	NNW	..	¼	..	..	..	6	..
10	29·602	51·5	50·5	1·0	49·5	2·0	..	..	Calm	W	..	¼	..	..	..	3	..
12	29·600	51·2	50·2	1·0	..	..	..	..	W	W	..	¼	..	..	..	4	..
14	29·607	49·3	48·8	0·5	..	..	..	..	W	W	..	¼	..	..	..	2	..
16	29·613	48·3	47·4	0·9	45·0	3·3	..	..	WSW	Calm	..	..	..	..	..	0	..
18	29·621	46·9	46·3	0·6	..	..	..	..	W	W	..	¼	..	..	..	0	Transit
20	29·644	52·8	50·5	2·3	..	..	..	..	WNW	NW	..	½	..	..	..	0	..
22	29·655	58·1	53·2	4·9	47·0	11·1	68·7 46·1	93·5 39·5	NW	WNW	..	1	7·43	0·01	12·015	5	..
July 20. 0	29·605	61·1	55·0	6·1	..	..	..	..	W	WNW	..	½	..	..	..	7	..
2	29·624	64·5	57·5	7·0	..	..	..	..	W by S	W	½ to 2	¾	..	..	..	8	..
4	29·615	62·5	56·8	5·7	48·0	14·5	..	..	WSW	W by S	½ to 2	½	..	..	..	9	..
6	29·615	59·2	54·5	4·7	..	..	..	..	W	W	1 to 4½	1	..	..	..	10	..
8	29·631	54·2	52·2	2·0	..	..	..	..	WSW	W	0 to ½	¼	..	..	..	10	..
10	29·600	53·7	51·7	2·0	50·0	3·7	..	..	SW	WSW	..	½	..	..	..	10	..
12	29·575	54·6	52·3	2·3	..	..	..	..	SW	WSW	0 to 1	1	..	..	..	10	..
14	29·562	54·8	53·0	1·8	..	..	..	..	WSW	WSW	½ to 1½	¾	..	..	..	10	..
16	29·554	55·1	53·7	1·4	50·5	4·6	..	..	WSW	WSW	0 to ½	¾	..	..	..	10	..
18	29·567	55·6	53·7	1·9	..	..	..	..	WSW	WSW	0 to ½	¾	..	..	..	10	..
20	29·564	58·3	55·5	2·8	..	..	..	..	WSW	WSW	0 to 1	¾	..	..	..	10	Transit
22	29·562	61·5	57·5	4·0	52·0	9·5	67·9 54·1	90·4 49·0	W	WSW	1 steady	¾	7·43	0·00	12·025	10	..
July 21. 0	29·580	63·2	58·7	4·5	..	..	..	..	WSW	WSW	0 to 2	½	..	..	..	10	..
2	29·595	63·8	58·5	5·3	..	..	..	..	W	W	0 to ½	½	..	..	..	10	..
4	29·605	62·1	57·2	4·9	52·0	10·1	..	..	W	W	0 to ½	¾	..	..	..	10	..
6	29·620	61·5	56·8	4·7	..	..	..	..	W	W	..	¾	..	..	..	10	..
8	29·642	60·0	55·5	4·5	..	..	..	..	W	W	..	¾	..	..	..	10	..
10	29·664	58·6	55·1	3·5	52·5	6·1	..	..	W	W	..	½	..	..	..	10	..
12	29·683	57·8	54·7	3·1	..	..	..	..	W	W	..	½	..	..	..	10	..
14	29·678	55·2	53·4	1·8	..	..	..	..	W	NNW	..	½	..	..	..	9	..
16	29·678	55·0	54·0	1·0	53·0	2·0	..	..	W	W	..	½	..	..	..	8	..
18	29·686	55·5	54·0	1·5	..	..	..	..	W	W	..	½	..	..	..	9	..
20	29·705	58·5	54·7	3·8	..	..	..	..	W	W	..	1	..	..	..	6	Transit
22	29·683	62·8	58·7	4·1	52·0	10·8	67·8 55·1	85·9 47·0	W	W	..	¼	7·43	0·00	12·025	10	..
July 22. 0	29·663	62·8	58·9	3·9	..	..	..	..	WSW	W	0 to ½	½	..	..	..	10	..
2	29·633	60·2	59·2	1·0	..	..	..	..	SW	WSW	..	¼	..	..	..	10	..
4	29·594	64·7	62·2	2·5	60·0	4·7	..	..	SW	WSW	0 to ½	½	..	..	..	10	..
6	29·533	62·8	61·0	1·8	..	..	..	..	SW	SW by W	..	½	..	..	..	7	..
8	29·515	61·5	59·3	2·2	..	..	..	..	WSW	WSW	..	¼	..	..	..	6	..
10	29·497	58·5	57·0	1·5	56·0	2·5	..	..	WSW	WSW	..	½	..	..	..	9	..
12	29·457	58·2	57·8	0·4	..	..	..	..	WSW	WSW	..	½	..	..	..	10	..
14	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..

BAROMETER.

July 20d. 0h. This reading appears to be 0in·050 too low; it was 29in·652 at 23h, as observed in Term-day Observations. In the Abstracts 29in·605 has been used. Upon a subsequent examination, it appeared that the reading of the attached thermometer was erroneous, which was set down 69°·2, whilst three other thermometers in the room, with which its previous and subsequent readings agreed, read between 62° and 63°; it was therefore supposed that the 2 and 9 had been transposed, and that the reading should have been 62°·9; the reading corrected with a temperature of 62°·9 would be 29in·621; probably this is correct, but no alteration has been made in the Abstracts on account of its difference from 29in·605.

~~June~~ 22d. 12h. The reading was the lowest in the month.

GENERAL REMARKS.	Observer.
Cumuli: hazy.	J H
Cirro-stratus and scud: the clouds have assumed an electrical appearance N. and N. E. of the zenith.	J H
Dark cirro-stratus, scud, and haze: at about $3^h.30^m$ a slight shower of rain fell.	P
Cirro-stratus and scud: the wind has been gradually veering round to its present quarter since the last observation.	
Scud and undefinable clouds scattered in every direction, the zenith and its neighbourhood being, however, pretty free from cloud.	P
Cirro-stratus low down in the N.: scud and cirro-stratus in the N. E. and S.: mottled clouds of the cirro-cumuli character near the zenith: it feels very cold.	G
Scud in the E., S., and W., covering nearly the whole of the S. portion of the sky.	G
Clouds only in the E. and S. E.	P
Cloudless.	J H
,,	J H
Hazy: the wind is light and variable.	M
Ill-defined cumuli are scattered in different parts of the sky, with faint blue sky between them.	G
Cumuli, cirro-stratus, and scud.	J H
,,	P
Cirro-stratus and scud.	J H
Overcast: cirro-stratus: the scud is very trifling: a little rain is falling: squally.	P
,, rain falling.	G
,, cirro-stratus and dark curled up scud.	G
,, cirro-stratus and scud: gusts of wind.	J H
,, ,, ,,	
Cirro-stratus and scud.	
,,	
,, gusts of wind.	J H
,,	P
Overcast: cirro-stratus and scud: the clouds are slightly broken S. of the zenith: the wind blowing in gusts to $\frac{3}{4}$ or 1.	
,, ,, gloomy.	P
Cirro-stratus and scud.	J H
,,	
,,	
,,	J H
,, at 11^h a few stars were visible.	G
The sky is now principally covered with scud: about half an hour since it was nearly cloudless for a few minutes, but a large mass of scud came up from the N.W., from which quarter the clouds have been moving.	
The sky has been clear and cloudy alternately since the last observation; at times the sky was without cloud or vapour, and then suddenly again became covered with cloud.	G
With the exception of a few breaks, the sky is covered with low cirro-cumuli.	H
Cirro-cumuli: partly clear to the W. and S.W.	H
Overcast: cirro-stratus and scud: hazy.	P
Overcast: cirro-stratus and scud.	
,, ,, a shower of rain began to fall at $1^h.20^m$: a few drops are now falling.	P
Cirro-stratus and scud: the rain has ceased falling.	J H
Cirri and cumuli in the N. and N.W., and compact scud in the zenith, to the E. and S. of it; the Sun is shining, and the clouds are rapidly dissipating.	P
Scud scattered in different directions, and dark clouds in the western horizon.	P
Scud and cirro-stratus.	J H
Overcast: a thin rain falling.	P

TEMPERATURE OF THE DEW POINT.

July $19^d.16^h$. The reading was the lowest in the month.

MINIMUM THERMOMETER.

July $20^d.22^h$. The reading was higher than that of the Dry Thermometer at 10^h.

July $21^d.22^h$. The reading was higher than that of the Dry Thermometer at 16^h.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0 – 10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
July 22. 16	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	WNW	...	0 to 1	..	..	..	..	..	..
22	29·316	59·0	52·5	6·5	..	..	65·9 51·7	72·6 50·6	NW	WSW	1 to 5	¾	7·45	0·02	12·075	8	Transit
July 23. 0	..	..	..	..	..	..	..	..	NNW	...	1 to 4	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	W by N	...	0 to ½	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	NW	...	0 to 4½	..	..	..	..	..	..
6	29·389	49·5	49·6	−0·1	..	..	..	..	NNE	NE	..	½	..	..	..	10	..
8	..	..	..	..	..	..	..	..	N by W	...	2 to 5	..	..	..	..	..	Greatest declination N.
10	..	..	..	..	..	..	..	..	N by W	...	0 to ½	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	N by W	...	½ to 1	..	..	..	..	..	..
14	29·779	49·2	47·5	1·7	..	..	..	..	NNW	NNW	..	¾	..	..	..	0	..
16	29·816	47·7	45·5	2·2	..	..	..	..	NNW	NNW	..	¼	..	..	..	0	..
18	29·862	45·5	45·5	0·0	..	..	..	..	W	Calm	..	..	..	..	..	0	..
20	29·895	51·7	49·4	2·3	..	..	..	..	W	W	..	¼	..	..	..	8	..
22	29·911	57·5	53·5	4·0	50·0	7·5	61·7 44·6	82·0 35·2	NW	WNW	..	¼	7·67	0·31	12·385	8	Transit
July 24. 0	29·936	61·2	54·8	6·4	..	..	..	..	W	W	..	¼	..	..	..	7	..
2	29·943	60·5	54·5	6·0	..	..	..	..	NW	NW	..	¼	..	..	..	10	..
4	29·949	59·8	54·0	5·8	46·0	13·8	..	..	NW	WSW	..	¼	..	..	..	10	..
6	29·957	59·0	54·0	5·0	..	..	..	..	NW	WNW	..	¼	..	..	..	10	..
8	29·979	56·5	52·0	4·5	..	..	..	..	WNW	WNW	..	¼+	..	..	..	10	..
10	30·008	52·5	49·5	3·0	46·0	6·5	..	..	Calm	NW	..	¼	..	..	..	3	..
12	30·021	48·6	47·4	1·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	30·033	46·5	46·0	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	30·030	46·5	45·7	0·8	45·5	1·0	..	..	Calm	Calm	..	..	..	..	..	6	..
18	30·054	49·3	48·4	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
20	30·075	55·2	52·8	2·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·090	57·0	54·3	2·7	51·0	6·0	62·9 46·1	81·8 36·0	Calm	Calm	..	..	7·67	0·00	12·390	10	..
July 25. 0	30·081	59·6	56·1	3·5	..	..	..	..	W	W	..	¼−	..	..	..	10	Transit
2	30·091	61·7	58·5	3·2	..	..	..	..	W	W	..	¼−	..	..	..	10	..
4	30·084	63·8	60·6	3·2	58·0	5·8	..	..	Calm	Calm	..	..	..	..	..	10	..
6	30·085	63·2	60·6	2·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
8	30·101	61·0	58·6	2·4	..	..	..	..	Calm	Calm	..	..	..	..	..	9½	..
10	30·108	56·6	56·1	0·5	55·5	1·1	..	..	Calm	Calm	..	..	..	..	..	3	..
12	30·123	54·1	54·1	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
14	30·118	52·5	52·3	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
16	30·123	50·8	50·7	0·1	50·0	0·8	..	..	Calm	Calm	..	..	..	..	..	2	..
18	30·125	53·0	53·0	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	4	..
20	30·139	61·8	59·7	2·1	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
22	30·129	57·0	53·5	3·5	51·5	5·5	68·7 51·1	80·1 43·6	Calm	WSW	..	¼	7·67	0·00	12·390	7	..
July 26. 0	30 127	73·2	66·2	7·0	..	..	..	..	WSW	WSW	..	¼+	..	..	..	9	Transit
2	30·123	68·2	65·0	3·2	..	..	..	..	WSW	WSW	..	¼+	..	..	..	10	..
4	30·097	71·0	67·8	3·2	66·0	5·0	..	..	SW	Calm	..	..	..	..	..	9	..
6	30·077	70·5	66·8	3·7	..	..	..	..	SW	SW	..	¼	..	..	..	9½	..
8	30·070	66·1	62·0	4·1	..	..	..	..	WSW	SW	..	¼	..	..	..	9¾	..
10	30·070	61·5	59·3	2·2	57·5	4·0	..	..	WSW	Calm	..	..	..	..	..	9	..

BAROMETER.
July 25d. 20h. The reading was the highest in the month.

DRY THERMOMETER.
July 23d. 18h. The reading was the lowest in the month at the two-hourly observations.
July 25d and 26d. The difference of the mean daily temperatures was great.

TEMPERATURE OF THE DEW POINT.
July 23d. 16h. The reading was inadvertently omitted.
July 24d and 25d. The difference of the mean daily values was considerable.
July 25d. 22h. The reading was 61°·5 : it is altered conjecturally to 51°·5, and it is so used in the Abstracts.

ELASTIC FORCE OF VAPOUR AND WEIGHT OF VAPOUR IN A CUBIC FOOT OF AIR.—July 24d. The mean daily values were the least in the month.

July 26d. The mean daily height was the greatest in the month.

July 24d. The mean daily temperature was the lowest in the month.

July 24d. The mean daily value was the lowest in the month.

GENERAL REMARKS.	Observer.
Cumuli and slight haze.	J H
Overcast: heavy rain falling: several claps of thunder have been heard since 4^h.	J H
Cloudless: the clouds broke at about 11^h, and had wholly vanished at $11^h.20^m$: the wind blew in occasional gusts to 1+. The rise [in the barometer ($0^{in}\cdot378$) since $5^h.40^m$ is great.	P
Cloudless.	
Scud of different densities in every direction: the clouds began to collect almost immediately after the last observation.	P
Cumulo-stratus and scud.	D
Overcast: cirro-stratus.	D
,, cirro-stratus and scud: the wind in occasional gusts to 1.	P
,, ,, a few drops of rain are falling: gusts of wind to $\frac{1}{2}$ or $\frac{3}{4}$. [to break up.	
,, ,, the cirro-stratus is much thinner in the zenith, and in the W.N.W.; it also exhibits a tendency	
Thin scud and cirri in every direction: there is a somewhat strong light in the N. N.W., but this may arise from the twilight.	P
Cloudless.	D
A great part of the sky is covered with thin fleecy clouds, which have suddenly appeared.	
Cirro-stratus and fleecy clouds.	
Overcast: cirro-stratus.	D
,, scud and undefined clouds: hazy.	J H
Overcast: dull and hazy, especially in the North.	
Undefined clouds generally cover the sky.	J H
	D
Overcast: cirro-stratus: hazy.	
Cirro-stratus: the clouds are much thinner in some parts of the sky than in others, shewing here and there a little blue sky.	
Cirro-stratus and haze in every part of the horizon; the remainder of the sky is clear.	D
Vapour in the South.	J H
Light vapour: the stars generally appear dim and watery.	
Light vapour to the N. of the zenith.	
Scud and vapour principally N. of the zenith.	
Scud and cumuli.	J H
Scud in every direction, both loose and compact; cirro-cumuli apparently forming to the W. of the zenith; the breaks are in the same direction.	P
Closely packed scud and a few cumuli in the southern horizon.	
Overcast: cirro-stratus and scud: very gloomy.	P
Cirro-stratus and scud.	J H
Nearly overcast.	
Cirro-stratus and scud.	J H

WEIGHT OF A CUBIC FOOT OF AIR.

July 25^d. The mean daily value was the greatest in the month.

MINIMUM THERMOMETER.

July $25^d.22^h$. The reading was higher than that of the Dry Thermometer at 16^h.

DIRECTION OF THE WIND AND PRESSURE AS RECORDED BY THE ANEMOMETER IN POUNDS ON THE SQUARE FOOT.

July $22^d.23^h.20^m$. The direction was W.N.W. with a pressure of 1lb.; at $23^h.10^m$ it was W. with a sudden pressure of 6lbs., which gradually decreased to 1lb. pressure by $23^h.10^m$, the direction gradually changing to N.N.W., at which point it was at $23^d.0^h$, and continued N.N.W. with a very slight pressure till $0^h.20^m$; at that time the direction gradually changed to W.; the pressure suddenly increased to $2\frac{1}{2}$lbs. and 3lbs., and at $0^h.30^m$ the pressure was slight; at $0^h.40^m$ the direction was N., and at $1^h.0^m$ it was W.; at $3^h.30^m$ the direction was N.N.W.; at $3^h.35^m$ it was W.N.W.; at $3^h.40^m$ it was N.N.W.; at $3^h.45^m$ a sudden pressure of $4\frac{1}{2}$lbs., then nearly calm till $5^h.20^m$; at that time a sudden gust of $5\frac{1}{2}$lbs. took place, and the direction changed from N.W. to N.E.; at 6^h the direction changed suddenly from N.E. to N.; and at $6^h.30^m$ a steady wind commenced blowing with a pressure of 2lbs. to 4lbs., and continued thus till the regular observations above.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
July 26. 12	30·046	59·5	57·0	2·5	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
14	30·007	56·7	55·6	1·1	..	..	..	..	SW	WSW	..	¼+	..	..	..	9¾	..
16	29·974	57·5	56·0	1·5	55·0	2·5	..	..	SW	WSW	..	¼	..	..	..	10	..
18	29·958	57·5	56·5	1·0	..	..	..	..	SW	WSW	..	¼	..	..	..	10	New
20	29·933	58·5	58·2	0·3	..	..	..	.	SW	WSW	..	¼	..	..	..	10	..
22	29·928	60·1	59·5	0·6	59·0	1·1	74·5 57·3	95·3 50·5	SW	WSW	..	¼	7·72	0·05	12·455	10	..
July 27. 0	29·906	64·9	63·2	1·7	..	..	..	..	WSW	SW	..	¼	..	..	..	10	Transit
2	29·873	65·6	62·8	2·8	..	..	..	..	W by N	NW	..	¼	..	..	..	5	..
4	29·850	69·8	63·5	6·3	59·5	10·3	..	..	NW	WNW	..	½	..	..	..	3	..
6	29·842	68·0	62·5	5·5	..	..	..	..	N	N	..	¼−	..	..	..	1½	..
8	29·862	62·0	58·0	4·0	..	..	..	..	N	N	..	¼−	..	..	..	8	..
10	29·868	59·8	55·8	4·0	52·2	7·6	..	..	N by W	Calm	..	..	..	..	..	10	..
12	29·875	58·6	55·2	3·4	..	..	..	..	N by W	NNW	..	¼	..	..	..	10	..
14	29·875	57·6	54·5	3·1	..	..	..	..	NNW	NNW	..	¼	..	..	..	10	..
16	29·877	56·4	54·0	2·4	53·0	3·4	..	..	NW	NW	..	¼	..	..	..	10	..
18	29·879	56·1	54·1	2·0	..	..	..	..	NNW	NNW	..	¼	..	..	..	9½	..
20	29·897	57·4	55·3	2·1	..	..	..	..	N by W	NNW	..	¼	..	..	..	9	..
22	29·904	61·7	57·2	4·5	54·0	7·7	70·8 56·6	86·2 50·2	N	N	..	¼	7·80	0·10	12·560	3	..
July 28. 0	29·888	64·5	58·8	5·7	..	..	..	..	NW	N	..	½	..	..	..	7	..
2	29·884	67·2	60·5	6·7	..	..	..	..	N	N	..	¼	..	..	..	8	Transit
4	29·874	66·2	59·8	6·4	48·0	18·2	..	..	WNW	WNW	..	½	..	..	..	9½	..
6	29·860	62·6	57·7	4·9	..	..	..	..	W	W	..	¼	..	..	..	10	..
8	29·863	58·0	56·3	1·7	..	..	..	..	WSW	WSW	..	¼	..	..	..	10	..
10	29·848	56·3	55·6	0·7	55·0	1·3	..	..	WSW	SW	..	¼	..	..	..	10	..
12	29·803	54·8	54·5	0·3	..	..	..	..	SSW	SW	..	½	..	..	..	10	..
14	29·760	55·7	55·2	0·5	..	..	..	..	SSW	SW	..	¾	..	..	..	10	..
16	29·713	58·3	57·7	0·6	56·0	2·3	..	..	SW	SW	..	¾	..	..	..	10	..
18	29·683	58·8	57·3	1·5	..	..	..	..	WSW	WSW	0 to ½	¾	..	..	..	10	..
20	29·664	60·7	58·7	2·0	..	..	..	..	WSW	WSW	0 to 1+	¾	..	..	..	8	..
22	29·624	63·2	60·4	2·8	59·0	4·2	67·9 53·1	86·5 52·0	WSW	WSW	1 to 2½	¾	7·81	0·01	12·585	10	..
July 29. 0	29·604	64·9	61·5	3·4	..	..	..	..	WSW	WSW	½ to 3	¾	..	..	..	9¾	..
2	29·559	66·8	63·5	3·3	..	..	..	..	SW	WSW	1 to 3	¾	..	..	..	10	Transit
4	29·541	67·8	64·5	3·3	61·5	6·3	..	..	WSW	WSW	2½ to 4½	¾	..	..	..	10	..
6	29·509	64·5	61·6	2·9	..	..	..	..	WSW	WSW	3 to 4	¾	..	..	..	8	..
8	29·527	62·0	57·5	4·5	..	..	..	..	WSW	WSW	½ to 3	1+	..	..	..	8	..
10	29·543	57·4	55·0	2·4	53·0	4·4	..	..	W by S	WSW	..	½	..	..	..	3	..
12	29·526	55·8	54·1	1·7	..	..	..	..	WSW	WSW	..	½	..	..	..	1	..
14	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	W by S	...	0 to ½	..	..	..	..	..	..
22	29·523	62·7	58·9	3·8	..	..	69·0 53·5	82·4 47·6	W by S	WSW	1 to 2½	½+	7·81	0·00	12·585	7	In Equator
July 30. 0	29·528	65·5	60·1	5·4	..	..	..	..	WSW	WSW	0 to ½	¾	..	..	..	6	..

BAROMETER.
July 28d and 29d. The difference of the mean daily heights was considerable.

TEMPERATURE OF THE DEW POINT.
July 26d. 4h. The reading was the highest in the month.

MINIMUM THERMOMETER.
July 27d. 22h. The reading was higher than those of the Dry Thermometer at 16h and 18h.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and scud: extremely dark.	P
A few stars faintly glimmering North and West of the zenith; the rest of the sky is covered with cloud.	
Overcast: cirro-stratus and scud: indications of rain.	
,, a thin rain falling.	
,, a fine, steady rain falling.	P
,, the rain has ceased.	D
Overcast.	
Cumuli, cirro-stratus, and haze: the clouds broke about a quarter of an hour since: rain began to fall immediately after the last observation, and continued falling upwards of an hour.	D
Cumuli, fine cumulo-strati, scud, and haze: the zenith and around it are wholly free from cloud.	P
Cumuli, scud, and haze, chiefly in the South.	P
Scud and undefined clouds.	J H
Overcast: cirro-stratus and scud.	P
,, ,,	D
,, cirro-stratus.	
,, ,,	
Cirro-stratus, and fleecy clouds.	
,, ,,	D
Cumuli, and light fleecy clouds.	J H
Cumuli, and light fleecy clouds.	
,, ,,	J H
Cirro-stratus and dark cumuli: the only part of the sky clear is that about the place of the Sun.	D
Overcast: cirro-stratus.	
,, ,, a little rain has fallen since the last observation.	
,, rain falling.	D
,, small rain falling.	J H
,, ,,	
,, the rain has ceased falling.	
Cirro-stratus and scud.	
,, ,,	J H
Overcast: cirro-stratus and scud.	P
A few small breaks only, East and West of the zenith, the rest of the sky being covered with cirro-stratus and scud: a few drops of rain have fallen since the last observation.	
Overcast: cirro-stratus and scud: the wind in gusts to $\frac{3}{4}$ + or 1: gloomy: the copper ball was raised to the top of the electrometer pole after this observation, but no effect was observable on the gold leaf electrometer.	P
Cirro-stratus and scud.	J H
,, cumulo-strati to the N. of the zenith: wind in gusts.	
,, gusts of wind to $1\frac{1}{2}$.	
,, the wind has abated.	J H
A dark bank of cloud in the N.W. only, the rest of the sky being wholly free from cloud. This was the finest night we have had for a long time; I have seldom seen the via lactea so well defined.	P
Cumuli, cumulo-strati, and scud: the amount of cloud is very variable.	P
Cumuli, cumulo-strati, and scud.	D

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
July 30. 2	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
4	29·515	66·8	59·5	7·3	..	..	..	..	SW	SSW	0 to ½	¾	..	..	..	7	Transit
6	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	Perigee
14	29·583	52·2	52·1	0·1	..	..	..	..	Calm	WSW	..	¼	..	..	..	4	..
16	29·608	53·1	52·6	0·5	51·0	2·1	..	..	Calm	WSW	..	¼+	..	..	..	7	..
18	29·623	52·0	51·5	0·5	..	..	..	..	Calm	WSW	..	¼	..	..	..	9	..
20	29·663	55·0	53·5	1·5	..	..	..	..	W by S	W by S	..	¼	..	..	..	10	..
22	29·705	58·9	56·4	2·5	53·0	5·9	69·0 51·9	89·2 44·0	Calm	Calm	..	..	7·81	0·00	12·600	10	..
July 31. 0	29·745	64·0	59·2	4·8	..	..	..	..	NNW	NNW	..	¼	..	..	..	10	..
2	29·754	67·6	62·7	4·9	..	..	..	..	Calm	Calm	..	..	..	..	..	9½	..
4	29·753	65·0	61·2	3·8	57·3	7·7	..	..	WSW	W by N	..	¼−	..	..	..	7	Transit
6	29·752	64·2	60·2	4·0	..	..	..	..	WSW	W by N	..	¼−	..	..	..	7	..
8	29·775	61·0	58·2	2·8	..	..	..	..	WSW	WSW	..	¼−	..	..	..	9	..
10	29·794	57·0	56·0	1·0	55·0	2·0	..	..	Calm	WSW	..	¼−	..	..	..	9½	..
12	29·808	54·0	53·5	0·5	..	..	..	..	Calm	Calm	..	..	7·81	0·00	12·600	½	..
14	29·815	53·9	52·5	1·4	..	..	..	..	Calm	Calm	..	..	..	..	..	4	..
16	29·816	51·0	50·6	0·4	50·5	0·5	..	..	Calm	Calm	..	..	..	..	..	2	..
18	29·825	49·2	49·0	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
20	29·830	56·6	53·4	3·2	..	..	..	..	Calm	WSW	..	¼	..	..	..	1	..
22	29·838	62·0	56·1	5·9	51·5	10·5	68·4 50·1	86·3 44·0	WSW	WSW	..	¼	7·81	0·00	12·600	3	..
Aug. 1. 0	29·826	64·8	58·8	6·0	..	..	..	..	WSW	WSW	..	¼	..	..	..	8	..
2	29·806	69·1	60·6	8·5	..	..	..	..	SW	W by N	..	½	..	..	..	8	..
4	29·796	66·7	60·5	6·2	52·0	14·7	..	..	SW	SW	0 to ½	½	..	..	..	9	Transit
6	29·767	66·0	59·3	6·7	..	..	..	..	SW	SW	..	½	..	..	..	3	..
8	29·756	59·7	55·6	4·1	..	..	..	..	SSW	SSW	..	¼	..	..	..	½	..
10	29·756	53·6	52·7	0·9	52·0	1·6	..	..	Calm	SSW	..	¼	..	..	..	0	..
12	29·750	50·8	50·5	0·3	..	..	..	..	Calm	SW	..	¼	..	..	..	0	..
14	29·708	50·7	50·4	0·3	..	..	..	..	Calm	SW	..	¼	..	..	..	0	..
16	29·700	50·5	50·0	0·5	49·0	1·5	..	..	Calm	SW	..	¼	..	..	..	8	..
18	29·675	52·3	51·4	0·9	..	..	..	..	Calm	SW	..	¼	..	..	..	8	..
20	29·661	62·3	59·2	3·1	..	..	..	..	Calm	SW	..	¼	..	..	..	9½	..
22	29·616	64·8	60·7	4·1	57·0	7·8	70·8 49·4	92·0 42·9	SSW	SW	..	¼+	7·81	0·00	12·600	10	..
Aug. 2. 0	29·607	60·8	58·3	2·5	..	..	..	..	SW	SW	0 to ½	½	..	..	..	10	..
2	29·575	62·7	59·0	3·7	..	..	..	..	SSW	SW	0 to ½	¼+	..	..	..	10	..
4	29·549	60·0	58·7	1·3	56·0	4·0	..	..	S by W	SW	½ to 1½	¾	..	..	..	10	..
6	29·520	59·4	58·0	1·4	..	..	..	..	S by W	SW	0 to ½	¾	..	..	..	10	Transit
8	29·513	58·5	56·7	1·8	..	..	..	..	SSW	SW	..	½	..	..	..	2	..

DRY THERMOMETER.
July 31d. 18h to 22h. Between these times the increase in the readings was great.

MINIMUM THERMOMETER.
July 31d. 22h. The reading was higher than that of the Dry Thermometer at 18h.

AMOUNT OF RAIN.
July 31d. 12h. The amount collected during the month of July in rain-gauge No. 4, was 2in.·42.

GENERAL REMARKS.	Observer.
Cirro-stratus and scud: a few cumuli are S.W. of the zenith.	D
A meteor, equal in brightness to a star of the 2nd magnitude, was seen at $11^h.18^m$; it passed through the head of Sagittarius, was slightly inclined towards the horizon, and was visible for about 2^s: the clouds are now ($11^h.25^m$) slowly obscuring the sky: nearly two-thirds of the sky are wholly free from clouds, the northern portion being cloudy.	P
Clear in the N. and W.; also a narrow break in the E. N. E. horizon: the clouds consist of imperfectly formed cirro-cumuli, which are slowly moving off: the wind is cold: the sky was wholly obscured immediately after 14^h.	
A long, narrow break in the S. horizon, the rest of the sky being overcast: the clouds went off rapidly soon after the last observation, and left the sky nearly cloudless; they are now moving from the W. N.W, and have been gradually coming up since $17^h.21^m$.	
Overcast: cirro-stratus and scud: the clouds are at times slightly broken in the W. N.W.; they still move from that quarter.	P
Overcast: cirro-stratus.	D
Overcast: cirro-stratus: the Sun's place is visible.	
Fleecy clouds in the zenith; the remainder of the sky is covered with cirro-stratus.	D
Breaks in every direction; the cirro-stratus broke about $3^h.30^m$: the clouds consist of detached masses of scud of various densities.	P
Cumuli, cirro-stratus, and scud: hazy.	
Dark scud, and clouds of no definite modification: a few drops of rain fell from a thin nimbus passing across the zenith, about three minutes before the observation: the breaks are scattered, and of small extent.	
Dark scud extends over the greater part of the sky, but there are a few small breaks here and there: Mars is shining.	P
A small bank of cirro-stratus near the S. horizon; the sky is otherwise cloudless: since the last observation the clouds have been gradually dispersing.	D
Cirro-stratus and vapour to the N. of the zenith; the sky is clear elsewhere, but the stars shine very dimly.	
Vapour in the zenith: deposition of moisture.	
Light clouds: linear cirri here and there.	
,, ,,	D
Cirri scattered in every direction: at $22^h.30^m$ a solar halo was seen, but disappeared before any measure of it could be taken; another was visible at $22^h.40^m$, but its formation in a few minutes became imperfect; the distance from the center of the Sun to the ring was 44°. (Probably this was the measure of the diameter.—G. B. A.)	J H
Cumuli and scud.	
,,	J H
Cirro-stratus, cumuli, and scud.	D
Cumuli and light clouds.	
A few light cirri are scattered about.	
Cloudless.	D
,,	J H
,,	
Cirro-stratus and scud.	
,, ($17^h.30^m$) the clouds are gradually disappearing.	
,,	J H
Cumuli, cirro-stratus, and scud: breaks are of frequent occurrence: the wind in light gusts to $\frac{1}{2}$ +.	P
Overcast: cirro-stratus and scud: rain falling.	
,, cirro-stratus and dark scud: the wind in gusts to $\frac{1}{2}$ +	P
,, cirro-stratus and scud: a small rain falling.	J H
,, ,, a small rain falling occasionally.	
The sky cleared at about $6^h.45^m$: cirri and light scud are scattered about the sky.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Raingauge No 1, (Osler's)	RAIN. Reading of Raingauge No. 2.	RAIN. Stand of Raingauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Aug. 2. 10	29·522	55·5	54·5	1·0	53·0	2·5	..	..	SSW	SW	..	½	..	..	..	4	..
12	29·511	54·7	54·0	0·7	..	..	..	..	SSW	SW	..	¼+	..	..	..	½	1st Qr.
14	29·482	53·3	53·0	0·3	..	..	..	..	S by W	SW	..	¼+	..	..	..	0	..
16	29·462	53·8	53·2	0·6	52·0	1·8	..	..	SSW	SW	..	½	..	..	..	0	..
18	29·455	55·5	54·6	0·9	..	..	..	..	SSW	SW	..	½	..	..	..	5	..
20	29·469	60·8	58·4	2·4	..	..	..	..	SSW	SSW	½ to 1	½	..	..	..	9¾	..
22	29·471	64·6	61·0	3·6	58·0	6·6	67·1 53·2	78·5 47·0	SW	SSW	½ to 2	½	7·81	0·00	12·605	8	..
Aug. 3. 0	29·459	63·5	61·1	2·4	..	..	..	..	SW	SSW	1 to 3	1	..	..	..	8	..
2	29·449	62·0	60·6	1·4	..	..	..	..	WSW	SW	½ to 3	¾	..	..	..	9½	..
4	29·452	60·2	59·4	0·8	57·8	2·4	..	..	SW	SW	..	½	..	..	..	7	..
6	29·444	61·9	57·7	4·2	..	..	..	..	SW	SW	2½ steadily	¾	..	..	..	7	..
8	29·453	59·0	56·8	2·2	..	..	..	..	SW	SW	..	½+	..	..	..	7	Transit
10	29·447	57·5	56·0	1·5	56·2	1·3	..	..	SW	SW	..	½	..	..	..	9	..
12	29·439	56·8	55·5	1·3	..	..	..	..	SW	SW	..	½	..	..	..	6	..
14	29·418	56·4	55·3	1·1	..	..	..	..	SW	SW	..	½	..	..	..	3	..
16	29·398	55·9	55·0	0·9	54·5	1·4	..	..	SW	SW	..	¼	..	..	..	9½	..
18	29·400	57·2	56·2	1·0	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
20	29·415	57·5	56·9	0·6	..	..	..	..	WSW	WSW	½ to 1½	¼	..	..	..	10	..
22	29·425	60·5	58·6	1·9	57·0	3·5	68·8 56·0	85·0 50·2	WSW	WSW	..	½	8·05	0·25	12·905	8	..
Aug. 4. 0	29·418	61·7	59·0	2·7	..	..	..	..	...	WSW	..	½	..	..	..	7	..
2	29·447	53·5	53·5	0·0	..	..	..	..	,..	WSW	..	¾	..	..	..	10	..
4	29·437	61·2	59·8	1·4	58·5	2·7	..	..	...	SW	..	½	..	..	..	7	..
6	29·451	55·9	55·2	0·7	..	..	..	..	SW	SW	..	½	..	..	..	9	..
8	29·466	56·6	55·5	1·1	..	..	..	..	SW	SW	..	¼	..	..	..	4	Transit
10	29·482	54·0	52·7	1·3	52·5	1·5	..	..	SW	SW	..	¼	..	..	..	3	..
12	29·504	52·1	51·5	0·6	..	..	..	..	WSW	SW	..	¼	..	..	..	3	..
14	29·521	52·5	51·5	1·0	..	..	..	..	WSW	SW	..	¼	..	..	..	10	..
16	29·547	53·0	51·8	1·2	50·0	3·0	..	..	W by S	SW	..	¼	..	..	..	9	..
18	29·555	54·2	53·0	1·2	..	..	..	..	W by S	WSW	..	½	..	..	..	4	..
20	29·639	58·0	55·5	2·5	..	..	..	..	W	W	..	¼	..	..	..	1	..
22	29·677	60·6	57·2	3·4	54·8	5·8	64·5 52·6	85·8 46·0	WNW	WSW	..	¼+	8·14	0·27	13·105	9	..
Aug. 5. 0	29·696	63·3	58·3	5·0	..	..	..	..	WNW	W	..	¼	..	..	..	7	..
2	29·718	68·0	60·7	7·3	..	..	..	..	W	W	0 to ½	¼	..	..	..	6	..
4	29·740	66·6	60·5	6·1	52·5	14·1	..	..	W	W	0 to ½	¼	..	..	..	8	Greatest declination S.
6	29·738	65·1	59·5	5·6	..	..	..	..	W by S	W	..	½	..	..	..	1½	..
8	29·744	60·3	57·5	2·8	..	..	..	..	SW	WSW	..	½	..	..	..	7	Transit
10	29·750	55·3	54·3	1·0	53·0	2·3	..	..	SW	W by S	..	½	..	..	..	5	..

BAROMETER.

Aug. 3d. The daily range was the same as on August 12, both being the least in the month.

Aug. 4d. The mean daily height was the least in the month.

TEMPERATURE OF THE DEW POINT.

Aug. 4d. The least difference between its mean daily value and that of the air occurred: the same difference took place on the 11th day.

DEGREE OF HUMIDITY.

Aug. 4d. The mean daily value was the greatest in the month.

GENERAL REMARKS.	Observer.
Scud generally scattered over the sky.	J H
Patches of loose scud partially obscuring the stars here and there: the sky since the last observation has been generally clear, though dark clouds occasionally covered the larger portion of it.	P
Cloudless: the stars are unusually bright.	
,,	
Cirri and scud in every direction.	
Cirro-stratus and scud: the clouds have been gradually increasing in density as well as in quantity, since the previous observation.	P
The sky is chiefly covered with cirro-stratus: large, broken cumulo-strati S. of the zenith.	D
Cumulo-stratus and scud: frequent showers of rain since the last observation: gusts of wind.	
Cirro-stratus, nimbi, and scud: occasional heavy showers of rain.	D
Cumuli in the S. horizon: extensive breaks S. of the zenith, and compact scud in every other direction; frequent and heavy sqnalls of rain: the clouds broke a few minutes before the observation.	P
The sky presents much the same aspect as during the previous observation, the breaks being in the same part of the sky; it is more gloomy however in the N.: the wind blowing in gusts to about 1.	
Cirri, scud, and clouds of no definite modification: the breaks are small, and in every direction.	
Small breaks in the zenith and in other directions; the clouds consist of cirro-stratus and scud.	P
The sky in and near the zenith is clear, though the stars do not shine with brilliancy; the remainder of the heavens is nearly covered with cirro-stratus and scud.	D
Fragments of cirro-stratus in different parts of the sky.	
A clear break near the horizon in the E.; otherwise overcast.	
Overcast: cirro-stratus and scud: a few drops of rain falling.	
,, a thin rain falling.	D
Cirro-stratus and scud: at $22^h.5^m$ a violent squall of rain passed over. (See the Section of Extraordinary Observations for Electrometer Observations.)	J H
Cumulo-stratus and scud.	
Overcast: heavy rain.	J H
Cumulo-stratus and scud: the wind in gusts: occasional showers.	D
Soon after the last observation the sky assumed a very stormy appearance, more particularly in the N. and N.W.: at $4^h.25^m$ a low muttering of distant thunder was heard from dark clouds in the N.W.; and thunder has been heard at intervals to the present time: at $5^h.20^m$ rain began to fall, and it has continued: at $4^h.40^m$ a fine double rainbow was visible in the E. N. E, and at the time of this observation another very perfect one, also double, is visible in the E.: at present a large clear break is near the horizon in the W.; and it is the only part of the sky which is not covered with a dense cirro-stratus.	
Large loose fragments of scud are passing from the S.W.: those portions of the sky without cloud are remarkably clear: the rain mentioned in the last observation ceased at $6^h.10^m$, and at $6^h.15^m$ was the last clap of thunder that I heard; it proceeded from dark clouds in the E.; no lightning was seen during the whole time: since 6^h the sky has been alternately clear and cloudy.	
Light clouds and fragments of scud scattered here and there: since the last observation the sky has been generally overcast.	D
Cirro-stratus low in the W. and N.: the stars appear remarkably bright.	J H
Cirro-stratus and scud.	
,,	
,, the clouds move from W. N.W.	
Scud in small fragments scattered over the sky.	J H
Cirro-stratus and scud, with haze.	P
Cirro-stratus and scud, with haze.	J H
Cumuli lining the whole horizon, and large masses of white scud scattered about the sky.	
Cirro-cumuli forming a network over the sky.	
Light cumuli and fleecy clouds.	
Scud and fleecy clouds, with a few scattered cirri.	
Scud in every direction.	J H

MINIMUM THERMOMETER.

Aug. $3^d.22^h$. The reading was higher than that of the Dry Thermometer at 16^h.

Aug. $4^d.22^h$. The reading was higher than those of the Dry Thermometer at 12^h and 14^h.

ANEMOMETER.

Aug. $4^d.5^h$. It was found that the observer, who had changed the sheet at $3^d.22^h$, had omitted to clamp the traversing-board to the [traversing-line.

RAIN.

Aug. $2^d.22^h$. The increase in the reading of rain-gauge No. 3 was by deposition of moisture.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Aug. 5. 12	29·746	53·5	52·7	0·8	..	..	..	..	WSW	W by S	..	¼+	..	..	..	2	..
14	..	..	..	..	..	..	..	..	SW	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	W by N	...	0 to ½	..	..	..	..	..	..
22	29·812	63·0	58·5	4·5	..	..	67·6 53·6	94·0 47·2	W	W	0 to ½	½	8·16	0·01	13·145	7	..
Aug. 6. 0	..	..	..	..	..	..	..	..	W	...	0 to ½	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	W	...	0 to ½	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	W by S	...	½ to 4	..	..	..	..	..	..
6	29·907	65·0	62·3	2·7	..	..	..	..	W by N	W	..	½	..	..	..	3	..
8	..	..	..	..	..	..	..	..	WNW	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	30·036	51·5	51·5	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	30·048	49·5	49·5	0·0	48·0	1·5	..	..	Calm	Calm	..	..	..	..	..	0	..
18	30·073	48·3	48·5	−0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	½	..
20	30·094	59·3	58·6	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
22	30·109	67·6	63·6	4·0	58·0	9·6	68·7 48·7	92·0 41·4	SW	SSW	..	¼	8·16	0·00	13·145	9½	..
Aug. 7. 0	30·102	67·8	60·5	7·3	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
2	30·099	69·3	63·8	5·5	..	..	..	..	SW	SSW	..	¼	..	..	..	10	..
4	30·094	66·2	62·6	3·6	61·2	5·0	..	..	SW	SW	..	¼	..	..	..	10	..
6	30·071	65·5	62·7	2·8	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
8	30·078	64·5	62·7	1·8	..	..	..	..	SW	SW	..	¼	..	..	..	9½	..
10	30·095	60·5	59·9	0·6	59·0	1·5	..	..	S by W	SSW	..	½	..	..	..	1	Transit
12	30·124	59·5	59·3	0·2	..	..	..	..	S by W	SSW	..	½	..	..	..	1	..
14	30·113	60·5	60·1	0·4	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
16	30·110	60·1	59·7	0·4	59·5	0·6	..	..	SW	SW	..	¼	..	..	..	10	..
18	30·111	59·5	59·2	0·3	..	..	..	..	SSW	SW	..	¼	..	..	..	10	..
20	30·128	62·6	61·6	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·128	70·3	66·3	4·0	63·0	7·3	70·3 60·0	82·5 48·2	Calm	Calm	..	..	8·16	0·00	13·145	9	..
Aug. 8. 0	30·105	74·3	67·2	7·1	..	..	..	..	WSW	Calm	..	..	..	..	..	2	..
2	30·088	78·8	70·8	8·0	..	..	..	..	WSW	W by S	..	½	..	..	..	6	..
4	30·075	75·5	69·0	6·5	65·0	10·5	..	..	SW	SW	..	¼	..	..	..	9	..
6	30·058	71·4	66·3	5·1	..	..	..	..	SSW	SSW	..	¼	..	..	..	9	..
8	30·045	66·1	62·2	3·9	..	..	..	..	Calm	SSW	..	¼	..	..	..	10	..
10	30·032	63·5	60·6	2·9	57·0	6·5	..	..	Calm	Calm	..	..	..	..	..	9½	..
12	30·026	62·2	59·6	2·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
14	30·019	60·9	59·0	1·9	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·978	60·5	59·5	1·0	57·5	3·0	..	..	Calm	SW by S	..	¼−	..	..	..	10	..
18	29·980	58·5	58·0	0·5	..	..	..	..	Calm	SW	..	¼	..	..	..	8	..
20	29·972	65·1	62·7	2·4	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
22	29·947	72·1	67·0	5·1	67·0	5·1	81·4 59·3	108·6 53·2	Calm	Calm	..	..	8·16	0·00	13·145	8	..
Aug. 9. 0	29·934	76·6	69·5	7·1	..	..	..	..	SE	S by E	..	¼	..	..	..	6	..
2	29·909	79·3	72·0	7·3	..	..	..	..	S by E	S by E	..	¼	..	..	..	6	..
4	29·872	74·6	69·2	5·4	65·0	9·6	..	..	SSE	S	..	¼	..	..	..	8	..

DRY THERMOMETER.

Aug. 6d. 18h. The reading was lower than that of the Wet Thermometer.

Aug 7d and 8d. The difference of the mean daily temperatures was great.

Aug. 9d and 10d. The greatest difference of the mean daily temperatures for consecutive days in the month occurred.

TEMPERATURE OF THE DEW POINT.

Aug. 6d. 16h. The reading was one of the lowest in the month: the same reading took place on Aug. 11d at 4h, and on Aug. 20d at 16h.

Aug. 9d and 10d. The greatest difference of the mean daily values for consecutive days in the month occurred.

GENERAL REMARKS.	Observer.
Thick scud in the neighbourhood of the Moon, and in the S.W. horizon; also a few light fleecy clouds here and there.	P
Cumuli in the horizon on all sides, with cirri and large masses of white scud.	P
Cumuli and cirri.	J H
Cloudless.	P
,, hazy.	
Thin cirri here and there.	
Cirri of every modification and of the most beautiful and perfect formation, in all directions; also a few small, well-defined cirro-cumuli: the cirri have been slowly collecting since daybreak, and are now fast flowing into cirro-cumuli.	P
Cirro-stratus and fleecy clouds.	D
Overcast: cirro-stratus.	
,, ,,	D
,, cirro-stratus and scud: a few drops of rain are occasionally falling.	P
,, ,,	
Small portions of blue sky visible in every direction: the cirro-stratus appears to have become changed into a thin scud.	
A few cumuli in the southern horizon, with small patches of dark scud floating in the western part of the sky.	P
Light fleecy clouds in, and N. of, the zenith.	D
Overcast: cirro-stratus.	
,, ,,	
,, ,,	
,, ,,	D
Cirro-stratus and scud.	J H
Cumuli and fleecy clouds: the air is close.	
,, ,,	J H
Cirro-stratus and fleecy clouds.	D
Cirro-stratus and scud.	
,,	
,,	D
,, the air close: the surface of the mercury in the barometer is very unsteady, having an undulatory motion.	J H
Overcast: cirro-stratus and scud.	
,, ,,	
Cirro-stratus and scud.	
,,	J H
Scud, cirri, and clouds of no definite modification, scattered over the sky: hazy.	P
Cumuli, cirri, and scud: hazy.	D
Cumuli, cirri, cirro-cumuli, and scud: a very hot day.	D
Cirro-stratus and scud: the air is extremely close: electrical clouds South of the zenith.	J H

WEIGHT OF A CUBIC FOOT OF AIR.

Aug. 9^{d} and 10^{d}. The greatest difference of the mean daily values for consecutive days in the month occurred.

MINIMUM THERMOMETER.

Aug. 5^{d}. 22^{h}. The reading was higher than that of the Dry Thermometer at 12^{h}.
Aug. 6^{d}. 22^{h}. The reading was higher than that of the Dry Thermometer at 18^{h}.
Aug. 7^{d}. 22^{h}. The reading was higher than those of the Dry Thermometer at 12^{h} and 18^{h}.
Aug. 8^{d}. 22^{h}. The reading was higher than that of the Dry Thermometer at 18^{h}.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Aug. 9. 6	29·872	72·0	68·0	4·0	..	..	..	..	SE	S	..	¼−	..	..	..	10	..
8	29·862	69·3	66·5	2·8	..	..	..	..	Calm	S	..	¼−	..	..	..	10	..
10	29·846	65·0	64·2	0·8	62·0	3·0	..	..	Calm	Calm	..	..	..	..	..	4	..
12	29·816	61·9	61·7	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	3	Transit
14	29·817	61·0	60·7	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
16	29·829	60·5	59·6	0·9	..	..	..	..	...	N	..	¼	..	..	..	10	..
18	29·821	60·2	59·7	0·5	..	..	..	..	...	N	..	¼+	..	..	..	10	Full
20	29·854	59·3	58·5	0·8	..	..	..	..	...	N	..	¼	..	..	..	10	..
22	29·888	57·6	57·0	0·6	57·0	0·6	80·3 57·7	104·0 52·5	...	N	..	½	8·16	0·00	13·145	10	..
Aug. 10. 0	29·920	59·4	57·5	1·9	..	..	..	..	N by W	N by W	..	½	..	..	..	10	..
2	29·950	59·7	57·5	2·2	..	..	..	..	N	N	..	½	..	..	..	10	..
4	29·949	63·0	59·0	4·0	57·5	5·5	..	..	N	N	..	¼	..	..	..	9	..
6	29·970	65·1	59·0	6·1	..	..	..	..	N	N	..	½	..	..	..	1	..
8	29·989	59·0	56·0	3·0	..	..	..	..	N by E	NE	..	½	..	..	..	½	..
10	30·043	54·3	52·8	1·5	52·0	2·3	..	..	N by E	N	..	¼−	..	..	..	0	..
12	30·066	50·9	50·5	0·4	..	..	..	..	N by E	Calm	..	..	..	..	..	0	..
14	30·082	49·0	48·6	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	0	Transit
16	30·088	48·9	48·7	0·2	48·5	0·4	..	..	Calm	Calm	..	..	..	..	..	0	..
18	30·112	46·8	46·8	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
20	30·132	52·5	51·6	0·9	..	..	..	..	NE	Calm	..	..	..	..	..	10	..
22	30·145	60·0	55·9	4·1	53·5	6·5	66·4 47·2	82·5 37·8	NNE	NNE	..	¼	8·16	0·00	13·145	½	..
Aug. 11. 0	30·137	66·2	57·6	8·6	..	..	..	..	N by W	NNW	..	¼	..	..	..	½	..
2	30·140	70·5	59·5	11·0	..	..	..	..	N by W	NNW	..	¼	..	..	..	½	..
4	30·123	70·5	60·2	10·3	48·0	22·5	..	..	N by W	NNW	..	¼	..	..	..	2	..
6	30·116	69·8	59·2	10·6	..	..	..	..	N	NNW	..	¼	..	..	..	½	..
8	30·127	60·1	54·5	5·6	..	..	..	..	Calm	Calm	..	..	..	..	..	½	..
10	30·126	55·6	54·0	1·6	53·0	2·6	..	..	Calm	Calm	..	..	..	..	..	0	..
12	30·139	52·0	51·0	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
14	30·128	53·1	51·7	1·4	..	..	..	..	Calm	Calm	..	..	..	..	..	0	Transit
16	30·131	50·5	50·0	0·5	49·0	1·5	..	..	Calm	Calm	..	..	..	..	..	0	..
18	30·133	51·4	50·8	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	30·136	55·5	53·7	1·8	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
22	30·130	67·2	61·6	5·6	57·5	9·7	74·5 51·0	100·1 42·0	Calm	N	..	¼	8·16	0·00	13·145	0	..
Aug. 12. 0	30·129	72·5	62·6	9·9	..	..	..	..	N by W	N	..	¼	..	..	..	3	..
2	30·112	73·2	64·8	8·4	..	..	..	..	N by W	N	..	¼	..	..	..	5	..
4	30·108	74·5	66·0	8·5	56·5	18·0	..	..	N	N	..	¼	..	..	..	6	..
6	30·093	70·5	64·0	6·5	..	..	..	..	N	N	..	¼	..	..	..	7	In Equator
8	30·100	64·8	60·0	4·8	..	..	..	..	N	Calm	..	..	..	..	..	3	..
10	30·122	59·0	55·7	3·3	53·5	5·5	..	..	Calm	Calm	..	..	..	..	..	4	..

BAROMETER.

Aug. 10d. 22h. The reading was the highest in the month.

Aug. 11d and 12d. The least difference of the mean daily heights for consecutive days in the month occurred.

Aug. 11d. The mean daily height was the greatest in the month.

DRY THERMOMETER.

Aug. 10d. 18h. The reading was the lowest in the month.

Aug. 12d. The daily range was the greatest in the month.

TEMPERATURE OF THE DEW POINT.

Aug. 9d. 16h. The reading was omitted by inadvertence.

Aug. 10d and 11d. The difference of the mean daily values was considerable.

Aug. 11d. The mean daily value was the lowest in the month.

Aug. 11d. 4h. See the note to 6d. 16h.

Aug. 11d. 4h. The difference between it and the temperature of the air was the greatest in the month.

~~ELASTIC FORCE OF VAPOUR AND WEIGHT OF VAPOUR IN A CUBIC FOOT OF AIR.~~

~~Aug. 11d. The mean daily values were the least in the month.~~

GENERAL REMARKS.	Observer.
Cirro-stratus and scud: no change since the last observation.	J H
Electrical clouds prevalent: cirro-stratus and scud: constant attention has been paid to the electrical apparatus during the afternoon, but no effect has been perceived.	
Vapour and scud: frequent flashes of lightning have been seen in the N.W. between $8^h.\,20^m$ and $9^h.\,50^m$: there are several luminous rays emanating from the Moon, with angles of 20° or 25° between them: the air close: meteors have been looked for, but only one in Ophiuchus has been seen.	J H
Cumuli in the N.W., and cumulo-strati with cumuli, in the E. and S.: sheet lightning, as well as forked, is very vivid and frequent in the clouds towards the E., which appear to move slowly from the S.W. or S.S.W.: the electrical apparatus has not been affected.	P
A few clouds scattered in different parts of the sky: a thick fog is rising: at about $12^h.\,40^m$ the wind veered to the N., and clouds from that quarter then came up, covering the greater part of the sky: no meteors have been seen: the lightning has been very vivid and frequent since the last observation: the electrical apparatus has not been affected.	
Overcast: cirro-stratus and scud: the clouds came up soon after the preceding observation: no meteors have been seen.	
,, ,,	
,, ,, a few drops of rain falling.	P
,, ,, damp air.	D
Overcast: cirro-stratus and scud.	
,, cirro-stratus.	D
An extensive break in the N.N.E. horizon; also a few of small extent in the northern; the rest of the sky is still covered with a thin cirro-stratus, with here and there a few patches of a rather low and dark scud: gusts of wind occasionally to $\frac{1}{2}+$ or $\frac{3}{4}$.	P
Cumuli in the horizon, in the S.,W., and N.: the sky, with these exceptions, is without cloud; the break, referred to in the preceding observation, rapidly extended itself, and the greater part of the sky was soon free from cloud.	
A few thin lines of cloud only in the horizon in the E. and S.: hazy: a thin film of blue vapour hanging around the distant hills.	
Cloudless: a thin fog in the park.	P
,, a fine Moonlight night: between this and the last observation a strict watch was kept for meteors, but none were seen.	D
,, meteors were carefully looked for until $15^h.\,10^m$, but none were seen.	
,,	
Light clouds in every direction.	
Overcast: cirro-stratus.	D
Light clouds in various directions.	J H
Light clouds in various directions.	
,,	J H
,,	D
A few small cumuli here and there.	
A few cumuli near the horizon in the W.N.W.	
Cloudless.	D
Light clouds.	J H
Cloudless.	
,,	
,,	
Haze and light clouds.	J H
Cloudless.	P
Cumuli, cumulo-strati, and scud: hazy.	
,, ,, ,,	P
Cumuli and light fleecy clouds.	J H
Cumuli and scud.	
Cirro-cumuli and light clouds.	
Scud and vapour.	J H

HAIL STORM.
Aug. 9d. For some particulars of a remarkable storm at Cambridge, &c., see the Extraordinary Observations.
WEIGHT OF A CUBIC FOOT OF AIR.
Aug. 11d. The mean daily value was the greatest in the month.
MINIMUM THERMOMETER.
Aug. 10d. 22h. The reading was higher than that of the Dry Thermometer at 18h.
Aug. 11d. 22h. The reading was higher than that of the Dry Thermometer at 16h.
ANEMOMETER. [E. to S.,W., N., and to E.
Aug. 9d. 22h. It was found that at about 15h the registering-pencil had gone off the rack-work; the vane having, during a succession of light breezes, gone from
AMOUNT OF CLOUDS.
Aug. 11d. This day was the clearest in the month.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Aug. 12. 12	30·116	56·0	54·0	2·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
22	30·103	62·7	58·2	4·5	..	..	76·7 49·7	101·0 39·8	NNE	N by E	..	¼	8·16	0·00	13·150	½	..
Aug. 13. 0	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	NNE	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	E	...	..	..	..	..	..	..	..
6	30·019	64·8	59·1	5·7	..	..	..	..	E by N	E	..	¼	..	..	..	0	..
8	..	..	..	..	..	..	..	..	E by S	...	..	..	..	..	..	..	..
10	30·024	58·2	56·0	2·2	..	..	..	..	ENE	E	..	¼	..	..	..	0	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	29·968	59·3	58·5	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·947	60·0	59·0	1·0	58·0	2·0	..	..	ENE	NE	..	¼	..	..	..	10	Transit
18	29·939	59·2	58·5	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	9½	..
20	29·935	62·0	60·5	1·5	..	..	..	..	NE	NE by N	..	¼−	..	..	..	10	..
22	29·927	68·8	64·2	4·6	62·0	6·8	76·9 58·6	101·3 48·2	NNE	NNE	..	¼	8·16	0·00	13·150	10	..
Aug. 14. 0	29·902	74·8	67·0	7·8	..	..	..	..	ENE	ENE	..	¼	..	..	..	3	..
2	29·885	77·1	66·7	10·4	..	..	..	..	E	ESE	..	½	..	..	..	5	..
4	29·856	74·2	67·0	7·2	67·0	7·2	..	..	E by N	E	..	½	..	..	..	0	..
6	29·830	68·4	64·2	4·2	..	..	..	..	E	ESE	..	¼+	..	..	..	0	..
8	29·848	64·1	62·2	1·9	..	..	..	..	E	ESE	..	¼−	..	..	..	3	..
10	29·841	62·7	61·8	0·9	61·5	1·2	..	..	Calm	Calm	..	..	..	..	..	10	..
12	29·832	61·8	61·6	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·812	61·7	61·6	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·803	61·6	61·6	0·0	61·5	0·1	..	..	Calm	Calm	..	..	..	..	..	10	Transit
18	29·797	61·5	61·4	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·801	62·0	61·6	0·4	..	..	..	..	N by W	Calm	..	..	..	..	..	10	..
22	29·808	66·5	64·8	1·7	63·0	3·5	77·1 61·8	99·4 56·0	N	Calm	..	..	8·17	0·01	13·275	10	..
Aug. 15. 0	29·802	72·6	68·3	4·3	..	..	..	..	W by N	Calm (nearly)	..	..	..	..	..	9	..
2	29·792	75·0	67·1	7·9	..	..	..	..	W	W	..	¼	..	..	..	7	..
4	29·780	77·2	70·1	7·1	65·0	12·2	..	..	NE	Calm	..	..	..	..	..	6	..
6	29·772	78·6	71·2	7·4	..	..	..	..	NE	Calm	..	..	..	..	..	4	Apogee
8	29·789	65·4	63·8	1·6	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
10	29·817	63·2	62·1	1·1	62·0	1·2	..	..	Calm	Calm	..	..	..	..	..	10	..
12	29·824	63·2	62·2	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·831	62·1	61·9	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	9½	..
16	29·875	61·3	61·2	0·1	60·5	0·8	..	..	Calm	Calm	..	..	..	..	..	10	Transit

DRY THERMOMETER.
Aug. 15d. 6h. The reading was one of the highest in the month; that at 17d. 4h was, the same.

MINIMUM THERMOMETER.
Aug. 14d. 22h. The reading was higher than those of the Dry Thermometer at 14h, 16h, and 18h.

RAIN.
Aug. 12d. 22h. The increase in the reading of rain-gauge No. 3 was by deposition of moisture.

GENERAL REMARKS.	Observer.
Cloudless.	P
A few light fleecy clouds are scattered over the sky.	J H
Cloudless.	P
,, within ten minutes after this observation the sky suddenly became overcast.	D
Overcast: cirro-stratus and scud: the scud moves slowly from the N. E.	P
,, ,,	
Small patches of blue sky are visible in the W., S., and E.; and the cirro-stratus looks thinner in every direction: the clouds move from the East, and they first appeared broken at about $17^h.\ 0^m$.	
Overcast: cirro-stratus and scud; the latter is thin, and at a rather great elevation: the cirro-stratus continued to break up for some time after the last observation, but the clouds became subsequently as thick as before.	P
Cirro-stratus and scud.	D
Cumuli and light clouds.	
Cumuli, cirro-stratus, and scud.	D
Cloudless.	P
,,	
Dark scud scattered in every direction.	
Overcast: cirro-stratus: the clouds continued slowly to increase after the former observation, until they covered the whole sky, which became overcast at about 30^m before the present observation.	P
Overcast: cirro-stratus.	D
,, ,,	
,, ,, great deposition of moisture.	
,, ,, misty.	
,, ,, rain has been falling since the last observation.	D
,, ,, hazy.	J H
Cirro-stratus: hazy: there is an occasional slight breeze from the West.	
Cirro-stratus and fleecy clouds.	J H
Cumuli and cumulo-strati: hazy.	D
Cumuli, cumulo-strati, and scud: deep mutterings of thunder are heard, proceeding from dark cumulo-strati towards the N. E.: the weather is unusually sultry for this time of the day: the temperature is now at its maximum.	
Massive cumulo-strati and nimbi in all directions: at $6^h.\ 20^m$ a loud clap of thunder was heard from the S. E., and from that time to $6^h.\ 50^m$ a constant succession of claps took place; no lightning was seen: between $6^h.\ 30^m$ and $6^h.\ 45^m$ the rain fell very heavily: distant thunder has been heard to the present time.	
Overcast: at $8^h.\ 20^m$ a vivid flash of lightning was seen in the N. E., which was followed by many others, chiefly forked, and accompanied by a heavy rolling of thunder, all from the N. E.: at present distant thunder is heard, and occasionally faint flashes of lightning from the N.W.: during the time the storm was in the N. E. the zenith was clear: the electrical instruments have not been affected.	D
Overcast: cirro-stratus and scud: the air close.	J H
Cirro-stratus and scud.	
,,	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Aug. 15. 18	29·849	61·0	61·0	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·875	60·8	60·7	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	29·866	66·8	65·2	1·6	64·0	2·8	80·5 / 61·8	103·8 / 53·9	Calm	Calm	..	..	8·51	0·42	13·485	10	..
Aug. 16. 0	29·862	65·0	63·6	1·4	..	..	..	..	W by S	WSW	..	¼	..	..	..	10	..
2	29·889	66·2	64·9	1·3	..	..	..	..	N	Calm	..	..	..	..	..	10	..
4	29·891	67·4	65·2	2·2	65·0	2·4	..	..	Calm	Calm	..	..	..	..	..	9	..
6	29·891	69·1	65·2	3·9	..	..	..	..	Calm	W	..	¼	..	..	..	2	..
8	29·914	64·6	62·7	1·9	..	..	..	..	Calm	W	..	¼—	..	..	..	0	..
10	29·923	61·2	61·0	0·5	59·5	1·7	..	..	Calm	W	..	¼	..	..	..	1	..
12	29·926	59·0	59·0	0·0	..	..	..	..	Calm	W	..	¼	..	..	..	5	..
14	29·934	57·3	57·5	—0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·928	56·5	56·5	0·0	56·0	0·5	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·951	57·0	57·3	—0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
20	29·978	58·8	59·0	—0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·000	61·6	60·8	0·8	61·0	0·6	69·5 / 56·8	82·5 / 49·2	Calm	Calm	..	..	8·51	0·00	13·510	10	..
Aug. 17. 0	29·991	71·7	66·4	5·3	..	..	..	..	NE	N by W	..	¼	..	..	..	½	..
2	29·989	76·3	68·2	8·1	..	..	..	..	ESE	N by W	..	¼	..	..	..	¼	..
4	29·968	78·6	67·7	10·9	64·0	14·6	..	..	E	Calm	..	..	..	..	..	0	..
6	29·963	75·3	67·3	8·0	..	..	..	..	E	Calm	..	..	..	..	..	0	..
8	29·975	68·6	63·2	5·4	..	..	..	..	E	Calm	..	..	..	..	..	¼	..
10	29·983	66·0	63·0	3·0	62·0	4·0	..	..	Calm	Calm	..	..	..	..	..	0	..
12	29·994	62·6	61·9	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·988	60·0	60·1	—0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·978	60·1	60·4	—0·3	60·5	—0·4	..	..	Calm	Calm	..	..	..	..	..	0	..
18	29·984	60·1	60·4	—0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
20	29·984	61·8	61·8	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	3rd Qr.
22	29·971	69·1	66·6	2·5	64·0	5·1	79·5 / 59·6	105·0 / 50·6	E by N	Calm	..	..	8·51	0·00	13·510	0	..
Aug. 18. 0	29·940	77·0	70·6	6·4	..	..	..	..	N	NE by E	..	¼	..	..	..	2	..
2	29·919	80·5	71·9	8·6	..	..	..	..	NE	ENE	..	¼	..	..	..	3	..
4	29·881	80·7	71·0	9·7	64·0	16·7	..	..	N	ENE	..	¼	..	..	..	¼	..
6	29·856	75·3	68·6	6·7	..	..	..	..	N by W	E	..	¼	..	..	..	0	..
8	29·858	67·6	65·6	2·0	..	..	..	..	N	Calm	..	..	..	..	..	0	..
10	29·852	65·0	63·5	1·5	63·0	2·0	..	..	N	Calm	..	..	..	..	..	0	..
12	29·838	61·3	61·0	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
14	29·789	60·5	61·0	—0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·763	60·5	59·8	0·7	59·0	1·5	..	..	Calm	Calm	..	..	..	..	..	1	..
18	29·746	62·1	61·6	0·5	..	..	..	..	Calm	NE	..	¼	..	..	..	0	..
20	29·735	65·6	64·4	1·2	..	..	..	..	Calm	NE	..	¼	..	..	..	6	Transit
22	29·701	76·2	69·7	6·5	67·2	9·0	81·5 / 59·0	110·8 / 49·0	NNE	Calm	..	..	8·51	0·00	13·510	3	..
Aug. 19. 0	29·677	80·6	69·3	11·3	..	..	..	..	ENE	NE	0 to ½	¼	..	..	..	¼	..
2	29·658	80·7	68·3	12·4	..	..	..	..	E by N	NE	0 to ½	¼	..	..	..	0	..
4	29·618	79·1	68·1	11·0	61·0	18·1	..	..	ENE	NE	0 to ½	½	..	..	..	0	..
6	29·591	76·3	65·8	10·5	..	..	..	..	N by E	ENE	..	½	..	..	..	0	..
8	29·581	70·8	64·3	6·5	..	..	..	..	E	Calm	..	..	..	..	..	3	..

BAROMETER.
Aug. 18d and 19d. The difference of the mean daily heights was considerable.

DRY THERMOMETER.
Aug. 16d. 14h, 18h, and 20h; 17d. 14h, 16h, and 18h; and 18d. 14h. At these times the readings were lower than those of the Wet Thermometer.
Aug. 17d. 4h. See foot-note to 15d. 6h.
Aug. 18d. The mean daily temperature was the highest in the month.
Aug. 19d. 2h. The difference between the reading and that of the Wet Thermometer was greater than any that occurred between July 5d and the end of the year.

TEMPERATURE OF THE DEW POINT.
Aug. 17d. 16h. The reading was higher than that of the Air.
Aug. 18d. The mean daily value was the highest in the month. Aug. 18d. 22h. The reading was the highest in the month.
Aug. 19d. The difference between its mean daily value and that of the air was the greatest in the month.

GENERAL REMARKS.	Observer.
Cirro-stratus and scud: the air is damp and misty.	J H
,, ,, low rumbling of thunder in the S.W.; it was first heard a quarter of an hour since: at $20^h.\ 7^m$ the thunder was louder, but more towards the N.W.: the sky dull.	J H
Overcast: cirro-stratus: a thin fog in the Park: about ten minutes before the observation there were several breaks in different directions.	P
Overcast: cirro-stratus: very gloomy. [fall at about $2^h.\ 15^m$.	
,, ,, the gloom has increased, approaching more thickly from the W.: appearances of rain: rain began to	P
Cirro-stratus and scud.	J H
Cumuli and scud.	
Cloudless: hazy.	
Vapour low in the North and West.	J H
The greater part of the sky to the East of the zenith is covered with dark and low scud; scud of the same character in other directions: the stars are dim, and have a watery appearance.	P
Cloudless: a dense fog, which has risen rather suddenly; the Moon however is visible, and surrounded by a small corona.	
The fog is so dense as to render the stars invisible, although there are no clouds: the Moon is surrounded by a small double corona.	
The fog is denser than before, and every thing is saturated with moisture: apparently overcast; but the fog is so thick that nothing	
The fog is rather thicker. [at any distance is visible.	P
Overcast: a damp fog.	D
A few small cumuli: the fog has entirely disappeared.	
A few light clouds.	D
Cloudless.	P
,, somewhat hazy.	
A few fine lines of cirri here and there: hazy.	
Cloudless; but the stars look small, and there is much haze in the horizon.	P
,,	D
,,	
,, a fog is collecting.	
Overcast: foggy.	
,, ,,	D
Cloudless.	J H
Fleecy clouds and cumuli.	
,,	J H
Cumuli near the horizon in the N.W.; every other part of the sky is clear: a very hot day.	D
Cloudless.	
,,	
,,	D
Scud and light clouds.	J H
Cloudless.	
Vapour S. of the zenith.	
Cloudless.	
Fleecy clouds and scud.	J H
Cirri in every direction: hazy in the horizon.	P
A few cirri rather low down in the S.W. and N.	
Cloudless: the horizon is well defined and free from haze.	P
,,	J H
,,	
Clouds of an electrical character in the South.	

ELASTIC FORCE OF VAPOUR AND WEIGHT OF VAPOUR IN A CUBIC FOOT OF AIR.
Aug. 18d. The mean daily values were the greatest in the month.
ADDITIONAL WEIGHT OF VAPOUR REQUIRED FOR COMPLETE SATURATION OF A CUBIC FOOT OF AIR.
Aug. 19d. The mean daily value was the greatest in the year.
WEIGHT OF A CUBIC FOOT OF AIR.
Aug. 19d. The mean daily value was the least in the month.
DEGREE OF HUMIDITY.
Aug. 19d. The mean daily value was the least in the month.
MINIMUM THERMOMETER.
Aug. 15d. 22h. The reading was higher than those of the Dry Thermometer at 16h, 18h, and 20h.
Aug. 16d. 22h. The reading was higher than that of the Dry Thermometer at 16h.
RAIN.
Aug. 16d. 22h. No rain had been registered by rain-gauge No. 1; nor had any been collected in No. 2.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Aug. 19. 10	29·572	67·0	63·1	3·9	61·0	6·0	..	..	Calm	Calm	..	..	..	..	..	8	..
12	29·547	64·4	62·6	1·8	..	..	..	..	Calm	Calm	..	..	..	..	..	9¾	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Greatest declination N.
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
22	29·541	68·0	65·1	2·9	..	..	82·8 62·0	107·0 54·0	Calm	SSW	..	¼	8·51	0·00	13·515	10	..
Aug. 20. 0	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
2	29·549	67·5	64·8	2·7	..	..	..	..	SW	SW	..	¼	..	..	..	10	..
4	..	..	..	..	..	..	..	..	SSW	...	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	N by W	...	1 to 2½	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	N by W	...	0 to ½	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	N by W	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	N by W	...	..	..	..	..	..	..	..
14	29·761	54·1	51·3	2·8	..	..	..	..	N	WNW	..	½	..	..	..	9	..
16	29·787	51·5	49·6	1·9	48·0	3·5	..	..	N by W	WNW	..	½	..	..	..	0	..
18	29·823	50·5	49·7	0·8	..	..	..	..	N by W	WNW	..	½	..	..	..	1	..
20	29·841	54·2	50·5	3·7	..	..	..	..	N by E	WNW	..	½	..	..	..	½	Transit
22	29·880	61·0	54·0	7·0	50·0	11·0	70·5 50·2	84·8 42·0	NNE	N by W	..	¼	8·55	0·06	13·575	2	..
Aug. 21. 0	29·873	64·0	55·1	8·9	..	..	..	..	N by W	N	..	¼	..	..	..	7	..
2	29·855	65·2	55·2	10·0	..	..	..	..	NW	NNW	..	¼	..	..	..	8	..
4	29·827	64·8	56·5	8·3	50·5	14·3	..	..	WSW	W	..	¼	..	..	..	8	..
6	29·797	63·5	55·3	8·2	..	..	..	..	WSW	WSW	..	¼	..	..	..	2	..
8	29·780	58·8	54·5	4·3	..	..	..	..	SSW	SW	..	½	..	..	..	7	..
10	29·761	53·5	50·5	3·0	50·8	2·7	..	..	SSW	SW	..	¼	..	..	..	2	..
12	29·740	50·7	49·5	1·2	..	..	..	..	S by W	SW	..	¼	..	..	..	1	..
14	29·695	51·0	50·1	0·9	..	..	..	..	Calm	SSW	..	¼	..	..	..	5	..
16	29·640	52·8	50·9	1·9	50·5	2·3	..	..	Calm	SSW	..	¼	..	..	..	10	..
18	29·606	53·9	51·6	2·3	..	..	..	..	Calm	S	..	¼	..	..	..	10	..
20	29·567	58·2	54·9	3·3	..	..	..	..	S by W	SW	..	¼	..	..	..	9¾	..
22	29·525	59·5	53·3	6·2	51·5	8·0	68·1 51·0	90·0 41·8	SSW	SW	½ to 1½	½	8·55	0·00	13·575	10	Transit
Aug. 22. 0	29·482	60·3	54·5	5·8	..	..	..	..	SSW	SW	½ to 3½	¾	..	..	..	10	..
2	29·461	58·5	56·0	2·5	..	..	..	..	SSW	SW	0 to 2	1	..	..	..	10	..
4	29·423	57·0	56 1	0·9	56·0	1·0	..	..	SSW	SSW	0 to 3	1	..	..	..	10	..
6	29·369	57·3	56·6	0·7	..	..	..	..	S	S by W	½ to 2	½	..	..	..	10	..
8	29·391	54·2	53·8	0·4	..	..	..	..	SW	WSW	..	¼	..	..	..	6	..
10	29·414	52·8	52·5	0·3	52·5	0·3	..	..	SSW	W	..	¼	..	..	..	2	..
12	29·422	52·1	51·8	0·3	..	..	..	..	S	W	..	¼	..	..	..	9½	..
14	29·430	52·8	52·5	0·3	..	..	..	..	SSW	WSW	..	¼	..	..	..	1	..
16	29·441	51·0	50·8	0·2	50·0	1·0	..	..	S by W	WSW	..	½	..	..	..	0	..
18	29·480	52·5	51·5	1·0	..	..	..	..	S by W	WSW	..	¼	..	..	..	0	..
20	29·495	55·7	53·6	2·1	..	..	..	..	SSW	WSW	..	¼	..	..	..	0	..
22	29·510	60·8	56·5	4·3	54·0	6·8	63·3 49·5	78·0 43·5	SSW	SW	..	¼	8·71	0·17	13·765	2	Transit
Aug. 23. 0	29·498	65·4	58·5	6·9	..	..	..	..	S by W	SW	..	¼	..	..	..	9¾	..
2	29·490	64·2	58·8	5·4	..	..	..	..	S by E	SW	..	¼	..	..	..	10	..
4	29·480	58·6	56·8	1·8	54·0	4·6	..	..	S by E	SW	..	½	..	..	..	10	..

BAROMETER.

Aug. 21d and 22d. The greatest difference of the mean daily heights for consecutive days in the month occurred.

DRY THERMOMETER.

Aug. 22d. The mean daily temperature was the lowest in the month.

TEMPERATURE OF THE DEW POINT.

Aug. 20d. 16h. See the note to August 6d. 16h.

MINIMUM THERMOMETER.

Aug. 21d. 22h. The reading was higher than that of the Dry Thermometer at 12h.

GENERAL REMARKS.	Observer.
Vapour and scud: sheet lightning in the S.W.	J H
Only a few stars are visible low down in the North: the clouds have been slowly coming up from the S. S. E. for some time.	P
Overcast: cirro-stratus and scud: gloomy.	
Overcast: cirro-stratus and scud.	
Dark and heavy looking clouds covering nearly every part of the sky but a portion in the N.W.: no upper cloud.	
Cloudless: the clouds had wholly dispersed a very few minutes after the previous observation, the wind having sprung up more strongly from the N.W.	
Cirri in the W. N.W.; the rest of the sky is cloudless.	
A few cirri here and there.	P
Cirri and light scud.	J H
Cumuli and scud.	D
,,	D
Breaks in the W. and N.W.: the clouds consist of cumuli and scud.	P
Cumuli and scud: hazy.	
Scud in every direction.	
The stars look small and dim: cloudy in the horizon.	P
Vapour near the horizon.	J H
Cirro-stratus and vapour.	D
Overcast: cirro-stratus.	
,, ,,	D
The clouds have just broken in the S.W., and are apparently on the point of becoming yet more broken.	P
Cirro-stratus and scud: gusts of wind.	J H
Cirro-stratus and scud: gusts of wind: every appearance of rain.	
,, rain falling.	J H
,, ,, gusts of wind.	D
Overcast: cirro-stratus and scud: rain falling.	
The rain ceased at $6^h.\ 45^m$: at present extensive breaks are in every part of the sky.	
A bank of cirro-stratus in the N.W., and another S. of the zenith; otherwise clear.	D
Vapour and scud cover nearly the whole of the sky.	J H
Nearly cloudless.	
Cloudless.	
,,	
,,	J H
Cumuli, a few finely formed cirri, and fleecy clouds: the objects in the horizon are distinct and well defined.	P
A small break in the horizon in the E. N. E., the rest of the sky being covered with cirro-stratus and dark cumuli.	
Overcast: dense cirro-stratus and cumuli.	P
Cirro-stratus and scud: rain falling.	J H

ANEMOMETER.

Aug. $20^d.\ 5^h$. The wind suddenly changed its direction from S. S.W. to N., and the pressure was from 1lb. to 2lbs.

RAIN.

Aug. $19^d.\ 22^h$. The increase in the reading of rain-gauge No. 3 is supposed to be owing to deposition of moisture.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Aug. 23. 6	29·449	57·0	55·0	2·0	..	..	..	..	SE	S	..	½	..	..	..	10	..
8	29·407	54·7	54·0	0·7	..	..	..	..	NE	NNE	..	½	..	..	..	10	..
10	29·353	53·7	53·7	0·0	53·5	0·2	..	..	NNE	NNE	..	½	..	..	..	10	..
12	29·269	56·5	56·5	0·0	..	..	..	..	NNE	N by E	..	½	..	..	..	10	..
14	29·238	57·2	57·4	−0·2	..	..	..	..	NNE	N	0 to ½	1	..	..	..	10	..
16	29·263	56·8	57·0	−0·2	56·0	0·8	..	..	N by W	N by W	1 to 2½	1	..	..	..	10	..
18	29·387	55·1	55·2	−0·1	..	..	..	..	N by W	N by W	1 to 3	1	..	..	..	10	..
20	29·417	55·3	55·4	−0·1	..	..	..	..	N by W	N by W	1 to 2½	1	..	..	..	10	..
22	29·518	57·8	56·3	1·5	56·0	1·8	68·9 53·9	90·1 50·0	NNW	NNW	0 to 1	¾	10·31	2·16	15·820	10	..
Aug. 24. 0	29·603	59·6	56·5	3·1	..	..	..	..	NW	NNW	..	¼	..	..	..	10	Transit
2	29·645	64·4	58·6	5·8	..	..	..	..	NNW	NNW	..	¼	..	..	..	5	..
4	29·659	68·1	59·0	9·1	52·5	15·6	..	..	NW	WNW	..	¼	..	..	..	1	..
6	29·685	65·5	59·4	6·1	..	..	..	..	WSW	W by S	..	¼	..	..	..	7	..
8	29·713	59·4	57·0	2·4	..	..	..	..	SSW	WSW	..	¼	..	..	..	¾	..
10	29·740	56·5	54·1	2·4	53·0	3·5	..	..	S	SW	..	¼	..	..	..	9	..
12	29·757	52·8	52·1	0·7	..	..	..	..	S	S	..	¼	..	..	..	0	..
14	29·752	50·6	50·5	0·1	..	..	..	..	S	S	..	¼	..	..	..	0	..
16	29·747	51·5	51·3	0·2	51·5	0·0	..	..	S	S	..	¼	..	..	..	10	..
18	29·756	52·8	52·3	0·5	..	..	..	..	S	S	..	¼	..	..	..	8	..
20	29·733	58·6	56·6	2·0	..	..	..	..	S	S	..	¼	..	..	..	½	..
22	29·744	65·3	60·1	5·2	58·5	6·8	68·9 50·0	88·5 40·2	SSW	S	..	½	10·31	0·00	15·820	7	..
Aug. 25. 0	29·736	68·8	61·5	7·3	..	..	..	..	S	SSW	0 to ½	½	..	..	..	8	Transit
2	29·737	64·8	61·8	3·0	..	..	..	..	S	SSW	0 to ½	½	..	..	..	10	..
4	29·727	68·0	64·3	3·7	64·0	4·0	..	..	SSW	SSW	..	¼	..	..	..	10	New
6	29·737	66·6	62·6	4·0	..	..	..	..	S by W	SSW	..	½	..	..	..	8	..
8	29·766	62·0	60·7	1·3	..	..	..	..	S by W	SSW	..	½	..	..	..	8	..
10	29·783	60·6	60·2	0·4	60·0	0·6	..	..	Calm	Calm	..	..	..	..	..	9	..
12	29·789	60·5	60·3	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
14	29·804	60·5	60·2	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·797	60·0	59·8	0·2	59·5	0·5	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·789	58·1	58·3	−0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
20	29·814	63·0	61·4	1·6	..	..	..	..	Calm	SW by W	..	¼	..	..	..	6	..
22	29·806	65·6	61·5	4·1	59·0	6·6	70·9 58·8	88·1 52·5	WSW	WSW	..	¼	10·31	0·01	15·835	10	..
Aug. 26. 0	29·845	66·3	61·8	4·5	..	..	..	..	SW	SW	..	½	..	..	..	9	..
2	29·842	71·1	62·6	8·5	..	..	..	..	SW	WSW	0 to ½	½	..	..	..	4	Transit
4	29·864	68·5	60·8	7·7	54·8	13·7	..	..	SW	SW	½ to 2	¾	..	..	..	3	..
6	29·900	65·4	60·0	5·4	..	..	..	..	SSW	SW	½ to 1	½	..	..	..	½	In Equator
8	29·938	59·8	57·2	2·6	..	..	..	..	S	WSW	..	½	..	..	..	5	..
10	29·983	56·0	55·0	1·0	54·0	2·0	..	..	S	WSW	..	¾	..	..	..	0	..
12	30·002	53·7	53·7	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	30·044	63·3	60·3	3·0	..	..	72·3 49·2	93·7 41·4	Calm	W	..	¼	10·31	0·00	15·845	7	..

BAROMETER.
Aug. 23d. 14h. The reading was the lowest in the month.
Aug. 23d. Between 16h and 18h, and between 20h and 22h, the readings increased by 0in·1.
Aug. 24d. The daily range was the greatest in the month.

DRY THERMOMETER.
Aug. 23d. 14h, 16h, 18h and 20h; and 25d. 18h. The readings were lower than those of the Wet Thermometer.

MINIMUM THERMOMETER.
Aug. 23d. 22h. The reading was higher than that of the Dry Thermometer at 10h.
Aug. 25d. 22h. The reading was higher than that of the Dry Thermometer at 18h.

ANEMOMETER.
Aug. 23d. At 6h. 10m the vane suddenly changed from S. E. to E.; and then gradually to N. E. by 7h.

GENERAL REMARKS.	Observer.
Cirro-stratus and scud: rain falling.	J H
,, steady rain falling.	
Overcast: heavy rain.	J H
,, ,,	P
,, ,, the rain appears to fall in a continual stream.	
,, ,,	
,, the rain is now thin: the barometer is rising rapidly.	
,, ,,	P
,, the rain has ceased.	D
Overcast.	
Cumuli and scud: the clouds broke about noon.	D
Cumuli and small isolated portions of scud: very hazy: at $4^h.40^m$ a coloured parhelion was seen, and a second one appeared at $[4^h.45^m$.	P
Clouds of no definite modification in every direction, with a few cirri in the N.W.: hazy.	
A few dark clouds in the W.S.W and S.E. horizon only.	
Stars glimmering in many places North of the zenith, the rest of the sky being obscured by dark scud.	P
Cloudless.	D
,,	
Overcast: cirro-stratus: the sky became suddenly overcast at about $15^h.10^m$.	
Cirro-stratus and fleecy clouds.	
A few small fragments of cloud in the North, near the horizon; the sky elsewhere is quite clear.	D
Cumuli and scud.	J H
Cumuli and scud.	
Cirro-stratus and scud: the clouds are heavy in the S.W., and there is every appearance of rain in that quarter.	J H
Overcast: cirro-stratus and scud.	D
Cirro-stratus and fleecy clouds.	D
Cirro-stratus and scud: small rain falling at intervals.	J H
,, frequent flashes of sheet lightning have been seen since the last observation to the E. and S. of the zenith.	D
The sky N. and E. of the zenith is quite clear; the rest is nearly covered with cirro-stratus: the lightning is still visible in all quarters, but more particularly in the South.	D
Overcast: cirro-stratus.	J H
,, cirro-stratus and scud: rain falling.	J H
Breaks in every direction: the clouds are finely-formed cirri and scud.	P
A quantity of cirri in various directions: a bank of clouds in the N.	M
Overcast: cirro-stratus.	D
Cumulo-strati and scud in every direction.	P
Cumuli and scud.	D
Cumuli and scud in every direction.	P
A few small cumuli.	D
Cumuli and scud.	J H
Cloudless: gusts of wind.	
,, the stars generally appear dim.	J H
Cumuli, cirro-strati, and scud.	D

RAIN.

Aug. $23^d.22^h$. The quantity of rain which had fallen in the previous twenty-four hours, was larger than has fallen in the same interval between the commencement of the Meteorological Observatory and the time of this sheet passing through the press, viz. 1845, April. The amount recorded by gauges Nos. 1 and 3 were $1^{in}.60$ and $2^{in}.055$; and the amount collected by gauges Nos. 2 and 4 were $2^{in}.16$ and $2^{in}.27$ respectively: the greater part of this fell between $7^h.30^m$ and $13^h.55^m$. The following is the detailed record of Osler's Rain-gauge: between $7^h.30^m$ and $9^h.40^m$ rain fell to the amount of $0^{in}.25$; between $9^h.40^m$ and $9^h.50^m$ no rain fell; between $9^h.50^m$ and $10^h.30^m$ rain fell to the amount of $0^{in}.25$; and from $10^h.30^m$ to $10^h.50^m$ the rain ceased: between $10^h.50^m$ and $12^h.30^m$ occasional heavy showers were falling, and the amount recorded was $0^{in}.20$; between $12^h.30^m$ and $13^h.55^m$ a constant heavy rain was falling, and the amount was $0^{in}.55$; and after this time rain continued falling till $16^h.40^m$, and at the latter time $0^{in}.25$ more was recorded: the amounts collected between these times at the other gauges will be proportional to the whole amounts collected, and therefore between $12^h.30^m$ and $13^h.55^m$, $0^{in}.8$ must have fallen in $1^h.25^m$ in gauge No. 4. The times in this note are Greenwich times.

Aug. $26^d.22^h$. The increase in the reading of rain-gauge No. 3 is by deposition of moisture.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Raingauge No. 1, (Osler's)	RAIN. Reading of Raingauge No. 2.	RAIN. Stand of Raingauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Aug. 27. 0	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	W by S	...	..	..	..	..	..	..	Transit
4	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	Perigee
6	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
8	29·974	61·1	57·2	3·9	..	..	..	..	Calm	S	..	$\frac{1}{2}$	..	..	..	1	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	29·972	52·0	51·8	0·2	..	..	..	..	Calm	SSW	..	$\frac{1}{2}$	..	..	..	9	..
16	29·936	50·3	50·0	0·3	49·5	0·8	..	..	Calm	SSW	..	$\frac{1}{2}$	..	..	..	$9\frac{1}{2}$	..
18	29·915	52·0	51·1	0·9	..	..	..	..	Calm	SSW	..	$\frac{1}{4}$	..	..	..	3	..
20	29·905	58·7	56·5	2·2	..	..	..	..	Calm	SSW	..	$\frac{1}{2}$	..	..	..	8	..
22	29·885	64·5	62·0	2·5	61·0	3·5	71·1 51·3	96·6 41·0	S by W	S	..	$\frac{1}{4}$	10·31	0·00	15·845	10	..
Aug. 28. 0	29·866	66·6	61·4	5·2	..	..	..	..	S by W	SSW	0 to $\frac{1}{2}$	$\frac{3}{4}$	..	..	..	10	..
2	29·846	63·5	59·1	4·4	..	..	..	..	S by W	S by W	$\frac{1}{2}$ to 1	$\frac{3}{4}$	..	..	..	10	..
4	29·817	63·0	61·5	1·5	60·0	3·0	..	..	S by W	S by W	$\frac{1}{2}$ to $1\frac{1}{2}$	$\frac{3}{4}$	..	..	..	10	Transit
6	29·801	64·2	63·5	0·7	..	..	..	..	S by W	SSW	0 to $\frac{1}{2}$	$\frac{3}{4}$	..	..	..	10	..
8	29·817	64·2	63·0	1·2	..	..	..	..	S by W	SW	0 to 1	1	..	..	..	10	..
10	29·830	63·5	62·0	1·5	62·0	1·5	..	..	S by W	SW	$\frac{3}{4}$ to 2	1	..	..	..	10	..
12	29·829	62·8	62·0	0·8	..	..	..	..	S by W	SW	0 to $\frac{1}{2}$	1	..	..	..	10	..
14	29·815	62·2	61·7	0·5	..	..	..	..	S by W	SW	..	1	..	..	..	9	..
16	29·812	63·6	63·0	0·6	62·5	1·1	..	..	SSW	SW	0 to 1	$1\frac{1}{2}$	..	..	..	10	..
18	29·833	62·4	61·4	1·0	..	..	..	..	SSW	SW	0 to 1	1	..	..	..	10	..
20	29·837	64·1	62·5	1·6	..	..	..	..	SSW	SW	..	$\frac{3}{4}$	..	..	..	8	..
22	29·870	65·5	63·2	2·3	61·0	4·5	68·7 62·0	77·5 57·0	SW	SW	..	$\frac{1}{4}$	10·32	0·02	15·870	10	..
Aug. 29. 0	29·865	71·3	67·1	4·2	..	..	..	..	SW	SSW	..	$\frac{1}{2}$	..	..	..	10	..
2	29·890	68·9	65·1	3·8	..	..	..	..	WSW	SW	..	$\frac{1}{2}$	..	..	..	10	..
4	29·890	69·7	65·7	4·0	64·0	5·7	..	..	SW	WSW	..	1	..	..	..	9	Transit
6	29·897	67·7	64·8	2·9	..	..	..	..	SW	WSW	..	$\frac{3}{4}$	..	..	..	10	..
8	29·911	64·5	63·0	1·5	..	..	..	..	Calm	WSW	..	$\frac{1}{2}$	..	..	..	10	..
10	29·932	63·0	61·8	1·2	60·5	2·5	..	..	Calm	Calm	..	..	..	..	..	10	..
12	29·930	61·8	61·4	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	29·941	61·6	61·1	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
16	29·947	61·4	60·9	0·5	61·0	0·4	..	..	Calm	Calm	..	..	..	..	..	10	..
18	29·958	61·3	60·8	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	29·988	62·6	61·3	1·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·002	67·2	64·7	2·5	63·0	4·2	70·5 61·0	83·3 57·2	Calm	Calm	..	..	10·32	0·00	15·870	10	..
Aug. 30. 0	30·004	69·0	65·2	3·8	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
2	30·001	68·8	64·8	4·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
4	30·002	69·6	65·9	3·7	63·5	6·1	..	..	N by E	Calm	..	..	..	..	..	$9\frac{1}{2}$	Transit
6	29·999	67·6	65·8	1·8	..	..	..	..	ESE	Calm	..	..	..	..	..	7	..
8	30·023	61·6	60·8	0·8	..	..	..	..	ESE	SE	..	$\frac{1}{4}$	..	..	..	8	..
10	30·063	61·0	60·6	0·4	60·5	0·5	..	..	Calm	Calm	..	..	..	..	..	8	..
12	30·068	61·3	60·7	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·057	60·2	59·8	0·4	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
16	30·059	59·8	59·3	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..

DRY THERMOMETER.
Aug 28d and 29d. The difference of the mean daily temperatures was great.
Aug. 30d. The daily range was the least in the month.

TEMPERATURE OF THE DEW POINT.
Aug. 30d. 16h. The observation was inadvertently omitted.

MAXIMUM THERMOMETER.
Aug. 29d. 22h. The reading was lower than that of the Dry Thermometer at 0h.

GENERAL REMARKS.	Observer.
Cirro-stratus and scud near the horizon in the N. and N.W.; the remainder of the sky is clear: the day has been fine.	D
Cirro-stratus and scud.	J H
,, heavy vapour.	
,,	
,,	J H
Cirro-stratus.	G
Cirro-stratus.	D
,, a little rain has fallen since the last observation: gusts of wind.	D
Cirro-stratus and scud: gusts of wind: rain at intervals.	J H
,, ,, the rain has ceased.	
,, ,, every appearance of rain.	
,, ,, the clouds are more broken than at the last observation: at $8^h.\ 40^m$ a fine meteor was seen shooting in an oblique direction towards the E.N.E. horizon: the sky generally clear: clear E. of the zenith.	J H
The sky became cloudless at about $10^h.\ 55^m$, and continued so till $11^h.\ 55^m$, when clouds came up from the S., and in two or three minutes the sky was quite covered with cloud, consisting principally of scud.	G
The sky continued covered with clouds till $13^h.\ 50^m$, when they became broken near the zenith, and every other part of the sky is	
Overcast: a very warm night. [still cloudy.	
At times since the last observation the sky has been nearly free from cloud; at present it is overcast.	
The sky has been alternately clear and cloudy since the last observation; at present there is an ill-defined cirro-cumulus North of the zenith: a white cloud of no definite kind South of the zenith: hazy and misty all round the horizon.	G
Overcast: cirro-stratus.	D
,, ,,	
,, ,,	D
A small patch of blue sky S. of the zenith; a thin cirro-stratus elsewhere.	G
The sky is covered with a thin cirro-stratus, under which is scud floating from the West.	
There has not been any change in the appearance of the sky since 6^h. [falling,	
At $8^h.\ 40^m$ the character of the clouds changed to a black cirro-stratus, and at $9^h.\ 30^m$ a very thin rain began to fall, which continues	
Overcast: cirro-stratus: frequent flashes of lightning, chiefly in the South.	G
,, ,,	D
,, ,,	
,, ,,	
,, ,,	D
Cumuli and scud.	J H
,, hazy: the air close.	
Cirro-stratus: ,, ,,	J H
Cumuli, cirro-strati, and scud: hazy.	D
,, ,,	
Cirro-stratus and haze.	
Cirro-stratus and thick haze.	D
,,	J H
,,	
,,	

MINIMUM THERMOMETER.

Aug. $27^d.\ 22^h$. The reading was higher than that of the Dry Thermometer at 16^h.

AMOUNT OF CLOUDS.

Aug. 29^d. This day was the most cloudy in the month: there was not one day in the month cloudy throughout.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Aug. 30. 18	30·074	60·2	59·5	0·7	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·096	62·5	60·9	1·6	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·111	65·8	63·0	2·8	62·0	3·8	71·9 59·5	90·3 51·5	Calm	Calm	..	..	10·32	0·00	15·870	10	..
Aug. 31. 0	30·110	71·2	66·0	5·2	..	..	..	..	Calm	SSE	..	¼—	..	..	..	8	..
2	30·092	75·2	68·6	6·6	..	..	..	..	NE	ENE	..	¼	..	..	..	4	..
4	30·092	72·8	67·5	5·3	65·0	7·8	..	..	ENE	E	..	¼	..	..	..	2	..
6	30·090	70·0	66·7	3·3	..	..	..	..	E by S	ESE	..	¼—	..	..	..	½	Transit
8	30·111	63·0	61·7	1·3	..	..	..	..	SE	SE	..	¼—	..	..	..	0	..
10	30·121	60·9	60·1	0·8	59·5	1·4	..	..	Calm	Calm	..	..	..	..	..	1	..
12	30·132	58·7	58·7	0·0	..	..	..	..	Calm	Calm	..	..	10·32	0·00	15·870	0	..
14	30·139	57·7	57·5	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	5	..
16	30·120	56·7	56·7	0·0	56·5	0·2	..	..	Calm	Calm	..	..	..	..	..	1	..
18	30·164	56·3	56·3	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	8	1st Qr.
20	30·183	61·8	61·0	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	9	..
22	30·200	69·2	66·5	2·7	66·5	2·7	77·8 56·2	106·2 48·0	Calm	Calm	..	..	10·32	0·00	15·870	2	..
Sep. 1. 0	30·201	75·3	69·2	6·1	..	..	..	..	Calm	Calm	..	..	..	..	..	3	..
2	30·189	76·7	71·1	5·6	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
4	30·184	77·3	70·3	7·0	66·0	11·3	..	..	Calm	NE	..	vrey light	..	..	..	5	..
6	30·185	72·7	69·3	3·4	..	..	..	..	Calm	Calm	..	..	..	..	..	7	Transit
8	30·197	67·6	66·6	1·0	..	..	..	..	Calm	Calm	..	..	..	..	..	7	..
10	30·206	66·6	65·7	0·9	65·0	1·6	..	..	Calm	Calm	..	..	..	..	..	2	..
12	30·208	66·8	65·5	1·3	..	..	..	..	Calm	Calm	..	..	..	..	..	6	Greatest declination S.
14	30·212	63·0	62·5	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	8	..
16	30·195	61·3	61·3	0.0	61·5	−0·2	..	..	Calm	Calm	..	..	..	..	..	7	..
18	30·200	58·6	58·7	−0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
20	30·231	62·6	61·1	1·5	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
22	30·289	68·1	64·8	3·3	64·0	4·1	77·8 58·6	105·8 49·7	Calm	N	..	¼	10·32	0·00	15·870	0	..
Sep. 2. 0	30·237	75·2	68·0	7·2	..	..	..	..	N by E	N	..	¼	..	..	..	0	..
2	30·223	75·8	67·5	8·3	..	..	..	..	N	N	..	¼	..	..	..	4	..
4	30·202	78·1	70·8	7·3	67·0	11·1	..	..	N by E	Calm	..	..	..	..	..	7	..
6	30·190	74·1	68·3	5·8	..	..	..	..	Calm	Calm	..	..	..	..	..	1	..
8	30·202	67·5	64·0	3·5	..	..	..	..	Calm	Calm	..	..	..	..	..	¼	Transit
10	30·215	64·0	62·8	1·2	63·0	1·0	..	..	Calm	Calm	..	..	..	..	..	0	..
12	30·202	60·4	60·2	0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..

BAROMETER.

Sep. 1d. 22h. The reading appears to be 0in·05 too high: the value as above was used in the Abstracts.

DRY THERMOMETER.

Sep. 1d. 18h. The reading was lower than that of the Wet Thermometer.

Sep. 2d. The mean daily temperature was the highest in the month.

Sep. 2d. 4h. The reading was the highest in the month.

GENERAL REMARKS.	Observer.
Cirro-stratus and scud.	J H
,,	J H
,,	D
Cirro-stratus and scud.	
Cumuli, and small fragments of scud.	D
,,	J H
A few light cirri West of the zenith.	
Cloudless.	
Vapour East and North of the zenith.	J H
A very fine, warm, calm, cloudless night.	G
Shortly after the last observation, a visible vapour formed, which caused the stars to be dim; also, a dark cloud formed in the N. and N.W.: it is at present hazy: thin clouds in the S., and clouds in the N. and N.W.	
The sky is clear of haze and also of cloud, except near the horizon in the W. and N.W.	
The zenith is the only part of the sky which is free from clouds; to the N. of it is cirro-cumulus, and to the S. cirro-stratus, which prevails generally in all other parts: a mist or thin fog is also prevalent.	
With a few very slight exceptions, the sky is covered with a thin cloud of no modification, mixed with cirro-cumuli; there is also a blue mist: the night has been very fine, and so is the morning.	G
Light clouds: hazy.	D
Light clouds: hazy.	
Cumuli and light clouds: hazy.	D
The zenith and its environs for 20° are free from clouds; the remainder of the sky is covered with cumuli and thin clouds of the stratus character: hazy.	G
A large cumulo-stratus to the North with thick haze; to the S. there are small cumuli, faint blue sky, and much haze: the air is exceedingly close.	
A portion of the sky is clear to the S. and N.; the remainder is covered with small cumuli and stratus: the haze still continues.	
The portions of the sky which were clear at 8^h became clouded over shortly afterwards, and a very dark cloud formed and remained nearly stationary in the meridian; other dark clouds of an electrical appearance were in the N., the great haze continuing: the sky remained thus till $9^h.\ 25^m$; at this time a star was visible in the N.W., and at $9^h.\ 35^m$ the greater part of the sky was free from clouds, they having passed from N. to S.; at present other clouds occupy the N.W. portion of the sky, and, low down in the S., they are of a dark stratus character: the day has been remarkable for its calmness and closeness, and the great prevalence of haze.	G
The stars are shining dimly in and N. of the zenith; every other part of the sky is covered with a dense haze, through which the principal stars only are seen: the air is remarkably warm and close.	D
Nearly the whole sky is covered with cirro-stratus and a dense vapour: the clear portions are of small extent, and are scattered in different parts.	
Cirro-stratus and vapour: since the last observation the sky has been alternately clear and cloudy; sometimes the clear sky has become in a few minutes quite overcast, and *vice versâ*.	
Fragments of scud in various directions: the whole horizon is thick and hazy: deposition of moisture.	
Cloudless: hazy: a very fine morning.	D
,, ,, ,, the haze has disappeared.	J H
Cloudless.	
Light fleecy cumuli and vapour.	J H
Cumuli and haze: the air very close.	D
A few small cumuli in various directions: hazy: the air is exceedingly close.	
A little stratus near the horizon in the N.W.; with that exception the sky is cloudless: the haze has nearly disappeared.	
Cloudless.	
,, hazy: at $10^h.\ 55^m$ a splendid meteor shot from the S.E. towards the West horizon, very near β Ophiuchi, in a direction very nearly parallel to σ and β Ophiuchi: it was as bright as Jupiter, and a faint train of sparks was visible for 3^s after its extinction.	J H

TEMPERATURE OF THE DEW POINT.

Sep. 1^d. The mean daily value was the highest in the month.
Sep. $1^d.\ 16^h$. The reading was higher than that of the air.
Sep. $2^d.\ 4^h$. The reading was the highest in the month.

ELASTIC FORCE OF VAPOUR AND WEIGHT OF VAPOUR IN A CUBIC FOOT OF AIR.

Sep. 1^d. The mean daily values were the greatest in the month.

RAIN.

Aug. $31^d.\ 12^h$. During the month of August the amount in rain-gauge No. 3 was $3^{in.}62$.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Sep. 2. 18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	30·184	70·0	66·3	3·7	..	..	78·1 56·8	104·0 49·5	Calm	Calm	..	..	10·32	0·00	15·870	2	..
Sep. 3. 0	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	WSW	...	..	..	..	..	..	..	..
6	30·105	74·2	68·2	6·0	..	..	..	..	WSW	Calm	..	..	..	..	..	9	..
8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
10	..	..	..	..	..	..	..	..	W by S	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	W by S	...	..	..	..	..	..	..	..
14	30·093	62·5	62·0	0·5	..	..	..	..	Calm	NNW	..	½	..	..	..	10	..
16	30·091	62·1	62·0	0·1	62·5	−0·4	..	..	W by S	NNW	..	¾	..	..	..	10	..
18	30·122	61·7	58·8	2·9	..	..	..	..	NNW	NNW	½ to 1½	1	..	..	..	10	..
20	30·137	57·7	53·5	4·2	..	..	..	..	NNW	NNW	..	¾	..	..	..	8	..
22	30·167	62·5	56·5	6·0	53·0	9·5	76·4 57·2	103·0 50·1	N	N	1 steady	¼	10·32	0·00	15·870	1	..
Sep. 4. 0	30·176	65·5	57·6	7·9	..	..	..	..	N by W	N by W	..	½	..	..	..	1	..
2	30·181	68·1	58·9	9·2	..	..	..	..	N by W	N by W	..	¼	..	..	..	3	..
4	30·178	66·0	57·9	8·1	51·0	15·0	..	..	N by W	N by E	..	½	..	..	..	3	..
6	30·183	65·0	58·2	6·8	..	..	..	..	N	NNE	..	½	..	..	..	6	..
8	30·215	57·9	54·5	3·4	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
10	30·238	55·9	53·0	2·9	51·0	4·9	..	..	Calm	Calm	..	..	..	..	..	9	Transit
12	30·268	50·8	50·2	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	30·266	46·0	46·0	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	30·262	48·2	48·2	0·0	48·0	0·2	..	..	Calm	Calm	..	..	..	..	..	0	..
18	30·259	48·0	48·0	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	30·292	49·8	49·0	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
22	30·295	59·5	54·5	5·0	50·5	9·0	69·9 44·3	94·7 35·3	Calm	Calm	..	..	10·32	0·00	15·870	0	..
Sep. 5. 0	30·295	64·0	57·7	6·3	..	..	..	..	N	N	..	¼	..	..	..	0	..
2	30·282	66·4	58·1	8·3	..	..	..	..	N by W	N	..	¼	..	..	..	¼	..
4	30·253	66·6	59·3	7·3	54·5	12·1	..	..	N by E	N	..	¼	..	..	..	1	..
6	30·234	63·0	58·1	4·9	..	..	..	..	Calm	NNE	..	¼	..	..	..	0	..
8	30·249	56·0	54·0	2·0	..	..	..	..	Calm	NNE	..	¼−	..	..	..	0	..
10	30·245	54·5	53·0	1·5	52·0	2·5	..	..	Calm	NNE	..	¼−	..	..	..	0	Transit
12	30·217	52·2	51·6	0·6	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	30·201	51·1	50·8	0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	¼	..
16	30·178	50·3	50·1	0·2	50·0	0·3	..	..	Calm	Calm	..	..	..	..	..	0	..
18	30·186	48·6	48·5	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
20	30·184	53·0	51·1	1·9	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
22	30·193	58·8	55·5	3·3	53·5	5·3	69·1 48·1	97·5 40·6	Calm	Calm	..	..	10·32	0·00	15·870	3	..
Sep. 6. 0	30·176	67·8	60·8	7·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
2	30·167	71·5	63·2	8·3	..	..	..	..	Calm	SW	..	¼−	..	..	..	4	..
4	30·134	72·6	64·0	8·6	58·0	14·6	..	..	Calm	Calm	..	..	..	..	..	2	..

DRY THERMOMETER.
Sep. 4d and 5d. The difference of the mean daily temperatures was considerable.
Sep. 5d. Between 6h and 8h the readings decreased 7°; and between 22h and 24h the readings increased 9°.
Sep. 6d. The daily range was the greatest in the month.
TEMPERATURE OF THE DEW POINT.
Sep. 3d. 16h. The reading was higher than that of the air.
ADDITIONAL WEIGHT OF VAPOUR REQUIRED FOR COMPLETE SATURATION OF A CUBIC FOOT OF AIR.
Sep. 4d. The mean daily value was the greatest in the month.
CLOUDS.
Sep. 4d. 12h. From this time to 7d. 14h, with slight exceptions, the sky was cloudless: it is the longest period of clear sky in the month.
Sep. 5d. This day was nearly cloudless: it is one of the five days in the year considered cloudless; and it was the clearest day between May 2d and the end of the year.

GENERAL REMARKS.	Observer.
A fine morning: portions of thin white cloud and cirri have been prevalent.	G
A thin veil of cloud has been over the sky nearly the whole of the day, so that the shadows of objects are but just visible: occasionally, but for short durations, the Sun has shone a little brighter.	G
Cirro-stratus and scud.	J H
,, gusts of wind.	
The clouds more broken: cirro-stratus and scud: gusts of wind.	
Vapour and scud.	J H
A few detached small cumuli all round the horizon: a whitish blue sky in other places.	G
A few cumuli are scattered here and there.	D
Loose woolly-looking cumuli in all directions.	D
Cumuli and vapour.	J H
,,	
A few scattered fragments of scud: hazy.	
Cirro-stratus and scud.	J H
At about $10^h.30^m$ the clouds became much broken, and shortly afterwards the sky assumed the appearance known by the designation of a mackarel sky; by 11^h it was cloudless, and still continues so: the thermometer placed on glass reads $35°\cdot0$; that in the focus of the parabolic reflector 36°.	G
Cloudless, but a haze is prevalent, which has been for some time to the S.: the thermometer on grass 36°; that in the parabolic reflector $37°\cdot5$: the temperature of the air is now $16°\cdot5$ less than it was yesterday morning at the same time.	
Cloudless: deposition of moisture: the thermometer placed on grass now reads 34°; that in the parabolic reflector $35°\cdot0$: the temperature of the air is now 14° less than it was at this time yesterday morning.	
Cloudless; but there is a vapour in the S. where the stars appear watery, and much smaller than they appear to the N.	G
,, but very hazy: great deposition of moisture.	H
,,	D
Cloudless.	
A few small cumuli scattered about; otherwise cloudless.	D
,,	J H
Cloudless: a thin haze in the W.N.W.	P
,, slight haze in the horizon.	D
,, ,,	J H
,, a fine moonlight night.	D
Light clouds in the zenith.	
Cloudless.	
,, deposition of moisture.	
,,	D
Vapour: hazy.	J H
Cloudless: a very great haze, and on the surface of the ground a blue mist.	G
Vapour: hazy: a few light cirri near the zenith.	J H
Cirri N. of the zenith: a slight haze.	D

SOLAR HALO.

Sep. $5^d.20^h.35^m$. Mr. Glaisher observed a large, coloured solar halo: the distance from the center of the Sun to the ring was, by successive rough measures, found to be nearly 46°; the width of the ring was more than 1°, and the prismatic colours were exhibited, the red being innermost: at $20^h.55^m$ the upper half became very bright, and the lower half was invisible: at $21^h.10^m$ the upper part remained as before, and at each extremity of the visible part of the halo an inverted arc appeared, and just within each inverted arc, a parhelion was visible; at this time a horizontal line passing through the Sun and continued both ways would have bisected each inverted arc, and its included mock sun: at $21^h.40^m$ there was no appearance of the halo.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Sep. 6. 6	30·121	68·0	64·9	3·1	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
8	30·128	62·5	60·1	2·4	..	..	..	..	Calm	Calm	..	..	..	..	..	2	..
10	30·134	59·6	58·5	1·1	58·0	1·6	..	..	Calm	Calm	..	..	..	..	..	2	..
12	30·142	56·5	55·7	0·8	..	..	..	..	Calm	Calm	..	..	..	..	..	0	Transit
14	30·144	53·5	53·5	0·0	..	..	..	..	Calm	SW	..	$\frac{1}{4}$	..	..	..	1	..
16	30·140	53·5	53·5	0·0	..	..	..	..	Calm	SW	..	$\frac{1}{4}$	..	..	..	4	..
18	30·150	53·6	53·4	0·2	..	..	..	..	Calm	SW	..	$\frac{1}{4}$	..	..	..	3	..
20	30·160	58·0	57·1	0·9	..	..	..	..	Calm	SW	..	$\frac{1}{4}$	..	..	..	4	..
22	30·184	67·0	62·1	4·9	59·5	7·5	73·6 52·9	92·0 42·4	Calm	SW	..	$\frac{1}{4}$	10·32	0·00	15·870	0	..
Sep. 7. 0	30·181	74·7	64·6	10·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
2	30·165	76·5	67·3	9·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
4	30·147	75·0	66·3	8·7	64·0	11·0	..	..	E by S	SE	..	$\frac{1}{4}$	..	..	..	0	..
6	30·143	69·9	64·8	5·1	..	..	..	..	E by N	E	..	$\frac{1}{4}$	..	..	..	0	..
8	30·164	63·4	61·3	2·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
10	30·171	60·7	59·1	1·6	58·0	2·7	..	..	Calm	Calm	..	..	..	..	..	0	..
12	30·157	58·2	57·3	0·9	..	..	..	..	Calm	Calm	..	..	..	..	..	0	Transit
14	30·162	56·2	56·5	−0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	30·151	59·4	59·7	−0·3	59·0	0·4	..	..	E by N	Calm	..	..	..	..	..	10	..
18	30·161	59·5	59·8	−0·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
20	30·173	62·0	61·5	0·5	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
22	30·180	67·2	64·7	2·5	63·5	3·7	79·7 56·6	105·7 45·0	E	NE	..	$\frac{1}{4}$−	10·32	0·00	15·870	3	..
Sep. 8. 0	30·161	71·1	65·6	5·5	..	..	..	..	E	E	..	$\frac{1}{4}$	..	..	..	3	..
2	30·142	73·8	68·0	5·8	..	..	..	..	E by N	E	..	$\frac{1}{4}$	..	..	..	$\frac{1}{2}$	..
4	30·119	70·8	66·0	4·8	65·2	5·6	..	..	E	E	..	$\frac{1}{4}$	..	..	..	0	..
6	30·109	65·9	63·3	2·6	..	..	..	..	E by S	E	..	$\frac{1}{4}$	..	..	..	0	..
8	30·115	62·2	61·3	0·9	..	..	..	..	E	E	..	$\frac{1}{4}$+	..	..	..	10	Full
10	30·118	62·2	61·4	0·8	61·0	1·2	..	..	E	E	0 to $\frac{1}{2}$	$\frac{1}{4}$+	..	..	..	10	..
12	30·121	62·9	62·0	0·9	..	..	..	..	E	ESE	..	$\frac{1}{4}$	..	..	..	10	Transit
14	30·096	62·6	62·0	0·6	..	..	..	..	E	E	..	$\frac{1}{4}$	..	..	..	10	In Equator
16	30·074	62·3	62·0	0·3	62·0	0·3	..	..	E by N	E	..	$\frac{1}{4}$	..	..	..	10	..
18	30·056	62·8	62·0	0·8	..	..	..	..	ENE	ENE	..	$\frac{1}{4}$	..	..	..	10	..
20	30·069	63·3	62·2	1·1	..	..	..	..	ENE	NE	..	$\frac{1}{4}$	..	..	..	10	..
22	30·070	65·6	63·2	2·4	61·8	3·8	75·9 61·6	110·3 53·0	ENE	ENE	..	$\frac{1}{4}$	10·32	0·00	15·870	10	..
Sep. 9. 0	30·056	72·2	65·0	7·2	..	..	..	..	E	E	0 to $\frac{1}{2}$	$\frac{3}{4}$	..	..	..	$\frac{1}{2}$	..
2	30·032	74·4	67·8	6·6	..	..	..	..	NE	E by N	..	$\frac{1}{4}$	..	..	..	$\frac{3}{4}$	..
4	29·993	72·3	65·6	6·7	62·0	10·3	..	..	ESE	ESE	..	$\frac{1}{4}$	..	..	..	2	..
6	29·985	67·5	64·0	3·5	..	..	..	..	E	ESE	..	$\frac{1}{4}$	..	..	..	$\frac{1}{2}$	..
8	29·992	62·7	62·0	0·7	..	..	..	..	E	E	..	$\frac{1}{4}$	..	..	..	2	..
10	29·984	60·0	59·9	0·1	60·0	0·0	..	..	Calm	E	..	$\frac{1}{4}$	..	..	..	1	..
12	29·976	58·9	59·0	−0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	Transit
16	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
22	29·915	63·5	62·7	0·8	..	..	76·1 58·0	100·5 47·0	Calm	WNW	..	$\frac{1}{4}$	10·32	0·00	15·870	10	..
Sep. 10. 0	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..

DRY THERMOMETER.

Sep. 7d. 0h. The difference between its reading and that of the Wet Thermometer was the greatest in the month; so great a difference did not happen again before the end of the year.

Sep. 7d. 14h, 16h, and 18h; and 9d. 12h. The readings were lower than those of the Wet Thermometer.

MINIMUM THERMOMETER.

Sep. 7d. 22h. The reading was higher than that of the Dry Thermometer at 14h.

GENERAL REMARKS.	Observer.
A few cirri scattered in various directions: haze in the horizon.	D
Cirri, and small fragments of scud.	
Light cirri in different directions: a very faint corona is visible around the Moon.	D
Cloudless: hazy: an imperfect lunar halo of about 20° radius is visible.	J H
A few light clouds.	
Light clouds and vapour.	
Light clouds: a kind of blue mist over the Park.	
Light fleecy clouds.	J H
Cloudless; but the haze is very dense, especially to the S.E. and S.W. of the zenith.	P
Cloudless.	D
,, hazy.	P
,, ,,	J H
,, ,,	
,, ,,	
Very clear.	J H
Cloudless.	P
,, although the stars are obscured by a thick fog: the Moon is plainly visible, surrounded by a small, watery corona.	
Overcast: the fog is still very dense, and the place of the Moon invisible.	
,, the fog has nearly disappeared.	
,, the fog has wholly vanished.	P
Cumuli and scud.	D
Cumuli and scud.	
A few light cumuli.	D
Cloudless.	P
,,	
Overcast: cirro-stratus and scud.	
,, ,,	P
,, ,,	D
,, ,,	
,, ,,	
,, cirro-stratus.	
,, ,,	D
,, ,, the clouds are lighter than at the last observation.	J H
A few light clouds scattered in various directions.	J H
Patches of scud here and there, and a few light clouds in the western horizon.	P
Cirri and light cumuli.	D
A few light clouds.	
Cirri and light haze.	
,,	D
The sky is completely covered with vapour which passes the Moon with great rapidity from the E.S.E., though it is perfectly calm on the surface of the Earth: a damp, misty air.	J H
Cirro-stratus: the air is misty.	J H
At 0^h. 10^m thunder was heard in the N.	G

TEMPERATURE OF THE DEW POINT.

Sep. 6^d. 16^h. The reading was inadvertently omitted.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	Max. and Min. of Free Therm.	Max. and Min. of Radiation Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's)	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's)	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°			from lbs. to lbs.		in.	in.	in.		
Sep. 10. 2	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
6	29·843	64·0	63·0	1·0	..	..	..	..	Calm	WSW	..	1/4	..	..	..	3	..
8	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	...	..	..	..	..	..	..	..
14	29·817	58·1	57·7	0·4	..	..	..	..	S	S	..	1/2	..	..	..	3	Transit
16	29·804	57·9	57·8	0·1	58·0	—0·1	..	..	S	S	..	1/2	..	..	..	2	..
18	29·800	59·8	59·5	0·3	..	..	..	..	SSE	S by W	..	1/4	..	..	..	9	..
20	29·827	59·5	57·6	1·9	..	..	..	..	SSW	SSW	..	1/2	..	..	..	9	..
22	29·855	63·7	61·2	2·5	58·5	5·2	71·3 57·7	92·6 49·1	WSW	SW	..	1/4	10·39	0·10	15·980	7	..
Sep. 11. 0	29·885	65·5	60·0	5·5	..	..	..	..	WSW	SW	..	1/4	..	..	..	9	..
2	29·901	66·5	61·9	4·6	..	..	..	..	Calm	SW	..	1/2	..	..	..	10	..
4	29·952	67·0	62·0	5·0	59·0	8·0	..	..	Calm	NE	..	1/4—	..	..	..	9 3/4	..
6	29·944	61·2	58·2	3·0	..	..	..	..	Calm	NE	..	1/4	..	..	..	9	..
8	29·968	59·9	57·6	2·3	..	..	..	..	Calm	ENE	..	1/4—	..	..	..	9	..
10	29·996	60·1	57·1	3·0	55·0	5·1	..	..	Calm	E	..	1/4	..	..	..	10	..
12	30·000	60·0	58·7	1·3	..	..	..	..	Calm	Calm	..	..	..	..	..	10	..
14	30·028	59·5	59·5	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	10	Transit
16	30·035	59·9	59·9	0·0	59·0	0·9	..	..	NNE	NE	..	1/4—	..	..	..	10	..
18	30·057	59·9	59·9	0·0	..	..	..	..	NE	NNE	..	1/4—	..	..	..	10	..
20	30·093	58·5	58·5	0·0	..	..	..	..	N by E	NNE	..	1/4—	..	..	..	10	Apogee
22	30·104	62·2	61·7	0·5	61·0	1·2	69·1 57·0	84·7 48·7	NNE	N	..	1/4	10·39	0·00	15·980	10	..
Sep. 12. 0	30·100	66·5	64·6	1·9	..	..	..	..	NNE	N by E	..	1/4	..	..	..	10	..
2	30·092	72·8	68·1	4·7	..	..	..	..	NNE	N	..	1/4	..	..	..	8	..
4	30·061	73·8	68·5	5·3	66·0	7·8	..	..	NE	NNE	..	1/4	..	..	..	4	..
6	30·070	69·1	66·0	3·1	..	..	..	..	NE	NE	..	1/4	..	..	..	7	..
8	30·088	62·7	60·0	2·7	..	..	..	..	NE	NE	..	1/4	..	..	..	0	..
10	30·099	58·0	57·2	0·8	56·5	1·5	..	..	Calm	NE	..	1/4—	..	..	..	0	..
12	30·092	54·3	54·2	0·1	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	30·072	54·1	53·5	0·6	..	..	..	..	Calm	NE	..	1/4	..	..	..	9	..
16	30·052	53·0	52·8	0·2	53·0	0·0	..	..	NE	NE	..	1/4	..	..	..	1/2	Transit
18	30·038	51·8	51·6	0·2	..	..	..	..	Calm	NE	..	1/4	..	..	..	0	..
20	30·035	55·5	54·2	1·3	..	..	..	..	NE	NE	..	1/4—	..	..	..	0	..
22	30·021	63·8	60·0	3·8	58·5	5·3	74·1 51·8	96·9 42·3	ENE	NE	0 to 1/2	1/4	10·39	0·00	15·980	1/4	..
Sep. 13. 0	30·002	67·4	60·1	7·3	..	..	..	..	NE	NE	0 to 1/2	1/2	..	..	..	0	..
2	29·966	69·1	60·0	9·1	..	..	..	..	ENE	ENE	0 to 1	3/4	..	..	..	0	..
4	29·919	67·2	57·8	9·4	50·0	17·2	..	..	ENE	NE	..	1/4	..	..	..	0	..
6	29·901	62·2	57·5	4·7	..	..	..	..	ENE	NE	..	1/2	..	..	..	0	..
8	29·884	56·4	55·0	1·4	..	..	..	..	Calm	NE	..	1/4	..	..	..	0	..
10	29·857	54·0	53·6	0·4	53·5	0·5	..	..	Calm	NE	..	1/4	..	..	..	0	..
12	29·837	51·0	51·0	0·0	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
14	29·807	50·7	50·9	—0·2	..	..	..	..	Calm	Calm	..	..	..	..	..	0	..
16	29·771	50·0	50·3	—0·3	50·5	—0·5	..	..	Calm	Calm	..	..	..	..	..	8	Transit

DRY THERMOMETER.

Sep. 11d. The daily range was the least in the month.

Sep. 13d. 14h, 16h, and 18h. The readings were lower than those of the Wet Thermometer.

TEMPERATURE OF THE DEW POINT.

Sep. 10d. 16h. The temperature was higher than that of the air.

Sep. 12d and 13d. The difference of the mean daily values was considerable.

Sep. 13d. 16h. The temperature was higher than that of the air.

GENERAL REMARKS.	Observer.
Cumulo-stratus and scud: between $3^h.40^m$ and 4^h a very heavy shower of rain, accompanied with thunder; the electrical instruments were not affected.	J H
Light fleecy clouds: a lunar halo of about 20° radius: vapour prevalent.	
The appearance of the sky is very variable, being at times totally overcast, and then clear for a short time; at this moment it is clear: great quantities of scud have passed since 14^h, at a rapid rate from the S.	
Cirro-stratus and scud: rain shortly before the observation.	
,, rain falling near the time of the observation.	J H
Cumuli and scud: breaks in every direction, but chiefly to the South of the zenith.	P
Cumuli and scud: gloomy: a few drops of rain falling.	
Overcast: cirro-stratus and scud.	P
Cirro-stratus and scud.	J H
,,	
,,	
,,	J H
,, the clouds are slightly broken in the zenith and about the Moon, whose disk is well defined.	P
Overcast: cirro-stratus and scud; the latter moving slowly from the E. by S. or E. S. E.	
,, ,, ,,	
,, cirro-stratus.	
,, ,, a thin fog, which appeared first about 30^m before the observation.	P
,, ,,	D
Overcast: cirro stratus.	
Cirro-stratus and scud.	D
Cumuli, cumulo-strati, and scud; the two former kinds of cloud are chiefly to windward, the scud being more diffused.	P
A thin scud scattered in every direction: the quantity of cloud is variable.	
Cloudless: the horizon in the W. and N.W. is very clear.	
,, the air is rather keen.	P
,,	D
Fleecy clouds nearly cover the sky; a few stars only are seen through the breaks.	
Light clouds in the zenith.	
Cloudless.	
,,	D
A few small patches of scud here and there, with a few small cumuli in the N.W. horizon.	P
Very clear.	J H
Cloudless: a very fine day.	J H
,,	D
,,	
,,	
,,	D
,, a thermometer on the grass now reads 37°·5, being 13°·5 less than the temperature of the air four feet above it.	G
,, the thermometer on long grass reads 36°·5, being 14°·2 lower than the temperature of the air at four feet above the ground: there is a great deposition of moisture.	
At $15^h.10^m$ a solitary cloud appeared near the horizon in the S.: at $15^h.40^m$ there were five distinct clouds, each about 50° in length and about 3° in breadth, separated from each other by about 5°, and parallel to each other, their direction being true E. and W., and they moved from S. to N: at $15^h.55^m$ the whole S. hemisphere was clouded over, and since that time the greater part of the N. hemisphere is also clouded over: the temperature between $15^h.55^m$ and 16^h rose a degree: at $16^h.5^m$ a fog suddenly obscured every thing at the distance of 20 yards, and the difference between the readings of the thermometer on long grass and that in air was 3°.	

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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	By Estimation. Direction.	Force 0—6.	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. 13. 18	29·762	51·5	52·0	−0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
20	29·756	54·8	54·8	0·0	..	..	..	..	NE	..	..	..	E	very light	..	..	..	10	..
22	29·740	61·0	58·3	2·7	57·0	4·0	70·3 / 50·0	96·5 / 37·0	ENE	..	..	..	Calm	..	10·39	0·00	15·980	10	..
Sep. 14. 0	29·746	68·1	63·5	4·6	..	..	..	..	E by N	..	..	..	ENE	¼	..	..	..	9	..
2	29·754	66·1	63·0	3·1	..	..	..	..	E by N	..	..	..	ESE	¼	..	..	..	10	..
4	29·742	66·7	64·3	2·4	62·0	4·7	..	..	NE	..	..	..	E	¼	..	..	..	10	..
6	29·730	65·4	62·3	3·1	..	..	..	..	ENE	..	..	..	E	½	..	..	..	10	..
8	29·740	64·2	62·2	2·0	..	..	..	..	ENE	..	..	..	E	¼	..	..	..	10	..
10	29·730	64·4	62·4	2·0	60·0	4·4	..	..	ENE	..	..	..	E	¼	..	..	..	10	..
12	29·886	64·5	63·0	1·5	..	..	..	..	E by N	..	..	..	E	¼	..	..	..	9	..
14	29·692	63·1	62·0	1·1	..	..	..	..	NE	..	..	..	E	½	..	..	..	10	..
16	29·681	61·7	61·6	0·1	61·0	0·7	..	..	NE	..	..	..	Calm	..	..	..	..	10	..
18	29·686	61·5	61·5	0·0	..	..	..	..	E by N	..	..	..	ENE	½	..	..	..	10	Transit
20	29·700	62·8	61·6	1·2	..	..	..	..	ENE	..	..	..	ENE	¼	..	..	..	9	..
22	29·712	67·0	63·4	3·6	61·3	5·7	68·0 / 61·0	84·0 / 58·5	SE	..	..	..	SSE	¼	10·40	0·00	16·000	4	..
Sep. 15. 0	29·738	71·5	63·5	8·0	..	..	..	..	S by E	..	..	..	S	½	..	..	..	6	..
2	29·739	71·8	63·1	8·7	..	..	..	..	SSE	..	..	..	S	½	..	..	..	4	..
4	29·757	69·4	61·7	7·7	56·5	12·9	..	..	S by E	0 to ½	..	..	SSW	½	..	..	..	3	..
6	29·777	67·8	60·8	7·0	..	..	..	..	SSE	0 to ¾	..	..	SSW	½	..	..	..	3	..
8	29·804	63·2	59·1	4·1	..	..	..	..	ESE	..	..	..	SE	¼	..	..	..	1	..
10	29·833	61·2	58·5	2·7	56·5	4·7	..	..	SE	..	..	..	SE	¼	..	..	..	2	..
12	29·837	58·4	57·0	1·4	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	1½	..
14	29·841	59·8	57·5	2·3	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	7	..
16	29·853	58·0	57·0	1·0	55·5	2·5	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
18	29·866	59·7	57·6	2·1	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	Transit
20	29·889	60·5	59·1	1·4	..	..	..	..	Calm	..	..	..	SSE	¼	..	..	..	2	..
22	29·906	68·0	63·9	4·1	61·5	6·5	72·4 / 58·0	95·5 / 51·0	Calm	..	..	..	NNE	¼+	10·40	0·00	16·000	2	..
Sep. 16. 0	29·906	74·1	67·4	6·7	..	..	..	..	Calm	..	..	..	SE	¼	..	..	..	6	..
2	29·902	76·3	67·6	8·7	..	..	..	..	Calm	..	SE	0·20	S	¼	..	..	..	3	Greatest declination N.
4	29·896	75·8	67·0	8·8	63·0	12·8	..	..	Calm	..	..	..	S	½	..	..	..	6	..
6	29·907	72·0	68·0	4·0	..	..	..	..	Calm	..	SSE	0·10	SSE	¼	..	..	..	1	..
8	29·953	65·5	63·5	2·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	¼	..
10	29·975	61·5	61·3	0·2	61·0	0·5	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
12	29·987	58·7	58·7	0·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	3rd Qr.
14	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	Transit
20	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
22	30·031	69·8	66·8	3·0	..	..	77·3 / 54·9	102·3 / 51·2	Calm	..	S	0·10	Calm	..	10·40	0·00	16·000	0	..
Sep. 17. 0	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..

BAROMETER.

Sep. 14d. 12h. This reading of the barometer is evidently wrong, it being either 0in·15 or 0in·20 too high; it is presumed that the error was 0in·2, that being the more probable, and the number used in the Abstracts is therefore 29in·686.

Sep. 14d and 15d. The least difference of the mean daily heights for consecutive days in the month occurred.

WEIGHT OF A CUBIC FOOT OF AIR.

Sep. 15d. The mean daily value was the least in the month.

MAXIMUM THERMOMETER.

Sep. 14d. 22h. The reading was lower than that of the Dry Thermometer at 0h.

GENERAL REMARKS.	Observer.
The fog which came on so suddenly continued but a short time, but the sky has been almost wholly clouded since.	G
A fog came up from the N. at 18h. 30m, and passed S. after remaining about five minutes; since that time the sky has been wholly covered with cirro-stratus.	G
Cirro-stratus and scud.	J H
Cirro-stratus and scud.	
,, the clouds have assumed a heavier appearance since the last observation.	J H
,,	G
,,	
,, at 6h. 40m the clouds were much broken, but since that time they have become dense everywhere.	
,, a very dark night.	G
,,	J H
,,	
,, misty air.	
,,	
,,	J H
Cumuli: cirri, both mottled and waved; and light scud scattered in every direction.	P
Cumuli, cirri, and scud.	
Finely-formed cumuli, and scud in every direction.	P
Cumuli, principally West of the zenith.	J H
Cumuli and fleecy clouds scattered in every part of the sky.	
Light scud, principally West of the zenith.	J H
A few lines of dark cloud low down in the S., and also a few clouds near the S. horizon; in other respects the sky is cloudless, but the stars look small.	G
Cirri S. S. E. of the zenith, and patches of loose scud here and there: the clouds appear to move from the S. S. E., and small quantities are constantly coming up.	P
Fleecy clouds, cirro-cumuli, and scud in every direction, but chiefly S. of the zenith: a small corona, whose diameter is about a degree, and an imperfectly formed halo (the external part coloured), whose diameter is about 4°.	
Overcast: the Moon's place is not visible: the clouds are dark and heavy, and still move from the S. S. E.	
,, cirro-stratus: the sky is bright and lurid in the N. E. horizon: soon after this observation breaks appeared in every direction.	
Beautifully formed cirro-cumuli in every direction, but principally South and East of the zenith, with a few cumuli.	P
A few small cumuli are in the S.W. horizon: cirri W. of the zenith.	D
Cumuli and scud.	
Scud, and light cumuli: a fine day.	D
Cirri and clouds of a fleecy texture in every direction.	P
A fine mass of cumulo-stratus in the N.W., and a few patches of scud here and there.	
A long and dark bank of cloud a little above the West horizon; the rest of the sky being free from clouds.	
Vapour in the horizon, and the stars in every direction are dim and small.	P
Cloudless.	D
Cloudless: hazy.	P

WHEWELL'S ANEMOMETER.

Sep. 15d. 22h. After this time this instrument was read every day at 22h, and the different results are placed opposite to that time which appears, from the observations of Osler's Anemometer and by the Estimation of the Direction of the Wind, to correspond to them most nearly, the last result being always placed at 22h.

RAIN.

Sep. 14d. 22h. From the circumstance of the readings of rain-gauges Nos. 1 and 3 being increased, and no rain registered for No. 2, it is supposed that the amount collected in the latter was omitted to be 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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	By Estimation. Direction.	By Estimation. Force 0–6	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0–10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°		from lbs. to lbs.		in.			in.	in.	in.		
Sep. 17. 2	30·017	77·2	70·0	7·2	..	..	..	..	Calm	..	..	.	S	¼	..	..	..	0	..
4	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
14	29·995	60·4	59·5	0·9	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	9½	..
16	29·994	59·4	59·1	0·3	59·0	0·4	..	..	Calm	..	..	..	S	¼	..	..	..	1	..
18	30·004	58·0	58·0	0·0	..	..	..	..	Calm	..	..	..	S	¼	..	..	..	5	..
20	30·010	61·5	60·5	1·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	Transit
22	30·019	68·0	64·8	3·2	63·0	5·0	79·9 57·8	104·8 54·0	Calm	..	S	2·65	S	¼	10·40	0·00	16·000	8	..
Sep. 18. 0	30·017	73·8	68·1	5·7	..	..	..	..	Calm	..	..	..	SSE	¼	..	..	..	7	..
2	29·993	76·5	69·9	6·6	..	..	..	..	Calm	..	..	..	SSE	¼	..	..	..	3	..
4	29·978	74·1	67·8	6·3	63·0	11·1	..	..	Calm	..	S	0·05	NNW	¼	..	..	..	3	..
6	29·976	70·6	67·2	3·4	..	..	..	..	Calm	..	..	..	NNW	¼	..	..	..	5	..
8	30·001	66·9	64·2	2·7	..	..	..	..	Calm	..	..	..	NNW	¼	..	..	..	6	..
10	30·030	62·6	62·1	0·5	61·5	1·1	..	..	Calm	..	NNW	0·53	NE	¼	..	..	..	0	..
12	30·029	60·3	60·3	0·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	4	..
14	30·041	59·7	59·5	0·2	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	9	..
16	30·041	59·6	59·7	−0·1	59·2	0·4	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
18	30·044	65·0	60·5	0·0	..	..	..	..	Calm	..	..	..	NNE	¼	..	..	..	10	..
20	30·055	61·3	61·0	0·3	..	..	..	..	Calm	..	NNE	1·23	ENE	¼	..	..	..	9	Transit
22	30·068	69·5	66·3	3·2	64·2	5·3	78·5 60·2	102·7 53·5	Calm	..	NE	0·22	ENE	¼–	10·49	0·11	16·110	9¾	..
Sep. 19. 0	30·075	72·4	68·0	4·4	..	..	..	..	ENE	..	..	..	NE	¼	..	..	..	9	..
2	30·068	75·2	68·0	7·2	..	..	..	..	NE	..	..	..	ENE	¼	..	..	..	7	..
4	30·058	72·1	63·0	9·1	58·0	14·1	..	..	Calm	..	NE	0·47	ENE	¼	..	..	..	5	..
6	30·051	70·0	62·2	7·8	..	..	..	..	Calm	..	..	..	E	¼–	..	..	..	3	..
8	30·061	63·5	58·0	5·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	3	..
10	30·061	59·0	56·1	2·9	54·0	5·0	..	..	Calm	..	..	..	Calm	..	..	..	..	2	..
12	30·039	55·5	54·1	1·4	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
14	30·018	53·7	53·3	0·4	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
16	30·011	53·0	53·5	−0·5	52·0	1·0	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
18	29·997	52·0	52·3	−0·3	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	4	..
20	30·003	56·7	56·8	−0·1	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
22	30·014	64·3	62·3	2·0	60·5	3·8	75·8 53·3	101·0 42·5	Calm	..	E	1·15	Calm	..	10·49	0·00	16·110	2	Transit
Sep. 20. 0	29·997	70·4	65·3	5·1	..	..	..	..	Calm	..	ENE	0·10	Calm	..	..	..	..	1	..
2	29·969	73·5	64·2	9·3	..	..	..	..	Calm	..	ESE	0·32	S by E	¼–	..	..	..	0	..
4	29·947	72·8	63·1	9·7	55·5	17·3	..	..	Calm	..	..	..	SSE	¼	..	..	..	¼	..
6	29·943	68·0	61·0	7·0	..	..	..	..	Calm	..	SE	0·08	E by S	¼	..	..	..	0	..
8	29·957	61·5	57·8	3·7	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
10	29·973	57·4	56·2	1·2	55·0	2·4	..	..	Calm	..	SSE	0·15	Calm	..	..	..	..	0	..
12	29·976	54·4	53·7	0·7	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
14	29·997	52·1	51·8	0·3	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
16	29·980	52·0	52·0	0·0	52·0	0·0	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
18	30·003	55·0	55·0	0·0	..	..	..	..	Calm	..	SSW	0·63	Calm	..	..	..	..	0	..
20	30·028	53·5	53·2	0·3	..	..	..	..	Calm	..	..	..	WSW	¼	..	..	..	6	..
22	30·060	60·2	58·2	2·0	57·5	2·7	75·1 50·6	103·0 44·5	Calm	..	W	0·35	Calm	..	10·49	0·00	16·110	4	Transit

BAROMETER.

Sep. 19d. The daily range was the least in the month.

DRY THERMOMETER.

Sep. 18d. 16h; and 19d. 16h, 18h, and 20h. The readings were lower than those of the Wet Thermometer.

TEMPERATURE OF THE DEW POINT.

Sep. 20d. The difference between it and the temperature of the air was greater than any which occurred between Aug. 12d and the end of the year.

GENERAL REMARKS.	Observer.
Cloudless.	P
A few stars are shining in the zenith; every other part of the sky is overcast.	D
Thin clouds E. of the zenith; the remainder of the clouds have disappeared rather suddenly.	
The clouds are equally scattered over the sky.	
Overcast: cirro-stratus.	D
Stratus: hazy.	J H
Light fleecy clouds: hazy.	
,, ,, vapour also prevalent.	J H
Cumuli, and small fragments of scud: hazy.	D
Cirri, scud, and haze.	
Cirro-stratus covers the greater part of the sky N. of the zenith; a thin kind of cloud is scattered over the remaining portion.	D
The sky is cloudless, yet, nevertheless, the stars in many places appear watery, as if vapour was very prevalent.	G
Vapour: hazy.	J H
Nearly overcast.	
Overcast: heavy rain.	
Cirro-stratus and scud: the rain has just ceased.	
,, breaks near the horizon in the S. and S.W.	J H
Small portions of blue sky are visible in many parts of the sky: the clouds are, cirro-cumuli in and S. of the zenith, and compact scud in every other direction.	P
[perfectly formed cirro-cumuli in the zenith and its neighbourhood.	
Small breaks in every direction, chiefly, however, West of the zenith: the clouds consist of scud of different densities, and im-	
Cirro-cumuli and scud in every direction, with a few cumuli in the horizon, in the W. and N.W.	P
Cirro-cumuli and fleecy clouds.	J H
Cirro-cumuli and light fleecy clouds.	
Scud and undefined clouds.	
Scud near the horizon in the N.W. and W.: vapour.	J H
Cloudless; but the stars look dim and watery: scud has been continually passing over since the last observation.	P
Cloudless; the stars still shine dimly.	
,, ,, slight mist.	
Scud and cirro-cumuli: a rather thick fog, which has been gradually increasing in density since the last observation.	
Overcast: the fog is still rather thick.	P
Cirro-cumuli to the N., and a thin, woolly cloud all round the horizon: a perfect calm.	G
Cirro-cumuli N. of the zenith.	D
Cloudless.	D
A few clouds only in the N.W. horizon.	P
A few small patches of scud here and there.	
Cloudless: the clouds increased very shortly after the previous observation.	P
,,	G
,, several meteors have been seen since 10^h.	G
,, several meteors have been seen S. and W. of the zenith since 12^h.	D
,,	D
A misty, damp air.	J H
Cirri, and thin undefined clouds in every direction: a thin mist in the Park.	P
Thin, fleecy clouds scattered over the S. portion of the sky; a thick mist also is prevalent.	G

MINIMUM THERMOMETER.

Sep. 18^d. 22^h. The reading was higher than those of the Dry Thermometer at 14^h and 16^h.

Sep. 19^d. 22^h. The reading was higher than those of the Dry Thermometer at 16^h and 18^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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	By Estimation. Direction.	Force 0—6	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. 21. 0	30·061	66·3	63·5	2·8	..	..	..	..	N by W	..	..	..	N	¼	..	..	..	0	..
2	30·053	69·2	65·5	3·7	..	..	..	..	W	..	W	0·19	WNW	¼	..	..	..	0	..
4	30·059	70·0	65·6	4·4	63·2	6·8	..	..	N by W	..	NW	0·18	N	¼	..	..	..	4	..
6	30·069	67·2	63·5	3·7	..	..	..	..	N	..	N	0·08	N	¼	..	..	..	8	..
8	30·111	61·7	60·3	1·4	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	3	..
10	30·141	60·5	59·5	1·0	58·5	2·0	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
12	30·157	60·5	59·5	1·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
14	30·172	57·2	57·1	0·1	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	7	..
16	30·192	55·6	55·2	0·4	55·0	0·6	..	..	N by W	..	..	..	Calm	..	..	..	..	9½	..
18	30·211	54·0	54·0	0·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	1	..
20	30·246	53·0	52·9	0·1	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
							70·2	87·5											
22	30·290	60·9	58·7	2·2	57·5	3·4	52·0	43·0	N by E	..	NNE	1·06	NE	¼	10·49	0·00	16·110	0	..
Sep. 22. 0	30·314	65·5	60·8	4·7	..	..	..	..	NNE	..	..	..	NNE	¼	..	..	..	3	Transit
2	30·310	69·0	61·1	7·9	..	..	..	..	NE	..	..	..	NE	½	..	..	..	1	..
4	30·313	67·2	60·1	7·1	56·0	11·2	..	..	NE	..	..	..	NE	¼	..	..	..	0	..
6	30·311	63·5	59·3	4·2	..	..	..	..	Calm	..	..	..	NE	¼	..	..	..	0	..
8	30·340	58·3	56·2	2·1	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
10	30·360	55·7	54·2	1·5	55·0	0·7	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
12	30·378	52·5	51·8	0·7	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
14	30·374	50·7	50·7	0·0	..	..	..	..	Calm	..	..	.	Calm	..	..	..	..	0	..
16	30·377	50·5	50·7	−0·2	50·0	0·5	..	..	Calm	..	..	..	Calm	..	..	..	..	10	In Equator
18	30·396	51·8	52·0	−0·2	..	..	..	..	N by E	..	..	..	Calm	..	..	..	..	10	..
20	30·410	54·2	54·2	0·0	..	..	..	..	NNE	..	..	..	ENE	½	..	..	..	10	..
							69·8	98·5											
22	30·414	59·8	57·5	2·3	55·0	4·8	50·8	40·5	NE	..	ENE	2·06	NE	¼	10·49	0·00	16·110	9	..
Sep. 23. 0	30·413	64·7	60·9	3·8	..	..	..	..	NE	..	NE	0·50	NE	¼+	..	..	..	5	Transit
2	30·400	65·8	61·9	3·9	..	..	..	..	N	..	..	..	NNE	¼	..	..	..	7	..
4	30·399	66·1	62·1	4·0	60·0	6·1	..	..	N	..	..	..	N by E	¼	..	..	..	6	..
6	30·393	64·2	61·1	3·1	..	..	..	..	N	..	..	..	N	¼	..	..	..	0	..
8	30·393	59·1	57·8	1·3	..	..	..	..	Calm	..	..	..	N	¼	..	..	..	4	..
10	30·403	55·5	55·5	0·0	55·0	0·5	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
12	30·374	52·2	52·3	−0·1	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	New
14	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
							68·1	89·5											
22	30·367	60·5	57·7	2·8	..	..	52·6	44·8	Calm	..	N	1·15	Calm	..	10·49	0·00	16·110	10	..
Sep. 24. 0	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..	Transit
2	..	..	..	..	..	..	..	..	W by S	..	W	0·40	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	N	..	..	..	..	..	..	..	..	..	..
6	30·296	60·0	57·7	2·3	..	..	..	..	NE	..	..	..	NE	¼	..	..	..	10	..
8	..	..	..	..	..	..	..	..	N	..	NNE	0·14	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	N by W	..	..	..	..	..	..	..	..	..	Perigee
12	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
14	30·219	52·8	51·8	1·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
16	30·181	50·5	50·0	0·5	48·0	2·5	..	..	NNW	..	N	1·10	Calm	..	..	..	..	0	..
18	30·167	46·8	47·0	−0·2	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	1	..

BAROMETER.

Sep. 22d. 22h. The reading was the highest in the month.

Sep 23d. The mean daily height was the greatest in the month.

DRY THERMOMETER.

Sep. 22d. The mean daily temperature was the lowest in the month.

Sep. 22d. 16h and 18h; 23d. 12h; and 24d. 18h. The readings were lower than those of the Wet Thermometer.

TEMPERATURE OF THE DEW POINT.

Sep. 23d. The difference between its mean daily value and that of the air was the greatest in the month.

GENERAL REMARKS.	Observer.
Cloudless: the haze in S. is very thick, and resembles cirro-stratus: the wind is very light.	P
,, hazy.	D
A haze is prevalent: cirri in lines over the zenith: loose clouds near the horizon.	G
Cirri, both curled and linear, diffused over every part of the sky, with cirro-stratus or dense haze, in the western horizon; also hazy in other directions.	P
Light fleecy clouds and scud.	J H
Overcast: vapour and cirro-stratus.	J H
,, ,,	D
Clear in the zenith: scud and vapour.	
A few stars are glimmering in the zenith; otherwise overcast.	
Fragments of scud and vapour.	
Cloudless.	D
,,	J H
Fleecy clouds and cumuli.	
A few fleecy cumuli.	J H
Cloudless.	D
,,	
,,	
,,	D
,,	J H
,,	
Overcast: a damp misty air.	
,, ,,	
Cirro-stratus: a damp misty air.	J H
A rather dense scud, broken, however, in and around the zenith; the breaks are occasionally of considerable extent, and the colour of the sky a fine blue.	P
Fleecy clouds in every direction; in the southern horizon they seem to be forming into cumuli: the clouds are now rapidly vanishing.	
Large masses of scud of a fleecy texture in every direction, with imperfectly formed cumuli in the S. and W. horizon.	P
Fleecy cumuli in every direction.	J H
Cloudless.	
Cirro-stratus and scud principally S. of the zenith.	
Cloudless; the stars however appear dim.	J H
,, the stars however appear dim, especially in the N. E.	P
The sky is quite covered with scud and cirro-stratus: within the last ten minutes the clouds have become less dense in the S.	G
The wind has been N. and W. and it is now N. E.: the day has been quite cloudy; the clouds, however, at times have been sufficiently thin to allow the Sun to be visible; the general character of the clouds has been cirro-stratus.	G
Cloudless: the stars look dim and small.	P
,, ,,	
Clouds are coming up rather rapidly from the N. N. E.	

DEGREE OF HUMIDITY.

Sep. 24^{d}. The mean daily value was the greatest in the month.

MINIMUM THERMOMETER.

Sep. 22^{d}. 22^{h}. The reading was higher than those of the Dry Thermometer at 14^{h} and 16^{h}.

Sep. 23^{d}. 22^{h}. The reading was higher than that of the Dry Thermometer at 12^{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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0—6	RAIN. Stand of Rain gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°		from lbs. to lbs.		in.			in.	in.	in.		
Sep. 24. 20	30·157	50·0	49·5	0·5	..	..	..	..	Calm	..	..	..	WSW	¼	..	..	..	10	..
22	30·155	53·0	52·1	0·9	49·2	3·8	62·3 47·4	75·3 39·3	SW	..	WSW	0·81	Calm	..	10·49	0·00	16·110	10	..
Sep. 25. 0	30·120	59·6	56·2	3·4	..	..	..	..	WSW	..	W	2·38	W	¼	..	..	..	8	..
2	30·082	60·8	56·6	4·2	..	..	..	..	N by W	..	NNW	0·29	NNW	¼	..	..	..	10	Transit
4	30·053	58·0	56·7	1·3	54·5	3·5	..	..	NNE	..	..	..	N	¼	..	..	..	10	..
6	30·063	51·3	50·8	0·5	..	..	..	..	N by E	..	..	..	N by E	½	..	..	..	10	..
8	30·082	50·8	48·9	1·9	..	..	..	..	NNE	..	..	..	N by E	¼+	..	..	..	10	..
10	30·084	49·0	46·7	2·3	43·0	6·0	..	..	N	..	NNE	0·81	N by E	¼	..	..	..	10	..
12	30·074	46·3	44·2	2·1	..	..	..	..	N by W	..	..	..	N by W	¼	..	..	..	8	..
14	30·065	45·2	43·3	1·9	..	..	..	..	N by W	..	..	..	N by W	½	..	..	..	9	..
16	30·039	45·5	43·6	1·9	43·0	2·5	..	..	N by W	..	..	..	N by W	½	..	..	..	10	..
18	30·027	44·0	42·4	1·6	..	..	..	..	N by W	..	..	..	N by W	¼	..	..	..	9	..
20	30·030	47·1	44·6	2·5	..	..	..	..	N by W	..	..	..	N by W	¼	..	..	..	10	..
22	30·028	49·7	46·7	3·0	42·5	7·2	63·5 43·4	77·9 36·0	N	0 to 1	N	2·69	N by W	¼	10·49	0·00	16·165	3	..
Sep. 26. 0	29·989	54·3	48·5	5·8	..	..	..	..	N by W	..	..	..	N by W	½	..	..	..	6	..
2	29·963	54·5	48·4	6·1	..	..	..	..	NNW	..	..	..	N by W	½	..	..	..	6	Transit
4	29·917	53·2	46·8	6·4	37·5	15·7	..	..	NNW	..	..	..	N by W	¼	..	..	..	7	..
6	29·906	51·6	46·1	5·5	..	..	..	..	NNW	..	..	..	NNW	¼	..	..	..	8	..
8	29·888	49·5	44·9	4·6	..	..	..	..	N by W	..	..	..	N by W	¼	..	..	..	10	..
10	29·860	47·2	43·1	4·1	40·0	7·2	..	..	Calm	..	..	..	N	¼	..	..	..	4	..
12	29·819	41·6	40·7	0·9	..	..	..	..	Calm	..	..	..	W	¼	..	..	..	0	..
14	29·775	40·3	39·7	0·6	..	..	..	..	Calm	..	..	..	WNW	¾	..	..	..	3	..
16	29·716	40·8	40·0	0·8	39·5	1·3	..	..	Calm	..	..	..	W	¼	..	..	..	8	..
18	29·690	41·6	40·8	0·8	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
20	29·686	44·5	43·9	0·6	..	..	..	..	Calm	..	..	..	WSW	¼–	..	..	..	10	..
22	29·655	49·5	46·8	2·7	42·5	7·0	56·4 39·5	76·8 32·0	NW	..	NNW	4·38	N by W	¼	10·49	0·00	16·190	10	..
Sep. 27. 0	29·625	52·0	47·8	4·2	..	..	..	..	NNW	..	..	..	NNW	¼	..	..	..	10	..
2	29·613	51·9	45·4	6·5	..	..	..	..	NNW	..	..	..	N by W	½	..	..	..	10	..
4	29·589	49·6	43·7	5·9	39·0	10·6	..	..	NNW	..	..	..	NW	½	..	..	..	4	Transit
6	29·576	47·3	42·7	4·6	..	..	..	..	NNW	..	..	..	N	½	..	..	..	¼	..
8	29·580	44·5	41·0	3·5	..	..	..	..	Calm	..	..	..	N	½	..	..	..	1	..
10	29·583	41·5	39·3	2·2	36·0	5·5	..	..	Calm	..	..	..	N	½	..	..	..	0	..
12	29·589	41·2	39·7	1·5	..	..	..	..	NNW	..	..	..	N	¾	..	..	..	0	..
14	29·594	40·3	39·1	1·2	..	..	..	..	NNW	..	..	..	N	¼	..	..	..	0	..
16	29·598	39·8	38·5	1·3	37·0	2·8	..	..	NNW	..	..	..	N	½	..	..	..	0	..
18	29·601	39·5	38·4	1·1	..	..	..	..	NNW	..	..	..	N	½	..	..	..	0	..
20	29·620	41·0	39·5	1·5	..	..	..	..	NW	..	..	..	N	¼	..	..	..	0	..
22	29·630	47·2	44·1	3·1	40·0	7·2	52·4 38·8	58·0 30·4	NNW	0 to ½	NNW	4·54	NNW	½	10·49	0·00	16·190	0	..
Sep. 28. 0	29·642	52·6	47·7	4·9	..	..	..	..	N by W	½ to 1	..	..	N	¾	..	..	..	4	..
2	29·651	55·0	48·2	6·8	..	..	..	..	NNW	½ to 1½	..	..	N	¾	..	..	..	6	..

BAROMETER.

Sep. 26d. The daily range was the greatest in the month.

Sep. 26d and 27d. The greatest difference of the mean daily heights for consecutive days in the month occurred; this was the only instance in the month in which the difference of the mean daily heights for consecutive days was considerable; and in this respect the month exhibits a great contrast as compared with the following month of October. See the foot-note to Oct. 10d and 11d.

Sep. 27d. The mean daily height was the least in the month.

Sep. 27d. 6h. The reading was the lowest in the month.

TEMPERATURE OF THE DEW POINT.

Sep. 25d and 26d. The difference of the mean daily values was considerable.

Sep. 27d. 10h, 28d. 10h, and 28d. 16h. The readings at these times were the same, and they were the lowest in the month.

Sep. 28d. The mean daily value was the lowest in the month.

ELASTIC FORCE OF VAPOUR, AND WEIGHT OF VAPOUR IN A CUBIC FOOT OF AIR.—Sep. 28d. The mean daily values were the least in the month.

GENERAL REMARKS.	Observer.
Overcast: the sky was quite covered with clouds by $18^h.40^m$; they still move from the N. N. E.: the air is cold.	P
Cirro-stratus and scud.	J H
Cirro-stratus and scud.	D
,, a slight shower of rain fell about ten minutes since.	D
Overcast: cirrostratus and scud.	P
,, ,, thin rain has fallen several times since the last observation.	
,, ,, a few drops of rain have occasionally fallen since $6^h.0^m$.	
,, ,,	P
Cirro-stratus and scud: the stars are shining in and about the zenith.	D
,,	
Overcast: cirro-stratus.	
Cirro-stratus and scud.	
,,	D
Light fleecy clouds and scud.	J H
Cumuli and large masses of scud.	P
Cumuli and light fleecy clouds.	J H
Cumuli, cumulo-strati, and fleecy clouds.	D
Cirro-stratus and fleecy clouds.	
Overcast: cirro-stratus.	D
Clouds are near the S. horizon, and vapour very prevalent, so that the stars look small and watery: the thermometer on wool placed on the grass reads 33°.	G
Cloudless, but the stars appear dim.	J H
Vapour, principally North of the zenith.	
Vapour and scud.	
Cirro-stratus and scud.	J H
,,	P
Cumulo-strati, cirro-stratus, and scud: the Sun appeared dim through the clouds about half an hour since.	
Overcast: cirro-stratus and scud.	P
,, ,,	J H
Scud and light clouds: generally clear North of the zenith.	
Nearly clear.	
Vapour N. of the zenith. [it left a luminous train, visible about three seconds.	
Cloudless: at $9^h.5^m$ a fine meteor shot from α Aquarii to a point about 2° West of the planet Jupiter (now near γ Capricorni);	J H
Cloudless: very cold and bleak: this great change in the weather from what it was three days since is remarkable, being quite unconnected with rain; the wind too is nearly in the same direction: yesterday there were two high tides, each being about two feet above the usual level.	G
Cloudless: dew formed on grass, but not abundantly, about an hour since: a thermometer placed on long grass now reads 29°·2, and it is covered with hoar frost; and one on wool on long grass reads 27°; the wool is quite frozen, and the thermometer is also covered with hoar frost: several small meteors have been observed in the S.W., some of which appeared to fall vertically.	
Cloudless.	
,, very cold: hoar frost in patches, where the place is partially sheltered from the wind.	
,, hoar frost now disappearing.	G
,,	P
Large cumuli and masses of scud moving with great rapidity.	
Large cumuli and masses of scud flying with great rapidity before the wind, which is increasing, and is now blowing in gusts to about 1+.	P

WEIGHT OF A CUBIC FOOT OF AIR.
Sep. 26d. The mean daily value was the greatest in the month.
DEGREE OF HUMIDITY.
Sep. 28d. The mean daily value was the least in the month.
MINIMUM THERMOMETER.
Sep. 24d. 22h. The reading was higher than than that of the Dry Thermometer at 18h.
RAIN.
Sep. 25d. 22h. The increase in the reading of rain-gauge No. 3 was from a shower which fell at $1^h.50^m$, and which neither of the other gauges recorded.
Sep. 26d. 22h. The increase in the reading of rain-gauge No. 3 was 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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	By Estimation. Direction.	Force 0—6.	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. 4	29·665	53·1	46·5	6·6	36·8	16·3	..	..	NNW	½ steady	..	.	N	1	..	..	..	6	Transit
6	29·687	50·6	44·4	6·2	..	..	..	..	NNW	0 to ½	..	..	N	1	..	..	..	8	..
8	29·721	48·5	42·7	5·8	..	..	..	..	NNW	..	..	..	N	1	..	..	..	10	..
10	29·753	46·3	41·4	4·9	36·0	10·3	..	..	NW	0 to ½	..	..	NW	1	..	..	..	7	..
12	29·755	45·4	41·0	4·4	..	..	..	..	NNW	0 to ½	..	..	NW	1	..	..	..	0	..
14	29·765	43·5	40·2	3·3	..	..	..	..	NW	..	NNW	3·02	NW	½	..	..	..	0	..
16	29·766	40·2	37·8	2·4	36·0	4·2	..	..	Calm	..	WNW	0·31	WNW	½	..	..	..	0	..
18	29·795	39·5	36·9	2·6	..	..	..	..	Calm	..	..	..	WSW	¼	..	..	..	1	Greatest declination S.
20	29·836	38·3	37·0	1·3	..	..	..	..	Calm	..	..	..	WSW	¼	..	..	..	1	..
22	29·864	47·6	43·5	4·1	39·0	8·6	56·3 34·0	77·4 27·6	NNW	..	NW	0·51	N by W	¼	10·49	0·00	16·190	0	..
Sep. 29. 0	29·882	52·6	46·1	6·5	..	..	..	..	NNW	..	..	..	N	¼	..	..	..	1	..
2	29·875	54·8	47·1	7·7	..	..	..	..	N	..	..	..	N by W	¼	..	..	..	2	..
4	29·866	55·4	47·4	8·0	41·0	14·4	..	..	NW	..	NNW	1·73	NW	¼+	..	..	..	1	..
6	29·871	51·5	46·0	5·5	38·0	13·5	..	..	Calm	..	..	..	W	¼	..	..	..	3	Transit
8	29·881	48·0	45·5	2·5	..	..	..	..	Calm	..	..	..	W	¼	..	..	..	10	..
10	29·874	48·0	46·0	2·0	44·5	3·5	..	..	Calm	..	W	0·70	W	¼	..	..	..	10	..
12	29·862	48·6	47·0	1·6	..	..	..	..	SW	..	..	..	SW	¼	..	..	..	10	..
14	29·828	48·5	46·5	2·0	..	..	..	..	SW	..	..	..	SW	¼	..	..	..	10	..
16	29·782	47·7	46·6	1·1	45·0	2·7	..	..	SW	..	WSW	1·30	SW	½	..	..	..	10	..
18	29·726	49·0	49·0	0·0	..	..	..	..	SW	..	..	..	SW	½	..	..	..	10	..
20	29·682	53·0	52·9	0·1	..	..	..	..	SSW	0 to ½	SW	0·83	SSW	½	..	..	..	10	..
22	29·672	56·1	56·1	0·0	56·0	0·1	57·1 47·8	75·9 38·1	WSW	..	WSW	0·49	WSW	¼+	10·64	0·17	16·325	10	..
Sep. 30. 0	29·671	60·3	59·0	1·3	..	..	..	..	W	0 to 1½	..	..	W by S	½	..	..	..	10	..
2	29·676	64·4	59·9	4·5	..	..	..	..	NW	½ to 1½	..	..	WNW	¾	..	..	..	10	1st Qr.
4	29·716	64·3	59·3	5·0	57·0	7·3	..	..	NW	0 to ½	..	..	NW	½−	..	..	..	8	..
6	29·766	62·7	58·0	4·7	..	..	..	..	NW	0 to ½	..	..	NW	½	..	..	..	8	Transit
8	29·816	61·5	58·1	3·4	..	..	..	..	NW	..	NW	2·40	NW	¼	..	..	..	10	..
10	29·831	60·2	59·4	0·8	58·5	1·7	..	..	Calm	..	..	..	SW	¼	..	..	..	10	..
12	29·839	60·1	60·1	0·0	..	..	..	..	Calm	..	..	..	Calm	..	10·64	0·00	16·325	10	.
14	..	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	WSW	½ to 1	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	WSW	0 to ½	..	..	..	..	..	..	..	..	..
22	29·902	66·1	62·6	3·5	..	..	66·3 55·8	83·0 56·2	WSW	0 to ½	WSW	3·50	WSW	¾	10·64	0·00	16·340	4	..
Oct. 1. 0	..	..	..	..	..	..	..	..	W by S	½ to 2	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	WSW	0 to 2½	..	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	W by S	0 to ½	W	1·71	..	..	..	..	..	..	..
6	29·889	63·4	59·8	3·6	..	..	..	..	WSW	..	..	..	WSW	½	..	..	..	1	..
8	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..	Transit
10	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..	..
14	29·906	58·5	58·5	0·0	..	..	..	..	WSW	..	..	..	SW	1	..	..	..	10	..
16	29·892	59·8	59·7	0·1	59·0	0·8	..	..	WSW	..	..	..	SW	1	..	..	..	10	..
18	29·880	60·0	59·7	0·3	..	..	..	..	WSW	..	..	..	WSW	1	..	..	..	7	..

DRY THERMOMETER.
Sep. 28d. 20h. The reading was the lowest in the month; that at 22h was 9°·3 higher.
Sep. 29d and 30d. The greatest difference of the mean daily temperatures for consecutive days in the month occurred.

TEMPERATURE OF THE DEW POINT.
Sep. 29d and 30d. The greatest difference of the mean daily values for consecutive days in the month occurred.

WEIGHT OF A CUBIC FOOT OF AIR.
Sep. 29d and 30d. The greatest difference of the mean daily values for consecutive days in the month occurred.

GENERAL REMARKS.	Observer.
Cirro-stratus to the South: heavy cumuli passing quickly from N. to S.: some cirri above them, which are nearly stationary.	G
Wind in gusts to 1: a little blue sky to the S.; heavy-looking cumulo-strati to the N.: the clouds are tinged with orange in the W.	
Overcast: cirro-stratus and scud.	G
Nearly overcast: wind rising.	P
Cloudless: wind in gusts to $1\frac{1}{2}$ or 2.	
,, but the stars are very dim: the wind has moderated since the preceding observation.	
,, the stars look dim.	
Dark clouds in the horizon, extending from S. S.W to W.	
Clouds in the same position: a slight mist in the Park.	P
Cloudless: thick haze.	D
A few small cumuli are scattered in various directions.	
Cirri and small cumuli.	D
Scud here and there, with a few cirri: hazy.	P
Cirri and undefined clouds, chiefly W. of the the zenith: hazy.	
Overcast: there are a few stars, however, glimmering in the zenith; it became clouded at about $6^h.\ 50^m$ or $7^h.\ 0^m$.	
,, from the circumstance that stars are occasionally visible in and around the zenith, it would seem that no upper cloud exists.	P
,,	D
,,	
,, rain falling.	
,, cirro-stratus and scud: rain falling.	
,, ,, ,,	D
,, ,,	P
Overcast: cirro-stratus and scud: a small break W. of the zenith.	
,, ,, cumulo-strati are forming in the N.W. on a dark back-ground of cirro-stratus: gloomy: the wind in gusts to 1+.	P
Cirro-stratus and scud: an extensive break to the North of the zenith.	D
,,	
Overcast: cirro-stratus.	
,, ,,	D
,, very black, and clouds are low, as the reflection of the London lights is nearly in the horizon.	G
Imperfect cumuli and scud.	D
A few fragments of scud are in various directions.	D
This day continued fine and nearly cloudless: about $11^h.\ 30^m$ some scud appeared in the S.W.; and at $12^h.\ 40^m$ the sky became quite clondy: the readings of the thermometers placed on grass were about 50°, and now they are all 57° or 58°, dew having recently formed on grass in small globules of water: wind in gusts to 1+.	G
A few stars have occasionally been visible, and therefore the clouds must be thin: wind in gusts to 1+.	
Cirro-cumulus is abundant in the S and E. portions of the sky; stratus to the N., and also in the other parts of the sky not occupied by cirro-cumuli: occasional gusts of wind to 1.	

MINIMUM THERMOMETER.

Sep. $29^d.\ 22^h$. The reading was higher than that of the Dry Thermometer at 16^h.

AMOUNT OF CLOUDS.

Sep. 30^d. This day was the most cloudy day in the month: there was not one completely cloudy day during the month.

RAIN.

Sep. $29^h.\ 16^h$. With the exception of a slight shower of rain which fell on the 10th day at 20^h, another which fell on the 18th day at 16^h, and a third which fell on the 25th day at 2^h, this is the first rain since Aug. 28^d, an unusual circumstance.

Sep. $30^d.\ 12^h$. During the month of September in rain-gauge No. 4, was $0^{in}.46$.

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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°		from lbs. to lbs.		in.			in.	in.	in.		
Oct. 1. 20	29·896	60·5	59·8	0·7	..	..	..	..	WSW	0 to ½	..	..	WSW	1	..	..	..	9½	..
22	29·908	62·0	61·1	0·9	60·0	2·0	70·4 55·8	92·8 50·5	WSW	0 to ½	WSW	4·25	WSW	¾	10·64	0·00	16·340	10	..
Oct. 2. 0	29·920	58·0	58·3	−0·3	..	..	..	..	N by W	..	N	0·20	NNW	¾	..	..	..	10	..
2	29·931	60·8	60·5	0·3	..	..	..	..	WNW	..	..	..	WNW	¼	..	..	..	9	..
4	29·947	62·2	59·5	2·7	58·0	4·2	..	..	NW	..	W	0·20	W	1	..	..	..	10	..
6	29·955	60·5	58·0	2·5	..	..	..	..	Calm	..	..	..	NNW	¼	..	..	..	4	..
8	29·979	57·0	54·5	2·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	1	Transit
10	30·017	57·2	53·1	4·1	51·8	5·4	..	..	NNW	..	NW	0·63	WSW	½	..	..	..	9	..
12	30·015	53·3	50·9	2·4	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
14	30·023	51·0	50·3	0·7	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	8	..
16	30·029	51·2	50·5	0·7	50·0	1·2	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
18	30·027	50·2	49·5	0·7	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
20	30·045	52·5	50·8	1·7	..	..	..	..	Calm	..	..	..	WSW	¼	..	..	..	9	..
22	30·051	58·0	54·9	3·1	54·5	3·5	64·2 50·0	77·5 42·0	Calm	..	W	0·69	SW	¼	10·69	0·12	16·480	10	..
Oct. 3. 0	30·045	60·4	55·6	4·8	..	..	..	..	Calm	..	..	..	SW	¼	..	..	..	10	..
2	30·012	63·1	59·2	3·9	..	..	..	..	SW	..	..	..	SW	¼	..	..	..	9	..
4	29·993	63·2	61·2	2·0	60·0	3·2	..	..	SSW	..	..	..	SSW	¼	..	..	..	10	..
6	29·976	62·0	61·0	1·0	..	..	..	..	Calm	..	SW	0·60	SSW	¼	..	..	..	10	..
8	29·982	61·5	60·2	1·3	..	..	..	..	WSW	..	..	..	SSW	¼	..	..	..	10	..
10	29·986	59·4	58·7	0·7	57·5	1·9	..	..	WSW	..	..	..	SSW	¼	..	..	..	9½	Transit
12	29·992	58·1	57·6	0·5	..	..	..	..	WSW	..	..	..	SW	¼	..	..	..	0	..
14	29·989	57·3	56·8	0·5	..	..	..	..	WSW	..	WSW	1·57	SW	¼	..	..	..	9	..
16	29·999	55·6	55·5	0·1	55·5	0·1	..	..	W	..	..	..	W by S	¼	..	..	..	0	..
18	30·002	55·6	55·4	0·2	..	..	..	..	W by S	..	..	..	W by S	¼	..	..	..	9	..
20	30·020	57·5	56·8	0·7	..	..	..	..	Calm	..	..	..	WSW	¼	..	..	..	10	..
22	30·036	60·8	58·1	2·7	56·0	4·8	64·6 56·3	76·2 52·2	W by S	..	W	1·14	WSW	¼−	10·69	0·00	16·480	6	..
Oct. 4. 0	30·036	64·7	60·3	4·4	..	..	..	..	W	..	..	..	W	¼	..	..	..	9	..
2	30·024	65·6	61·3	4·3	..	..	..	..	W	..	..	..	W	¼	..	..	..	8	..
4	30·013	64·0	60·5	3·5	58·5	5·5	..	..	Calm	..	WNW	0·14	W	¼−	..	..	..	10	..
6	30·013	62·6	60·2	2·4	..	..	..	..	Calm	..	..	..	W by S	¼	..	..	..	10	..
8	30·016	58·4	57·6	0·8	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	1	..
10	30·031	56·0	55·3	0·7	55·0	1·0	..	..	Calm	..	..	..	Calm	..	..	..	..	1	Transit
12	30·034	55·7	54·8	0·9	..	..	..	..	..	..	..	..	Calm	..	..	..	..	10	..
14	30·018	55·5	54·7	0·8	..	..	..	..	..	..	..	..	Calm	..	..	..	..	10	..
16	30·004	55·5	54·8	0·7	53·5	2·0	..	..	..	..	..	..	WSW	¼−	..	..	..	10	..
18	29·996	55·2	54·8	0·4	..	..	..	..	..	..	..	..	Calm	..	..	..	..	10	..

BAROMETER.

Oct. 3d and 4d. The least difference of the mean daily heights for consecutive days in the month occurred; the same difference took place between Oct. 30d and 31d.

Oct. 4d. The daily range was the least in the month.

DRY THERMOMETER.

Oct. 2d. 0h. The reading was lower than that of the Wet Thermometer.

TEMPERATURE OF THE DEW POINT.

Oct 1d. 22h, 3d. 4h, and 6d. 4h. The reading at these times was the same, and it is the highest in the month.

GENERAL REMARKS.	Observer.
For a short time after the last observation the cirro-cumulus cloud covered nearly the whole of the sky, being then of a grey colour; scud was passing quickly under it from the W.S.W.: at present the sky is almost covered with scud, which is moving rapidly from the W.S.W.	G
Cirro-stratus and scud.	J H
Cirro-stratus and scud: rain falling: a violent squall of rain at $23^h.\ 35^m$: at $0^h.\ 5^m$ the rain had nearly ceased.	P
Cirro-stratus: breaks have, within the last few minutes, appeared in the zenith: the cirro-stratus seems generally breaking up: cumuli forming in the horizon in the S.W.: the Sun is shining: there have been frequent squalls of rain since the last observation.	P
Cirro-stratus and scud, with occasional breaks, exhibiting a deep blue sky.	G
The zenith, and for 20° round it, are clear, also a good part of the northern sky is clear: a great vapour in the S., and stratus clouds near the horizon.	
With the exception of a few white clouds about the place of the Moon it is cloudless: dew is being deposited, and vapour is prevalent.	G
Cirro-stratus and scud.	J H
Overcast from scud, which has been gradually coming up from the S.W. since $11^h.\ 35^m$.	P
The stars are shining only near the zenith.	
Overcast: cirro-stratus.	
,, ,, a bright speck of light in the eastern horizon.	
The cirro-stratus gradually dispersed after the last observation: the prevailing cloud was then beautifully formed cirro-cumuli and cirri: within a few minutes of the observation the clouds again increased, and now nearly cover the sky.	P
Overcast: cirro-stratus.	D
Overcast: cirro-stratus.	
Cirro-stratus and scud.	D
,,	P
Overcast: cirro-stratus and scud: very gloomy: rain has just commenced falling: clouds have, for the most part, prevailed since the last observation.	
The sky wholly covered with black scud: several extensive breaks were visible about $7^h.\ 40^m$ in different directions: the rain mentioned in the last observation continued but a few minutes; after which breaks appeared in every direction.	
Dark scud, as before, covers the sky, except in and around the zenith: the sky has been for the most part overcast since the preceding observation.	P
Since the last observation the sky has been mostly covered with cirro-stratus and scud; the clouds however disappeared about $11^h.\ 20^m$; at present it is cloudless: a faint corona is around the Moon; ten minutes after this observation the sky became overcast.	D
A few stars are shining in the N. near the horizon; the sky is otherwise overcast.	
Cloudless: the stars look dim and watery.	
Cirro-stratus and vapour: the zenith is the only clear part of the sky.	
Overcast: cirro-stratus: at $20^h.\ 15^m$ the greater part of the clouds had disappeared.	D
Scud and cumuli: hazy.	J H
Cirro-stratus and scud: hazy.	
,,	J H
Overcast: cirro-stratus.	D
,, ,,	
A few clouds near the S. horizon; otherwise clear: hazy.	
Clouds near the S. horizon: hazy.	D
Overcast: cirro-stratus and scud: the clouds have come up from the W. since $10^h.\ 30^m$.	J H
,, ,,	
,, ,,	
Cirro-stratus and scud.	

MINIMUM THERMOMETER.

Oct. $3^d.\ 22^h$. The reading was higher than those of the Dry Thermometer at 16^h and 18^h.

RAIN.

Oct. $1^d.\ 22^h$. The increase in the reading of rain-gauge No. 3 is probably by deposition of moisture, but there is no evidence of it.

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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°		from lbs. to lbs.		in.			in.	in.	in.		
Oct. 4. 20	29·988	56·3	55·5	0·8	..	..	..	..	....	..	...	..	WSW	¼	..	..	..	8	..
22	29·984	61·0	56·0	5·0	53·5	7·5	68·4 54·3	86·5 47·0	...	..	WSW	0·73	SSW	¼	10·69	0·00	16·480	1	..
Oct. 5. 0	29·966	66·2	59·8	6·4	..	..	..	..	...	..	...	..	S by W	¼	..	..	..	3	..
2	29·936	67·0	60·6	6·4	..	..	..	..	...	..	...	..	S by W	¼–	..	..	..	9¾	..
4	29·900	65·2	59·7	5·5	57·0	8·2	..	..	...	..	...	..	S by E	¼	..	..	..	9	..
6	29·870	60·3	57·6	2·7	..	..	..	..	...	..	...	..	S by W	¼–	..	..	..	3	..
8	29·867	55·9	55·1	0·8	..	..	..	..	...	..	S	0·72	S	¼–	..	..	..	0	..
10	29·841	53·5	53·1	0·4	52·0	1·5	..	..	...	..	...	..	Calm	..	..	..	..	0	Transit
12	29·778	55·2	54·9	0·3	..	..	..	..	...	..	...	..	S by W	¼–	..	..	..	10	..
14	29·724	54·5	54·5	0·0	..	..	..	..	...	..	SSW	0·38	Calm	..	..	..	..	8	..
16	29·687	55·4	55·5	–0·1	55·0	0·4	..	..	...	..	...	..	Calm	..	..	..	..	10	..
18	29·637	58·0	58·0	0·0	..	..	..	..	...	..	...	..	SSW	¼	..	..	..	10	..
20	29·639	59·0	58·7	0·3	..	..	..	..	...	..	...	..	SSW	¼+	..	..	..	10	In Equator
22	29·635	61·0	59·1	1·9	58·0	3·0	68·7 51·3	73·2 47·0	...	..	SW	0·84	SSW	½	10·69	0·00	16·480	10	..
Oct. 6. 0	29·627	62·9	59·8	3·1	..	..	..	..	SW	0 to 1	...	..	SW	¾	..	..	..	10	..
2	29·597	61·3	60·4	0·9	..	..	..	..	SW	½ steady	...	..	SW	½	..	..	..	10	..
4	29·560	63·0	61·5	1·5	60·0	3·0	..	..	SW	1 to 3½	...	..	SSW	¾	..	..	..	10	..
6	29·573	62·0	60·4	1·6	..	..	..	..	SW	½ to 1	...	..	SSW	¾	..	..	..	10	..
8	29·523	60·8	58·8	2·0	..	..	..	..	SW	½ to 2½	...	..	SW	½	..	..	..	9¾	..
10	29·493	60·5	58·6	1·9	58·0	2·5	..	..	SW	½ to 2	...	..	SW	1	..	..	..	10	..
12	29·413	59·7	58·5	1·2	..	..	..	..	SSW	½ to 3	...	..	SSW	1½	..	..	..	10	Transit
14	29·413	58·9	58·7	0·2	..	..	..	..	WSW	½ to 1½	SW	3·68	SW	¾	..	..	..	10	..
16	29·411	57·6	57·5	0·1	57·5	0·1	..	..	WSW	1 to 2	...	..	WSW	1	..	..	..	9	..
18	29·429	56·0	55·6	0·4	..	..	..	..	WSW	0 to ½	...	..	WSW	½	..	..	..	1	..
20	29·463	55·8	54·9	0·9	..	..	..	..	SW	½ steady	...	..	SW	½	..	..	..	7	..
22	29·483	60·6	58·0	2·6	56·0	4·6	63·6 56·9	69·0 52·2	SW	½ to 3	W	3·00	WSW	¾	10·87	0·31	16·790	9	..
Oct. 7. 0	29·501	63·1	58·5	4 6	..	..	..	..	WSW	1 to 4	...	..	WSW	1	..	..	..	5	..
2	29·497	60·9	57·5	3·4	..	..	..	..	WSW	0 to 3	WSW	2·20	WSW	1½	..	..	..	10	..
4	29·472	63·5	58·0	5·5	56·0	7·5	..	..	WSW	1 to 2½	...	..	SW	¾	..	..	..	5	..
6	29·478	58·7	55·1	3·6	..	..	..	..	SW	..	...	..	SW	½	..	..	..	9	..
8	29·447	59·8	56·6	3·2	..	..	..	..	SW	0 to 1	...	..	SW	½	..	..	..	9½	..
10	29·399	58·2	56·8	1·4	56·0	2·2	..	..	SSW	0 to 1	...	..	SW	¾	..	..	..	10	..
12	29·342	60·3	59·1	1·2	..	..	..	..	SW	2½ to 3½	...	..	SW	2—	..	..	..	10	Transit
14	..	..	..	..	..	..	..	..	SSW	½ to 5	SW	2·73	...	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	WSW	4 to 8	...	..	...	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	WSW	3 to 4	...	..	...	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	WSW	3 to 5	...	..	...	..	..	..	..	..	..
22	29·318	60·7	56·3	4·4	..	..	66·2 58·0	83·5 55·2	WSW	4½ to 7	WSW	3·29	WSW	2	10·93	0·11	16·865	10	..
Oct. 8. 0	..	..	..	..	..	..	..	..	W	2 to 7	...	..	...	..	..	..	..	..	Full

DRY THERMOMETER.

Oct. 5d. 2h. The reading was the highest in the month.

Oct. 5d. 16h. The reading was lower than that of the Wet Thermometer.

Oct. 6d. The mean daily temperature was the highest in the month.

TEMPERATURE OF THE DEW POINT.

Oct. 6d. The mean daily value was the highest in the month.

ELASTIC FORCE OF VAPOUR AND WEIGHT OF VAPOUR IN A CUBIC FOOT OF AIR.

Oct. 6d. The mean daily values were the greatest in the month.

GENERAL REMARKS.	Observer.
Cirro-stratus and scud.	J H
Scud and cumuli East of the meridian, moving from the N.W.: very hazy in the W. and N.W: in the South the horizon is sharp and well defined.	P
Cumuli and scud in every direction: hazy in the West and N.W.	
The sky is nearly covered with closely-packed scud, which seems to be assuming the character of the cirro-stratus.	P
Scud and cirro-stratus generally prevalent.	J H
Light fleecy clouds and scud.	
Cloudless.	
,, a very fine evening: at $9^h.\ 30^m$ light clouds coming up from the South.	J H
Overcast: dark scud moving rapidly from the S. S.W: it is nearly calm, but light airs are springing up occasionally: the clouds appeared above the horizon at about $10^h.\ 50^m$, and at $11^h.\ 20^m$ had nearly covered the sky; they first appeared white, but about $11^h.\ 45^m$ the sky became black, as it is at present.	P
Scud in every direction, but much lighter and thinner: the breaks are in the West and East, and of small extent.	
Overcast: cirro-stratus and scud.	
,, ,, [above them.	
,, ,, the clouds have broken more than once since the last observation, then revealing fine cirri	P
Overcast: cirro-stratus.	D
Overcast: cirro-stratus.	
,, ,, rain falling.	D
,, scud and a few dark cumuli: a few very small portions of blue sky are at this moment visible in the zenith, but not of sufficient extent to affect the notation: the wind in gusts to 1, and apparently increasing.	P
Overcast: dark, low scud covering the sky: it has been partially clear since the last observation, and then cirri and cirro-cumuli were visible above the scud.	
A few small breaks West of the zenith, and the clouds are frequently broken in the neighbourhood of the Moon: the wind in gusts to $\frac{3}{4}$ or 1.	
Overcast: dark scud: breaks are frequent, though not of great extent: the wind increasing.	P
,, cirro-stratus and scud: the appearance of the sky is very stormy: a little rain has fallen since the last observation.	D
,, rain falling.	
The sky is nearly covered with cirro-strati and nimbi: there are some breaks South of the zenith: the rain has just ceased, it having fallen almost without intermission since the previous observation.	
A bank of cirro-stratus near the horizon in the South; with that exception every part of the sky is clear: the wind in gusts.	
Cirro-stratus and scud: a few cirri and cirro-cumuli are in, and to the West of, the zenith.	D
,,	J H
Large white cumuli and scud: gusts of wind.	
Overcast: cirro-stratus and scud: passing showers of rain.	J H
Cumuli, cumulo-strati, and scud.	D
Cirro-stratus and scud.	
,,	
,, rain falling.	D
,, small rain: squally.	J H
Cirro-stratus and scud: gusts of wind.	

ADDITIONAL WEIGHT OF VAPOUR REQUIRED FOR COMPLETE SATURATION OF A CUBIC FOOT OF AIR.

Oct. 5^d. The mean daily value was the greatest in the month.

MINIMUM THERMOMETER.

Oct. $6^d.\ 22^h$. The reading was higher than those of the Dry Thermometer at 18^h and 20^h.

ANEMOMETER.

Oct. $4^d.\ 22^h$. The weight of the clock was found down; it had not been raised at the time of changing the sheet Oct. $3^d.\ 22^h$.

Oct. $5^d.\ 22^h$. It was found that the direction of the wind as registered was wrong between Oct. $4^d.\ 22^h$ and Oct. $5^d.\ 22^h$. Mr. Glaisher examined every part of the machinery, and he found that the links of the chain were off the spikes on the clock-barrel; he set them on again, and started the instrument before $6^d.\ 0^h$.

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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	By Estimation. Direction.	Force 0—6.	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. 8. 2	..	..	..	..	..	..	..	..	W	2 to 4½	..	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	W by S	1 to 4½	WNW	1·98	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	WSW	0 to 1½	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	WSW	0 to 1	WSW	1·38	..	..	..	..	..	..	Transit
14	29·516	49·5	49·3	0·2	..	..	..	..	Calm	..	WSW	0·42	WNW	¾	..	..	..	10	..
16	29·423	48·7	48·7	0·0	48·0	0·7	..	..	Calm	..	SW	0·30	WNW	¾	..	..	..	10	..
18	29·276	49·2	49·2	0·0	..	..	..	..	NE	..	ESE	0·70	W by N	½	..	..	..	10	..
20	29·178	55·3	55·2	0·1	..	..	..	..	SW	..	..	..	W by N	¾	..	..	..	10	..
22	29·221	48·5	48·2	0·3	48·0	0·5	61·3 48·5	69·0 47·6	N	½ to 3½	NNE	0·30	N	½	11·17	0·37	17·200	10	..
Oct. 9. 0	29·352	50·0	47·9	2·1	..	..	..	..	N by W	..	N	0·40	N	¼	..	..	..	10	..
2	29·418	49·0	47·0	2·0	.	..	..	..	W by N	..	..	..	WNW	½	..	..	..	10	..
4	29·424	50·7	48·0	2·7	45·0	5·7	..	..	W	..	..	..	W	¾	..	..	..	9	Apogee
6	29·453	48·5	47·0	1·5	..	..	..	..	Calm	..	..	..	W	½	..	..	..	8	..
8	29·515	49·0	47·0	2·0	..	..	..	..	NW	..	..	..	W	½	..	..	..	8	..
10	29·581	45·5	45·0	0·5	44·5	1·0	..	..	Calm	..	WNW	0·93	W by N	¼	..	..	..	0	..
12	29·663	44·0	43·3	0·7	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
14	29·727	42·3	42·0	0·3	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	Transit
16	29·776	40·1	40·0	0·1	39·0	1·1	..	..	Calm	..	W	0·67	Calm	..	..	..	..	0	..
18	29·793	39·0	39·0	0·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	3	..
20	29·810	39·7	39·5	0·2	..	..	..	..	Calm	..	..	..	SW	¼	..	..	..	1	..
22	29·812	46·8	46·0	0·8	45·0	1·8	51·6 39·1	57·0 33·2	Calm	..	SW	0·43	SW	¼	11·17	0·01	17·225	6	..
Oct. 10. 0	29·792	52·6	50·2	2·4	..	..	..	..	WSW	..	..	..	SW	¼	..	..	..	9½	..
2	29·759	55·6	51·1	4·5	..	..	..	..	WSW	..	WSW	0·96	SW	½	..	..	..	10	..
4	29·696	54·1	51·1	3·0	52·0	2·1	..	..	Calm	..	..	..	SW	¼	..	..	..	10	..
6	29·669	52·3	49·6	2·7	..	..	..	..	Calm	..	..	..	SW	¼	..	..	..	10	..
8	29·612	50·8	48·2	2·6	..	..	..	..	Calm	..	..	..	SW	¼	..	..	..	10	..
10	29·542	48·2	47·7	0·5	47·0	1·2	..	..	Calm	..	SW	0·54	SW	¼	..	..	..	10	..
12	29·433	47·6	47·4	0·2	..	..	..	..	Calm	..	S	0·27	Calm	..	..	..	..	10	..
14	29·346	47·0	46·8	0·2	..	..	..	..	E	..	..	..	E	¼	..	..	..	10	Transit
16	29·226	48·2	48·1	0·1	48·0	0·2	..	..	E	..	SE	0·53	E	¼	..	..	..	10	..
18	29·139	51·2	51·1	0·1	..	..	..	..	Calm	..	..	..	SW	½	..	..	..	10	..
20	29·117	58·8	57·0	1·8	..	..	..	..	WSW	3½ to 4	..	..	SW	1+	..	..	..	10	..
22	29·099	61·6	59·4	2·2	56·0	5·6	61·4 46·8	68·8 46·2	WSW	3½ to 4	WSW	1·53	W by S	1+	11·47	0·42	17·570	9	..
Oct. 11. 0	29·070	59·7	59·8	0·1	..	..	..	..	SW	0 to 1½	..	..	SW	¾	..	.	..	10	..
2	29·051	58·5	57·8	0·7	..	..	..	..	SW	0 to ½	SW	1·34	SW	½	..	..	..	10	..
4	29·012	58·1	57·6	0·5	57·0	1·1	..	..	SW	..	..	..	WSW	¼	..	..	..	10	..
6	29·025	54·9	53·8	1·1	..	..	..	..	WSW	0 to 1	WSW	0·15	WSW	¼	..	..	..	10	..
8	29·046	52·7	51·1	1·6	..	..	..	..	SW	0 to ½	..	..	WSW	¼	..	..	..	10	..
10	29·023	51·8	50·0	1·8	49·0	2·8	..	..	SW	.	..	..	SW	½	..	..	..	10	..
12	29·001	50·7	48·2	2·5	..	..	..	..	SW	0 to 1	SW	2·00	SW	¾	..	..	..	10	..
14	28·991	48·1	45·3	2·8	..	..	..	..	WSW	½ to 1	..	..	SW	¾	..	..	..	10	Transit
16	28·978	45·6	43·1	2·5	40·0	5·6	..	..	WSW	..	..	..	SW	¾	..	..	..	9½	..
18	28·976	43·0	40·8	2·2	..	..	..	..	WSW	..	WSW	3·92	SW	¾	..	..	..	4	..

BAROMETER.

From 8d. 18h to 20h the decrease in the reading was 0in·1: the reading then increased, and between 22h and 24h the increase was 0in·131; in consequence the readings were taken at Oct. 9d. 0h. 27m, at 0h. 38m, at 0h. 53m, and at 1h. 25m; and they were respectively 29in·372, 29in·374, 29in·384, and 29in·396.

Oct. 10d and 11d. The greatest difference of the mean daily heights for consecutive days in the month occurred. During the month of October the height was very variable, and the differences of the mean daily heights for consecutive days were so often considerable that they are not mentioned in the foot-notes; they will be found in the Abstracts. The month of October in this respect exhibits a great contrast to that of September. See the foot-note to Sep. 26d and 27d.

DRY THERMOMETER.

Oct. 9d. The daily range was the least in the month.

Oct. 10d. 14h. Nocturnal rising temperature.

Oct. 11d and 12d. The greatest difference of the mean daily temperatures for consecutive days in the year occurred. The instances of considerable differences between the mean daily temperature of consecutive days were frequent from this time to the end of the year, and they are not mentioned in the foot-notes; they will be found in the Abstracts.

Oct. 11d. 0h. The reading was lower than that of the Wet Thermometer.

GENERAL REMARKS.	Observer.
Overcast: rain falling.	J H
,, ,,	
,, ,,	
,, ,, during the night the observer has noted the direction of the wind from the motion of the clouds.	J H
Overcast: cirro-stratus and scud: heavy rain has fallen since the last observation.	D
Overcast: cirro-stratus and scud: the clouds are occasionally broken in various directions.	P
,, ,, squally: rain has just begun to fall.	P
Cirro-stratus and scud.	J H
,,	
Fleecy clouds and scud.	
Cloudless, but very hazy.	J H
,, misty.	P
,, ,,	
Cirri in every direction.	
Cirro-cumuli S.E. of the zenith, and a few cirri here and there: the clouds have, at times, since the last observation, been somewhat numerous.	P
Cirri, cirro-stratus, and scud.	D
Cirro-stratus and scud: at $0^h.20^m$ a solar halo was visible, the distance of the center of the Sun to the center of the ring was 25°.	
Overcast: the sky is covered chiefly with dense cumulo-strati and scud: the solar halo remained visible until $1^h.40^m$; it was slightly tinged with the prismatic colours.	D
Overcast: cirro-stratus.	P
,, an impervious cirro-stratus.	J H
,, a light rain falling.	D
,, ,,	P
,, steady rain falling.	D
,, the rain has been falling without intermission since the last observation.	
,, rain falling.	
,, ,,	
,, the rain ceased at $19^h.10^m$: gusts of wind to $1\frac{1}{2}$.	D
Scud and cirro-stratus: the scud passing rapidly over.	J H
Overcast: cirro-stratus: rain falling heavily.	
,, ,, rain falling slightly.	J H
,, cirro-stratus and scud: rain falling.	D
,, ,, the rain ceased at $4^h.40^m$.	D
,, ,, rain falling.	J H
,, ,, no rain falling.	D
,, ,, ,, the wind blowing in gusts.	J H
,, rain falling slightly.	
Nearly overcast.	
Fleecy clouds and scud.	

TEMPERATURE OF THE DEW POINT.

Oct. 11^d and 12^d. The greatest difference of the mean daily value for consecutive days in the year occurred: in consequence of large differences occurring frequently after this, they are not noted in the foot-notes; they will be found in the Abstracts.

WEIGHT OF A CUBIC FOOT OF AIR.

Oct. 10^d and 11^d. The greatest difference of the mean daily values for consecutive days in the month occurred. Oct. 11^d. The mean daily value was the least in [the month.

MAXIMUM THERMOMETER.

Oct. $10^d.22^h$. The reading was that of the temperature at the time; it was, however, lower than that of the Dry Thermometer.

MINIMUM THERMOMETER.

Oct. $9^d.22^h$. The reading was higher than that of the Dry Thermometer at 18^h.

RAIN.

Oct. $9^d.22^h$. The increase in the reading of rain-gauge No. 3 was 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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	By Estimation. Direction.	Force 0—6.	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. 11. 20	28·978	43·5	40·8	2·7	..	..	..	..	WSW	1 to 2	..	..	SW	1	..	..	..	2	..
22	29·025	45·9	43·2	2·7	41·5	4·4	63·4 / 42·3	64·5 / 35·9	WSW	4 to 6	W	0·38	WSW	2	11·64	0·30	17·805	10	..
Oct. 12. 0	29·149	41·6	41·4	0·2	..	..	..	..	WNW	3 to 6	..	..	W	2	..	..	..	10	..
2	29·256	42·7	41·6	1·1	..	..	..	..	W	½ to 1	..	..	W	¾	..	..	..	10	..
4	29·313	46·1	44·5	1·6	43·0	3·1	..	..	WNW	..	..	..	WNW	½	..	..	..	10	..
6	29·378	46·8	43·1	3·7	..	..	..	..	WNW	..	WNW	1·10	WNW	½	..	..	..	10	..
8	29·417	43·0	41·1	1·9	..	..	..	..	Calm	..	..	..	W	¼	..	..	..	5	..
10	29·437	40·6	39·5	1·1	37·0	3·6	..	..	Calm	..	W	0·65	W	¼	..	..	..	0	..
12	29·441	37·1	36·5	0·6	..	..	..	..	Calm	..	..	..	W	¼	..	..	..	0	..
14	29·440	36·2	35·1	1·1	..	..	..	..	Calm	..	WNW	1·11	W	¾	..	..	..	0	..
16	29·432	35·7	34·8	0·9	34·0	1·7	..	..	WSW	..	..	..	W	¾	..	..	..	1	Transit
18	29·470	38·0	37·2	0·8	..	..	..	..	WSW	..	WSW	0·24	W	½	..	..	..	10	..
20	29·532	37·8	36·5	1·3	..	..	..	..	NW	..	..	..	NW	½	..	..	..	5	..
22	29·584	38·8	36·0	2·8	33·0	5·8	47·2 / 34·9	48·2 / 28·5	Calm	..	WNW	0·31	WNW	¼	11·65	0·03	17·850	0	..
Oct. 13. 0	29·602	44·8	39·6	5·2	..	..	..	..	W by N	0 to ½	..	..	W by N	¼	..	..	..	0	..
2	29·603	46·7	40·6	6·1	..	..	..	..	W	½ to 1½	..	..	W	½	..	..	..	1	..
4	29·590	47·2	42·0	5·2	34·0	13·2	..	..	W	0 to ½	..	..	W	1	..	..	..	8	..
6	29·585	43·4	39·8	3·6	..	..	..	..	W by S	..	W	1·33	W	1	..	..	..	3	..
8	29·572	42·1	39·6	2·5	..	..	..	..	W by S	..	..	..	W	1	..	..	..	10	Greatest declination N.
10	29·560	41·0	38·8	2·2	37·0	4·0	..	..	W by S	..	WSW	1·63	SW	1	..	..	..	7	..
12	29·534	41·1	39·4	1·7	..	..	..	..	Calm	..	..	..	W	¼	..	..	..	8	..
14	29·530	41·5	40·0	1·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
16	29·541	41·5	40·2	1·3	39·5	2·0	..	..	Calm	..	..	..	Calm	..	..	..	..	10	Transit
18	29·559	39·0	37·7	1·3	..	..	..	..	NW	..	WNW	0·49	NW	¼	..	..	..	9	..
20	29·625	37·2	36·4	0·8	..	..	..	..	Calm	..	..	..	WNW	¼	..	..	..	0	..
22	29·653	40·7	38·0	2·7	36·0	4·7	48·4 / 36·7	68·2 / 28·6	NNW	..	NW	0·49	NW	¼	11·65	0·00	17·850	3	..
Oct. 14. 0	29·672	45·5	41·2	4·3	..	..	..	..	N by W	..	..	..	NW	¼	..	..	..	0	..
2	29·683	47·8	43·0	4·8	..	..	..	..	NW	..	..	..	NW	¼	..	..	..	4	..
4	29·688	48·6	43·7	4·9	38·0	10·6	..	..	NNW	..	..	..	NNW	¼	..	..	..	7	..
6	29·704	44·6	41·2	3·4	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	9	..
8	29·692	39·4	38·2	1·2	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
10	29·686	36·9	36·2	0·7	35·5	1·4	..	..	Calm	..	..	..	Calm	..	..	..	..	2	..
12	29·681	36·5	35·7	0·8	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	9½	..
14	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	Transit
20	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
22	29·582	40·3	38·8	1·5	37·0	3·3	49·1 / 31·0	66·8 / 20·7	Calm	..	WNW	0·58	Calm	..	11·65	0·00	17·850	0	..

BAROMETER.

Oct. 12d. 6h. This slight fall of 0in·008 in the reading occurred just immediately preceding the observation: the height had been remarkably steady during the preceding part of the night: immediately after the observation the readings increased, as did also that of the thermometer, and rain fell shortly afterwards.

TEMPERATURE OF THE DEW POINT.

Oct. 13d. 4h. The difference between it and the temperature of the air was the greatest between Sep. 29d and the end of the year.

GENERAL REMARKS.	Observer.
Fleecy clouds and scud: strong gusts of wind.	J H
Overcast: cirro-stratus and scud.	D
Overcast: cirro-stratus and scud: rain falling: strong gusts of wind.	
,, ,, a thin rain falling.	D
,, ,, no rain falling.	J H
Cirro-stratus and scud.	J H
Cirro-stratus and vapour: the stars are shining over a large portion of the sky, but they look very dim.	D
Cloudless: very hazy round the horizon.	J H
,, a small corona round the Moon apparently on a clear sky: dew is just forming in very minute drops on the pointed end of long grass.	G
Cloudless: the grass is now covered with frozen minute dew drops: a thermometer placed on raw wool on long grass reads 24°·0; that on long grass 29°·0; and that in the focus of the parabolic reflector 31°·0.	
A few lines of cloud near the horizon in the N., with that exception it is cloudless: the Moon has been shining very brilliantly.	
A little rain has fallen since the last observation, and the sky is quite covered with cirro-stratus and scud.	
The sky has been nearly clear and cloudy alternately since the last observation: at the times when partially cloudy there was a rich corona round the Moon, about 5° in diameter, and exhibiting the prismatic colours: at present loose coloured cumuli are prevalent, and moving quickly from the N.W.	G
Cloudless, but very hazy.	D
Cloudless, but very hazy.	
A few cumuli here and there.	D
Cumuli and scud.	G
There have been some fine specimens of coloured cirro-cumuli since the last observation: the sunset was red and all the clouds about the N.W. were deeply coloured with orange: at present a few strati are near the horizon in the S. and W., and a thin kind of cloud is also near the zenith.	
Very shortly after 6^h many slate-coloured clouds of the stratus character collected, and by 7^h the sky was covered with a dark mass of clouds which still continues.	
The sky has been alternately clear and cloudy since the last observation, it is now generally covered with a loose scud.	G
The sky is nearly covered with fleecy clouds: the clouds near the Moon are slightly tinged with the prismatic colours: since the last observation, the amount of cloud has been continually varying.	D
Overcast: cirro-stratus.	
,, ,,	
Cirro-stratus and scud. [has continued clear up to the present time.	
The clouds very nearly cleared away between $18^h.\ 30^m$ and $18^h.\ 40^m$, and soon after the latter time the sky became quite cloudless; it	D
Light clouds: hazy.	J H
Cloudless: hazy.	
Light cumuli: hazy.	J H
Cumuli, cirro-strati, and fleecy clouds: the sky E. of the zenith is the part most free of cloud.	D
Very thin woolly kind of clouds in and around the zenith, the rest of the sky is covered with cirro-stratus: hazy.	
Cloudless: heavy vapour: in the lower parts of the Park there is a slight fog: a thermometer placed on raw wool on long grass now	
Heavy vapour: the larger stars are shining, but the others are invisible. [reads 28°·7.	D
Nearly overcast: cirro-stratus and scud.	J H
Cloudless: very hazy.	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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	By Estimation. Direction.	Force 0—6.	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. 15. 0	..	..	..	..	..	..	..	..	Calm	..	...	..	...	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	Calm	..	...	..	...	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	Calm	..	...	..	...	..	..	..	..	..	..
6	29·551	41·2	39·2	2·0	..	..	..	..	Calm	..	...	..	Calm	..	..	..	..	2	..
8	..	..	..	..	..	..	..	..	Calm	..	...	..	...	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	..	...	..	...	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	..	...	..	...	..	..	..	..	..	..
14	29·555	31·6	31·5	0·1	..	..	..	..	Calm	..	...	..	Calm	..	..	..	..	10	..
16	29·547	29·8	29·5	0·3	27·5	2·3	..	..	Calm	..	...	..	Calm	..	..	..	..	0	..
18	29·550	30·5	31·0	−0·5	..	..	..	..	Calm	..	...	..	Calm	..	..	..	..	0	Transit
20	29·558	32·0	31·5	0·5	..	..	..	..	Calm	..	...	..	Calm	..	..	..	..	6	..
22	29·575	36·6	35·5	1·1	34·0	2·6	47·2 29·7	68·7 19·4	Calm	..	N	0·02	Calm	..	11·65	0·00	17·860	3	..
Oct. 16. 0	29·567	42·0	37·6	4·4	..	..	..	..	NNW	..	...	..	N by W	¼	..	..	..	0	..
2	29·554	43·4	38·0	5·4	..	..	..	..	NW	..	...	..	N by W	¼	..	..	..	0	3rd Qr.
4	29·556	42·8	37·5	5·3	34·0	8·8	..	..	NW	..	...	..	NW	¼	..	..	..	3	..
6	29·561	38·4	35·7	2·7	..	..	..	..	Calm	..	WNW	0·87	WNW	¼	..	..	..	0	..
8	29·551	35·0	33·1	1·9	..	..	..	..	Calm	..	...	..	WNW	½	..	..	..	0	..
10	29·531	33·7	32·0	1·7	30·0	3·7	..	..	Calm	..	SSW	0·38	WNW	¾	..	..	..	0	..
12	29·461	34·0	32·8	1·2	..	..	..	..	Calm	..	...	..	S	¼	..	..	..	2	..
14	29·379	36·5	34·0	2·5	..	..	.	..	Calm	..	S	0·91	S	½	..	..	..	10	..
16	29·269	40·2	39·5	0·7	39·0	1·2	..	..	SSE	..	SSE	1·04	Calm	..	..	..	..	10	..
18	29·196	39·0	38·8	0·2	..	..	..	..	Calm	..	...	..	SW	1	..	..	..	5	..
20	29·166	39·6	39·4	0·2	..	..	..	..	Calm	..	...	..	SW	½	..	..	..	5	Transit
22	29·159	42·9	41·6	1·3	41·0	1·9	42·6 32·3	60·1 23.7	SSW	0 to 2½	WSW	0·49	SW	½	11·82	0·20	18·070	7	..
Oct. 17. 0	29·143	43·8	41·6	2·2	..	..	..	..	SW	..	...	..	SW	½	..	..	..	10	..
2	29·131	45·5	43·1	2·4	..	..	..	..	Calm	..	WSW	0·40	WSW	¼	..	..	..	9	..
4	29·139	44·6	41·9	2·7	39·0	5·6	..	..	Calm	..	...	..	W	¼	..	..	..	10	..
6	29·187	42·0	40·2	1·8	..	..	..	..	N by W	..	...	..	N	¼	..	..	..	10	..
8	29·229	39·3	37·5	1·8	..	..	..	..	NNW	0 to ½	...	..	N	¼	..	..	..	5	..
10	29·264	38·1	37·0	1·1	36·0	2·1	..	..	WNW	½ to 1	NW	1·10	N	¾	..	..	..	10	..
12	29·328	38·5	37·8	0·7	..	..	..	..	NNW	1 to 4½	...	..	NNW	1	..	..	..	10	..
14	29·408	39·8	39·8	0·0	..	..	..	..	NNW	4 to 6	WNW	0·50	NNW	2	..	..	..	10	..
16	29·515	39·8	38·3	1·5	37·5	2·3	..	..	NNW	4 to 7	...	..	NNW	2½	..	..	..	10	..
18	29·628	38·7	37·0	1·7	..	..	..	..	NNW	2 to 5	N	0·48	NNW	2	..	..	..	6	..
20	29·692	37·6	35·2	2·4	..	..	..	..	NNW	3½ to 4	...	..	NNW	1½	..	..	..	0	Transit
22	29·776	40·0	36·7	3·3	34·2	5·8	45·4 36·5	59·8 31·9	NW	1 to 4	...	..	NW	1½	11·83	0·03	18·110	0	..
Oct. 18. 0	29·835	42·8	38·1	4·7	..	..	..	..	NNW	½ to 4½	...	..	NNW	2	..	..	..	2	..
2	29·863	44·3	37·4	6·9	..	..	..	..	NNW	½ to 1½	...	..	NNW	1	..	..	..	2	..
4	29·895	44·7	38·5	6·2	32·0	12·7	..	..	NW	1 to 3½	...	..	NW	1½	..	..	..	3	..
6	29·949	42·2	38·2	4·0	..	..	..	..	NW	..	...	..	NW	¾	..	..	..	1	..
8	30·011	37·8	35·9	1·9	..	..	..	..	NW	..	...	..	NW	¼	..	..	..	0	..
10	30·053	36·5	34·7	1·8	32·5	4·0	..	..	Calm	..	...	..	NW	¼	..	..	..	0	..

BAROMETER.
Oct. 16d. 12h. After this time the decrease in the readings was rapid. (See the Section of Extraordinary Observations.)
Oct. 18d. The daily range was the greatest in the month.

DRY THERMOMETER.
Oct. 15d. 18h. The reading was lower than that of the Wet Thermometer.
Oct. 16d. The mean daily temperature was the lowest in the month.
Oct. 18d. 2h. The difference between its reading and that of the Wet Thermometer was the greatest between September 29th and the end of the year.

TEMPERATURE OF THE DEW POINT.
Oct. 15d. 16h and 19d. 16h. The reading was the same, and it was the lowest from April 13d to November 8d. 22h.
Oct. 16d. The mean daily value was the lowest in the month.
Oct. 18d. The difference between its mean daily value and that of the air was the greatest in the month.

GENERAL REMARKS.	Observer.
Cirro-stratus and haze in the N.W. part of the sky; clear in every other direction: hazy: this has been a fine but cold day.	D
Overcast: cirro-stratus.	J H
Cloudless.	
,,	
Partially clouded: hazy.	J H
Light clouds and haze.	D
Cloudless: hazy.	
,, ,,	D
Light clouds: hazy.	J H
Cloudless.	
,,	
,, hazy.	J H
The sky is hazy, and lines of clouds are forming in the E., their direction being N. and S.: the temperature of the air at $11^h.40^m$ was 32° ·8; it has therefore risen 1° ·2 within the last twenty minutes.	G
The lines of clouds had extended at $12^h.40^m$ to the N., and they soon spread over the whole N. portion of the sky; and at $12^h.50^m$ every part of the sky was covered with a thin veil of cloud, which has since been becoming more dense: at present the sky is covered with one dense black cloud.	
A heavy rain falling.	
The rain has ceased: the clouds are much broken, and the Moon is shining: the clouds are of the cirro-stratus character, with scud, and the whole are passing quickly from the West.	
The sky is at present nearly wholly cloudy to the South; the horizon in the South, however, is very bright; the greater part of the N. is clear sky, and apparently free from haze.	G
Large masses of scud are now floating over from the S.W.: the appearance of the sky is very unsettled.	D
The sky is now covered with dense cirro-strati and nimbi.	
Cirro-stratus and scud: clear breaks are visible in different parts of the sky.	D
,, ,, ,,	G
,, [fell at about $6^h.40^m$.	
The zenith and its environs are free of cloud, but vapour is prevalent, and all around the horizon it is cloudy: a shower of rain	G
Overcast: small rain falling: the wind rising in gusts.	J H
,, ,, strong gusts of wind.	D
,, rain falling: a gale of wind: very strong gusts at intervals.	
,, no rain falling: the gale continues: gusts of wind to 3.	
Scud in large masses floating over rapidly. [gusts.	
The clouds cleared away soon after the last observation, and the sky has since remained cloudless: the wind still blows in strong	D
Cloudless: hazy.	J H
Vapour: hazy: strong gusts of wind.	
Vapour and light cirri: gusts of wind.	J H
A few cumuli in the zenith, and cumulo-strati near the horizon in the South and East.	D
Cirro-stratus near the horizon in the S. and S.W.; otherwise clear.	
Cloudless: hazy.	D
Hazy.	G

ELASTIC FORCE OF VAPOUR AND WEIGHT OF VAPOUR IN A CUBIC FOOT OF AIR.
Oct. 16^d. The mean daily values were the least in the month.
DEGREE OF HUMIDITY.
Oct. 18^d. The mean daily value was the least in the month.
MAXIMUM THERMOMETER.
Oct. $16^d.22^h$. The reading was lower than that of the Dry Thermometer at 2^h, 4^h, and 22^h.
PRESSURE OF THE WIND AS RECORDED BY THE ANEMOMETER IN POUNDS ON THE SQUARE FOOT.
Oct. 16^h. At $16^h.5^m$ a sudden pressure of 2lbs.; reduced to 1lb. at $16^h.14^m$; at $16^h.16^m$ it was 5lbs.; at $16^h.25^m$ it was 6lbs., and continued steadily at 6lbs. till $16^h.35^m$; at $16^h.37^m$ it was 4lbs.; at $16^h.45^m$ it was 5lbs.; the pressure gradually decreased to nothing by $17^h.25^m$.
RAIN.—Oct. $15^d.22^h$. The increase in the reading of rain-gauge No. 3 was by deposition of moisture.
WHEWELL'S ANEMOMETER.—Oct. $17^d.22^h$. It was found that the fans were fixed: the instrument was sent to Mr. Simms 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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	By Estimation. Direction.	Force 0—6	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. 18. 12	30·088	35·0	33·5	1·5	..	..	..	..	Calm	..	..	..	NW	¼	..	..	..	0	..
14	30·117	31·6	30·2	1·4	..	..	..	..	Calm	..	..	..	NW	¼	..	..	..	0	..
16	30·140	30·5	29·5	1·0	29·0	1·5	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
18	30·169	28·5	28·1	0·4	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
20	30·202	30·5	31·5	−1·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	Transit
							45·3	57·0											
22	30·228	35·0	31·9	3·1	29·2	5·8	28·5	17·5	Calm	..	..	..	Calm	..	11·83	0·00	18·110	0	..
Oct. 19. 0	30·253	44·6	40·7	3·9	..	..	..	..	N	..	..	..	N	¼	..	..	..	0	..
2	30·249	47·2	42·6	4·6	..	..	..	..	N	..	..	..	N	¼	..	..	..	0	..
4	30·259	46·8	42·5	4·3	35·0	11·8	..	..	N	..	..	..	N	¼	..	..	..	3	..
6	30·271	40·4	38·2	2·2	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	¼	..
8	30·277	37·0	36·0	1·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
10	30·285	33·5	32·7	0·8	32·0	1·5	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
12	30·264	31·3	29·9	1·4	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	4	..
14	30·267	30·2	29·7	0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	4	..
16	30·247	29·6	29·5	0·1	27·5	2·1	..	..	Calm	..	..	..	WSW	½	..	..	..	0	..
18	30·241	29·6	29·7	−0·1	..	..	..	..	Calm	..	..	..	WSW	¼	..	..	..	0	..
20	30·228	31·5	30·4	1·1	..	..	..	..	Calm	..	..	..	WSW	¼	..	..	..	0	..
							48·3	70·2											
22	30·221	38·2	35·2	3·0	37·5	0·7	28·9	23·9	Calm	..	..	..	WSW	¼	11·83	0·00	18·120	1	Transit
Oct. 20. 0	30·196	47·3	43·0	4·3	..	..	..	..	WSW	..	..	..	WSW	¼	..	..	..	1	..
2	30·153	50·3	45·5	4·8	..	..	..	..	SW	..	..	..	WSW	¼	..	..	..	3	..
4	30·122	50·0	46·0	4·0	42·0	8·0	..	..	SW	..	..	..	WSW	¼	..	..	..	8	In Equator
6	30·094	45·5	43·0	2·5	..	..	..	..	SSW	..	..	..	WSW	¼	..	..	..	10	..
8	30·058	45·8	43·7	2·1	..	..	..	..	Calm	..	..	..	WSW	¼	..	..	..	10	..
10	30·023	42·1	41·1	1·0	38·5	3·6	..	..	Calm	..	..	..	WSW	½	..	..	..	0	..
12	29·998	42·3	41·0	1·3	..	..	..	..	Calm	..	..	..	S	1	..	..	..	8	..
14	29·936	45·2	42·8	2·4	..	..	..	..	Calm	..	..	..	WSW	¾	..	..	..	10	..
16	29·883	44·2	43·6	0·6	43·0	1·2	..	..	Calm	..	..	..	WSW	¼	..	..	..	10	..
18	29·813	45·5	44·5	1·0	..	..	..	..	SSW	1½ to 4½	..	..	WSW	1½	..	..	..	10	..
20	29·783	46·3	46·0	0·3	..	..	..	..	S	1 to 2½	..	..	WSW	1	..	..	..	10	..
							51·4	70·5											
22	29·781	49·1	48·1	1·0	47·5	1·6	38·3	34·5	WSW	0 to ½	..	..	W	½	12·03	0·25	18·335	10	Transit
Oct. 21. 0	29·792	51·5	48·6	2·9	..	..	..	..	W	0 to ½	..	..	W	½	..	..	..	10	..
2	29·812	51·3	47·0	4·3	..	..	..	..	WNW	0 to ½	..	..	WNW	¼	..	..	..	10	..
4	29·834	50·5	46·5	4·0	42·0	8·5	..	..	W by N	..	..	..	WNW	½	..	..	..	5	..
6	29·872	48·0	45·5	2·5	..	..	..	..	Calm	..	..	..	WNW	¼	..	..	..	5	..
8	29·922	44·2	42·5	1·7	..	..	..	..	Calm	..	..	..	W	¼	..	..	..	0	..
10	29·952	42·1	40·9	1·2	39·6	2·5	..	..	Calm	..	..	..	W	¼	..	..	..	0	..
12	29·980	39·0	38·4	0·6	..	..	..	..	Calm	..	..	..	W	¼	..	..	..	0	..
14	29·985	38·5	38·0	0·5	..	..	..	..	Calm	..	..	..	SW	¼	..	..	..	0	..
16	29·976	38·0	37·3	0·7	36·5	1·5	..	..	Calm	..	..	..	Calm	..	..	..	..	7	..
18	29·972	40·0	38·7	1·3	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	9	..
20	29·995	41·0	39·8	1·2	..	..	..	..	Calm	..	..	..	SSW	½	..	..	..	5	..
							52·2	60·5											
22	29·999	47·2	45·0	2·2	43·0	4·2	37·5	31·2	SW	..	..	..	SSW	¼	12·03	0·00	18·335	9	..
Oct. 22. 0	29·990	55·7	51·7	4·0	..	..	..	..	SSW	1 constant	..	..	WSW	¾	..	..	..	7	Transit

BAROMETER.

Oct 19d. The mean daily height was the highest in the month: at 10h the reading was the highest in the month: at 12h the reading was 30in·364; it was altered conjecturally, and it is used as 30in·264 in the Abstracts.

DRY THERMOMETER.

Oct. 18d. 18h. The reading was the lowest in the month.

Oct. 18d. 20h. The reading was lower than that of the Wet Thermometer; there was no note to the observation.

Oct. 20d. The daily range was the greatest in the month.

Oct. 20d. 12h. Nocturnal rising temperature.

GENERAL REMARKS.	Observer.
Cloudless.	G
,,	D
,, several meteors have been seen since 13h.	D
,,	J H
,, quite calm: hoar frost.	M
,,	G
Cloudless.	D
,,	J H
Cumuli East of the meridian.	J H
A few strati near the N. and S. horizon.	D
A thick haze.	D
Cloudless, but a thick haze.	G
Vapour and haze	J H
,,	
Cloudless.	
,,	
,,	J H
Cirri, and light fleecy clouds.	D
A few cirri.	
Cumuli, cirri, and small fragments of scud.	D
Light clouds: hazy: cirro-stratus in the N.W.	J H
Cirro-stratus and scud.	
Overcast.	
Very hazy and misty: gusts of wind.	J H
The whole of the northern portion of the sky, and a great portion of the southern, is covered with a thin dark cloud: the wind is surging among the trees: the temperature is rising, and the barometer is falling.	G
Overcast: very dark: rain has just commenced falling.	
,, ,, the rain has been falling in occasional showers. [frequent gusts to 2.	
,, ,, the rain has been falling in occasional squalls: the wind has risen since the last observation, and it is in	
,, rain falling in squalls: wind blowing in gusts to 1½.	G
,, cirro-stratus and scud.	D
Overcast: cirro-stratus and scud.	
,, ,,	D
Fleecy clouds nearly equally distributed everywhere, above 20° high: hazy and thick near the horizon.	G
There is a good deal of haze towards the S.: the clouds are high and thin: the zenith is alternately clear and cloudy: the clouds	
Cloudless. [are principally scud.	G
,, hazy.	J H
,, ,, at 12h. 15m a splendid meteor appeared, a little N. of Rigel, and disappeared near β Tauri; its duration was three seconds, and it was accompanied with a fine train of yellow sparks.	D
Cloudless: hazy.	G
Thin dark clouds of the stratus character in the S. and W.: clouds are also in the N.	
Stratus, but the clouds are broken.	
Cirro-cumuli and cirri occupy the whole of the zenith and the S. portion of the sky: there are a few loose cumuli in the N.	
The sky is nearly covered with cumulo-strati.	
White cumulo-strati and scud are equally distributed over the sky: gusts of wind to 1.	

WEIGHT OF A CUBIC FOOT OF AIR.

Oct. 19d. The mean daily value was the greatest in the month.

RAIN.

Oct. 19d. 22h. The increase in the reading of rain-gauge No. 3 was by the deposition of moisture.

CLOUDS.

Oct. 19d. This day was the clearest in the month.

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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	By Estimation. Direction.	Force 0—6.	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.	n.	in.		
Oct. 22. 2	29·954	56·1	51·2	4·9	..	..	..	..	SW	1½ to 4	..	.	WSW	1½	..	..	..	8	.
4	29·918	55·1	51·4	3·7	49·5	5·6	..	..	SSW	0 to ½	..	..	WSW	1	..	..	..	9	..
6	29·899	52·0	49·0	3·0	..	..	..	..	SSW	..	..	..	SSW	½	..	..	..	10	..
8	29·881	50·1	48·0	2·1	..	..	..	..	S by W	..	..	..	SW	½	..	..	..	10	..
10	29·862	50·8	49·2	1·6	47·5	3·3	..	..	SSW	½ to 2	..	..	SW	1	..	..	..	10	..
12	29·815	52·8	51·5	1·3	..	..	..	..	SSW	0 to 3	..	..	SSW	1	..	..	..	10	..
14	29·809	51·6	51·7	−0·1	..	..	..	..	W	2 to 3	..	..	W	1+	..	..	..	10	..
16	29·824	49·5	49·0	0·5	48·5	1·0	..	..	WSW	0 to ½	..	..	SW	½	..	..	..	0	..
18	29·864	47·2	46·9	0·3	..	..	..	..	SW	..	..	..	SW	½	..	..	..	0	..
20	29·905	46·8	46·4	0·4	..	..	..	..	SW	..	..	..	SW	½	..	..	..	0	New
22	29·955	51·2	49·3	1·9	48·0	3·2	57·4 46·3	73·3 36·8	WSW	0 to ½	..	..	SW	1	12·06	0·10	18·440	½	Perigee ..
Oct. 23. 0	29·969	54·5	50·8	3·7	..	..	..	..	WSW	0 to ½	..	..	WSW	1	..	..	..	10	Transit
2	29·960	56·8	51·1	5·7	..	..	..	..	WSW	1 to 1½	..	..	WSW	1	..	..	..	6	..
4	29·956	55·1	49·8	5·3	47·0	8·1	..	..	WSW	½ to 3	..	..	W by S	¾	..	..	..	4	..
6	29·942	50·3	48·0	2·3	..	..	..	..	SW	..	..	..	SW	½	..	..	..	1	..
8	29·933	49·2	47·2	2·0	..	..	..	..	WSW	0 to ½	..	..	SW	½	..	..	..	½	..
10	29·932	50·6	48·2	2·4	46·5	4·1	..	..	WSW	½ steady	..	..	WSW	½+	..	..	..	10	..
12	29·894	47·6	46·5	1·1	..	..	..	..	SW	0 to ½	..	..	WSW	1—	..	..	..	2	..
14	29·890	49·0	47·6	1·4	..	..	..	..	WSW	1 to 2	..	..	WSW	1½	..	..	..	10	..
16	29·827	50·6	48·8	1·8	47·0	3·6	..	..	WSW	1 to 2½	WSW	4·28	WSW	1½	..	..	..	10	..
18	29·794	49·0	49·1	−0·1	..	..	..	..	WSW	½ to 1½	..	..	WSW	1½	..	..	..	10	..
20	29·784	51·5	49·6	1·9	..	..	..	..	WSW	1½ to 2½	..	..	WSW	1½	..	..	..	10	..
22	29·764	54·5	52·2	2·3	50·0	4·5	57·4 47·9	73·2 43·2	WSW	1½ to 2	W	2·30	SW	1	12·06	0·00	18·445	5	..
Oct. 24. 0	29·721	58·3	54·2	4·1	..	..	..	..	SW	1 to 3½	..	..	SW	1	..	..	..	9	..
2	29·672	58·4	54·3	4·1	..	..	..	..	SW	1½ to 3½	..	..	SW	1	..	..	..	10	Transit
4	29·615	56·3	52·5	3·8	50·0	6·3	..	..	SW	0 to 1½	..	..	SW	1	..	..	..	10	..
6	29·565	53·8	50·8	3·0	..	..	..	..	SW	1 to 3½	..	..	WSW	1	..	..	..	4	..
8	29·535	54·1	51·1	3·0	..	..	..	..	SSW	1 to 3	..	..	WSW	1½	..	..	..	10	..
10	29·469	53·9	51·5	2·4	50·0	3·9	..	..	SSW	1½ to 3½	..	..	WSW	1½	..	..	..	10	..
12	29·420	53·5	52·4	1·1	..	..	..	..	SSW	½ to 3½	..	..	SSW	2	..	..	..	10	..
14	29·377	52·2	50·0	2·2	..	..	..	..	SW	½ to 3	..	..	SSW	2	..	..	..	10	..
16	29·330	51·5	51·0	0·5	50·5	1·0	..	..	SSW	..	SW	6·55	SSW	1	..	..	..	10	..
18	29·313	47·2	47·2	0·0	..	..	..	..	N by W	..	..	..	Calm	..	..	..	..	10	..
20	29·310	45·7	45·7	0·0	..	..	..	..	Calm	..	..	..	NNE	¼	..	..	..	10	..
22	29·297	47·5	46·2	1·3	45·5	2·0	59·2 46·5	71·6 44·2	Calm	..	N	0·66	N	¼−	12·39	0·46	18·815	10	..
Oct. 25. 0	29·304	48·0	47·2	0·8	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
2	29·285	48·0	46·5	1·5	..	..	..	..	Calm	..	..	..	NNE	¼−	..	..	..	10	Transit
4	29·284	47·7	46·0	1·7	42·5	5·2	..	..	Calm	..	..	..	NE	¼	..	..	..	10	..
6	29·281	42·7	42·0	0·7	..	..	..	..	Calm	..	..	..	NE	very gentle	..	..	..	1	..
8	29·276	40·0	39·5	0·5	..	..	..	..	Calm	..	N	0·81	NE	¼	..	..	..	1	..
10	29·287	37·5	37·2	0·3	37·0	0·5	..	..	Calm	..	..	..	Calm	..	..	..	..	4	..
12	29·282	36·9	36·4	0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
14	29·292	34·8	34·6	0·2	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
16	29·301	32·6	32·4	0·2	32·5	0·1	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
18	29·320	32·1	31·6	0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..

BAROMETER.

Oct. 24d. 8h. The reading was 29in·365; it has been altered conjecturally.

DRY THERMOMETER.

Oct 22d. 14h. The reading was lower than that of the Wet Thermometer.

Oct. 23d. 12h. The reading was very high for the time of night, and for the time of year.

Oct. 23d. 18h. The reading was 59°·1; it is altered conjecturally to 49°·1; thus altered, it is 0°·1 lower than that of the Wet Thermometer, which circumstance is not confirmed by either the preceding or the following observations: the state of the sky and other circumstances being the same during the time of the three observations, it would appear that the reading should have been 51°; it is difficult to conceive how such an error could have been committed; and 49°·1 has been used in the Abstracts.

GENERAL REMARKS.	Observer.
Large cumuli are scattered in all directions: scud is passing over quickly from the W, but the upper cloud is cirrus.	G
Cirro-stratus and scud.	J H
,,	D
,, a few stars are faintly glimmering in the zenith.	D
,, rain falling: gusts of wind to $1\frac{1}{2}$, and sometimes 2.	G
Overcast: the sky is covered with one unbroken cloud: a thin rain falling.	D
,, heavy rain falling: strong gusts of wind.	
Cloudless: gusts of wind.	
,, ,,	
,, ,,	D
Vapour South of the zenith, and light cirri in the North.	J H
Cirro-stratus and scud.	
,, gusts of wind.	J H
Cumuli and scud: gusts of wind to 1+.	D
Cirro-stratus near the horizon in the N.W., and lines of cirri in the zenith.	
A few thin lines of cloud near the horizon in the South and North.	
Overcast: a dense cirro-stratus.	D
Cirro-stratus or vapour in the S.W. and N.W.	J H
Overcast.	
,,	
,, cirro-stratus: gusts of wind.	
,, ,, ,,	J H
Loose masses of scud and imperfectly-formed cumuli.	D
Cirro-stratus and scud: gusts of wind.	
,, the wind in gusts.	D
,, ,,	J H
,, ,,	
Overcast: cirro-stratus: very dark: gusts of wind.	
,, ,, strong gusts of wind.	J H
,, ,, gusts of wind to $2\frac{1}{2}$.	G
Every thing the same as at the last observation: the sky is very black, as though one dark nimbus covered the sky.	
Rain has been falling a short time: the wind has subsided a little: it is very dark.	
The rain has continued falling without intermission since 16^h: at $16^h.\ 25^m$ or 30^m the wind suddenly changed its direction from S. S.W. to N.; at once it blew for a short time with a force of $\frac{1}{2}$, but now there are only occasional light airs.	
The rain has continued to fall heavily since the last observation, and it still continues.	G
Overcast: cirro-stratus and scud.	D
Overcast: cirro-stratus and scud.	
,, ,,	D
Cirro-stratus and scud.	G
Within the last fifteen minutes nearly all the clouds have dispersed, and now only a few remain near the horizon in the North.	
A few attenuated clouds near the horizon in the South: a thick haze.	G
A thick haze and slight fog: the fog is very dense in the lower parts of the Park.	D
Cloudless: hazy: at $11^h.\ 17^m$ there was a vivid flash of lightning in the South.	
,, ,,	
,, ,, the ground is white with hoar frost.	
,, ,, white frost.	

MINIMUM THERMOMETER.

Oct. $24^d.\ 22^h$. The reading was higher than that of the Dry Thermometer at 20^h.

RAIN.

Oct. $23^d.\ 22^h$. The increase in the reading of rain-gauge No. 3 was by deposition of moisture.

WHEWELL'S ANEMOMETER.

Oct. $22^d.\ 22^h$. The instrument had been received from Mr. Simms after having been 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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	By Estimation. Direction.	Force 0—6	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. 25. 20	29·362	30·4	30·0	0·4	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
22	29·400	34·5	34·1	0·4	33·5	1·0	50·4 29·3	54·8 23·2	Calm	..	W	0·58	Calm	..	12·39	0·00	18·815	8	..
Oct. 26. 0	29·419	42·5	41·6	0·9	..	..	..	..	Calm	..	..	..	WSW	¼	..	..	..	5	..
2	29·424	46·3	42·5	3·8	..	..	..	..	W by S	..	..	..	WSW	½	..	..	..	2	Greatest declination S.
4	29·434	47·0	42·5	4·5	36·0	11·0	..	..	W by S	..	..	..	W	¼	..	..	..	7	Transit
6	29·469	43·0	41·4	1·6	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	6	..
8	29·510	39·5	38·2	1·3	..	..	..	..	Calm	..	..	..	W by S	¼	..	..	..	0	..
10	29·534	37·9	37·0	0·9	35·0	2·9	..	..	Calm	..	..	..	W by S	¼	..	..	..	0	..
12	29·540	35·6	35·0	0·6	..	..	..	..	Calm	..	..	..	W	¼	..	..	..	0	..
14	29·560	33·8	33·5	0·3	..	..	..	..	Calm	..	WSW	1·07	SSW	¼	..	..	..	0	..
16	29·575	33·1	33·0	0·1	32·5	0·6	..	..	Calm	..	..	..	SSW	¼	..	..	..	0	..
18	29·584	32·8	32·2	0·6	..	..	..	..	Calm	..	..	..	SW	¼	..	..	..	0	..
20	29·599	33·1	32·8	0·3	..	..	..	..	Calm	..	..	..	SW	½	..	..	..	0	..
22	29·615	38·3	37·9	0·4	36·5	1·8	48·7 32·3	64·8 27·7	Calm	..	SW	0·95	SW	½	12·39	0·00	18·830	0	..
Oct. 27. 0	29·608	46·7	43·2	3·5	..	..	..	..	Calm	..	..	..	SW	¼	..	..	..	0	..
2	29·559	48·7	43·2	5·5	..	..	..	..	Calm	..	..	..	SSW	¼	..	..	..	1	..
4	29·517	47·1	43·6	3·5	40·0	7·1	..	..	Calm	..	..	..	SSW	½	..	..	..	8	Transit
6	29·455	43·5	41·9	1·6	..	..	..	..	Calm	..	..	..	SSW	½	..	..	..	10	..
8	29·382	45·6	42·5	3·1	..	..	..	..	SSE	0 to ½	SW	3·52	SSW	¾	..	..	..	10	..
10	29·288	46·1	43·8	2·3	42·0	4·1	..	..	S by E	1 to 6	..	..	SSW	1½	..	..	..	10	..
12	29·157	44·8	43·2	1·6	..	..	..	..	SSE	3½ to 5	..	..	SSE	2	..	..	..	10	..
14	29·041	46·8	45·7	1·1	..	..	..	..	SSE	3½ to 5	..	..	SSE	2	..	..	..	10	..
16	28·895	47·7	47·7	0·0	47·5	0·2	..	..	S	3 to 6	S	0·88	S	1½	..	..	..	10	..
18	28·907	48·1	46·5	1·6	..	..	..	..	SW	2 to 6½	..	..	W	2	..	..	..	10	..
20	28·965	45·8	43·2	2·6	..	..	..	..	WSW	2 to 6	..	..	WSW	1½	..	..	..	6	..
22	29·007	45·2	41·2	4·0	38·0	7·2	50·7 38·5	66·4 36·0	SW	4½ to 7	SSE	3·00	SW	1½	12·46	0·13	18·975	0	..
Oct. 28. 0	29·040	47·8	42·7	5·1	..	..	..	..	SW	3½ to 4	..	..	SW	1½	..	..	..	4	..
2	29·048	48·2	43·5	4·7	..	..	..	..	SW	2 to 6½	..	..	SW	1½	..	..	..	5	..
4	29·094	43·2	41·0	2·2	39·0	4·2	..	..	WSW	½ to 6	..	..	W	2	..	..	..	10	..
6	29·160	42·0	40·6	1·4	..	..	..	..	SW	½ to 2	WSW	2·83	WSW	1½	..	..	..	8	Transit
8	29·194	42·5	40·2	2·3	..	..	..	..	SW	2 to 4½	..	..	SW	2	..	..	..	0	..
10	29·260	42·2	39·5	2·7	37·5	4·7	..	..	SW	1½ to 2½	..	..	SSW	1½	..	..	..	0	..
12	29·333	41·2	39·0	2·2	..	..	..	..	SW	½ to 1	SW	3·62	SW	¾	..	..	..	0	..
14	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
22	29·513	42·5	41·5	1·0	..	..	49·7 34·5	61·4 28·8	Calm	..	S	1·56	SSW	¼	12·46	0·01	18·990	8	..
Oct. 29. 0	29·513	47·6	45·4	2·2	..	..	..	..	Calm	..	..	..	SSW	¼	..	..	..	6	..
2	29·507	50·7	46·9	3·8	..	..	..	..	Calm	..	..	..	SSW	¼	..	..	..	8	..

BAROMETER.

Oct. 27d. 8h to 16h. The difference of readings amounted to half an inch nearly. (See the Section of Extraordinary Observations.)

Oct. 27d. 16h. The reading was the lowest in the month.

Oct. 28d. The mean daily height was the lowest in the month.

RAIN.

Oct. 26d. 22h and 28d. 22h. The increase in the reading of rain-gauge No. 3 was by the deposition of moisture.

GENERAL REMARKS.	Observer.
Cloudless: hazy: white frost.	D
Stratus: ,, ,,	J H
Vapour: hazy.	
Light vapour: a few small cumuli in the North.	J H
Cirro-stratus and fleecy cumuli: hazy.	D
Cirro-stratus and haze.	
Cloudless: hazy.	
,, several flashes of lightning have been visible since the last observation in the South and West.	D
,, occasional flashes of lightning in the East and West.	J H
,, lightning from the East horizon.	
,, ,,	
,, ,,	
,,	J H
,,	D
Cloudless.	
A few light clouds.	D
Cirro-stratus and scud.	J H
,, appearances of rain.	
,,	
,, a slight rain falling.	J H
Occasional squalls of rain: a gale of wind, the force is often $2\frac{1}{2}$ with occasional gusts to $2\frac{1}{2}+$.	G
The gale continues: the night is so exceedingly dark that objects at the distance of two inches from the eye are not visible: the clouds are densely black and very low, as the reflection of the London lights appear near the horizon.	
The gale is less violent, and the gusts are less frequent; in other respects there is no change since 14^h.	
The gale still continues: at about $15^h.0^m$ the direction of the wind veered from S. S. E. to S.; by $16^h.30^m$ it was S. S.W.; at $17^h.20^m$ it was S.W.; at $17^h.40^m$ it was W. S.W., and it is now W.: the gusts are more violent now than they have yet been: it has been a very wild night.	
Scud passing rapidly from the W. S.W.: the Sun rising on a clear sky: no upper cloud: the scud is tinged with red.	G
Cloudless: strong gusts of wind.	D
Cumuli and loose fragments of scud.	
Large cumuli and cumulo-strati: the wind blowing in gusts to 2.	D
At present there is a violent squall: the rain is falling in large drops: the sky is covered with a nimbus: a few minutes since a cumulo-stratus with coloured edges was in the W., and scud was passing quickly from the W., with a fine blue sky between.	G
The sky became nearly clear shortly after 4^h, and continued so, with the exception of a little scud which passed over at a low elevation from the W. N.W., till within the last ten minutes: at present the sky is nearly wholly covered with scud.	
Cloudless: the stars are shining very brightly, so also are the Planets and the Moon.	
,, several meteors have been seen, but they have no particular direction: the wind blowing in gusts to 2.	G
,,	D
	D
A thin cirro-stratus.	G
Fleecy clouds and light scud.	
Fleecy clouds and vapour.	J 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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	By Estimation. Direction.	Force 0—6.	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. 5	29·512	47·8	45·0	2·8	..	..	..	..	Calm	..	..	..	SSW	¼	..	..	..	8	..
6	29·508	43·9	42·7	1·2	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	8	Transit
8	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
10	29·510	40·7	40·2	0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	2	..
12	..	..	..	..	..	..	..	..	Calm	..	S	1·20	..	..	..	..	..	..	..
14	29·428	41·7	41·0	0·7	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
16	29·374	44·2	44·0	0·2	44·0	0·2	..	..	Calm	..	..	..	Calm	..	..	..	..	10	1st Qr.
18	29·335	49·0	48·8	0·2	..	..	..	..	Calm	..	SSE	0·34	Calm	..	..	..	..	10	..
20	29·318	50·7	50·4	0·3	..	..	..	..	Calm	..	..	..	S by E	¼	..	..	..	9½	..
22	29·300	54·0	52·7	1·3	50·5	3·5	54·4 40·1	68·1 32·5	Calm	..	S	0·51	S	¾	12·50	0·09	19·095	10	..
Oct. 30. 0	29·266	57·0	54·9	2·1	..	..	..	..	S by W	0 to ½	..	..	SSW	½	..	..	..	10	..
2	29·227	54·5	53·6	0·9	..	..	..	..	S by E	0 to ½	..	..	SSW	½	..	..	..	10	..
4	29·161	55·0	54·2	0·8	53·5	1·5	..	..	S	1 to 2	..	..	S	¾	..	..	..	10	..
6	29·149	56·4	55·5	0·9	..	..	..	..	S	½ to 4	..	..	S	1	..	..	..	10	..
8	29·131	56·6	55·3	1·3	..	..	..	..	Calm	..	..	..	S	½	..	..	..	10	Transit
10	29·090	58·6	56·1	2·5	55·0	3·6	..	..	S	0 to ½	..	..	S	¼	..	..	..	9	..
12	29·111	58·5	56·8	1·7	..	..	..	..	S by W	0 to 1	..	..	S by W	¾	..	..	..	10	..
14	29·117	57·7	56·1	1·6	..	..	..	..	Calm	..	..	..	SSW	¾	..	..	..	10	..
16	29·137	56·1	55·5	0·6	55·0	1·1	..	..	Calm	..	..	..	SSW	¾	..	..	..	10	..
18	29·203	56·6	55·9	0·7	..	..	..	..	Calm	..	..	..	SSW	½	..	..	..	10	..
20	29·245	56·8	56·2	0·6	..	..	..	..	Calm	..	S	4·75	SW	½	..	..	..	10	..
22	29·287	50·1	49·4	0·7	49·0	1·1	59·5 51·1	59·5 49·5	N	..	N	0·35	N	¼	12·82	0·47	19·435	10	..
Oct. 31. 0	29·301	47·1	46·7	0·4	..	..	..	..	N by E	..	..	..	N	¼	..	..	..	10	..
2	29·296	47·0	46·8	0·2	..	..	..	..	N	..	..	..	N	¼	..	..	..	10	..
4	29·270	45·1	45·0	0·1	44·5	0·6	..	..	N	..	..	..	N	¼	..	..	..	10	..
6	29·247	45·6	45·3	0·3	..	..	..	..	N	..	..	..	N by E	½	..	..	..	10	..
8	29·241	46·5	46·2	0·3	..	..	..	..	N	..	..	..	N	½	..	..	..	10	Transit
10	29·271	46·1	46·0	0·1	45·5	0·6	..	..	N by W	..	..	..	N	½	..	..	..	10	..
12	29·332	46·0	45·8	0·2	..	..	..	..	NW	..	N	1·85	Calm	..	13·29	0·87	20·205	10	..
14	29·385	46·0	45·8	0·2	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
16	29·413	44·0	43·7	0·3	45·5	−1·5	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
18	29·448	42·6	42·9	−0·3	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
20	29·489	43·0	42·6	0·4	..	..	..	..	Calm	..	..	..	N	¼	..	..	..	10	..
22	29·553	43·8	43·5	0·3	43·5	0·3	51·4 42·8	50·8 41·5	Calm	..	NW	0·95	Calm	..	13·39	0·10	20·315	10	..
Nov. 1. 0	29·565	45·6	45·4	0·2	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
2	29·588	46·6	46·2	0·4	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
4	29·615	47·2	46·4	0·8	45·0	2·2	..	..	Calm	..	..	..	NW	¼	..	..	..	10	..
6	29·620	42·5	42·5	0·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
8	29·664	38·5	38·5	0·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	Transit
10	29·677	35·6	35·6	0·0	35·5	0·1	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
12	29·677	37·6	37·5	0·1	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
14	29·680	36·5	36·4	0·1	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
16	29·678	38·1	37·9	0·2	38·0	0·1	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
18	29·686	39·2	39·1	0·1	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
20	29·700	39·7	39·7	0·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
22	29·697	41·0	41·0	0·0	39·0	2·0	48·5 35·9	48·5 30·7	Calm	..	..	0·00	Calm	..	13·39	0·00	20·325	10	..

BAROMETER.

Nov. 1d. The daily range was the least in the month.

DRY THERMOMETER.

Oct. 29d. 16h. Nocturnal rising temperature.

Oct. 30d. 2h. After this time the readings increased, and continued doing so till 30d. 12h: the readings throughout the night were unusually great; at 14h it was 16° higher than it was at the preceding 14h.

Oct. 31d. 18h. The reading was lower than that of the Wet Thermometer.

TEMPERATURE OF THE DEW POINT.

Oct. 31d. The least difference between its mean daily value and that of the air occurred.

Nov. 1d, 2d, and 25d. The difference between its mean daily value and that of the air was the same on each of those days, and it was the least in the month.

GENERAL REMARKS.	Observer.
Cirro-stratus: a patch of blue sky here and there.	
,, vapour prevalent.	
The evening has been alternately clear and cloudy: at present the zenith and around it for 60° is clear; below 60° Z. D. it is generally cloudy, the clouds are cirro-stratus: dew is forming abundantly.	
Overcast: rain falling.	D
,, ,,	
,,	
Cirro-stratus and scud.	D
Overcast: cirro-stratus: rain falling slightly.	J H
Overcast: cirro-stratus: rain falling slightly.	
,, ,, rain falling.	J H
,, rain falling.	D
,, ,,	
,, no rain falling.	
Cirro-stratus and scud.	D
,, rain falling.	J H
,,	
,, heavy rain at times since the last observation.	
Overcast: cirrostratus and scud.	
,, ,, a misty thick air.	J H
,, ,,	D
Overcast: cirro-stratus and scud: rain falling.	
,, rain falling steadily.	D
,, ,,	J H
,, cirro-stratus: rain falling steadily.	
,, ,, ,,	
,, ,, ,,	J H
,, ,, ,,	G
,, rain falling heavily: about 1½ inch of rain has fallen since this time yesterday.	
,, rain falling, but less heavily.	
,, ,,	
,, a thin rain falling.	G
,, a damp air, but no rain.	D
Overcast.	
,,	D
,, cirro-stratus.	G
At 4h.30m the clouds became much thinner, and they continued to become thinner till 5h.0m, when it was quite clear, and it continues so.	
A fog, which is dense in the lower parts of the Park and in the town: a corona round the Moon, but no prismatic colours are exhibited: at 7h. 55m the thermometer read 40°, so that it has fallen 1°·5 within five minutes.	
A dense fog: there seems to be no upper cloud.	G
,,	D
,,	
,,	
Overcast: a dense fog.	
,, the fog is not so dense at present.	D
,, a misty damp air.	J H

DEGREE OF HUMIDITY.
Oct. 31d. The mean daily value was the greatest in the month.
Nov. 1d. The mean daily value was the greatest in the month: the same amount was exhibited on the 2nd day and on the 25th day.
MINIMUM THERMOMETER.
Oct. 30d. 22h. The reading was that of the temperature at the time of observation, and it is higher than the reading of the Dry Thermometer taken at the same time.
Oct. 31d. 22h. The reading was higher than that of the Dry Thermometer at 18h. Nov. 1d. 22h. The reading was higher than that of the Dry Thermometer at 10h.
AMOUNT OF RAIN.
Oct. 31d. 12h. During the month of October, in rain-gauge No. 4, was 4in·25.
Nov. 1d. 22h. The increase in the reading of rain-gauge No. 3 was by deposition of moisture.
CLOUDS.—Oct. 31d. This day was cloudy throughout; it is the first complete cloudy day since July 21d.

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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	By Estimation. Direction.	Force 0—6.	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. 0	29·709	41·6	41·6	0·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	In Equator
2	29·684	46·5	46·1	0·4	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
4	29·674	46·4	45·8	0·6	45·0	1·4	..	..	N	..	..	..	Calm	..	..	..	..	10	..
6	29·657	45·6	45·2	0·4	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
8	29·664	46·2	45·6	0·6	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
10	29·646	46·1	46·0	0·1	46·0	0·1	..	..	Calm	..	..	..	Calm	..	..	..	..	10	Transit
12	29·607	46·6	46·5	0·1	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
14	29·574	47·2	47·2	0·0	..	..	..	..	Calm	..	..	..	N	¼	..	..	..	10	..
16	29·541	47·4	47·4	0·0	46·5	0·9	..	..	Calm	..	..	..	N	¼	..	..	..	10	..
18	29·529	47·2	47·2	0·0	..	..	..	..	Calm	..	N	0·55	N	¼	..	..	..	10	..
20	29·543	47·0	47·0	0·0	..	..	..	..	Calm	..	..	..	WNW	¼	..	..	..	10	..
22	29·565	47·1	46·9	0·2	46·5	0·6	48·3 41·2	50·4 41·3	SW	..	SW	1·12	SW	¼	13·47	0·11	20·435	10	..
Nov. 3. 0	29·575	52·5	51·2	1·3	..	..	..	..	SW	..	..	..	SW	¼	..	..	..	6	..
2	29·563	54·6	51·9	2·7	..	..	..	..	S by W	..	..	..	SSW	½	..	..	..	4	..
4	29·585	53·8	50·7	3·1	48·5	5·3	..	..	S	..	..	..	SW	¾	..	..	..	2	..
6	29·556	49·3	48·0	1·3	..	..	..	..	S by E	..	..	..	SW	1	..	..	..	2	..
8	29·530	48·0	47·0	1·0	..	..	..	..	S by E	..	..	..	SW	¾	..	..	..	8	..
10	29·507	50·0	48·5	1·5	47·5	2·5	..	..	Calm	..	SW	0·70	SW	¾	..	..	..	10	Transit
12	29·477	51·5	49·6	1·9	..	..	..	..	Calm	..	..	..	SSW	½	..	..	..	10	..
14	29·451	53·2	51·0	2·2	..	..	.	..	S	0 to 1½	..	..	S	1	..	..	..	10	..
16	29·426	52·5	50·6	1·9	49·0	3·5	..	..	S	½ to 1½	..	..	S	1½	..	..	..	10	..
18	29·406	52·0	50·0	2·0	..	..	..	..	S	..	S	3·30	S	1	..	..	..	10	..
20	29·517	50·0	49·6	0·4	..	..	..	..	Calm	..	..	..	WSW	½	..	..	..	7	..
22	29·558	49·7	49·2	0·5	49·0	0·7	55·5 47·8	69·6 42·5	Calm	..	SW	0·52	WSW	¼	13·48	0·02	20·465	5	..
Nov. 4. 0	29·586	53·2	51·2	2·0	..	..	..	..	Calm	..	..	..	WSW	nearly calm	..	..	..	5	..
2	29·605	55·1	52·0	3·1	..	..	..	..	Calm	..	..	..	WSW	very light	..	..	..	6	..
4	29·612	52·8	49·8	3·0	46·0	6·8	..	..	Calm	..	..	..	WSW	very light	..	..	..	7	..
6	29·661	47·0	46·5	0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	7	..
8	29·689	46·1	45·3	0·8	..	..	..	..	Calm	..	..	..	W	very light	..	..	..	10	..
10	29·707	44·8	44·4	0·4	44·0	0·8	..	..	Calm	..	..	..	Calm	..	..	..	..	10	Transit
12	29·724	44·4	44·0	0·4	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
14	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
22	29·862	48·2	47·2	1·0	..	..	55·9 43·0	73·7 37·0	Calm	..	N	0·20	N	very light	13·48	0·00	20·465	10	..
Nov. 5. 0	29·858	51·0	48·0	3·0	..	..	..	..	N	..	..	..	Calm	..	..	..	..	10	..
2	29·860	51·5	48·2	3·3	..	..	..	..	N by W	..	..	..	Calm	..	..	..	..	10	..
5	29·882	50·6	48·6	2·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..

DRY THERMOMETER.
Nov. 3d. 12h. A nocturnal rising temperature.

GENERAL REMARKS.	Observer.
Overcast: a misty damp air.	J H
,, ,,	J H
,, ,,	D
,, cirro-stratus.	
,, ,, a few drops of rain are falling.	
,, rain falling.	D
,, ,,	J H
,, ,,	
,, ,, a thick misty air.	
,, a little rain falling: a thick misty air.	
,, the rain has ceased falling: a thick misty air: the wind is W. N.W., as seen by the smoke.	J H
,, cirro-stratus.	D
Cirro-stratus and scud: the zenith is clear.	
Large irregular cumuli and cumulo-strati.	D
Fleecy cumuli and scud.	J H
Scud and vapour.	
Fleecy clouds and light scud.	
Overcast: thin cirro-stratus: a well defined halo round the Moon of 23° radius.	J H
,, the Moon is just visible: at $11^h.\ 30^m$ the sky was covered with cirri in bars flowing into the cirro-stratus; at present it is covered with cirro-stratus.	G
Within ten minutes after the last observation the reading of the Dry Thermometer was 52° ·5, and the wind increased in strength to 1, with frequent gusts to 1½: large masses of dark, stormy looking scud rose in the S. and passed over to the N.; these were followed by other large masses, successively to the present time, all moving very quickly: the sky has a wild appearance, and as though a storm was prevailing to the S. of us.	
The Moon has not been visible since $14^h.\ 20^m$: the sky is covered with a dense mass of black cirro-stratus: a few drops of rain fell at $14^h.\ 50^m$; and occasionally, since then, a few drops have fallen.	
Overcast: cirro-stratus: the wind in gusts to 1½: occasional drops of rain between 16^h and 17^h; since 17^h a thick small rain has fallen.	G
Cirro-cumulus dispersing with pale blue sky between: some shapeless masses of scud coming from the W. S.W.: every thing is saturated with moisture.	H
Cirro-cumulus in and S. of the zenith: cirri in bars near the northern horizon: fragments of scud in the South.	D
Cumuli, cirro-cumuli, and haze.	
Cirro-cumuli, scud, and haze.	D
The zenith is occupied with cirri and cirro-cumuli; to the S. cirri are prevalent: a thin veil of fleecy clouds occupies a large part of the N. and E.: a fine afternoon.	G
During a considerable portion of the time since the last observation the sky has been clear: at present bars of cloud occupy the zenith: a cirro-stratus extends 40° above the horizon all round, of equal density, so that the place of the Moon only is visible.	
The sky is quite covered with scud; the Moon is occasionally visible: a haze.	
Immediately after 8^h a thin fog came up which continues: the Moon is barely visible.	G
Overcast: the Moon's place is scarcely visible.	D
,, rain falling: the Sun's place is just visible.	D
Overcast: cirro-stratus: a thin fog.	G
,, ,, ,,	
,, ,, ,,	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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	By Estimation. Direction.	Force 0—6.	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. 5. 6	29·890	50·9	48·5	2·4	..	..	..	..	Calm	..	N	0·52	NNW	¼	..	..	..	10	..
8	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	Apogee
10	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	..	W	0·46	..	..	..	..	..	..	Transit
14	29·937	42·6	42·5	0·1	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
16	29·900	42·6	42·4	0·2	42·5	0·1	..	..	Calm	..	SSW	1·35	SW	¼	..	..	..	10	..
18	29·887	44·1	43·6	0·5	..	..	..	..	Calm	..	..	..	S	¼	..	..	..	10	..
20	29·871	45·5	44·6	0·9	..	..	..	..	Calm	..	..	..	S	¼	..	..	..	9	..
22	29·867	50·3	48·4	1·9	47·0	3·3	51·5 40·7	51·8 37·0	Calm	..	SW	0·65	SSW	½	13·48	0·00	20·475	10	..
Nov. 6. 0	29·861	49·6	49·0	0·6	..	..	..	..	SSW	½ to 1½	..	..	SSW	¾	..	..	..	10	..
2	29·826	51·6	51·3	0·3	..	..	..	..	SW	..	..	..	SW	½	..	..	..	10	..
4	29·846	52·5	52·0	0·5	51·0	1·5	..	..	SW	..	..	..	SW	¼	..	..	..	10	..
6	29·842	51·2	50·6	0·6	..	..	..	..	SW	..	..	..	SW	½	..	..	..	8	..
8	29·878	50·7	50·3	0·4	..	..	..	..	SW	..	..	..	SW	¼	..	..	..	10	..
10	29·868	49·4	48·6	0·8	48·0	1·4	..	..	Calm	..	SSW	3·02	SW	¼	..	..	..	10	..
12	29·841	47·6	47·0	0·6	..	..	..	..	Calm	..	..	..	SW	¼	..	..	..	8	Transit
14	29·786	47·3	46·5	0·8	..	..	..	..	Calm	..	..	..	SW	¼	..	..	..	10	..
16	29·702	51·3	50·3	1·0	50·0	1·3	..	..	SSW	½ to 1	SW	2·26	SW	¾	..	..	..	10	..
18	29·603	53·0	51·6	1·4	..	..	..	..	SSW	1 to 4½	SSW	0·89	SW	1	..	..	..	10	Full
20	29·593	53·6	52·1	1·5	..	..	..	..	SSW	½ to 4½	..	..	SW	1½	..	..	..	10	..
22	29·527	55·2	54·5	0·7	54·0	1·2	55·5 47·4	54·0 43·5	SSW	½ to 3½	SW	2·88	SW	1½	13·63	0·17	20·645	10	..
Nov. 7. 0	29·529	56·7	56·0	0·7	..	..	..	..	W	½ to 4	..	..	SW	1	..	..	..	10	..
2	29·563	57·0	53·7	3·3	..	..	..	..	W by N	0 to 1½	WSW	1·18	W	½	..	..	..	8	..
4	29·595	54·5	50·8	3·7	50·0	4·5	..	..	W by N	0 to ½	..	..	W	½	..	..	..	9	..
6	29·634	51·7	47·5	4·2	..	..	..	..	NW	..	W	0·80	SW	½	..	..	..	3	..
8	29·679	46·2	43·7	2·5	..	..	..	..	Calm	..	WNW	0·53	SW	¼	..	..	..	3	..
10	29·676	42·6	42·0	0·6	41·5	1·1	..	..	WSW	..	..	..	SW	½	..	..	..	1	..
12	29·647	43·5	42·4	1·1	..	..	..	..	WSW	..	..	..	WSW	½	..	..	..	0	Transit
14	29·607	45·8	44·4	1·4	..	..	..	..	WSW	..	WSW	1·15	WSW	¼	..	..	..	10	..
16	29·552	43·7	43·1	0·6	42·0	1·7	..	..	WSW	..	..	..	WSW	½	..	..	..	3	..
18	29·512	44·4	43·8	0·6	..	..	..	..	Calm	..	SW	0·84	WSW	¼	..	..	..	9¾	..
20	29·473	41·0	40·7	0·3	..	..	..	..	Calm	..	..	..	WSW	¼	..	..	..	1	..
22	29·461	45·5	44·4	1·1	42·5	3·0	57·5 41·5	67·8 35·2	WSW	..	W	0·34	WSW	¼	13·63	0·02	20·685	1	..
Nov. 8. 0	29·443	48·1	45·1	3·0	..	..	..	..	W by N	..	..	..	W	½	..	..	..	3	..
2	29·447	39·8	39·7	0·1	..	..	..	..	NW	..	..	..	W	½	..	..	..	10	..
4	29·466	42·7	37·8	4·9	35·5	7·2	..	..	NW	½ to 3	..	..	W by N	¾	..	..	..	3	..
6	29·515	40·6	37·5	3·1	..	..	..	..	NW	½ to 1½	..	..	WNW	1	..	..	..	9½	..
8	29·583	38·5	36·0	2·5	..	..	..	..	NW	0 to ¾	..	..	WNW	1	..	..	..	0	..
10	29·644	37·8	35·0	2·8	35·0	2·8	..	..	WNW	..	..	..	WNW	1	..	..	..	0	..
12	29·700	36·6	33·5	3·1	..	..	..	..	NW	0 to ½	..	..	NNW	1	..	..	..	0	..
14	29·744	35·0	32·5	2·5	..	..	..	..	WNW	..	..	..	NW	½	..	..	..	0	Transit
16	29·768	34·6	31·8	2·8	28·2	6·4	..	..	NW	..	..	..	WNW	1	..	..	..	0	..
18	29·803	33·0	30·5	2·5	..	..	..	..	NW	..	..	..	W	1	..	..	..	0	..

DRY THERMOMETER.

Nov. 7d. 2h. The reading was the highest in the month.

Nov. 7d and 8d. The greatest difference of the mean daily temperatures for consecutive days in the month occurred. Large differences occurred in this month, which are noticed only in the Abstracts.

TEMPERATURE OF THE DEW POINT.

Nov. 6d. 22h. The reading was the highest in the month.

Nov. 8d and 9d. The greatest difference of the mean daily values for consecutive days in the month occurred; large differences were frequent in this month; this is the only one noticed in the foot-notes, the others will be found in the Abstracts.

WEIGHT OF A CUBIC FOOT OF AIR.

Nov. 8d and 9d. The greatest difference of the mean daily values for consecutive days in the month occurred.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus: a thick misty air.	D
,, a light fog: the Moon's place is faintly visible.	
No change since the last observation.	
Overcast: cirro-stratus.	
Cirro-stratus and scud: breaks in the S. E.	D
Overcast: cirro-stratus and scud.	P
Overcast: cirro-stratus and scud: rain falling.	J H
,, ,, ,,	P
,, cirro-stratus.	D
The sky is chiefly covered with a thin cirro-stratus; several large breaks in the S: at about 6^h a perfect lunar halo formed, and continued visible all the evening, its diameter both ways was 42°+.	
Overcast: the amount of cloud has been continually varying since the last observation: the halo is still visible, it has a reddish tinge in the inner part of the ring: same dimensions as before.	
Cirro-stratus: a perfect lunar halo is still visible; its vertical diameter 42°, horizontal 43°.	D
,, the halo is still visible: at $11^h.20^m$ it was very perfect, but at the present time it appears much fainter: by an instrumental measurement at $12^h.7^m$ the vertical diameter was 42°, and the horizontal diameter 44°; there is a very distinct reddish tint round the inner edge of the halo.	J H
Overcast: the Moon is just visible.	
,, rain falling: gusts of wind.	
Cirro-stratus and scud: the rain has ceased falling.	
,, strong gusts of wind.	J H
,, a thin rain falling: the wind is blowing in gusts to 2.	P
Cirro-stratus and scud: rain falling: the wind blowing in gusts to about $1\frac{1}{2}$.	
Cumulo-strati in the N.W., and scud scattered in every direction: the breaks to the S. and E. of the zenith.	P
,, generally prevalent.	J H
Cumuli and scud.	
Scud principally W. of the zenith.	
Light clouds in various directions.	J H
Cloudless: light clouds occasionally passing across the zenith.	P
Overcast: cirro-stratus and scud.	
Scud scattered indiscriminately about the sky.	
A few small breaks only in the zenith.	
Patches of cloud in the horizon and in other directions also.	P
Cumuli and light scud.	J H
Cumuli and light scud. [ordinary Meteorological Observations.)	
Cirro-stratus and scud: rain falling slightly: the air is cold: at $1^h.10^m$ a violent squall of hail and rain. (See the Section of Extra-	J H
Clouds in the horizon and in other directions.	P
A few breaks in the S.W., the rest of the sky being for the most part covered with dark scud: the wind in stormy gusts.	
Cloudless.	
,, at present, though scud is frequently passing across the zenith.	P
,, a strong wind, gusts to $1\frac{1}{2}$. [but have not seen one.	G
,, a cold wind: within the last two hours I have been principally S. of the Magnetic Observatory, and looking for meteors,	
,, a keen cold wind: no meteors: a beautifully clear night.	
Every thing similar to the last observation: a strong ground frost; ice has formed in the evaporator to the thickness of more than [half an inch.	

MINIMUM THERMOMETER.

Nov. $6^d.22^h$. The reading was higher than that of the Dry Thermometer at 14^h.

Nov. $7^d.22^h$. The reading was higher than that of the Dry Thermometer at 20^h.

PRESSURE OF THE WIND BY THE ANEMOMETER.

Nov. $8^d.1^h$. A sudden pressure of 4lbs. which continued ten minutes and suddenly lulled; at $1^h.35^m$ another squall, the pressure suddenly increased from nothing to 3lbs, and then to 4lbs.; at $1^h.40^m$ there was no pressure.

RAIN.

Nov. $5^d.22^h$. The reading of rain-gauge No. 3 is increased; there is no evidence as to its cause.

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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	By Estimation. Direction.	Force 0—6.	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. 8. 20	29·829	31·3	29·0	2·3	..	..	..	..	WNW	..	NNW	4·03	W	¼	..	..	..	0	..
22	29·850	33·9	30·6	3·3	26·0	7·9	50·0 29·8	62·8 19·7	WNW	..	N	0·61	WNW	¼	13·65	0·03	20·740	0	..
Nov. 9. 0	29·848	37·0	31·8	5·2	..	..	..	..	NNW	..	...	..	NWbyN	¼	..	..	..	½	..
2	29·821	38·6	33·5	5·1	..	..	..	..	NW	..	...	..	NW	¼	..	..	..	0	..
4	29·799	37·5	32·8	4·7	28·0	9·5	..	..	W by N	..	NW	0·90	WNW	¼	..	..	..	4	..
6	29·777	33·0	29·8	3·2	..	..	..	..	Calm	..	...	..	Calm	..	..	..	..	2	..
8	29·741	32·7	30·8	1·9	27·8	4·9	..	..	Calm	..	...	..	S	¼	..	..	..	10	..
10	29·705	33·2	31·0	2·2	28·0	5·2	..	..	Calm	..	...	..	S	½	..	..	..	7	..
12	29·608	34·5	32·2	2·3	..	..	..	..	Calm	..	...	..	S	¼	..	..	..	9	..
14	29·534	38·3	35·6	2·7	..	..	..	..	Calm	..	...	..	Calm	..	..	..	..	10	Transit
16	29·477	39·3	37·1	2·2	35·5	3·8	..	..	Calm	..	...	..	Calm	..	..	..	..	10	Greatest declination N.
18	29·429	40·5	39·6	0·9	..	..	..	..	Calm	..	...	..	Calm	..	..	..	..	10	..
20	29·418	42·2	40·2	2·0	..	..	..	..	Calm	..	...	..	Calm	..	..	..	..	10	..
22	29·429	43·4	42·5	0·9	41·5	1·9	43·9 31·6	47·6 21·5	Calm	..	SSE	2·60	SSW	½	13·65	0·01	20·760	10	..
Nov. 10. 0	29·426	44·5	42·2	2·3	..	..	..	..	S by E	..	...	..	SW	½	..	..	..	10	..
2	29·448	44·3	42·9	1·4	..	..	..	..	Calm	..	...	..	SW	½	..	..	..	10	..
4	29·481	43·6	42·0	1·6	43·5	0·1	..	..	Calm	..	...	..	S by E	¼	..	..	..	10	..
6	29·537	42·0	41·1	0·9	..	..	..	..	Calm	..	...	..	SSE	¼	..	..	..	10	..
8	29·592	39·6	38·1	1·5	..	..	..	..	Calm	..	...	..	SE	¼	..	..	..	9	..
10	29·651	38·4	36·6	1·8	35·0	3·4	..	..	Calm	..	...	..	SSE	¼	..	..	..	10	..
12	29·692	37·8	36·1	1·7	..	..	..	..	Calm	..	...	..	S	¼	..	..	..	10	..
14	29·712	36·2	34·6	1·6	..	..	..	..	Calm	..	...	..	S by E	¼	..	..	..	8	..
16	29·753	35·0	34·0	1·0	32·5	2·5	..	..	Calm	..	S	0·70	S by E	¼	..	..	..	10	Transit
18	29·788	34·6	33·2	1·4	..	..	..	..	Calm	..	...	..	SSE	¼	..	..	..	7	..
20	29·822	33·7	33·2	0·5	..	..	..	..	Calm	..	...	..	Calm	..	..	..	..	2	..
22	29·882	36·4	35·3	1·1	33·2	3·2	44·8 32·6	45·0 23·1	Calm	..	ESE	0·11	SSE	¼	13·65	0·00	20·775	10	..
Nov. 11. 0	29·904	40·8	38·7	2·1	..	..	..	..	Calm	..	...	..	Calm	..	..	..	..	¼	..
2	29·938	43·6	40·0	3·6	..	..	..	..	Calm	..	...	..	Calm	..	..	..	..	8	..
4	29·946	43·1	38·5	4·6	32·0	11·1	..	..	Calm	..	...	..	ESE	¼	..	..	..	½	..
6	29·986	40·5	37·3	3·2	..	..	..	..	Calm	..	...	..	E	¼	..	..	..	8	..
8	30·019	38·8	36·0	2·8	..	..	..	..	Calm	..	...	..	E	½	..	..	..	1	..
10	30·046	38·2	36·2	2·0	33·0	5·2	..	..	Calm	..	...	..	E	½	..	..	..	2	..
12	30·044	37·0	36·1	0·9	..	..	..	..	Calm	..	...	..	E	¼	..	..	..	2	..
14	..	..	..	..	..	..	..	..	Calm	..	...	..	...	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	..	...	..	...	..	..	..	..	..	Transit
18	..	..	..	..	..	..	..	..	Calm	..	...	..	...	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	..	...	..	...	..	..	..	..	..	..
22	30·087	37·8	36·8	1·0	..	..	45·5 32·7	59·8 23·0	Calm	..	ENE	0·72	NE	¼	13·65	0·00	20·775	9	..
Nov. 12. 0	30·076	42·5	40·0	2·5	..	..	..	..	E by N	..	...	..	ENE	¼	..	..	..	¼	..
2	..	..	..	..	..	..	..	..	E	..	...	..	...	..	..	..	..	..	..
4	30·058	41·5	38·6	2·9	..	..	..	..	Calm	..	...	..	ENE	¼	..	..	..	6	..

BAROMETER.

Nov. 9d and 10d. The difference of the mean daily heights was considerable.

Nov. 10d and 11d. The greatest difference of the mean daily heights for consecutive days in the month occurred.

DRY THERMOMETER.

Nov. 9d. 0h. The difference between its reading and that of the Wet Thermometer was the greatest between Oct. 28d and the end of the [year.

Nov. 9d. The mean daily temperature was the lowest in the month.

Nov. 9d. 12h. Nocturnal rising temperature, which was great between 12h and 14h.

GENERAL REMARKS.	Observer.
Cloudless, and the wind has subsided: not one meteor has been seen all the night.	G
Cloudless: hazy.	D
Light clouds: hazy.	J H
Cloudless: hazy.	D
Cirri and scud in every direction: hazy.	P
A bank of cirro-stratus near the horizon in the N.W.: a thin fog: occasional gentle airs from the S.	G
About $6^h.\ 40^m$ the bank of cirro-stratus extended itself, and quite covered the sky, and it continues quite cloudy.	
Within the last ten minutes the clouds have become much broken about the zenith and the place of the Moon, the clouds in the other parts are thin.	G
Cirro-stratus and fleecy clouds: the clouds have suddenly come up from the S.W.: since the last observation, the sky has been principally clear and the Moon shining brilliantly.	D
Overcast: cirro-stratus: the place of the Moon is invisible.	
,, ,, a thin rain falling.	
,, ,, ,.	
,, ,, ,,	D
,, cirro-stratus and scud: rain falling slightly.	J H
Overcast: cirro-stratus and scud: the rain has ceased falling.	
,, ,, rain is again falling.	J H
,, a thin rain falling.	D
,, ,,	
Cirro-stratus and scud.	
,, and fleecy clouds.	D
,, ,,	J H
Fleecy clouds and cirro-cumuli: a beautiful lunar corona: meteors were looked for whenever a break occurred, but none have been seen since the last observation.	
Overcast: the Moon is just visible.	
Cirro-stratus and fleecy clouds.	
Cirro-stratus near the horizon: no meteors observed during the night.	J H
Overcast: cirro-stratus.	P
A few cirri only here and there: hazy in the western horizon.	
Cirro-cumuli and scud scattered in every direction: light airs occasionally spring up, but continue a short time only.	P
A few light clouds South of the zenith.	J H
Cirro-stratus and scud.	
Scud low in the N. E. horizon, and S. E. of the zenith.	
Fleecy clouds and scud: a strict watch has been kept up for meteors, but only one has been observed since the last observation; this one appeared at about 8^h, in the constellation Andromeda: from $9^h.\ 10^m$ to $9^h.\ 40^m$ the sky was overcast.	J H
Clouds in the horizon from N. to S.: scud at short intervals coming up from the N. E.: at $11^h.\ 50^m$ a meteor, equal to Jupiter in brightness, was observed, two seconds previously to its extinction, between Leo Minor and Gemini, apparent direction N.W. to S. E.; another was seen at $12^h.\ 40^m$, from a position a little to the right of the Pleiades; its direction was from E. to W.; it was about the size of a star of the third magnitude: after 13^h the sky was overcast.	P
The sky is chiefly covered with white cumuli, with blue sky seen between them.	G
A few clouds only in the horizon in the E. and S: the morning fine, and the air cold.	P
Coloured loose cumuli all over the sky in the W. and N.W.: loose cumuli and scud at other parts: this has been a fine day.	G

TEMPERATURE OF THE DEW POINT.

Nov. $8^d.\ 22^h$. The reading was the lowest between April 12^d and the end of the year.

Nov. 9^d. The mean daily value was the lowest in the month; and the difference between this mean and that for the Air, was the greatest in the month.

Nov. $11^d.\ 4^h$. The difference between it and the temperature of the air was the greatest between Oct. 19^d and the end of the year.

ELASTIC FORCE OF VAPOUR AND WEIGHT OF VAPOUR IN A CUBIC FOOT OF AIR.

Nov. 9^d. The mean daily values were the least in the month.

DEGREE OF HUMIDITY.—Nov. 9^d. The mean daily value was the least in the month.

CLOUDS.—Nov. 9^d. The day was the clearest in the month.

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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	By Estimation. Direction.	Force 0—6.	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. 12. 6	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
10	30·094	33·5	32·6	0·9	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
12	30·085	31·0	30·5	0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	2	..
14	30·076	33·0	32·0	1·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	9¾	..
16	30·077	30·0	29·5	0·5	29·3	0·7	..	..	Calm	..	..	..	Calm	..	..	..	..	5	..
18	30·091	29·0	28·5	0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	2	Transit
20	30·115	28·0	28·1	−0·1	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	6	..
22	30·125	32·3	31·2	1·1	28·5	3·8	44·7 27·4	52·3 19·6	Calm	..	E	1·52	Calm	..	13·65	0·00	20·775	2	..
Nov. 13. 0	30·130	40·0	37·2	2·8	..	..	..	..	SSE	..	..	..	Calm	..	..	..	..	0	..
2	30·123	42·8	39·5	3·3	.	..	..	..	Calm	..	..	..	Calm	..	..	..	..	8	..
4	30·126	41·3	38·8	2·5	35·5	5·8	..	..	Calm	..	..	..	Calm	..	..	..	..	8	..
6	30·138	37·5	36·3	1·2	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	3	..
8	30·158	36·0	34·8	1·2	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	3	..
10	30·170	33·0	32·5	0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	9½	..
12	30·160	34·1	33·2	0·9	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
14	30·140	34·2	33·4	0·8	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
16	30·116	35·0	34·0	1·0	32·5	2·5	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
18	30·100	36·0	35·2	0·8	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	Transit
20	30·082	36·1	35·3	0·8	..	..	..	..	Calm	..	..	..	W	¼	..	..	..	10	..
22	30·081	37·8	37·0	0·8	34·0	3·8	43·4 32·3	55·0 23·2	NNW	..	SW	0·55	Calm	..	13·65	0·00	20·790	10	..
Nov. 14. 0	30·069	39·0	38·1	0·9	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
2	30·036	39·3	38·5	0·8	..	..	..	..	Calm	..	..	..	N	½	..	..	..	10	..
4	30·023	39·6	38·9	0·7	38·5	1·1	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
6	30·029	40·1	39·1	1·0	..	..	..	..	N by W	..	..	..	N	¼	..	..	..	10	..
8	30·037	40·1	39·4	0·7	..	..	..	..	NNW	..	..	..	Calm	..	..	..	..	10	..
10	30·057	39·1	38·5	0·6	38·0	1·1	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
12	30·092	37·5	37·1	0·4	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
14	30·100	36·8	36·5	0·3	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
16	30·102	35·3	34·9	0·4	33·5	1·8	..	..	Calm	..	..	..	Calm	..	..	..	..	10	3rd Qr.
18	30·124	32·1	31·9	0·2	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	2	Transit
20	30·142	32·0	31·5	0·5	..	..	..	..	Calm	..	..	..	W	¼	..	..	..	5	..
22	30·118	32·2	31·8	0·4	31·0	1·2	39·9 30·8	41·0 21·0	Calm	..	N	0·58	Calm	..	13·79	0·16	20·935	0	..
Nov. 15. 0	30·092	37·0	36·4	0·6	..	..	..	..	Calm	..	..	..	W	¼	..	..	..	0	..
2	30·078	40·5	37·8	2·7	..	..	..	..	W by N	..	..	..	W	¼	..	..	..	0	..
4	30·045	39·5	36·7	2·8	34·0	5·5	..	..	W by N	..	..	..	NW	¼−	..	..	..	9	..
6	30·004	36·7	35·2	1·5	..	..	..	..	SW	..	..	..	NW	¼	..	..	..	10	..

DRY THERMOMETER.

Nov. 12d. 20h. The reading was the lowest in the month, and it was lower than that of the Wet Thermometer.

TEMPERATURE OF THE DEW POINT.

Nov. 13d. 10h. The reading was inadvertently omitted.

WEIGHT OF A CUBIC FOOT OF AIR.

Nov. 13d. The mean daily value was the greatest in the month.

MAXIMUM THERMOMETER.

Nov. 14d. 22h. The reading was lower than that of the Dry Thermometer at 6h and 8h.

GENERAL REMARKS.	Observer.
Cloudless, with the exception of lines of cloud whose direction is N. and S., extending from the zenith to the Moon, their lengths being about 5°, the breadth of each 1°; their distance from each other about 3°, and parallel; their sum was to no numerical extent.	G
Light clouds, principally N.W. of the zenith.	J H
A few small breaks here and there, the rest of the sky being covered with dark scud, which first obscured the sky at 13^h, since which time it has remained, with a few small intervals, overcast: the clouds move from the East.	P
Cirri and light clouds are scattered in every direction, more numerous in the S. E.: the dark scud passed over soon after the last observation: the cirri have been stationary for a long time: a faint halo, whose diameter is about 60°, is visible: there is also a faint corona around the Moon, its diameter being twice her own: hoar frost.	
Clouds still prevail in the S. E., S., and N.W.: hoar frost: no meteors seen: the lunar halo is still visible, its diameter by measurement is 70°.	
Cirri in every direction, and dark scud in the E. and S. E.: the ground is covered with hoar frost.	P
Light clouds: hazy: white frost.	J H
Cloudless: hazy.	D
Thin cirro-stratus and haze: the Sun shines through the cloud, but casts a very faint shadow.	D
Cirri, and thin clouds of no definite modification, scattered in every direction.	P
Dark clouds lining the horizon, except in the S. and S.W.	
There is much cloud in the horizon, in the E., S.E., N.W., and W., and the stars are dim and small, as if obscured by vapour: at $8^h.\ 35^m$ a meteor was seen, as bright as a star of the first magnitude; its duration was three seconds; its motion was from E. to W., and slightly inclined to the horizon; its extinction was at λ Aquarii.	
A few stars only glimmering in the zenith, most of the sky being covered with a black cloud, which at $8^h.\ 50^m$ rose in the S.E., and has been gradually increasing since that time: a fog came on at about the same time, which is now becoming less dense: meteors have been carefully looked for, but none has been seen since that of $8^h.\ 35^m$.	P
Overcast: cirro-stratus: the clouds appear dense.	D
,, ,,	
,, ,,	
,, ,, a little rain has fallen since the last observation.	
,, ,,	D
,, ,,	J H
Overcast: cirro-stratus: gloomy and foggy.	
,, cirro-stratus and scud: gloomy: the fog is thinner than at the time of the last observation.	J H
,, ,, and light fog: very gloomy.	D
,, cirro-stratus: this has been a remarkably gloomy day.	
,, rain falling.	
,, ,,	D
,, a damp misty air, but no rain falling.	J H
,, cirro-stratus: rain falling slightly.	
,, ,, ,,	
The clouds have generally disappeared: scud remains in some directions.	
Light clouds, and very hazy.	J H
Cloudless: a thin fog.	D
Cloudless: a thin fog.	
,, hazy.	D
Scud and light clouds.	J H
Overcast: cirro-stratus: a misty air.	

SOLAR HALO.

Nov. $13^d.\ 3^h$ to 4^h. A fine solar halo was seen by Mr. Glaisher; the colour was a pale yellow, with a slight mixture of pale red at the innermost part of the ring: the distance from the Sun was estimated at 23°; the part visible was about 120°, beginning from a point to the East of the Sun, and at the Sun's altitude going upwards: the clouds were a thin cirro-stratus.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	By Estimation. Direction.	Force 0—6	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. 15. 8	29·961	36·6	35·5	1·1	..	..	..	..	Calm	..	W	0·36	Calm	..	..	..	..	10	..
10	29·934	37·0	34·8	2·2	33·0	4·0	..	..	WSW	..	..	..	WNW	½	..	..	..	10	..
12	29·902	37·0	36·0	1·0	..	..	..	..	WSW	..	SSW	1·24	WNW	½	..	..	..	10	..
14	29·856	36·4	35·7	0·7	..	..	..	..	WSW	..	..	..	W	½	..	..	..	10	..
16	29·839	38·4	37·8	0·6	37·0	1·4	..	..	W by S	..	..	..	W	½	..	..	..	10	..
18	29·856	40·7	38·7	2·0	..	..	..	..	NW	0 to ½	WNW	0·24	WNW	1	..	..	..	9	..
20	29·883	38·5	37·2	1·3	..	..	..	..	NW	0 to ½	..	..	N	¼	..	..	..	1	Transit
22	29·890	39·0	37·2	1·8	36·0	3·0	41·1 31·6	43·0 29·8	N by W	..	N	1·26	N	¼	13·81	0·02	20·990	1	..
Nov. 16. 0	29·916	43·0	40·7	2·3	..	..	..	..	N by W	..	..	..	N by W	½	..	..	..	8	..
2	29·932	46·0	43·1	2·9	..	..	..	..	N	..	..	..	N	½	..	..	..	9	..
4	29·935	43·2	40·8	2·4	38·0	5·2	..	..	N	..	..	..	N	½	..	..	..	½	..
6	29·952	40·5	38·0	2·5	..	..	..	..	Calm	..	..	..	N	¼	..	..	..	1	..
8	29·955	38·4	37·2	1·2	..	..	..	..	Calm	..	N	2·74	Calm	..	..	..	..	2	..
10	29·947	34·5	34·2	0·3	34·0	0·5	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
12	29·919	32·5	32·0	0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	5	In Equator
14	29·914	32·0	31·5	0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	4	..
16	29·885	31·0	30·5	0·5	31·0	0·0	..	..	Calm	..	..	..	Calm	..	..	..	..	2	..
18	29·854	33·5	32·8	0·7	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
20	29·827	34·5	33·5	1·0	..	..	..	..	Calm	..	SW	1·08	Calm	..	..	..	..	7	Transit
22	29·810	38·2	36·4	1·8	35·5	2·7	45·7 31·0	60·2 24·8	Calm	..	S	0·18	S by W	¼	13·81	0·00	20·990	8	..
Nov. 17. 0	29·766	44·2	41·9	2·3	..	..	..	..	S by W	..	..	..	S by W	¼	..	..	..	10	..
2	29·702	46·6	44·0	2·6	..	..	..	..	S by W	..	..	..	S by W	½	..	..	..	10	..
4	29·639	47·3	44·6	2·7	42·0	5·3	..	..	SSW	0 to 1	..	..	SSW	½	..	..	..	10	..
6	29·603	47·0	44·9	2·1	..	..	..	..	SSW	½ to 1	..	..	SSW	¾	..	..	..	10	..
8	29·557	46·6	46·0	0·6	..	..	..	..	SSW	½ to 2	..	..	SSW	¾	..	..	..	10	..
10	29·521	47·6	47·2	0·4	45·0	2·6	..	..	SSW	½ to 1½	..	..	SSW	1	..	..	..	10	..
12	29·501	47·1	46·8	0·3	..	..	..	..	SSW	..	SSW	4·81	SSW	¼	..	..	..	10	..
14	29·492	45·1	44·5	0·6	..	..	..	..	SW	..	..	..	SW	¼	..	..	..	9	..
16	29·479	42·6	42·0	0·6	41·5	1·1	..	..	SW	..	..	..	SW	¼	..	..	..	9	..
18	29·468	43·2	42·5	0·7	..	..	..	..	SW	..	..	..	SW	¼	..	..	..	10	..
20	29·479	42·0	41·2	0·8	..	..	..	..	SW	..	..	..	SW	¼	..	..	..	9	..
22	29·481	42·6	41·5	1·1	38·0	4·6	48·4 37·7	48·7 35·0	SW	..	SW	2·41	SW	¼	13·82	0·02	21·050	½	Transit
Nov. 18. 0	29·475	47·2	44·8	2·4	..	..	..	..	SW	..	..	..	WSW	¼	..	..	..	½	..
2	29·445	50·2	46·3	3·9	..	..	..	..	SW	..	..	..	SW	¾	..	..	..	2	..
4	29·428	46·2	42·6	3·6	39·0	7·2	..	..	SSW	..	..	..	SW	¼	..	..	..	1	..
6	29·430	41·7	39·6	2·1	..	..	..	..	S by W	..	..	..	SW	¼	..	..	..	1	..
8	29·430	40·1	38·6	1·5	..	..	..	..	Calm	..	..	..	SW	¼	..	..	..	0	..
10	29·422	40·1	38·6	1·5	37·0	3·1	..	..	Calm	..	SW	1·20	SW	¼	..	..	..	0	..
12	29·415	40·5	38·5	2·0	..	..	..	..	SSW	..	..	..	SW	½	..	..	..	2	..
14	..	..	..	..	..	..	..	..	SW	..	SSW	1·58	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	SW	..	..	..	..	..	..	..	..	..	..
22	29·621	35·5	35·0	0·5	..	..	50·5 34·6	57·0 28·8	Calm	..	SW	2·98	W	½	13·82	0·00	21·050	0	Transit

BAROMETER.

Nov. 17d. The daily range was the greatest in the month.

Nov. 17d and 18d. The difference of the mean daily heights was considerable.

DRY THERMOMETER.

Nov. 17d. The daily range was the greatest in the month.

MAXIMUM THERMOMETER.

Nov. 16d. 22h. The reading was lower than that of the Dry Thermometer at 2h.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus: misty air.	J H
,, ,, misty.	J H
,, ,, a very thin rain is falling.	G
,, ,, rain has been falling since the last observation, at times rather quickly: a very black night.	
A very thin rain has been falling occasionally since 14h. [covered with cirro-stratus.	
There is a break in the clouds in the N., through which some stars are shining very brightly; every other part of the sky is	
The break mentioned at the last observation continued but a short time; at 19h+ another break appeared in the E., and within the last twenty minutes the clouds have nearly passed over from the N. E.; a few stratus clouds only remain near the S. E. horizon.	G
A long bank of light-coloured cloud in the western horizon: hazy.	P
Long bars of cirri, scud, and undefined clouds.	
Cirro-stratus and scud: the breaks are a little above the western horizon, and in the S. E.	P
Light clouds: hazy.	J H
A few light clouds all round the horizon; all other parts of the sky are free from cloud.	G
Clouds near the horizon, all round: a thick mist or thin fog.	
Cloudless, but a thick air, and the stars are small and dim.	G
The stars that are visible appear small and faint, most of them being E. and S. E. of the zenith.	P
As before, the stars, in many parts of the sky, are obscured by vapour, those visible appearing faint and small: misty.	
Clouds are thickly scattered near the whole horizon, somewhat more numerous in the S.E.: a small corona around the Moon: misty.	
Ovrecast.	
Cirri and thin clouds scattered in every direction.	P
Cirro-stratus and scud: clear near the horizon in the North.	D
Overcast: cirro-stratus and scud.	
,, ,,	D
,, ,, gloomy.	P
,, ,,	
,, ,, a thin rain falling: the wind blowing in moderate gusts to about 1.	
,, ,, rain falling: the wind increasing.	P
,, a thick misty rain falling.	D
A few stars are glimmering in the zenith; the sky is otherwise overcast.	
The same as at the last observation.	
Overcast: cirro-stratus.	
Cirro-stratus and scud.	D
Light clouds in the South.	J H
Light clouds in the North-west: a fine day.	
Large white cumuli in every direction: the wind blowing in gusts.	J H
Cumuli near the horizon in the W., S., and E.; the sky is clear in every other part.	D
A few light clouds are scattered here and there.	
Cloudless.	
,, the stars look dim and watery: several meteors have been visible during the evening.	D
Heavy vapour, principally in the South horizon and West of the zenith: gusts of wind at intervals.	J H
Cloudless.	G

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Thermom.	Wet Thermom.	Wet Thermom. below Dry.	Dew Point.	Dew Point below Dry Thermom.	Max. and Min. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	By Estimation. Direction.	By Estimation. Force 0—6	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°		from lbs. to lbs.		in.			in.	in.	in.		
Nov. 19. 0	29·652	39·0	37·4	1·6	..	..	..	..	W by S	..	..	..	W	¼	..	..	..	0	..
2	29·704	45·2	41·7	3·5	..	..	..	..	SW	..	..	..	SW	½	..	..	..	½	..
4	29·708	43·7	41·2	2·5	..	..	..	..	SSW	..	SSW	2·00	SSW	½	..	..	..	6	..
6	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	SSW	..	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	S by W	..	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	S	½ to 2	..	..	..	..	..	..	..	..	..
14	29·432	44·8	44·1	0·7	..	..	..	..	S	3 to 10	S	2·31	ssw to sw	2	..	..	..	10	..
16	29·310	47·6	47·5	0·1	47·0	0·6	..	..	SSW	4 to 6	..	..	ssw to sw	2½	..	..	..	2	..
18	29·345	47·5	45·2	2·3	..	..	..	..	SW	3½ to 7	SW	1·81	SW	2½	..	..	..	1	..
20	29·311	47·3	44·3	3·0	..	..	..	..	SW	4 to 10	..	..	SW	2½	..	..	..	4	..
22	29·406	47·3	43·0	4·3	39·0	8·3	50·5 37·9	61·3 33·0	WSW	3½ to 6	WSW	2·40	WSW	2½	13·89	0·10	21·195	10	..
Nov. 20. 0	29·485	48·7	44·0	4·7	..	..	..	..	W by S	3½ to 4½	..	..	WSW	2	..	..	..	6	Transit
2	29·537	48·4	43·3	5·1	..	..	..	..	W	2 to 5	W	3·10	W by S	1	..	..	..	1	..
4	29·586	47·1	42·5	4·6	38·0	9·1	..	..	W by S	0 to 2	..	..	W by N	1	..	..	..	¼	..
6	29·622	43·2	40·8	2·4	..	..	..	..	SW	0 to 1	..	..	W	¾	..	..	..	0	..
8	29·651	43·7	41·4	2·3	..	..	..	..	SW	0 to 1	SW	2·48	W	¾	..	..	..	0	Perigee
10	29·642	42·0	40·3	1·7	40·0	2·0	..	..	SSW	..	..	..	W	¾+	..	..	..	0	..
12	29·642	43·2	41·8	1·4	..	..	..	..	SSW	..	..	..	Calm	..	..	..	..	0	..
14	29·598	47·8	46·1	1·7	..	..	..	..	SSW	½ to 1	..	..	SSW	½	..	..	..	10	..
16	29·562	49·7	48·0	1·7	47·0	2·7	..	..	SSW	½ to 2	SSW	1·37	SSW	½	..	..	..	10	..
18	29·530	50·0	48·0	2·0	..	..	..	..	SSW	2 to 3½	..	..	SSW	¾	..	..	..	10	..
20	29·508	50·0	48·7	1·3	..	..	..	..	SSW	½ to 2	..	..	SSW	½+	..	..	..	10	..
22	29·504	51·9	49·7	2·2	49·0	2·9	52·0 41·8	54·5 36·2	SW	1 to 3	SW	2·93	SW	1+	13·89	0·00	21·200	10	..
Nov. 21. 0	29·492	54·0	51·5	2·5	..	..	..	..	SW	1 to 3½	..	..	SW	¾	..	..	..	8	Transit
2	29·468	53·7	51·4	2·3	..	..	..	..	SW	0 to 3	..	..	SW	½+	..	..	..	9½	..
4	29·472	53·0	51·3	1·7	49·5	3·5	..	..	SW	0 to 3	SW	2·78	SW	¾	..	..	..	10	..
6	29·445	52·7	50·8	1·9	..	..	..	..	S by W	½ to 2	SSW	0·74	SW	¾	..	..	..	10	New
8	29·395	54·0	53·2	0·8	..	..	..	..	SSW	½ to 2½	..	..	SW	1	..	..	..	10	..
10	29·400	54·5	52·5	2·0	51·8	2·7	..	..	SW	2 to 3½	..	..	SW	1½	..	..	..	10	..
12	29·372	55·6	54·8	0·8	..	..	..	..	SSW	3½ to 7	..	..	SW	2	..	..	..	9½	..
14	29·333	55·6	53·6	2·0	..	..	..	..	SW	5 to 12	..	..	SW	2½	..	..	..	10	..
16	29·337	55·3	54·0	1·3	53·5	1·8	..	..	SW	4½ to 6	..	..	SW	2	..	..	..	10	..
18	29·337	54·8	51·4	3·4	..	..	..	..	SW	4 to 8	..	..	SW	2	..	..	..	10	..
20	29·361	53·1	50·4	2·7	..	..	..	..	SW	4 to 6	..	..	SW	1½	..	..	..	10	..
22	29·426	53·4	50·0	3·4	49·0	4·4	56·2 52·6	57·5 49·0	WSW	2 to 6	WSW	7·96	W	1½	13·89	0·00	21·210	9	..
Nov. 22. 0	29·474	52·1	49·0	3·1	..	..	..	..	WSW	2 to 3½	..	..	WSW	1	..	..	..	10	..
2	29·511	51·8	47·7	4·1	..	..	..	..	WSW	1 to 2½	..	..	WSW	1	..	..	..	10	Transit
4	29·549	50·4	47·5	2·9	46·5	3·9	..	..	Calm	..	WSW	2·30	WSW	¼	..	..	..	10	..
6	29·568	48·0	45·9	2·1	..	..	..	..	Calm	..	..	..	WSW	¼	..	..	..	10	..
8	29·569	47·1	45·6	1·5	..	..	..	..	Calm	..	..	..	SW	¼	..	..	..	10	..
10	29·559	46·5	45·1	1·4	44·5	2·0	..	..	Calm	..	S	0·41	Calm	..	..	..	..	10	..
12	29·547	46·5	46·1	0·4	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	Greatest declination S.
14	29·488	45·8	45.5	0·3	..	..	..	..	Calm	..	SSE	0·23	W	½	..	..	..	10	..
16	29·414	44·5	44·0	0·5	44·0	0·5	..	..	E	..	..	..	W	½	..	..	..	10	..
18	29·328	46·0	45·9	0·1	..	..	..	..	E	..	E	0·91	W	½	..	..	..	10	..

BAROMETER.
Nov. 19d. 15h. The corrected barometer reading was 29in·355, and at 17h it was 29in·314: the difference of readings between 14h and 16h was great.
DRY THERMOMETER.
Nov. 21d. The mean daily temperature was the highest in the month.
TEMPERATURE OF THE DEW POINT.
Nov. 21d. The mean daily value was the highest in the month.
ELASTIC FORCE OF VAPOUR AND WEIGHT OF VAPOUR IN A CUBIC FOOT OF AIR.
Nov. 21d. The mean daily values were the greatest in the month.
WEIGHT OF A CUBIC FOOT OF AIR.
Nov. 21d. The mean daily value was the least in the month.

GENERAL REMARKS.	Observer.
Cloudless.	G
A few cirri to the North; the remainder of the sky cloudless.	
A thin veil of cloud covers the zenith: cirro-stratus near the horizon; the clouds are more dense about the place of the Sun than elsewhere.	G
Overcast: rain falling: the wind has risen considerably since midnight; and it now blows a gale from the S. S.W. and S.W.	J H
Generally clear: a gale of wind: the clouds disappear in a very short time, re-appearing again as quickly.	
The sky is generally very clear: strong gusts of wind.	
Scud passing rapidly: gusts of wind to 3+.	J H
Overcast by scud, which is, in many directions, very thin, shewing the blue sky beyond: the wind is blowing a gale, and in gusts to 3 and $3\frac{1}{2}$.	P
Cumuli and scud scattered in every direction: the scud, as a compact body, broke up shortly after the preceding observation: the wind is much abated, but it still blows in gusts to about $2\frac{1}{2}$.	
Scud here and there, with a few cumuli: the wind is still fast abating; gusts to about $1\frac{1}{2}$ and 2.	P
Nearly cloudless: the wind still blowing strong in gusts.	J H
Cloudless.	
,,	
,, the stars appear dim in some directions: gusts of wind to 1+.	J H
,, light airs are occasionally springing up.	P
Overcast: the wind is rising.	
,,	
,,	
,, cirro-stratus and scud: the wind blowing in moderate gusts.	P
,, ,, the wind blowing in gusts.	D
Cirro-stratus and scud: extensive breaks in different parts of the sky: the wind is blowing in gusts.	
,,	D
Overcast: cirro-stratus and scud: a thin misty rain falling: the wind is blowing in moderate gusts, and increasing.	P
,, ,, the wind blowing in moderate gusts.	
,, ,, the wind in gusts to about $1\frac{1}{2}$. [the preceding observation.	
,, ,, gusts of wind to 2: a few drops of rain fall occasionally: the barometer has slightly risen since	P
Cirro-stratus and scud: a few stars are shining in the zenith: heavy gusts of wind, frequently to $2\frac{1}{2}$.	D
Overcast: cirro-stratus and scud: heavy gusts of wind.	
,, ,, a thin rain falling.	
,, ,,	
,, ,,	D
Cirro-stratus and scud.	J H
Cirro-stratus and scud.	J H
,, the cirro-stratus is much thinner to the North of the zenith.	P
Overcast: cirro-stratus and scud.	D
,, ,,	
,, ,,	
,, cirro-stratus.	D
,, ,, rain falling.	J H
,, ,,	
,, ,,	
,, ,, ,,	

DIRECTION OF WIND.

Nov. 22d. 14h, 16h, and 18h. The directions by estimation and those by the Anemometer differ; there is no doubt as to the correctness of the Anemometer. No note was made at the time by the Observer, but from the circumstance of rain falling at the time, it is not probable that the direction was taken from the motion of the clouds, and therefore that the estimated directions are wrong at these times.

RAIN.

Nov. 20d. 22h. The increase in the reading of rain-gauge No. 3 was by deposition of moisture.

CLOUDS.

Nov. 20d. 14h. From this time to Nov. 26d. 22h the sky was principally covered with cloud: it was the longest cloudy period between May 20d and Dec. 19d.

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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	By Estimation. Direction.	Force 0—6.	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. 22. 20	29·260	52·0	51·2	0·8	..	..	..	..	SW	1 to 2	..	..	W	¾	..	..	..	10	..
22	29·259	52·3	50·8	1·5	50·0	2·3	54·2 44·6	56·2 41·8	SW	1 to 3	SW	1·37	SW	½+	14·37	0·53	21·705	10	..
Nov. 23. 0	29·238	53·6	51·4	2·2	..	..	..	..	SSW	½ to 2	..	..	SSW	¾	..	..	..	8	..
2	29·174	52·7	49·8	2·9	..	..	..	..	S by W	4½ to 6	..	..	SW	2	..	..	..	8	Transit
4	29·211	45·1	42·9	2·2	41·0	4·1	..	..	WSW	4½ steady	WSW	1·73	SW	2	..	..	..	10	..
6	29·292	41·5	39·5	2·0	..	..	..	..	WSW	0 to 2	..	..	W by S	¾+	..	..	..	10	..
8	29·427	40·3	38·0	2·3	..	..	..	..	WSW	..	W	0·68	W by S	½	..	..	..	8	..
10	29·468	39·7	38·1	1·6	37·0	2·7	..	..	SW	..	..	..	W	½	..	..	..	8	..
12	29·494	38·0	36·5	1·5	..	..	..	..	SW	..	..	..	W	½	..	..	..	5	..
14	29·490	36·3	35·3	1·0	..	..	..	..	Calm	..	WSW	1·09	WSW	¼	..	..	..	4	..
16	29·478	35·9	34·7	1·2	33·0	2·9	..	..	Calm	..	..	..	Calm	..	..	..	..	4	..
18	29·451	34·8	34·2	0·6	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	9	..
20	29·453	34·2	33·5	0·7	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
22	29·442	36·8	35·5	1·3	33·0	3·8	54·3 33·6	61·1 26·8	Calm	..	S	0·70	S	¼	14·37	0·00	21·705	10	..
Nov. 24. 0	29·444	41·6	39·4	2·2	..	..	..	..	Calm	..	..	..	S	¼	..	..	..	10	..
2	29·428	41·5	40·3	1·2	..	..	..	..	Calm	..	..	..	SSE	½	..	..	..	10	..
4	29·428	41·7	40·7	1·0	38·5	3·2	..	..	Calm	..	..	..	SE	½	..	..	..	9	Transit
6	29·446	40·6	39·5	1·1	..	..	..	..	Calm	..	..	..	SE	very light	..	..	..	9	..
8	29·497	40·5	40·0	0·5	..	..	..	..	Calm	..	S	0·73	Calm	..	..	..	..	10	..
10	29·538	40·7	40·2	0·5	40·0	0·7	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
12	29·586	40·6	40·2	0·4	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
14	29·592	40·1	39·9	0·2	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	7	..
16	29·609	40·3	40·0	0·3	39·5	0·8	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
18	29·606	36·6	36·2	0·4	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
20	29·598	35·8	35·3	0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	9	..
22	29·584	38·7	37·8	0·9	36·0	2·7	42·9 35·5	44·5 30·0	Calm	..	E	0·32	Calm	..	14·55	0·21	21·885	10	..
Nov. 25. 0	29·533	42·0	41·5	0·5	..	..	..	..	SE	..	..	..	SE	¼	..	..	..	10	..
2	29·459	43·5	42·9	0·6	..	..	..	..	SE	..	..	..	SE	¼	..	..	..	10	..
4	29·456	45·7	45·5	0·2	45·5	0·2	..	..	Calm	..	SE	0·40	SSE	nearly calm	..	..	..	10	Transit
6	29·505	45·8	45·6	0·2	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
8	29·534	47·8	47·5	0·3	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
10	29·546	48·0	47·9	0·1	47·0	1·0	..	..	Calm	..	S	0·73	Calm	..	..	..	..	10	..
12	29·547	50·7	50·7	0·0	..	..	..	..	S by W	..	..	..	Calm	..	..	..	..	10	..
14	..	..	..	..	..	..	..	..	SSW	..	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	S by W	0 to ½	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	SSW	½ to 1+	SW	1·42	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	S by W	0 to ½	..	..	..	..	..	..	..	..	..
22	29·613	54·5	52·0	2·5	..	..	54·7 37·9	55·8 35·8	SSW	1 to 3½	SSW	1·82	SSW	1	14·74	0·22	22·155	10	..
Nov. 26. 0	..	..	..	..	..	..	..	..	SSW	3 to 5	..	..	..	..	..	..	..	..	..
2	29·600	53·8	51·5	2·3	..	..	..	..	S by W	1 to 4	..	..	SSW	1½	..	..	..	10	..
4	..	..	..	..	..	..	..	..	SSW	4 to 5	SW	3·42	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	S by W	3 to 4½	..	..	..	..	..	..	..	..	Transit
8	..	..	..	..	..	..	..	..	S by W	3 to 4	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	S by W	2 to 3	..	..	..	..	..	..	..	..	..

BAROMETER.

Nov. 23d. The mean daily height was the lowest in the month.

Nov. 23d 2h. The reading was the lowest in the month; the surface of the mercury at the time was much agitated.

Nov. 23d. 8h. The increase in the reading at this observation was great; it took place a very short time immediately after the wind had subsided.

DRY THERMOMETER.

Nov. 23d. 15h. The reading was 35°·3; at 15h. 10m it was 35°·0: it would appear that the readings then increased, and after 16h decreased.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus: the rain has ceased falling.	J H
,, ,,	D
Cirro-stratus and scud: clear in the zenith: the wind blowing in gusts to 1.	D
The wind in gusts to $2\frac{1}{2}$: low scud passing rapidly from the W. S.W.: small reticulated cumuli, or a large kind of cirro-cumuli, about the zenith and around it: white clouds are generally prevalent: a little blue sky about the Sun's place, and to the N. of it.	G
Cirro-stratus and scud, the latter passing rapidly from the S.W. by W.: very heavy in the North and North-west.	J H
,, strong gusts of wind.	
The wind has nearly subsided: cirro-stratus and heavy vapour.	
Cirro-stratus and scud.	J H
The stars are shining dimly in and around the zenith for 60°; below that there are lines of dark cloud and vapour.	G
Vapour less prevalent: cirro-stratus near the horizon all round, except in the North: the stars are shining dimly.	
Clouds near the horizon: the large stars are dimly seen through the vapour.	
With the exception of the zenith the whole sky is covered with cirro-stratus.	G
Overcast: cirro-stratus, but the clouds are very high.	J H
Overcast: cirro-stratus and scud.	
Overcast: cirro-stratus and scud.	J H
,, ,, rain has been falling until within a few minutes before this observation: a double rainbow visible.	G
Heavy rain was falling from $3^h.20^m$ till $3^h.45^m$: at present the sky is covered with broken scud: a bright streak near the horizon in the S.	
A few stars are seen here and there: the sky is principally covered with scud.	
A very black cirro-stratus covers the whole sky; the cloud is high, as the reflexion of the London lights is high.	
Overcast: a dense cirro-stratus.	
,, a thin misty rain falling.	G
The East clear: a slight drizzling rain.	M
Overcast: cirro-stratus.	P
,, ,,	P
Nearly overcast.	J H
Rain has been falling for half an hour.	G
Overcast: cirro-stratus: rain falling.	P
,, ,, ,,	J H
,, a damp misty air.	D
,, cirro-stratus: a misty air.	J H
One black unbroken cloud, which is very low, as the reflexion of the London lights is nearly in the horizon.	G
Overcast: cirro-stratus: the night is very dark and gloomy: a thin rain began to fall immediately after this observation.	P
,, ,, no rain falling: very dark.	P
Cirro-stratus and scud.	
Cirro-stratus and scud.	J H

PRESSURES AT THE ANEMOMETER.

Nov. 23d. At 3^h the pressure was 8 lbs.; at $3^h.\ 20^m$, a gust to 9 lbs.; at $3^h.\ 35^m$, a steady wind at 10 lbs.; at $4^h.\ 5^m$, a gust to 8 lbs.; at $4^h.\ 25^m$, a gust to 8 lbs.; at $4^h.\ 35^m$, a gust to 12 lbs., and a gradual decrease to 5 lbs. by $4^h.\ 40^m$; at $5^h.\ 0^m$, it was 3 lbs., and gradually decreased to 6^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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	By Estimation. Direction.	By Estimation. Force 0—6	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°		from lbs. to lbs.		in.			in.	in.	in.		
Nov. 26. 12	..	..	..	..	..	..	..	..	S by W	1½ constant	..	..	..	..	..	..	..	..	.
14	29·578	51·3	49·8	1·5	..	..	..	..	S by W	½ to 2	..	..	SSW	½	..	..	..	10	..
16	29·572	51·0	50·2	0·8	49·5	1·5	..	..	S by W	½ to 1	..	..	SSW	¾	..	..	..	10	..
18	29·543	52·0	51·2	0·8	..	..	..	..	S by W	1 to 4	SSW	4·70	SSW	1	..	..	..	10	..
20	29·543	53·0	51·9	1·1	..	..	..	..	SSW	3 to 3½	..	..	SSW	1	..	..	..	10	..
22	29·568	53·0	52·2	0·8	52·5	0·5	55·1 51·6	55·5 48·7	SSW	1 to 4	SW	2·16	SSW	1	14·74	0·00	22·155	10	..
Nov. 27. 0	29·568	53·7	51·6	2·1	..	..	..	..	SSW	2½ to 4½	..	..	SSW	1	..	..	..	4	..
2	29·573	55·0	52·1	2·9	..	..	..	..	SSW	2 to 4½	..	..	SW	¾	..	..	..	5	..
4	29·584	54·0	51·0	3·0	50·0	4·0	..	..	SW	2 to 2½	SW	1·47	SW	1	..	..	..	5	..
6	29·616	51·0	49·0	2·0	..	..	..	..	SW	1 to 2	..	..	SW	¾	..	..	..	1	Transit
8	29·649	51·0	48·8	2·2	..	..	..	..	SW	½ to 2	WSW	1·23	SW	¾	..	..	..	10	..
10	29·678	51·1	49·5	1·6	48·0	3·1	..	..	SW	½ to 2	..	..	SW	1	..	..	..	10	..
12	29·740	48·6	47·7	0·9	..	..	..	..	WSW	½ to 1	..	..	WSW	¾	..	..	..	0	..
14	29·772	47·0	46·0	1·0	..	..	..	..	WSW	0 to ½	SW	1·78	WSW	¾	..	..	..	0	..
16	29·843	48·4	46·8	1·6	46·0	2·4	..	..	WSW	0 to 1	..	..	WSW	½	..	..	..	10	..
18	29·888	48·3	46·6	1·7	..	..	..	..	WSW	0 to ½	..	..	WSW	¾	..	..	..	10	..
20	29·958	48·4	46·4	2·0	..	..	..	..	WSW	..	..	..	WSW	½	..	..	..	10	..
22	30·019	48·1	45·8	2·3	43·8	4·3	55·7 46·7	62·3 41·6	Calm	..	WSW	4·22	WSW	½	14·74	0·00	22·155	9	..
Nov. 28. 0	30·050	50·8	47·7	3·1	..	..	..	..	W by S	..	..	..	WSW	½	..	..	..	6	..
2	30·076	52·0	48·3	3·7	..	..	..	..	W by S	..	W	0·28	WSW	½	..	..	..	5	..
4	30·075	49·5	47·5	2·0	46·5	3·0	..	..	Calm	..	..	..	SW	¼	..	..	..	5	..
6	30·081	47·5	45·3	2·2	..	..	..	..	SW	..	WSW	0·82	SW	¼	..	..	..	8	Transit
8	30·076	49·7	47·6	2·1	..	..	..	..	SSW	0 to ½	..	..	SW	½	..	..	..	10	1st Qr.
10	30·042	50·6	49·6	1·0	49·0	1·6	..	..	SW	0 to 1½	SW	0·56	SW	½	..	..	..	10	..
12	30 036	52·6	51·2	1·4	..	..	..	..	WSW	1 to 3½	..	..	SW	¾	..	..	..	10	..
14	30·045	50·8	49·3	1·5	..	..	..	..	WSW	½ to 2	..	..	SW	1	..	..	..	10	..
16	30·092	49·2	47·1	2·1	45·5	3·7	..	..	W by S	0 to ½	WSW	1·77	W	¾	..	..	..	1	..
18	30·118	47·5	45·0	2·5	..	..	..	..	W by N	..	..	..	WNW	¾	..	..	..	1	..
20	30·174	45·0	42·9	2·1	..	..	..	..	W by N	..	W	0·67	WNW	½	..	..	..	0	..
22	30·217	44·8	42·0	2·8	39·0	5·8	53·7 44·4	63·0 35·0	W	..	WNW	1·01	W	¼	14·74	0·00	22·155	0	..
Nov. 29. 0	30·213	46·8	43·3	3·5	..	..	..	..	W by N	½ to 2	W	0·17	W by N	¼+	..	..	..	0	..
2	30·223	49·3	44·5	4·8	..	..	..	..	WNW	0 to ½	..	..	W	¼	..	..	..	9	..
4	30·216	48·5	43·7	4·8	39·5	9·0	..	..	WNW	0 to ½	WNW	0·74	WNW	½	..	..	..	9	..
6	30·246	44·6	42·0	2·6	..	..	..	..	W by S	..	..	..	WNW	½	..	..	..	5	In Equator
8	30·274	43·3	41·1	2·2	..	..	..	..	W by N	..	NW	0·40	Calm	..	..	..	..	0	Transit
10	30·288	42·5	40·5	2·0	38·5	4·0	..	..	W by N	..	..	..	WNW	¼	..	..	..	3	..
12	30·291	43·1	41·0	2·1	..	..	..	..	NW	..	WNW	0·36	NW	¾	..	..	..	0	..
14	30·290	41·1	39·7	1·4	..	..	..	..	NW	..	W	0·12	NW	¼	..	..	..	1	..
16	30·292	37·8	37·2	0·6	36·5	1·3	..	..	Calm	..	WNW	0·40	Calm	..	..	..	..	0	..
18	30·297	35·5	34·8	0·7	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
20	30·307	34·1	33·5	0·6	..	..	..	..	Calm	..	NW	0·60	Calm	..	..	..	..	0	..
22	30·276	35·9	35·6	0·3	35·0	0·9	49·5 32·9	57·5 25·3	Calm	..	SW	0·69	SW	¼	14·74	0·00	22·155	6	..
Nov. 30. 0	30·253	42·0	40·7	1·3	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
2	30·196	44·8	44·3	0·5	..	..	..	..	SW	..	..	..	Calm	..	..	..	..	9½	..
4	30·156	45·5	44·7	0·8	44·0	1·5	..	..	SSW	..	..	..	SW	¼	..	..	..	10	..

BAROMETER.

Nov. 27d and 28d. The difference of the mean daily heights was considerable.

Nov. 29d. The mean daily height was the highest in the month.

Nov. 29d. 20h. The reading was the highest in the month.

Nov. 29d and 30d. The least difference of the mean daily heights for consecutive days in the month occurred.

DRY THERMOMETER.

Nov. 28. The daily range was the least in the month.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus: very dark: the wind blowing in gusts to about 1.	P
,, ,, in every respect the same, with the addition of a very thin rain, and the gusts of wind to $1\frac{1}{2}$.	
,, ,, gusts of wind to about 2; long lulls in the wind, during which time it blows with a strength equal to $\frac{1}{2}$ and $\frac{3}{4}$.	
,, ,, gusts of wind to 2+: lulls not so frequent.	P
,, cirro-stratus and scud: a thin rain falling.	D
Loose fragments of scud passing over rapidly: cumuli in the S. horizon.	
Cumuli and scud: the wind in gusts.	D
Cirri and scud: gusts of wind to $1\frac{1}{2}$.	P
Attenuated bars of cirri here and there: gusts of wind to about 1+; the lulls of rather long duration.	P
Cirro-stratus and scud: gusts of wind. [lulls in the wind.	J H
,, the sky has continued quite cloudy since the previous observation: frequent gusts of wind to 1+; occasional	G
Cloudless: the clouds have cleared away since $10^h.\ 40^m$.	D
,,	
The sky is again overcast.	
Overcast: cirro-stratus.	
,, ,,	D
Cirro-stratus and scud.	J H
Cirro-stratus and scud: the sky has cleared from the S. S.W.	
Cumuli and light fleecy clouds.	J H
Light fleecy clouds in the zenith; cirri and a few cumuli are scattered over the remaining part of the sky.	D
Cirro-stratus and fleecy clouds: a faint corona round the Moon: at $6^h.\ 10^m$ a lunar halo was visible for a short time.	
Overcast: cirro-stratus.	
,, ,,	D
,, ,, the clouds appear low.	J H
,, ,, slight rain falling.	
Generally clear.	
,,	
Cloudless.	J H
,,	D
Cloudless: slightly hazy.	P
The sky is nearly covered with dark and light scud: misty: the Sun is continually breaking through the clouds.	P
Cirro-stratus and scud.	J H
,,	
Cloudless: hazy.	
Light clouds S. and S. E. of the zenith.	J H
Cloudless, or so nearly, that the few clouds in the N.W. are to no numerical extent.	G
A good deal of vapour: a few clouds about the South.	
Cloudless, but the vapour so dense that the larger stars only are seen.	
,, vapour.	
,,	G
Cirri, and clouds of no definite modification scattered in every direction.	P
Overcast: cirro-stratus.	
Cirri, curled principally, and clouds that admit of no definite description.	P
Cirro-stratus.	G

MINIMUM THERMOMETER.

Nov. $26^d.\ 22^h$. The reading was higher than those of the Dry Thermometer at 14^h and 16^h.

SOLAR HALO.

Nov. $29^d.\ 22^h.\ 30^m$. The upper arc of a solar halo was visible; by several instrumental measurements the radius was $22^\circ\cdot 5$: it was visible for a short time only; but during its continuance it was very distinct.

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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°		from lbs. to lbs.		in.			in.	in.	in.		
Nov. 30. 6	30·125	46·5	45·2	1·3	..	..	..	..	SW	..	..	..	SW	¼	..	..	..	10	..
8	30·088	47·5	46·5	1·0	..	..	..	..	SW	..	..	..	Calm	..	..	..	..	10	Transit
10	30·028	47·5	47·5	0·0	47·5	0·0	..	..	SW	..	..	..	Calm	..	..	..	..	10	..
12	29·942	48·3	48·0	0·3	..	..	..	..	SW	0 to ½	..	..	SW	½	14·78	0·06	22·220	10	..
14	29·885	49·0	48·7	0·3	..	..	..	..	WSW	..	SW	3·01	SW	½+	..	..	..	10	..
16	29·849	49·3	49·3	0·0	48·5	0·8	..	..	W	..	..	..	W	¼	..	..	..	10	..
18	29·872	49·9	49·5	0·4	..	..	..	..	N by W	0 to ½	W	0·81	N	¼	..	..	..	10	..
20	29·904	47·6	46·5	1·1	..	..	..	..	N	0 to 1	..	..	N	½	..	..	..	10	..
22	29·942	46·4	44·3	2·1	43·0	3·4	51·3 45·7	51·3 44·5	N by W	..	N	1·30	N	¼	14·78	0·06	22·220	10	..
Dec. 1. 0	29·968	46·8	44·0	2·8	..	..	..	..	NNW	..	..	..	N	¼	..	..	..	10	..
2	29·940	46·1	43·1	3·0	..	..	..	..	NNW	..	..	..	N	¼	..	..	..	10	..
4	29·954	44·7	42·3	2·4	41·0	3·7	..	..	NNW	..	..	..	NNW	¼	..	..	..	10	..
6	29·978	43·9	41·9	2·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
8	29·983	42·6	40·8	1·8	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	Transit
10	29·988	42·3	40·7	1·6	39·5	2·8	..	..	Calm	..	..	..	N by W	¼	..	..	..	10	..
12	30·020	41·4	40·1	1·3	..	..	..	..	Calm	..	..	..	NNW	¼	..	..	..	10	..
14	30·015	41·6	40·0	1·6	..	..	..	..	Calm	..	..	..	NNW	¼	..	..	..	10	..
16	30·039	41·8	39·6	2·2	37·0	4·8	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
18	30·045	40·0	38·5	1·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	9	..
20	30·064	37·6	36·9	0·7	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
22	30·104	37·8	37·0	0·8	35·5	2·3	47·5 37·6	48·6 27·2	Calm	..	NW	2·50	Calm	..	14·79	0·00	22·225	8	..
Dec. 2. 0	30·107	38·6	37·2	1·4	..	..	..	..	WSW	..	..	..	W	¼	..	..	..	5	..
2	30·098	42·6	40·2	2·4	..	..	..	..	SW	..	..	..	W	½	..	..	..	1	..
4	30·094	41·0	39·6	1·4	38·0	3·0	..	..	Calm	..	..	..	WSW	½	..	..	..	1	..
6	30·102	38·6	37·6	1·0	..	..	..	..	Calm	..	..	..	SW	½	..	..	..	2	..
8	30·133	42·1	40·4	1·7	..	..	..	..	SW	..	..	..	WSW	¼	..	..	..	10	..
10	30·139	42·4	42·0	0·4	42·0	0·4	..	..	SSW	..	..	..	Calm	..	..	..	..	10	Transit
12	30·165	43·0	42·9	0·1	..	..	..	..	Calm	..	..	..	WSW	¼	..	..	..	10	..
14	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	Apogee
18	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	NW	..	..	..	..	..	..	..	..	..	..
22	30·287	46·0	45·4	0·6	..	..	46·2 36·5	47·2 30·1	NNW	..	SW	1·08	Calm	..	14·79	0·02	22·250	10	..
Dec. 3. 0	..	..	..	..	..	..	..	..	W	..	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	WNW	..	WNW	0·20	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	W by N	..	..	..	..	..	..	..	..	..	..
6	30·290	47·6	46·3	1·3	..	..	..	..	W by S	..	..	..	W	¼	..	..	..	10	..
8	..	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	W by S	..	..	..	..	..	..	..	..	..	Transit
12	..	..	..	..	..	..	..	..	W by S	..	..	..	..	..	..	..	..	..	..
14	30·283	45·4	44·3	1·1	..	..	..	..	WSW	..	..	..	SW	½	..	..	..	10	..
16	30·270	46·0	45·2	0·8	44·5	1·5	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
18	30·265	46·0	45·7	0·3	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..

BAROMETER.

Dec. 0d. 18h. The reading was the lowest in the month.

Dec. 1d. The mean daily height was the least in the month.

Dec. 1d. 12h. From this time to Dec. 30d. 10h the height was above 30 inches, except between 5d.4h and 5d.8h, at which time it was rather less than 30 inches; the monthly range was the smallest in the year: the great height for December and the very small variation are very remarkable.

Dec. 2d. 6h. After this day the readings increased.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus.	G
,, ,, a very thin small rain has this minute begun to fall.	
Rain has been falling ever since the last observation, at times rather steadily, and at other times thin, and variable in quantity.	G
Overcast: a thin rain falling.	P
,, a very thin rain still falling.	
,, ,,	
,, ,,	
,, the rain has ceased falling.	P
Cirro-stratus and scud.	D
Cirro-stratus and scud.	J H
,,	D
Overcast by scud, which in some parts of the sky is very thin, the blue sky being visible through it: gloomy.	P
Overcast: cirro-stratus.	P
Cirro-stratus and scud.	J H
Overcast: scud: fifteen minutes previously to the observation the sky was without cloud: scud, however, soon came up from the North, and now obscures the sky.	P
Overcast: cirro-stratus.	D
,, ,,	
,, ,,	
Cirro-stratus: a few stars are shining in the zenith.	
,, the clouds are thin in the zenith: hazy.	D
Light fleecy clouds: very hazy.	J H
Light fleecy clouds: hazy: the air has been very thick since the last observation, but it cleared shortly before 23^h.	
A few light clouds: hazy.	J H
,, ,,	D
Small fragments of scud in different parts of the sky: a corona is visible around the Moon.	
Overcast: cirro-stratus: from $6^h.10^m$ to $6^h.30^m$ a lunar halo was faintly visible; its radius was $25°$: at 6^h the sky was completely covered with cirro-stratus, and has continued so up to the present time; the Moon's place, however, is occasionally visible.	
,, a thin rain falling.	D
,, ,,	J H
Overcast: a thin fog.	D
Overcast: no break has appeared in the clouds during the day.	D
Overcast: cirro-stratus.	J H
,, ,,	
,, ,,	

DRY THERMOMETER.
Dec. $2^d.6^h$. After this time the readings increased.

MINIMUM THERMOMETER.
Nov. $30^d.22^h$ The reading was higher than that of the Dry Thermometer at 4^h.

AMOUNT OF RAIN.
Nov. $30^d.12^d$. During the month of November, in rain-gauge No. 4, the amount was $2^{in}.30$.
Dec. $1^d.22^h$. There is no evidence to account for the increase in the reading of rain-gauge No. 3.

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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	By Estimation. Direction.	By Estimation. Force 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—1 0.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°		from lbs. to lbs.		in.			in.	in.	in.		
Dec. 3. 20	30·278	46·2	46·0	0·2	..	..	..	..	SW	..	..	..	Calm	..	..	..	..	10	..
22	30·293	47·0	46·6	0·4	46·0	1·0	48·5 45·3	47·8 42·0	WSW	..	WSW	4·60	SW	½–	14·79	0·00	22·250	10	..
Dec. 4. 0	30·281	47·9	47·8	0·1	..	..	..	..	SW	..	..	..	SW	½–	..	..	..	10	..
2	30·238	47·6	47·5	0·1	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
4	30·241	47·0	46·7	0·3	45·0	2·0	..	..	SSW	..	WSW	0·70	Calm	..	..	..	..	10	..
6	30·236	46·2	46·1	0·1	..	..	..	..	SW	..	..	..	W	¼	..	..	..	10	..
8	30·209	46·0	45·5	0·5	..	..	..	..	SW	..	SW	2·63	WSW	¼	..	..	..	10	..
10	30·204	45·7	44·8	0·9	44·0	1·7	..	..	SW	..	..	..	nearly calm	..	..	..	..	10	Transit
12	30·184	47·5	46·5	1·0	..	..	..	..	SSW	0 to ½	..	..	Calm	..	..	..	..	10	..
14	30·140	47·5	46·3	1·2	..	..	..	..	SSW	..	..	..	Calm	..	..	..	..	10	..
16	30·100	46·3	46·0	0·3	45·2	1·1	..	..	SSW	..	SSW	1·47	Calm	..	..	..	..	10	..
18	30·091	46·7	45·5	1·2	..	..	..	..	SSW	½ to 2½	..	..	SW	½	..	..	..	10	..
20	30·067	46·5	45·7	0·8	..	..	..	..	S	..	..	..	SW	¼+	..	..	..	10	..
22	30·046	48·6	47·6	1·0	47·0	1·6	49·2 45·5	49·7 42·7	S	..	S	1·10	SSW	¾	14·79	0·00	22·250	10	..
Dec. 5. 0	30·025	51·1	49·0	2·1	..	..	..	..	SSW	½ to 3	..	..	SW	1	..	..	..	10	..
2	30·002	52·0	49·5	2·5	..	..	..	..	SW	½ to 3	..	..	SW	1	..	..	..	10	..
4	29·979	51·7	49·0	2·7	48·5	3·2	..	..	SW	½ to 2½	..	..	SW	½	..	..	..	9¾	..
6	29·981	50·0	49·2	0·8	..	..	..	..	SW	½ to 3	..	..	SW	½	..	..	..	10	..
8	29·984	51·1	50·2	0·9	..	..	..	..	SW	0 to ½	..	..	SW	½	..	..	..	10	..
10	30·019	50·8	49·2	1·6	48·5	2·3	..	..	WSW	1 to 3	..	..	SW	½	..	..	..	10	..
12	30·057	49·4	47·6	1·8	..	..	..	..	WSW	..	..	..	WSW	¼	..	..	..	10	Transit
14	30·092	47·8	46·2	1·6	..	..	..	..	Calm	..	..	..	WSW	¼	..	..	..	7	..
16	30·128	44·5	42·5	2·0	41·0	3·5	..	..	Calm	..	..	..	WSW	¼	..	..	..	0	..
18	30·154	40·6	39·0	1·6	..	..	..	..	Calm	..	..	..	WSW	¼	..	..	..	0	..
20	30·183	40·5	38·5	2·0	..	..	..	..	SW	..	..	..	WSW	¼	..	..	..	0	..
22	30·233	42·0	39·9	2·1	39·0	3·0	52·2 40·1	52·5 32·2	WSW	..	WSW	7·83	WSW	¼+	14·79	0·00	22·280	2	..
Dec. 6. 0	30·255	46·5	43·7	2·8	..	..	..	..	WSW	..	..	..	WSW	¼+	..	..	..	0	..
2	30·250	48·5	44·7	3·8	..	..	..	..	WSW	..	..	..	WSW	½	..	..	..	0	..
4	30·254	47·1	44·0	3·1	42·5	4·6	..	..	WSW	..	SW	0·70	WSW	¼	..	..	..	0	..
6	30·289	44·1	42·0	2·1	..	..	..	..	Calm	..	..	..	WSW	¼	..	..	..	0	..
8	30·298	42·4	40·9	1·5	..	..	..	..	Calm	..	..	..	WSW	¼	..	..	..	0	..
10	30·314	41·6	40·5	1·1	40·0	1·6	..	..	Calm	..	..	..	WSW	¼	..	..	..	5	..
12	30·300	41·0	39·3	1·7	..	..	..	..	SW	..	..	..	WSW	½	..	..	..	2	Transit Full
14	30·289	40·8	39·1	1·7	..	..	..	..	WSW	..	..	..	WSW	¼	..	..	..	6	..
16	30·268	43·8	41·7	2·1	39·7	4·1	..	..	WSW	..	..	..	W	¼	..	..	..	10	..
18	30·253	44·2	41·9	2·3	..	..	..	..	SW	..	..	..	SSW	¼	..	..	..	10	..

DRY THERMOMETER.

Dec. 6d. 2h. The difference between its readings and that of the Wet Thermometer was the greatest between November 29d and the end of December.

Dec. 6d. 14h to 16h. The reading increased considerably.

TEMPERATURE OF THE DEW POINT.

Dec. 6d. The difference between its mean daily value and that of the Air was the greatest in the month.

WEIGHT OF A CUBIC FOOT OF AIR.

Dec. 5d. The mean daily value was the least in the month.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus.	J H
,, ,, gloomy.	P
Overcast: cirro-stratus: a thin, misty rain is falling.	
,, ,, damp and misty.	P
Cirro-stratus and scud.	J H
,, the air misty.	
,, a very fine rain falling: damp and misty.	
,, there is occasionally a light breeze from the W. S.W.	J H
,, a misty and damp air.	P
,, much lighter.	
,, a thick misty rain falling.	
Overcast: cirro-stratus and scud: the wind rose soon after the preceding observation, and is now blowing in moderate gusts to $\frac{3}{4}+$, with prolonged lulls.	
Overcast: cirro-stratus and scud: about $19^h.\ 0^m$ a few stars were visible N. E. of the zenith, and the clouds became more broken in other directions; they soon, however, again disappeared: the wind as before.	P
Overcast: cirro-stratus and scud: gusts of wind to 1.	D
Overcast: cirro-stratus and scud.	
Cirro-stratus and scud.	D
A few small breaks have just appeared in and around the zenith, disclosing an upper cloud, consisting of mottled and fan-like cirri: the clouds are in every direction much thinner.	P
Overcast: cirro-stratus and scud: a very thin misty rain falling, which commenced about $5^h.\ 25^m$: wind blowing in gusts to about 1, with frequent lulls.	
Overcast: cirro-stratus and scud: no rain falling: the wind as before.	
,, ,, the gusts vary from $\frac{3}{4}$ to 4, with prolonged lulls.	P
,, cirro-stratus: the Moon is visible through the clouds: a perfect lunar halo was visible at $10^h.\ 45^m$; its diameter, by instrumental measurement, was 44°: the halo was seen until $11^h.\ 35^m$, when the Moon became nearly obscured.	D
Cirro-stratus and scud.	
Cloudless.	
,,	
,,	D
A few light clouds.	J H
Cloudless.	P
,, a patch or two of scud in the N.W., which will not, however, affect the notation: hazy in the whole horizon.	P
,,	D
,,	
,, a faint corona has just formed around the Moon.	
One half of the sky is covered with fleecy clouds: ten minutes since, the amount of cloud was 9: the clouds near the Moon are slightly tinged with the prismatic colours.	D
Mottled small cumuli have been prevalent since the last observation, frequently covering a large portion of the sky; at present a small part of the same cloud is towards the West.	G
The sky has been partially clear, and then principally covered with a white mottled cloud, or a fleecy kind of cirro-cumulus: there have been frequent faint coronæ round the Moon, the external parts of which have been of a deep red; at the present time the same fleecy clouds continue, but they are different in form, having become changed from linear to circular shapes.	
At about 15^h the linear clouds which prevailed at the last observation, whose direction was N. and S., were crossed at right-angles by others, their direction being E. and W., and very shortly afterwards the sky became uniformly overcast; the above clouds have flowed into cirro-stratus. I looked well for Faye's Comet but the Moon's light was too great for it.	
Overcast: cirro-stratus.	

DEGREE OF HUMIDITY.

Dec. 6d. The mean daily value was the least in the month.

AMOUNT OF CLOUDS.

Dec. 6d. The mean daily amount was the least in the month.

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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0—6.	RAIN. Stand of Rain-gauge No.1, (Osler's).	RAIN. Reading of Rain-gauge No.2.	RAIN. Stand of Rain-gauge No.3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°		from lbs. to lbs.		in.			in.	in.	in.		
Dec. 6. 20	30·232	45·2	42·5	2·7	..	..	..	..	SW	..	..	..	S	¼	..	..	..	10	Greatest declination N.
22	30·167	45·5	43·5	2·0	41·5	4·0	48·7 40 2	51·5 33·8	S by W	..	WSW	5·80	SSW	¼	14·79	0·00	22·280	10	..
Dec. 7. 0	30·119	48·8	48·0	0·8	..	..	..	..	SW	½ to 2	..	..	SSW	½	..	..	..	10	..
2	30·050	51·3	50·8	0·5	..	..	..	..	SW	½ to 3⅗	..	..	SSW	¾	..	..	..	10	..
4	30·010	52·7	51·9	0·8	51·0	1·7	..	..	WSW	1 to 2	SW	1·31	W	¾	..	..	..	10	..
6	29·991	53·2	52·0	1·2	..	..	..	..	WSW	1 to 2	..	..	W	1	..	..	..	10	..
8	29·968	53·0	52·0	1·0	..	..	..	..	WSW	1½ to 4	..	..	WSW	1	..	..	..	10	..
10	29·980	51·2	48·8	2·4	45·0	6·2	..	..	W by S	1 to 3½	..	..	WSW	1	..	..	..	1	..
12	29·988	51·0	49·5	1·5	..	..	..	..	W by S	½ to 1	..	..	WSW	1	..	..	..	10	..
14	30·010	51·7	50·3	1·4	..	..	..	..	W by S	..	..	..	WSW	¾	..	..	..	10	Transit
16	30·028	51·8	50·5	1·3	49·0	2·8	..	..	W by S	..	..	..	W	⅓	..	..	..	8	..
18	30·032	51·6	50·3	1·3	..	..	..	..	W by S	..	..	..	W	⅓	..	..	..	9	..
20	30·066	49·1	48·6	0·5	..	..	..	..	Calm	..	WSW	5·91	W	½	..	..	..	2	..
22	30·089	50·0	48·6	1·4	47·5	2·5	53·7 45·7	54·0 41·9	Calm	..	W	0·08	W	¼	14·79	0·00	22·280	6	..
Dec. 8. 0	30·114	52·3	49·3	3·0	..	..	..	..	W by N	..	..	..	W	½	..	..	..	6	..
2	30·100	52·5	48·9	3·6	..	..	..	..	W by N	..	WNW	0·65	W	¼	..	..	..	8	..
4	30·107	49·3	47·5	1·8	45·0	4·3	..	..	Calm	..	..	..	W by S	¼	..	..	..	1	..
6	30·109	46·3	45·1	1·2	..	..	..	..	Calm	..	..	..	W by S	¼	..	..	..	1	..
8	30·084	45·0	43·4	1·6	..	..	..	..	Calm	..	..	..	W	¼	..	..	..	0	..
10	30·140	43·5	42·5	1·0	40·5	3·0	..	..	Calm	..	..	..	W	¼	..	..	..	1	..
12	30·150	40·5	40·2	0·3	..	..	..	..	Calm	..	W	0·58	Calm	..	..	..	..	1	..
14	30·140	40·0	39·4	0·6	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	2	Transit
16	30·148	36·0	35·8	0·2	36·0	0·0	..	..	Calm	..	..	..	Calm	..	..	..	..	6	..
18	30·174	34·5	34·0	0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
20	30·183	34·0	33·8	0·2	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
22	30·207	35·2	35·0	0·2	35·0	0·2	53·2 33·7	56·7 28·2	Calm	..	WSW	0·27	Calm	..	14·79	0·00	22·285	5	..
Dec. 9. 0	30·210	39·6	39·5	0·1	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
2	30·200	41·6	41·1	0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
4	30·159	42·2	41·7	0·5	41·5	0·7	..	..	Calm	..	..	..	SW	¼	..	..	..	10	..
6	30·198	42·0	41·5	0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
8	30·185	43·0	42·2	0·8	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
10	30·181	43·0	42·5	0·5	42·0	1·0	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
12	30·179	43·1	42·6	0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
14	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	Transit
18	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
22	30·165	44·0	43·7	0·3	..	..	44·3 35·1	45·0 32·5	Calm	..	WSW	0·40	Calm	..	14·88	0·15	22·410	10	..
Dec. 10. 0	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
4	30·155	46·6	46·0	0·6	..	..	..	..	Calm	..	..	..	S	¼	..	..	..	10	..
6	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..

BAROMETER.
Dec. 7d. The daily range was the greatest in the month.

DRY THERMOMETER.
Dec. 8d and 9d. The greatest difference of the mean daily temperatures for consecutive days in the month occurred.

TEMPERATURE OF THE DEW POINT.
Dec. 7d. 10h. The difference between it and that of the air was the greatest in the month.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus: a very thin rain has just begun falling.	G
Cirro-stratus and scud.	J H
Cirro-stratus and scud: a very fine rain falling.	
No note was made; but there has not been any change: a fine rain continued falling.	J H
Overcast: cirro-stratus.	G
,, ,, gusts of wind to $1\frac{1}{2}$.	
,, cirro-stratus and scud, the latter moving with great rapidity from the W. N.W.: the Moon's disc is occasionally visible, as the density of the passing scud becomes less: the wind in gusts to $1\frac{1}{2}$ and 2.	
The sky is nearly cloudless: a large corona around the Moon: the wind is blowing in gusts to 2.	G
Overcast: strong gusts of wind: the clouds move from the N.W.: cirro-stratus and scud.	J H
,, cirro-stratus.	
Cirro-stratus and fleecy clouds.	
,,	
Fleecy clouds.	J H
Cirri and clouds of no definite modification scattered in every direction.	P
Cumuli and scud, and a somewhat dense haze.	
Light scud scattered in every direction, with haze.	P
Generally clear.	J H
Vapour: hazy.	
Cloudless, except a few small white clouds in the S.W. of no numerical amount.	
Light fleecy clouds, principally in the S.W.	J H
Thin clouds, a dense haze in the N. and N.W.	P
There is still much cloud in the N. and also in the N.E., as also a few patches of fleecy clouds here and there: the halo has just disappeared.	
There seems much cloud about, though, from the very dense fog that has come up since the preceding observation, none is distinctly visible: a few only of the large stars are to be seen: a small corona around the Moon.	
Exactly the same as before: a small corona is still around the Moon.	P
Overcast: the fog is dense as before.	D
Cirro-stratus: a thin fog.	
Overcast: a thin fog.	D
,,	P
,, a thick fog.	
,, cirro-stratus: very dark: no fog.	
,, ,,	P
,, ,,	D
,, ,,	
,, ,, the clouds seem to be thinner in the S.W.	P
Overcast: cirro-stratus: a very thin rain falling.	G

RAIN.

Dec. 8d. 22h. The increase in the reading of rain-gauge No. 3 was by deposition of moisture.

LUNAR HALO.

Dec. 8d. 12h. A beautiful lunar halo was visible; the measures of two radii, taken in the same diameter, were each 22°; each measure being determined by two readings; those of two other diameters were each 43°: the width of the ring was about 3°. As the light clouds moved past the Moon, between 14h and 14h. 30m., other halos, some nearly perfect, and others but partially so, were seen several times, their diameters being about the same as that observed at 12h.

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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	By Estimation. Direction.	By Estimation. Force 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°		from lbs. to lbs.		in.			in.	in.	in.		
Dec. 10. 8	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
14	30·206	42·0	41·2	0·8	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
16	30·206	42·4	42·0	0·4	41·5	0·9	..	..	Calm	..	..	..	Calm	..	..	..	..	10	Transit
18	30·198	43·6	42·0	1·6	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
20	30·187	40·5	40·0	0·5	..	..	..	..	Calm	..	..	..	S	¼	..	..	..	3	..
22	30·201	39·5	39·0	0·5	37·5	2·0	47·2 39·0	49·5 31·8	Calm	..	SSE	0·63	S	¼	14·88	0·00	22·410	2	..
Dec. 11. 0	30·210	44·5	43·1	1·4	..	..	..	..	Calm	..	..	..	S	¼	..	..	..	4	..
2	30·180	47·2	45·1	2·1	..	..	..	..	Calm	..	..	..	S	¼	..	..	..	7	..
4	30·167	44·0	42·5	1·5	41·5	2·5	..	..	Calm	..	..	..	S	¼	..	..	..	1	..
6	30·176	40·1	39·5	0·6	..	..	..	..	Calm	..	..	..	S	¼	..	..	..	0	..
8	30·196	38·3	37·8	0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
10	30·222	36·6	36·5	0·1	36·5	0·1	..	..	Calm	..	..	..	Calm	..	..	..	..	0	..
12	30·240	35·3	35·2	0·1	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
14	30·251	34·6	34·2	0·4	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
16	30·263	32·0	31·7	0·3	30·5	1·5	..	..	Calm	..	..	..	Calm	..	..	..	..	10	Transit
18	30·278	31·1	30·7	0·4	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
20	30·315	31·5	31·2	0·3	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
22	30·348	31·6	31·8	−0·2	30·5	1·1	48·2 30·4	51·0 27·5	Calm	..	SSE	1·37	Calm	..	14·88	0·00	22·410	10	..
Dec. 12. 0	30·302	33·5	32·0	1·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
2	30·335	34·9	34·5	0·4	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
4	30·343	35·5	35·5	0·0	34·0	1·5	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
6	30·386	35·0	34·5	0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
8	30·363	32·0	32·0	0·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
10	30·367	30·5	30·5	0·0	30·0	0·5	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
12	30·362	31·0	31·5	−0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
14	30·363	29·0	29·4	−0·4	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
16	30·360	28·7	28·7	0·0	28·5	0·2	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
18	30·331	26·0	26·0	0·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	9¾	Transit
20	30·335	27·5	27·5	0·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
22	30·346	30·0	29·3	0·7	28·0	2·0	37·0 25·6	35·7 22·8	Calm	..	SSE	0·51	Calm	..	14·88	0·00	22·410	10	..
Dec. 13. 0	30·358	34·8	31·8	3·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
2	30·332	38·3	37·3	1·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
4	30·325	41·5	41·0	0·5	40·5	1·0	.	..	Calm	..	..	..	Calm	..	..	..	..	10	..
6	30·334	43·0	42·1	0·9	..	..	..	..	SSW	..	..	..	Calm	..	..	..	..	10	..
8	30·346	43·8	42·7	1·1	..	..	..	..	SSW	..	..	..	Calm	..	..	..	..	10	..
10	30·354	44·1	42·9	1·2	42·0	2·1	..	..	SSW	..	..	..	Calm	..	..	..	..	10	..
12	30·388	45·2	42·6	2·6	..	..	..	..	WSW	..	..	..	W	¼	..	..	..	10	..
14	30·373	43·0	41·6	1·4	..	..	..	..	SW	..	..	..	Calm	..	..	..	..	10	..
16	30·379	43·5	42·5	1·0	41·5	2·0	..	..	SW	..	..	..	Calm	..	..	..	..	10	..
18	30·398	41·8	40·6	1·2	..	..	..	..	SW	..	..	..	Calm	..	..	..	..	7	Transit In Equator

DRY THERMOMETER.
Dec. 11d. 22h. The reading was lower than that of the Wet Thermometer.
Dec. 12d. The mean daily temperature was the lowestt in the month.
Dec. 12d. 12h and 14h. The readings were lower than those of the Wet Thermometer.
Dec. 12d. 18h. The reading was the lowest in the month.
Dec. 13d. The daily range was the greatest in the month.

TEMPERATURE OF THE DEW POINT. [Abstracts.
Dec. 11d and 12d. The greatest difference of the mean daily values for consecutive days in the month occurred: for other large differences during the month see the
Dec. 12d. The mean daily value was the lowest in the month.
Dec. 12d. 22h. The reading was the lowest in the month.

GENERAL REMARKS.	Observer.
Overcast; cirro-stratus: the sky was quite cloudless at $12^h.\ 15^m$, and continued so for about half an hour, when clouds came up suddenly from the S., which gradually increased until the heavens became quite covered.	D
Overcast: cirro-stratus.	
,, ,,	
Cirro-stratus in the S. E. and N.W.; the sky is otherwise clear.	D
Detached clouds of no definite modification.	J H
Scud and fleecy clouds.	
Gloomy to the North of the zenith; cirro-stratus of a light character, and fleecy clouds scattered in other directions.	J H
Cirro-stratus near the horizon in the N. and N.W.; in every other part the sky is quite clear.	D
Cloudless.	
,,	
,,	D
Cirro-stratus: a damp misty air.	J H
,, ,,	
,, ,, the Moon is visible.	
,, misty.	
,, ,,	J H
,, a very dense, damp fog.	P
Cirro-stratus: a very dense damp fog.	
Overcast: the same dense fog continues.	P
,, ,,	J H
Cirro-stratus: a thick fog.	
,, a damp wetting mist.	
,, ,, very dark.	J H
,, a thick, damp fog: in the lower grounds of the Park, objects are invisible at a very short distance.	P
Exactly the same as before.	
No change,	
A few stars are glimmering in the zenith: the fog remains as thick as ever.	
Overcast: the fog as before: the clouds for a short time partially cleared away, in and around the zenith, after the preceding observation, at which time a small glory was visible around the Moon.	P
Cirro-stratus: foggy.	J H
Cirro-stratus: foggy.	
,, the fog is thinner.	J H
Overcast; but the clouds are so thin in every direction, as distinctly to shew blue sky; misty and damp.	P
,, the clouds soon again became dense after the former observation: the mist appears to be in a great measure dissipated, but it is very dark.	
Overcast: no fog in the higher grounds; the temperature has been increasing since December $12^d.\ 18^h$, and seems, indeed, to have increased as the fog became thin.	
,, very dark: no fog in the higher grounds.	P
,, no fog: cirro-stratus, which is very high.	G
,, a small break appears in the cirro-stratus near the horizon in the E. S. E.	
,, cirro-stratus; the break which was mentioned at the last observation continued but a very short time.	
At $17^h.\ 40^m$ the clouds broke, and soon almost entirely dispersed; at present, however, the sky is covered with a thin white fleecy kind of cloud, and the Moon is shining brightly; the sky was again overcast five minutes after the observation.	

ELASTIC FORCE OF VAPOUR, AND WEIGHT OF VAPOUR IN A CUBIC FOOT OF AIR.
Dec. 12^d. The mean daily values were the least in the month.

WEIGHT OF A CUBIC FOOT OF AIR.
Dec. 12^d. The mean daily value was the greatest in the month.

DEGREE OF HUMIDITY.
Dec. 12^d. The mean daily value was the greatest in the month.

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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°		from lbs. to lbs.		in.			in.	in.	in.		
Dec. 13. 20	30·411	40·5	39·0	1·5	..	..	..	..	SW	..	..	..	W	¼	..	..	..	1	..
22	30·437	41·1	39·4	1·7	38·0	3·1	44·7 39·3	44·6 37·5	SW	..	SW	2·69	SW	¼	14·88	0·00	22·410	0	..
Dec. 14. 0	30·415	45·6	43·2	2·4	..	..	..	..	WSW	..	..	..	SW	½	..	..	..	0	..
2	30·388	47·0	44·6	2·4	..	..	..	..	WSW	..	..	..	WSW	¼	..	..	..	7	3rd Qr.
4	30 376	45·8	43·9	1·9	42·0	3·8	..	..	SW	..	..	..	W	½	..	..	..	8	..
6	30·376	44·7	43·0	1·7	..	..	..	..	WSW	..	..	..	SW	¾	..	..	..	2	..
8	30·354	44·0	42·6	1·4	..	..	..	..	WSW	½ to 1½	..	..	SW	½	..	..	..	8	..
10	30·341	43·0	42·2	0·8	41·0	2·0	..	..	WSW	1½ to 3	..	..	SW	1	..	..	..	8	..
12	30·319	44·2	43·2	1·0	..	..	..	..	WSW	1 to 1½	..	..	SW	½	..	..	..	5	..
14	30·295	46·2	45·3	0·9	..	..	..	..	SW	1 to 2	..	..	SW	1	..	..	..	10	..
16	30·279	45·2	44·5	0·7	44·0	1·2	..	..	SW	0 to ½	..	..	SW	½	..	..	..	4	..
18	30·262	44·6	43·7	0·9	..	..	..	..	SW	1 to 2	..	..	SW	1	..	..	..	4	..
20	30·254	44·6	43·7	0·9	..	..	..	..	WSW	1 to 3	..	..	WSW	¾	..	..	..	8	Transit
22	30·280	46·6	45·5	1·1	45·0	1·6	47·7 39·3	52·8 35·0	WSW	0 to ½	WSW	6·50	SW	¼	14·88	0·00	22·410	10	..
Dec. 15. 0	30·271	49·5	47·6	1·9	..	..	..	..	WSW	0 to 1½	..	..	WSW	¼	..	..	..	10	..
2	30·259	50·2	47·8	2·4	..	..	..	..	WSW	½ to 3	..	..	WSW	¾	..	..	..	10	..
4	30·245	49·6	47·2	2·4	46·0	3·6	..	..	WSW	0 to 1	..	..	W by S	¾	..	..	..	8	..
6	30·241	47·3	45·6	1·7	..	..	..	..	WSW	½ to 1½	..	..	WSW	¾	..	..	..	2	..
8	30·248	48·3	46·5	1·8	..	..	..	..	WSW	0 to ½	..	..	WSW	½	..	..	..	10	..
10	30·257	48·2	46·6	1·6	45·5	2·7	..	..	WSW	0 to ½	..	..	WSW	½	..	..	..	10	..
12	30·254	46·8	45·5	1·3	..	..	..	..	WSW	0 to ¼	..	..	WSW	¼	..	..	..	9	..
14	30·241	46·6	45·6	1·0	..	..	..	..	W by S	0 to 1	WSW	5·93	WSW	½	..	..	..	9	..
16	30·235	46·5	45·5	1·0	44·0	2·5	..	..	W by S	..	..	..	WSW	½	..	..	..	5	..
18	30·235	43·5	43·3	0·2	..	..	..	..	SW	..	SW	0·87	WSW	¾	..	..	..	0	..
20	30·241	43·0	42·8	0·2	..	..	..	..	SW	..	..	..	WSW	½	..	..	..	2	Transit
22	30·256	45·0	44·2	0·8	43·0	2·0	50·9 43·1	51·0 38·0	SW	..	WSW	0·33	WSW	¼	14·88	0·00	22·410	4	..
Dec. 16. 0	30·270	50·5	48·4	2·1	..	..	..	..	W by S	..	..	..	WSW	¼	..	..	..	8	..
2	30·261	52·5	50·0	2·5	..	..	..	..	W by S	..	..	..	Calm	..	..	..	..	10	..
4	30·262	50·8	49·2	1·6	47·5	3·3	..	..	WSW	..	W	1·10	Calm	..	..	..	..	10	..
6	30·332	49·5	49·0	0·5	..	..	..	..	N	..	..	..	WSW	¼	..	..	..	10	..
8	30·311	48·7	47·5	1·2	..	..	..	..	NNW	..	..	..	WSW	½	..	..	..	10	..
10	30·334	47·6	45·4	2·2	43·0	4·6	..	..	N by W	..	..	..	WSW	½	..	..	..	10	..
12	30·342	46·5	44·8	1·7	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
14	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	Transit
22	30·353	45·6	45·2	0·4	..	..	53·0 44·7	60·0 39·0	Calm	..	WSW	2·50	Calm	..	14·88	0·00	22·410	1	..
Dec. 17. 0	..	..	..	..	..	..	..	..	W by S	..	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
4	30·349	45·9	45·0	0·9	..	..	..	..	Calm	..	..	..	SSW	¼	..	..	..	0	..
6	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..

BAROMETER.

Dec. 13d. 22h. The reading was the highest in the month; the same reading occurred on Jan. 18d at 22h.

WEIGHT OF A CUBIC FOOT OF AIR.

Dec. 14d and 15d. The greatest difference of the mean daily values for consecutive days in the month occurred.

GENERAL REMARKS.	Observer.
At $18^h.40^m$ the sky was cloudless, and it has continued nearly so to the present time, there being at present only a few thin clouds to the South.	G
Cloudless.	D
Cloudless.	
Thin cirro-stratus and haze.	D
The sky is nearly covered with a thin fleecy cloud. [atmosphere appears thick.	G
A fine crimson sunset, with lines of deep orange-coloured clouds; those nearer the Sun were of a golden hue: at present the lower	
The sky became cloudy shortly after the last observation: at times the stars are faintly seen, as they are at present.	
A few stars are dimly seen: within the last ten minutes the wind has suddenly increased considerably in strength.	G
Cirro-stratus and vapour: the stars are shining in and around the zenith: occasional gusts of wind to 1—.	D
Overcast: cirro-stratus: the wind is blowing in gusts.	
The sky North of the zenith is quite clear; cirro-stratus covers the greater part of the remainder.	
The same as at the last observation.	
Cirro-stratus and scud.	D
,,	J H
Cirro-stratus and scud.	
,, gusts of wind.	J H
Fleecy clouds and cirro-stratus.	D
The greater part of the sky has been clear since the last observation: at present cirro-stratus is in the horizon in the N., E., and S.: a few small fragments are also South of the zenith: gusts of wind.	
Overcast: cirro-stratus.	
,, ,,	D
Cirro-stratus and scud.	J H
,,	
Scud and cirro-stratus.	
Cloudless.	
Fleecy clouds and scud.	J H
Imperfectly-formed cirri, fleecy clouds, and scud, with a species of cirro-stratus in the horizon in the South.	P
Cirro-stratus and scud: the sky about the zenith is clear.	D
Overcast; cirro-stratus.	P
,, ,, at $4^h.45^m$ a fine rainbow was visible; the red tint was much more conspicuous than the other colours; the clouds in the E. at the time consisted of light scud and cirro-stratus.	J H
Overcast: cirro-stratus: rain falling.	
,, ,, the rain ceased falling at about $6^h.30^m$.	J H
,, ,,	P
,, ,,	
A few cirri scattered about the sky.	
Cloudless, with the exception of a few coloured clouds near the place of the setting Sun, which are to no numerical extent.	

MAXIMUM THERMOMETER.
Dec. $13^d.$ $22^h.$ The reading was lower than that of the Dry Thermometer at 12^h.

MINIMUM THERMOMETER.
Dec. $15^d.$ $22^h.$ The reading was higher than that of the Dry Thermometer at 20^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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0—6	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°		from lbs. to lbs.		in.			in.	in.	in.		
Dec. 17. 8	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
14	30·372	39·1	39·1	0·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	2	..
16	30·370	40·0	39·8	0·2	40·0	0·0	..	..	Calm	..	..	..	Calm	..	..	..	..	9	..
18	30·361	39·2	39·2	0·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
20	30·366	41·0	40·7	0·3	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
22	30·383	42·0	41·7	0·3	41·0	1·0	49·5 38·5	52·0 34·4	Calm	..	WSW	2·51	Calm	..	14·88	0·00	22·410	10	Transit
Dec. 18. 0	30·379	44·5	44·0	0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
2	30·361	45·4	44·4	1·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
4	30·349	44·0	43·2	0·8	43·0	1·0	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
6	30·362	43·6	43·2	0·4	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
8	30·371	43·8	43·3	0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
10	30·374	43·3	43·0	0·3	43·0	0·3	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
12	30·367	43·5	42·8	0·7	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
14	30·363	42·7	42·4	0·3	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	Perigee
16	30·358	42·8	42·3	0·5	42·0	0·8	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
18	30·345	42·6	42·1	0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
20	30·352	42·8	42·2	0·6	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
22	30·361	43·8	43·0	0·8	42·8	1·0	46·9 42·5	48·3 38·8	Calm	..	..	0·00	Calm	..	14·88	0·00	22·450	10	Transit
Dec. 19. 0	30·358	45·8	44·8	1·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
2	30·347	46·5	45·4	1·1	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
4	30·350	45·6	44·2	1·4	43·5	2·1	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
6	30·362	44·7	43·7	1·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
8	30·353	44·5	43·4	1·1	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
10	30·355	44·0	42·8	1·2	42·0	2·0	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
12	30·352	43·9	42·4	1·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
14	30·347	43·6	42·3	1·3	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
16	30·339	43·5	43·0	0·5	42·0	1·5	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
18	30·316	43·2	42·2	1·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
20	30·319	42·9	41·6	1·3	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
22	30·331	42·2	41·2	1·0	40·5	1·7	47·1 42·3	47·0 39·7	Calm	..	S	2·25	Calm	..	14·88	0·00	22·450	10	..
Dec. 20. 0	30·305	42·0	41·0	1·0	..	..	..	..	Calm	..	..	..	S	¼	..	..	..	10	Transit
2	30·269	42·5	41·4	1·1	..	..	..	..	Calm	..	..	..	S	¼	..	..	..	10	Greatest declination S.
4	30·254	42·6	41·5	1·1	41·0	1·6	..	..	Calm	..	..	..	SSW	¼	..	..	..	10	..
6	30·237	42·2	41·3	0·9	..	..	..	..	Calm	..	..	..	SSW	¼	..	..	..	10	..
8	30·240	42·5	41·8	0·7	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
10	30·240	42·2	41·6	0·6	41·0	1·2	..	..	Calm	..	..	..	SSW	very light	..	..	..	10	..
12	30·242	41·5	40·7	0·8	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
14	30·221	42·7	41·7	1·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
16	30·232	43·5	42·2	1·3	41·5	2·0	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
18	30·245	44·0	42·6	1·4	..	..	..	..	Calm	..	S	4·03	Calm	..	..	..	..	10	New
20	30·265	44·0	43·0	1·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	8	..
22	30·284	43·7	43·3	0·4	42·0	1·7	44·2 41·4	44·0 38·2	Calm	..	SSW	0·40	SW	¼	14·88	0·00	22·450	1	..
Dec. 21. 0	30·298	47·5	46·4	1·1	..	..	..	..	SSW	..	..	..	SSW	¼	..	..	..	10	Transit

BAROMETER.

Dec. 19d. The daily range was the least in the month.

DRY THERMOMETER.

Dec. 20d. The daily range was the least in the month, being 2°·1: there was only one day in the year during which the range was smaller than this, viz. on February 20d.

MINIMUM THERMOMETER.

Dec. 19d. 22h. The reading was that of the temperature at the time of observation, and was higher than that of the Dry Thermometer at the time.

GENERAL REMARKS.	Observer.
[are continually passing over.	P
A few clouds are scattered over the sky, having come up from the W. S.W.: hazy; the stars are in consequence very dim: clouds	
A few stars are visible West of the zenith; the rest of the sky is overcast: hazy.	
Overcast: cirro-stratus.	P
,, ,,	D
,, cirro-stratus and fog.	
Overcast: cirro-stratus and fog.	D
,, ,,	
,, cirro-stratus: a thick fog.	P
,, ,, very dark: there is no fog at present.	
,, ,, ,, it is again foggy.	
,, foggy in the low grounds, and very dark.	
,, ,,	P
,, ,,	D
,, ,,	
,, cirro-stratus.	
,, ,, a very dark morning.	D
,, ,,	J H
Overcast: cirro-stratus.	
,, ,, and scud.	J H
,, ,, ,,	D
,, ,,	
,, ,,	
,, ,,	D
,, ,,	J H
,, ,,	
,, ,, very dark.	
,, ,,	
,, ,,	J H
,, ,, a very thin rain is occasionally falling.	G
The same in every respect as at the preceding observation.	P
Overcast: cirro-stratus: damp and cold.	P
,, ,, a very thin rain is occasionally falling.	J H
,, ,,	
,, ,,	J H
,, ,, the clouds are moderately high: a very small rain is falling.	G
,, ,, ,, the rain has ceased.	G
,, a thin, misty rain is falling.	P
,, cirro-stratus.	D
,, ,,	D
Cirro-stratus.	J H
A few fleecy clouds are near the zenith, and a line of stratus near the South horizon.	G
Overcast: cirro-stratus and scud.	P

RAIN.

Dec 18d. 22h. There is no evidence to account for the increase in the reading of rain-gauge No. 3.

CLOUDS.

Dec. 17d. 16h. From this time to the end of the year the sky was generally covered with cloud; it was the most cloudy period in the year.

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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	By Estimation. Direction.	By Estimation. Force 0—6	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°		from lbs. to lbs.		in.			in.	in.	in.		
Dec. 21. 2	30·288	48·1	47·0	1·1	..	..	..	..	SW	..	..	..	SW	¼	..	..	..	10	..
4	30·303	47·8	46·7	1·1	46·2	1·6	..	..	SSW	..	SW	0·32	Calm	..	..	..	..	10	..
6	30·335	47·0	45·8	1·2	..	..	..	..	SSW	..	..	..	Calm	..	..	..	..	10	..
8	30·341	46·5	45·0	1·5	..	..	..	..	Calm	..	..	..	SW	¼	..	..	..	10	..
10	30·337	48·0	45·0	3·0	43·5	4·5	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
12	30·343	46·7	45·0	1·7	..	..	..	..	SSW	..	..	..	Calm	..	..	..	..	10	..
14	30·329	45·7	44·3	1·4	..	..	..	..	S by W	..	..	..	Calm	..	..	..	..	10	..
16	30·324	44·3	42·8	1·5	42·2	2·1	..	..	S by W	1 to 1½	SSW	1·73	SSW	½	..	..	..	10	..
18	30·308	43·8	41·7	2·1	..	..	..	..	S	0 to ½	..	..	SSW	¼	..	..	..	10	..
20	30·324	42·0	41·0	1·0	..	..	..	..	S	..	..	..	SSW	¼	..	..	..	10	..
22	30·340	43·0	41·4	1·6	40·0	3·0	48·9 41·9	49·5 38·0	SSW	..	S	3·09	SSW	¼	14·88	0·00	22·450	8	..
Dec. 22. 0	30·323	43·9	42·1	1·8	..	..	..	..	S by W	..	..	..	S	¼	..	..	..	9	..
2	30·284	44·2	43·1	1·1	..	..	..	..	S	0 to 1	..	..	S	¾	..	..	..	10	Transit
4	30·255	44·5	44·3	0·2	43·5	1·0	..	..	S	..	..	..	S	¼	..	..	..	10	..
6	30·243	47·1	46·3	0·8	..	..	..	..	SSW	0 to ½	SW	2·10	S by W	½	..	..	..	10	..
8	30·255	47·8	46·7	1·1	..	..	..	..	SSW	½ to 1	..	..	S by W	½	..	..	..	10	..
10	30·252	48·4	47·2	1·2	46·5	1·9	..	..	SSW	½ to 1½	..	..	S by W	½	..	..	..	10	..
12	30·231	48·9	48·0	0·9	..	..	..	..	SW	1 to 1½	SSW	2·30	SW	¾	..	..	..	10	..
14	30·236	49·6	48·2	1·4	..	..	..	..	SW	0 to ½	..	..	SW	¾	..	..	..	10	..
16	30·249	49·6	48·6	1·0	48·0	1·6	..	..	SW	0 to 1	..	..	SW	½	..	..	..	10	..
18	30·253	50·2	49·4	0·8	..	..	..	..	WSW	0 to 1½	..	..	SW	½	..	..	..	10	..
20	30·278	50·7	50·1	0·6	..	..	..	..	WSW	..	..	..	SW	¼	..	..	..	10	..
22	30·287	51·3	50·5	0·8	49·7	1·6	51·8 42·5	51·7 46·2	SW	..	SW	2·86	SW	¼	14·88	0·00	22·450	10	..
Dec. 23. 0	30·313	53·0	51·5	1·5	..	..	..	..	SW	..	..	..	SW	¼	..	..	..	10	..
2	30·294	54·0	52·5	1·5	..	..	..	..	SSW	..	..	..	SW	¼	..	..	..	8	Transit
4	30·297	53·6	51·9	1·7	51·0	2·6	..	..	SSW	..	..	..	SW	¼	..	..	..	10	..
6	30·315	52·8	51·1	1·7	..	..	..	..	SSW	..	..	..	SW	¼	..	..	..	10	..
8	30·318	52·0	51·1	0·9	..	..	..	..	SSW	..	..	..	SW	¼	..	..	..	10	..
10	30·322	51·6	50·8	0·8	50·5	1·1	..	..	SW	..	..	..	SW	¼	..	..	..	10	..
12	30·317	51·2	50·7	0·5	..	..	..	..	SW	..	..	..	SW	¼	..	..	..	10	..
14	..	..	..	..	..	..	..	..	SW	..	SW	3·39	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..	..
22	30·379	51·3	49·5	1·8	..	..	54·7 49·8	56·0 45·3	Calm	..	WSW	1·97	WSW	¼	14·88	0·00	22·450	0	..
Dec. 24. 0	..	..	..	..	..	..	..	..	WSW	..	..	..	..	..	..	..	..	..	..
2	30·374	53·1	50·9	2·2	..	..	..	..	WSW	..	..	..	WSW	¼	..	..	..	10	..
4	30·390	49·8	48·5	1·3	..	..	..	..	SSW	..	..	..	WSW	¼	..	..	..	7	Transit
6	..	..	..	..	..	..	..	..	SW	..	SW	1·16	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
14	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..

BAROMETER.
Dec. 22d and 23d. The least difference of the mean daily heights for consecutive days in the month occurred.

DRY THERMOMETER.
Dec. 23d. The mean daily temperature was the highest in the month.
Dec. 23d. 2h. The reading was the highest in the month.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus.	J H
,, ,,	P
,, ,,	G
,, ,, there is a very strong light about 10° or 15° above the horizon in the N.W., which doubtless proceeds from a large distant fire, though the observer cannot distinguish its position: the clouds appear to be low.	J H
Overcast: cirro-stratus: several flashes of lightning have been visible since $8^h.\ 30^m$.	D
,, ,,	P
,, ,,	
,, cirro-stratus and scud: the wind rose soon after 14^h, and is now blowing in moderate gusts to about $\frac{3}{4}$.	
,, ,,	
,, ,,	P
Cirro-stratus and scud.	D
Cirro-stratus and scud.	
Overcast: cirro-stratus.	D
,, ,, a thin misty rain falling: dark, cold, and gloomy.	P
,, ,, the wind is blowing in gusts to $\frac{3}{4}$.	
,, ,, and scud: the wind blowing in gusts to $\frac{3}{4}$: a few stars were visible in the North shortly after the last observation.	
Overcast: cirro-stratus and scud: the wind is blowing in gusts to $\frac{3}{4}$.	P
,, ,, a mild but damp air.	D
,, ,, ,,	
,, ,, ,,	
,, ,, ,,	D
,, ,,	J H
,, ,,	
Overcast: cirro-stratus.	J H
Cirro-stratus and scud.	D
Overcast: cirro-stratus.	
,, ,,	
,, ,,	D
,, ,,	J H
Imperviously overcast: the air feels damp and close.	
Cloudless: a very fine morning for the time of the year.	
Overcast: cirro-stratus: the clouds collected at $23^h.\ 55^m$ in the S.W., and in a short time covered the sky.	
Cirro-stratus and scud.	J H

TEMPERATURE OF THE DEW POINT.

Dec. 23^d. The mean daily value was the greatest in the month.

Dec. $23^d.\ 4^h$. The reading was the highest in the month.

ELASTIC FORCE OF VAPOUR AND WEIGHT OF VAPOUR IN A CUBIC FOOT OF AIR.

Dec. 23^d. The mean daily values were the greatest in the month.

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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	By Estimation. Direction.	By Estimation. Force 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°		from lbs. to lbs.		in.			in.	in.	in.		
Dec. 24. 20	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
22	30·392	49·5	48·7	0·8	..	..	53·5 / 48·4	55·5 / 43·0	Calm	..	WSW	1·00	Calm	..	14·88	0·00	22·455	10	..
Dec. 25. 0	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
2	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	Transit
6	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	Calm	..	S	0·36	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	Calm	..	..	..	..	..	..	..	..	..	..
14	30·306	43·5	43·5	0·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	..	..
16	30·293	43·0	42·8	0·2	42·5	0·5	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
18	30·290	43·3	43·1	0·2	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
20	30·268	43·6	43·5	0·1	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
22	30·284	43·5	43·2	0·3	42·8	0·7	50·2 / 42·7	51·3 / 35·2	Calm	..	E	0·36	Calm	..	14·88	0·00	22·465	10	..
Dec. 26. 0	30·283	44·0	43·7	0·3	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
2	30·258	45·2	44·7	0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
4	30·254	45·1	44·8	0·3	43·0	2·1	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
6	30·263	45·0	44·5	0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	Transit
8	30·274	45·0	44·5	0·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
10	30·274	44·7	44·0	0·7	43·5	1·2	..	..	Calm	..	..	..	SSE	¼	..	..	..	10	..
12	30·282	44·3	43·9	0·4	..	..	..	..	Calm	..	SE	0·62	Calm	..	..	..	..	10	..
14	30·271	44·8	44·5	0·3	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	In Equator
16	30·282	44·8	44·8	0·0	43·5	1·3	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
18	30·289	43·8	43·0	0·8	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
20	30·311	42·9	42·5	0·4	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
22	30·346	42·5	41·8	0·7	40·0	2·5	46·4 / 42·5	47·8 / 39·8	W	..	NW	0·60	Calm	..	14·88	0·00	22·465	10	..
Dec. 27. 0	30·369	42·6	41·4	1·2	..	..	..	..	N by W	..	..	..	Calm	..	..	..	..	10	..
2	30·362	43·1	41·7	1·4	..	..	..	..	N by W	..	NNW	0·20	Calm	..	..	..	..	10	..
4	30·364	43·5	42·5	1·0	42·5	1·0	..	..	Calm	..	..	..	SW	¼	..	..	..	10	..
6	30·373	43·0	42·3	0·7	..	..	..	..	Calm	..	..	..	SW	¼	..	..	..	10	Transit
8	30·401	43·0	42·3	0·7	..	..	..	..	Calm	..	..	..	SW	¼	..	..	..	10	..
10	30·405	43·2	42·5	0·7	42·5	0·7	..	..	Calm	..	..	..	SW	¼	..	..	..	10	..
12	30·417	43·6	43·0	0·6	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
14	30·411	44·0	43·2	0·8	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
16	30·411	44·1	43·5	0·6	43·0	1·1	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
18	30·400	44·1	43·5	0·6	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
20	30·407	44·4	43·4	1·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
22	30·430	45·1	44·0	1·1	43·5	1·6	45·7 / 42·5	46·2 / 39·0	Calm	..	SW	1·00	Calm	..	14·88	0·00	22·490	8	..
Dec. 28. 0	30·436	47·5	46·0	1·5	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
2	30·412	47·6	46·4	1·2	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
4	30·412	46·5	45·2	1·3	44·0	2·5	..	..	Calm	..	..	..	Calm	..	..	..	..	10	1st Qr.
6	30·407	45·6	44·6	1·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	Transit
8	30·423	45·3	44·3	1·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
10	30·419	45·0	44·0	1·0	43·5	1·5	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
12	30·410	44·4	43·5	0·9	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..

BAROMETER.

Dec 28d. The mean daily height was the greatest in the year.

TEMPERATURE OF THE DEW POINT.

Dec. 26d. The difference between its mean daily value and that of the air was the least in the month.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus: rather misty: very mild.	P
Dense fog, or mist.	J H
A damp, misty air: overcast.	
,, ,,	
,, ,,	J H
Overcast: cirro-stratus: a thin mist or rain is falling.	P
Overcast: cirro-stratus: a thin mist or rain is falling.	
,, ,, ,,	P
,, a drizzling rain falling.	J H
,, the rain has nearly ceased falling.	
,, a very fine rain falling.	
Cirro-stratus: a damp, misty air: a very fine rain is occasionally falling.	J H
,, ,, ,,	P
,, ,, ,,	
,, ,, ,,	
,, the air seems drier, and the misty rain has ceased.	
,,	P
,,	J H
Cirro-stratus.	D
Overcast: cirro-stratus.	D
,, the clouds are thin in every direction, the blue sky being visible through them.	P
Cirro-stratus and scud, much broken in the neighbourhood of the Moon.	
Cirro-stratus and black scud: the clouds again became denser shortly after the preceding observation.	
,,	P
Overcast: the sky is covered with one uniform cloud.	D
,, cirro-stratus.	
,, ,,	
,, ,,	
,, ,,	D
Cirro-stratus and fleecy clouds.	J H
Cirro-stratus.	
,,	J H
Overcast: cirro-stratus.	D
,, ,,	D
,, ,,	G
,, ,,	D
,, ,,	J H

RAIN.

Dec. 24d. 22h. The increase in the reading of rain-gauge No. 3, was by deposition of moisture.
Dec. 27d. 22h. There is no evidence to account for the increase in the reading of rain-gauge No. 3.

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. of Free Thermom.	Max. and Min. of Radiation Therm.	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.	WIND. By Estimation. Direction.	WIND. By Estimation. Force 0—6.	RAIN. Stand of Rain-gauge No. 1, (Osler's).	RAIN. Reading of Rain-gauge No. 2.	RAIN. Stand of Rain-gauge No. 3, (Crosley's).	Amount of Clouds, 0—10.	Phases of the Moon.
d h	in.	°	°	°	°	°	°	°		from lbs. to lbs.		in.			in.	in.	in.		
Dec. 28. 14	30·395	44·2	43·5	0·7	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
16	30·388	44·0	43·4	0·6	43·0	1·0	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
18	30·376	43·4	41·5	1·9	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
20	30·366	43·5	41·3	2·2	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
22	30·379	43·5	41·5	2·0	40·5	3·0	49·7 42·5	49·5 40·2	Calm	..	SW	0·48	Calm	..	14·88	0·00	22·490	10	..
Dec. 29. 0	30·372	43·5	41·7	1·8	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
2	30·339	43·5	41·5	2·0	..	..	..	..	Calm	..	..	..	S by W	¼–	..	..	..	10	..
4	30·335	43·1	41·3	1·8	38·0	5·1	..	..	Calm	..	..	..	SSW	¼–	..	..	..	10	..
6	30·327	42·0	40·2	1·8	..	..	..	..	Calm	..	..	..	SSE	¼	..	..	..	10	..
8	30·317	41·3	39·5	1·8	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	Transit
10	30·296	40·9	39·0	1·9	37·0	3·9	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
12	30·280	40·8	39·2	1·6	..	..	..	..	Calm	..	..	..	S	¼	..	..	..	10	..
14	30·242	40·0	38·7	1·3	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
16	30·227	39·5	38·2	1·3	37·0	2·5	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
18	30·195	39·2	37·7	1·5	..	..	..	..	Calm	..	..	..	S	gentle airs	..	..	..	10	..
20	30·196	38·8	37·4	1·4	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
22	30·180	39·7	38·0	1·7	37·0	2·7	44·7 38·5	43·0 23·3	Calm	..	S	1·52	S by W	¼–	14·88	0·00	22·490	10	..
Dec. 30. 0	30·156	40·8	39·0	1·8	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
2	30·107	41·5	39·5	2·0	..	..	..	..	Calm	..	..	..	Calm	..	..	..	..	10	..
4	30·099	41·0	38·9	2·1	36·5	4·5	..	..	S by W	..	..	..	WSW	¼	..	..	..	10	..
6	30·076	41·2	38·8	2·4	..	..	..	..	S by W	..	..	..	SSW	¼	..	..	..	10	..
8	30·058	41·0	38·7	2·3	..	..	..	..	S by W	..	..	..	SSW	¼	..	..	..	10	Transit
10	30·027	40·0	38·1	1·9	38·0	2·0	..	..	S by E	..	..	..	Calm	..	..	..	..	10	Apogee
12	29·988	39·5	38·5	1·0	..	..	..	..	S by E	..	..	..	Calm	..	..	..	..	10	..
14	..	..	..	..	..	..	..	..	S	..	..	..	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..	..	S by W	..	..	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..	S by W	..	..	..	..	..	..	..	..	..	..
20	..	..	..	..	..	..	..	..	S by E	..	..	..	..	..	..	..	..	..	..
22	29·850	42·0	41·5	0·5	..	..	42·2 39·3	44·0 35·6	S	..	S	4·34	SSW	½	14·88	0·00	22·490	10	..
Dec. 31. 0	29·837	44·4	43·0	1·4	..	..	..	..	SSW	½ to 1	..	..	SSW	½	..	..	..	9	..
2	..	..	..	..	..	..	..	..	SSW	½ to 2	..	..	..	..	..	..	..	..	..
4	..	..	..	..	..	..	.	..	SSW	½ to 1	..	..	..	..	..	..	..	..	..
6	..	..	..	..	..	..	..	..	S by W	1 to 1½	..	..	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..	..	S by W	1 to 3	..	..	..	..	..	..	..	..	..
10	..	..	..	..	..	..	..	..	SSW	3 to 4	..	..	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..	..	SSW	4 to 7	..	..	..	..	14·88	0·00	22·510	..	..
14	29·528	46·5	45·0	1·5	..	..	..	..	S by W	3 to 4	..	..	S	1½	..	..	..	10	..
16	29·485	45·0	44·3	0·7	43·5	1·5	..	..	S by W	3 to 5	SSW	6·10	S	1½	..	..	..	10	..
18	29·422	46·4	45·8	0·6	..	..	..	..	SW	1 to 4	..	..	S	1½	..	..	..	10	..
20	29·444	47·0	46·8	0·2	..	..	..	..	NNW	..	N	1·95	N by W	¼	..	..	..	10	..
22	29·496	32·5	32·5	0·0	..	..	..	..	WNW	..	NW	1·17	Calm	..	15·13	0·33	22·870	10	..

BAROMETER.

Dec. 28d. The mean daily height was the highest in the year.

Dec. 29d and 30d. The difference of the mean daily heights for consecutive days in the month occurred.

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus.	J H
,, ,,	
Cirro-stratus.	
,,	J H
,,	P
Cirro-stratus.	
,, gloomy.	P
,, ,,	J H
Overcast: cirro-stratus.	
,, ,, the clouds are lighter than at the time of the last observation.	
,, ,,	J H
,, ,, the clouds are high.	G
The same as before in every respect.	
,,	
,,	
,,	G
Overcast: the clouds are in many parts of the sky very thin, the blue sky being visible through them.	P
Cirro-stratus: the clouds again became dense soon after the last observation.	
,,	P
Overcast; cirro-stratus.	G
,, ,, the clouds are high.	
,, ,, ,,	
,, ,,	G
,, ,,	J H
	P
Cirro-stratus and scud: the clouds are thin in the zenith.	D
Cirro-stratus and scud: clear breaks near the zenith.	D
Overcast: cirro-stratus and scud: the wind in gusts to 2.	P
,, ,, the wind in gusts to $2\frac{1}{2}$: frequent lulls: large drops of rain.	
,, ,, ,, ,, no rain.	
,, ,, the wind suddenly decreased a short time after the last observation: rain falling heavily.	P
,, snow falling: at $20^h.\ 40^m$ sleet appeared mixed with the rain, and continued so till $21^h.\ 40^m$, at which time snow began to lie on the ground; at present the snow is falling thickly, and it is accompanied with small particles of ice: the temperature has declined $14^{\circ}.5$ since 20^h.	D

AMOUNT OF RAIN.

Dec. $31^d.\ 12^h$. During the month of December, in rain-gauge No. 4 was $0^{in}.40$, but more than the half of this was by deposition of moisture.

ROYAL OBSERVATORY, GREENWICH.

TERM-DAY

METEOROLOGICAL OBSERVATIONS.

1843.

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Jan. 18. 10	30·388	43·2	43·0	0·2	43·0	0·2	Calm	Calm	..	..	6
11	30·405	42·0	41·5	0·5	..	..	Calm	Calm	..	..	½
12	30·405	40·9	40·2	0·7	..	..	Calm	Calm	..	..	1
13	30·405	36·9	37·0	—0·1	..	..	Calm	Calm	..	..	10
14	30·400	35·5	35·5	0·0	..	..	Calm	Calm	..	..	10
15	30·404	36·5	36·2	0·3	..	..	Calm	Calm	..	..	10
16	30·402	35·7	35·6	0·1	35·5	0·2	Calm	Calm	..	..	10
17	30·385	35·8	35·8	0·0	..	..	Calm	Calm	..	..	10
18	30·399	35·6	35·6	0·0	..	..	Calm	Calm	..	..	10
19	30·402	35·8	35·7	0·1	..	..	Calm	Calm	..	..	10
20	30·414	35·2	35·2	0·0	..	..	Calm	Calm	..	..	10
21	30·424	34·9	34·9	0·0	..	..	Calm	Calm	..	..	10
22	30·437	35·2	35·2	0·0	35·0	0·2	Calm	...	..	..	10
23	30·433	35·7	36·0	—0·3	..	..	Calm	...	..	..	10
Jan. 19. 0	30·430	37·2	37·5	—0·3	..	..	Calm	...	..	..	10
1	30·430	39·5	39·5	0·0	..	..	Calm	...	..	..	10
2	30·408	41·0	41·1	—0·1	..	..	Calm	...	..	..	10
3	30·394	41·9	42·0	—0·1	..	..	Calm	...	..	..	10
4	30·396	41·9	41·9	0·0	42·0	—0·1	Calm	...	..	..	10
5	30·396	42·7	42·4	0·3	..	..	Calm	...	..	..	10
6	30·396	43·0	42·6	0·4	..	..	Calm	...	..	..	10
7	30·391	42·1	41·7	0·4	..	..	Calm	...	..	..	10
8	30·391	42·0	41·5	0·5	..	..	Calm	...	..	..	10
9	30·377	41·9	41·4	0·5	..	..	Calm	...	..	..	10
10	30·378	42·0	41·5	0·5	41·0	1·0	Calm	...	..	..	10
Feb. 20. 18	29·245	39·0	38·7	0·3	..	..	Calm	Calm	..	..	10
19	29·254	40·0	39·5	0·5	..	..	Calm	S E	..	¼	9
20	29·266	39·5	39·2	0·3	..	..	Calm	S S E	..	¼	8
21	29·275	39·9	39·8	0·1	..	..	Calm	S S E	..	¼	7
22	29·298	42·8	42·0	0·8	41·0	1·8	Calm	S by E	..	¼	1
23	29·312	46·2	45·9	0·3	..	..	Calm	S	..	¼	..
Feb. 21. 0	29·317	47·2	45·7	1·5	..	..	Calm	S by E	..	¼	1
1	29·316	47·2	45·6	1·6	..	..	Calm	S	..	¼	1
2	29·299	49·1	47·1	2·0	..	..	Calm	S by E	..	¼	7
3	29·294	50·0	47·8	2·2	..	..	Calm	S by E	..	¼	1
4	29·298	49·4	47·5	1·9	45·0	4·4	Calm	S by E	..	¼	8
5	29·286	48·2	47·0	1·2	..	..	Calm	S S E	..	¼	5
6	29·290	45·2	44·2	1·0	..	..	Calm	S E	..	¼	5
7	29·287	43·0	42·8	0·2	..	..	..	S E	..	¼	7
8	29·274	40·7	40·2	0·5	..	..	Calm	Calm	..	..	4
9	29·271	40·1	39·3	0·8	..	..	Calm	E S E	..	¼	10—
10	29·246	39·6	39·3	0·3	39·0	0·6	Calm	E S E	..	¼	10—
11	29·220	39·8	39·4	0·4	..	..	E by N	Calm	..	..	10
12	29·212	40·2	39·8	0·4	..	..	N E	N E	..	¼	10
13	29·201	40·5	40·0	0·5	..	..	E by N	Calm	..	..	10
14	29·178	40·5	40·1	0·4	..	..	N E	Calm	..	..	10
15	29·159	40·2	40·0	0·2	..	..	N E	Calm	..	..	10
16	29·140	40·0	39·8	0·2	39·0	1·0	N E	E N E	..	¼	10

GENERAL REMARKS.	Observer.
The sky near the zenith is partially clear: the Moon is shining through the clouds which are every where broken.	G
Within a quarter of an hour after this observation the sky was free from cloud: at present there is a little cloud about the Moon, around which there is a faint coloured corona: hazy.	
There is a small quantity of cloud in the N.W.: hazy: a mist on the ground.	G
Clouds have been collecting every where since the last observation, and within the last five minutes a dense fog has come over, the temperature immediately falling from 41° to 37°.	J H
Foggy: the Moon is visible.	
,, a corona around the Moon.	
,,	J H
A very dense fog: overcast: the Moon is scarcely visible through the cirro-stratus and fog.	P
Overcast: the fog is as dense as before: the Moon's position is but just visible.	
,, ,,	P
,, foggy.	D
,, ,,	D
A thick wetting fog.	G
The fog continues.	P
Overcast: the fog still continues as dense as before.	P
The fog is not quite so dense.	D
Foggy: damp.	J H
,,	J H
,, the Sun has not been seen to day.	G
,, overcast.	P
,, ,,	
Overcast: cirro-stratus.	P
,,	D
,,	
,,	D
Overcast: very black.	G
The Moon and Venus have been shining: the upper current is from W. S.W.	
The clouds are much broken: scud from the W.: some clouds in the E. are tinted with orange.	
There have been some fine cumulo-strati during the last hour E. of the zenith, and some waved cirri about the zenith: at present the sky is about one half clear, and the clouds are generally thin.	G
A few light clouds, principally S. of the zenith.	J H
,,	
A few light clouds.	
,,	
Cirro-stratus and scud: clouds came up at $1^h.\ 15^m$.	
,,	J H
A scuddy kind of cumuli nearly covers the sky, with fine blue sky between them: the temperature of snow on the ground is 32°.	G
The Sun is shining: loose scud moving from the S. S.W.: an ill-defined cirro-stratus near the horizon.	
Detached clouds of a woolly structure are pretty equally distributed over the sky.	
A few stars are occasionally seen about the zenith: broken dark clouds at a little distance from the zenith.	
Clouds within 20° of the horizon; clear above.	
A few stars are visible near the zenith; the sky is otherwise cloudy.	
,,	G
Overcast: cirro-stratus.	J H
,, ,,	
Heavy rain falling.	
Overcast: cirro-stratus: rain falling.	
,, ,, ,,	
Rain falling: overcast: cirro-stratus.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Feb. 21. 17	29·127	40·0	39·8	0·2	..	..	E N E	E N E	..	¼	10
18	29·138	40·9	40·7	0·2	..	..	Calm	E S E	..	¼	10
19	29·138	41·1	40·9	0·2	..	..	Calm	Calm	..	..	10
20	29·151	42·5	42·1	0·4	..	..	Calm	S	..	¼	10
21	29·167	43·0	42·6	0·4	..	..	S S E	S	..	¼	8
22	29·174	43·8	42·8	1·0	42·0	1·8	S S E	S by E	..	¼	8
23	29·190	44·5	43·7	0·8	..	..	Calm	S	..	¼	10
Feb. 22. 0	29·205	46·6	45·1	1·5	..	..	Calm	S	..	¼	10
1	29·211	47·0	45·6	1·4	..	..	Calm	S	..	¼	10
2	29·211	49·5	48·1	1·4	..	..	Calm	S	..	¼	10
3	29·205	49·5	47·6	1·9	..	..	Calm	S S W	..	¼	10
4	29·218	49·3	47·0	2·3	46·0	3·3	Calm	S S W	..	¼	9
5	29·229	48·7	46·3	2·4	..	..	Calm	S S W	..	¼	8
6	29·238	48·0	45·6	2·4	..	..	Calm	S S W	..	¼	9
7	29·242	45·3	43·7	1·6	..	..	Calm	S S W	..	¼	9
8	29·245	44·2	43·0	1·2	..	..	Calm	S S W	..	¼	1
9	29·250	44·0	42·8	1·2	..	..	Calm	S S E	..	¼	0
10	29·262	42·5	42·0	0·5	41·0	1·5	Calm	S S E	..	¼	0
11	29·264	43·1	41·7	1·4	..	..	S S E	S	..	¼	1
12	29·277	42·6	41·5	1·1	..	..	S	S	..	¼	1
13	29·291	42·9	41·0	1·9	..	..	S	S	..	¼	1
14	29·290	44·4	43·4	1·0	..	..	S S W	S S W	..	¼	6
15	29·299	44·5	43·5	1·0	..	..	S S W	S S W	..	¼	10
16	29·297	43·5	42·5	1·0	42·0	1·5	S S W	Calm	..	..	7
17	29·303	43·0	42·1	0·9	..	..	S S W	Calm	..	..	10
18	29·318	43·0	42·1	0·9	..	..	S S W	Calm	..	..	10
19	29·326	42·6	41·8	0·8	..	..	Calm	Calm	..	..	10
20	29·350	42·0	41·3	0·7	..	..	S S W	Calm	..	..	10
21	29·375	44·0	43·0	1·0	..	..	S S W	S W	..	¼	9
22	29·364	45·6	44·3	1·3	42·2	3·4	S S W	S by W	..	¼—	10
23	29·369	46·8	44·7	2·1	..	..	Calm	Calm	..	..	6
Feb. 23. 0	29·377	47·3	45·0	2·3	..	..	Calm	Calm	..	..	8½
1	29·370	48·1	45·9	2·2	..	..	Calm	Calm	..	..	9
2	29·374	48·2	46·5	1·7	..	..	Calm	E	..	¼—	9
3	29·387	48·6	47·0	1·6	..	..	E	E	..	¼—	10
4	29·374	46·4	44·9	1·5	44·5	1·9	E N E	E N E	..	¼	7
5	29·380	45·4	44·5	0·9	..	..	E N E	E N E	..	¼	10
6	29·397	44·7	43·8	0·9	..	..	E N E	E N E	..	¼	10
7	29·404	43·2	42·6	0·6	..	..	E N E	E N E	..	¼	6
8	29·410	41·4	41·0	0·4	..	..	Calm	Calm	..	..	0
9	29·423	39·6	39·5	0·1	..	..	Calm	Calm	..	..	0
10	29·434	38·9	38·6	0·3	38·5	0·4	E by N	Calm	..	..	0
11	29·442	39·0	38·5	0·5	..	..	Calm	Calm	..	..	10
12	29·449	39·0	38·5	0·5	..	..	Calm	Calm	..	..	10
13	29·453	38·2	37·9	0·3	..	..	Calm	E	..	¼—	10
14	29·463	38·2	38·0	0·2	..	..	E	E	..	¼	10
15	29·464	37·3	37·2	0·1	..	..	E	E	..	¼—	10
16	29·464	37·3	37·2	0·1	37·0	0·3	E	E	..	¼	10
17	29·462	36·8	36·7	0·1	..	..	E	E	..	¼	10
18	29·482	36·8	36·5	0·3	..	..	E N E	E	..	¼	10
19	29·486	36·7	36·5	0·2	..	..	E N E	E by N	..	¼	10
20	29·511	36·8	36·5	0·3	..	..	E N E	E by N	..	¼	8

GENERAL REMARKS.	Observer.
Rain falling: overcast: cirro-stratus.	J H
,, ,, ,,	
Rain falling: overcast: cirro-stratus.	
Rain falling slightly: overcast.	
Cirro-stratus and scud: the rain ceased at $20^h.40^m$.	J H
,,	D
Overcast: a few drops of rain are falling.	D
Overcast: cirro-stratus and scud.	P
,, ,,	D
,, ,, at $2^h.26^m$ the direction of the wind was S.W.	
,, ,,	D
Cirro-stratus and scud.	J H
,,	
,,	
,,	
A few fragments of scud.	
Cloudless: hazy: rain in showers between 9^h and 10^h.	
,, several meteors have been observed since $9^h.40^m$.	J H
Scud in the S.W. near the horizon; the sky is otherwise clear.	D
A few clouds only in the S. and S.W. near the horizon.	
Fragments of scud S. of the zenith.	
The sky North of the zenith is generally clear, the remainder is cloudy: at $14^h.10^m$ overcast.	
Overcast: cirro-stratus: very dark.	
Cirro-stratus and scud: there are some breaks of considerable extent in the South.	
Overcast: cirro-stratus.	
,, ,,	
,, ,,	
,, ,,	D
The sky is principally covered with scud moving from the W.: several patches of blue sky.	G
Overcast: cirro-stratus and scud: breaks are occasionally visible.	P
Breaks of large extent in every direction.	
Breaks of small extent in every direction.	
A few small breaks in and near the zenith: light airs occasionally arise, apparently from the E.	
An extensive break in the E., and a few of trifling magnitude near the zenith.	P
Cirrro-stratus: the Sun's place is barely visible.	G
Cirro-stratus and scud: large breaks N. and N.E. of the zenith.	D
Overcast: cirro-stratus.	
,, ,,	D
Clear in the zenith and in the S.; the remainder of the sky is covered with a thin cirro-stratus.	
Cloudless: the sky became clear soon after the last observation.	
,, hazy.	
,, ,,	
Overcast.	D
,, foggy.	P
,, a dense stratus: foggy.	
,,	
,, a thick fog.	
,, ,,	
,, ,,	
,,	
,,	P
,,	J H

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Feb. 23. 22	29·533	37·0	36·2	0·8	34·5	2·5	E N E	E by N	..	¼	10
23	29·548	37·7	37·0	0·7	..	..	E N E	E by N	..	¼	10
Feb. 24. 0	29·553	38·4	37·5	0·9	..	..	E N E	E	..	¼	10
1	29·544	39·3	38·3	1·0	..	..	E N E	E	..	¼	10
2	29·534	41·5	39·7	1·8	..	..	E N E	E	..	¼	8
3	29·532	42·0	39·9	2·1	..	..	E N E	E	..	¼	10
4	29·515	41·5	39·2	2·3	38·0	3·5	E N E	E N E	0 to ½	¼	10
5	29·524	40·5	38·4	2·1	..	..	E N E	E N E	..	¼	10
6	29·525	39·4	37·5	1·9	..	..	E N E	N E	0 to ½	¼+	10
7	29·542	38·2	36·5	1·7	..	..	E N E	N E	..	½	10
8	29·547	37·8	36·8	1·0	..	..	E N E	N E	0 to ½	¼+	10
9	29·557	37·5	36·4	1·1	..	..	E N E	N E	..	½	10
10	29·565	37·2	36·2	1·0	35·0	2·2	N E	E N E	..	½	10
11	29·556	36·8	35·5	1·3	..	..	N E	E	..	½	10
12	29·552	35·6	34·8	0·8	..	..	N E	E	..	¼	10
13	29·554	35·3	34·5	0·8	..	..	N E	N E	..	¼	10
14	29·534	34·8	34·0	0·8	..	..	N E	E N E	..	¼	10
15	29·523	34·6	33·6	1·0	..	..	N E	E N E	..	¼	10
16	29·523	34·5	33·1	1·4	31·0	3·5	N E	E N E	..	½	10
17	29·519	34·1	33·0	1·1	..	..	N E	E by N	..	¼	10
18	29·501	34·0	32·8	1·2	..	..	N E	E by N	..	½	10
19	29·509	34·1	32·8	1·3	..	..	N E	E by N	..	¼	10
20	29·508	34·2	33·3	0·9	..	..	N E	N E	..	¼	10
21	29·514	34·2	33·7	0·5	..	..	N E	N E	..	¼	10
22	29·518	35·2	34·4	0·8	34·0	1·2	N E	E N E	..	½	10
23	29·523	35·7	35·0	0·7	..	..	N E	E N E	..	½	10
Feb. 25. 0	29·513	36·1	35·2	0·9	..	..	N E	N E	..	¼	10
1	29·505	36·5	35·3	1·2	..	..	N E	N E	..	¼	10
2	29·498	36·5	35·5	1·0	..	..	E N E	E N E	..	¼	10
3	29·496	36·2	35·5	0·7	..	..	E N E	E N E	..	¼	10
4	29·491	36·0	35·1	0·9	35·8	0·2	E N E	N E	..	¼	10
5	29·494	35·5	34·7	0·8	..	..	E N E	N E	..	¼	10
6	29·508	34·8	34·2	0·6	..	..	E N E	N E	..	¼	10
7	29·510	34·5	33·9	0·6	..	..	N E	E by N	..	¼	10
8	29·512	34·0	33·5	0·5	..	..	N E	E by N	..	¼	10
9	29·523	32·2	32·0	0·2	..	..	N E	E by N	..	½	10
10	29·520	32·2	32·0	0·2	31·0	1·2	N N E	E N E	..	¼	10
Mar. 20. 18	29·377	45·6	45·0	0·6	..	..	S	S	..	¼	1
19	29·380	46·0	45·3	0·7	..	..	S	S	..	¼	1
20	29·385	47·6	46·9	0·7	..	..	S	S	..	¼	3
21	29·381	50·8	48·5	2·3	..	..	S	S	..	¼	1
22	29·372	53·8	50·5	3·3	48·5	5·3	S	S by E	..	¼	6
23	29·360	53·8	50·9	2·9	..	..	S E	S S E	0 to ½	¼+	8
Mar. 21. 0	29·356	56·4	52·2	4·2	..	..	S E	S S E	½ to 2½	½	8
1	29·329	55·0	51·5	3·5	..	..	S E	S by E	0 to 1	½	9½
2	29·322	57·1	52·5	4·6	..	..	S S E	S by E	0 to 1	½	7
3	29·314	57·6	52·2	5·4	..	..	S S E	S by E	½ to 3½	¾	9¾
4	29·318	56·4	51·6	4·8	48·0	8·4	S S E	S	½ to 1½	½	9
5	29·318	55·9	51·3	4·6	..	..	S	S by E	..	¾	10
6	29·320	55·1	51·1	4·0	..	..	Calm	S by E	..	¼	6

GENERAL REMARKS.	Observer.
Overcast: a thin misty rain.	J H
,, ,,	D
Overcast: a thin misty rain.	J H
,, the rain has ceased.	
Scud and cirro-stratus.	J H
,,	P
Overcast: cirro-stratus and scud.	
,, ,,	
,, ,,	
,, ,, a very thin rain is falling.	
,, ,, ,,	
,, ,,	P
,, very black: a thin misty rain falling.	G
,, ,, no rain.	
No change.	G
Overcast: very dark.	D
,,	
,,	D
,,	J H
,,	
,, gusts of wind.	J H
,,	P
,, cirro-stratus and scud.	
,, sleet falling.	
Scud passing quickly from the East: a cold misty rain is falling.	P
Overcast: small rain.	J H
	P
Overcast: a few drops of rain falling.	
,, a thin rain falling.	
,, ,,	
,, ,,	
,, ,,	P
,, ,,	G
,, light rain falling, mixed with sleet.	G
,, ,,	D
,, rain and sleet falling.	D
,, snow falling.	J H
,, ,,	J H
A few clouds in S. E., near the horizon; otherwise clear.	D
,,	
Light clouds.	
A few cirri N. of the zenith.	D
Cirri and cirro-cumuli in every direction.	P
Cirro-stratus and scud cover the greater part of the sky.	
Cirro-stratus and scud, with cirri: the wind is increasing.	
An extensive break in the western horizon: the rest of the sky is covered with cirro-stratus: rain falling.	
Cumulo-strati, cirro-strati, and loose scud.	
A small break in the North: gloomy.	P
Cirro-stratus and scud.	D
Overcast: cirro-stratus and scud, with dark cumuli floating beneath the cirro-stratus.	P
Fleecy clouds and cirro-stratus.	D

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Mar. 21. 7	29·322	53·5	51·3	2·2	..	..	Calm	S by E	..	¼	9½
8	29·318	51·7	49·2	2·5	..	..	Calm	S S E	..	¼	10
9	29·316	51·1	48·5	2·6	..	..	Calm	S S E	..	¼	6
10	29·300	50·6	48·0	2·6	47·5	3·1	Calm	S S E	..	¼	3
11	29·288	50·6	48·0	2·6	..	..	Calm	S S E	..	¼	9
12	29·281	52·6	49·0	3·6	..	..	SSE	S S E	..	½	10
13	29·276	52·1	48·9	3·2	..	..	S by E	S S E	..	½	10
14	29·267	51·9	49·2	2·7	..	..	Calm	Scarcely sensible.	..	(¼—)	10
15	29·252	51·8	48·8	3·0	..	..	Calm	..	..	(¼—)	10
16	29·243	50·9	48·5	2·4	46·5	4·4	Calm	..	..	¼—	10
17	29·245	50·7	48·5	2·2	..	..	Calm	..	..	¼—	10
18	29·257	50·4	48·3	2·1	..	..	Calm	..	..	¼—	10
19	29·267	49·1	48·0	1·1	..	..	S	Calm	..	..	10
20	29·287	48·0	47·7	0·3	..	..	Calm	Calm	..	..	10
21	29·290	49·0	48·3	0·7	..	..	Calm	W S W	..	¼—	10
22	29·310	53·8	50·8	3·0	48·5	5·3	Calm	S by E	..	¼	9
23	29·328	55·6	52·0	3·6	..	..	Calm	S by E	..	¼	10
Mar. 22. 0	29·322	56·7	53·0	3·7	..	..	Calm	S by E	..	¼	9
1	29·332	57·4	53·2	4·2	..	..	S E	S	..	¼	7
2	29·318	58·7	54·3	4·4	..	..	S E	S by W	..	½	8
3	29·324	56·2	53·2	3·0	..	..	S E	S	..	¼	10
4	29·317	55·3	52·8	2·5	51·0	4·3	Calm	S by E	..	¼	10
5	29·310	54·8	52·5	2·3	..	..	Calm	S S E	..	¼	10
6	29·311	55·7	53·0	2·7	..	..	Calm	E S E	..	¼	3
7	29·307	53·1	51·1	2·0	..	..	E by S	Calm	..	..	8
8	29·278	52·0	50·2	1·8	..	..	E	S E	..	¼	2
9	29·279	50·5	49·2	1·3	..	..	E	Calm	..	..	9½
10	29·277	50·6	49·1	1·5	50·0	0·6	E N E	Calm	..	..	8
11	29·270	51·1	49·3	1·8	..	..	E N E	S	..	½	10
12	29·265	54·2	50·8	3·4	..	..	Calm	S	..	½	10
13	29·263	53·0	50·6	2·4	..	..	Calm	Calm	..	..	10
14	29·241	50·5	49·2	1·3	..	..	Calm	Calm	..	..	5
15	29·244	49·5	48·6	0·9	..	..	Calm	Calm	..	..	10
16	29·262	50·2	49·0	1·2	48·0	2·2	Calm	S	..	¼	10
17	29·270	49·7	49·0	0·7	..	..	Calm	S	..	¼	10
18	29·284	50·0	48·5	1·5	..	..	Calm	S	..	¼	10
19	29·291	48·5	47·3	1·2	..	..	Calm	S	..	¼	3
20	29·307	50·5	48·1	2·4	..	..	S	S	0 to 2	½	7
21	29·311	52·0	49·2	2·8	..	..	S	S	½ to 1½	¾	9
22	29·350	52·5	50·0	2·5	47·0	5·5	S	S W	0 to ½	½	10
23	29·368	54·2	51·1	3·1	..	..	S by W	S	..	¼	9
Mar. 23. 0	29·381	54·0	51·0	3·0	..	..	S S W	S	0 to ½	½	10
1	29·393	53·9	50·5	3·4	..	..	S	S	..	½	9¾
2	29·411	55·1	51·0	4·1	..	..	S by W	S	..	¼	9¾
3	29·416	55·4	51·2	4·2	..	..	S by W	S W	..	½	10
4	29·424	55·4	51·2	4·2	46·0	9·4	Calm	S W	..	¼	9
5	29·441	54·2	49·8	4·4	..	..	Calm	S S W	..	¼	4
6	29·451	53·2	49·5	3·7	..	..	Calm	S S W	..	¼	1
7	29·450	49·8	47·1	2·7	..	..	Calm	S	..	¼	1½
8	29·448	49·7	46·6	3·1	..	..	Calm	Calm	..	..	3
9	29·456	47·5	46·0	1·5	..	..	E	Calm	..	..	1

GENERAL REMARKS.	Observer.
Nearly overcast: mottled cirro-stratus N.W. of the zenith.	D
Overcast: cirro-stratus.	
Cirro-stratus and vapour: the stars are shining very dimly in and around the zenith.	
Heavy vapour.	D
Stars shining faintly in and around the zenith: the quantity of cloud is variable: hazy.	P
Overcast: cirro-stratus: the wind is increasing, the gusts being at present moderate.	
,, ,, a very thin rain is falling.	
,, ,,	
,, ,,	
,, ,,	
,, ,,	
,, ,, rain falling.	
,, ,, ,,	
,, ,, ,,	
Overcast, with the exception of a thin break in the W. horizon: this will not affect the notation.	P
Cirro-stratus and scud.	J H
,,	
Cirro-stratus and scud.	
Heavy cumulo-strati S. of the zenith: detached cumuli and blue sky N. of the zenith.	J H
Cumuli and scud.	G
Cumulo-stratus and scud.	J H
,, cumuli in the northern and western horizon: gloomy.	J H
,, the cumulo-stratus is not so dense.	P
Scud and cumuli, chiefly in the W. S.W. and N.	
Scud and dark cumuli: the clouds are moving slowly from the South.	P
Dark clouds in the W. and S.W. horizon, and scattered more thinly in other parts of the sky.	J H
A few stars in the East: the clouds collected about ten minutes since.	M
A few stars near the zenith: calm and pleasant.	
Thoroughly black.	
As before.	M
Overcast: a few drops of rain are falling.	D
The sky is nearly clear S. of the zenith; cirro-stratus and vapour prevail in every other part.	
Overcast.	D
,,	J H
,, rain has just commenced falling.	
,, the rain has ceased.	J H
Scud and strati, principally in the horizon: the sky has cleared within the last fifteen minutes, the first break having appeared in the western horizon.	P
Cirri and scud in every direction.	
A long narrow break, extending along the horizon from the North to the East, the rest of the sky being overcast.	P
Cirro-stratus and scud.	D
Clear breaks here and there: cirro-stratus and scud.	
Overcast: cirro-stratus.	D
A few breaks in the East, the rest of the sky being overcast: dark cumuli in the northern horizon.	P
Cirro-stratus and scud.	J H
There are a few breaks in the white cumulo-stratus cloud, but to no numerical extent; the sky in the breaks is of a deep blue, and apparently there is no upper cloud.	G
The clouds are much broken every where, and clear blue sky is seen: the Sun is occasionally shining: the cloud is a modification of white cumulo-stratus.	G
Detached cumulo-strati are scattered over the sky.	D
A few clouds in the W. and S.W. horizon.	D
Dark scud and cirro-stratus in the western horizon; the rest of the sky is quite free from cloud.	P
Dark scud in different parts of the sky, but chiefly in the horizon.	P
A few light clouds in the W. and S.W.	J H

Day and Hour Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0–6.	Amount of Clouds 0–10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Mar. 23. 10	29·466	46·8	45·5	1·3	44·0	2·8	E by N	N E	..	½	½
Apr. 19. 10	29·692	47·2	46·5	0·7	45·0	2·2	E	E	..	¼	7
11	29·672	46·5	46·0	0·5	..	..	E by N	E	..	¼	5
12	29·665	44·8	44·7	0·1	..	..	Calm	E	..	¼	0
13	29·644	43·5	43·5	0·0	..	..	Calm	E	..	¼	0
14	29·624	44·3	44·1	0·2	..	..	Calm	E	..	¼	0
15	29·607	43·9	43·8	0·1	..	..	Calm	Calm	..	..	2
16	29·587	43·3	43·3	0·0	42·5	0·8	Calm	Calm	..	..	4
17	29·573	42·8	42·8	0·0	..	..	Calm	Calm	..	..	7
18	29·569	43·8	43·8	0·0	..	..	Calm	Calm	..	..	8
19	29·574	45·4	45·5	−0·1	..	..	Calm	Calm	..	..	2
20	29·569	51·2	50·5	0·7	..	..	Calm	Calm	..	..	8
21	29·577	54·1	52·2	1·9	..	..	Calm	Calm	..	..	4
22	29·593	58·6	55·6	3·0	54·0	4·6	W S W	Calm	..	..	6
23	29·607	63·6	58·6	5·0	..	..	W S W	W S W	..	¼	2
Apr. 20. 0	29·612	64·6	59·0	5·6	..	..	W S W	W	..	¼	2
1	29·608	69·2	62·0	7·2	..	..	W S W	W	0 to ½	¼	3
2	29·616	66·5	58·5	8·0	..	..	W S W	W by S	0 to ½	¼	2
3	29·609	68·0	58·6	9·4	..	..	W S W	W by S	0 to ½	½	5
4	29·606	66·1	57·8	8·3	50·0	16·1	W S W	W S W	..	½	4
5	29·617	64·2	56·2	8·0	..	..	W S W	W	..	¼	3
6	29·626	62·6	56·4	6·2	..	..	W	W	..	¼	1
7	29·625	59·6	53·8	5·8	..	..	W S W	W	..	(¼—)	3
8	29·638	57·5	52·7	4·8	..	..	W S W	W	..	¼	7
9	29·616	54·3	52·1	2·2	..	..	Calm	W	..	¼	1
10	29·680	54·2	51·6	2·6	46·0	8·2	Calm	W	..	¼	4
12	29·680	50·2	49·5	0·7	..	..	Calm	Calm	..	..	3
13	29·690	48·6	48·4	0·2	..	..	Calm	Calm	..	..	2
14	29·693	47·5	47·3	0·2	..	..	Calm	Calm	..	..	3
15	29·700	46·8	46·7	0·1	..	..	Calm	Calm	..	..	5
16	29·709	46·5	46·5	0·0	46·5	0·0	Calm	Calm	..	..	9
17	29·712	45·6	45·5	0·1	..	..	Calm	Calm	..	..	7
18	29·729	44·9	44·6	0·3	..	..	Calm	Calm	..	..	8
19	29·733	48·5	48·0	0·5	..	..	Calm	Calm	..	..	8
20	29·747	49·5	48·4	1·1	..	..	Calm	W S W	..	¼	8
21	29·748	53·5	50·6	2·9	..	..	Calm	Calm	..	..	5
22	29·743	58·9	54·1	4·8	49·0	9·9	Calm	W S W	..	¼	1
23	29·742	59·4	54·9	4·5	..	..	Calm	Calm	..	..	1
Apr. 21. 0	29·747	60·6	55·5	5·1	..	..	W S W	Calm	..	..	2
1	29·745	62·2	56·3	5·9	..	..	W S W	S W	..	..	2
2	29·749	64·2	57·0	7·2	..	..	W S W	S W	..	¼	2
3	29·747	62·0	54·6	7·4	..	..	S W	S W	..	¼	4
4	29·742	60·6	54·4	6·2	46·0	14·6	S W	S W	..	¼	5
5	29·740	61·7	54·8	6·9	..	..	W S W	W S W	..	¼	6
6	29·738	58·3	52·7	5·6	..	..	W S W	W S W	..	¼	2
7	29·739	54·6	50·2	4·4	..	..	S S W	S S W	..	¼	1
8	29·752	51·4	49·0	2·4	..	..	S S W	S S W	..	¼	1
9	29·755	50·1	48·1	2·0	..	..	Calm	S	..	¼	8

BAROMETER.

April 20d. 9h. This reading appears to be wrong: it is supposed that the reading is 0in·050 too low, and that the corrected reading should be 29in·666.

GENERAL REMARKS.	Observer.
Vapour in the W. near the horizon.	J H
About the zenith, and a little N.W. of it, the stars are shining brightly; some stars are also dimly seen S. of the zenith, but the sky is generally covered with stratus; the clouds are, however, very high, as the reflexion of the London lights is at least 5° nearer the zenith than it usually is.	G
Around the horizon cloudy: stars are shining dimly for about 45° round the zenith: several flashes of lightning have been seen.	
Cloudless, but the stars appear small: the sky has been clear for about half an hour: flashes of lightning still continue.	
,, but hazy: the stars are small.	G
,, the stars look dim and watery.	J H
Fleecy clouds and scud.	
,,	J H
The greater part of the sky is covered with cirro-stratus and scud: the breaks are scattered.	P
Scud and cirro-stratus in every direction.	
Scud and cirri scattered indiscriminately over the sky, though most thickly in the East.	P
Cirro-stratus and fleecy clouds.	D
Fleecy clouds and haze.	D
Cirro-cumuli prevalent every where above 20° from the horizon: the horizon misty: there is a slight fog or a blue mist.	G
Light clouds: hazy.	J H
Scud in every direction, and cumuli in the W. and S. horizon.	P
Scud, cumuli, and cumulo-strati; the eastern portion of the sky being nearly free from cloud.	P
Light cumuli scattered over the sky.	J H
Cumuli and cumulo-strati in various directions.	D
The sky in and about the zenith is mostly covered with cirri and mottled cirro-stratus: in the N. horizon there are a few small cumuli; the remainder is clear.	D
A few fleecy cirri are scattered in various directions.	G
Cirri to the North and West of the zenith: this has been a fine day.	G
Cirri and scud in every direction: the wind is scarcely perceptible to the senses.	P
Scud beautifully tinged by the setting Sun, scattered in every direction.	P
Light scud to the W. and N.W. of the zenith.	J H
Heavy vapour and scud.	J H
,,	D
Cirro-stratus in the S. horizon: vapour.	
,, heavy vapour.	
Cirro-stratus and vapour.	
,,	
,,	
Cirro-stratus and scud,	
Fleecy clouds and cirro-stratus.	
,,	
,,	D
Scud and cumuli in the S. horizon.	P
,,	
Cumuli, cumulo-strati, and scud.	
,,	
Cumuli and loose scud, the former lining the whole horizon.	
Cumuli, cumulo-strati, and large masses of scud in every direction.	P
Light clouds in the zenith: cumuli are scattered over the remainder of the sky.	D
Cirri, cumuli, and cumulo-strati: cymoid cirrus E. of the zenith.	
Cirri North of the zenith: cumuli in the whole horizon.	
A few clouds only in the W. and W. N.W., near the horizon.	
,,	
The sky has been gradually becoming cloudy since 8^h: a few stars are shining in the zenith.	

Day and Hour Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below. Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Apr. 21. 10	29·747	48·5	47·1	1·4	46 5	2·0	Calm	S	..	¼	2
11	29·734	47·3	46·1	1·2	..	..	Calm	S	..	¼	4
12	29·733	48·5	46·8	1·7	..	..	Calm	Calm	..	..	10
13	29·729	49·1	47·4	1·7	..	..	Calm	Calm	..	..	10
14	29·708	48·1	47·5	0·6	..	..	Calm	Calm	..	..	10
15	29·702	48·6	48·3	0·3	..	..	Calm	Calm	..	..	10
16	29·705	48·7	48·1	0·6	47·5	1·2	Calm	Calm	..	..	10
17	29·695	48·6	48·0	0·6	..	..	Calm	Calm	..	..	10
18	29·696	48·5	48·2	0·3	..	..	Calm	Calm	..	..	10
19	29·699	48·7	48·3	0·4	..	..	Calm	Calm	..	..	10
20	29·708	49·5	49·1	0·4	..	..	Calm	S S W	..	¼—	10
21	29·720	51·7	50·6	1·1	..	..	W S W	S S W	..	¼—	10
22	29·737	53·2	50·8	2·4	49·0	4·2	W S W	W by S	..	¼	9
23	29·759	55·0	52·2	2·8	..	..	W S W	W by S	..	¼	8
Apr. 22. 0	29·767	54·1	50·3	3·8	..	..	W S W	W S W	0 to 2	¾	9
1	29·768	56·5	50·0	6·5	..	..	W S W	W by S	1 to 4	¼	4
2	29·778	57·5	49·5	8·0	..	..	W S W	W by S	1 to 3	¾	7
3	29·781	55·5	49·6	5·9	..	..	S W	W by S	0 to 3	¾	7
4	29·806	52·7	49·5	3·2	45·0	7·7	W S W	S W	2½ to 4	1	4
5	29·830	51·5	47·0	4·5	..	..	W S W	S W	2 to 6	1	3
6	29·858	48·5	44·1	4·4	..	..	W S W	S S W	2 to 3	1	2
7	29·878	46·2	42·7	3·5	..	..	W S W	S S W	..	¼	1½
8	29·901	45·2	42·0	3·2	..	..	W S W	W S W	..	¼—	¼
10	29·903	41·0	39·2	1·8	39·0	2·0	S W	W S W	..	¼	¼
11	29·914	41·0	39 3	1·7	..	..	S W	W S W	..	½	0
12	29·922	40·8	39·0	1·8	..	..	S W	W S W	..	¾	0
May 21. 18	29·556	45·5	45·5	0·0	..	..	Calm	S S W	..	¼	1
19	29·556	49·5	48 8	0·7	..	..	Calm	S S W	..	¼	¼
20	29·562	56·2	53·0	3·2	..	..	Calm	S S W	..	¼	1
21	29·566	59·0	55·5	3·5	..	..	Calm	S W	..	¼	3
22	29·559	59·1	55·8	3·3	52·0	7·1	Calm	S S W	..	½	8
23	29·568	57·9	55·5	2·4	..	..	W S W	S W	..	¼	10
May 22. 0	29·565	59·1	56·7	2·4	..	..	S S W	S S W	..	½	8
1	29·561	60·5	57·1	3·4	..	..	S	S	..	¼	7
2	29·552	59·6	57·2	2·4	..	..	Calm	S	..	¼	7
3	29·550	58·0	57·0	1·0	..	..	S S W	S	..	¼	9
4	29·597	59·0	56·0	3·0	53·0	6·0	S S W	W	..	¼	10
5	29·545	59·0	56·0	3·0	..	..	S S W	W S W	..	¼	10
6	29·549	57·5	55·0	2·5	..	..	S W	W S W	..	¼	10
7	29·555	56·0	54·5	1·5	..	..	S W	W S W	..	¼	10
8	29·554	55·1	53·0	2·1	..	..	Calm	W S W	..	¼	8
9	29·577	52·7	51·3	1·4	..	..	S S W	W S W	..	¼	9¾
10	29·586	52·1	51·1	1·0	49·0	3·1	Calm	Calm	..	..	9
12	29·586	49·0	48·8	0·2	..	..	Calm	Calm	..	..	4
14	29·592	47·7	47·7	0·0	..	..	Calm	Calm	..	..	9
15	29·592	48·5	48·4	0·1	..	..	Calm	Calm	..	..	10
16	29·590	49·4	49·1	0·3	49·0	0·4	Calm	Calm	..	..	10
17	29·590	49·6	49·3	0·3	..	..	Calm	Calm	..	..	10
18	29·588	50·0	49·6	0·4	..	..	Calm	Calm	..	..	10
19	29·596	51·5	50·9	0·6	..	..	Calm	Calm	..	..	10
20	29·598	53·1	52·0	1·1	..	..	Calm	Calm	..	..	10

BAROMETER.

May 22d. 4h. This reading appears to be 0in·050 too great.

GENERAL REMARKS.	Observer.
Cirro-stratus in the horizon in the N. and N.W.: vapour S. of the zenith.	D
Clouds have, during the last few minutes, been coming up from the S. S.W.; they now extend to the zenith.	P
Overcast: heavy vapour.	
,, ,,	
,, a thin rain is falling.	
,, the rain is falling much more heavily.	
,, ,,	
,, ,,	
,, ,,	
,, the rain is falling in a fine steady shower.	
,, the rain is thinner.	
,, the rain has ceased.	P
Cirro-stratus and scud.	J H
Cumulo-stratus, cirro-stratus and scud: a heavy shower of rain fell at $22^h.30^m$.	D
Cirro stratus, cumulo-stratus and scud: occasional showers of rain.	J H
,,	
,,	
,,	J H
,,	P
,,	
Cumuli and scud in various directions.	
A large mass of dark cloud in the W. horizon.	
A few clouds only in the W. horizon.	
A long bank of narrow cloud a few degrees above the N. horizon, near which is a strong light apparently auroral.	P
Cloudless.	J H
,,	J H
A few light clouds.	J H
Nearly cloudless.	
A few light clouds.	
Cumuli and scud.	J H
Cumuli, cumulo-strati, and scud: small breaks in various directions.	P
Cumulo-strati and scud: a few drops of rain are falling.	D
Cumulo-stratus and scud.	
,,	
,, a heavy shower of rain continued falling from $1^h.30^m$ to $1^h.45^m$.	
,, a heavy rain falling.	D
,,	J H
Cirro-stratus and scud.	
,,	
,,	
,, breaks S. of the zenith.	
,,	
,,	J H
Cirro-stratus N. of the zenith; the remainder of the sky is clear.	D
A few stars only are shining S.E. of the zenith; elsewhere overcast: the sky has been generally clear since the last observation.	
Overcast: cirro-stratus.	
,, ,, rain falling.	
,, ,, ,,	
,, ,, ,,	
,, ,, ,,	
,, ,,	D

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
May 22. 22	29·593	60·0	57·5	2·5	53·6	6·4	Calm	S	..	½—	6
23	29·595	60·0	57·2	2·8	..	..	Calm	Calm	..	..	9
May 23. 0	29·586	61·8	58·7	3·1	..	..	Calm	Calm	..	..	9½
1	29·586	62·1	58·2	3·9	..	..	Calm	Calm	..	..	10
2	29·590	58·0	56·8	1·2	..	..	E	E	..	½—	10
3	29·578	56·5	55·8	0·7	..	..	E	E	..	¼	10
4	29·562	58·7	56·5	2·2	55·0	3·7	E by N	E	..	½	10
5	29·552	56·6	55·3	1·3	..	..	E	E	..	¼	10
6	29·554	55·5	54·4	1·1	..	..	E	E	..	¼	10
May 26. 10	29·430	53·0	52·0	1·0	51·0	2·0	W S W	W	..	¼	10
11	29·444	53·1	52·1	1·0	..	..	W S W	W	..	1	10
12	29·449	52·8	52·2	0·6	..	..	W S W	Calm	..	..	9
13	29·452	52·2	51·7	0·5	..	..	W S W	Calm	..	..	10
14	29·464	52·3	51·4	0·9	..	..	W S W	Calm	..	..	9¼
15	29·416	48·6	48·2	0·4	..	..	W S W	S W	..	¼	2
16	29·465	46·6	46·5	0·1	46·5	0·1	S S W	S W	..	¼	1
17	29·462	48·6	48·0	0·6	..	..	S S W	S W	..	¼	9
18	29·453	50·5	49·4	1·1	..	..	S S W	S S W	..	½	10
19	29·499	51·5	50·5	1·0	..	..	S S W	S S W	..	½	10
20	29·436	55·3	53·8	1·5	..	..	S S W	S W	..	½	9
21	29·426	57·7	55·0	2·7	..	..	S S W	S W	..	¾	10
22	29·414	59·8	56·7	3·1	55·0	4·8	S W	W	0 to ¾	1	9½
23	29·402	57·6	56·2	1·4	..	..	S W	S S W	½ to 2½	¾	10
May 27. 0	29·388	60·7	58·4	2·3	..	..	S S W	S S W	0 to 1½	¾	10
1	29·371	60·5	57·0	3·5	..	..	S W	S S W	0 to 3	¾	10
2	29·395	62·5	58·5	4·0	..	..	S W	S S W	2 to 3	1	10
3	29·339	57·7	56·0	1·7	..	..	W S W	W S W	0 to 2½	½	9
4	29·324	59·2	57·5	1·7	..	..	W S W	W S W	0 to 3	1+	7
5	29·328	60·3	56·7	3·6	..	..	W S W	S W	0 to 4	1½	7
6	29·310	58·8	55·2	3·6	..	..	W S W	S W	2 to 4½	2	5
7	29·308	55·7	53·0	2·7	..	..	S W	S W	.. ½ to 3	¾	2
8	29·308	55·1	52·8	2·3	..	..	S W	S W	0 to 1	1	3
9	29·315	53·5	53·4	0·1	..	..	S W	S W	..	¼	10
10	29·320	52·2	51·6	0·6	51·0	1·2	W S W	S W	..	¼	10
June 21. 10	29·895	59·5	56·8	2·7	55·5	4·0	S W	W	..	¼	10
11	29·889	57·3	55·4	1·9	..	..	W S W	S W	..	¼	10
12	29·886	56·3	54·8	1·5	..	..	Calm	S W	..	¼	9
13	29·886	55·2	54·2	1·0	..	..	Calm	S W	..	¼	7
14	29·876	54·1	53·4	0·7	..	..	Calm	Calm	..	..	5
15	29·868	54·2	53·2	1·0	..	..	Calm	Calm	..	..	10
16	29·869	53·3	52·8	0·5	52·5	0·8	Calm	Calm	..	..	6
17	29·868	52·4	52·1	0·3	..	..	Calm	Calm	..	..	3
18	29·866	54·7	54·0	0·7	..	..	Calm	W S W	..	¼	10
19	29·877	55·5	54·4	1·1	..	..	Calm	Calm	..	..	10
20	29·881	57·5	56·0	1·5	..	..	Calm	Calm	..	..	10
21	29·860	59·2	57·4	1·8	..	..	Calm	Calm	..	..	10
22	29·860	61·2	57·3	3·9	52·8	8·4	N	Calm	..	..	10
23	29·881	63·7	59·8	3·9	..	..	N	Calm	..	..	10

May 27d. 4h. The Observation of the Dew Point was inadvertently omitted.

GENERAL REMARKS.	Observer.
Breaks in every direction, the clouds consisting of cumuli, cirro-stratus, and scud: squalls of rain occasionally.	P
Cumuli, cirro-stratus, and scud.	
A few small breaks in the East, the rest of the sky being covered with cumuli, cumulo-strati, cirro-strati, and dark scud.	
Overcast: cirro-stratus and scud: light airs are occasionally rising.	
,, cirro-stratus: rain falling; it commenced at about $1^h.50^m$.	
,, ,, ,,	
,, ,,	P
,, ,,	D
,, ,,	D
Dark scud and stratus clouds every where.	G
Very black; a large nimbus covers the sky.	G
Stars are faintly shining in and about the zenith.	P
Overcast.	
Nearly overcast, there being only a few stars visible North of the zenith: light airs occasionally.	P
Scud and vapour N. of the zenith.	D
Cirro-stratus low in the horizon to the North and South.	
Cirro-stratus and scud.	
Overcast: cirro-stratus.	D
Cirro-stratus and scud.	J H
,,	
Overcast: cirro-stratus.	J H
Large masses of cloud and scud are passing from the West.	G
Overcast: cirro-stratus and scud: rain falling: squally.	P
	P
Overcast: cirro-stratus and scud: squally.	D
,, ,, the wind in gusts to 1+: showers of rain since the last observation, and occasional extensive breaks.	D
Scud and cirro-stratus: showers at intervals.	J H
Breaks in the S. S. E.; the rest of the sky is overcast: frequent showers of rain.	P
Breaks in every direction, but chiefly in the S. and S.W. horizon: cumuli and cumulo-strati in the S.: squally.	P
Large quantities of scud at a low elevation passing quickly from the S.W.: occasional squalls: an upper cloud apparently stationary.	G
Large whitish clouds nearly cover the northern portion of the sky: a few cumuli are near the horizon in the N.; the remainder of the sky is cloudless: the wind in gusts to $2\frac{1}{2}$.	G
Scud and light cumuli.	J H
Scud and cirro-stratus.	J H
,, overcast: rain falling.	D
,, ,,	D
Overcast: cirro-stratus.	G
,, cirro-stratus, but thin, as two or three stars are dimly seen near the zenith.	
A few stars are just visible: the sky is generally covered with a thin cirro-stratus.	
A few more stars shining than there were at the last observation; every thing else as before.	G
The greater part of the sky N. of the zenith is covered with cirro-stratus; the rest of the sky is nearly clear; the stars, however, do not shine very brightly.	D
Overcast: cirro-stratus.	
Cirro-stratus and haze.	
Loose patches of scud E. of the zenith: hazy.	D
Overcast: cirro-stratus and scud.	P
,, ,,	
,, cirro-stratus: hazy: a thin fog is prevalent.	P
,, ,, a thin fog is still prevalent.	J M
,, ,, a few small breaks in various parts of the sky.	
,, ,, no change.	J M

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0–6.	Amount of Clouds 0–10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
June 22. 0	29·879	65·6	60·1	5·5	..	..	N	N by W	..	very light	9½
1	29·877	68·7	62·3	6·4	..	..	N N E	Calm	..	..	10
2	29·882	68·8	62·4	6·4	..	..	N	N N W	..	¼	10
3	29·886	68·8	62·0	6·8	..	..	N	N	..	¼	8
4	29·884	68·2	60·4	7·8	51·0	17·2	N N E	N	..	very light	8
5	29·881	66·1	60·2	5·9	..	..	E	N	..	¼ —	9
6	29·886	60·9	57·5	3·4	..	..	E	E	..	¼	9
7	29·901	59·5	55·4	4·1	..	..	E	E	..	¼	7
8	29·931	56·4	52·8	3·6	..	..	E by S	E	..	¼	5
9	29·908	54·7	52·0	2·7	..	..	E S E	E	..	¼	2
10	29·925	52·5	50·8	1·7	49·0	3·5	Calm	E	..	¼	¾
July 19. 10	29·602	51·5	50·5	1·0	49·5	2·0	Calm	W	..	¼	3
11	29·600	51·1	50·3	0·8	..	..	Calm	W	..	¼	2
12	29·600	51·2	50·2	1·0	..	..	W	W	..	¼	4
13	29·605	51·5	50·1	1·4	..	..	W	W	..	¼	8
14	29·607	49·3	48·8	0·5	..	..	W	W	..	¼	2
15	29·611	48·6	47·8	0·8	..	..	W	W	..	¼	0
16	29·613	48·3	47·4	0·9	45·0	3·3	W S W	Calm	..	..	0
17	29·619	46·0	45·6	0·4	..	..	W S W	W	..	¼	0
18	29·621	46·9	46·3	0·6	..	..	W	W	..	¼	0
19	29·632	48·5	47·2	1·3	..	..	W by N	W	..	¼	½
20	29·644	52·8	50·5	2·3	..	..	W N W	N W	..	½	0
21	29·647	57·1	52·8	4·3	..	..	N W	N W	..	2	3
22	29·655	58·1	53·2	4·9	47·0	11·1	N W	W N W	..	1	5
23	29·652	59·5	53·5	6·0	..	..	W by N	W		¾	8
July 20. 0	29·621	61·1	55·0	6·1	..	..	W	W N W	..	½	7
1	29·642	63·8	57·7	6·1	..	..	W by S	W	0 to 1	¾	8
2	29·624	64·5	57·5	7·0	..	..	W by S	W	½ to 2	¾	8
3	29·639	59·5	55·5	4·0	..	..	W S W	W by S	..	½	9
4	29·615	62·5	56·8	5·7	48·0	14·5	W S W	W by S	½ to 2	½	9
5	29·611	61·1	55·0	6·1	..	..	W	W S W	½ to 1½	¾	9½
6	29·615	59·2	54·5	4·7	..	..	W	W	1 to 4½	1	10
7	29·625	56·6	54·1	2·5	..	..	W by S	W	0 to 1½	½	10
8	29·631	54·2	52·2	2·0	..	..	W S W	W	0 to ½	¼	10
9	29·613	53·8	51·6	2·2	..	..	S W	W S W	..	¼	10
10	29·600	53·7	51·7	2·0	50·0	3·7	S W	W S W	..	½	10
12	29·575	54·6	52·3	2·3	..	..	S W	W S W	0 to 1	1	10
13	29·567	55·0	52·8	2·2	..	..	S W	W S W	0 to 1	1	10
14	29·562	54·8	53·0	1·8	..	..	W S W	W S W	½ to 1½	¾	10
15	29·556	55·0	53·3	1·7	..	..	W S W	W S W	0 to ½	¾	10
16	29·554	55·1	53·7	1·4	50·5	4·6	W S W	W S W	0 to ½	¾	10
17	29·555	55·1	53·8	1·3	..	..	W S W	W S W	0 to ½	¾	10
18	29·567	55·6	53·7	1·9	.	..	W S W	W S W	0 to ½	¾	10
19	29·567	56·4	54·4	2·0	..	..	W S W	W S W	..	¾	10
20	29·564	58·3	55·5	2·8	..	..	W S W	W S W	0 to 1	¾	10
21	29·567	59·7	56·0	3·7	..	..	W by S	W S W	0 to 2	½	10
22	29·562	61·5	57·5	4·0	52·0	9·5	W	W S W	1 steady	¾	10
23	29·578	62·0	57·8	4·2	..	..	W S W	W S W	0 to 1	½	10
July 21. 0	29·580	63·2	58·7	4·5	..	..	W S W	W S W	0 to 2	½	10

BAROMETER.

July 20d. 0h. See the foot-note to this observation in the Section of Ordinary Observations.

GENERAL REMARKS.	Observer.
Cirro-stratus and scud: breaks near the horizon in the North.	D
,,	D
,, an extensive break in the North horizon.	J H
Cumulo-strati all round near the horizon, with some patches of blue sky near the zenith; small fleecy cumuli in other directions.	G
Similar in every respect to the last observation.	G
Cirro-stratus, cumulo-stratus, and scud: hazy.	D
Large cumulo-strati in every direction: breaks in the S. near the horizon.	D
Cumulo-strati and large white cumuli are nearly equally distributed all over the sky.	J M
Cumuli and cumulo-strati.	J M
Beautifully formed cirri N.W. of the zenith and a few degrees from it; scud is scattered thinly in every other direction: the clouds have gradually dispersed since the last observation.	P
Scud in the W. and S.	P
Cirro-stratus low down in the North: scud and cirro-stratus in the N. E. and S.: near the zenith are mottled clouds of the cirro-cumulus character: it feels very cold.	G
Cirro-stratus to the N., N. E., and S. near the horizon; every where else clear.	
Scud covering nearly the whole of the S. portion of the sky.	G
The stars are shining in various directions, the sky being chiefly covered with dark scud; the clouds came up at about $12^h.\ 30^m$.	P
Clouds only in the E. and S. E.	
Cloudless.	P
,,	J H
,,	
,,	
Cirri East and South of the zenith.	J H
Hazy: the wind is light and variable.	M
Scattered cirri; a great mass is coming up in the direction of the wind: a fresh breeze.	M
Ill defined cumuli are scattered in different parts of the sky, with faint blue sky between them.	G
Cumuli and wild scud; the quantity of scud is variable.	P
Cumuli, scud, and cirro-stratus.	J H
Cumulo-strati, cirro-strati, and scud.	P
Cumuli, cirro-strati, and scud.	P
Scud and cirro-stratus.	J H
Cirro-stratus and scud.	
Cumulo-strati and scud: occasional showers of rain.	J H
Overcast: cirro-stratus: the scud is very trifling: a little rain is falling: squally.	P
,, a thin rain is falling: the wind is more moderate.	P
,, rain falling. [only for a few minutes.	G
Overcast, with the exception of a bright streak parallel to the horizon in the N.W.: the rain which was falling at 8^h, continued	
Cirro-stratus and scud.	G
Overcast: cirro-stratus and scud: gusts of wind.	J H
,, ,, very dark.	
,, ,, ,,	
,, ,,	
,, ,,	
,, ,,	
,, ,,	
,, ,,	
,, ,, gusts of wind.	
,, ,, ,,	
,, ,, ,,	J H
,, ,,	P
Overcast: cirro-stratus and scud: the clouds are slightly broken South of the zenith.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation. 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
July. 21. 1	29·584	64·3	59·1	5·2	..	..	W by S	W S W	0 to ½	½	10
2	29·595	63·8	58·5	5·3	..	..	W	W	0 to ½	½	10
3	29·592	65·0	59·2	5·8	..	..	W	W	½ to 1½	½	10
4	29·605	62·1	57·2	4·9	52·0	10·1	W	W	0 to ½	¾	10
5	29·611	61·1	56·9	4·2	..	..	W	W by S	0 to ½	¾	10
6	29·620	61·5	56·8	4·7	..	..	W	W	..	¾	10
7	29·633	60·4	56·1	4·3	..	..	W	W	0 to ½	¾	10
8	29·642	60·0	55·5	4·5	..	..	W	W	..	¾	10
9	29·645	59·1	55·1	4·0	..	..	W	W	..	½	10
10	29·664	58·6	55·1	3·5	52·5	6·1	W	W	..	½	10
11	29·672	58·2	54·9	3·3	..	..	W	W	..	¼	10
12	29·683	57·8	54·7	3·1	..	..	W	W	..	½	10
13	29·686	56·6	54·2	2·4	..	..	W	W	..	¾	8
14	29·678	55·2	53·4	1·8	..	..	W	N N W	..	½	9
15	29·680	55·4	53·5	1·9	..	..	W	N N W	..	½	10
16	29·678	55·0	54·0	1·0	53·0	2·0	W	W	..	½	8
Aug. 20. 18	29·823	50·5	49·7	0·8	..	..	N by W	W N W	..	½	1
20	29·841	54·2	50·5	3·7	..	..	N by E	W N W	..	½	½
22	29·880	61·0	54·0	7·0	50·0	11·0	N N E	N by W	..	¼	2
23	29·881	62·4	55·0	7·4	..	..	N	N	..	¼	3
Aug. 21. 0	29·873	64·0	55·1	8·9	..	..	N by W	N	..	¼	7
1	29·863	64·6	55·1	9·5	..	..	N N W	N by W	..	¼	6
2	29·855	65·2	55·2	10·0	..	..	N W	N N W	..	¼	8
3	29·851	65·6	56·0	9·6	..	..	W S W	W N W	..	¼	10
4	29·827	64·8	56·5	8·3	50·5	14·3	W S W	W	..	¼	8
5	29·811	64·8	56·3	8·5	..	..	S W	W by S	..	¼	3
6	29·797	63·5	55·3	8·2	..	..	W S W	W S W	..	¼	2
7	29·788	60·6	55·0	5·6	..	..	S W	S W	..	¼—	3
8	29·780	58·8	54·5	4·3	..	..	S S W	S W	..	½	7
9	29·775	55·6	52·0	3·6	..	..	S S W	S W	..	¼+	9½
10	29·761	53·5	50·5	3·0	50·8	2·7	S S W	S W	..	¼+	2
11	29·751	51·5	49·8	1·7	..	..	S S W	S W	..	¼	3
12	29·740	50·7	49·5	1·2	..	..	S by W	S W	..	¼	1
13	29·708	50·8	49·6	1·2	..	..	S by W	S W	..	¼	1
14	29·695	51·0	50·1	0·9	..	..	Calm	S S W	..	¼	5
15	29·671	51·4	50·3	1·1	..	..	Calm	S S W	..	¼	6
16	29·640	52·8	50·9	1·9	50·5	2·3	Calm	S S W	..	¼	10
17	29·625	53·6	51·1	2·5	..	..	Calm	S S W	..	¼	10
18	29·606	53·9	51·6	2·3	..	..	Calm	S	..	¼	10
19	29·590	54·5	51·4	3·1	..	..	Calm	S	..	¼	10
20	29·567	58·2	54·9	3·3	..	..	S by W	S W	..	¼	9¾
22	29·525	59·5	53·3	6·2	51·5	8·0	S S W	S W	½ to 1½	½	10
Aug. 22. 0	29·482	60·3	54·5	5·8	..	..	S S W	S W	½ to 3½	¾	10
1	29·471	59·8	55·1	4·7	..	..	S S W	S W	½ to 4	1	10
2	29·461	58·5	56·0	2·5	..	..	S S W	S W	0 to 2½	1	10
3	29·451	58·0	56·0	2·0	..	..	S by W	S W	0 to 3½	1	10
4	29·423	57·0	56·1	0·9	56·0	1·0	S S W	S S W	0 to 3	1	10
5	29·402	57·1	56·1	1·0	..	..	S	S S W	0 to 2	¾	10
6	29·369	57·3	56·6	0·7	..	..	S	S by W	½ to 2	½	10
7	29·368	57·4	56·7	0·7	..	..	S S W	S W	..	½	10
8	29·391	54·2	53·8	0·4	..	..	S W	W S W	..	¼	6

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus and scud.	P
,, ,, gloomy.	
,, ,,	P
,, ,,	J H
,, ,,	
,, ,,	
,, ,,	
,, ,,	
,, ,,	
,, ,,	J H
,, ,, a solitary star is here and there visible.	G
,, ,,	
A portion of the northern sky is cloudless, the remainder is covered with thin scud.	
The sky is chiefly covered with scud; it has been clear for a short time since the last observation.	
Since the last observation it has been alternately clear and cloudy.	
Clear and cloudy alternately.	G
Cirri in the W. N.W.: the rest of the sky is cloudless.	P
A few cirri here and there.	P
Cirri and light scud.	J H
Light clouds.	D
Cumuli and scud.	
,,	
,,	D
,,	J H
,, breaks in the West and North-west: the cirro-stratus broke at about $3^h.\ 50^m$.	P
Cumuli and scud, chiefly in the horizon: hazy.	
Cumuli and scud: hazy.	
Cirri and scud in every direction: the clouds seem to be increasing.	
Scud in every direction.	
Scud covering the greater part of the sky, the most extensive break being in the W. S.W. horizon.	
Cloudy in the horizon: the stars look small and dim.	P
Vapour and light scud.	J H
Vapour near the horizon.	J H
,,	D
Cirro-stratus and vapour.	
The sky South of the zenith is quite covered with cirro-stratus: clear in the North.	
Overcast: cirro-stratus.	
,, ,,	
,, ,,	
,, ,,	D
The clouds have just broken in the South-west.	P
Cirro-stratus and scud: gusts of wind.	J H
Cirro-stratus and scud: gusts of wind: every appearance of rain.	
,, rain falling.	
,, ,,	
,, ,, gusts of wind.	J H
,, ,, ,,	D
,, ,,	
,, ,,	
,, ,, the rain ceased at $6^h.\ 45^m$.	
Extensive breaks in every part of the sky.	D

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Aug. 25. 10	29·783	60·6	60·2	0·4	60·0	0·6	Calm	Calm	..	..	9
11	29·788	60·4	60·1	0·3	..	..	Calm	Calm	..	..	8
12	29·789	60·5	60·3	0·2	..	..	Calm	Calm	..	..	5
13	29·802	60·7	60·3	0·4	..	..	Calm	Calm	..	..	10
14	29·804	60·5	60·2	0·3	..	..	Calm	Calm	..	..	10
15	29·809	60·0	60·0	0·0	..	..	Calm	Calm	..	..	10
16	29·797	60·0	59·8	0·2	59·5	0·5	Calm	Calm	..	..	10
17	29·773	59·5	59·5	0·0	..	..	Calm	Calm	..	..	9¾
18	29·789	58·1	58·3	—0·2	..	..	Calm	Calm	..	..	7
19	29·803	58·6	58·5	0·1	..	..	Calm	Calm	..	..	5
20	29·814	63·0	61·4	1·6	..	..	Calm	SW by W	..	¼	6
21	29·827	64·7	61·6	3·1	..	..	Calm	SW by W	..	¼	9
22	29·806	65·6	61·5	4·1	59·0	6·6	W S W	W S W	..	½	10
23	29·841	65·0	63·0	2·0	..	..	S W	W S W	..	½	10
Aug. 26. 0	29·845	66·3	61·8	4·5	..	..	S W	S W	..	½	9
1	29·841	69·9	62·9	7·0	..	..	S W	S W	..	½	4
2	29·842	71·1	62·6	8·5	..	..	S W	W S W	0 to ½	½	4
3	29·844	71·5	61·4	10·1	..	..	S W	S W	0 to 1	¾	½
4	29·864	68·5	60·8	7·7	54·8	13·7	S W	S W	½ to 2	¾	3
5	29·879	66·5	60·0	6·5	..	..	S W	S W	½ to 1¼	¾	6
6	29·900	65·4	60·0	5·4	..	..	S S W	S W	½ to 1	½	½
7	29·914	62·5	58·6	3·9	..	..	S S W	S W	..	¼	½
8	29·938	59·8	57·2	2·6	..	..	S	W S W	..	½	5
9	29·964	56·7	55·0	1·7	..	..	S	W S W	..	¼	¼
10	29·983	56·0	55·0	1·0	54·0	2·0	S	W S W	..	¾	0
Sep. 20. 10	29·973	57·4	56·2	1·2	55·0	2·4	Calm	Calm	..	..	0
11	29·977	55·8	54·4	1·4	..	..	Calm	Calm	..	..	0
12	29·976	54·4	53·7	0·7	..	..	Calm	Calm	..	..	0
13	29·985	54·2	54·0	0·2	..	..	Calm	Calm	..	..	0
14	29·997	52·1	51·8	0·3	..	..	Calm	Calm	..	..	0
15	29·965	51·5	51·5	0·0	..	..	Calm	Calm	..	..	0
16	29·980	52·0	52·0	0·0	52·0	0·0	Calm	Calm	..	..	0
17	29·996	51·0	51·0	0·0	..	..	Calm	Calm	..	..	0
18	30·003	55·0	55·0	0·0	..	..	Calm	Calm	..	..	0
19	30·013	50·7	51·0	—0·3	..	..	Calm	Calm	..	..	2
20	30·028	53·5	53·2	0·3	..	..	Calm	W S W	..	¼	6
21	30·034	57·5	56·8	0·7	..	..	Calm	W S W	..	¼—	7
22	30·060	60·2	58·2	2·0	57·5	2·7	Calm	Calm	..	..	4
23	30·061	62·7	60·5	2·2	..	..	Calm	W S W	..	¼	9
Sep. 21. 0	30·061	66·3	63·5	2·8	..	..	N by W	N	..	¼—	0
1	30·052	67·3	64·0	3·3	..	..	W	W S W	..	¼	0
2	30·053	69·2	65·5	3·7	..	..	W	W N W	..	¼	0
3	30·052	71·1	67·0	4·1	..	..	N N W	N W	..	¼	7
4	30·059	70·0	65·6	4·4	63·2	6·8	N by W	N	..	½	4
5	30·073	69·7	64·7	5·0	..	..	N by W	N	..	¼	4
6	30·069	67·2	63·5	3·7	..	..	N	N	..	¼	8
7	30·085	64·1	62·0	2·1	..	..	N N E	N N E	..	¼—	2

GENERAL REMARKS.	Observer.
Cirro-stratus and scud: frequent flashes of sheet lightning have been seen since the last observation, to the E. and S. of the zenith.	D
,, the stars are shining in the zenith: flashes of lightning are seen at short intervals in different quarters.	
The sky N. and E. of the zenith is quite clear; the rest is nearly covered with cirro-stratus: the lightning is still visible in all quarters, but more particularly in the South.	D
Overcast: cirro-stratus: occasional flashes of lightning in the South.	J H
,, ,,	
,, ,,	
,, ,, and scud: rain falling.	J H
A fine clear break in the eastern horizon; the rest of the sky is overcast.	P
Breaks in every direction: the clouds are finely-formed cirri and scud.	
Cirri and scud in every direction.	P
A great deal of white cirrus: banks of clouds in the North.	M
Cirro-stratus.	M
Overcast: cirro-stratus.	D
,, ,, rain falling.	J H
Cumulo-strati and scud in every direction.	P
Cumuli, cumulo-strati, and scud.	P
Cumuli and scud.	D
Small cumuli scattered around the horizon, with a few patches of scud here and there.	P
Cumuli and scud in every direction.	
,,	P
A few small cumuli.	D
A bank of cirro-stratus near the horizon in the North-west; otherwise clear.	D
Cumuli and scud.	J H
Nearly cloudless.	
Cloudless: the wind in gusts.	J H
Cloudless.	G
,, several meteors have been seen since the last observation.	
,,	
,, several meteors have been seen to the South since the last observation: a sudden formation of dew on the grass, &c.	G
,,	D
,, several meteors have been seen since the last observation, South and West of the zenith.	
,,	D
Misty air.	J H
Misty damp air.	
Light fleecy clouds: hazy: the vanes point W.S.W.	J H
Cirri and thin undefined clouds in every direction: a thin mist in the Park.	P
Cirri, undefined clouds, and haze: misty in the Park.	P
Thin fleecy clouds are scattered over the Southern portion of the sky, and a thick mist is prevalent, so that the shadows cast are very faint.	G
Light clouds: hazy.	J H
Cloudless: the haze in the South is very thick, and resembles cirro-stratus: the wind is very light.	P
,, haze covers the whole sky.	P
,, hazy.	D
Cumuli and thick haze.	D
A haze is prevalent: cirri in lines over the zenith: loose clouds near the horizon.	G
Cirri and woolly clouds in various parts of the sky: cumuli near the place of the Sun.	G
Cirri, both curled and linear, diffused over every part of the sky, with cirro-stratus or dense haze in the western horizon: hazy in other directions.	P
Cirri chiefly West of the zenith, and beautifully tinged by the Sun: the sky in the western horizon is at present of a fine lemon colour: at $7^h.\ 4^m$, the colour both of the sky and clouds has changed; the former blends with that of the rest of the sky, the latter is of a fine neutral colour.	P

Day and Hour Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Sep. 21. 8	30·111	61·7	60·3	1·4	..	..	Calm	Calm	..	..	3
9	30·131	61·7	60·0	1·7	..	..	Calm	Calm	..	..	9
10	30·141	60·5	59·5	1·0	58·5	2·0	Calm	Calm	..	..	10
11	30·151	60·5	59·5	1·0	..	..	Calm	Calm	..	..	10
12	30·157	60·5	59·5	1·0	..	..	Calm	Calm	..	..	10
13	30·165	60·2	59·0	1·2	..	..	Calm	Calm	..	..	10
14	30·172	57·2	57·1	0·1	..	..	Calm	Calm	..	..	7
15	30·186	56·4	56·2	0·2	..	..	Calm	Calm	..	..	7
16	30·192	55·6	55·2	0·4	55·0	0·6	N by W	Calm	..	..	9½
17	30·196	55·3	54·7	0·6	..	..	N by E	Calm	..	..	7
18	30·211	54·0	54·0	0·0	..	..	Calm	Calm	..	..	1
19	30·224	51·3	51·4	—0·1	..	..	Calm	Calm	..	..	0
20	30·246	53·0	52·9	0·1	..	..	Calm	Calm	..	..	0
21	30·270	55·3	54·5	0·8	..	..	N by E	N N E	..	¼	0
22	30·290	60·9	58·7	2·2	57·5	3·4	N N E	N E	..	¼	0
23	30·308	65·4	61·3	4·1	..	..	N N E	N N E	..	¼	2
Sep. 22. 0	30·314	65·5	60·8	4·7	..	..	N N E	N N E	..	¼	3
1	30·321	68·6	60·6	8·0	..	..	N E	N E	..	½	4
2	30·310	69·0	61·1	7·9	..	..	N E	N E	..	½	1
3	30·312	68·5	61·1	7·4	..	..	N E	E N E	..	½	0
4	30·313	67·2	60·1	7·1	56·0	11·2	N E	N E	..	¼	0
5	30·310	66·3	59·6	6·7	..	..	N E	N E	..	¼	0
6	30·311	63·5	59·3	4·2	..	..	Calm	N E	..	¼	0
7	30·322	60·6	57·2	3·4	..	..	Calm	N E	..	¼	0
8	30·340	58·3	56·2	2·1	..	..	Calm	Calm	..	..	0
9	30·352	56·0	55·5	0·5	..	..	Calm	Calm	..	..	0
10	30·360	55·7	54·2	1·5	55·0	0·7	Calm	Calm	..	..	0
11	30·377	53·0	52·1	0·9	..	..	Calm	Calm	..	..	0
12	30·378	52·5	51·8	0·7	..	..	Calm	Calm	..	..	0
14	30·374	50·7	50·7	0·0	..	..	Calm	Calm	..	..	0
16	30·377	50·5	50·7	—0·2	50·0	0·5	Calm	Calm	..	..	10
18	30·396	51·8	52·0	—0·2	..	..	N by E	Calm	..	..	10
20	30·410	54·2	54·2	0·0	..	..	N N E	E N E	..	½	10
22	30·414	59·8	57·5	2·3	55·0	4·8	N E	N E	..	¼	9
23	30·419	61·8	58·9	2·9	..	..	N E	N E	..	¼	10
Sep. 23. 0	30·413	64·7	60·9	3·8	..	..	N E	N E	..	¼ +	5
1	30·409	65·5	62·0	3·5	..	..	N E	N E	..	¼ —	9¾
2	30·400	65·8	61·9	3·9	..	..	N	N N E	..	¼	7
4	30·399	66·1	62·1	4·0	60·0	6·1	N	N by E	..	¼	6
5	30·390	64·7	61·6	3·1	..	..	N	N by E	..	¼	¼
6	30·393	64·2	61·1	3·1	..	..	N	N	..	¼	0
7	30·385	61·4	59·7	1·7	..	..	Calm	N	..	¼	¼
8	30·393	59·1	57·8	1·3	..	..	Calm	N	..	¼	4
9	30·398	56·5	56·5	0·0	..	..	Calm	N	..	¼	0
10	30·403	55·5	55·5	0·0	55·0	0·5	Calm	Calm	..	..	0
Oct. 18. 10	30·053	36·5	34·7	1·8	32·5	4·0	Calm	N W	..	¼	0
11	30·076	36·6	34·3	2·3	..	..	Calm	N W	..	½	0
12	30·088	35·0	33·5	1·5	..	..	Calm	N W	..	¼	0
13	30·103	34·3	32·6	1·7	..	..	Calm	N W	..	¼	0
14	30·117	31·6	30·2	1·4	..	..	Calm	N W	..	¼	0
15	30·125	30·4	29·6	0·8	..	..	Calm	Calm	..	..	0

GENERAL REMARKS.	Observer.
Light fleecy clouds and scud.	J H
Hazy, with a great quantity of vapour.	
Overcast: vapour and cirro-stratus.	J H
,, cirro-stratus.	D
,, ,,	
,, ,,	
Clear in the zenith: scud and vapour.	
,, ,,	
A few stars are visible in the zenith; otherwise overcast.	
Cirro-stratus and scud.	
Vapour and fragments of scud.	
Cloudless.	
,,	
,,	D
,,	J H
A few light clouds.	
Cumuli and fleecy clouds.	
,,	
,,	
Cloudless.	J H
,,	D
,,	
,,	
,,	
,,	
,,	D
,,	J H
,,	
,,	
Overcast: a damp misty air.	
,, ,,	
,, ,,	J H
Generally compact scud, broken however in and around the zenith.	P
Cirro-stratus and scud.	D
Fleecy clouds in every direction; in the S. horizon they appear to be forming into cumuli.	P
Scud covering the whole sky.	
Large masses of scud of a fleecy texture, in every direction, with imperfectly formed cumuli in the S. and W. horizon.	P
Fleecy cumuli in every direction.	J H
Nearly cloudless.	
Cloudless.	
Nearly cloudless.	
Cirro-stratus and scud, principally S. of the zenith.	
Cloudless, the stars however appear dim.	
,, ,,	J H
Hazy.	G
,,	
Cloudless.	
,, it is very cold: a thermometer placed on wool reads 18°.	G
,,	D
,,	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0–6.	Amount of Clouds 0–10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Oct. 18. 16	30·140	30·5	29·5	1·0	29·0	1·5	Calm	Calm	..	..	0
17	30·153	30·0	29·2	0·8	..	..	Calm	Calm	..	..	0
18	30·169	28·5	28·1	0·4	..	..	Calm	Calm	..	..	0
19	30·184	30·0	29·0	1·0	..	..	Calm	Calm	..	..	0
20	30·202	30·5	31·5	−1·0	..	..	Calm	Calm	..	..	0
21	30·178	31·6	31·0	0·6	..	..	Calm	Calm	..	..	0
22	30·228	35·0	31·9	3·1	29·2	5·8	Calm	Calm	..	..	0
23	30·243	38·3	36·6	1·7	..	..	Calm	Calm	..	..	0
Oct. 19. 0	30·253	44·6	40·7	3·9	..	..	N	N	..	$\frac{1}{4}$	0
1	30·251	46·5	42·0	4·5	..	..	N by E	N N E	..	$\frac{1}{4}$	0
2	30·249	47·2	42·6	4·6	..	..	N	N	..	$\frac{1}{4}$	0
3	30·251	47·7	42·9	4·8	..	..	N	N	..	$\frac{1}{4}$	1
4	30·259	46·8	42·5	4·3	35·0	11·8	N	N	..	$\frac{1}{4}$	3
5	30·252	43·8	40·3	3·5	..	..	Calm	Calm	..	..	3
6	30·271	40·4	38·2	2·2	..	..	Calm	Calm	..	..	$\frac{1}{4}$
7	30·275	40·0	38·4	1·6	..	..	Calm	Calm	..	..	0
8	30·277	37·0	36·0	1·0	..	..	Calm	Calm	..	..	0
9	30·292	35·8	34·7	1·1	..	..	Calm	Calm	..	..	0
10	30·285	33·5	32·7	0·8	32·0	1·5	Calm	Calm	..	..	0
Oct. 20. 18	29·813	45·5	44·5	1·0	..	..	S S W	W S W	$1\frac{1}{2}$ to $4\frac{1}{2}$	$1\frac{1}{2}$	10
19	29·790	45·8	45·4	0·4	..	..	S	W S W	2 to 4	$1\frac{1}{2}$	10
20	29·783	46·3	46·0	0·3	..	..	S	W S W	1 to $2\frac{1}{2}$	1	10
21	29·780	47·0	46·7	0·3	..	..	S S W	W S W	..	1	10
22	29·781	49·1	48·1	1·0	47·5	1·6	W S W	W	0 to $\frac{1}{2}$	$\frac{1}{2}$	10
23	29·785	50·0	48·4	1·6	..	..	W by S	W	..	$\frac{1}{2}$	10
Oct. 21. 0	29·792	51·5	48·6	2·9	..	..	W	W	0 to $\frac{1}{2}$	$\frac{1}{2}$	10
1	29·804	51·1	47·0	4·1	..	..	N W	N W	0 to $\frac{1}{2}$	$\frac{1}{2}$	10
2	29·812	51·3	47·0	4·3	..	..	W N W	W N W	0 to $\frac{1}{2}$	$\frac{1}{2}$	10
3	29·833	51·5	47·1	4·4	..	..	W	W N W	..	$\frac{1}{2}$	10
4	29·834	50·5	46·5	4·0	42·0	8·5	W by N	W N W	..	$\frac{1}{2}$	5
5	29·858	50·0	46·3	3·7	..	..	W	W N W	..	$\frac{1}{4}$	4
6	29·872	48·0	45·5	2·5	..	..	Calm	W N W	..	$\frac{1}{4}$	5
7	29·885	47·2	45·2	2·0	..	..	Calm	W N W	..	$\frac{1}{2}$	0
8	29·922	44·2	42·5	1·7	..	..	Calm	W	..	$\frac{1}{4}$	0
9	29·938	43·0	41·4	1·6	..	..	Calm	W	..	$\frac{1}{4}$	1
10	29·952	42·1	40·9	1·2	39·6	2·5	Calm	W	..	$\frac{1}{4}$	0
11	29·957	40·0	39·3	0·7	..	..	Calm	W	..	$\frac{1}{4}$	0
12	29·980	39·0	38·4	0·6	..	..	Calm	W	..	$\frac{1}{4}$	0
13	29·992	38·6	38·0	0·6	..	..	Calm	W	..	$\frac{1}{4}$	0
14	29·985	38·5	38·0	0·5	..	..	Calm	S W	..	$\frac{1}{4}$	0
15	29·992	38·0	37·4	0·6	..	..	Calm	S W	..	$\frac{1}{4}$	0
16	29·976	38·0	37·3	0·7	36·5	1·5	Calm	Calm	..	..	7
17	29·967	38·2	38·0	0·2	..	..	Calm	Calm	..	..	9
18	29·972	40·0	38·7	1·3	..	..	Calm	Calm	..	..	9
19	29·985	40·3	39·0	1·3	..	..	Calm	S W	..	$\frac{1}{4}$	7
20	29·995	41·0	39·8	1·2	..	..	Calm	S S W	..	$\frac{1}{2}$	5
21	30·003	41·7	40·3	1·4	..	..	S S W	S S W	..	$\frac{1}{2}$	4
22	29·999	47·2	45·0	2·2	43·0	4·2	S W	S S W	..	$\frac{1}{4}$	9
23	29·998	52·2	49·2	3·0	..	..	S S W	S S W	..	$\frac{1}{4}$	10

GENERAL REMARKS.	Observer.
Cloudless: several meteors have been seen since 13^h.	D
,,	J H
,,	
,,	J H
,, quite calm: hoar frost.	M
Hazy.	M
Cloudless.	G
A thick mist: hazy.	G
Cloudless.	D
,, hazy.	J H
,,	
A few light clouds.	
Cumuli E. of the meridian.	J H
Cirri in the zenith; the rest of the sky is clear.	D
A few strati near the North and South horizon.	
Cloudless.	D
A thick haze.	G
A haze.	
Cloudless, but a thick haze.	G
Overcast: very dark: rain falls during occasional squalls: the wind in gusts to 2: since 12^h the barometer has fallen $0^{in}\cdot18$, the fall having been uniformly about $0^{in}\cdot03$ per hour.	G
,, a thin rain falling: wind in gusts to 2.	
,, rain falling during squalls: wind in gusts to $1\frac{1}{2}$.	
,, rain has been falling rather heavily since the last observation: the sky is brighter in the N.	
,, cirro-stratus and scud.	G
,, ,,	D
Overcast: cirro-stratus and scud.	
,, ,,	
,, ,,	D
,, ,,	J H
Fleecy clouds are nearly equally distributed every where above 20° high; hazy and thick near the horizon.	G
Small yellow cumuli in every part of the sky: a crimson sunset; the East however is still thick.	
A good deal of haze towards the S.: scud is generally prevalent.	
A mist near the horizon all round: while reading the thermometer, a meteor appeared in Cassiopeia and passed through Aquila.	
Cloudless.	G
Vapour near the horizon.	J H
Cloudless: hazy.	
,, ,,	J H
,, ,, at $12^h.\ 15^m$ a splendid meteor appeared a little to the North of Rigel, and disappeared near β Tauri; its duration was 3^s, and it was accompanied with a fine train of yellow sparks.	D
Cloudless: hazy.	
,, ,,	
,, ,,	D
Thin dark clouds about the South and West of the stratus character; a good deal of cloud also to the N.	G
Stratus every where, but apparently thin, the sky being seen in many places through it.	
,, but more broken.	
,, very bright near the horizon in the South: the clouds are of an orange colour.	
Cirro-cumuli and cirri occupy the whole of the zenith and the South: to the North there are a few loose cumuli: a fine deep blue	
The zenith is clear and of a fine blue: strati near the horizon. [sky.	
The sky is nearly covered with white cumulo-strati.	
There are a few small patches of blue sky seen through white cumulo-stratus.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Oct. 22. 0	29·990	55·7	51·7	4·0	..	..	S S W	W S W	1 constant	¾	7
1	29·951	57·1	51·8	5·3	..	..	S W	W S W	2 to 4¼	1	5
2	29·954	56·1	51·2	4·9	..	..	S W	W S W	1½ to 4	1½	8
3	29·928	55·8	51·0	4·8	..	..	S W	W S W	1 to 2½	1	7
4	29·918	55·1	51·4	3·7	49·5	5·6	S S W	W S W	0 to ½	1	9
5	29·905	53·0	49·8	3·2	..	..	S S W	S W	..	½	9½
6	29·899	52·0	49·0	3·0	..	..	S S W	S S W	0 to ½	½	10
7	29·895	49·9	47·8	2·1	..	..	S S W	S S W	0 to ½	½	5
8	29·881	50·1	48·0	2·1	..	..	S by W	S W	..	½	10
9	29·865	51·5	48·6	2·9	..	..	S S W	S W	0 to 3	½ +	10
10	29·862	50·8	49·2	1·6	47·5	3·3	S S W	S W	½ to 2	1	10
11	29·817	51·8	50·4	1·4	..	..	S S W	S S W	½ to 2½	1	10
12	29·815	52·8	51·5	1·3	..	..	S S W	S S W	0 to 3	1	10
13	29·802	53·7	52·4	1·3	..	..	S S W	S S W	½ to 3½	1	10
14	29·809	51·6	51·7	−0·1	..	..	W	W	2 to 3	1 +	10
Nov. 20. 18	29·530	50·0	48·0	2·0	..	..	S S W	S S W	2 to 3½	¾	10
19	29·514	50·0	48·3	1·7	..	..	S S W	S S W	½ to 2	½	10
20	29·508	50·0	48·7	1·3	..	..	S S W	S S W	½ to 2	½ +	10
21	29·507	50·5	48·7	1·8	..	..	S S W	S S W	½ to 3½	¾	10
22	29·504	51·9	49·7	2·2	49·0	2·9	S W	S W	1 to 3	1 +	10
23	29·505	53·4	50·6	2·8	..	..	S W	S W	½ to 3½	1	10
Nov. 21. 0	29·492	54·0	51·5	2·5	..	..	S W	S W	1 to 3½	¾	8
1	29·490	54·6	51·9	2·7	..	..	S W	S W	½ to 3	¾	10
2	29·468	53·7	51·4	2·3	..	..	S W	S W	0 to 3	½ +	9½
3	29·468	53·6	51·0	2·6	..	..	S W	S W	½ to 2	¾	10
4	29·472	53·0	51·3	1·7	49·5	3·5	S W	S W	0 to 3	¾	10
5	29·461	52·5	51·0	1·5	..	..	S W	S W	1 to 3	1	10
6	29·445	52·7	50·8	1·9	..	..	S by W	S W	½ to 2	¾	10
7	29·417	52·4	51·5	0·9	..	..	S by W	S W	½ to 3½	¾	10
8	29·395	54·0	53·2	0·8	..	..	S S W	S W	½ to 2½	1	10
9	29·393	54·2	52·1	2·1	..	..	S W	S W	1½ to 4½	1½	10
10	29·400	54·5	52·5	2·0	51·8	2·7	S W	S W	2 to 3½	1½	10
11	29·386	54·6	53·1	1·5	..	..	S W	S W	3 to 6	1½	10
12	29·372	55·6	54·8	0·8	..	..	S S W	S W	3½ to 7	2	9½
13	29·352	55·8	53·6	2·2	..	..	S W	S W	4 to 7	2½	10
14	29·333	55·6	53·6	2·0	..	..	S W	S W	5 to 12	2½	10
15	29·348	56·1	54·0	2·1	..	..	S W	S W	4 to 9	2½	10
16	29·337	55·3	54·0	1·3	53·5	1·8	S W	S W	4½ to 6	2	10
17	29·332	56·0	55·0	1·0	..	..	S W	S W	3 to 7	2½	10
18	29·337	54·8	51·4	3·4	..	..	S W	S W	4 to 8	2	10
19	29·344	53·4	50·1	3·3	..	..	S W	S W	3½ to 5	2	10
20	29·361	53·1	50·4	2·7	..	..	S W	S W	4 to 6	1½	10
21	29·385	53·2	50·8	2·4	..	..	S W	S W	2½ to 4	1 +	9¾
22	29·426	53·4	50·0	3·4	49·0	4·4	W S W	W	2 to 6	1½	9
23	29·470	53·0	49·0	4·0	..	..	W S W	W S W	3 to 4½	1	10
Nov. 22. 0	29·474	52·1	49·0	3·1	..	..	W S W	W S W	2 to 3½	1	10
1	29·490	52·1	48·2	3·9	..	..	W S W	W S W	1 to 2	¾	10
2	29·511	51·8	47·7	4·1	..	..	W S W	W S W	1 to 2½	1	10
3	29·526	51·5	47·5	4·0	..	..	W S W	W S W	..	¾	10
4	29·549	50·4	47·5	2·9	46·5	3·9	Calm	W S W	..	¼	10
5	29·564	49·4	47·3	2·1	..	..	W S W	W S W	..	¼	10

GENERAL REMARKS.	Observer.
White cumulo-strati and scud are equally distributed over the sky: gusts of wind to 1.	G
Loose cumuli and scud passing from the West.	J H
The upper clouds are cirri: large cumuli are scattered in all directions: the scud is passing quickly from the West.	
Cirri and light scud.	
Cirro-stratus and scud.	J H
,, breaks of slight extent South of the zenith.	D
,,	
The sky South of the zenith is nearly clear: the remainder is mostly covered with stratus, through which a few stars are shining.	
Cirro-stratus and scud: one or two stars are faintly glimmering in the zenith.	D
Overcast: cirro-stratus: gusts of wind.	G
Rain has been falling since $9^h.\ 10^m$: the wind in gusts to $1\frac{1}{2}$ and sometimes to 2.	G
Overcast: the sky is covered with one unbroken cloud: a very thin rain falling.	D
,, ,, ,,	
,, a thin rain falling: gusts of wind to $1\frac{1}{2}$.	
,, heavy rain: strong gusts of wind.	D
Overcast.	P
,, cirro-stratus and scud.	
,, ,, the wind is blowing in moderate gusts.	
,, ,, the cirro-stratus is much thinner in many directions.	P
,, ,, the wind in gusts.	D
,, a few drops of rain falling: occasional breaks frequently occur.	
Cirro-stratus and scud: extensive breaks in different parts of the sky: the wind is in gusts.	
Overcast: cirro-stratus and scud: gusts of wind to 1+.	
Cirro-stratus and scud.	D
,, the wind is in gusts.	P
,, ,,	
,, ,, the cirro-stratus is becoming thinner to windward.	
,, ,,	
,, the wind is in gusts to about 1 or $1\frac{1}{2}$: a thin rain falling occasionally.	
,, the wind is blowing in gusts to about $1\frac{1}{2}$, and is apparently increasing.	
,, the wind is fast increasing, and the gusts are very heavy.	P
,, ,, gusts to 2.	D
,, the places of one or two stars in the zenith are faintly visible: strong gusts of wind.	
,, a few stars are shining in the zenith: the wind in heavy gusts.	
,,	
,, the wind continues in very heavy gusts.	
,, a thin rain falling.	
,, ,,	
,, strong gusts of wind.	
,, ,,	
,, ,,	
,, ,,	
,, ,, small breaks here and there.	D
,, ,,	J H
,, ,,	
Cirro-stratus and scud: strong gusts of wind.	
,, ,,	J H
,, ,, the cirro-stratus is thinner to the North of the zenith.	P
,, ,,	J H
,, the clouds are very dense.	D
,, ,,	

Day and Hour Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below. Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Nov. 22. 6	29·568	48·0	45·9	2·1	..	..	Calm	W S W	..	$\frac{1}{4}$	10
7	29·572	47·4	45·6	1·8	..	..	Calm	W S W	..	$\frac{1}{4}$	10
8	29·569	47·1	45·6	1·5	..	..	Calm	S W	..	$\frac{1}{4}$	10
9	29·572	47·0	45·4	1·6	..	..	Calm	Calm	..	..	10
10	29·559	46·5	45·1	1·4	44·5	2·0	Calm	Calm	..	..	10
11	29·550	46·6	45·5	1·1	..	..	Calm	Calm	..	..	10
12	29·547	46·5	46·1	0·4	..	..	Calm	Calm	..	..	10
13	29·512	45·8	45·5	0·3	..	..	Calm	Calm	..	..	10
14	29·488	45·8	45·5	0·3	..	..	Calm	W	..	$\frac{1}{2}$	10
15	29·478	45·4	45·0	0·4	..	..	Calm	W	..	$\frac{1}{2}$	10
16	29·414	44·5	44·0	0·5	44·0	0·5	E	W	..	$\frac{1}{2}$	10
17	29·366	45·8	45·1	0·7	..	..	E	W	0 to $1\frac{1}{2}$	$\frac{3}{4}$	10
18	29·328	46·0	45·9	0·1	..	..	E	W	..	$\frac{1}{2}$	10
19	29·272	51·0	50·7	0·3	..	..	Calm	W	..	$\frac{3}{4}$	10
20	29·260	52·0	51·2	0·8	..	..	S W	W	1 to 2	$\frac{3}{4}$	10
21	29·264	52·5	51·5	1·0	..	..	S W	W S W	0 to 4	1	10
22	29·259	52·3	50·8	1·5	50·0	2·3	S W	S W	1 to 3	$\frac{1}{2}$+	10
23	29·261	53·5	51·5	2·0	..	..	S S W	S W	$\frac{1}{2}$ to 2	$\frac{1}{2}$	10
Nov. 23. 0	29·238	53·6	51·4	2·2	..	..	S S W	S S W	$\frac{1}{2}$ to 2	$\frac{3}{4}$	8
1	29·215	53·5	51·2	2·3	..	..	S S W	S S W	1 to 4	1	9
2	29·174	52·7	49·8	2·9	..	..	S by W	S W	$4\frac{1}{2}$ to 6	2	8
3	29·176	48·5	45·2	3·3	..	..	S W	S W	4 to 8	$1\frac{1}{2}$	7
4	29·211	45·1	42·9	2·2	41·0	4·1	W S W	S W	$4\frac{1}{2}$ steady	2	10
5	29·284	43·0	40·3	2·7	..	..	W S W	S W	2 to 5	2	10
6	29·292	41·5	39·5	2·0	..	..	W S W	W by S	0 to 2	$\frac{3}{4}$+	10
7	29·388	40·7	38·8	1·9	..	..	W S W	W by S	0 to $\frac{1}{2}$	$\frac{3}{4}$	1
8	29·427	40·3	38·0	2·3	..	..	W S W	W by S	..	$\frac{1}{2}$	8
9	29·456	40·3	38·3	2·0	..	..	S W	W by S	..	$\frac{1}{2}$	10
10	29·468	39·7	38·1	1·6	37·0	2·7	S W	W	..	$\frac{1}{2}$	8
11	29·481	39·0	37·0	2·0	..	..	S W	W	..	$\frac{1}{2}$	7
12	29·494	38·0	36·5	1·5	..	..	S W	W	..	$\frac{1}{4}$	5
13	29·491	36·5	36·0	0·5	..	..	Calm	W S W	..	$\frac{1}{4}$	5
14	29·490	36·3	35·3	1·0	..	..	Calm	W S W	..	$\frac{1}{4}$	4
15	29·488	35·3	34·7	0·6	..	..	Calm	Calm	..	..	4
16	29·478	35·9	34·7	1·2	33·0	2·9	Calm	Calm	..	..	4
17	29·451	35·0	34·3	0·7	..	..	Calm	Calm	..	..	6
18	29·451	34·8	34·2	0·6	..	..	Calm	Calm	..	..	9
19	29·453	34·8	34·0	0·8	..	..	Calm	Calm	..	..	10
20	29·453	34·2	33·5	0·7	..	..	Calm	Calm	..	..	10
21	29·456	34·4	33·8	0·6	..	..	Calm	Calm	..	..	10
22	29·442	36·8	35·5	1·3	33·0	3·8	Calm	S	..	$\frac{1}{4}$	10
23	29·405	39·8	37·8	2·0	..	..	Calm	S	..	$\frac{1}{4}$	10
Nov. 24. 0	29·444	41·6	39·4	2·2	..	..	Calm	S	..	$\frac{1}{4}$	10
1	29·439	40·7	40·7	0·0	..	..	Calm	S S E	..	$\frac{1}{4}$	10
2	29·428	41·5	40·3	1·2	..	..	Calm	S S E	..	$\frac{1}{2}$	10
3	29·423	43·0	41·5	1·5	..	..	Calm	S S E	..	$\frac{1}{2}$	9
4	29·428	41·7	40·7	1·0	38·5	3·2	Calm	S E	..	$\frac{1}{4}$	9
5	29·437	40·1	39·0	1·1	..	..	Calm	S E	..	very light	8
6	29·446	40·6	39·5	1·1	..	..	Calm	S E	..	very light	9
7	29·486	40·5	40·2	0·3	..	..	Calm	Calm	..	..	10

DIRECTION OF WIND.
Nov. 22d. 14h to 18h. See the foot-note to the Ordinary Observations.

GENERAL REMARKS.	Observer.
Cirro-stratus and scud: the clouds are very dense.	D
,, ,,	
,, ,,	
,, ,,	
,, ,,	D
,, rain falling.	J H
,, ,,	
Overcast: rain falling: an extremely dark night.	
,, ,,	
,, ,,	
,, ,,	
,, ,,	
,, rain falling. ,,	
,, an extremely dark night.	
,, the rain has ceased.	
,, rain is again falling.	J H
,, cirro-stratus: no rain.	
,, ,,	
Cirro-stratus and scud: clear in the zenith: the wind in gusts to 1.	
,, a thin rain is falling. [gusts to $2\frac{1}{2}$.	D
A low scud is passing rapidly from the W.S.W.: a kind of small reticulated cumuli occupy the zenith and the parts around it: wind in	G
Dark masses of scud in every direction: the wind blows in gusts to 2+.	D
Cirro-stratus and scud: very heavy in the N. and N.W.	J H
,, very strong gusts of wind.	
,, strong gusts of wind.	J H
Clouds near the horizon in the N.; the sky is otherwise clear.	D
Cirro-stratus and scud: the wind has nearly subsided.	J H
Overcast.	
Cirro-stratus and scud.	J H
Some stars are shining in and around the zenith: cirro-stratus and vapour.	G
The zenith and the parts round it for 60° are generally free from cloud: vapour prevalent.	
Every thing similar to the last observation, except the vapour, which is less prevalent.	
The stars are shining dimly: vapour.	
,, ,,	
,,	
The larger stars only are visible.	
Cirro-stratus every where except about the zenith.	
Cloudy: very black cirro-stratus.	
,, cirro-stratus.	
,, ,,	G
,, ,,	J H
Cirro-stratus and scud.	
Cirro-stratus and scud.	
Rain falling; overcast.	
Overcast: cirro-stratus and scud: rain has been falling within a few minutes before this observation.	
Cirro-stratus and scud: no rain.	J H
Rain has been falling heavily since the last observation: at present there is no rain; the sky is principally covered with scud, small patches of blue sky being visible: a bright streak near the horizon in the South.	G
At $4^h.40^m$ more than a half of the sky was free from cloud, the East being the most free; since that time a great mass of scud has come up from the East.	
A few stars are seen here and there between the clouds: the sky is principally covered with scud.	
A thin misty rain falling.	

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	Amount of Clouds 0—10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Nov. 24. 8	29·497	40·5	40·0	0·5	..	..	Calm	Calm	..	..	10
9	29·502	41·3	40·7	0·6	..	..	Calm	Calm	..	..	10
10	29·538	40·7	40·2	0·5	40·0	0·7	Calm	Calm	..	..	10
11	29·554	40·9	40·4	0·5	..	..	Calm	Calm	..	..	10
12	29·586	40·6	40·2	0·4	..	..	Calm	Calm	..	..	10
13	29·596	40·3	40·0	0·3	..	..	Calm	Calm	..	..	10
14	29·592	40·1	39·9	0·2	..	..	Calm	Calm	..	..	7
15	29·595	39·4	39·2	0·2	..	..	Calm	Calm	..	..	10
16	29·609	40·3	40·0	0·3	39·5	0·8	Calm	Calm	..	..	10
17	29·591	39·8	39·7	0·1	..	..	Calm	Calm	..	..	10
18	29·606	36·6	36·2	0·4	..	..	Calm	Calm	..	..	10
19	29·598	35·1	35·0	0·1	..	..	Calm	Calm	..	..	9
20	29·598	35·8	35·3	0·5	..	..	Calm	Calm	..	..	9
21	29·573	37·4	36·6	0·8	..	..	Calm	S	..	very light	10
22	29·584	38·7	37·8	0·9	36·0	2·7	Calm	Calm	..	..	10
23	29·580	38·6	38·2	0·4	..	..	E S E	E	..	¼	10
Nov. 25. 0	29·533	42·0	41·5	0·5	..	..	S E	S E	..	¼	10
1	29·498	43·0	42·5	0·5	..	..	S E	S E	..	¼	10
2	29·459	43·5	42·9	0·6	..	..	S E	S E	..	¼	10
3	29·441	45·1	44·6	0·5	..	..	S S E	S S E	..	¼	10
4	29·456	45·7	45·5	0·2	45·5	0·2	Calm	S S E	..	nearly calm	10
5	29·533	45·2	45·1	0·1	..	..	Calm	Calm	..	..	10
6	29·505	45·8	45·6	0·2	..	..	Calm	Calm	..	..	10
7	29·521	47·1	46·8	0·3	..	..	Calm	Calm	..	..	10
8	29·534	47·8	47·5	0·3	..	..	Calm	Calm	..	..	10
9	29·549	47·7	47·6	0·1	..	..	Calm	Calm	..	..	10
10	29·546	48·0	47·9	0·1	47·0	1·0	Calm	Calm	..	..	10
Dec. 20. 10	30·240	42·2	41·6	0·6	41·0	1·2	Calm	S S W	..	very light	10
11	30·243	41·7	40·7	1·0	..	..	Calm	S S W	..	¼	10
12	30·242	41·5	40·7	0·8	..	..	Calm	Calm	..	..	10
13	30·219	42·1	41·3	0·8	..	..	Calm	Calm	..	..	10
14	30·221	42·7	41·7	1·0	..	..	Calm	Calm	..	..	10
15	30·227	43·3	42·1	1·2	..	..	Calm	Calm	..	..	10
16	30·232	43·5	42·2	1·3	41·5	2·0	Calm	Calm	..	..	10
17	30·230	43·5	42·2	1·3	..	..	Calm	Calm	..	..	10
18	30·245	44·0	42·6	1·4	..	..	Calm	Calm	..	..	10
19	30·248	44·0	43·0	1·0	..	..	Calm	Calm	..	..	10
20	30·265	44·0	43·0	1·0	..	..	Calm	Calm	..	..	8
21	30·281	43·7	42·8	0·9	..	..	Calm	S W	..	¼—	6
22	30·284	43·7	43·3	0·4	42·0	1·7	Calm	S W	..	¼	1
23	30·312	47·0	45·8	1·2	..	..	S W	S S W	..	¼	10
Dec. 21. 0	30·298	47·5	46·4	1·1	..	..	S S W	S S W	..	¼	10
1	30·290	48·0	46·8	1·2	..	..	S W	S S W	..	¼	10
2	30·288	48·1	47·0	1·1	..	..	S W	S W	..	¼	10
3	30·306	48·2	47·1	1·1	..	..	S W	Calm	..	..	10
4	30·303	47·8	46·7	1·1	46·2	1·6	S S W	Calm	..	..	10
5	30·331	47·3	45·9	1·4	..	..	S S W	Calm	..	..	10
6	30·335	47·0	45·8	1·2	..	..	S S W	Calm	..	..	10
7	30·341	46·6	45·1	1·5	..	..	S S W	S W	..	¼—	10

BAROMETER.

Nov. 24d. 16h. The highest reading during the term occurred. There was considerable unsteadiness in the readings at the previous and subsequent observations; there was no note relative to that circumstance made at the time of the observations; the reductions are correct, and the reading, as above, has been used in subsequent calculations.

Nov. 25d. 5h. This reading is evidently wrong: it is supposed that the reading was 0in·050 too high; and that the corrected reading should be 29in·483.

GENERAL REMARKS.	Observer.
A very black cirro-stratus: the reflection from the lights of London is high, therefore the clouds are high.	G
,, ,,	G
Overcast: a dense cirro-stratus.	D
,, a thin misty rain falling.	
,, ,,	D
,, rain falling.	M
The East is clear: a slight drizzling rain.	M
Overcast: cirro-stratus.	P
,, ,,	
,, ,,	P
,, ,,	J H
A break in the East near the horizon; otherwise cloudy.	
Nearly overcast.	J H
Cirro-stratus and scud.	G
Rain has been falling for half an hour.	G
Rain has been falling since the last observation without intermission.	D
Overcast; cirro-stratus: rain falling.	P
,, ,, ,,	P
,, ,, ,,	J H
,, ,, the air is very damp, but no rain is falling.	D
,, a damp misty air.	D
Cirro-stratus and scud.	J H
Overcast: cirro-stratus: misty air.	J H
A fog; very dark; within a quarter of an hour afterwards the fog dispersed leaving a very black sky: all the thermometers on grass, wool, solid bodies, &c., read between 46° ·5 and 47°, and those at one and two feet high read 47°.	G
One black, unbroken cloud, which is very low, as the reflection of the London lights is very near in the horizon.	G
Overcast: cirro-stratus: a dense fog in the lower parts of the Park.	P
,, ,,	P
Overcast: cirro-stratus: the clouds are moderately high: a very thin rain is falling.	G
,, ,, ,, ,,	
,, ,, ,, the rain has ceased.	G
,, a thin misty rain is falling.	P
,, ,,	
,, ,,	P
,, cirro-stratus.	D
,, ,,	
,, ,,	D
,, ,,	J H
Cirro-stratus.	
Scud and cirro-stratus.	J H
A few fleecy clouds near the zenith, and a line of stratus near the S. horizon.	G
Overcast: cirro-stratus in some parts and scud in others: about five minutes before the observation there were breaks in all directions.	P
,, cirro-stratus and scud.	P
,, cirro-stratus.	D
,, ,,	J H
,, ,,	P
,, ,,	P
,, ,,	G
,, ,,	G
,, ,,	J H

Day and Hour, Göttingen Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0–6.	Amount of Clouds 0–10.
d h	in.	°	°	°	°	°			from lbs. to lbs.		
Dec. 21. 8	30·341	46·5	45·0	1·5	..	..	Calm	S W	..	¼	10
9	30·334	46·4	45·2	1·2	..	..	S S W	S S W	..	¼	10
10	30·337	48·0	45·0	3·0	43·5	4·5	Calm	Calm	..	..	10
11	30·339	46·7	45·1	1·6	..	..	Calm	Calm	..	..	10
12	30·343	46·7	45·0	1·7	..	..	S S W	Calm	..	..	10
13	30·337	46·5	45·0	1·5	..	..	S S W	Calm	..	..	10
14	30·329	45·7	44·3	1·4	..	..	S by W	Calm	..	..	10
15	30·328	45·0	43·5	1·5	..	..	S S W	S S W	..	¼	10
16	30·324	44·3	42·8	1·5	42·2	2·1	S by W	S S W	1 to 1½	½	10
17	30·311	43·5	42·0	1·5	..	..	S by W	S S W	..	½	10
18	30·308	43·8	41·7	2·1	..	..	S	S S W	0 to ½	¼	10
19	30·323	43·0	41·5	1·5	..	..	S S W	S S W	..	¼	10
20	30·324	42·0	41·0	1·0	..	..	S	S S W	..	¼	10
21	30·337	42·5	41·0	1·5	..	..	S S W	S S W	..	¼	10
22	30·340	43·0	41·4	1·6	40·0	3·0	S S W	S S W	..	¼	8
23	30·339	42·7	41·2	1·5	..	..	S	S	..	¼	9
Dec. 22. 0	30·323	43·9	42·1	1·8	..	..	S by W	S	..	¼	9
1	30·302	44·5	43·0	1·5	..	..	S	S	..	½ +	9½
2	30·284	44·2	43·1	1·1	..	..	S	S	0 to 1	¾	10
3	30·283	44·1	43·5	0·6	..	..	S	S	..	½	10
4	30·255	44·5	44·3	0·2	43·5	1·0	S	S	..	¼ —	10
5	30·250	46·1	46·0	0·1	..	..	S S W	S by W	..	¼	10
6	30·244	47·1	46·3	0·8	..	..	S S W	S by W	0 to ½	½	10
8	30·255	47·8	46·7	1·1	..	..	S S W	S by W	½ to 1	½	10

GENERAL REMARKS.	Observer.
Overcast: cirro-stratus: there is a very strong light about 10° or 15° above the horizon, in the N.W., which doubtless proceeds from a large distant fire, though the observer cannot distinguish the position: at $7^h.57^m$ the light was extremely brilliant, in the form of a cumulo-stratus cloud seen in profile: the clouds appear to be low.	J H
Overcast: cirro-stratus: a vivid flash of lightning at $8^h.38^m$.	D
,, ,, several flashes of lightning have been seen since the last observation.	D
,, ,,	P
,, ,,	
,, ,,	
,, ,,	
,,	
,, cirro-stratus and scud: the wind rose soon after the last observation.	
,, ,, the wind in gusts to $\frac{3}{4}$.	
,, ,,	
,, ,,	
,, ,,	
,, ,, the clouds are slightly broken in the zenith.	P
Cirro-stratus and scud.	D
,,	
Cirro-stratus and scud.	
,,	
Overcast: cirro-stratus.	D
,, ,, a very thin misty rain is falling.	P
,, ,, ,,	
,, ,, ,,	
,, cirro-stratus and scud: the wind in gusts to $\frac{3}{4}$.	
A few stars were visible shortly after 6^h: the wind as before.	P

ROYAL OBSERVATORY, GREENWICH.

EXTRAORDINARY METEOROLOGICAL OBSERVATIONS.

1843.

OBSERVATIONS WITH THE ACTINOMETER.

Day, 1843.	Greenwich Mean Solar Time of the Initial Reading.	Instrument exposed to the Sun's Rays or in the Shade.	Readings of the Graduated Scale. Initial A	Readings of the Graduated Scale. Terminal B	Change in One Minute. B−A	Apparent Effect of the Sun's Radiation in Parts of the Scale.	Mean Result of each Group in Parts of the Scale.	Greenwich Mean Solar Time corresponding to the Mean of each Group.	Altitude of the Sun.	GENERAL REMARKS.	Observer.
	h m s		d	d	d	d	d	h m s	°		
Feb. 12	21. 54. 53	Sun	1·5	25·3	+23·8					Cloudless: a light wind was blowing from E. S. E.	G
	56. 23	Shade	28·5	30·4	+ 1·9	21·0				,,	
	57. 53	Sun	32·2	54·2	+22·0	20·2				,,	
	21. 59. 23	Shade	56·1	57·8	+ 1·7	20·3				,,	
	22. 0. 53	Sun	58·1	80·2	+22·1	20·6				,,	
	2. 23	Shade	80·5	81·9	+ 1·4	20·3	20·37	22. 2. 53	21	,,	
	3. 53	Sun	0·8	22·1	+21·3	20·3				,, the compressing-screw was withdrawn.	G
	5. 23	Shade	24·1	24·8	+ 0·7	20·0				,,	
	6. 53	Sun	25·0	45·1	+20·1	19·9				,,	
	8. 23	Shade	45·1	44·8	− 0·3	20·3				,,	
	9. 53	Sun	45·1	65·1	+20·0					,,	
Feb. 12	22. 58. 53	Sun	0·2	23·6	+23·4					Cloudless.	
	23. 0. 23	Shade	24·0	22·0	− 2·0	25·5				,,	
	1. 53	Sun	21·7	45·4	+23·7	23·7				,,	
	3. 23	Shade	45·8	47·8	+ 2·0	19·8				,,	
	4. 53	Sun	47·8	67·7	+19·9	20·2				A thin cloud covered the Sun.	
	6. 23	Shade	67·9	65·3	− 2·6	23·8	23·71	23. 6. 53	24	Cloudless.	G
	7. 53	Sun	64·0	86·5	+22·5	25·3				,,	
	9. 23	Shade	86·8	83·7	− 3·1	25·3				,,	
	10. 53	Sun	0·8	22·8	+22·0	24·8				,,	
	12. 23	Shade	23·0	20·5	− 2·5	25·0				,,	
	23. 13. 53	Sun	20·0	43·0	+23·0					,,	
Feb. 12	23. 58. 53	Sun	1·1	26·6	+25·5					Cloudless.	
13	0. 0. 23	Shade	27·8	27·2	− 0·6	26·2				,,	
	1. 53	Sun	27·2	52·8	+25·6	26·9				,,	
	3. 23	Shade	52·5	50·5	− 2·0	27·3				,,	
	4. 53	Sun	49·4	74·3	+24·9	27·1				,,	
	6. 23	Shade	74·5	72·1	− 2·4	27·8	27·31	0. 6. 53	25	,,	G
	7. 53	Sun	1·1	27·0	+25·9	28·4				,,	
	9. 23	Shade	27·7	25·1	− 2·6	27·8				,,	
	10. 53	Sun	24·4	48·8	+24·4	27·2				,,	
	12. 23	Shade	48·1	45·2	− 2·9	27·1				,,	
	13. 53	Sun	45·9	69·8	+23·9					,,	
Feb. 13	1. 4. 53	Sun	0·0	21·2	+21·2					Cloudless.	
	6. 23	Shade	21·4	19·0	− 2·4	24·5				,,	
	7. 53	Sun	19·0	42·0	+23·0	25·4				,,	
	9. 23	Shade	41·8	39·3	− 2·5	25·5				,,	
	10. 53	Sun	40·0	63·0	+23·0	25·5	25·71	1. 11. 23	24	,,	G
	12. 23	Shade	63·0	60·5	− 2·5	26·1				,,	
	13. 53	Sun	59·6	83·8	+24·2	26·9				,,	
	15. 23	Shade	83·2	80·2	− 3·0	26·1				,,	
	16. 53	Sun	2·0	24·0	+22·0					,,	
Feb. 13	3. 7. 53	Sun	3·0	20·6	+17·6						
	9. 23	Shade	22·3	23·7	+ 1·4	15·5					
	10. 53	Sun	26·1	42·2	+16·1	15·4	14·67	3. 11. 23	14		JH
	12. 23	Shade	43·9	44·0	+ 0·1	13·1				Some cirri about the Sun's place.	
	13. 53	Sun	45·4	55·7	+10·3						
Feb. 13	3. 26. 53	Sun	1·3	9·2	+ 7·9						

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, 1843.	Greenwich Mean Solar Time of the Initial Reading.	Instrument exposed to the Sun's Rays or in the Shade.	Readings of the Graduated Scale. Initial A	Readings of the Graduated Scale. Terminal B	Change in One Minute. B−A.	Apparent Effect of the Sun's Radiation in Parts of the Scale.	Mean Result of each Group in Parts of the Scale.	Greenwich Mean Solar Time corresponding to the Mean of each Group.	Altitude of the Sun.	GENERAL REMARKS.	Observer.
	h m s		d	d	d	d	d	h m s	°		
Feb. 13	3. 28. 23	Shade	7·8	4·0	− 3·8	11·7					
	29. 53	Sun	4·3	12·2	+ 7·9	11·9	11·90	3. 30. 23	10	The Sun is sinking beneath a bank of light clouds.	JH
	31. 23	Shade	10·5	6·3	− 4·2	12·1					
	32. 53	Sun	6·0	13·8	+ 7·8						
Feb. 16	22. 15. 49	Sun	3·0	19·5	+16·5					Cloudless.	
	17. 19	Shade	21·5	24·0	+ 2·5	12·7				,,	
	18. 49	Sun	25·0	38·8	+13·8	12·0				,,	
	20. 19	Shade	40·1	41·2	+ 1·1	12·0				,,	
	21. 49	Sun	42·0	54·5	+12·5	11·7	12·83	22. 22. 19	22	,,	JH
	23. 19	Shade	55·7	56·2	+ 0·5	13·0				,,	
	24. 49	Sun	56·5	71·0	+14·5	14·3				,,	
	26. 19	Shade	72·7	72·6	− 0·1	14·1				,,	
	27. 49	Sun	73·8	87·3	+13·5					,,	
Feb. 16	23. 19. 49	Sun	1·0	21·0	+20·0					Cloudless.	
	21. 19	Shade	23·0	24·0	+ 1·0	18·7				,,	
	22. 49	Sun	24·5	43·8	+19·3	18·3				,,	
	24. 19	Shade	44·0	45·0	+ 1·0	16·4				,,	
	25. 49	Sun	45·0	60·5	+15·5	15·0	17·44	23. 26. 19	25	,,	JH
	27. 19	Shade	62·0	62·0	0·0	17·4				,,	
	28. 49	Sun	62·0	81·2	+19·2	19·1				,,	
	30. 19	Shade	82·0	82·2	+ 0·2	17·2				A thin cloud covers the Sun.	
	31. 49	Sun	2·0	17·5	+15·5	15·8				The cloud is thicker; it is of a woolly nature.	
	33. 19	Shade	19·5	18·8	− 0·7	14·2				The cloud is still more dense.	
	34. 49	Sun	18·5	30·0	+11·5	12·6				,, the shadow is sensibly less distinct.	
	36. 19	Shade	30·3	28·8	− 1·5	10·0				,, no shadow.	
	37. 49	Sun	27·0	32·4	+ 5·4					,, no shadow cast: the Sun is scarcely visible.	
Feb. 17	0. 59. 49	Sun	3·0	27·0	+24·0					Cloudless.	
	1. 1. 19	Shade	28·9	29·0	+ 0·1	25·2				,,	
	2. 49	Sun	29·0	55·5	+26·5	26·0	24·75	0. 4. 4	26	,,	JH
	4. 19	Shade	57·0	58·0	+ 1·0	24·3				,,	
	5. 49	Sun	58·4	82·5	+24·1	23·5				A thin cumulus covered the Sun for 5'.	
	7. 19	Shade	85·2	85·5	+ 0·3					,,	
	8. 49	Sun	2·0	12·0	+10·0					A white cumulus covered the Sun for 37'.	
	10. 19	Shade	13·0	12·8	− 0·2					A white cumulus covers the Sun.	
	11. 49	Sun	12·5	36·5	+24·0	24·5				Cloudless.	
	13. 19	Shade	37·8	37·0	− 0·8	24·3	24·40	0. 13. 49	26	,,	JH
	14. 49	Sun	36·0	59·0	+23·0	24·4				,,	
	16. 19	Shade	59·8	57·8	− 2·0	22·9				,,	
	17. 49	Sun	56·2	75·0	+18·8	20·8				The Sun was in a dense cumulus for 15'.	
	19. 19	Shade	76·0	74·0	− 2·0	22·4				The Sun was in and out of cumuli alternately.	
	20. 49	Sun	3·0	25·0	+22·0					,,	
Mar. 7	21. 19. 0	Sun	1·5	20·0	+18·5					Cloudless.	
	20. 30	Shade	22·8	27·8	+ 5·0	13·4				,,	
	22. 0	Sun	29·8	48·0	+18·2	14·2				,,	
	23. 30	Shade	51·1	54·2	+ 3·1	15·5	14·84	21. 24. 0	21	,,	G
	25. 0	Sun	56·0	75·0	+19·0	15·7				,,	
	26. 30	Shade	78·0	81·5	+ 3·5	15·4				,,	
	28. 0	Sun	0·5	19·2	+18·7					,,	
Mar. 7	21. 55. 0	Sun	2·0	24·0	+22·0					Cloudless.	G

In every observation, whether in the Sun's rays or in the shade, the Terminal Reading was taken exactly one minute after the Initial Reading.
The "Apparent Effect of the Sun's Radiation" is found by comparing each change (whether in the Sun's rays or in the shade) with the mean of that which immediately precedes and that which immediately follows it.

OBSERVATIONS WITH THE ACTINOMETER.

Day, 1843.	Greenwich Mean Solar Time of the Initial Reading.	Instrument exposed to the Sun's Rays or in the Shade.	Readings of the Graduated Scale. Initial A	Readings of the Graduated Scale. Terminal B	Change in One Minute. B−A.	Apparent Effect of the Sun's Radiation in Parts of the Scale.	Mean Result of each Group in Parts of the Scale.	Greenwich Mean Solar Time corresponding to the Mean of each Group.	Altitude of the Sun.	GENERAL REMARKS.	Observer.
	h m s		d	d	d	d	d	h m s	°		
Mar. 7	21. 56. 30	Shade	26·8	27·2	+ 0·4	20·7				Cloudless.	
	58. 0	Sun	27·8	48·0	+20·2	20·0	20·11	21. 58. 30	25	,,	G
	21. 59. 30	Shade	49·8	49·8	0·0	19·7				,,	
	22. 1. 0	Sun	49·8	68·9	+19·1					,,	
Mar. 7	22. 24. 0	Sun	1·0	20·2	+19·2					Cloudless.	
	25. 30	Shade	21·8	20·8	− 1·0	20·7				,,	
	27. 0	Sun	20·0	40·2	+20·2	21·1				,,	
	28. 30	Shade	41·5	40·8	− 0·7	21·1	21·00	22. 29. 0	27	,,	G
	30. 0	Sun	40·5	61·0	+20·5	21·1				,,	
	31. 30	Shade	62·0	61·5	− 0·5	21·0				,,	
	33. 0	Sun	61·0	81·5	+20·5					,,	
Mar. 7	23. 9. 0	Sun	1·0	21·8	+20·8					A small cloud covered the Sun for a few seconds.	
	10. 30	Shade	23·0	24·2	+ 1·2	21·7	22·50	23. 11. 45	30	Cloudless.	G
	12. 0	Sun	25·0	50·0	+25·0	23·3				,,	
	13. 30	Shade	52·8	55·0	+ 2·2					,,	
	15. 0	Sun	56·0	75·0	+19·0					,,	
	16. 30	Shade	77·0	79·0	+ 2·0					The Sun was in a cumulus for 15ˢ.	
	18. 0	Sun	1·0	8·0	+ 7·0					[visible, and a very faint shadow was cast.	
	19. 30	Shade	9·1	10·0	+ 0·9					The Sun was in a cumulus the whole time: its place was just	
	21. 0	Sun	10·0	12·0	+ 2·0					,, ,, no shadow cast.	
Mar. 7	23. 42 0	Sun	2·0	18·0	+16·0					The Sun was at the edge of a cumulus for 20ˢ.	G
	43. 30	Shade	18·0	17·7	− 0·3					Cumuli are very prevalent to the S. of the zenith.	
Mar. 8	0. 6. 0	Sun	2·0	28·0	+26·0					Cloudless.	
	7. 30	Shade	30·0	32·2	+ 2·2	21·8					
	9. 0	Sun	33·0	55·0	+22·0	19·5				The Sun in a thin cumulus for 40ˢ.	
	10. 30	Shade	57·0	59·8	+ 2·8	22·0					
	12. 0	Sun	61·5	89·0	+27·5	24·8				Cloudless.	
	13. 30	Shade	92·5	95·0	+ 2·5	25·3	25·10	0. 14. 0	33	,,	G
	15. 0	Sun	2·0	30·0	+28·0	25·2				,,	
	16. 30	Shade	32·8	36·0	+ 3·2					,,	
	18. 0	Sun	37·0	47·0	+10·0					The Sun was at the edge of a cumulus for 20ˢ, and in the cumulus for 20ˢ. After 0ʰ. 19ᵐ the Sun was quite covered with large cumuli, and in a short time afterwards the sky was wholly covered with cumulo-strati.	
Apr. 18	21. 44. 34	Sun	2·0	35·0	+33·0						
	46. 4	Shade	39·5	46·5	+ 7·0	23·5					
	47. 34	Sun	49·0	77·0	+28·0	21·8					
	49. 4	Shade	80·8	86·2	+ 5·4	25·0				The portion of the sky about the place of the Sun was	G
	50. 34	Sun	0·2	33·0	+32·8	27·6	24·14	21. 51. 4	42	obscured by a variable haze throughout the ob-	
	52. 4	Shade	39·0	44·0	+ 5·0	24·3				servation.	
	53. 34	Sun	45·8	71·5	+25·7	22·0					
	55. 4	Shade	75·0	77·5	+ 2·5	24·8					
	56. 34	Sun	1·0	30·0	+29·0						
Apr. 18	23. 6. 34	Sun	−1·0	25·0	+26·0						
	8. 4	Shade	27·0	28·0	+ 1·0	25·3					
	9. 34	Sun	28·5	55·0	+26·5	25·3					
	11. 4	Shade	57·0	58·5	+ 1·5	24·5				A thin cloud of the cirrus character, and of rather a	G
	12. 34	Sun	59·5	85·0	+25·5	24·0	24·93	23. 13. 4	48	woolly nature, prevailed during the series.	
	14. 4	Shade	2·0	3·5	+ 1·5	24·3					

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	h m s		d	d	d	d	d	h m s	°		
Apr. 18	23. 15. 34	Sun	4·0	30·0	+26·0	24·7					
	17. 4	Shade	33·0	34·1	+ 1·1	26·4					
	18. 34	Sun	35·0	64·0	+29·0						
Apr. 19	0. 46. 34	Sun	3·0	36·2	+33·2						
	48. 4	Shade	39·2	42·5	+ 3·3	29·3					
	49. 34	Sun	44·0	76·0	+32·0	29·1				Nearly cloudless.	G
	51. 4	Shade	79·0	81·5	+ 2·5	30·5	30·44	0. 51. 34	47		
	52. 34	Sun	0·0	34·0	+34·0	31·8					
	54. 4	Shade	37·2	39·2	+ 2·0	31·5					
	55. 34	Sun	40·0	73·0	+33·0					[all the afternoon. After this series the sky became obscured, and continued so	
Sep. 1	21. 57. 15	Sun	0·0	41·5	+41·5					Cloudless.	
	21. 58. 45	Shade	49·0	61·9	+12·9	27·8				,,	
	22. 0. 15	Sun	2·0	42·0	+40·0	28·2				,, the screw withdrawn.	
	1. 45	Shade	46·2	57·0	+10·8	26·7				,,	
	3. 15	Sun	61·2	96·2	+35·0	24·6				,,	
	4. 45	Shade	2·0	12·0	+10·0	24·0	25·60	22. 5. 15	40	,, the screw withdrawn.	G
	6. 15	Sun	17·0	50·0	+33·0	24·0				,,	
	7. 45	Shade	56·0	64·0	+ 8·0	25·3				,,	
	9. 15	Sun	1·5	35·0	+33·5	25·5				,,	
	10. 45	Shade	41·0	49·0	+ 8·0	24·3				,,	
	12. 15	Sun	53·0	84·0	+31·0					After this series the sky became covered with cloud.	
Sep. 8	22. 24. 42	Sun	2·0	40·5	+38·5					Cloudless.	
	26. 12	Shade	46·2	54·5	+ 8·3	30·3				,,	
	27. 42	Sun	59·5	98·2	+38·7	29·6				,,	
	29. 12	Shade	0·3	10·2	+ 9·9	29·5				,,	
	30. 42	Sun	15·0	55·0	+40·0	31·3				,,	
	32. 12	Shade	60·5	68·0	+ 7·5	32·3				,,	
	33. 42	Sun	2·5	42·0	+39·5	31·0				,,	
	35. 12	Shade	47·5	57·0	+ 9·5	30·8	31·45	22. 35. 42	40	,,	G
	36. 42	Sun	61·0	102·0	+41·0	31·7				,,	
	38. 12	Shade	0·0	9·0	+ 9·0	32·1				,,	
	39. 42	Sun	10·9	52·0	+41·1	33·0				,,	
	41. 12	Shade	56·8	64·0	+ 7·2	33·0				,,	
	42. 42	Sun	0·9	40·2	+39·3	32·0				,,	
	44. 12	Shade	45·0	52·5	+ 7·5	32·2				,,	
	45. 42	Sun	55·0	95·0	+40·0					,,	
Sep. 8	23. 25. 42	Sun	1·0	38·0	+37·0					Cloudless: the wind is higher than at the preceding set of [observations.	
	27. 12	Shade	40·5	43·0	+ 2·5	33·5				,,	
	28. 42	Sun	44·0	79·0	+35·0	32·8				,,	
	30. 12	Shade	82·0	84·0	+ 2·0	34·2				,,	
	31. 42	Sun	0·5	38·0	+37·5	35·8	35·19	23. 32. 12	43	,,	G
	33. 12	Shade	40·0	41·5	+ 1·5	36·5				,,	
	34. 42	Sun	41·5	80·0	+38·5	37·5				,,	
	36. 12	Shade	82·5	83·0	+ 0·5	36·0				,,	
	37. 42	Sun	0·5	35·0	+34·5	34·3				,, a violent gust of wind.	
	39. 12	Shade	37·0	37·0	0·0	35·1				,,	
	40. 42	Sun	39·8	75·5	+35·7	35·7				,,	
	42. 12	Shade	77·5	77·5	0·0	34·9	34·41	23. 42. 42	44	,,	G
	43. 42	Sun	1·0	35·0	+34·0	34·2				,,	
	45. 12	Shade	35·5	35·1	− 0·4	33·5				,,	
	46. 42	Sun	34·3	66·5	+32·2	33·2				,,	

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	h m s		d	d	d	d	d	h m s	°		
Sep. 8	23. 48. 12	Shade	67·0	65·5	− 1·5	34·0				Cloudless.	
	49. 42	Sun	−0·7	32·0	+32·7	34·2				,,	
	51. 12	Shade	33·0	31·5	− 1·5	34·2	34·63	23. 52. 27	44	,,	G
	52. 42	Sun	30·1	62·8	+32·7	34·3				,,	
	54. 12	Shade	63·0	61·2	− 1·8	35·0				,,	
	55. 42	Sun	60·3	94·0	+33·7	36·1				,,	
	57. 12	Shade	94·0	91·0	− 3·0	37·7				,,	
	23. 58. 42	Sun	0·3	36·0	+35·7	39·0				,,	
Sep. 9	0. 0. 12	Shade	41·2	37·7	− 3·5	37·6				A light cumulus passing over the Sun of 5ˢ duration.	G
	1. 42	Sun	36·0	68·5	+32·5	35·7	36·16	0. 2. 12	44	Cloudless.	
	3. 12	Shade	68·0	65·0	− 3·0	34·9				The Sun was covered by a cumulus for 20ˢ.	
	4. 42	Sun	65·0	96·3	+31·3	34·3				A white cumulus passing, of 10ˢ duration.	
	6. 12	Shade	95·0	92·0	− 3·0	33·9				Cloudless.	
	7. 42	Sun	0·5	31·0	+30·5	34·0				The Sun was covered by a white cumulus for 10ˢ.	
	9. 12	Shade	30·5	26·5	− 4·0	30·5				Cloudless.	
	10. 42	Sun	25·5	48·0	+22·5	27·0				The Sun was at the edge of a cloud for 3ˢ, again for 5ˢ, and	
	12. 12	Shade	50·0	45·0	− 5·0	32·4	33·80	0. 12. 42	44	Cloudless. [again for 10ˢ; a very faint shadow	G
	13. 42	Sun	43·8	76·0	+32·2	37·2				,, [was cast each time.	
	15. 12	Shade	75·5	70·5	− 5·0	37·3				The Sun was in a cloud for 30ˢ.	
	16. 42	Sun	2·5	35·0	+32·5	38·2				Cloudless.	
	18. 12	Shade	36·5	30·0	− 6·5					,,	
	19. 42	Sun	25·7	54·5	+28·8	37·2				,,	
	21. 12	Shade	53·8	47·2	− 6·6	35·3				,,	
	22. 42	Sun	45·0	77·0	+32·0	37·0				,,	
	24. 12	Shade	76·5	70·2	− 6·3	38·4	37·51	0. 23. 12	43	,,	G
	25. 42	Sun	1·2	33·8	+32·6	38·6				,,	
	27. 12	Shade	32·0	27·0	− 5·0	38·3				,,	
	28. 42	Sun	24·5	57·5	+33·0	37·8				,,	
	30. 12	Shade	57·1	50·2	− 6·9	38·9				,,	
	31. 42	Sun	48·0	77·3	+29·3	38·1				,,	
	33. 12	Shade	75·5	66·2	− 9·3	37·4				,,	
	34. 42	Sun	62·0	91·2	+29·2	38·5	38·41	0. 33. 42	43	,,	G
	36. 12	Shade	8·0	−1·0	− 9·0	38·4				,,	
	37. 42	Sun	−0·5	29·8	+30·3	38·8				,,	
	39. 12	Shade	26·5	18·5	− 8·0	38·8				,,	
	40. 42	Sun	14·8	44·5	+29·7	38·0				,,	
	42. 12	Shade	42·3	33·0	− 9·3	38·4				,,	
	43. 42	Sun	29·1	59·2	+30·1	39·2				,,	
	45. 12	Shade	56·5	47·1	− 9·4	39·5	38·96	0. 44. 12	43	,,	G
	46. 42	Sun	43·8	73·0	+29·2	39·1				,,	
	48. 12	Shade	70·0	60·0	−10·0	38·9				,,	
	49. 42	Sun	56·0	86·0	+30·0	39·6				,,	
	51. 12	Shade	85·5	75·0	−10·5	40·2				,,	
	52. 42	Sun	0·8	30·3	+29·5	40·3				,,	
	54. 12	Shade	27·0	17·0	−10·0	39·8				,,	
	55. 42	Sun	8·5	39·0	+30·5	40·0	40·26	0. 54. 42	42	,,	G
	57. 12	Shade	39·0	29·0	−10·0	40·5				,,	
	0. 58. 42	Sun	22·5	53·0	+30·5	40·5				,,	
	1. 0. 12	Shade	48·5	38·5	−10·0	40·5				,,	
	1. 42	Sun	41·5	69·0	+27·5	39·0				,,	
	3. 12	Shade	64·2	54·2	−10·0	37·5				,,	
	4. 42	Sun	45·5	73·0	+27·5	37·5				,,	
	6. 12	Shade	71·5	61·2	−10·3	37·7	37·27	1. 5. 12	41	,,	G
	7. 42	Sun	56·5	82·5	+26·0	37·1				,,	

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	h m s		d	d	d	d	d	h m s	°		
Sep. 9	1. 9. 12	Shade	78·2	68·0	−10·2	36·3				Cloudless.	
	10. 42	Sun	64·1	89·2	+25·1	35·8				,,	
	12. 12	Shade	9·0	0·2	− 8·8	34·6				,,	
	13. 42	Sun	−3·0	24·0	+27·0	34·9				,,	
	15. 12	Shade	20·4	9·8	−10·6	36·7				,,	
	16. 42	Sun	3·4	29·0	+25·6	36·9	36·18	1. 14. 57	41	,,	G
	18. 12	Shade	23·7	12·8	−10·9	36·4				,,	
	19. 42	Sun	6·7	34·4	+27·7	37·6				,,	
	21. 12	Shade	32·2	21·1	−11·1	38·7				,,	
	22. 42	Sun	15·4	40·8	+25·4	37·7				,,	
	24. 12	Shade	36·5	24·8	−11·7	36·8				,,	
	25. 42	Sun	18·2	43·2	+25·0	36·9				,,	
	27. 12	Shade	38·4	26·1	−12·3	37·0				,,	
	28. 42	Sun	20·0	44·0	+24·0	36·8				,,	
	30. 12	Shade	38·8	26·8	−12·0	36·2	35·90	1. 29. 12	40	,,	G
	31. 42	Sun	21·0	38·2	+17·2	32·6				,,	
	33. 12	Shade	33·1	21·0	−12·1	29·3				,,	
	34. 42	Sun	15·2	40·0	+24·8	33·1				,,	
	36. 12	Shade	35·1	23·0	−12·1	36·9				,,	
	37. 42	Sun	17·2	42·8	+25·6	37·3				,,	
	39. 12	Shade	37·5	26·0	−11·5	37·4				,,	
	41. 42	Sun	33·2	57·4	+24·2					,,	
	43. 12	Shade	47·8	40·5	− 7·3	31·6				,,	
	44. 42	Sun	35·3	59·7	+24·4	32·0				,,	
	46. 12	Shade	49·2	41·4	− 7·8	31·9				,,	
	47. 42	Sun	35·2	59·1	+23·9	31·4	30·71	1. 48. 12	38	,,	G
	49. 12	Shade	49·2	42·1	− 7·1	29·3				,,	
	50. 42	Sun	36·3	56·8	+20·5	29·7				,,	
	52. 12	Shade	50·3	39·0	−11·3	29·1				,,	
	53. 42	Sun	33·0	48·0	+15·0					,,	
Sep. 9	3. 43. 42	Sun	3·2	23·5	+20·3					The Sun is shining through light cirri.	D
	45·12	Shade	25·4	25·0	− 0·4	18·6				,,	
	46. 42	Sun	25·3	41·4	+16·1	17·7				,,	
	48. 12	Shade	40·8	38·0	− 2·8	19·9	20·39	3. 49. 27	23	,,	D
	49. 42	Sun	39·4	57·4	+18·0	20·9				A thin haze.	
	51. 12	Shade	57·0	54·0	− 3·0	21·6				,,	
	52. 42	Sun	54·8	74·0	+19·2	23·1				,,	
	54. 12	Shade	72·7	68·0	− 4·7	25·7				Cloudless.	
	55. 42	Sun	69·3	92·0	+22·7	26·1				,,	
	57. 12	Shade	90·8	88·8	− 2·0	25·8	27·02	3. 58. 27	21	,,	D
	3. 58. 42	Sun	3·0	27·8	+24·8	27·7				,,	
	4. 0. 12	Shade	26·8	22·9	− 3·9	28·4				,,	
	1. 42	Sun	25·0	49·2	+24·2	28·4				,,	
	3. 12	Shade	47·4	42·9	− 4·5	28·2				The Sun is quite free from cloud.	
	4. 42	Sun	44·0	67·1	+23·1	27·9				,,	
	6. 12	Shade	65·2	60·1	− 5·1	27·6				,,	D
	7. 42	Sun	61·4	83·3	+21·9	26·8	27·23	4. 7. 27	20	,,	
	9. 12	Shade	81·7	77·0	− 4·7	26·3				Light cirri about the Sun's place.	
	10. 42	Sun	2·5	23·8	+21·3	26·6				,,	
	12. 12	Shade	25·0	19·2	− 5·8	26·7				Cloudless.	
	13. 42	Sun	22·5	43·0	+20·5	26·4				,,	
	15. 12	Shade	41·0	35·1	− 5·9	27·2	27·00	4. 15. 42	19	,,	D
	16. 42	Sun	34·0	56·0	+22·0	28·0				,,	
	18. 12	Shade	53·8	47·8	− 6·0	26·7				,,	

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	h m s		d	d	d	d	d	h m s	°		
Sep. 9	4. 19. 42	Sun	48·3	67·6	+19·3	25·8				Cloudless.	
	21. 12	Shade	64·8	57·8	− 7·0	25·8				,,	
	22·42	Sun	57·8	76·2	+18·4	25 4	25·56	4. 23. 12	18	,,	D
	24. 12	Shade	73·8	66·8	− 7·0	25·3				,,	
	25. 42	Sun	67·0	85·2	+18·2	25·5				,,	
	27. 12	Shade	82·0	74·5	− 7·5	25·7				,,	
	28. 42	Sun	73·0	91·2	+18·2	25·8				,,	
	30. 12	Shade	87·8	80·2	− 7·6	25·8	25·86	4. 30. 42	17	,,	D
	31. 42	Sun	80·6	98·7	+18·1	25·9				,,	
	33. 12	Shade	95·6	87·6	− 8·0	26·1				,,	
	34. 42	Sun	3·0	21·0	+18·0	26·1				,,	
	36. 12	Shade	23·2	15·0	− 8·2	26·3				,,	
	37. 42	Sun	12·5	30·8	+18·3	25·9	25·26	4. 38. 12	16	,,	D
	39. 12	Shade	27·8	20·8	− 7·0	24·4				,,	
	40. 42	Sun	17·3	33·8	+16·5	23·6				,,	
	42. 12	Shade	30·3	23·1	− 7·2	23·4				,,	
	43. 42	Sun	22·8	38·7	+15·9	23·6				,,	
	45. 12	Shade	35·7	27·6	− 8·1	23·7	23·34	4. 45. 42	14	,,	D
	46. 42	Sun	24·8	40·0	+15·2	23·1				,,	
	48. 12	Shade	37·0	29·3	− 7·7	22·9				,,	
	49. 42	Sun	25·2	40·3	+15·1					,,	
Sep. 9	5. 2. 42	Sun	1·3	16·1	+14·8					No clouds near the Sun's place.	D
	4. 12	Shade	13·8	6·2	− 7·6	22·4				,,	
	5. 42	Sun	6·0	20·8	+14·8	22·7	22·05	5. 6. 57	11	,,	D
	7. 12	Shade	18·0	9·9	− 8·1	22·2				,,	
	8. 42	Sun	10·2	23·5	+13·3	20·9				,,	
	10. 12	Shade	20·8	13·8	− 7·0	18·8				The Sun is free from cloud.	
	11. 42	Sun	11·7	22·0	+10·3	17·2				,,	
	13. 12	Shade	18·5	11·8	− 6·7	17·0	17·26	5. 13. 42	10	,,	D
	14. 42	Sun	10·8	21·0	+10·2	17·3				,,	
	16. 12	Shade	17·9	10·3	− 7·6	16·0				,,	
	17. 42	Sun	9·0	15·5	+ 6·5					,,	
Sep. 9	5. 27. 42	Sun	44·0	48·4	+ 4·4					Cirri and haze about the Sun's place.	
	29. 12	Shade	44·8	36·0	− 8·8	11·0				,,	
	30. 42	Sun	33·0	33·0	0·0	9·1				,,	
	32. 12	Shade	28·7	19·3	− 9·4	8·8				,,	
	33. 42	Sun	15·7	14·5	− 1·2	8·1	6·66	5. 34. 12	6	,,	
	35. 12	Shade	10·3	1·2	− 9·1	4·9				,,	
	36. 42	Sun	57·2	50·0	− 7·2	2·1				,,	
	38. 12	Shade	46·0	36·5	− 9·5	2·6				,,	
	39. 42	Sun	32·4	25·8	− 6·6					,,	
Sep. 12	21. 13. 51	Sun	1·2	33·0	+31·8					The Sun was in white cumuli for 15ˢ; afterwards it was cloud-	G
	15. 21	Shade	34·0	44·8	+10·8	22·9				[less for 45ˢ.	
	16. 51	Sun	49·5	85·1	+35·6	25·1				The Sun was in loose fleecy cumuli for 5ˢ.	
	18. 21	Shade	0·0	10·2	+10·2	26·4				Cloudless.	
	19. 51	Sun	15·0	52·5	+37·5	27·4				,,	
	21. 21	Shade	58·0	68·0	+10·0	27·0				,,	
	22. 51	Sun	0·5	37·0	+36·5	26·9	26·95	21. 23. 21	31	,,	G
	24. 21	Shade	42·2	51·5	+ 9·3	26·4				,, the screw withdrawn.	
	25. 51	Sun	55·2	90·0	+34·8	26·1				,,	
	27. 21	Shade	0·0	8·2	+ 8·2	28·1				,,	

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OBSERVATIONS WITH THE ACTINOMETER.

Day, 1843.	Greenwich Mean Solar Time of the Initial Reading.	Instrument exposed to the Sun's Rays or in the Shade.	Readings of the Graduated Scale. Initial A	Readings of the Graduated Scale. Terminal B	Change in One Minute. B−A.	Apparent Effect of the Sun's Radiation in Parts of the Scale.	Mean Result of each Group in Parts of the Scale.	Greenwich Mean Solar Time corresponding to the Mean of each Group.	Altitude of the Sun.	GENERAL REMARKS.	Observer.
	h m s		d	d	d	d	d	h m s	°		
Sep. 12	21. 28. 51	Sun	12·0	49·8	+37·8	30·4				Cloudless.	
	30. 21	Shade	54·5	61·2	+ 6·7	29·7				,, [the column was full of blebs.	
	31. 51	Sun	64·2	99·2	+35·0					,, the compressing screw was then withdrawn, and	
Sep. 12	21. 36. 51	Sun	0·1	38·2	+38·1					Cloudless.	
	38. 21	Shade	43·1	50·0	+ 6·9	29·4				,,	
	39. 51	Sun	51·0	85·5	+34·5	28·6				,,	
	41. 21	Shade	89·0	94·0	+ 5·0	28·3				,,	
	42. 51	Sun	−0·5	31·5	+32·0	27·9				,,	
	44. 21	Shade	36·0	39·2	+ 3·2	30·5	30·14	21. 44. 6	34	,,	G
	45. 51	Sun	40·7	76·0	+35·3	32·7				,,	
	47. 21	Shade	78·5	80·4	+ 1·9	32·4				,,	
	48. 51	Sun	−2·0	31·2	+33·2	31·3				The sky is of a whitish blue.	
	50. 21	Shade	33·0	35·0	+ 2·0	30·1				Cloudless.	
	51. 51	Sun	35·5	66·5	+31·0	29·3				,,	
	53. 21	Shade	67·5	69·0	+ 1·5	30·5				,,	
	54. 51	Sun	69·0	102·0	+33·0	31·5	31·75	21. 56. 6	36	,,	G
	56. 21	Shade	−2·0	−0·5	+ 1·5	32·3				,,	
	57. 51	Sun	+0·5	35·0	+34·5	33·5				,,	
	21. 59. 21	Shade	40·0	40·5	+ 0·5	33·5				,,	
	22. 0. 51	Sun	40·4	74·0	+33·6	33·3				,,	
	2. 21	Shade	75·7	75·8	+ 0·1	33·8				,,	G
	3. 51	Sun	0·6	34·8	+34·2	34·4				,,	
	5. 21	Shade	36·1	35·7	− 0·4	35·1				,,	
	6. 51	Sun	34·8	70·0	+35·2	35·8				,,	
	8. 21	Shade	72·2	71·4	− 0·8	34·2	34·53	22. 8. 51	37	,,	G
	9. 51	Sun	70·4	102·0	+31·6	32·4				,,	
	11. 21	Shade	+0·5	−0·3	− 0·8	34·0				,,	
	12. 51	Sun	0·7	35·5	+34·8	35·7				,,	
	14. 21	Shade	36·0	35·0	− 1·0	35·4				,,	
	15. 51	Sun	34·0	68·0	+34·0					,,	
Sep. 12	22. 36. 51	Sun	0·0	32·9	+32·9					Cloudless.	
	38. 21	Shade	33·8	31·2	− 2·6	34·8				,,	
	39. 51	Sun	29·5	61·0	+31·5	34·1				,,	
	41. 21	Shade	61·0	58·5	− 2·5	34·3				,,	
	42. 51	Sun	57·8	90·0	+32·2	34·7	34·84	22. 43. 21	39	,,	G
	44. 21	Shade	91·0	88·5	− 2·5	35·1				,,	
	45. 51	Sun	0·0	33·0	+33·0	35·2				,,	
	47. 21	Shade	33·5	31·6	− 1·9	35·7				,,	
	48. 51	Sun	30·9	65·5	+34·6					,,	
Sep. 12	23. 39. 51	Sun	26·2	57·2	+31·0					Cloudless.	
	41. 21	Shade	57·1	54·2	− 2·9	34·4				,,	
	42. 51	Sun	55·2	87·2	+32·0	35·3				,,	
	44. 21	Shade	86·9	83·2	− 3·7	35·3				,,	
	45. 51	Sun	8·8	40·0	+31·2	34·4	34·87	23. 45. 21	42	,,	G
	47. 21	Shade	39·8	37·2	− 2·6	35·0				.,	
	48. 51	Sun	37·0	70·5	+33·5	35·4				,,	
	50. 21	Shade	6·2	5·1	− 1·1	34·3				,,	
	51. 51	Sun	4·7	37·5	+32·8					,,	
Sep. 12	23. 55. 51	Sun	22·2	55·8	+33·6					Cloudless.	

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OBSERVATIONS WITH THE ACTINOMETER.

Day, 1843.	Greenwich Mean Solar Time of the Initial Reading.	Instrument exposed to the Sun's Rays or in the Shade.	Readings of the Graduated Scale. Initial A	Readings of the Graduated Scale. Terminal B	Change in One Minute. B−A.	Apparent Effect of the Sun's Radiation in Parts of the Scale.	Mean Result of each Group in Parts of the Scale.	Greenwich Mean Solar Time corresponding to the Mean of each Group.	Altitude of the Sun.	GENERAL REMARKS.	Observer.
	h m s		d	d	d	d	d	h m s	°		
Sep. 12	23. 57. 21	Shade	56·1	52·1	− 4·0	37·7				Cloudless.	
	23. 58. 51	Sun	50·2	84·0	+33·8	37·2				,,	
Sep. 13	0. 0. 21	Shade	83·6	80·8	− 2·8	37·0				,,	
	1. 51	Sun	15·2	49·7	+34·5	38·0	37·64	0. 2. 21	42	,,	G
	3. 21	Shade	49·0	44·8	− 4·2	38·4				,,	
	4. 51	Sun	42·3	76·2	+33·9	37·6				,,	
	6. 21	Shade	76·2	73·1	− 3·1	37·6				,,	
	7. 51	Sun	3·2	38·2	+35·0					,,	
Sep. 13	0. 18. 51	Sun	0·0	35·9	+35·9					Cloudless.	
	20. 21	Shade	35·8	31·1	− 4·7	39·0				,,	
	21. 51	Sun	29·0	61·6	+32·6	37·7				,,	
	23. 21	Shade	60·6	55·1	− 5·5	37·2				,,	
	24. 51	Sun	52·1	82·9	+30·8	37·3	38·17	0. 25. 21	42	,,	G
	26. 21	Shade	6·0	−1·5	− 7·5	38·4				,,	
	27. 51	Sun	−4·0	27·0	+31·0	39·2				,,	
	29. 21	Shade	24·1	15·2	− 8·9	38·4				,,	
	30. 51	Sun	11·1	39·1	+28·0	37·2				,,	
	32. 21	Shade	34·8	25·2	− 9·6	37·5				,,	
	33. 51	Sun	22·2	50·0	+27·8	37·5				,,	
	35. 21	Shade	47·2	37·5	− 9·7	37·5	37·41	0. 35. 51	41	,,	G
	36. 51	Sun	32·0	59·8	+27·8	37·7				,,	
	38. 21	Shade	57·0	46·9	−10·1	37·5				,,	
	39. 51	Sun	42·1	69·0	+26·9	37·0				,,	
	41. 21	Shade	65·6	55·5	−10·1	37·1				,,	
	42. 51	Sun	50·5	77·5	+27·0	36·9				,,	
	44. 21	Shade	74·2	64·5	− 9·7	36·3				,,	
	45. 51	Sun	59·8	86·0	+26·2	36·3	36·84	0. 46. 21	41	,,	G
	47. 21	Shade	82·3	71·9	−10·4	36·8				,,	
	48. 51	Sun	66·5	93·1	+26·6	37·2				,,	
	50. 21	Shade	89·0	78·1	−10·9	37·3				,,	
	0. 51. 51	Sun	72·8	99·0	+26·2					,,	
Sep. 13	1. 25. 51	Sun	−1·5	26·6	+28·1					Cloudless.	
	27. 21	Shade	23·5	15·7	− 7·8	34·5				,,	
	28. 51	Sun	11·1	36·5	+25·4	33·9				,,	
	30. 21	Shade	38·1	28·9	− 9·2	34·5				,,	
	31. 51	Sun	28·9	54·0	+25·1	34·0	34·21	1. 32. 21	39	,,	G
	33. 21	Shade	50·0	41·5	− 8·5	34·0				,,	
	34. 51	Sun	36·9	62·8	+25·9	34·4				,,	
	36. 21	Shade	59·1	50·6	− 8·5	34·2				,,	
	37. 51	Sun	47·0	72·5	+25·5					,,	
Sep. 13	1. 45. 51	Sun	0·9	28·2	+27·3					Cloudless.	
	47. 21	Shade	26·0	17·2	− 8·8	35·2				,,	
	48. 51	Sun	12·4	37·8	+25·4	34·3				,,	
	50. 21	Shade	34·1	25·1	− 9·0	34·5				,,	
	51. 51	Sun	20·6	46·2	+25·6	34·6	34·60	1. 52. 21	37	,,	G
	53. 21	Shade	42·8	33·9	− 8·9	34·4				,,	
	54. 51	Sun	29·0	54·4	+25·4	34·5				,,	
	56. 21	Shade	50·4	41·1	− 9·3	34·7				,,	
	57. 51	Sun	36·2	61·5	+25·3					,,	
Sep. 13	3. 48. 51	Sun	3·0	34·3	+31·3					Cloudless.	

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OBSERVATIONS WITH THE ACTINOMETER.

Day, 1843.	Greenwich Mean Solar Time of the Initial Reading.	Instrument exposed to the Sun's Rays or in the Shade.	Readings of the Graduated Scale. Initial A	Readings of the Graduated Scale. Terminal B	Change in One Minute. B−A	Apparent Effect of the Sun's Radiation in Parts of the Scale.	Mean Result of each Group in Parts of the Scale.	Greenwich Mean Solar Time corresponding to the Mean of each Group.	Altitude of the Sun.	GENERAL REMARKS.	Observer.
	h m s		d	d	d	d	d	h m s	°		
Sep. 13	3. 50. 21	Shade	35·0	34·3	− 0·7	30·9				Cloudless.	D
	51. 51	Sun	37·8	66·8	+29·0	30·2				,,	
	53. 21	Shade	67·0	65·3	− 1·7	30·2				,,	
	54. 51	Sun	68·3	96·2	+27·9	30·5				,,	
	56. 21	Shade	95·5	92·0	− 3·5	31·2	30·75	3. 56. 6	21	,,	
	57. 51	Sun	3·8	31·3	+27·5	31·5				,,	
	3. 59. 21	Shade	30·9	26·5	− 4·4	31·1				,,	
	4. 0. 51	Sun	29·0	54·8	+25·8	30·4				,,	
	2. 21	Shade	53·4	48·6	− 4·8	30·0				,,	D
	3. 51	Sun	50·3	74·9	+24·6	29·7				,,	
	5. 21	Shade	72·9	67·5	− 5·4	29·5				,,	
	6. 51	Sun	68·4	92·0	+23·6	29·4	29·65	4. 8. 6	19	,,	
	8. 21	Shade	89·9	83·8	− 6·1	29·7				,,	
	9. 51	Sun	2·0	25·6	+23·6	30·0				,,	
	11. 21	Shade	23·6	17·0	− 6·6	29·7				,,	
	12. 51	Sun	17·7	40·2	+22·5	29·2				,,	
	14. 21	Shade	37·8	31·0	− 6·8	29·6				,,	D
	15. 51	Sun	30·2	53·3	+23·1	30·3				,,	
	17. 21	Shade	50·5	43·0	− 7·5	29·5				,,	
	18 51	Sun	43·0	63·8	+20·8	28·6	28·90	4. 20. 6	17	,,	
	20. 21	Shade	61·2	53·2	− 8·0	28·4				,,	
	21. 51	Sun	52·7	72·7	+20·0	28·2				,,	
	23. 21	Shade	69·6	61·2	− 8·4	28·3				,,	
	24. 51	Sun	61·0	80·7	+19·7	28·3				,,	
	26. 21	Shade	76·9	68·2	− 8·7	28·1				,,	D
	27. 51	Sun	68·2	87·2	+19·0	27·8				,,	
	29. 21	Shade	83·7	74·8	− 8·9	27·7				,,	
	30. 51	Sun	73·3	91·9	+18·6	27·6	27·29	4. 32. 6	16	,,	
	32. 21	Shade	89·5	80·4	− 9·1	27·4				,,	
	33. 51	Sun	79·6	97·5	+17·9	27·1				,,	
	35. 21	Shade	93·3	84·0	− 9·3	26·5				,,	
	36. 51	Sun	79·6	96·1	+16·5	26·1				,,	
	38. 21	Shade	92·2	82·4	− 9·8	26·2				,,	D
	39. 51	Sun	77·9	94·2	+16·3	25·9				,,	
	41. 21	Shade	90·2	80·8	− 9·4	26·1				,,	
	42. 51	Sun	77·5	94·5	+17·0	26·6	25·89	4. 44. 6	14	,,	
	44. 21	Shade	90·5	80·7	− 9·8	26·3				,,	
	45. 51	Sun	76·0	92·0	+16·0	26·0				,,	
	47. 21	Shade	87·6	77·4	−10·2	25·3				,,	
	48. 51	Sun	73·0	87·2	+14·2	24·7				,,	
	50. 21	Shade	82·3	71·6	−10·7	25·1				,,	D
	51. 51	Sun	67·0	81·6	+14·6	25·1				,,	
	53. 21	Shade	77·0	66·8	−10·2	24·2				,,	
	54. 51	Sun	62·8	76·2	+13·4	24·3	24·34	4. 56. 6	12	,,	
	56. 21	Shade	71·8	60·3	−11·5	24·7				,,	
	57. 51	Sun	58·3	71·4	+13·1	24·3				,,	
	4. 59. 21	Shade	66·7	55·9	−10·8	23·7				,,	
	5. 0. 51	Sun	53·4	66·0	+12·6	23·3				,,	
	2. 21	Shade	61·4	50·8	−10·6	23·1				,,	D
	3. 51	Sun	48·0	60·4	+12·4	23·1				,,	
	5. 21	Shade	55·9	45·2	−10·7	22·5				,,	
	6. 51	Sun	43·3	54·4	+11·1	22·0				,,	
	8. 21	Shade	50·0	39·0	−11·0	21·5	21·78	5. 8. 51	10	,,	
	9. 51	Sun	36·8	46·7	+ 9·9	21·2				,,	

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OBSERVATIONS WITH THE ACTINOMETER.

Day, 1843.	Greenwich Mean Solar Time of the Initial Reading.	Instrument exposed to the Sun's Rays or in the Shade.	Readings of the Graduated Scale. Initial A	Readings of the Graduated Scale. Terminal B	Change in One Minute. B−A.	Apparent Effect of the Sun's Radiation in Parts of the Scale.	Mean Result of each Group in Parts of the Scale.	Greenwich Mean Solar Time corresponding to the Mean of each Group.	Altitude of the Sun.	GENERAL REMARKS.	Observer.
	h m s		d	d	d	d	d	h m s	°		
Sep. 13	5. 11. 21	Shade	41·8	30·2	−11·6	21·5				Cloudless.	
	12. 51	Sun	28·7	38·5	+ 9·8	21·2				,,	
	14. 21	Shade	34·0	22·9	−11·1	19·9				,,	
	15. 51	Sun	20·0	27·7	+ 7·7					,,	
Sep. 13	5. 24. 51	Sun	62·7	69·5	+ 6·8					Cloudless.	
	26. 21	Shade	63·0	51·3	−11·7	16·6				,,	
	27. 51	Sun	48·8	51·8	+ 3·0	15·4				,,	
	29. 21	Shade	46·1	33·0	−13·1	13·9				,,	D
	30. 51	Sun	27·9	26·5	− 1·4	11·8	11·96	5. 31. 21	6	,,	
	32. 21	Shade	20·2	6·9	−13·3	10·1				,,	
	33. 51	Sun	5·2	0·2	− 5·0	9·0				,,	
	35. 21	Shade	58·0	43·4	−14·6	6·9				,,	
	36. 51	Sun	37·4	27·0	−10·4					The Sun is now becoming hidden behind the trees.	

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OBSERVATIONS OF THE AURORA OF MAY 6.

Göttingen Mean Solar Time.	REMARKS.	Observer.
d h m		
May 6. 10. 0	An auroral light was faintly visible.	JH
10. 44	The appearance of the aurora was splendid; the sky in the N.N.W. to an altitude of 20° was illumined by an intense yellow light: a mass of light of the same intense colour was nearly due N., at an altitude of 50°, its shape being a kind of oval: at $10^h.\ 35^m$ a fine arch was formed for a few minutes.	
10. 54	The aurora was very magnificent: the horizon from the N. N.W. to the N. by E. was lined with the most intense yellow light, its maximum brightness being in the N. by W.: one fine streamer extended upwards to near η Ursæ Majoris, and occupied the place of the elliptical mass of light before mentioned; another faint streamer was seen S. of the zenith.	
10. 58	The light now formed a low arch, from which very vivid streamers extended towards the zenith: the mass of light was now 10° S. E. of α Lyræ, and varied rapidly in intensity, but it was generally very brilliant.	
11. 4	The aurora remained nearly as before, but not quite so brilliant; streamers were still visible; the mass of light was in nearly the same position, but was much fainter: the center of the arch was in the N. N.W.	
11. 16	The aurora still continued: splendid streamers continually shot towards the zenith; one passed W. of Pollux; the upper extremity of the arch was at an altitude of 30°: there was a mass of light of a brilliant purple colour in the N. by E., extending from the horizon, which formed a singular contrast to the intense yellow of the arch; a circular mass of light was also in the S.W. at an altitude of 30°.	
11. 18	A circular mass of light was below Corona Borealis; the arch was destroyed, but the horizon from the N.W. to the N. E. was lined with a fine yellow light; it was impossible to do proper justice in describing the aurora, as the observer was also engaged in making extraordinary magnetical observations.	
11. 30	The aurora was now merely a diffused light extending over the greater part of the northern portion of the sky; there was still a mass of light 20° S. of Arcturus, with a faint streamer issuing from it towards the zenith: the aurora very suddenly diminished in brilliancy, and no streamers were visible in the N. at this time.	
11. 38	With the exception of a pale light in the horizon from the N. N.W. to the N. by E. the aurora had disappeared.	
11. 43	A faintly diffused light was still visible in the N. N.W.	
11. 54	There was still a faint light in the N.	JH
12. 0	Cloudless: a strong auroral light in the N.	D
12. 16	The auroral light was still visible, though very faint.	
12. 34	There was no change in the appearance of the auroral light.	
13. 40	A strongly diffused white light is still visible.	D

OBSERVATIONS OF METEORS ON NOVEMBER 12.

Greenwich Mean Solar Time.	COURSE AND DESCRIPTION OF THE METEORS.	Observer.
d h m s		
Nov. 12. 7. 30. 49	From a few degrees S. of α Cygni to γ Aquilæ.	D
7. 43. 14	One moved slowly northward from α Lyræ.	
7. 44. 9	From β Ursæ Majoris to Polaris.	
7. 46. 24	A very bright one as large as Jupiter appeared a few degrees S. of the Pleiades, and disappeared about midway between Capella and β Aurigæ: duration 2^s.	
7. 59. 29	A small one in the zenith proceeded about 10° southward.	
8. 5. 22	A little West of α Lyræ, proceeding in a westerly direction.	
8. 10. 30	A brighter one appeared 10° West of Capella and passed on to Polaris.	D
8. 20. 24	A bright meteor from ζ Ursæ Majoris, parallel to β and γ Ursæ Majoris: duration 1^s.	G
9. 45. 29	A small meteor from γ Pegasi to near β Ceti: duration 2^s.	G

OBSERVATIONS MADE DURING A STORM.

Greenwich Mean Solar Time, Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry Therm.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	Amount of Clouds 0—10.
d h m	in.	°	°	°	°	°			from lbs. to lbs.		
Jan. 12. 11. 20	29·056	30·0	29·5	0·5	..	..	W S W	W	...	½	0
13. 20	28·961	31·4	30·6	0·8	..	..	S S W	S S W	...	½	10
15. 20	28·840	34·6	31·8	2·8	32·5	2·1	S S W	S	...	½	10
17. 20	28·638	36·1	35·0	1·1	..	..	S S W	S	4½ to 6	½	10
19. 20	28·440	37·8	37·4	0·4	..	..	S S W	S	9 to 12	2	10
19. 30	28·378	..	..	..	..	..	S S W	..	11 to 15	..	..
19. 55	..	..	..	..	..	..	S S W	..	15 to 17	..	..
20. 45	28·298	..	..	..	..	..	S W	..	6	..	..
21. 0	28·288	..	..	..	..	..	S W	..	15	..	..
21. 5	28·283	..	..	..	..	..	S W	..	9	..	..
21. 10	28·284	..	..	..	..	..	S W	..	5	..	..
21. 13	28·268	..	..	..	..	..	S W	..	5 to 8	..	..
21. 17	28·265	..	..	..	..	..	S W	..	5 to 8	..	..
21. 20	28·261	40·8	39·2	1·6	39·0	1·8	S W	S S W	8	1½	7
21. 25	28·259	..	..	..	..	..	S W	..	9	..	..
21. 26	28·257	..	..	..	..	..	S W	..	9	..	..
21. 30	28·257	..	..	..	..	..	S W	..	9½	..	..
21. 38	28·257	..	..	..	..	..	S W	..	6 to 8	..	..
21. 44	28·253	..	..	..	..	..	S W	..	9	..	..
21. 50	28·253	..	..	..	..	..	S W	..	7 to 9	..	..
21. 54	28·253	..	..	..	..	..	S W	S S W	9	2½	8
21. 57	28·248	..	..	..	..	..	S W	..	8 to 10	..	..
22. 0	28·236	..	..	..	..	..	S W	..	10	..	..
22. 2	28·238	..	..	..	..	..	S S W	..	5 to 7	..	..
22. 5	28·236	..	..	..	..	..	S S W	..	5 to 7	..	..
22. 11	28·222	..	..	..	..	..	S S W	..	10	..	..
22. 13	28·222	..	..	..	..	..	S S W	..	6	..	..
22. 16	28·222	..	..	..	..	..	S S W	..	10	..	..
22. 18	28·215	..	..	..	..	..	S S W	..	8 to 10	..	..
22. 20	28·222	..	..	..	..	..	S S W	..	6 to 8	..	..
22. 24	28·227	..	..	..	..	..	S S W	..	6	..	..
22. 24½	28·219	..	..	..	..	..	S S W	..	6	..	..
22. 27	28·223	..	..	..	..	..	S W	..	6	..	..
22. 32	28·221	..	..	..	..	..	S W	..	6	..	..
22. 36	28·218	..	..	..	..	..	S W	..	6 to 8	..	..
22. 40	28·218	..	..	..	..	..	S W	..	6 to 8	..	..
22. 44	28·215	..	..	..	..	..	S W	..	9	..	..
22. 47	28·210	..	..	..	..	..	S W	..	8 to 9	..	..
22. 50	28·208	..	..	..	..	..	S W	..	8 to 9	..	..
22. 52	28·209	..	..	..	..	..	S W	..	8 to 9	..	..
22. 54	28·213	..	..	..	..	..	S W	..	8 to 9	..	..
22. 57	28·202	..	..	..	..	..	S W	..	14	..	..
23. 0	28·201	..	..	..	..	..	S W	..	14	..	..
23. 3	28·204	..	..	..	..	..	S W	..	12	..	..
23. 7	28·210	..	..	..	..	..	S W	..	11	..	..
23. 9	28·202	..	..	..	..	..	S W	..	8 to 11	..	..
23. 9½	28·208	..	..	..	..	..	S W	..	8 to 11	..	..
23. 10	28·202	..	..	..	..	..	S W	..	25	..	..
23. 14	28·202	..	..	..	..	..	S W	..	23	..	..
23. 17	28·199	..	..	..	..	..	S W	..	11	..	..
23. 20	28·200	43·5	40·2	3·3	..	..	S W	S W	9	2	6
23. 25	28·189	..	..	..	..	..	S W	..	6 to 9	..	..
23. 33	28·187	..	..	..	..	..	S W	..	6 to 9	..	..
23. 39	28·186	..	..	..	..	..	S W	..	12	..	..

Jan, 12d to 16d. These observations were made during a violent and protracted gale of wind, during which the readings of the Barometer were remarkably low.

Jan. 12d at 17h. 20m and 19h. 20m the estimated strengths of the wind are probably too small; they were estimated about the same time differently by another observer.

REMARKS.	Observer.
Cloudless: at $12^h.\ 10^m$ a large halo and corona were visible around the Moon.	H B
Overcast: cirro-stratus.	
,, rain falling.	
,, heavy rain falling: gusts of wind.	
,, ,, the surface of the mercury is concave.	
	H B
	G
	G
	D
	G
	G
Cirro-stratus and scud: heavy gusts of wind to 2 +.	D
	D
	G
	D
	G
	D
A sudden gust of wind: the reading of the barometer suddenly decreased $0^{in}.014$.	
The surface of the mercury is very much agitated; the oscillations amount to $0^{in}.05$.	
,, ,,	
,, ,,	
,, ,,	
,, ,,	
,, ,,	
,, ,,	G
,, ,,	D
,, ,,	G
Frequent gusts of wind to 3.	G
	D
	D
	G
	G
The wind blows very strongly, and in heavy gusts: the surface of the mercury is oscillating.	D
	D
	G
	D
	D
	G
	G
Cirro-stratus and scud: violent squalls of wind and rain: heavy gusts of wind to $3\frac{1}{2}$.	D
	D

OBSERVATIONS MADE DURING A STORM.

Greenwich Mean Solar Time, Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry. Therm.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0–6.	Amount of Clouds 0–10.
d h m	in.	°	°	°	°	°			from lbs. to lbs.		
Jan. 12. 23. 44	28·183	..	..	..	..	..	S W	..	18	..	..
23. 44½	28·182	..	..	..	..	..	S W	..	18	..	..
23. 46	28·177	..	..	..	..	..	S W	..	8	..	..
23. 50	28·178	..	..	..	..	..	S W	..	6	..	..
23. 53	28·178	..	..	..	..	..	S W	..	4½	..	..
12. 23. 56	28·173	..	..	..	..	..	S W	..	10	..	..
Jan. 13. 0. 5	28·159	..	..	..	..	..	S W	..	17	..	..
0. 11	28·150	..	..	..	..	..	S W	..	14	..	..
0. 16	28·155	..	..	..	..	..	S W	..	4 to 10	..	..
0. 17	{28·110 / 28·150}	..	..	..	..	..	S W	..	21	..	..
0. 18	28·152	..	..	..	..	..	S W	..	21	..	..
0. 19	28·152	..	..	..	..	..	S W	..	9	..	..
0. 22	28·140	..	..	..	..	..	S W	..	15	..	..
0. 25	28·133	..	..	..	..	..	S W	..	15	..	..
0. 27	28·130	..	..	..	..	..	S W	..	15	..	..
0. 32	28·126	..	..	..	..	..	S W	..	12	..	..
0. 36	28·120	..	..	..	..	..	S W	..	18	..	..
0. 38	28·118	..	..	..	..	..	S W	..	17	..	..
0. 42	28·117	..	..	..	..	..	S W	..	9	..	..
0. 44	28·113	..	..	..	..	..	S W	..	9 to 13	..	..
0. 47	28·109	..	..	..	..	..	S W	..	9 to 13	..	..
0. 50	28·109	..	..	..	..	..	S W	..	10 to 13	..	..
0. 52	28·107	..	..	..	..	..	S W	..	10 to 13	..	..
0. 53	28·096	..	..	..	..	..	S W	..	10 to 13	..	..
0. 54	28·101	..	..	..	..	..	S W	..	10 to 13	..	..
0. 57	28·101	..	..	..	..	..	S W	..	10 to 13	..	..
0. 58	28·100	..	..	..	..	..	S W	..	10 to 13	..	..
1. 0	28·097	..	..	..	..	..	S W	W S W	10 to 13	4	..
1. 5	28·105	..	..	..	..	..	S W	..	13	..	..
1. 11	28·100	..	..	..	..	..	S W	..	13 to 21	..	..
1. 15	28·105	..	..	..	..	..	S W	..	13 to 21	..	..
1. 17	28·104	..	..	..	..	..	S W	..	13	..	..
1. 20	28·104	43·2	40·8	2·4	..	..	S W	S W	13	3½	10
1. 22	28·109	..	..	..	..	..	S W	..	13	..	..
1. 26	28·112	..	..	..	..	..	S W	..	10 to 18	..	..
1. 29	28·124	..	..	..	..	..	S W	..	18	..	..
1. 30	28·126	..	..	..	..	..	S W	..	18	..	..
1. 35	28·127	..	..	..	..	..	S W	..	15 to 18	..	..
1. 40	28·137	..	..	..	..	..	S W	..	7 to 11	..	..
1. 48	28·142	..	..	..	..	..	S W	SW	7 to 11	3	..
1. 53	28·143	..	..	..	..	..	W S W	..	8	..	..
1. 57	28·148	..	..	..	..	..	W S W	..	8	..	..
2. 0	28·149	..	..	..	..	..	W S W	..	8	..	..
2. 4	28·155	..	..	..	..	..	W S W	..	8	..	..
2. 7	28·158	..	..	..	..	..	W S W	..	8	..	..
2. 11	28·162	..	..	..	..	..	W S W	..	8	..	..
2. 16	28·166	..	..	..	..	..	W S W	..	7	..	..
2. 20	28·168	..	..	..	..	..	W S W	..	9	..	..
2. 23	28·173	..	..	..	..	..	W S W	..	9	..	..
2. 28	28·177	..	..	..	..	..	W S W	..	10	..	..
2. 31	28·179	..	..	..	..	..	W S W	..	10	..	..
2. 36	28·192	..	..	..	..	..	W S W	..	11	..	..

REMARKS.	Observer.
	G
	G
	D
	D
	G
The wind is in one continued roar: frequent squalls of rain.	
A very violent squall: gusts of wind to 5: the reading of the barometer is varying from $28^{in}\cdot11$ to $28^{in}\cdot15$.	
The wind is nearly constant to $3\frac{1}{2}$ and 4.	G
	D
	D
	G
	D
A violent and continued wind to $4\frac{1}{2}$.	G
The surface of the mercury is waving very much.	G
	D
The reading of the barometer suddenly decreased $0^{in}\cdot011$ in a very violent squall of wind; estimated strength 4.	G
There is a very great roar among the trees; independently of that, there is a deep sound in the air.	G
	D
Large masses of scud are passing from the W. S.W.: there is but little upper cloud: a fine blue sky is seen between the masses of scud: the wind has veered to the W. S. W.	G
	G
	D
	G
Overcast: heavy masses of scud are passing over rapidly: frequent and violent squalls: gusts of wind to $4\frac{1}{2}$.	G
The surface of the mercury is becoming convex.	D
	G
	G
	D
Gusts to 4.	
	D
	H B

OBSERVATIONS MADE DURING A STORM.

Greenwich Mean Solar Time, Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below. Dry. Therm.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	Amount of Clouds 0—10.
d h m	in.	°	°	°	°	°			from lbs. to lbs.		
Jan. 13. 2. 37	28·192	..	..	..	..	..	W S W	..	9	..	..
2. 40	28·194	..	..	..	..	..	W S W	..	8 to 9	..	..
2. 43	28·198	..	..	..	..	..	W S W	..	8 to 9	..	..
2. 45	28·202	..	..	..	..	..	W S W	..	10	..	..
2. 49	28·203	..	..	..	..	..	W S W	..	10 to 14	..	..
2. 51	28·206	..	..	..	..	..	W S W	..	10 to 14	..	..
2. 54	28·209	..	..	..	..	..	W S W	..	10 to 14	..	..
2. 58	28·209	..	..	..	..	..	W S W	..	14	..	..
3. 2	28·215	..	..	..	..	..	W S W	..	15	..	..
3. 4	28·217	..	..	..	..	..	W S W	..	10 to 13	..	..
3. 7	28·219	..	..	..	..	..	W S W	..	10	..	..
3. 10	28·223	..	..	..	..	..	W S W	..	6 to 10	..	..
3. 13	28·213	..	..	..	..	..	W S W	..	6	..	..
3. 15	28·221	..	..	..	..	..	W S W	..	6	..	..
3. 20	28·223	39·4	38·4	1·0	35·5	3·9	W S W	W S W	6 to 10	3	9
3. 22	28·227	..	..	..	..	..	W S W	..	10	..	..
3. 35	28·235	..	..	..	..	..	W S W	..	16	..	..
3. 38	28·231	..	..	..	..	..	W S W	..	13 to 15	..	..
3. 42	28·232	..	..	..	..	..	W S W	..	12 to 15	..	..
3. 50	28·237	..	..	..	..	..	W S W	..	10 to 14	..	..
3. 55	28·243	..	..	..	..	..	W S W	..	5 to 12	..	..
4. 0	28·241	..	..	..	..	..	W S W	..	5	..	..
4. 5	28·233	..	..	..	..	..	W S W	..	11	..	..
4. 10	28·241	..	..	..	..	..	W S W	..	11	..	..
4. 12	28·239	..	..	..	..	..	W S W	..	11	..	..
4. 15	28·247	..	..	..	..	..	W S W	..	8 to 11	..	..
4. 17	28·252	..	..	..	..	..	W S W	..	8 to 14	..	..
4. 23	28·236	..	..	..	..	..	W S W	..	14	..	..
4. 25	28·232	..	..	..	..	..	W S W	..	14	..	..
4. 27	28·238	..	..	..	..	..	W S W	..	12 to 14	..	..
4. 30	28·246	..	..	..	..	..	W S W	..	12 to 14	..	..
4. 32	28·254	..	..	..	..	..	W S W	..	6 to 14	..	..
4. 38	28·260	..	..	..	..	..	W S W	..	10 to 13	..	..
4. 41	28·262	..	..	..	..	..	W S W	..	10 to 12	..	..
4. 45	28·262	..	..	..	..	..	W S W	..	10 to 12	..	..
4. 47	28·266	..	..	..	..	..	W S W	..	10 to 12	..	..
4. 53	28·272	..	..	..	..	..	W S W	..	11 to 17	..	..
4. 57	28·274	..	..	..	..	..	W S W	..	17	..	..
5. 2	28·276	..	..	..	..	..	W S W	..	18 to 21	..	..
5. 5	28·282	..	..	..	..	..	W S W	..	18	..	..
5. 8	28·290	..	..	..	..	..	W S W	..	17	..	..
5. 15	28·294	..	..	..	..	..	W S W	..	15	..	..
5. 20	28·296	37·6	37·4	0·2	..	..	W S W	W S W	15	4	10
5. 23	28·308	..	..	..	..	..	W S W	..	15	..	..
5. 28	28·314	..	..	..	..	..	W S W	..	13 to 15	..	..
5. 33	28·332	..	..	..	..	..	W S W	..	10 to 15	..	..
5. 37	28·336	..	..	..	..	..	W S W	..	10 to 15	..	..
5. 38	28·342	..	..	..	..	..	W S W	..	10 to 15	..	..
5. 42	28·346	..	..	..	..	..	W S W	..	15	..	..
5. 45	28·354	..	..	..	..	..	W S W	..	10	..	..
5. 50	28·355	..	..	..	..	..	W S W	..	11	..	..
5. 55	28·367	..	..	..	..	..	W S W	..	12	..	..
6. 0	28·371	..	..	..	..	..	W S W	..	9	..	..
6. 5	28·377	..	..	..	..	..	W S W	..	11	..	..

REMARKS.	Observer.
	D
	D
	H B
Frequent squalls of rain.	
	H B
	G
The wind is in gusts to 3, and frequently to 4.	
A large quantity of scud is passing over, leaving the sky occasionally clear in some places, and then it suddenly again becomes [overcast.	G
	H B
	H B
The wind frequently in gusts to 4.	G
	H B
Squalls of rain	
,,	
,,	
,,	
,,	
,,	
Heavy rain, and violent gusts of wind.	
	H B

OBSERVATIONS MADE DURING A STORM.

Greenwich Mean Solar Time, Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry Therm.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	Amount of Clouds 0—10.
d h m	in.	°	°	°	°	°			from lbs. to lbs.		
Jan. 13. 6. 10	28·381	..	..	..	..	..	W S W	..	12	..	..
6. 15	28·387	..	..	..	..	..	W S W	..	9 to 11	..	..
6. 17	28·377	..	..	..	..	..	W S W	..	8 to 10	..	..
6. 20	28·382	..	..	..	..	..	W S W	..	14	..	..
6. 24	28·382	..	..	..	..	..	W S W	..	8 to 14	..	..
6. 29	28·384	..	..	..	..	..	W S W	..	8 to 10	..	..
6. 33	28·383	..	..	..	..	..	W S W	..	8 to 10	..	..
6. 40	28·396	..	..	..	..	..	W S W	..	8 to 10	..	..
6. 44	28·401	..	..	..	..	..	W S W	..	7 to 10	..	..
6. 47	28·401	..	..	..	..	..	W S W	..	8 to 13	..	..
6. 50	28·403	..	..	..	..	..	W S W	..	13	..	..
6. 52	28·406	..	..	..	..	..	W S W	..	13 to 14	..	..
6. 55	28·413	..	..	..	..	..	W S W	..	13	..	..
6. 58	28·413	..	..	..	..	..	W S W	..	10	..	..
7. 0	28·413	..	..	..	..	..	W S W	..	10	..	..
7. 3	28·422	..	..	..	..	..	W S W	..	9	..	..
7. 7	28·426	..	..	..	..	..	W S W	..	8	..	..
7. 10	28·430	..	..	..	..	..	W S W	..	5 to 7	..	..
7. 13	28·433	..	..	..	..	..	W S W	..	8	..	..
7. 15	28·437	..	..	..	..	..	W S W	..	6 to 10	..	..
7. 18	28·438	..	..	..	..	..	W S W	..	7 to 9	..	..
7. 20	28·438	39·2	36·0	3·2	..	..	W S W	W S W	8	3	2
7. 25	28·450	..	..	..	..	..	W S W	..	7 to 8	..	..
7. 29	28·450	..	..	..	..	..	W S W	..	7 to 8	..	..
7. 35	28·458	..	..	..	..	..	W S W	..	7 to 8	..	..
7. 38	28·462	..	..	..	..	..	W S W	..	7 to 8	..	..
7. 42	28·466	..	..	..	..	..	W S W	..	9	..	..
7. 50	28·474	..	..	..	..	..	W S W	..	6 to 12	..	..
8. 0	28·480	..	..	..	..	..	W S W	..	10	..	..
8. 8	28·486	..	..	..	..	..	W S W	..	6 to 10	..	..
8. 13	28·488	..	..	..	..	..	W S W	..	15	..	..
8. 20	28·488	..	..	..	..	..	W S W	..	8	..	..
8. 25	28·492	..	..	..	..	..	W S W	..	8 to 10	..	..
8. 30	28·494	..	..	..	..	..	W S W	..	8 to 10	..	..
8. 40	28·500	..	..	..	..	..	W S W	..	8 to 10	..	..
8. 45	28·500	..	..	..	..	..	W S W	..	8 to 10	..	..
8. 50	28·506	..	..	..	..	..	W S W	..	8 to 10	..	..
8. 52	28·508	..	..	..	..	..	W S W	..	8 to 10	..	..
8. 55	28·510	..	..	..	..	..	W S W	..	8 to 10	..	..
9. 0	28·515	..	..	..	..	..	W S W	..	8 to 10	..	..
9. 7	28·517	..	..	..	..	..	W S W	..	8 to 10	..	..
9. 15	28·525	..	..	..	..	..	W S W	..	8 to 10	..	..
9. 20	28·527	38·3	35·3	3·0	32·0	6·3	W S W	W S W	8 to 10	$2\frac{1}{2}$	8
9. 23	28·526	..	..	..	..	..	W S W	..	8 to 10	..	..
9. 30	28·532	..	..	..	..	..	W S W	..	13	..	..
9. 35	28·535	..	..	..	..	..	W S W	..	8 to 11	..	..
9. 50	28·548	..	..	..	..	..	W S W	..	8 to 11	..	..
9. 55	28·552	..	..	..	..	..	W S W	..	9	..	..
9. 58	28·555	..	..	..	..	..	W S W	..	9	..	..
10. 8	28·556	..	..	..	..	..	W S W	..	9	..	..
10. 10	28·560	..	..	..	..	..	W S W	..	17	..	..
10. 15	28·562	..	..	..	..	..	W S W	..	13	..	..
10. 18	28·566	..	..	..	..	..	W S W	..	13	..	..

REMARKS.	Observer.
	H B
Large masses of scud are passing over with great rapidity: the Moon is occasionally visible: violent gusts of wind at intervals.	D
A great part of the sky is now clear: the Moon is shining brightly.	
	D
The sky is now nearly cloudless: the wind is not so violent.	H B
	H B
	D
	H B
The Moon is shining faintly through thin fleecy clouds.	
Between these observations, the pressure of the wind was never less than 10lbs. on the square foot, and at times it was more.	H B

OBSERVATIONS MADE DURING A STORM.

Greenwich Mean Solar Time, Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry Therm.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0–6.	Amount of Clouds 0–10.
d h m	in.	°	°	°	°	°			from lbs. to lbs.		
Jan. 13. 10. 50	28·569	37·8	35·3	2·5	..	..	W S W	W S W	11	2+	..
10. 55	{28·559 / 28·589}	..	..	..	..	..	W S W	..	15	..	..
11. 0	28·577	..	..	..	..	..	W S W	..	12	..	..
11. 10	28·587	..	..	..	..	..	W S W	W S W	7 to 14	3	..
11. 20	28·590	39·3	36·0	3·3	..	..	W S W	W S W	8 to 11	$2\frac{1}{2}$	$9\frac{1}{2}$
11. 28	28·591	..	..	..	..	..	W S W	..	8 to 11	..	..
11. 45	28·591	..	..	..	..	..	W S W	..	17	..	..
11. 55	28·591	..	..	..	..	..	W S W	..	12	..	..
12. 4	28·596	..	..	..	..	..	W S W	..	12 to 15	..	..
12. 12	28·605	..	..	..	..	..	W S W	..	12 to 15	..	..
12. 23	28·613	..	..	..	..	..	W S W	..	12 to 15	..	..
12. 33	28·618	..	..	..	..	..	W S W	..	12 to 15	..	..
12. 44	28·625	..	..	..	..	..	W S W	..	12 to 15	..	..
12. 56	28·629	..	..	..	..	..	W S W	..	12 to 15	..	..
13. 10	28·630	..	..	..	..	..	W S W	..	10	..	..
13. 20	28·634	38·5	35·1	3·4	..	..	W S W	W S W	11	3	10
13. 31	28·636	..	..	..	..	..	W by S	..	12	..	..
13. 48	28·650	..	..	..	..	..	W by S	..	16	..	..
14. 0	28·664	..	..	..	..	..	W by S	..	8 to 11	..	..
14. 15	28·665	..	..	..	..	..	W by S	..	11	..	..
14. 26	28·672	..	..	..	..	..	W by S	..	7 to 10	..	..
14. 43	28·680	..	..	..	..	..	W by S	..	15	..	..
14. 58	28·685	..	..	..	..	..	W by S	..	10	..	..
15. 10	28·692	..	..	..	..	..	W by S	..	12	..	..
15. 20	28·698	37·6	34·2	3·4	29·5	8·1	W by S	W S W	12	3	10
15. 28	28·705	..	..	..	..	..	W by S	..	10	..	..
15. 40	28·706	..	..	..	..	..	W by S	..	8	..	..
15. 50	28·719	..	..	..	..	..	W by S	..	7	..	..
16. 5	28·724	..	..	..	..	..	W by S	..	8	..	..
16. 11	28·730	..	..	..	..	..	W by S	..	6 to 8	..	..
16. 28	28·740	..	..	..	..	..	W	..	6 to 8	..	..
16. 40	28·750	..	..	..	.	..	W	..	6 to 8	..	..
16. 53	28·762	..	..	..	..	..	W	..	10	..	..
17. 14	28·771	..	..	..	..	..	W by S	..	5 to 8	..	..
17. 20	28·776	37·2	33·6	3·6	..	..	W by S	W S W	5 to 8	$2\frac{1}{2}$	10
17. 34	28·790	..	..	..	..	..	W by S	..	10	..	..
17. 51	28·806	..	..	..	..	..	W by S	..	6 to 8	..	..
18. 58	28·863	..	..	..	..	..	W by S	..	7	..	..
19. 20	28·870	35·6	32·2	3·4	..	..	W by S	W S W	6	2	2
19. 45	28·890	..	..	..	..	..	W by S	..	4 to 6	..	..
21. 0	28·948	..	..	..	..	..	W S W	..	3 to 4	..	..
21. 20	28·950	36·5	32·3	4·2	24·5	12·0	W S W	W S W	3	$1\frac{1}{2}$	1
21. 30	28·948	..	..	..	..	..	W S W	..	3	..	..
21. 45	28·953	..	..	..	..	..	W S W	..	3	..	..
22. 10	28·956	..	..	..	..	..	W S W	..	3	..	..
22. 30	28·959	..	..	..	..	..	S W	..	2	..	..
22. 50	28·944	..	..	..	..	..	S W	..	2	..	..
23. 5	28·935	..	..	..	..	..	S W	..	$1\frac{1}{2}$ to 2	..	..
23. 15	28·930	..	..	..	..	..	S W	..	1 to $2\frac{1}{2}$	..	..
23. 20	28·924	36·7	34·0	2·7	..	..	S W	W S W	1 to 2	$1\frac{1}{2}$	$9\frac{3}{4}$
23. 45	28·906	..	..	..	..	..	S W	..	1	..	..

REMARKS.	Observer.
The estimated strength of the wind is constantly more than 2, there are frequent gusts to $2\frac{1}{2}$, and some often to 3, $3\frac{1}{2}$, and 4: the sky is very nearly covered with white clouds, whose motion is from the West.	G
The surface of the mercury is very much agitated.	
The strength of the wind is now constantly 3, with frequent gusts to 4.	G
The Moon is occasionally visible; large fleecy clouds and scud are passing with great velocity under her: the wind is blowing frequently to $3\frac{1}{2}+$.	D
Overcast: large masses of scud in every part of the sky: the strength of the wind is constantly 3.	
There has not been any change in the preceding two hours: the wind is in frequent gusts to 4.	
The Moon's place is just discernible near the horizon: overcast: cirro-stratus and scud.	
Cloudy all round for some distance above the horizon; the remainder of the sky is clear.	D
	G
Light scud principally South of the zenith.	J H
	J H
	G
Cirro-stratus and scud.	J H

OBSERVATIONS MADE DURING A STORM.

Greenwich Mean Solar Time, Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry Therm.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0–6.	Amount of Clouds 0–10.
d h m	in.	°	°	°	°	°			from lbs. to lbs.		
Jan. 14. 0. 0	28·902	..	..	..	..	..	S S W	..	1	..	..
0. 15	28·891	..	..	..	..	..	S S W	..	¾	..	..
0. 35	28·877	..	..	..	..	..	S S W	..	½	..	..
0. 50	28·836	..	..	..	..	..	S S W	..	..	..	..
1. 20	28·797	37·7	35·2	2·5	..	..	S S W	W S W	..	1	10
1. 35	28·784	..	..	..	..	..	S by W	..	..	..	..
2. 0	28·733	..	..	..	..	..	S	..	..	..	..
3. 10	28·625	..	..	..	..	..	S S E	..	3	..	..
3. 20	28·600	36·1	35·5	0·6	35·0	1·1	S S E	S S E	1 to 3	1	10
3. 32	28·578	..	..	..	..	..	S S E	..	1 to 3	..	..
3. 44	28·564	..	..	..	..	..	S S E	..	3	..	..
4. 0	28·555	..	..	..	..	..	S S E	..	½	..	..
4. 16	28·511	..	..	..	..	..	S S E	..	..	..	..
4. 26	28·486	..	..	..	..	..	S S E	..	..	..	..
4. 38	28·469	..	..	..	..	..	S S E	..	..	..	..
4. 48	28·456	..	..	..	..	..	S S E	..	..	..	..
4. 56	28·434	..	..	..	..	..	S S E	..	..	..	..
5. 10	28·428	..	..	..	..	..	S by E	..	..	..	..
5. 20	28·426	34·5	34·0	0·5	..	..	S W	S S W	..	½	6
5. 25	28·427	..	..	..	..	..	W S W	..	..	..	..
5. 31	28·431	..	..	..	..	..	W S W	..	..	..	..
5. 40	28·433	..	..	..	..	..	W S W	..	..	..	..
5. 50	28·433	..	..	..	..	..	W S W	..	..	..	..
6. 5	28·433	..	..	..	..	..	W S W	..	..	..	..
6. 53	28·409	..	..	..	..	..	W S W	..	..	..	..
7. 6	28·408	..	..	..	..	..	S W	..	..	..	..
7. 20	28·409	35·0	34·0	1·0	..	..	S W	S W	..	¼	3
7. 36	28·410	..	..	..	..	..	S W	..	..	..	..
8. 0	28·409	..	..	..	..	..	S W	..	..	..	..
8. 24	28·414	..	..	..	..	..	S W	..	..	..	..
8. 39	28·418	..	..	..	..	..	S W	..	..	..	..
9. 0	28·424	..	..	..	..	..	W S W	..	..	..	..
9. 20	28·436	34·8	34·2	0·6	34·0	0·8	W	W by S	..	¼	10
9. 27	28·448	..	..	..	..	..	..	..	..	..	..
11. 0	28·651	..	..	..	..	..	N by W	..	4	..	..
11. 20	28·668	30·8	30·7	0·1	..	..	N N W	N N W	4 to 9	1½	10
11. 30	28·677	..	..	..	..	..	N by W	..	4 to 5	..	..
15. 40	28·900	..	..	..	..	..	..	..	..	..	..
18. 40	28·820	..	..	..	..	..	..	..	..	..	..
21. 20	28·817	33·4	32·1	1·3	..	..	Calm	W S W	..	¼	10
22. 55	28·796	..	..	..	..	..	W	..	..	..	..
23. 30	28·787	33·7	32·0	1·7	..	..	W N W	W by S	..	¼	3
Jan. 15. 0. 40	28·777	34·5	32·5	2·0	..	..	W N W	W by S	..	¾	7
1. 0	28·776	34·8	33·0	1·8	..	..	W N W	W	..	¼	0
1. 35	28·778	35·2	32·5	2·7	..	..	W N W	W	..	¼	0
1. 46	28·779	..	..	..	..	..	W N W	W	..	¼	..
3. 57	28·820	33·6	31·5	2·1	..	..	W N W	W	..	¼	2
7. 20	28·896	31·3	31·0	0·3	..	..	W N W	W by N	0 to 2	½	7

At $14^d.12^h.42^m$, Greenwich mean time, an elliptical halo of great excentricity surrounded the Moon. The minor axis was in the great circle passing through the Moon and the Zenith, and both extremities of this axis had the prismatic colours rather vividly exhibited, particularly at the upper extremity. The extremities of the major axis were very imperfectly visible. The proportion of the minor axis to the major axis was estimated to be as 3:4; and, by rough measures, the distance from the Moon to the upper extremity was about 18°, and the

REMARKS.	Observer.
	J H
	J H
	G
	J H
Overcast: cirro-stratus.	
	J H
At $2^h.\ 10^m$ the wind suddenly began to blow with the pressure was $\frac{1}{2}$ lb.; at $2^h.\ 20^m$ the pressure was nearly 2 lbs.; at $2^h.\ 42^m$ the pressure was 4 lbs., and this continued till $2^h.\ 52^m$; the direction at each time becoming more and more East of South.	H B
	D
Overcast: cirro-stratus: rain falling.	
Rain and sleet falling.	
Snow has commenced falling.	
The snow has ceased falling.	
With the exception of a few straggling clouds, the sky South of the zenith is clear; the remainder of the sky is quite overcast.	
A few light clouds in different directions; the horizon is cloudy all round.	
The Moon is just visible through clouds.	D
At $9^h.\ 30^m$ the wind suddenly blew with a pressure of 3 lbs. on the square foot; by $9^h.\ 50^m$ the pressure had increased to 5 lbs.; between $9^h.\ 50^m$ and $10^h.\ 25^m$ the pressure was between 4 lbs. and 5 lbs.; at $10^h.\ 45^m$ it was 11 lbs.; it then gradually decreased to the time of the next observation.	J H
Squalls of sleet; the wind rising.	J H
At $12^h.\ 50^m$ the wind had changed its direction to North-west with a pressure of 1 lb.; by $12^h.\ 20^m$ the direction was West by North, with a pressure of 1 lb.; at $12^h.\ 30^m$ the pressure increased to 2 lbs.; by $12^h.\ 40^m$ the pressure had increased to 4 lbs.; and after this time it gradually decreased to 1 lb. by $12^h.\ 50^m$, and to no pressure at $13^h.\ 20^m$.	G
	G
Overcast: a little snow is falling.	D
The sky became rather suddenly clear of clouds.	D
A few light clouds about: hazy.	J H
Cumuli and light clouds: hazy.	
Cloudless.	J H
,,	H B
A few cumuli: very hazy.	H B
Fleecy clouds and haze.	D

distances from the Moon to the East and West extremities were at least 23°, probably more. The phenomenon disappeared so suddenly that more accurate measures could not be taken. The sky at the time was hazy, and the stars were dim, but there was no cloud that could be distinguished. The elliptical form was recognisable immediately by the eye.

OBSERVATIONS MADE DURING A STORM.

Greenwich Mean Solar Time, Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry Therm.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0–6.	Amount of Clouds 0–10.
d h m	in.	°	°	°	°	°			from lbs. to lbs.		
Jan. 15. 13. 20	29·085	29·5	28·7	0·8	..	..	W	W	..	$\frac{1}{4}$	0
15. 20	29·133	30·5	29·4	1·1	27·0	3·5	W	W	..	$\frac{1}{4}$	0
17. 20	29·147	32·0	30·7	1·3	..	..	W	W by S	..	$\frac{1}{4}$	10
19. 20	29·183	33·1	31·8	1·3	..	..	W	W by S	$\frac{1}{2}$	$\frac{1}{4}$	10
21. 20	29·264	38·1	35·4	2·7	33·5	4·6	N N W	N	$1\frac{1}{2}$ to 5	1	10
23. 20	29·366	38·5	36·2	2·3	..	..	N N W	N by W	3 to 5	$\frac{3}{4}$	4
Jan. 16. 1. 20	29·455	39·4	37·0	2·4	..	..	N N W	N	1 to $2\frac{1}{2}$	$\frac{1}{2}$	0
2. 50	29·512	..	..	..	..	..	N N W	N	1	$\frac{1}{2}$	..
3. 20	29·577	38·5	36·5	2·0	34·0	4·5	N N W	N by W	..	$\frac{1}{2}$	0
5. 20	29·649	37·0	35·2	1·8	..	..	N N W	N	..	$\frac{1}{2}$	0
7. 20	29·746	36·5	34·8	1·7	..	..	N W	N	..	$\frac{1}{2}$	3
9. 20	29·808	37·5	36·1	1·4	34·0	3·5	N W	N by E	..	$\frac{1}{4}$	10
11. 20	29·893	38·0	36·5	1·5	..	..	N N W	N N W	..	$\frac{1}{4}$	10

REMARKS.	Observer.
Cloudless.	J H
,,	
Overcast: cirro-stratus.	
,, ,,	J H
,,	H B
Light clouds and cirro-stratus.	D
There is a small cumulus South of the zenith, but to no numerical extent; with this exception the sky is cloudless.	D
	G
Cloudless.	J H
,, hazy.	
Light clouds and scud.	
Cirro-stratus and light scud, the latter passing quickly from the North by East.	J H
Cirro-stratus and light scud.	D

REMARKS ON THE STORM OF 1843, JANUARY 13. BY MR. GLAISHER.

The most remarkable meteorological phenomenon that has happened since the establishment of the Magnetical and Meteorological Department of the Observatory is, beyond question, the extraordinarily low reading of the barometer during this storm. The commencement of the storm was almost simultaneous over England, Scotland, and the eastern coast of Ireland; and it appears that this remarkable depression in the reading of the barometer was general over a great part of Europe. On the morning of January 13^{d}, civil reckoning, or on January 12^{d}, astronomical reckoning, the Moon had a corona and a large halo around her; the sky shortly afterwards became overcast; the wind began to blow, and the readings of the barometer to decrease rapidly. Between 15^{h} and 20^{h} the decrease was at the rate of 0^{in}·1 per hour. At about 20^{h}. 20^{m}, Greenwich mean time, a very vivid flash of lightning took place, which was followed by a long peal of thunder, after an interval of 20^{s}. At 20^{h}. 22^{m} there was another flash of lightning, and 25^{s} afterwards a very long-crashing peal of thunder followed. During the thunder the pith-ball electrometer was not affected; the gold leaf of the dry-pile electrometer was slightly inclined to the negative pile; and the needle of the galvanometer oscillated, from the division 30° to the divison 35°, towards A. At 20^{h}. 45^{m} the reading of the barometer had sunk below 28^{in}·3, and the *rapid* decrease was checked; it, however, continued decreasing, and at 23^{h}. 17^{m} it was below 28^{in}·2, and still falling. On January 13^{d}, at 0^{h}. 53^{m}, the minimum reading took place, being 28^{in}·096, a reading lower than has been registered at the Observatory since 1821, December 24^{d}, at 17^{h}, when its reading was 27^{in}·89, as registered in the Greenwich Observations. The previous instances at Greenwich, in which these low readings seem to have been approached, are in 1783, on March 6^{d}, when, at the meridian passage of the Sun, the reading was 28^{in}·22; and at 2^{h}. 35^{m} afterwards, at the meridian passage of the Moon, it was 28^{in}·27. The next instance was in 1809, on December 17^{d}. 9^{h}, when, at the meridian passage of the Moon, the reading was 28^{in}·20; in Dr. Maskelyne's MS. Meteorological Observations at noon the next day, December 18, the reading recorded was 28^{in}·35. The next case is the one previously mentioned in 1821, on Christmas-day; and the next case is in Mr. Pond's MS. Meteorological Observations, 1824, on November 23^{d}, at 2^{h}, when the reading was 28^{in}·37.* The reading above is the next and last one, 1843, January 13^{d}. 0^{h}. 53^{m}; and this continued till 1^{h}. 20^{m}, when it tended to increase; and by 2^{h}. 45^{m} it had increased to 28^{in}·2, and by 5^{h}. 23^{m} it was 28^{in}·3. From this time till 22^{h}. 30^{m}, at every inspection the reading was the same as at the preceding inspection, or it had increased; but at the latter time it had not reached 29 inches. Before 22^{h}. 50^{m} it was again decreasing, the wind blowing from the S. W., afterwards S., and then S. S. E.; and at 14^{d}. 8^{h} the reading was less than 28^{in}·41, and it continued at this point for some time, when it again began to increase. At 21^{h} the reading was greater than 28^{in}·8; and immediately afterwards it began to decrease a little, and between 15^{d}. 0^{h} and 15^{d}. 2^{h} the readings were nearly the same. After 15^{d}. 2^{h} the *decisive* rise began, which proceeded boldly and uninterruptedly till 16^{d}. 22^{h}, when the reading was 30^{in}·1, it having passed 29 inches at 15^{d}. 12^{h}, and 30 inches at 16^{d}. 16^{h}. At about 16^{d}. 16^{h} the rise was checked, and the readings for the next nine hours were nearly the same. After 17^{d}. 7^{h} the increase in the readings again proceeded, and continued till 18^{d} at 22^{h}, when the great elevation of 30^{in}·437 was attained, it being 2^{in}·341 greater than it was 5 days 21 hours previously.

* In the manuscript room of the Royal Observatory are two series of Meteorological Observations; one was taken at Sion House, in Middlesex, and the other was taken at Gordon Castle, near Edinburgh: the ~~former~~ *latter* was commenced in 1782 and ended in 1820; the ~~latter~~ *former* was commenced in 1781 and ended in 1821. The instances in those journals in which the reading of the barometer has been below 28^{in}·3 are the following:—

At Sion House	1791, January 20^{d},	it was 28·10 in.
,,	1809, December 18^{d},	it was 28·30
,,	1821, December 24^{d}, at 20^{h},	it was 28·20
At Gordon Castle, elevation 100 feet above the sea	1782, January 3^{d},	it was 28·27 in.
,, ,,	1789, January 18^{d},	it was 28·08
,, ,,	1791, January 4^{d},	it was 28·22
,, ,,	1791, January 17^{d},	it was 28·24
,, ,,	1796, January 22^{d},	it was 28·23
,, ,,	1798, November 27^{d},	it was 28·23
,, ,,	1805, December 21^{d},	it was 28·23

Therefore, in both these cases there is only one instance in forty years in which the barometer reading was so low as it was in this storm. It is worthy of remark, that at Gordon Castle, in 1789, on January 5^{d}, at 22^{h}, the reading of the barometer was 30^{in}·902; and on the 18th day of the same month, at 11^{h}, it was 28^{in}·08; and thus a change in the reading of the barometer of 2^{in}·822 took place within twelve days. The observer remarks, that these readings were the highest and the lowest that he had ever seen.

REMARKS ON THE STORM OF 1843, JANUARY 13. BY MR. GLAISHER—(*continued*).

At about the time that the readings were less than $28^{in}\cdot5$, minute oscillations of the mercury were constantly observed; at the times of the heavy gusts of wind the oscillations were very great, amounting frequently to $0^{in}\cdot05$, leaving a great gap between the mercury and the moveable setting circle (which embraces the tube, and which, in observations, is brought as a tangent to the surface of the mercury), and then as suddenly the gap was filled again. The heaviest gusts of the wind preceded the minimum reading, but at the time of the minimum reading the wind was more uniformly strong than at any other time. To the senses the wind was not so strong as it has sometimes been when the reading has been an inch greater. On land the amount of damage was comparatively trifling, but at sea it appears that the loss of life and property was very great indeed. It was stated in the *Times* newspaper of 1843, February 10, that, "Upon reference to Lloyd's books and other authentic documents, the total number of vessels lost during the hurricane on the night of the 13th of January was about 180, and that the number of persons who perished with them amounted to not less than 453. On the coast of England 154 vessels were wrecked and 190 lives lost; on the coast of Ireland 5 vessels were lost, with 104 lives; on the coast of Scotland 17 vessels were wrecked, and 39 lives lost; and on the coast of France 4 vessels and 100 lives were lost. The value of the vessels and cargoes has been roughly estimated at £585,000; viz., the vessels at £405,000, and the cargoes at £180,000. On the three days following the 13th day, numerous other wrecks occurred, to the extent of nearly 60, the losses of which were upwards of £240,000; this with the others making a total of £825,000." In the "Nautical Magazine" for March, 1843, in the list of wrecks, 38 are mentioned to have occurred on the 13th of January.

In the accounts from most places the minimum reading was preceded by lightning and thunder, and the direction of the wind was S. W. The minimum reading occurred first at southern places, and afterwards at northern; thus the minimum reading occurred at Greenwich at $0^h.\ 53^m$; at Cambridge it was at $1^h.\ 35^m$, the reading being $28^{in}\cdot136$, the height of the cistern of its barometer above the level of the sea being about 88 feet; at Manchester it took place at 2^h, and was $28^{in}\cdot02$.

The circumstance of the wind blowing for so long a time in the same direction, and extending over so vast a surface as it did in this storm, is remarkable.

GREAT HAIL-STORM AT CAMBRIDGE, 1843, AUGUST 9.

[Although the storm, of which the following is an account, was not felt with great violence at Greenwich; yet, as the character of the storm was very remarkable, and as the accounts of it, and especially that obtained from Cambridge (where the storm was most violent), are authentic, and are carefully collected, I have thought it advisable to insert the account here.—G. B. A.]

A remarkable hail-storm occurred at Cambridge on August 9, the following account of which has been furnished by Mr. John Glaisher, of the Cambridge Observatory. "The day was sultry, as the preceding day had been, but hardly sufficiently so to make the approach of any storm of consequence expected. The morning was fine, with sunshine; the direction of the wind till $8^{d}.\ 23^{h}$ was S., and after that time it was N.: at $9^{d}.\ 2^{h}$ thunder was indistinctly heard in the N. W., and from this time till 4^{h}, the distant, though gradually approaching, storm gave signs of being one of more than ordinary magnitude. The lightning, or rather its reflexion, was first seen in the W. and N. W. horizon at about three o'clock; at $3^{h}.\ 30^{m}$ the lightning itself was visible, and the thunder was heard in more distinct claps, the previous sounds being but the echoes from the masses of clouds; these echoes were so numerous that the reverberations of the clap had not subsided before the next occurred, thus causing a continued rumbling since 2^{h}. From 4^{h} to $4^{h}.\ 45^{m}$ the storm rapidly approached in an almost due east direction, passing therefore rather northward; some large drops of rain fell in this interval, and the flashes of lightning became very vivid, and of a brilliant purple colour. At $4^{h}.\ 45^{m}$ the hail-storm began and continued with extraordinary violence till $5^{h}.\ 5^{m}$. The great size of the hail-stones was the first thing to attract attention; many were an inch in diameter; some were larger, and the average size was from half to three-quarters of an inch in diameter. They fell as closely together as it was possible; and this, with their weight, and some accelerating force from a brisk N. E. wind, caused them to do immense destruction. The temperature of the rain was certainly not higher than 40°; the hail was, of course, ice; they fell upon the earth, whose temperature was considerably higher, and thus a steam arose, forming a complete barrier to the power of vision. The entire storm passed off towards the N. E., and for a time disappeared, though the lightning now and then was visible; at six o'clock the storm was in the S. and S. W., and soon afterwards it was evident that Cambridge would have its near approach again. The character of the lightning in this second appearance was more terrific than before; the principal portion of every flash of lightning was vertical, and on many occasions several of these vertical streams were visible simultaneously; and I counted seven distinctly, at irregular distances from each other, varying from 4° to 10°. No hail accompanied this appearance of the storm, but a very copious rain fell whilst the storm was passing from W. to N. Frequent flashes of lightning were visible all the evening, in the N. and N. E. horizon; and there were frequent heavy showers of rain during the night. At 13^{h} thunder was heard during a heavy rain. The rain-gauge could not measure so much as fell. I think the amount was about $2\frac{1}{2}$ inches. The wind varied but little in its direction, which was N., except after the hail-storm, when it blew from the E. for an hour, and it then returned to the N. The barometer reading decreased a little before the storm began, and then continued stationary at about $30^{in}{\cdot}16$. When the storm first abated the aspect was dreary and distressing in the extreme. The roads were like running rivers; trees were half stripped of their leaves; apples on the trees were battered to pieces, in some cases pieces being actually scooped out; birds, even rooks, were killed in large numbers; garden produce was utterly destroyed, and the just ripening crops were seriously injured; in some instances the straw was beaten down and broken into small pieces, almost as if it had been chopped, and the ears were as bare as if they had been thrashed. Glass, wherever exposed, was shivered to atoms; and with such extreme violence had the hail descended, that in some instances it passed through windows almost like a ball from a pistol." The following are the accounts collected by Mr. Glaisher from other places:—

NEWMARKET.—The thunder was heard shortly after $3^{h}.\ 30^{m}$ P.M., and lightning was seen to the W. The storm gradually extended to the N., and then towards the E., and it continued about the E. for upwards of an hour. There were some intensely vivid flashes of lightning in the N. E., at $5^{h}.\ 15^{m}$. No rain of any consequence had hitherto fallen, but about this time it fell in torrents, accompanied at intervals by hailstones as large as marbles.

ELY.—At 3^{h} A.M. thunder was heard, and from that time till 4^{h} P.M. it was occasionally heard; from 4^{h} to 7^{h} the thunder was almost one continued roar, and the rain was falling heavily until 8^{h}, when a strong gale of wind suddenly sprang up for a short time. Lightning was seen till 12^{h}, and at this time it was very vivid and the thunder very loud. The rain fell in torrents at the time.

MARCH.—The storm was at its height between 11^{h} and 12^{h} P.M.

GREAT HAIL-STORM AT CAMBRIDGE, 1843, AUGUST 9—(*continued*).

HUNTINGDON.—The thunder was heard from an early hour in the morning. The storm broke over the town at 3^h, the clouds appearing at the time to be at a great distance above the earth, and the rain was falling heavily. It continued thus with but little intermission until after 8^h, when there was a slight cessation till a little after 10^h; at this time the storm burst forth with far greater violence than before: the lightning was almost incessant, and the rain falling in torrents; and in this way it continued until nearly 15^h, when the storm passed away, after twelve hours' duration.

BIGGLESWADE.—Thunder was heard at 6^h A.M., which continued at intervals till noon. At about 4^h P.M. the storm was at its height. In a moment a hurricane from the S. E. by E., accompanied by a shower of hail, broke over the town, breaking to atoms nearly every pane of glass on one side of the street: some of the hailstones were as large as walnuts.

STAMFORD.—The rain fell, with but little intermission, from 9^h A.M. to 10^h P.M.: throughout the day the flashes of lightning were brilliant, and the thunder was loud.

NORWICH.—The storm burst over the town at a quarter-past seven o'clock in the evening, and it ceased in half an hour; rain again commenced falling at 9^h: the thunder and lightning continued till 14^h.

DOWNHAM (Norfolk).—The storm was bad; it began at about 11^h: the lightning was very brilliant: the storm ceased at 12^h, and again commenced at 14^h.

THETFORD (Norfolk).—At about $5\frac{1}{2}^h$ a great darkness overspread the N. W. horizon, which was momentarily enlightened by vivid flashes of lightning, accompanied by heavy thunder. The wind at this time was from the S. E. by E., so that the storm came sideways against the wind. At about $6^h.15^m$, there were two dark clouds meeting in the N. W., from which the lightning was nearly incessant; this was succeeded by a very heavy fall of rain and hail, which continued for 25 minutes. The storm passed over towards the N. N. E., and the worst was over at 7^h.

SUFFOLK.—The storm appears only to have skirted this county.

SHERBORNE (Dorsetshire).—The weather during the previous day was very sultry. On August 9^d a most terrific thunder-storm took place, which was accompanied by a fall of hailstones of an extraordinary size.

EAST RETFORD (Nottinghamshire).—The rain which fell here was $1^{in}.575$ in 14^h or 15^h.

OXFORD.—A very heavy hail-storm fell to the N. W. of this city.

The storm appears to have visited Northamptonshire, Berkshire, Buckinghamshire, Dorsetshire, Gloucestershire, Kent (at Rochester), Leicestershire, Lincolnshire, Monmouthshire, Nottinghamshire, Oxfordshire, Rutlandshire, Worcestershire, Yorkshire, &c.; but, from the preceding description, it would appear that the storm was most violent in the county of Cambridge.

Day and Hour, Greenwich Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below. Dry. Therm.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	Amount of Clouds 0—10.
d h m	in.	°	°	°	°	°			from lbs. to lbs.		
May 5. 19. 20	29·301	52·3	52·1	0·2	..	..	Calm	S S W	..	¼	10
21. 20	29·231	53·2	52·9	0·3	53·0	0·2	S S W	S S W	..	¼	10
23. 20	29·244	45·0	45·0	0·0	..	..	N W	N W	0 to 4	1½	10
23. 50	..	43·0	..	..	..	..	W by N	..	4	..	10
5. 23. 55	..	42·5	..	..	..	..	W by N	N	1½	..	10
May 6. 0. 20	..	41·5	..	..	..	..	W by S	W	3 to 4½	1½	10
0. 35	..	40·0	..	..	..	..	W by S	W	0 to 5	1½	10
0. 50	29·354	38·8	..	..	..	..	W S W	W	4 to 5	2	10
0. 55	..	38·5	..	..	..	..	W S W	..	2½ to 4½	..	10
1. 5	29·370	39·0	..	..	..	..	W S W	W	2 to 3½	1½	10
1. 20	29·381	39·3	39·0	0·3	..	..	W S W	W	1 to 4	2	10
1. 50	..	40·6	40·3	0·3	..	..	W S W	W	1 to 3	..	10
2. 12	..	42·7	42·5	0·2	..	..	W S W	..	0 to ½	..	10
3. 20	29·423	46·5	45·7	0·8	44·0	2·5	W S W	W S W	1 to 2	¾	10
Oct. 16. 9. 20	29·531	33·7	32·0	1·7	30·0	3·7	Calm	W N W	..	¾	0
11. 20	29·461	34·0	32·8	1·2	..	..	Calm	S	..	¼	2
12. 20	29·418	..	..	..	..	..	Calm	..	..	..	..
13. 20	29·379	36·5	34·0	2·5	..	..	Calm	S	..	½	10
14. 20	29·336	39·0	38·0	1·0	..	..	S S E	..	0 to 1½	..	..
14. 50	29·287	40·0	39·0	1·0	..	..	S S E	S	0 to ½	1	10
15. 0	29·281	40·2	39·5	0·7	..	..	S S E	S	0 to ½	¾	10
15. 10	29·275	40·2	39·5	0·7	..	..	S S E	..	..	..	..
15. 20	29·269	40·2	39·5	0·7	39·0	1·2	S S E	Calm	..	..	10
15. 30	29·257	40·2	39·5	0·7	..	..	S S E	S	1 to 2	½	10
15. 40	29·239	40·7	40·0	0·7	..	..	S	S	4 to 5	1	10
15. 45	29·234	40·7	40·0	0·7	..	..	S	S	6 const.	1½	10
15. 50	29·229	40·0	39·8	0·2	..	..	S	S	6 const.	2	10
16. 0	29·224	39·7	39·4	0·3	..	..	S	S	2½ to 6	2	10
16. 10	29·219	39·5	39·1	0·4	..	..	S by E	S	½ to 2	2	10
16. 20	29·215	..	..	..	..	..	S by E	S	0 to ½	1½	10
16. 30	29·211	..	..	..	..	..	S by E	S	..	1½	10
16. 50	29·205	39·4	39·1	0·3	..	..	S by E	S	..	1	10
17. 0	29·199	..	..	..	..	..	S by E	S	0 to ¾	1	10
17. 10	29·198	39·2	39·0	0·2	..	..	S by E	S W	0 to ½	1	5
17. 20	29·196	39·0	38·8	0·2	..	..	Calm	S W	..	1	5
17. 30	29·194	39·0	38·8	0·2	..	..	Calm	S W	..	1	5
17. 40	29·197	39·0	38·8	0·2	..	..	Calm	S W	..	1	5
17. 50	29·197	39·0	38·8	0·2	..	..	S S E	S S W	..	1	5
18. 0	29·191	39·0	39·0	0·0	..	..	S by E	S S W	..	¾	4
18. 5	29·183	39·0	39·0	0·0	..	..	S S E	S S W	..	½	8
18. 7	29·186	39·0	39·0	0·0	..	..	Calm	S	..	½	7
18. 20	29·178	39·2	39·1	0·1	..	..	Calm	S	..	¼	6
18. 40	29·176	39·3	39·2	0·1	..	..	Calm	S	..	¼	5
19. 0	29·171	39·4	39·3	0·1	..	..	Calm	S W	..	¼	4
19. 20	29·166	39·6	39·4	0·2	..	..	Calm	S W	..	¼	5
21. 20	29·159	42·9	41·6	1·3	41·0	1·9	S S W	S W	0 to 2½	½	7
22. 25	29·152	44·0	41·5	2·5	..	..	S W	S W	..	½	8
23. 20	29·143	43·8	41·6	2·2	..	..	S W	S W	..	½	10
23. 55	29·134	44·8	42·6	2·2	..	..	S W	S W	..	½	10
Oct. 17. 0. 35	29·132	44·5	41·7	2·8	..	..	W S W	S W	..	½	10
1. 20	29·131	45·5	43·1	2·4	..	..	Calm	W S W	..	¼	9

Oct. 16d. These observations were taken in consequence of the rapid decrease in the readings of the Barometer, for the purpose of ascertaining its lowest reading, which took place at 17d. 1h. 20m.

GENERAL REMARKS.	Observer.
Cirro-stratus and scud: a thin rain is falling.	J H
Continual rain since the last observation.	D
Overcast: cirro-stratus and scud: rain falling: extremely gloomy.	P
A squall of rain: very dark.	G
Squalls.	
Squalls.	
,,	
Violent squalls of rain.	
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,,	G
Overcast: the rain is falling fast.	P
The rain is not so violent.	
The rain has ceased falling.	P
Overcast: slightly raining.	J H
Cloudless: hazy.	J H
The sky is now hazy, and lines of cloud are forming in the East, their direction being North and South.	G
The sky is covered with a dense cirro-stratus.	
Rain has just commenced falling: the wind in gusts.	
Rain is falling heavily.	
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,, gusts of wind to $1\frac{1}{2}$.	
,, a storm.	
,, gusts of wind to 3: $0^{in}\cdot2$ of rain has fallen since 15^{h}.	
Rain in squalls: wind in gusts to $2\frac{1}{2}$.	
,, occasional lulls in the wind.	
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,,	
Rain in squalls, but to no great amount.	
The rain has ceased.	
The clouds are much broken, and the Moon is shining.	
Cirro-stratus and scud passing quickly from the West.	
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A great haze.	
The clouds now move from the S.W.	
[is clear, and apparently free from haze.	
The sky South of the zenith is overcast; the horizon in the South however is very bright: the greater part of the sky in the North	G
Large masses of scud are now floating over from the S.W: the appearance of the sky is very unsettled.	D
Cirro-stratus and scud.	
The sky is now covered with dense cirro-strati and nimbi.	
,,	
The sky is now covered with dense cirro-strati and nimbi.	
Cirro-stratus and scud: clear breaks are visible in different parts of the sky.	

Day and Hour, Greenwich Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry Therm.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	Amount of Clouds 0—10.
d h m s	in.	°	°	°	°	°			from lbs. to lbs.		
Oct. 17. 2. 0. 0	29·132	44·4	42·3	2·1	..	..	W S W	W	..	$\frac{1}{4}$	10
3. 20. 0	29·139	44·6	41·9	2·7	39·0	5·6	Calm	W	..	$\frac{1}{4}$	10
5. 20. 0	29·187	42·0	40·2	1·8	..	..	N by W	N	..	$\frac{1}{2}$	10
Oct. 27. 7. 20. 0	29·382	45·6	42·5	3·1	..	..	S S E	S S W	0 to $\frac{1}{2}$	$\frac{3}{4}$	10
9. 20. 0	29·288	46·1	43·8	2·3	42·0	4·1	S by E	S S W	1 to 6	$1\frac{1}{2}$	10
11. 20. 0	29·157	44·8	43·2	1 6	..	..	S S E	S S E	$3\frac{1}{2}$ to 5	2	10
11. 50. 0	29·129	45·0	44·5	0·5	..	..	S S E	S S E	$3\frac{1}{2}$ to 5	2+	10
12. 5. 0	29·102	45·3	44·8	0·5	..	..	S S E	S S E	$4\frac{1}{2}$ to 7	$2\frac{1}{2}$	10
12. 20. 0	29·081	45·8	45·2	0·6	..	..	S S E	S S E	4 to 7	2	10
12. 35. 0	29·062	46·2	45·4	0·8	..	..	S S E	S S E	4 to $4\frac{1}{2}$	2	10
13. 0. 0	29·055	46·5	45·5	1·0	..	..	S S E	S S E	3 to 5	2	10
13. 20. 0	29·041	46·8	45·7	1·1	..	..	S S E	S S E	$3\frac{1}{2}$ to 5	2	10
13. 30. 0	29·023	47·0	45·9	1·1	..	..	S S E	S S E	2 to 4	$2\frac{1}{2}$	10
13. 35. 0	29·005	47·0	45·9	1·1	..	..	S S E	S S E	$1\frac{1}{2}$ to 4	2	10
13. 50. 0	28·987	46·8	46·4	0·4	..	..	S S E	S S E	$1\frac{1}{2}$ to $3\frac{1}{2}$	2	10
14. 0. 0	28·971	46·8	46·4	0·4	..	..	S S E	S S E	3 to 5	$1\frac{1}{2}$	10
14. 10. 0	28·964	47·0	46·5	0·5	..	..	S S E	S S E	4 to 5	2	10
14. 20. 0	28·952	47·1	46·8	0·3	..	..	S S E	S S E	$3\frac{1}{2}$ to 5	2	10
14. 30. 0	28·942	47·3	47·0	0·3	..	..	S S E	S S E	3 to 4	2	10
14. 50. 0	28·931	48·1	47·7	0·4	..	..	S by E	S S E	$3\frac{1}{2}$ to $4\frac{1}{2}$	2	10
15. 10 0	28·903	47·7	47·7	0·0	..	..	S	S	3 to 5	$1\frac{1}{2}$	10
15. 20. 0	28·895	47·7	47·7	0·0	47·5	0·2	S	S	3 to 6	$1\frac{1}{2}$	10
15. 35. 0	28·890	50·5	49·5	1·0	48·5	2·0	S S W	S	3 to 6	2	8
15. 50. 0	28·883	50·6	49·5	1·1	..	..	S S W	S S W	4 to 6	2	9
16. 0. 0	28·878	50·7	49·6	1·1	..	..	S S W	S S W	5 to 6	2	10
16. 10. 0	28·878	50·6	49·2	1·4	..	..	S S W	S S W	$4\frac{1}{2}$ to 6	2	10
16. 20. 0	28·881	50·5	49·0	1·5	..	..	S S W	S S W	4 to 5	2	10
16. 30. 0	28·885	50·3	48·8	1·5	..	..	S S W	S S W	4 to 6	2	10
16. 40. 0	28·891	50·3	48·8	1·5	..	..	S W	S W	6 to 8	2+	10
16. 50. 0	28·899	48·1	47·8	0·3	..	..	S W	S W	$3\frac{1}{2}$ to 6	2	10
17. 0. 0	28·899	47·9	47·7	0·2	..	..	S W	W S W	5 to 7	2	10
17. 10. 0	28·904	47·9	47·6	0·3	..	..	S W	W	3 to 7	2	10
17. 20. 0	28·907	48·1	46·5	1·6	..	..	S W	W	2 to $6\frac{1}{2}$	2	10
17. 30. 0	28·916	48·0	46·3	1·7	..	..	S W	W	3 to $4\frac{1}{2}$	2	10
18. 0. 0	28·924	47·0	46·5	0·5	..	..	S W	W S W	4 to 6	$1\frac{1}{2}$	8
18. 30. 0	28·935	46·2	44·2	2·0	..	..	S W	S W	4 to 7	2	2
19. 0. 0	28·950	45·5	44·0	1·5	..	..	W S W	S W	2 to 5	$1\frac{1}{2}$	6
19. 20. 0	28·965	45·8	43·2	2·6	..	..	W S W	W S W	2 to 6	$1\frac{1}{2}$	6
21. 20. 0	29·007	45·2	41·2	4·0	38·0	7·2	S W	S W	$4\frac{1}{2}$ to 7	$1\frac{1}{2}$	0
23. 20. 0	29·040	47·8	42·7	5·1	..	..	S W	S W	$3\frac{1}{2}$ to 4	$1\frac{1}{2}$	4
Nov. 7. 23. 20. 0	29·443	48·1	45·1	3·0	..	..	W by N	W	..	$\frac{1}{2}$	3
8. 0. 32. 30	..	46·5	..	..	..	..	W N W	..	0 to $\frac{1}{2}$	..	..
33. 0	..	46·1	..	..	..	..	W N W	..	0 to $\frac{1}{2}$	..	..
35. 0	..	40·6	..	..	..	..	N W	..	$\frac{1}{2}$	..	..
36. 0	..	39·8	..	..	..	..	N W	..	$\frac{1}{2}$	..	..
37. 0	29·445	39·5	39·5	0·0	..	..	N W	..	$\frac{1}{2}$	..	..
38. 0	..	39·1	39·5	—0·4	..	..	N W	..	$\frac{1}{2}$	..	..
41. 5	..	39·2	39·5	—0·3	..	..	N W	..	$\frac{1}{2}$	..	..
43. 0	..	39·5	39·5	0·0	..	..	N W	..	$\frac{1}{2}$	..	..
46. 0	29·444	39·6	39·6	0·0	..	..	N W	..	$\frac{1}{2}$	..	..
50. 0	..	39·6	39·6	0·0	..	..	N W	..	3	..	..
52. 0	..	39·8	39·8	0·0	..	..	N W	..	$3\frac{1}{2}$	..	..

Oct. 27d. These observations were taken in consequence of the great decrease in the reading of the Barometer, between 7h. 10m and 9h. 10m; the lowest reading occurred at 16h. 0m; and after 16h. 10m the readings began to increase.

Oct. 27d. 15h. 20m to 15h. 35m. The increase in the readings of the Dry Thermometer was 2°. 8 between these times, and the hygrometric change between these times is remarkable.

GENERAL REMARKS.	Observer.
Cirro-strati, nimbi, and scud.	D
Cirro-stratus and scud.	G
,,	
Cirro-stratus and scud.	J H
,, a slight rain falling.	J H
Occasional squalls of rain: a gale of wind; the force is often $2\frac{1}{2}$, with frequent gusts to $2\frac{1}{2}+$.	G
A violent squall: branches of trees were broken off.	
,,	
A slight lull: no rain falling.	
Squally, and occasional gusts of wind to $2\frac{1}{2}+$: very black.	
Rain is falling in large drops.	
The gale continues: the clouds are densely black and very low, as the reflexion of the London lights appears nearly in the horizon.	
A violent gust of wind: the surface of the mercury is agitated.	
The surface of the mercury is remarkably convex and much agitated.	
The gusts are less frequent.	
Gusts of wind to 2.	
Frequent gusts of wind to $2\frac{1}{2}$.	
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Slight rain is falling: the gusts are less frequent.	
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The gale is less violent, and the gusts are less frequent; in other respects no change hastaken place since 14^h.	
Light rain in dashing squalls: frequent gusts to $2\frac{1}{2}$.	
A few stars are visible here and there.	
Violent gusts of wind to $2\frac{1}{2}$.	
Gusts of wind to 3.	
,,	
,, rain falling.	
,, ,,	
,,	
Gusts to $2\frac{1}{2}$.	
The clouds are much broken in the South, and also near the zenith: gusts of wind to 2.	
Generally clear.	
Scud: no upper cloud.	
Scud is passing rapidly from the W. S. W.	G
Cloudless: the wind is still blowing in strong gusts.	D
Cumuli and loose fragments of scud.	D
Cumuli and light scud: at $0^h.\ 33^m$ the sky suddenly became dark and lowering, and almost immediately a violent squall of rain and hail began; the leaves which were lying on the ground were driven in circles to the height of the trees in the Park, at $0^h.\ 32^m$.	J H
A thermometer placed on grass reads 55°.	G
A thermometer placed on grass reads 34°; one, six inches above grass, 38° ·5; and one, a foot above grass, reads 38° ·2.	
A thermometer placed on grass reads 33°; one, six inches above grass, 39° ·5; and one, a foot above grass, reads 39° ·5.	

Day and Hour, Greenwich Astronomical Reckoning.	Barometer Corrected.	Dry Therm.	Wet Therm.	Wet Therm. below Dry. Therm.	Dew Point.	Dew Point below Dry Therm.	WIND. DIRECTION from Anemometer.	WIND. DIRECTION by Estimation.	WIND. PRESSURE from Anemometer, in pounds per square foot.	WIND. PRESSURE by Estimation 0—6.	Amount of Clouds 0—10.
d h m s	in.	°	°	°	°	°			from lbs. to lbs.		
Nov. 8. 0. 54. 0	..	40·0	40·0	0·0	..	..	N W	..	1	..	..
1. 3. 0	..	41·7	40·9	0·8	..	..	N W	..	..	..	..
10. 0	..	40·4	40·0	0·4	..	..	N W	..	..	..	..
11. 0	..	39·8	39·6	0·2	..	..	N W	..	..	..	..
12. 0	..	39·6	39·4	0·2	..	..	N W	..	..	..	..
13. 0	..	39·5	39·4	0·1	..	..	N W	..	..	..	..
16. 0	..	39·7	39·6	0·1	..	..	N W	..	..	..	..
20. 0	29·447	39·8	39·7	0·1	..	..	N W	W	..	½	10
28. 0	..	41·0	40·3	0·7	..	..	N W	..	..	..	..
40. 0	..	41·6	40·5	1·1	..	..	N W	N N W	..	..	..
1. 45. 0	..	41·8	41·4	0·4	..	..	N W	..	..	..	..
2. 2. 0	..	42·8	40·8	2·0	..	..	N W	..	..	..	..
8. 3. 20. 0	29·446	42·7	37·8	4·9	35·5	7·2	N W	W by N	½ to 3	¾	3

GENERAL REMARKS.	Observer.
	G
	G
Cirro-stratus and scud: rain is falling slightly, and the air is cold: the reading of the thermometer on grass was 42° ·0; that, six inches above grass, 40° ·0; and that, one foot above grass, 40° ·0.	J H
	J H
Clouds in the horizon and in other directions.	P

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time, Astronomical Reckoning.	Single Gold Leaf Dry Pile Apparatus. Towards Negative Pile.	Single Gold Leaf Dry Pile Apparatus. Towards Positive Pile.	Galvanometer. The Head of the Needle towards A.	Galvanometer. The Head of the Needle towards B.	REMARKS.	Observer.
d h m s	°	°	°	°		
Jan. 3. 23. 2. 43	..	..	20	..	Heavy rain and hail falling.	G
3. 13	..	..	..	5	,, ,,	
3. 28	..	..	..	10	,, ,,	
3. 41	..	..	5	7	,,	
3. 58	..	..	0	0	The rain is not so heavy. [the needle remained in the recorded position.	
23. 4. 13	..	..	..	3	The rain has nearly ceased: at this time the instrument was disconnected, and	
Jan. 12. 19. 38. 48	..	..	..	..	A vivid flash of lightning, followed in 20^s by a heavy roll of thunder.	G
40. 48	..	..	..	..	Another flash of lightning, followed at an interval of 25^s, by a long crashing peal	
48. 48	slightly inclined	..	35	..	The pith-ball electrometer was not affected. [of thunder.	
19. 49. 48	..	..	30 to 35	..	The needle settled in a position reading 32°; the communication was interrupted, and the needle remained in that position till $14^d.\ 1^h$, when it was set to zero, by moving the card.	G
Feb. 3. 3. 32. 13	..	..	varying	..	A violent squall of hail and rain; very gloomy.	JH
34. 38	..	..	..	70	The needle very much agitated.	
35. 43	..	..	..	50		
36. 28	..	..	20	20	A heavy squall of hail and sleet.	
37. 10	..	..	0	0		
37. 27	..	..	20	..		
37. 40	..	..	10	..	Oscillating to a little beyond zero.	
3. 38. 16	..	..	3	..	The squall is nearly over.	
					The gold-leaf electrometer was unaffected.	JH
Apr. 5. 1. 48. 13	..	..	4	..	During a heavy shower of rain.	G
	..	..	10	..	,,	
	..	..	4	..	,,	
Apr. 25. 5. 20. 0	..	..	..	..	A very large and black nimbus covered the whole of the southern sky reaching to the zenith; a thin cloud was approaching the zenith, and the needle of the galvanometer was affected, it being deflected 5° towards B, and it then oscillated between 3° and 5°: immediately on the cloud leaving the zenith, the needle was motionless at zero; this was the only cloud since 2^h which has had any effect, though the observer watched the needle during the time of several clouds passing over the zenith: at $5^h.\ 23^m$ a loud clap of thunder was heard from near the horizon, and it came from the same cloud which passed the zenith at $5^h.\ 20^m$; no instrument was affected at this time; the Sun was shining brightly, but the S. E. part of the sky was very black.	G
May 28. 1. 50. 0	..	..	..	..	A vivid flash of lightning, followed by thunder after an interval of 2^s; another vivid flash occurred a few seconds afterwards, and it was followed by very loud thunder: between $1^h.\ 55^m$ and $2^h.\ 2^m$, the gold leaf had been inclined about 8° towards the positive pile; it then turned violently towards the negative pile and touched its ball, and at about $1^h.\ 59^m$ again turned towards the positive pile.	GBA
2. 2. 13	30	..	..	..	The gold leaf touched the negative pile violently.	GBA
8. 13	..	30	..	..	The gold leaf moved quickly from the negative to the positive pile, and was immediately afterwards cut off, flying on the positive pile.	& G
49. 13	..	..	..	..	The pith balls were separated by two divisions.	
51. 52	..	..	..	..	Sparks from the ball of the alarm bell; at this time, whilst the Astronomer Royal was removing the pith-ball apparatus, to measure the amount of electricity, his hand was surrounded by a blue flame, but he did not feel any shock or sensation.	
51. 55	..	..	..	..	Loud thunder.	
52. 15	..	..	..	..	The pith balls were separated to 30^{div}.	

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time, Astronomical Reckoning.	Single Gold Leaf Dry-Pile Apparatus.		Galvanometer.		REMARKS.	Observer.
	Towards Negative Pile.	Positive Pile.	The Head of the Needle towards A.	The Head of the Needle towards B.		
d h m s	°	°	°	°		
May 28. 2. 52. 18	..	..	..	..	The pith balls separated further on the application of excited glass.	G
52. 58	..	..	2	..	The pith balls still expand on applying the test.	
53. 23	..	..	..	..	The pith balls are separated by 25^{div}, discharged it by the finger.	
54. 3	..	..	..	..	The pith balls separated 7^{div}.	
54. 5	..	..	..	..	The pith balls closed on breaking their connexion with the conducting wire.	
56. 3	..	..	..	..	The pith balls open 3^{div}: rain falling. [not affected.	
59. 11	..	..	..	..	The galvanometer was connected with the conducting wire and the needle was	
2. 59. 41	..	..	..	..	Thunder.	
3. 0. 33	..	..	..	..	Rain falling in large drops.	
1. 41	..	..	..	..	Thunder and rain; a long peal of thunder. [about 2°.	
15. 13	..	..	2	..	The galvanometer was connected and slightly affected, the needle oscillating	
3. 20. 0	..	..	..	..	The sky is becoming clear, and the storm appears to be over, all the instruments being in a quiescent state: at 4^h. 10^m the observer left the Observatory.	
June 8. 23. 20. 23	3	..	..	7	A black nimbus approached the zenith from which some heavy rain fell, and the galvanometer was immediately affected to the amount of about 7°; when the cloud was completely in the zenith the needle oscillated about zero, and on the cloud leaving the zenith the needle oscillated to about 5°; on the zenith being clear of the cloud, the rain ceased falling, and the needle settled at zero; the whole time was not more than three minutes: during the above time the galvanometer was twice disconnected with the conducting wire, and the gold leaf at both times moved towards the negative pile to the amount of 3°.	G
23. 23. 23	3	..	..	..		
June 9. 22. 53. 6	..	..	..	5	A heavy shower of hail and rain.	D
23. 49. 6	..	..	..	2	A shower of rain; the rain drops were large.	P
50. 6	..	..	4	..	The pith balls were not affected.	
51. 6	..	..	0	0		
23. 51. 26	..	..	2	..	The needle of the galvanometer immediately moved to zero.	
June 10. 0. 59. 36	..	..	..	5 to 18	Rain falling.	P
1. 0. 26	..	..	..	5 to 20		
0. 51	..	..	..	25		
1. 36	..	..	..	5 to 11		
1. 46	..	..	..	0 to 10		
2. 46	..	..	0 to 5	..	The rain has ceased falling.	
3. 16	..	..	9	..		
3. 51	..	..	6 to 15	..	Rain again falling.	
4. 26	..	..	6 to 11	..		
5. 6	..	..	0 to 6	..		
5. 16	..	..	0	0		
5. 23	..	..	..	0 to 2	Rain still falling.	
6. 56	..	..	..	0 to 12	Rain falling heavily.	
7. 28	..	..	..	0 to 6		
			..	0 to 5		
			..	0 to 3		
7. 53	..	..	0 to 10	..	The rain light.	
8. 16	..	..	0 to 8	..		
8. 26	..	..	6	..		
8. 46	..	..	3	..		
9. 1	..	..	3 to 20	..	Rain falling heavily.	
9. 6	..	..	15	..		
9. 11	..	..	10	..		
9. 16	..	..	8	..		
9. 21	..	..	4	..		P

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time, Astronomical Reckoning.	Single Gold Leaf Dry-Pile Apparatus. Towards Negative Pile.	Single Gold Leaf Dry-Pile Apparatus. Towards Positive Pile.	Galvanometer. The Head of the Needle towards A.	Galvanometer. The Head of the Needle towards B.	REMARKS.	Observer.
d h m s	°	°	°	°		
June 10. 1. 9. 41	..	..	2	..		P
10. 6	..	..	0	0	The rain has just ceased falling.	
10. 36	..	..	0	0		
10. 56	..	..	..	2		
11. 43	..	..	0	0	No rain falling.	
13. 1	..	..	..	2	Rain again falling.	
13. 21	..	..	..	4		
14. 1	..	..	0	0		
14. 11	..	..	..	4		
14. 26	..	..	..	2	Steadily at this till 14m. 56s.	
15. 6	..	..	..	1		
16. 51	..	..	0	0	Rain still falling but thin.	
17. 56	..	..	..	1		
18. 16	..	..	0	0		
19. 6	..	..	2	..		
			from 2	to 2		
20. 6	..	..	1	..		
20. 21	..	..	0	0		
20. 36	..	..	2	..		
20. 46	..	..	from 1	to 1		
21. 31	..	..	0	0	Breaks in the clouds in the North.	
22. 16	..	..	..	1		
24. 26	..	..	..	3	The rain thin.	
24. 43	..	..	..	1 to 2		
1. 26. 36	..	..	..	1	The breaks in the North arc becoming more extensive.	P
July 13. 0. 35. 14	..	..	..	1	During a shower of rain, the drops of which were large.	G
July 23. 5. 2. 0	..	..	..	..	A loud clap of thunder; the needle of the galvanometer oscillated about 20° on each side of zero, but in a short time assumed its position of rest.	P
Aug. 3. 21. 50. 8	..	..	..	9 to 30	A violent squall of rain.	P
50. 38	..	..	..	25 to 30	,,	
51. 8	..	..	..	11 to 32	,,	
51. 38	..	..	..	9 to 26	,,	
52. 8	..	..	..	22 to 31	,,	
52. 28	..	..	..	11 to 32	,,	
52. 38	..	..	..	6 to 16	,,	
52. 53	..	..	..	13 to 19	,,	
53. 1	..	..	..	0	,,	
53. 8	..	..	0 to 10	..	,,	
53. 48	..	..	3 to 10	..	,,	
54. 8	..	..	3 to 10	..	,,	
54. 28	..	..	4 to 9	..	,,	
54. 43	..	..	7 to 8	..	,,	
55. 8	..	..	6 to 8	..	,,	
55. 28	..	..	2 to 8	..	,,	
55. 38	..	..	5 to 10	..	,,	
55. 58	..	..	5 to 7	..	,,	
56. 8	..	..	5	..	,,	
56. 38	..	..	3 to 8	..	,,	
57. 3	..	..	2 to 4	..	,,	
57. 18	..	..	1 to 2	..	,,	
21. 57. 53	..	..	0	..	,,	P

ELECTROMETER OBSERVATIONS.

Greenwich Mean Solar Time, Astronomical Reckoning.	Single Gold Leaf Dry-Pile Apparatus. Towards Negative Pile.	Towards Positive Pile.	Galvanometer. The Head of the Needle towards A.	The Head of the Needle towards B.	REMARKS.	Observer.
d h m s	°	°	°	°		
Aug. 4. 3. 35. 13	..	..	..	..	Distant thunder in the N.W.	D
37. 13	..	..	..	..	,,	
43. 13	..	..	..	..	A very low muttering of thunder.	
44. 13	..	..	..	..	Low muttering still in the N.W.; the gold leaf of the dry-pile apparatus and the needle of the galvanometer are quite motionless, and both at zero.	
3. 50. 13	..	..	3	..	The thunder is loud in the North, and the roll continued upwards of a minute.	
4. 3. 28	..	..	0 to 5	..	Another continuous clap of thunder.	
4. 13	..	..	..	..	Rain falling slightly.	
5. 23	..	..	..	..	A loud clap of thunder in the N. E., the roll continuing $1^m. 10^s$.	
7. 13	..	..	0	..	A deep distant muttering in the N. E.	
4. 14. 13	..	..	..	..	A muttering of thunder is heard in the N.E., and it continued to be heard at intervals for a short time after; the instruments were not afterwards affected.	
Aug. 4. 5. 4. 43	..	..	..	2 to 12	Low mutterings of thunder.	D
6. 13	..	..	..	4	There is a nearly continual muttering of thunder.	
5. 10. 13	..	..	..	0		
Aug. 15. 5. 41. 33	..	..	..	8	Thunder: rain falling.	D
43. 33	..	..	4 to	20	Loud thunder.	
44. 38	..	..	0	0	Thunder.	
45. 13	..	..	6	..	,,	
46. 28	..	..	10 to	10	,,	
48. 3	..	..	..	8	,,	
49. 3	..	..	50 to	65	A loud clap of thunder.	
50. 18	..	..	..	..	Heavy rain.	
50. 38	..	..	30 to	15	Loud thunder.	
52. 41	..	..	30 to	15	A very loud clap of thunder.	
53. 43	..	..	..	0 to 10		
54. 18	..	..	..	..	Thunder: rain in torrents.	
55. 3	..	..	45 to	60	,,	
55. 53	..	..	..	..	,,	
56. 33	..	..	..	6		
56. 38	..	..	30 to	30	,,	
5. 59. 18	..	..	45 to	30	,,	
6. 0. 3	..	..	..	..	Rain still falling in torrents.	
0. 33	..	..	0	0	A very loud clap of thunder.	
2. 48	..	..	..	10		
4. 53	..	..	..	12		
9. 33	..	..	0	0	Distant thunder.	
6. 11. 33	..	..	0	0	The rain has nearly ceased falling; the galvanometer was the only instrument affected.	D
Oct. 28. 3. 20. 0	..	..	5	..	A squall of rain.	G
Nov. 8. 0. 35. 0	..	..	20 to 45	..	A squall of hail.	J H
38. 0	..	..	10 to 30	..		
40. 0	..	..	20 to 30	..	The squall is nearly over.	
41. 0	..	..	10 to 20	..		
42. 0	..	..	5 to 20	..		
45. 0	..	..	4	..		
47. 0	..	..	..	0 to 5	Rain falling.	
0. 49. 0	..	..	0	0		J H

ELECTRICAL EXPERIMENTS WITH THE INDUCTION-BALL APPARATUS.

d h m	
Sep. 4. 0. 0	The ball was raised by Mr. Dunkin, and the effects watched by Mr. Glaisher. On the ball attaining the height of nearly 80 feet, the gold leaf of the dry-pile apparatus approached the negative pile by a small quantity. On dropping the ball when it was at the distance of 40 feet from the ground, the leaf moved still nearer to the negative pile: the leaf remained in the last position as the ball was dropped to the ground, and the quantity of electricity was discharged by the finger. The ball was again raised, and, on its attaining the elevation of nearly 40 feet, the leaf approached the negative pile, and it approached the pile still nearer as the ball was dropped, remaining in the same position when it was down: the gold leaf was midway between the two piles on touching the instrument by the finger. The effects were then observed by Mr. Dunkin. On the ball attaining the height of nearly 80 feet, the gold leaf approached the negative pile; and on repeating the experiment the same effect was observed.
Oct. 5. 3. 35	Observers, Messrs. Glaisher and Hind. The dry-pile apparatus was placed on a table near the electrometer pole, and the ball was about 3 feet from the ground; a copper wire was in connexion with the ball and the dry-pile apparatus, the gold leaf of which was constantly moving to, and receding from, the negative pile: at times it was more agitated than at other times. On raising the ball to the height of nearly 80 feet, the gold leaf moved in the opposite direction, or towards the positive pile: on touching the dry-pile apparatus with the finger the leaf moved decidedly towards the negative pile. The experiment was repeated, and precisely the same effects were noticed.
Oct. 5. 3. 55	The ball was 3 feet from the ground, and the gold leaf was inclined 20° towards the negative pile.
Oct. 5. 3. 57	The ball was raised gradually, and the gold leaf gradually moved from 20° towards the negative pile, to several degrees towards the positive pile; and when the ball was nearly 80 feet high the dry-pile apparatus was touched by the finger, and the leaf moved to a position 10° towards the negative pile, and remained there; the ball was then dropped, and when it was at about 3 feet from the ground the apparatus was touched by the finger, and the leaf moved towards the positive pile.
Oct. 5. 4. 0	The ball being at about 3 feet from the ground, the leaf oscillated a little on each side of the vertical.
Oct. 5. 4. 2	The ball was again raised, and precisely the same effect as at $3^h.\ 57^m$ was noticed.
Oct. 5. 4. 8	The ball was again raised, and precisely the same effect as at $3^h.\ 57^m$ was noticed: heavy clouds over the Magnetic Observatory.
Oct. 5. 4. 25	The ball was again raised, and precisely the same effect as at $3^h.\ 57^m$ was noticed: the sky was clear near the zenith.
Oct. 5. 4. 40	The ball was again raised, and the same effects were noticed; when the ball was within 3 feet of the ground the gold leaf was very slightly agitated; but not nearly so much as at $3^h.\ 35^m$.
Oct. 5. 5. 0	The ball was again raised; the same effects were observed.
Oct. 5. 6. 5	The ball was again raised: the same effects were observed, but in a much less decided manner: the sky was nearly cloudless.
Oct. 5. 6. 15	The ball was again raised; the same general effects were noticed, but they were of a much less marked character.
Oct. 5. 21. 15	The dry-pile apparatus was placed on shell-lae, on a table near the electrometer pole, and the wire connected with the induction-ball was brought to it. The gold leaf moved a small distance towards the negative pile when the ball was stationary at 3 feet from the ground. The ball was slowly raised, and the gold leaf moved gradually towards the positive pile: on the ball attaining the height of about 60 feet the dry-pile apparatus was touched by the finger, and the gold leaf moved towards the negative pile, and remained stationary in that position; the ball was then gradually dropped, and the leaf moved still nearer towards the negative pile; when the ball was about 3 feet from the ground the apparatus was touched by the finger, and the leaf moved towards the positive pile. The sky was cloudy at the time, and the observations were made by Mr. Glaisher. During the year very many experiments were made with the induction-ball apparatus, in all states of the sky and at all times of the day, for the most part without any effect being noticed; at times a very small motion was suspected, but not sufficient in amount to speak positively upon it. The only certain effects observed at any time are those mentioned above.

ROYAL OBSERVATORY, GREENWICH.

ABSTRACTS

OF THE

RESULTS

OF THE

MAGNETICAL OBSERVATIONS.

1843.

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, 1843.	January.	February.	March.	April.	May.	June.	July.	August.	Sep.	Oct.	Nov.	Dec.
	23° ′ ″	23° ′ ″	23° ′ ″	23° ′ ″	23° ′ ″	23° ′ ″	23° ′ ″	23° ′ ″	23° ′ ″	23° ′ ″	23° ′ ″	23° ′ ″
1	*S*	7. 57	6. 19	7. 37	4. 34	8. 33	12. 41	11. 14	10. 57	*S*	14. 20	17. 36
2	19. 12	8. 11	6. 21	*S*	5. 13	9. 21	*S*	11. 14	10. 54	15. 31	12. 55	17. 48
3	21. 39	7. 37	6. 23	6. 28	5. 1	8. 42	12. 12	11. 30	*S*	16. 21	13. 44	*S*
4	21. 39	7. 17	6. 17	8. 18	4. 43	*S*	11. 55	12. 2	14. 14	16. 32	15. 42	17. 29
5	21. 52	*S*	*S*	5. 3	5. 18	12. 13	11. 52	11. 19	18. 11	17. 40	*S*	17. 20
6	21. 50	9. 55	6. 15	8. 2	0. 52	13. 8	10. 39	*S*	16. 43	14. 20	15. 16	16. 57
7	22. 0	15. 7	8. 25	6. 27	*S*	13. 10	10. 50	11. 15	16. 11	15. 34	15. 14	15. 57
8	*S*	13. 43	8. 0	7. 31	5. 31	12. 51	12. 36	11. 31	17. 4	*S*	15. 53	16. 48
9	13. 40	13. 52	8. 7	*S*	5. 18	12. 43	*S*	12. 35	17. 25	15. 21	17. 37	17. 24
10	7. 32	13. 57	7. 12	7. 9	6. 17	12. 29	12. 40	11. 27	*S*	15. 40	16. 10	*S*
11	7. 51	13. 10	7. 9	6. 54	5. 56	*S*	11. 22	11. 44	17. 43	16. 16	15. 45	15. 49
12	9. 31	*S*	*S*	7. 38	5. 54	14. 0	10. 32	12. 31	17. 10	15. 35	*S*	16. 31
13	9. 47	12. 29	8. 5	6. 47	4. 28	12. 27	11. 18	*S*	16. 34	17. 23	17. 14	16. 32
14	8. 34	11. 7	7. 9	Good Fri.	*S*	13. 35	10. 55	12. 42	16. 10	17. 15	15. 46	17. 22
15	*S*	10. 45	7. 40	8. 0	5. 24	13. 7	11. 28	11. 12	17. 18	*S*	16. 5	17. 3
16	9. 17	11. 3	7. 9	*S*	7. 23	13. 27	*S*	10. 34	16. 56	16. 2	17. 48	17. 16
17	8. 59	12. 0	6. 35	5. 3	5. 25	13. 0	11. 46	10. 56	*S*	16. 13	15. 29	*S*
18	8. 32	11. 20	7. 17	4. 45	5. 4	*S*	10. 33	11. 11	16. 23	16. 57	17. 20	16. 55
19	8. 10	*S*	*S*	− 5. 56	5. 55	13. 10	11. 44	10. 56	16. 36	17. 38	*S*	16. 57
20	7. 53	8. 41	7. 27	−10. 54	5. 21	12. 51	11. 11	*S*	17. 11	17. 13	16. 14	17. 45
21	8. 19	6. 59	7. 50	2. 35	*S*	12. 47	11. 30	10. 35	15. 43	16. 46	14. 29	17. 15
22	*S*	7. 27	7. 42	4. 39	7. 21	13. 21	11. 10	12. 38	17. 51	*S*	15. 28	16. 30
23	6. 30	7. 12	7. 23	*S*	7. 53	12. 38	*S*	9. 32	16. 36	17. 20	15. 17	16. 26
24	7. 40	7. 26	7. 49	5. 28	8. 32	12. 39	8. 23	11. 33	*S*	15. 47	15. 43	*S*
25	8. 3	6. 22	7. 41	4. 26	9. 9	*S*	13. 38	11. 9	16. 0	16. 12	15. 39	Ch. Day
26	8. 17	*S*	*S*	4. 15	7. 51	13. 48	11. 42	10. 32	18. 16	14. 51	*S*	18. 46
27	8. 47	7. 18	7. 56	5. 5	6. 54	12. 45	10. 20	*S*	17. 28	16. 46	16. 1	17. 13
28	8. 34	7. 18	7. 54	4. 21	*S*	12. 22	9. 37	11. 19	19. 7	17. 14	16. 54	15. 7
29	*S*	...	6. 38	5. 28	8. 20	12. 40	10. 41	11. 7	17. 39	*S*	17. 26	16. 57
30	8. 16	...	6. 55	*S*	8. 27	13. 49	*S*	10. 27	17. 25	14. 16	16. 27	18. 32
31	7. 45	...	7. 53	...	8. 40	...	10. 21	11. 32	...	14. 35	...	*S*

The numbers ranging with April 19d and 20d have the sign — affixed to them, indicating that the mean western declination on each of these days was less than 23° by that amount; therefore, the western declinations for these days were 22°. 54′. 4″ and 22°. 49′. 6″ respectively.

The letter *S* denotes that the day was Sunday.

TABLE II.—Table exhibiting the Times at which Differences greater than 3′ took place between the Mean Positions of the Declination Magnet on two consecutive Days, with the amount of the Difference, estimated positive when the Theodolite Reading is less, or the Westerly Declination greater, on the Second Day.

January.		February.		April.		May.	
Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.
	′ ″		′ ″		′ ″		′ ″
9 & 10	− 6. 8	6 & 7	+ 5. 12	4 & 5	− 3. 15	5 & 6	− 4. 26
				18 & 19	−10. 41		
				19 & 20	− 4. 58		
				20 & 21	+13. 29		

July.		August.		September.		October.	
24 & 25	+ 5. 15	22 & 23	− 3. 6	4 & 5	+ 3. 57	5 & 6	− 3. 20

In addition to the instances contained in this table, that of the difference between the 7th day and the 9th day of January, amounting to − 8′. 20″, took place. Assuming that the difference on each of these days amounted to 4′ +, we have that :—

During the year there were 4 instances of a change of more than 3′ and less than 4′,
4 instances of a change of more than 4′ and less than 5′,
2 instances of a change of more than 5′ and less than 6′,
1 instance of a change of more than 6′ and less than 7′,
1 instance of a change of more than 10′ and less than 11′,
1 instance of a change of more than 13′ and less than 14′.

TABLE III.—Table exhibiting the Greatest and the Least Differences in the Mean Positions of the Declination Magnet between any two consecutive Civil Days during each Month, estimated positive when the Westerly Declination was greater on the Second Day.

1843, Month.	Differences in the Mean Daily Positions of the Declination Magnet, from one Day to the next.		Days between which the Greatest Difference took place.	Days between which the Least Difference took place.
	Greatest.	Least.		
	′ ″	′ ″	d d	d d
January	− 6. 8	0. 0	9 & 10	3 & 4
February	+ 5.12	0. 0	6 & 7	27 & 28
March	+ 2.10	− 0. 2 + 0. 2	6 & 7	27 & 28 1 & 2 & 2 & 3
April	+13.29	− 0.11	20 & 21	25 & 26
May	− 4.26	− 0. 2	5 & 6	11 & 12
June	− 1.33	+ 0. 1	12 & 13	23 & 24
July	+ 5.15	− 0. 3	24 & 25	4 & 5
August	− 3. 6	0. 0	22 & 23	1 & 2
September	+ 3.57	− 0. 3	4 & 5	1 & 2
October	− 3.20	− 0. 8	5 & 6	13 & 14
November	− 2.19	− 0. 2	16 & 17	6 & 7
December	− 2. 6	+ 0. 1	27 & 28	12 & 13

So that during the months of March, June, November, and December, there was no instance of a difference so large as 2′. 20″ taking place between the mean positions of the Declination Magnet on two consecutive days, unless such a difference took place between the 3rd day and the 5th day of June; the sum of the differences between the 3rd day and the 4th day, and that of the 4th day and 5th day, being + 3′. 31″.

TABLE IV.—Mean of all the Two-hourly Westerly Declinations for those Days in each Month, on which (as shewn by the Mean of Two-hourly Readings) the marked end of the Magnet was most drawn towards the East, or was most drawn towards the West.

1843, Month.	Mean Western Declination for that Day in the Month, when the marked end of the Magnet throughout the Day was most drawn towards the		Greatest Difference in the Mean Positions of the Magnet, between any Two Days in the Month.	Day when the marked end was most drawn towards the	
	West.	East.		West.	East.
	° ′ ″	° ′ ″	′ ″	d	d
January	23. 22. 0	23. 6. 30	15. 30	7	23
February	23. 15. 7	23. 6. 22	8. 45	7	25
March	23. 8. 25	23. 6. 15	2. 10	7	6
April	23. 8. 18	22. 49. 6	19. 12	4	20

TABLE IV.—*continued.*

1843, Month.	Mean Western Declination for that Day in the Month, when the marked end of the Magnet throughout the Day was most drawn towards the West.	Mean Western Declination for that Day in the Month, when the marked end of the Magnet throughout the Day was most drawn towards the East.	Greatest Difference in the Mean Positions of the Magnet, between any Two Days in the Month.	Day when the marked end was most drawn towards the West.	Day when the marked end was most drawn towards the East.
	° ′ ″	° ′ ″	′ ″	d	d
May	23. 9. 9	23. 0. 52	8. 17	25	6
June	23. 14. 0	23. 8. 33	5. 27	12	1
July	23. 13. 38	23. 8. 23	5. 15	25	24
August	23. 12. 42	23. 9. 32	3. 10	14	23
September	23. 19. 7	23. 10. 54	8. 13	28	2
October	23. 17. 40	23. 14. 16	3. 24	5	30
November	23. 17. 48	23. 12. 55	4. 53	16	2
December	23. 18. 46	23. 15. 7	3. 39	26	28

This table shews that the mean position of the magnet was subject to less variation in the month of March than in any other month, and the variations in this month were less than in any month since the establishment of the Observatory. The variations in the months of August, October, and December were remarkably small, and they were also smaller than the variations in any previous month since 1840, November. In April the mean position of the magnet was subject to the greatest change in its mean daily position, and it was the greatest since October, 1841. In January the variation in its mean positions was great, being the greatest, except that of April, between 1841, December, and the end of 1843. The mean monthly range (thus estimated from the mean of all the observations in each day) was 7′. 19″. The yearly range (similarly estimated) was 32′. 54″, being the difference between the mean West declination on January 7, when the marked end of the magnet was in its extreme westerly position, and the mean West declination on April 20, when the marked end of the magnet was in its extreme easterly position.

TABLE V.—Extreme Positions of the Declination Magnet in each Month, in Single Observations, for Daily, Term-day, and Extraordinary Observations.

1843.	The Western Declination when the marked end of the Magnet was most drawn towards the West. Daily Observations.	The Western Declination when the marked end of the Magnet was most drawn towards the East. Daily Observations.	The Western Declination when the marked end of the Magnet was most drawn towards the West. Term Observations.	The Western Declination when the marked end of the Magnet was most drawn towards the East. Term Observations.	The Western Declination when the marked end of the Magnet was most drawn towards the West. Extraordinary Observations.	The Western Declination when the marked end of the Magnet was most drawn towards the East. Extraordinary Observations.	Range in the Month.	Day and Hour when the marked end of the Magnet was most drawn towards the West. Daily Observations.	Day and Hour when the marked end of the Magnet was most drawn towards the East. Daily Observations.	Day and Hour when the marked end of the Magnet was most drawn towards the West. Term Observations.	Day and Hour when the marked end of the Magnet was most drawn towards the East. Term Observations.	Day and Hour when the marked end of the Magnet was most drawn towards the West. Extraordinary Observations.	Day and Hour when the marked end of the Magnet was most drawn towards the East. Extraordinary Observations.
	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	° ′ ″	′ ″	d h m	d h m	d h m	d h m	d h m	d h m s
January	23. 25. 38	22. 59. 7	23. 12. 43	23. 1. 15	23. 25. 6	22. 55. 53	29. 45	7. 1. 50	23. 12. 0	19. 1. 30 19. 1. 40	18. 11. 35	2. 4. 0	23. 12. 58. 34
February	23. 23. 3	22. 45. 59	23. 11. 26	22. 56. 50	23. 14. 25	22. 45. 59	37. 4	24. 4. 0	6. 10. 0	24. 17. 25	24. 13. 25	6. 14. 0	6. 10. 0. 0
March	23. 18. 38	22. 55. 16	23. 15. 0	22. 58. 16	23. 14. 44	23. 6. 4	23. 22	7. 4. 0	6. 12. 0	24. 1. 5	24. 7. 10	7. 8. 0	7. 8. 18. 5
April	23. 23. 0	22. 35. 1	23. 7. 2	22. 34. 59	23. 15. 43	22. 35. 1	48. 1	6. 2. 0	19. 6. 0	20. 6. 55 20. 7. 0	20. 6. 35	6. 6. 0	19. 6. 0. 0
May	23. 18. 17	22. 28. 29	23. 16. 27	22. 55. 32	23. 1. 19	22. 22. 41	55. 36	26. 1. 50	6. 12. 0	27. 1. 25	26. 10. 20	6. 12. 54	6. 12. 8. 0
June	23. 24. 25	22. 59. 19	23. 19. 2	23. 8. 8	....	....	25. 6	30. 1. 50 30. 2. 0	2. 20. 0	22. 2. 30 22. 2. 40	21. 18. 55	....	.....
July	23. 27. 45	22. 44. 6	23. 17. 34	23. 5. 16	23. 34. 37	23. 5. 29	50. 31	25. 2. 0	24. 10. 0	20. 2. 40	19. 19. 45	25. 5. 1	24. 18. 0. 0 24. 20. 0. 0
August	23. 22. 59	22. 59. 27	23. 19. 30	23. 2. 48	....	....	23. 32	12. 2. 0	22. 14. 0	26. 0. 45 26. 0. 50	25. 18. 40	....	.....
Sep.	23. 27. 39	23. 5. 19	23. 25. 41	23. 4. 0	23. 19. 31	23. 10. 58	23. 39	26. 2. 0	2. 10. 0	21. 2. 30	21. 7. 30	23. 6. 44	23. 6. 0. 0
Oct.	23. 27. 50	23. 2. 2	23. 24. 14	23. 12. 36	23. 15. 28	23. 2. 2	25. 48	5. 0. 0	26. 10. 0	18. 15. 50	19. 9. 5	26. 8. 0	26. 10. 0. 0
Nov.	23. 23. 27	23. 8. 42	23. 18. 19	23. 13. 28	....	....	14. 45	18. 1. 50	3. 8. 0	25. 1. 30	24. 12. 15	....	....
Dec.	23. 24. 5	23. 4. 50	23. 19. 30	23. 14. 9	23. 16. 29	23. 7. 16	19. 15	12. 2. 0	11. 8. 0	21. 1. 45	21. 9. 55	11. 9. 45	11. 8. 4. 0

The greatest western declination, as observed in the July Term Observations, is probably in error (see note to the observation, page [76]).

The largest declination in the year was in July, as observed in Extraordinary Observations, on the 25th day at $5^h.\ 1^m$; and the smallest was in May, as observed in Extraordinary Observations, on the 6th day at $12^h.\ 8^m$: the yearly range was $1°.\ 11'.\ 56''$. The monthly range was large in April, May, and July, and remarkably small in March, June, August, September, October, November, and December, being less in each of those months than in any other month since the establishment of the Observatory; that of November is the smallest of all.

TABLE VI.—Determination of the Absolute Western Declination from the Mean of the Two-hourly Observations.

Means rejecting day of great disturbance

1843.	Absolute Westerly Declination of Magnet.	1843.	Absolute Westerly Declination of Magnet.
	° ′ ″		° ′ ″
January	23. 11. 31	July	23. 11. 18
February	23. 9. 56	August	23. 11. 21
March	23. 7. 19	September	23. 16. 31
April	23. 4. 48	October	23. 16. 12
May	23. 6. 10	November	23. 15. 50
June	23. 12. 31	December	23. 17. 3

23. 11. 18 — 23. 11. 19

10. 1 —

6. 23 —

The mean westerly declination for the year is $23°.\ 11'.\ 43''$.

The mean for each month is less than the mean for the same month in the preceding year, except in the month of September, whose mean is $2'.\ 20''$ greater than it was in 1842. The greatest difference between the mean westerly declination for the same month in the two years was in April, the difference being $6'.\ 12''$: for the amount of the decrease of the declination for the year see the remarks following Table XIII.

TABLE VII.—Diurnal 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, 1843.	January.	February.	March.	April.	May.	June.	July.	August.	Sep.	Oct.	Nov.	Dec.
	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″
1	*S*	4. 32	5. 14	11. 23	14. 22	16. 17	16. 23	11. 26	14. 52	*S*	7. 45	10. 45
2	17. 37	5. 19	7. 8	*S*	11. 10	16. 24	*S*	12. 34	12. 34	9. 21	7. 44	9. 0
3	13. 23	4. 58	7. 45	17. 58	8. 12	17. 56	16. 36	15. 3	*S*	11. 14	10. 7	*S*
4	4. 56	9. 36	10. 54	12. 56	11. 37	*S*	8. 56	17. 34	13. 35	10. 3	7. 45	6. 15
5	3. 56	*S*	*S*	27. 28	11. 34	13. 12	6. 20	8. 52	14. 37	14. 58	*S*	6. 23
6	5. 48	36. 56	18. 18	25. 1	48. 21	8. 32	10. 42	*S*	14. 32	11. 29	10. 57	9. 40
7	5. 0	8. 27	21. 27	6. 54	*S*	9. 43	11. 50	7. 19	11. 42	10. 54	6. 54	6. 9
8	*S*	12. 35	6. 49	11. 46	12. 58	9. 6	20. 31	12. 33	12. 34	*S*	9. 5	10. 55
9	15. 35	10. 30	5. 5	*S*	15. 28	9. 32	*S*	12. 15	13. 37	10. 32	9. 41	9. 25
10	13. 19	7. 44	6. 47	9. 40	14. 57	16. 41	15. 20	10. 19	*S*	13. 35	5. 8	*S*
11	8. 11	9. 52	11. 11	11. 42	9. 27	*S*	11. 11	15. 30	14. 27	10. 30	6. 59	15. 34
12	5. 54	*S*	*S*	9. 14	10. 23	8. 39	10. 26	14. 29	12. 55	8. 50	*S*	12. 52
13	5. 57	18. 12	9. 42	14. 49	11. 22	12. 49	14. 40	*S*	16. 1	10. 19	7. 57	9. 25
14	5. 41	11. 22	12. 42	Good Fri.	*S*	12. 57	10. 16	12. 19	11. 4	15. 8	7. 50	6. 47
15	*S*	8. 19	6. 57	12. 11	13. 32	11. 26	13. 9	12. 10	10. 15	*S*	7. 5	5. 9
16	12. 23	15. 10	9. 24	*S*	9. 15	11. 58	*S*	9. 35	9. 4	12. 56	9. 29	4. 48
17	5. 49	5. 51	13. 10	14. 3	8. 35	11. 36	12. 20	10. 45	*S*	13. 22	5. 31	*S*
18	12. 8	11. 6	19. 3	37. 30	12. 38	*S*	12. 28	8. 30	20. 5	10. 58	9. 20	5. 51
19	8. 24	*S*	*S*	38. 43	8. 8	9. 51	10. 18	13. 17	16. 29	11. 38	*S*	6. 8
20	6. 8	10. 19	12. 24	32. 3	11. 27	11. 48	12. 18	*S*	15. 29	7. 47	5. 51	4. 49
21	5. 48	10. 8	10. 20	39. 39	*S*	12. 55	10. 49	11. 42	21. 41	5. 40	7. 46	5. 16
22	*S*	6. 48	15. 13	9. 14	10. 36	10. 54	12. 3	15. 32	13. 12	*S*	4. 48	4. 1
23	18. 9	6. 10	16. 44	*S*	7. 3	9. 9	*S*	20. 40	11. 36	9. 18	7. 18	5. 23
24	8. 50	25. 29	9. 36	8. 45	13. 21	14. 38	32. 40	10. 8	*S*	12. 29	5. 35	*S*
25	11. 43	14. 36	7. 47	11. 38	14. 57	*S*	29. 8	12. 10	13. 49	6. 50	4. 51	Ch. Day
26	6. 57	*S*	*S*	10. 37	22. 45	16. 55	15. 50	16. 42	15. 59	19. 55	*S*	8. 14
27	6. 44	5. 17	9. 35	12. 32	19. 43	16. 16	16. 32	*S*	11. 59	10. 29	7. 24	10. 40
28	10. 38	6. 26	8. 7	12. 55	*S*	13. 45	12. 52	10. 25	12. 58	8. 13	6. 16	16. 8
29	*S*		18. 31	13. 10	14. 28	11. 10	16. 25	12. 22	12. 34	*S*	5. 54	7. 20
30	6. 17		14. 3	*S*	9. 56	16. 39	*S*	13. 24	9. 6	12. 45	7. 21	6. 7
31	5. 56		9. 3		9. 57		11. 13	11. 50		10. 49		*S*

The letter *S* denotes that the day was Sunday.

TABLE VIII.—Mean Daily Range of the Declination Magnet in each Month.

1843.	Mean of all the Daily Ranges in each Month.	1843.	Mean of all the Daily Ranges in each Month.
	′ ″		′ ″
January	8. 54	July	14. 17
February	10. 12	August	12. 34
March	11. 39	September	13. 43
April	15. 50	October	11. 9
May	12. 24	November	7. 24
June	12. 44	December	8. 7

The mean daily range of the magnet appears smallest in January, November, and December, and largest in April and July; the range in the latter month being nearly the double of that in the former. By taking the means of the above numbers in two groups, those between April and September for one, and those in the remaining months for the other, we find that

	′ ″
The daily range in Summer is	13. 35
The daily range in Winter is	9. 34
The mean daily range for the year is	11. 35

TABLE IX.—Greatest and Least Daily Range of the Declination Magnet in each Month.

1843, Month.	Daily Range of the Declination Magnet.		Day on which the Range of the Magnet was	
	Greatest.	Least.	Greatest.	Least.
	′ ″	′ ″	d	d
January	18. 9	3. 56	23	5
February	36. 56	4. 32	6	1
March	21. 27	5. 5	7	9
April	39. 39	6. 54	21	7
May	48. 21	7. 3	6	23
June	17. 56	8. 32	3	6
July	32. 40	6. 20	24	5
August	20. 40	7. 19	23	7
September	21. 41	9. 4	21	16
October	19. 55	5. 40	26	21
November	10. 57	4. 48	6	22
December	16. 8	4. 1	28	22

TABLE X.—Table shewing how often in each Month the Daily Range of the Declination Magnet has been included between consecutive Minutes or other limits.

The diurnal range was	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Whole Number of Cases in the Year.
	Number of Cases in												
Greater than 3′ and less than 4′	1												1
,, 4 ,, 5	1	2									2	3	8
,, 5 ,, 6	8	3	2							1	5	4	23
,, 6 ,, 7	4	3	3	1			1			1	3	6	22
,, 7 ,, 8		1	3		1			1		1	10	1	18
,, 8 ,, 9	3	2	1	1	3	2	1	2		2		1	18
,, 9 ,, 10		2	5	3	4	5		1	2	2	4	4	32
,, 10 ,, 11	1	3	2	1	2	1	5	4	1	8	2	3	33
,, 11 ,, 12	1	2	1	4	5	5	3	3	4	3			31
,, 12 ,, 13	2	1	2	4	2	3	5	7	5	3		1	35
,, 13 ,, 14	2		1	1	2	2	1	2	4	2			17
,, 14 ,, 15		1	1	2	4	1	1	1	4	1			16
,, 15 ,, 16	1	1	1		1		2	3	2	1		1	13
,, 16 ,, 17			1			6	4	1	2			1	15
,, 17 ,, 18	1			1		1		1					4
,, 18 ,, 19	1	1	2										4
,, 19 ,, 20			1		1					1			3
,, 20 ,, 21							1	1	1				3
,, 21 ,, 22			1						1				2
,, 22 ,, 23					1								1
,, 23 ,, 24													0
,, 24 ,, 25													0
,, 25 ,, 26		1		1									2
,, 26 ,, 27													0
,, 27 ,, 28				1									1
,, 28 ,, 29													0
,, 29 ,, 30							1						1
,, 30 ,, 35				1			1						2
,, 35 ,, 40		1		3									4
,, 40 ,, 50					1								1

From the last column of this table we collect the following particulars:—

That on 9 days out of 310 the daily arc described by the magnet was more than 3′ and less than 5′,
273 ,, ,, 5 ,, 17,
19 ,, ,, 17 ,, 26,
9 ,, ,, 26 ,, 50,

The arc most frequently described is between 9′ and 13′.

TABLE XI.—Mean Westerly Declination of the Magnet at every Even Hour of Göttingen Mean Time, deduced from all the Observations taken at that Hour in each Month.

1843, Hour, Göttingen Mean Time.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sep.	Oct.	Nov.	Dec.
h	23° ′ ″	23° ′ ″	23° ′ ″	23° ′ ″	23° ′ ″	23° ′ ″	23° ′ ″	23° ′ ″	23° ′ ″	23° ′ ″	23° ′ ″	23° ′ ″
14	10. 13	8. 34	4. 52	3. 6	3. 55	10. 23	8. 29	8. 58	14. 31	14. 23	14. 29	16. 32
16	11. 21	8. 33	5. 14	2. 0	3. 33	9. 48	8. 26	8. 43	14. 21	14. 52	14. 36	16. 25
18	11. 4	9. 2	5. 28	1. 47	3. 29	8. 48	7. 52	7. 54	13. 53	14. 32	14. 23	16. 33
20	11. 6	9. 15	5. 54	1. 45	2. 15	7. 38	7. 27	7. 48	14. 4	14. 29	14. 19	16. 19
22	11. 28	9. 45	5. 55	4. 19	4. 37	10. 26	10. 19	10. 49	16. 10	14. 59	15. 8	17. 25
0	13. 40	13. 8	10. 46	10. 29	10. 40	16. 25	15. 55	16. 39	22. 32	21. 0	19. 20	19. 45
2	15. 28	14. 21	13. 11	12. 58	12. 56	19. 36	18. 30	18. 44	23. 51	21. 52	19. 36	20. 28
4	13. 17	12. 38	11. 25	8. 39	10. 19	17. 28	16. 10	15. 30	21. 9	19. 6	18. 17	18. 56
6	11. 28	10. 45	8. 17	4. 52	7. 26	14. 6	13. 15	12. 13	17. 27	16. 31	16. 32	17. 6
8	10. 30	9. 4	6. 42	3. 46	6. 18	12. 53	11. 26	10. 10	14. 31	15. 25	14. 58	15. 5
10	10. 6	7. 3	5. 4	2. 14	4. 45	11. 44	8. 46	9. 15	12. 43	13. 35	14. 15	14. 52
12	8. 30	6. 59	5. 0	1. 39	3. 53	11. 1	9. 1	9. 23	13. 4	13. 45	14. 14	15. 9

The westerly declination is, without exception, greater at 2^h than at any other hour; the excess in the winter months over that at 0^h is small. A double maximum and minimum is generally shewn in each month. The next table is formed so as to exhibit the times, and the amount of the changes.

TABLE XII.—Hours of Göttingen Mean Solar Time (Astronomical Reckoning) at which the Greatest and Least Declinations occur in different Months, as inferred from the Monthly Means of the Two-hourly Observations, with the Values of the Declinations and the Amount of the Changes.

1843, Month.	Times at which the marked end of the Declination Magnet was in its First extreme Position.		Mean Westerly Declination when the Magnet was in its First extreme Position.		Interval of Time in which the Magnet is moving from its First extreme West Position to its First extreme East Position.	Difference between the First Extremes.	Times at which the marked end of the Declination Magnet was in its Second extreme Position.		Mean Westerly Declination when the Magnet was in its Second extreme Position.		Interval of Time between the First extreme East Position and the Second extreme West Position.	Difference between the First extreme East Position and the Second extreme West Position.
	West.	East.	West.	East.			West.	East.	West.	East.		
			23°	23°					23°	23°		
	h	h	′ ″	′ ″	h	′ ″	h	h	′ ″	′ ″	h	′ ″
January	2	12	15. 28	8. 30	10	6. 58	16	18	11. 21	11. 4	4	2. 51
February	2	12	14. 21	6. 59	10	7. 22	14	16	8. 34	8. 33	2	1. 35
March	2	14	13. 11	4. 52	12	8. 19						
April	2	12	12. 58	1. 39	10	11. 19	14	20	3. 6	1. 45	2	1. 27
May	2	12	12. 56	3. 53	10	9. 3	14	20	3. 55	2. 15	2	0. 2
June	2	20	19. 36	7. 38	18	11. 58						
July	2	10	18. 30	8. 46	8	9. 44	12	20	9. 1	7. 27	2	0. 15
August	2	10	18. 44	9. 15	8	9. 29	12	20	9. 23	7. 48	2	0. 8
Sep.	2	10	23. 51	12. 43	8	11. 8	14	18	14. 31	13. 53	4	1. 48
Oct.	2	10	21. 52	13. 35	8	8. 17	16	20	14. 52	14. 29	6	1. 17
Nov.	2	12	19. 36	14. 14	10	5. 22	16	20	14. 36	14. 19	4	0. 22
Dec.	2	10	20. 28	14. 52	8	5. 36	14	16	16. 32	16. 25	4	1. 40

TABLE XII.—*continued.*

1843, Month.	Interval of Time in which the Magnet is moving from its Second extreme West Position to its Second extreme East Position.	Difference between the Second Extremes.	Times at which the marked end of the Declination Magnet was in its Third extreme Position.		Mean Westerly Declination when the Magnet was in its Third extreme Position.		Interval of Time between the Second extreme East Position and the Third extreme West Position.	Difference between the Second extreme East Position and the Third extreme West Position.	Interval of Time in which the Magnet is moving from its Third extreme West Position to its Third extreme East Position.	Difference between the Third Extremes.	Interval of Time between the Lastextreme East Position and the First extreme West Position.	Difference between the Last extreme East Position and the First extreme West Position.	Sums of the Differences.	Difference between the Greatest and Least Position, or Mean Daily Range.
			West.	East.	West.	East.								
					23°	23°								
	h	′ ″	h	h	′ ″	′ ″	h	′ ″	h	′ ″	h	′ ″	′ ″	′ ″
Jan.	2	0. 17									8	4. 24	14. 30	6. 58
Feb.	2	0. 1									10	5. 48	14. 46	7. 22
March											12	8. 19	16. 38	8. 19
April	6	1. 21									6	11. 13	25. 20	11. 19
May	6	1. 40									6	10. 41	21. 26	10. 41
June											6	11. 58	23. 56	11. 58
July	8	1. 34									6	11. 3	22. 36	11. 3
Aug.	8	1. 35									6	10. 56	22. 8	10. 56
Sep.	4	0. 38									8	9. 58	23. 32	11. 8
Oct.	4	0. 23									6	7. 23	17. 20	8. 17
Nov.	4	0. 17									6	5. 17	11. 18	5. 22
Dec.	2	0. 7	18	20	16. 33	16. 19	2	0. 8	2	0. 14	6	4. 9	11. 54	5. 36

The following particulars may be collected from this table:—At 2^h, the marked end of the magnet has been, in every month, more westerly than at any other observation hour; from that time to 10^h or 12^h, it moved towards the east, or towards the astronomical meridian, describing an arc of 10′. 27″ in the months from April to September, and one of 6′. 59″ in the remaining months; attaining a position more easterly in the latter months at 10^h or 12^h than at any other observation hours; from 10^h or 12^h to 14^h or 16^h, the marked end of the magnet was moving from the astronomical meridian, the western declination at the latter times being greater than they were at the former times, in summer by only a few seconds, whilst in winter the increase was between 1′ and 2′; the arc described by the magnet between these times had a much more decided character in the winter than in the summer months. From 14^h or 16^h to 16^h, 18^h, or 20^h the marked end of the magnet again approached the astronomical meridian, and at the latter times the western declination was less than at the former times, in summer from 1′ to 2′, and in winter by only a few seconds; the arc, therefore, at this time of the day, had a decided character in summer, whilst that in winter was insignificant in amount: at 16^h, 18^h, and 20^h in summer the marked end of the magnet was more easterly than at any other observation-hours. At the last mentioned times, the motion of the magnet was changed, so that the marked end moved from the astronomical meridian, and this motion continued uninterruptedly till 2^h; the arc described in summer was 10′. 58″, and in winter it was 5′. 53″, the westerly declination at 2^h being, as before observed, greater than at any other observation-hour.

Therefore, the diurnal movement has consisted of a triple maximum and minimum in December, of a double maximum and minimum in nine of the remaining months, and of a single maximum and minimum in the months of March and June: during these latter months the magnet has apparently moved at once from one extreme position to the other. By examining Table XI., in June this appears to have been particularly the case; in March, however, the checked motion of the magnet is well marked about 20^h and 22^h, the mean declination at the latter time being only 1″ greater than that at the former time. By examining the motion of the magnet each day, we find that, during the whole month of March, there were 5 instances in which the declination at 10^h was greater than that at 8^h, viz., on the 13th, 15th, 23rd, 24th, and 30th days; and there were 17 instances in which the declination at 12^h was greater than that at 10^h, viz., on the 2nd, 3rd, 4th, 11th, 14th, 15th, 16th, 18th, 20th, 21st, 22nd, 23rd, 24th, 25th, 29th, 30th, and 31st; checked motion therefore occurred in all those days: again, during the month of March there were 13 cases of only one maximum and one minimum, viz., on the 1st, 2nd, 4th, 8th, 14th, 16th, 23rd, 24th, 27th, 28th, 29th, 30th, and 31st days; there were 10 cases of double maximum and double minimum, viz., on the 3rd, 4th, 10th, 14th, 15th, 17th, 20th, 21st, 22nd, and 25th days; and there were 5 cases of triple maximum and minimum, viz., on the 7th, 9th, 10th, 13th, and 17th days: the circumstance of a single maximum and minimum being shewn in the means of March must therefore be attributed to accident. Examining the motions of the magnet in June in the same way, there was only one instance in the month, of the declination at 10^h being greater than that at 8^h, viz., on the 7th day; and there were 11 cases in which the declination was greater at 12^h than at 10^h, viz., on the 1st, 5th, 8th, 9th, 10th, 12th, 13th, 17th, 20th, 21st, and 23rd days; and in the month there were 10 cases of single maximum and minimum, viz., 6th, 9th, 14th, 17th, 19th, 20th, 22nd, 23rd, 24th, and 26th days; there were 6 cases of double maximum and minimum, viz., on the 1st, 8th, 12th, 15th, 16th, and 27th days; there were 8 cases of triple maximum and minimum, viz., on the 3rd, 5th, 7th, 9th, 13th, 28th, 29th, and 30th days; so that a single maximum and minimum being shewn in the means is accidental in this month as well as in the other.

The last column but one represents the sums of all the backward and forward motions of the magnet, as found by adding, without regard to sign, all the differences between successive extremes; and it represents nearly the mean arc described by the magnet each day. The numbers in the last column shew the mean daily changes in the position of the magnet. The numbers contained in the two last columns in the summer months are about the double of those in the winter months; and their increase between March and April, and decrease from September to October, are remarkable.

The times at which the marked end of the magnet attained its first extreme easterly position, as compared with the times at which the same occurred in the previous years, are worthy of remark. In the year 1841, during the winter months, there were two instances of this position being attained at 6^h, and there were three of its being attained at 8^h; in 1842, there was no instance of the same position being reached at 6^h, and only one, in September, of its being reached at 8^h. In the above table there is no instance of the magnet being in this position before 10^h.

The next table is formed by taking the means of the numbers in Table XI., corresponding to the same hour for several months: January, February, March, October, November, and December are grouped together for winter, the remaining months from April to September for summer.

TABLE XIII.—Mean Westerly Declination at every Even Hour of Göttingen Mean Solar Time in the Summer, in the Winter, and for the Year.

Hour of Göttingen Time.	Mean Westerly Declination.			Hour of Göttingen Time.	Mean Westerly Declination.		
	Summer.	Winter.	Mean for the Year.		Summer.	Winter.	Mean for the Year.
h	° ′ ″	° ′ ″	° ′ ″	h	° ′ ″	° ′ ″	° ′ ″
14	23. 8. 13	23. 11. 31	23. 9. 52	2	23. 17. 46	23. 17. 29	23. 17. 38
16	7. 49	11. 50	9. 49	4	14. 53	15. 37	15. 15
18	7. 17	11. 50	9. 34	6	11. 33	13. 27	12. 30
20	6. 50	11. 54	9. 22	8	9. 51	11. 57	10. 54
22	9. 27	12. 27	10. 57	10	8. 15	10. 49	9. 32
0	15. 27	16. 17	15. 52	12	8. 0	10. 36	9. 18

The greatest westerly declination occurred both in the summer and in the winter at 2^h; the least occurred in the summer at 20^h in the winter at 12^h. In summer there were two maxima and two minima; in winter there was one maximum and one minimum. The times are :—

In Summer.	In Winter.
The maximum at 2^h	The maximum at 2^h
A minimum at 12	The minimum at 12
A maximum at 14	
The minimum at 20	

The last column shews the mean at each hour for the year, and it exhibits a double maximum and minimum, viz :—

The maximum at 2^h
The minimum at 12
A maximum at 14
A minimum at 20

The mean westerly declination for summer was 23°. 10′. 27″, and for winter it was 23°. 12′. 59″. In the year 1842, it was 23°. 13′. 53″ in summer, and in winter 23°. 15′. 7″; so that the western declination in the summer half year of 1843 was less by 3′. 26″, and in the winter half year it was less by 2′. 8″, than it was in the same periods of the preceding year. Comparing the results of 1842 with those of 1843, hour by hour, the greatest difference occurred in summer at 18^h, being 4′. 27″, and the least difference at 2^h, being 2′. 43″; in winter, the greatest difference was at 22^h, being 3′. 11″, and the least at 10^h, being 1′. 14″; and for the whole year, the greatest difference occurred at 22^h, being 3′. 40″, and the least difference at 12^h, being 2′. 22″, the results of 1843 being in all cases less than those of 1842. In 1843, the mean for the whole year was 23°. 11′. 43″; in 1842, it was 23°. 14′. 30″; and the decrease for the year was 2′. 47″.

Comparing the numbers of the last column with the westerly declination for the year, or 23°. 11′. 43″, the following results are obtained :—

				′ ″
The mean position at	14^h	is more easterly than	the mean position of the year by	1. 51
,,	16	,,	,,	1. 54
,,	18	,,	,,	2. 9
,,	20	,,	,,	2. 21
,,	22	,,	,,	0. 46
The mean position at	0	is more westerly than	the mean position of the year by	4. 9
,,	2	,,	,,	5. 55
,,	4	,,	,,	3. 32
,,	6	,,	,,	0. 47
The mean position at	8	is more easterly than	the mean position of the year by	0. 49
,,	10	,,	,,	2. 11
,,	12	,,	,,	2. 25

TABLE XIV.—Excess of the Westerly Declination in every Month, at each Even Hour of Göttingen Mean Solar Time (as deduced from the Monthly Means of the Observations at each Hour), above the Mean Westerly Declination for the Month (as found from the Mean of all the Two-hourly Observations for that Month).

Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″
14	−1. 18	−1. 22	−2. 27	−1. 42	−2. 15	−2. 8	−2. 49	−2. 23	−2. 0	−1. 49	−1. 21	−0. 31
16	−0. 10	−1. 23	−2. 5	−2. 48	−2. 37	−2. 43	−2. 52	−2. 38	−2. 10	−1. 20	−1. 14	−0. 38
18	−0. 27	−0. 54	−1. 51	−3. 1	−2. 41	−3. 43	−3. 26	−3. 27	−2. 38	−1. 40	−1. 27	−0. 30
20	−0. 25	−0. 41	−1. 25	−3. 3	−3. 55	−4. 53	−3. 51	−3. 33	−2. 27	−1. 43	−1. 31	−0. 44
22	−0. 3	−0. 11	−1. 24	−0. 29	−1. 33	−2. 5	−0. 59	−0. 32	−0. 21	−1. 13	−0. 42	+0. 22
0	+2. 9	+3. 12	+3. 27	+5. 41	+4. 30	+3. 54	+4. 37	+5. 18	+6. 1	+4. 48	+3. 30	+2. 42
2	+3. 57	+4. 25	+5. 52	+8. 10	+6. 46	+7. 5	+7. 12	+7. 23	+7. 20	+5. 40	+3. 46	+3. 25
4	+1. 46	+2. 42	+4. 6	+3. 51	+4. 9	+4. 57	+4. 52	+4. 9	+4. 38	+2. 54	+2. 27	+1. 53
6	−0. 3	+0. 49	+0. 58	+0. 4	+1. 16	+1. 35	+1. 57	+0. 52	+0. 56	+0. 19	+0. 42	+0. 3
8	−1. 1	−0. 52	−0. 37	−1. 2	+0. 8	+0. 22	+0. 8	−1. 11	−2. 0	−0. 47	−0. 52	−1. 58
10	−1. 25	−2. 53	−2. 15	−2. 34	−1. 25	−0. 47	−2. 32	−2. 6	−3. 48	−2. 37	−1. 35	−2. 11
12	−3. 1	−2. 57	−2. 19	−3. 9	−2. 17	−1. 30	−2. 17	−1. 58	−3. 27	−2. 27	−1. 36	−1. 54

TABLE XV.—Number of Hours for each Day of every Month, deduced from the Monthly Means, during which the Declination Magnet was on each side of the Mean Position for that Month.

Month.	The marked end of the Magnet was East of the Magnetic Meridian from	The marked end of the Magnet was West of the Magnetic Meridian from	The Length of Time the marked end of Magnet was East of the Meridian.	The Length of Time the marked end of Magnet was West of the Meridian.
January	Before 6^h to after 22^h	Before 0^h to after 4^h	16^h +	4^h +
February	Before 8 to after 22	Before 0 to after 6	14 +	6 +
March	Before 8 to after 22	Before 0 to after 6	14 +	6 +
April	Before 8 to after 22	Before 0 to after 6	14 +	6 +
May	Before 10 to after 22	Before 0 to after 8	12 +	8 +
June	Before 10 to after 22	Before 0 to after 8	12 +	8 +
July	Before 10 to after 22	Before 0 to after 8	12 +	8 +
August	Before 8 to after 22	Before 0 to after 6	14 +	6 +
September	Before 8 to after 22	Before 0 to after 6	14 +	6 +
October	Before 8 to after 22	Before 0 to after 6	14 +	6 +
November	Before 8 to after 22	Before 0 to after 6	14 +	6 +
December	Before 8 to after 20	Before 22 to after 6	12 +	8 +

This table shews that the magnet has been twice every day in its mean position for the month: in the months of May, June, and July, before 10^h, and in the other months before 8^h, and again in December before 22^h, and in the other months after 22^h. In the year 1841 there were only 4 instances of the magnet crossing the meridian after 22^h; in the year 1842 there were 7 instances; and in this year there are 11, the only exception being in December. 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.

TABLE XVI.—Table exhibiting the Differences in the Mean Positions of the Declination Magnet between every Pair of Consecutive Observation-hours in every Month, estimated positive when the Western Declination was greater at the latter Hour (obtained by taking the Differences between the consecutive Numbers in each Month, contained in Table XI. or XIV.).

Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h h	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″
Between 14 & 16	+1. 8	−0. 1	+0.22	−1. 6	−0.22	−0.35	−0. 3	−0.15	−0.10	+0.29	+0. 7	−0. 7
,, 16 & 18	−0.17	+0.29	+0.14	−0.13	−0. 4	−1. 0	−0.34	−0.49	−0.28	−0.20	−0.13	+0. 8
,, 18 & 20	+0. 2	+0.13	+0.26	−0. 2	−1.14	−1.10	−0.25	−0. 6	+0.11	−0. 3	−0. 4	−0.14
,, 20 & 22	+0.22	+0.30	+0. 1	+2.34	+2.22	+2.48	+2.52	+3. 1	+2. 6	+0.30	+0.49	+1. 6
,, 22 & 0	+2.12	+3.23	+4.51	+6.10	+6. 3	+5.59	+5.36	+5.50	+6.22	+6. 1	+4.12	+2.20
,, 0 & 2	+1.48	+1.13	+2.25	+2.29	+2.16	+3.11	+2.35	+2. 5	+1.19	+0.52	+0.16	+0.43
,, 2 & 4	−2.11	−1.43	−1.46	−4.19	−2.37	−2. 8	−2.20	−3.14	−2.42	−2.46	−1.19	−1.32
,, 4 & 6	−1.49	−1.53	−3. 8	−3.47	−2.53	−3.22	−2.55	−3.17	−3.42	−2.35	−1.45	−1.50
,, 6 & 8	−0.58	−1.41	−1.35	−1. 6	−1. 8	−1.13	−1.49	−2. 3	−2.56	−1. 6	−1.34	−2. 1
,, 8 & 10	−0.24	−2. 1	−1.38	−1.32	−1.33	−1. 9	−2.40	−0.55	−1.48	−1.50	−0.43	−0.13
,, 10 & 12	−1.36	−0. 4	−0. 4	−0.35	−0.52	−0.43	+0.15	+0. 8	+0.21	+0.10	−0. 1	+0.17
,, 12 & 14	+1.43	+1.35	−0. 8	+1.27	+0. 2	−0.38	−0.32	−0.25	+1.27	+0.38	+0.15	+1.23

The following table is formed by taking the means of the numbers contained in the preceding (without regard to their signs), which correspond to the same pair of hours. January, February, March, October, November, December, are grouped together for Winter; the remaining months, from April to September, are grouped together for Summer.

TABLE XVII.

Between what Hours.	Amount of Difference of Mean Position of the Declination Magnet during the Period of			CHARACTER OF THE CHANGES.		
	Summer.	Winter.	Year.	Summer Period.	Winter Period.	For the Year.
				The Western Declination was, at the latter Hour,		
h to h	′ ″	′ ″	′ ″			
14 to 16	0. 25	0. 26	0. 25½	Always smaller.	Larger, except in February and December.	Generally smaller.
16 to 18	0. 31	0. 17	0. 24	,,	Larger in February, March, and December; and smaller in January, Oct., and Nov.	,,
18 to 20	0. 31	0. 10	0. 21	Always smaller, except in September.	Larger in Jan., Feb., and March; smaller in October, November, and December: the differences at all times small.	,,
20 to 22	2. 37	0. 33	1. 35	Always larger.	Always larger.	Always larger.
22 to 0	6. 0	3. 50	4. 55	,,	,,	,,
0 to 2	2. 19	1. 13	1. 46	,,	,,	,,
2 to 4	2. 53	1. 53	2. 23	Always smaller.	Always smaller.	Always smaller.
4 to 6	3. 19	2. 10	2. 45	,,	,,	,,
6 to 8	1. 42	1. 29	1. 36	,,	,,	,,
8 to 10	1. 36	1. 8	1. 22	,,	,,	,,
10 to 12	0. 29	0. 22	0. 26	Smaller in April, May, and June; and larger in July, Aug. and Sep.	Smaller, except in October and November.	Sometimes smaller, and sometimes larger.
12 to 14	0. 45	0. 57	0. 51	Larger in April, May, and Sep.; and smaller in June, July, and August.	Larger, except in March.	Generally larger.

Comparing the quantities and the direction of the changes contained in this table with the similar results obtained in 1841 and 1842, we find that, in the summer period in 1841, the declination was generally larger at 16^h than at 14^h; in 1842 it was generally smaller, and in 1843 it was always smaller, and the amount of change in 1843 was much less than in either of the other years. In 1841 and in 1842, the declination was generally larger at 18^h than at 16^h; in 1843 it was always smaller, and the amount of the change in 1843 is much less than that in 1841 and in 1842. Between 18^h and 20^h, the only difference in 1843 from the results of the other years is in the amount of the change, it being smaller than in those years. Between 20^h and 10^h, the results from each of the three years are very similar, the principal difference being in the amount of the change between 22^h and 0^h, it being much larger in 1843 than in either 1841 or 1842. In 1841 and 1842, the declination at 12^h was generally smaller than it was at 10^h, and it was generally larger at 14^h than at 12^h: in 1843 there are as many instances in each case, of the declination being larger at the superior hour, as there are of its being smaller. With respect to the winter half-year, there is very little difference between the results of each year, the principal difference consisting in the much smaller amount of the changes in the night hours of 1843 than in those of 1841 or 1842.

TABLE XVIII.—Mean Westerly Declination of the Magnet at each Even Hour during the Month (obtained by taking the Mean of all the Declinations at the same Hour during each Month, Table XI.), diminished by the Mean Declination for the Month (Table VI.), and by the Mean Diurnal Change at each Hour (Table XIII. and following numbers).

Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″	′ ″
14	+0. 33	+0. 29	−0. 36	+0. 9	−0. 24	−0. 17	−0. 58	−0. 32	−0. 9	+0. 2	+0. 30	+1. 20
16	+1. 44	+0. 31	−0. 11	−0. 54	−0. 43	−0. 49	−0. 58	−0. 44	−0. 16	+0. 34	+0. 40	+1. 16
18	+1. 42	+1. 15	+0. 18	−0. 52	−0. 32	−1. 34	−1. 17	−1. 18	−0. 29	+0. 29	+0. 42	+1. 39
20	+1. 56	+1. 40	+0. 56	−0. 42	−1. 34	−2. 32	−1. 30	−1. 12	−0. 6	+0. 38	+0. 50	+1. 37
22	+0. 43	+0. 35	−0. 38	+0. 17	−0. 47	−1. 19	−0. 13	+0. 14	+0. 25	−0. 27	+0. 4	+1. 8
0	−2. 0	−0. 57	−0. 42	+1. 32	+0. 21	−0. 15	+0. 28	+1. 9	+1. 52	+0. 39	−0. 39	−1. 27
2	−1. 58	−1. 30	−0. 3	+2. 15	+0. 51	+1. 10	+1. 17	+1. 28	+1. 25	−0. 15	−2. 9	−2. 30
4	−1. 46	−0. 50	+0. 34	+0. 19	+0. 37	+1. 25	+1. 20	+0. 37	+1. 6	−0. 38	−1. 5	−1. 39
6	−0. 50	+0. 2	+0. 11	−0. 43	+0. 29	+0. 48	+1. 10	+0. 5	+0. 9	−0. 28	−0. 5	−0. 44
8	−0. 12	−0. 3	+0. 12	−0. 13	+0. 57	+1. 11	+0. 57	−0. 22	−1. 11	+0. 2	−0. 3	+1. 9
10	+0. 46	−0. 42	−0. 4	−0. 23	+0. 46	+1. 24	−0. 21	+0. 5	−1. 37	−0. 26	+0. 36	0. 0
12	−0. 36	−0. 32	+0. 6	−0. 44	+0. 8	+0. 55	+0. 8	+0. 27	−1. 2	−0. 2	+0. 49	+0. 31

TABLE XIX.—Monthly Sums of the Changes of Diurnal Inequality for Different Hours.

Month.	Sums of the Differences.	Month.	Sums of the Differences.
	′ ″		′ ″
January	14. 46	July	10. 37
February	9. 6	August	8. 13
March	4. 31	September	9. 47
April	9. 3	October	4. 40
May	8. 9	November	8. 12
June	13. 39	December	15. 0

From this it appears that the diurnal motion of the declination magnet agrees most nearly with its mean diurnal motion, as found from the mean of the determinations throughout the year, in March and October; and departs the most from the mean in the months of January, June, and December.

TABLE XX.—Hourly Sums of the Changes of the Diurnal Inequality for different Months.

Hour.	Sums of the Differences.	Hour.	Sums of the Differences.
h	′ ″	h	′ ″
14	5. 59	2	16. 51
16	9. 20	4	11. 56
18	12. 7	6	5. 44
20	15. 13	8	6. 32
22	6. 50	10	7. 10
0	12. 1	12	6. 0

From this, 14^h, 22^h, 6^h, 8^h, and 12^h, appear the most uniform, and 20^h, and 2^h, the hours subject to the greatest irregularity.

TABLE XXI.—The Mean Westerly Declination, deduced from all the Observations taken at $1^h.\,50^m$, $2^h.\,0^m$, and $2^h.\,10^m$, in each Month.

Month.	$1^h.\,50^m$.	$2^h.\,0^m$.	$2^h.\,10^m$.	Month.	$1^h.\,50^m$.	$2^h.\,0^m$.	$2^h.\,10^m$.
	° ′ ″	° ′ ″	° ′ ″		° ′ ″	° ′ ″	° ′ ″
January	23. 15. 28	23. 15. 28	23. 15. 21	July	23. 18. 27	23. 18. 30	23. 18. 23
February	23. 14. 28	23. 14. 21	23. 14. 32	August	23. 18. 50	23. 18. 44	23. 18. 30
March	23. 13. 8	23. 13. 11	23. 13. 9	September	23. 24. 2	23. 23. 51	23. 23. 18
April	23. 12. 48	23. 12. 58	23. 12. 55	October	23. 21. 46	23. 21. 51	23. 21. 37
May	23. 12. 59	23. 12. 56	23. 12. 51	November	23. 19. 45	23. 19. 36	23. 19. 26
June	23. 19. 32	23. 19. 36	23. 19. 32	December	23. 20. 37	23. 20. 27	23. 20. 22

	h m	° ′ ″
The mean of all for the year 1843, at	1. 50	is 23. 17. 39
,, ,,	2. 0	is 23. 17. 37
,, ,,	2. 10	is 23. 17. 30

TABLE XXII.—The Mean Reading of the Horizontal Force Magnet, corrected for Temperature, expressed in parts of the whole Horizontal Force, as deduced from the 12 Observations taken on every Civil Day (except Sundays, Good Friday, and Christmas Day), at the even Hours of Göttingen Mean Solar Time.

Days of the Month, 1843.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	*S*	0·016191	0·001878	0·003517	....	0·035114	0·032910	0·034300	0·036884	*S*	0·038916	0·039480
2	0·012000	0·016200	0·001988	*S*	....	0·035282	*S*	0·033663	0·036208	0·036073	0·039112	0·038838
3	0·013695	0·016257	0·001893	0·003650	....	0·035080	0·033540	0·034963	*S*	0·036301	0·038406	*S*
4	0·015102	0·017197	0·001795	0·003499	....	*S*	0·033521	0·034472	0·037020	0·036793	0·039732	0·038712
5	0·015775	*S*	*S*	0·002270	....	0·034271	0·034010	0·035519	0·035490	0·036401	*S*	0·039336
6	0·015931	0·016120	0·001567	0·001561	0·036739	0·033341	0·032986	*S*	0·035640	0·035994	0·038558	0·039876
7	0·016501	0·015950	0·000302	0·002155	*S*	0·033953	0·033326	0·034782	0·035450	0·036248	0·038870	0·038188
8	*S*	0·016189	0·001013	0·002881	0·034776	0·034487	0·032783	0·034565	0·035600	*S*	0·038392	0·037766
9	0·016479	0·016336	0·001578	*S*	0·037013	0·035175	*S*	0·034390	0·036173	0·036823	0·038592	0·038117
10	0·016514	0·016339	0·001681	0·002483	0·036323	0·036077	0·033419	0·035416	*S*	0·038161	0·038490	*S*
11	0·016216	0·016405	0·001419	0·002220	0·035732	*S*	0·033633	0·034764	0·035886	0·038524	0·037983	0·038557
12	0·016128	*S*	*S*	0·002632	0·034228	0·035142	0·033958	0·033585	0·036274	0·038524	*S*	0·037816
13	0·016431	0·016579	0·000714	0·002160	0·033462	0·034545	0·033949	*S*	0·036952	0·039131	0·037656	0·037812
14	0·015999	0·015836	0·001225	Good Fri.	*S*	0·034953	0·034355	0·033510	0·037149	0·037814	0·038139	0·039386
15	*S*	0·015844	0·001543	0·002463	0·034863	0·034753	0·034476	0·033723	0·036890	*S*	0·037994	0·039188
16	0·016993	0·015856	0·001832	*S*	0·034514	0·034974	*S*	0·034201	0·037478	0·035862	0·039048	0·038537
17	0·016822	0·016171	0·001733	0·003208	0·034302	0·034490	0·034505	0·036394	*S*	0·037276	0·037932	*S*
18	0·016575	0·016078	0·001693	0·002559	0·034053	*S*	0·034304	0·038180	0·037858	0·037624	0·038170	0·038924
19	0·015924	*S*	*S*	0·002538	0·034333	0·034340	0·033955	0·037784	0·036563	0·037093	*S*	0·037291
20	0·015910	0·016306	0·002496	0·002800	0·033540	0·034347	0·033866	*S*	0·037396	0·036693	0·038056	0·037019
21	0·016560	0·016392	0·002359	....	*S*	0·034520	0·034577	0·035137	0·037201	0·036522	0·038561	0·037446
22	*S*	0·016405	0·002924	....	0·034316	0·035426	0·034639	0·034935	0·037407	*S*	0·039731	0·037259
23	0·016314	0·016576	0·002731	*S*	0·034373	0·034232	*S*	0·034815	0·036815	0·037467	0·038664	0·037534
24	0·016082	0·015521	0·002460	....	0·034135	0·033785	0·034964	0·034948	*S*	0·036834	0·038981	*S*
25	0·015938	0·015926	0·002668	....	0·035205	*S*	0·032881	0·035118	0·036856	0·037557	0·039226	Ch. Day
26	0·016182	*S*	*S*	....	0·035502	0·033505	0·033272	0·034833	0·036533	0·036964	*S*	0·038324
27	0·016573	0·018161	0·002835	....	0·034863	0·033043	0·034537	*S*	0·036330	0·036542	0·039464	0·038078
28	0·015831	0·018444	0·002976	....	*S*	0·033415	0·035103	0·035626	0·036619	0·037731	0·039658	0·037251
29	*S*	....	0·002364	....	0·034720	0·034107	0·034531	0·036808	0·035887	*S*	0·038487	0·036502
30	0·016512	....	0·002048	*S*	0·034968	0·033835	*S*	0·036917	0·035071	0·036832	0·038524	0·035999
31	0·015925	....	0·002857	....	0·035650	....	0·034344	0·037072	....	0·038322	....	*S*

The letter *S* denotes that the day was Sunday.

On February 23^d, after 22^h, the adjustments were altered, and in consequence, it was found necessary to increase the numbers after this time by 0·017021, to make them comparable with the preceding, and the result of every observation was corrected by this amount till the end of February, but not after that time; therefore, beginning with March, the numbers are of a new series, as explained in the Introduction. To reduce the second to the preceding series it is necessary to increase the numbers by 0·017021. Beginning with May, the numbers are still of another series, and to reduce them to the first series it is necessary to decrease them by 0·022831 (see the Introduction). By applying these corrections the next table is formed, and the numbers in it are immediately comparable with those of the two preceding years.

TABLE XXIII.—The Mean Reading of the Horizontal Force Magnet, corrected for Temperature, expressed in parts of the whole Horizontal Force, and reduced to the same zero as the first Series in Table XXII., by applying the constant numbers mentioned at its foot to the numbers in Table XXII. for the days following February 23.

Days of the Month, 1843.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	*S*	0·016191	0·018899	0·020538	....	0·012283	0·010079	0·011469	0·014053	*S*	0·016085	0·016649
2	0·012000	0·016200	0·019009	*S*	....	0·012451	*S*	0·010832	0·013377	0·013242	0·016281	0·016007
3	0·013695	0·016257	0·018914	0·020671	....	0·012249	0·010709	0·012132	*S*	0·013470	0·015575	*S*
4	0·015102	0·017197	0·018816	0·020520	....	*S*	0·010690	0·011641	0·014189	0·013962	0·016901	0·015881
5	0·015775	*S*	*S*	0·019291	....	0·011440	0·011179	0·012688	0·012659	0·013570	*S*	0·016505
6	0·015931	0·016120	0·018588	0·018582	0·013908	0·010510	0·010155	*S*	0·012809	0·013163	0·015727	0·017045
7	0·016501	0·015950	0·017323	0·019176	*S*	0·011122	0·010495	0·011951	0·012619	0·013417	0·016039	0·015357
8	*S*	0·016189	0·018034	0·019902	0·011945	0·011656	0·009952	0·011734	0·012769	*S*	0·015561	0·014935

The letter *S* denotes that the day was Sunday.

TABLE XXIII.—*continued.*

Days of the Month, 1843.	January.	February.	March.	April.	May.	June.	July.	August.	Sep.	Oct.	Nov.	Dec.
9	0·016479	0·016336	0·018599	*S*	0·014182	0·012344	*S*	0·011559	0·013342	0·013992	0·015761	0·015286
10	0·016514	0·016339	0·018702	0·019504	0·013492	0·013246	0·010588	0·012585	*S*	0·015330	0·015659	*S*
11	0·016216	0·016405	0·018440	0·019241	0·012901	*S*	0·010802	0·011933	0·013055	0·015693	0·015152	0·015726
12	0·016128	*S*	*S*	0·019653	0·011397	0·012311	0·011127	0·010754	0·013443	0·015693	*S*	0·014985
13	0·016431	0·016579	0·017735	0·019181	0·010631	0·011714	0·011118	*S*	0·014121	0·016300	0·014825	0·014981
14	0·015999	0·015836	0·018246	Good Fri.	*S*	0·012122	0·011524	0·010679	0·014318	0·014983	0·015308	0·016555
15	*S*	0·015844	0·018564	0·019484	0·012032	0·011922	0·011645	0·010892	0·014059	*S*	0·015163	0·016357
16	0·016993	0·015856	0·018853	*S*	0·011683	0·012143	*S*	0·011370	0·014647	0·013031	0·016217	5·015706
17	0·016822	0·016171	0·018754	0·020229	0·011471	0·011659	0·011674	0·013563	*S*	0·014445	0·015101	*S*
18	0·016575	0·016078	0·018714	0·019580	0·011222	*S*	0·011473	0·015349	0·015027	0·014793	0·015339	0·016093
19	0·015924	*S*	*S*	0·019559	0·011502	0·011509	0·011124	0·014953	0·013732	0·014262	*S*	0·014460
20	0·015910	0·016306	0·019517	0·019821	0·010709	0·011516	0. 011035	*S*	0·014565	0·013862	0·015225	0·014188
21	0·016560	0·016392	0·019380	....	*S*	0·011689	0·011746	0·012306	0·014370	0·013691	0·015730	0·014615
22	*S*	0·016405	0·019945	....	0·011485	0·012595	0·011808	0·012104	0·014576	*S*	0·016900	0·014428
23	0·016314	0·016576	0·019752	*S*	0·011542	0·011401	*S*	0·011984	0·013984	0·014636	0·015833	0·014703
24	0·016082	0·015521	0·019481	....	0·011304	0·010954	0·012133	0·012117	*S*	0·014003	0·016150	*S*
25	0·015938	0·015926	0·019689	....	0·012374	*S*	0·010050	0·012287	0·014025	0·014726	0·016395	Ch. Day
26	0·016182	*S*	*S*	....	0·012671	0·010674	0·010441	0·012002	0·013702	0·014133	*S*	0·015493
27	0·016573	0·018161	0·019856	....	0·012032	0·010212	0·011706	*S*	0·013499	0·013711	0·016633	0·015247
28	0·015831	0·018444	0·019997	....	*S*	0·010584	0·012272	0·012795	0·013788	0·014900	0·016827	0·014420
29	*S*	....	0·019385	....	0·011889	0·011276	0·011700	0·013977	0·013056	*S*	0·015656	0·013671
30	0·016512	....	0·019069	*S*	0·012137	0·011004	*S*	0·014086	0·012240	0·014001	0·015693	0·013168
31	0·015925	....	0·019878	....	0·012819	....	0·011513	0·014241	....	0·015491	....	*S*

The letter *S* denotes that the day was Sunday.

TABLE XXIV.—Table exhibiting the Times at which Differences greater than 0·000600 parts of the whole Horizontal Force took place between the Mean Daily Values of the Horizontal Force, on two consecutive Days, estimated positive when the Force is greater on the Second Day.

January.		February.		March.		April.		May.		June.	
Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.
2 & 3	+0·001695	3 & 4	+0·000940	6 & 7	−0·001265	4 & 5	−0·001229	8 & 9	+0·002237	5 & 6	−0·000930
3 & 4	+0·001407	13 & 14	−0·000743	7 & 8	+0·000711	5 & 6	−0·000709	9 & 10	−0·000690	6 & 7	+0·000612
4 & 5	+0·000673	23 & 24	−0·001055	28 & 29	−0·000612	7 & 8	+0·000726	11 & 12	−0·001504	8 & 9	+0·000688
18 & 19	−0·000651			30 & 31	+0·000809	17 & 18	−0·000649	12 & 13	−0·000766	9 & 10	+0·000902
20 & 21	+0·000650			31 & 32	+0·000660			19 & 20	−0·000793	21 & 22	+0·000906
27 & 28	−0·000742							24 & 25	+0·001070	22 & 23	−0·001194
								26 & 27	−0·000639	30 & 31	−0·000925
								30 & 31	+0·000682		

July.		August.		September.		October.		November.		December.	
5 & 6	−0·001024	1 & 2	−0·000637	1 & 2	−0·000676	9 & 10	+0·001338	2 & 3	−0·000706	1 & 2	−0·000642
20 & 21	+0·000711	2 & 3	+0·001300	4 & 5	−0·001530	12 & 13	+0·000607	3 & 4	+0·001326	4 & 5	+0·000624
24 & 25	−0·002083	4 & 5	+0·001047	12 & 13	+0·000678	13 & 14	−0·001312	15 & 16	+0·001054	6 & 7	−0·001688
26 & 27	+0·001265	9 & 10	+0·001026	18 & 19	−0·001295	16 & 17	−0·001416	16 & 17	−0·001116	11 & 12	−0·000741
		10 & 11	−0·000652	19 & 20	−0·000833	23 & 24	−0·000633	21 & 22	−0·001170	13 & 14	+0·001574
		11 & 12	−0·001179	28 & 29	−0·000732	24 & 25	+0·000723	22 & 23	−0·001067	15 & 16	−0·000651
		16 & 17	+0·002193	29 & 30	−0·000816	27 & 28	+0·001189	28 & 29	−0·001171	18 & 19	−0·001633
		17 & 18	+0·001786			30 & 31	+0·001490	30 & 31	+0·000956	27 & 28	−0·000827
		28 & 29	+0·001182							29 & 30	−0·000749

From this table it would appear that every part of the year appears liable to great changes in the force. In the above tables there are

20 instances in which the force has changed more than 0·0006 parts of the whole horizontal force, and less than 0·0007

13 ,, ,, 0·0007 ,, ,, 0·0008

4 ,, ,, 0·0008 ,, ,, 0·0009

6 ,, ,, 0·0009 ,, ,, 0·0010

14 ,, ,, 0·0010 ,, ,, 0·0012

11 ,, ,, 0·0012 ,, ,, 0·0015

7 ,, ,, 0·0015 ,, ,, 0·0020

3 ,, ,, 0·0020 ,, ,, 0·0025

TABLE XXV.—Table exhibiting the Greatest and the Least Differences in the Mean Daily Values of the Horizontal Force, between any two consecutive Civil Days during each Month, estimated Positive when the Horizontal Force was greater on the Second Day.

1843, Month.	Differences in the Mean Daily Values of the Horizontal Force from one Day to the next.		Days between which the Greatest Difference took place.	Days between which the Least Difference took place.
	Greatest.	Least.		
January	+ 0·001695	− 0·000014	2d & 3d	19d & 20d
February	− 0·001055	+ 0·000003	23 & 24	9 & 10
March	− 0·001265	− 0·000026	6 & 7	27 & 28
April	− 0·001229	− 0·000021	4 & 5	18 & 19
May	+ 0·002237	+ 0·000057	8 & 9	22 & 23
June	− 0·001194	+ 0·000168	22 & 23	1 & 2
July	+ 0·001265	− 0·000019	26 & 27	3 & 4
August	+ 0·002193	+ 0·000109	16 & 17	29 & 30
September	− 0·001530	+ 0·000150 + 0·000150	4 & 5	5 & 6 7 & 8
October	+ 0·001490	0·000000	30 & 31	11 & 12
November	+ 0·001326	+ 0·000037	3 & 4	29 & 30
December	− 0·001688	− 0·000004	6 & 7	12 & 13

TABLE XXVI.—Mean of all the Two-hourly Readings of the Horizontal Force Magnet, corrected for Temperature, expressed in parts of the whole Horizontal Force, for those Days of each Month, on which (as shewn by the Mean of the Two-hourly Readings) the marked end was most drawn towards the North, or was most drawn towards the South.

1843, Month.	Mean Daily Reading of the Horizontal Force Magnet in each Month, when the marked end of the Magnet was most drawn towards the		Greatest Difference in the Mean Position of the Magnet, between Two Days in the Month.	Day of the Month when the marked end of the Magnet was most drawn to the	
	North.	South.		North.	South.
January	0·016993	0·012000	0·004993	16d	2d
February	0·018444	0·015521	0·002923	28	24
March	0·019997	0·017323	0·002674	28	7
April	0·020671	0·018582	0·002089	3	6
May	0·014182	0·010631	0·003551	9	13
June	0·013246	0·010212	0·003034	10	27
July	0·012272	0·009952	0·002320	28	8
August	0·015349	0·010832	0·004517	18	2
September	0·015027	0·012240	0·002787	18	30
October	0·016300	0·013031	0·003269	13	16
November	0·016901	0·014825	0·002076	4	13
December	0·017045	0·013168	0·003877	6	30

This table shews that the mean position of the magnet was subject to less variation in the month of November than in any other month, the variation in ~~March~~ April, however, being nearly as small. In January the mean daily position of the magnet was subject to the greatest change. The mean monthly range (estimated from the mean of all the observations on each day) was 0·003176. The yearly range (similarly estimated) was 0·010719, being the difference between the mean daily horizontal force on April 3, when the marked end of the magnet was most drawn towards the N., and the mean daily horizontal force on July 8, when the marked end was most drawn towards the S.

TABLE XXVII.—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.

Means repeating days of great disturbance

0·016117
0·016466
0·011698
0·011106

1843, Month.	Mean for each Month, corrected.	1843, Month.	Mean for each Month, corrected.
January	0·015958	July	0·011105
February	0·016387	August	0·012399
March	0·018968	September	0·013693
April	0·019683	October	0·014326
May	0·012044	November	0·015836
June	0·011638	December	0·015298

The mean of the monthly results is 0·014778; the mean for 1842 was 0·015535; the mean for 1841 was 0·032932; so that, between 1841 and 1842, the force decreased by 0·017397, and, between 1842 and 1843, by 0·000757 parts of the whole horizontal force. The mean for each month in 1842 was less than the mean for the same month in 1841; in 1843, the means for January, February, March, May, June, and July, are less than the means for the corresponding months of 1842; and the means for April, August, September, October, November, and December, are larger than those for 1842. The mean for each month of 1843 was less than the mean for the corresponding month in 1841.

TABLE XXVIII.—Readings of the Horizontal Force Magnet, corrected for Temperature, expressed in parts of the whole Horizontal Force, in Single Observations, when the marked end of the Magnet was most drawn towards the North, and when it was most drawn towards the South, for Daily, Term-Day, and Extraordinary Observations in each Month.

1843, Month.	Readings of the Horizontal Force Magnet when the marked end of the Magnet was most drawn towards the						Day and Hour when the marked end of the Magnet was most drawn towards the					
	North.	South.	North.	South.	North.	South.	North.	South.	North.	South.	North.	South.
	Daily Observations.		Term-Day Observations.		Extraordinary Observations.		Daily Observations.		Term-Day Observations.		Extraordinary Observations.	
January	0·018419	0·007720	0·017398	0·014500	0·016595	0·010653	d h m 16. 18. 0	d h m 2. 0. 0	d h m 18. 11. 40	d h m 18. 22. 25	d h m s 23. 12. 2. 30	d h m s 2. 4. 2. 30
February	0·019330	0·013207	0·017755	0·013623	0·019080	0·013207	27. 16. 0	24. 8. 0	24. 11. 25	24. 12. 20	24. 11. 41. 0	24. 8. 2. 30
March	0·004698	9·998538	0·005761	0·001230	0·000353	9·999003	22. 14. 0	7. 8. 0	22. 13. 35	23. 6. 25	7. 8. 51. 0	7. 8. 18. 5
April	0·005086	9·996519	0·003741	0·001241	0·003468	9·998894	2. 14. 0	5. 10. 0	20. 6. 45	19. 23. 35	19. 7. 30. 0	5. 12. 39. 30
May	0·038471	0·029443	0·036883	0·031842	0·035275	0·023879	8. 8. 0	6. 12. 0	26. 10. 30	26. 22. 30	6. 12. 40. 0	6. 11. 40. 0
June	0·037558	0·031195	0·036538	0·034600	....	....	10. 10. 0	26. 0. 0	22. 5. 25	21. 21. 55	.....	.....
July	0·039614	0·028170	0·035231	0·031927	0·038010	0·027193	24. 6. 0	24. 22. 0	20. 6. 35	19. 23. 55	25. 4. 54. 0	24. 22. 46. 0
August	0·039621	0·031407	0·036611	0·032360	....	....	19. 1. 50	11. 22. 0	26. 9. 15	25. 22. 15	.....	.....
September	0·039168	0·033145	0·039664	0·034260	0·038457	0·036405	13. 4. 0	4. 22. 0	20. 14. 25	20. 22. 45	23. 6. 2. 30	23. 6. 44. 0
October	0·040062	0·034243	0·039795	0·035297	0·038173	0·037129	13. 8. 0	15. 14. 0	18. 16. 25 18. 16. 30 18. 16. 35	18. 23. 45	26. 10. 2. 30	25. 12. 2. 30
November	0·040769	0·035587	0·040053	0·038247	....	....	10. 8. 0	19. 14. 0	24. 19. 55	25. 0. 15	.....	.....
December	0·040449	0·034578	0·038143	0·036808	0·041110	0·038399	1. 12. 0	27. 6. 0	20. 18. 25	21. 0. 55	11. 11. 19. 0	11. 9. 4. 0

The numbers in March and in April require to be increased by 0·017021, and those beginning with May require to be diminished by 0·022831. The next table is formed from the above by the application of these numbers.

TABLE XXIX.—Readings of the Horizontal Force Magnet, corrected for Temperature, expressed in parts of the whole Horizontal Force, in Single Observations, when the marked end of the Magnet was most drawn towards the North, and when it was most drawn towards the South, for Daily, Term-Day, and Extraordinary Observations in each Month, reduced to the first Series in Table XXVIII., by applying the constant numbers mentioned at its foot, for the days following February 28.

1843, Month.	Readings of the Horizontal Force Magnet when the marked end of the Magnet was most drawn towards the						Range of the Magnet in the Month.	Day and Hour when the marked end of the Magnet was most drawn towards the					
	North.	South.	North.	South.	North.	South.		North.	South.	North.	South.	North.	South.
	Daily Observations.		Term-Day Observations.		Extraordinary Observations			Daily Observations.		Term-Day Observations.		Extraordinary Observations.	
								d h m	d h m	d h m	d h m	d h m s	d h m s
January	0·018419	0·007720	0·017398	0·014500	0·016595	0·010653	0·010699	16. 18. 0	2. 0. 0	18. 11. 40	18. 22. 25	23. 12. 2. 30	2. 4. 2. 30
February	0·019330	0·013207	0·017755	0·013623	0·019080	0·013207	0·006123	27. 16. 0	24. 8. 0	24. 11. 25	24. 12. 20	24. 11. 41. 0	24. 8. 2. 30
March	0·021719	0·015559	0·022782	0·018251	0·017374	0·016024	0·007223	22. 14. 0	7. 8. 0	22. 13. 35	23. 6. 25	7. 8. 51. 0	7. 8. 18. 5
April	0·022107	0·013540	0·020762	0·018262	0·020489	0·015915	0·008567	2. 14. 0	5. 10. 0	20. 6. 45	19. 23. 35	19. 7. 30. 0	5. 12. 39. 30
May	0·015640	0·006612	0·014052	0·009011	0·012444	0·001048	0·014592	8. 8. 0	6. 12. 0	26. 10. 30	26. 22. 30	6. 12. 40. 0	6. 11. 40. 0
June	0·014727	0·008364	0·013707	0·011769	....	....	0·006363	10. 10. 0	26. 0. 0	22. 5. 25	21. 21. 55	.....	.....
July	0·016783	0·005339	0·012400	0·009096	0·015179	0·004362	0·012421	24. 6. 0	24. 22. 0	20. 6. 35	19. 23. 55	25. 4. 54. 0	24. 22. 46. 0
August	0·016790	0·008576	0·013780	0·009529	....	....	0·008214	19. 1. 50	11. 22. 0	26. 9. 15	25. 22. 15	.....	.....
Sep.	0·016337	0·010314	0·016833	0·011429	0·015626	0·013574	0·006519	13. 4. 0	4. 22. 0	20. 14. 25	20. 22. 45	23. 6. 2. 30	23. 6. 44. 0
Oct.	0·017231	0·011412	0·016964	0·012466	0·015342	0·014298	0·005740	13. 8. 0	15. 14. 0	18. 16. 25 18. 16. 30 18. 16. 35	18. 23. 45	26. 10. 2. 30	25. 12. 2. 30
Nov.	0·017938	0·012756	0·017222	0·015416	....	....	0·005182	10. 8. 0	19. 14. 0	24. 19. 55	25. 0. 15	.....	.....
Dec.	0·017618	0·011747	0·015312	0·013977	0·018279	0·015568	0·006532	1. 12. 0	27. 6. 0	20. 18. 25	21. 0. 55	11. 11. 19. 0	11. 9. 4. 0

The marked end of the magnet was most drawn towards the North in March, at $23^{d}.13^{h}.35^{m}$, during Term-Day Observations, than at any other time during the year, its reading being 0·022782; no reading so large had occurred since April 1842: it was most drawn towards the south in July at $24^{d}.22^{h}.46^{m}$, during Extraordinary Observations, and its reading was 0·004362; and this was the smallest reading since the preceding July: the difference between these numbers is 0·018420, and it represents the extreme yearly range of the Horizontal Force Magnet from the observations. The monthly range of the magnet in November was the smallest in the year, and it was also smaller than any in the year 1842; the range of the magnet in December 1842 was the smallest in that year; in the year 1843, the range in the months of February, June, September, October, November, and December, were all smaller than in that month; the largest range in 1843 was in May; the mean of the extreme ranges in each month thus estimated was 0·011557 in 1842, and it was 0·008188 in 1843.

TABLE XXX.—Diurnal Range of the ~~Declination~~ 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, 1843.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	*S*	0·000943	0·001550	0·002247	.....	0·003909	0·004297	0·002665	0·003043	*S*	0·002339	0·003137
2	0·008625	0·000842	0·001466	*S*	.....	0·004023	*S*	0·002978	0·004071	0·002784	0·002761	0·003875
3	0·004425	0·001450	0·001435	0·002449	.....	0·002921	0·004108	0·004462	*S*	0·003042	0·002022	*S*
4	0·002747	0·001389	0·001930	0·001632	.....	*S*	0·004691	0·005161	0·003171	0·001500	0·001898	0·002322
5	0·000984	*S*	*S*	0·008103	.....	0·002872	0·003465	0·003536	0·003618	0·002005	*S*	0·001410
6	0·001395	0·002048	0·004044	0·004200	0·014271	0·003007	0·003026	*S*	0·002797	0·002658	0·002557	0·002307

The letter *S* denotes that the day was Sunday.

TABLE XXX.—*continued.*

Days of the Month, 1843.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
7	0·001178	0·001565	0·002708	0·004119	*S*	0·003768	0·002451	0·002801	0·002731	0·002293	0·002873	0·002142
8	*S*	0·001314	0·001709	0·003099	0·006700	0·004643	0·003787	0·002672	0·002413	*S*	0·002225	0·002746
9	0·001612	0·001169	0·002075	*S*	0·002552	0·002347	*S*	0·003344	0·004779	0·003249	0·003396	0·002632
10	0·001911	0·001537	0·001415	0·001341	0·001951	0·002864	0·003709	0·003952	*S*	0·003168	0·003828	*S*
11	0·002398	0·001191	0·002445	0·001963	0·004795	*S*	0·003311	0·004128	0·001945	0·003377	0·001802	0·004534
12	0·001086	*S*	*S*	0·004079	0·003002	0·002621	0·003877	0·003566	0·002489	0·002568	*S*	0·002128
13	0·001212	0·002612	0·002453	0·004050	0·003096	0·004301	0·003812	*S*	0·003942	0·002404	0·002311	0·001421
14	0·001444	0·001737	0·001344	Good Fri.	*S*	0·002946	0·002825	0·003161	0·002173	0·004297	0·003122	0·002131
15	*S*	0·001139	0·001169	0·003552	0·005258	0·002950	0·002590	0·002401	0·001041	*S*	0·002306	0·003062
16	0·002495	0·002136	0·001897	*S*	0·003865	0·003155	*S*	0·002501	0·001293	0·003531	0·001352	0·001771
17	0·002798	0·001533	0·003551	0·002372	0·003229	0·002940	0·002560	0·003704	*S*	0·002594	0·001679	*S*
18	0·001343	0·000819	0·001711	0·003052	0·002123	*S*	0·002547	0·002460	0·003041	0·002913	0·002335	0·002790
19	0·002591	*S*	*S*	0·002382	0·002675	0·003541	0·002301	0·003256	0·003839	0·004498	*S*	0·001570
20	0·001457	0·001281	0·001197	0·002500	0·002741	0·002901	0·003304	*S*	0·004125	0·003184	0·004473	0·003937
21	0·001100	0·001109	0·001254	....	*S*	0·004091	0·002740	0·003131	0·005404	0·002550	0·003847	0·001170
22	*S*	0·001173	0·002794	....	0·003237	0·001938	0·002372	0·002726	0·003078	*S*	0·001376	0·001601
23	0·001570	0·000681	0·004531	*S*	0·002240	0·003726	*S*	0·003864	0·003191	0·003379	0·001929	0·001104
24	0·002351	0·005873	0·001821	....	0·003704	0·002638	0·006278	0·003889	*S*	0·002509	0·001421	*S*
25	0·001669	0·003973	0·001159	....	0·004115	*S*	0·010817	0·003775	0·002499	0·002634	0·002806	Ch. Day.
26	0·001082	*S*	*S*	....	0·003322	0·003591	0·004039	0·004251	0·003338	0·002176	*S*	0·004576
27	0·001151	0·001299	0·001834	....	0·004990	0·003083	0·003121	*S*	0·003565	0·003230	0·002507	0·005583
28	0·003775	0·002129	0·001153	....	*S*	0·003124	0·001964	0·002696	0·004756	0·003019	0·001839	0·002909
29	*S*	....	0·003116	....	0·004104	0 004091	0·003915	0·003266	0·003219	*S*	0·001911	0·002092
30	0·002184	....	0·002304	*S*	0·004138	0·003932	*S*	0·002698	0·003306	0·004983	0·002767	0·002181
31	0·001487	....	0·002378	....	0·003092	....	0·002910	0·003123	....	0·001748	....	*S*

The letter *S* denotes that the day was Sunday.

TABLE XXXI.—Mean of the Diurnal Ranges of the Horizontal Force Magnet in each Month, expressed in parts of the whole Horizontal Force.

Month, 1843.	Mean of all the Daily Ranges in each Month.	Month, 1843.	Mean of all the Daily Ranges in each Month.
January	0·002157	July	0·003647
February	0·001706	August	0·003340
March	0·002090	September	0·003187
April	0·003196	October	0·002934
May	0·004055	November	0·002449
June	0·003305	December	0·002605

The mean daily range of the magnet appears to be smallest in February and largest in May. 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 daily range in Summer was 0·003425 parts of the whole Horizontal Force.
,, Winter was 0·002324 ,,
The mean daily range for the year was 0·002889 ,,

TABLE XXXII.—Greatest and Least Daily Range of the Horizontal Force Magnet, expressed in parts of the whole Horizontal Force in each Month.

1843, Month.	Daily Range of the Horizontal Force Magnet.		Day on which the Range of the Magnet was	
	Greatest.	Least.	Greatest.	Least.
			d	d
January	0·008625	0·000984	2	5
February	0·005873	0·000681	24	23
March	0·004531	0·001153	23	28
April	0·008103	0·001341	5	10
May	0·014271	0·001951	6	10

TABLE XXXII.—*continued.*

1843, Month.	Daily Range of the Horizontal Force Magnet.		Day on which the Range of the Magnet was	
	Greatest.	Least.	Greatest.	Least.
			d	d
June	0·004643	0·001938	8	22
July	0·010817	0·001964	25	28
August	0·005161	0·002401	4	15
September	0·005404	0·001041	21	15
October	0·004983	0·001500	30	4
November	0·004473	0·001376	20	22
December	0·005583	0·001104	27	23

TABLE XXXIII.—Table shewing how often in each Month the Daily Range of the Horizontal Force Magnet has been included between certain Limits.

The diurnal range was	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Number of Days.
Greater than 0·0006 and less than 0·0010	1	4											5
,, 0·0010 ,, 0·0015	11	10	9	1					2		3	4	40
,, 0·0015 ,, 0·0020	4	4	7	2	1	1	1		1	2	6	3	32
,, 0·0020 ,, 0·0025	4	3	5	4	2	1	3	2	4	4	6	7	45
,, 0·0025 ,, 0·0030	3	1	2	1	3	9	6	8	2	8	6	4	53
,, 0·0030 ,, 0·0035			1	2	6	4	5	6	8	8	2	2	44
,, 0·0035 ,, 0·0040	1	1	1	1	2	6	5	7	4	1	2	2	33
,, 0·0040 ,, 0·0045	1		1	4	3	4	3	3	2	2	1		24
,, 0·0045 ,, 0·0050			1		2	1	1		2	1		2	10
,, 0·0050 ,, 0·0055					1			1	1				3
,, 0·0055 ,, 0·0060		1										1	2
,, 0·0060 ,, 0·0090	1			1	1		1						4
,, 0·0108 ,, 0·0109							1						1
,, 0·0142 ,, 0·0143					1								1

The following particulars are collected from the last column of this table :—

That on 5 days out of 297 the daily range was greater than 0·0006 and less than 0·0010
72 ,, ,, 0·0010 ,, 0·0020
98 ,, ,, 0·0020 ,, 0·0030
77 ,, ,, 0·0030 ,, 0·0040
34 ,, ,, 0·0040 ,, 0·0050
5 ,, ,, 0·0050 ,, 0·0060
4 ,, ,, 0·0060 ,, 0·0090
2 ,, ,, 0·0100 ,, 0·0150

TABLE XXXIV.—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.

1843, Hour, Göttingen Mean Time.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sep.	Oct.	Nov.	Dec.
h												
14	0·015749	0·016369	0·002179	0·002915	0·034833	0·034565	0·034117	0·035202	0·036893	0·037250	0·038256	0·037980
16	0·015998	0·016367	0·001953	0·002575	0·034721	0·034493	0·033939	0·035231	0·036810	0·037240	0·038301	0·037928
18	0·016455	0·016524	0·002231	0·003007	0·034509	0·034375	0·033892	0·035056	0·036700	0·037035	0·038259	0·038084
20	0·016397	0·016835	0·002183	0·002825	0·033824	0·033632	0·033275	0·034442	0·036096	0·036653	0·038378	0·038106
22	0·015557	0·016100	0·001226	0·001456	0·033281	0·032671	0·032288	0·033414	0·034847	0·035705	0·038131	0·038045
0	0·015264	0·016109	0·001166	0·001837	0·033610	0·033185	0·032366	0·034126	0·035310	0·036130	0·038443	0·037984
2	0·016031	0·016482	0·002000	0·002799	0·035174	0·034399	0·033584	0·035289	0·036471	0·037432	0·039009	0·038002
4	0·016068	0·016382	0·002293	0·003220	0·035752	0·035004	0·034753	0·036062	0·037115	0·037529	0·039009	0·038259
6	0·016085	0·016350	0·002110	0·003299	0·036013	0·035372	0·035159	0·036157	0·036833	0·037669	0·039362	0·038257
8	0·016010	0·016378	0·001992	0·002653	0·036026	0·035616	0·035006	0·036058	0·037144	0·038002	0·039102	0·038267
10	0·015937	0·016300	0·001895	0·002584	0·035445	0·035357	0·034493	0·036113	0·037200	0·037742	0·038919	0·038216
12	0·015947	0·016443	0·002138	0·002777	0·035306	0·034957	0·034362	0·035612	0·036872	0·037506	0·038835	0·038426

The numbers in March and April require to be increased by 0·017021, and the numbers from May require to be diminished by 0·022831.

TABLE XXXV.—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, and reduced to the first Series in Table XXXIV., by applying the constant numbers mentioned at its foot, for the days following February 28.

1843, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	0·015749	0·016369	0·019200	0·019936	0·012002	0·011734	0·011286	0·012371	0·014062	0·014419	0·015425	0·015149
16	0·015998	0·016367	0·018974	0·019596	0·011890	0·011662	0·011108	0·012400	0·013979	0·014409	0·015470	0·015097
18	0·016455	0·016524	0·019252	0·020028	0·011678	0·011544	0·011061	0·012225	0·013869	0·014204	0·015428	0·015253
20	0·016397	0·016835	0·019204	0·019846	0·010993	0·010801	0·010444	0·011611	0·013265	0·013822	0·015547	0·015275
22	0·015557	0·016100	0·018247	0·018477	0·010450	0·009840	0·009457	0·010583	0·012016	0·012874	0·015300	0·015214
0	0·015264	0·016109	0·018187	0·018858	0·010779	0·010354	0·009535	0·011295	0·012479	0·013299	0·015612	0·015153
2	0·016031	0·016482	0·019021	0·019820	0·012343	0·011568	0·010753	0·012458	0·013640	0·014601	0·016178	0·015171
4	0·016068	0·016382	0·019314	0·020241	0·012921	0·012173	0·011922	0·013231	0·014284	0·014698	0·016178	0·015428
6	0·016085	0·016350	0·019131	0·020320	0·013182	0·012541	0·012328	0·013326	0·014002	0·014838	0·016531	0·015426
8	0·016010	0·016378	0·019013	0·019674	0·013195	0·012785	0·012175	0·013227	0·014313	0·015171	0·016271	0·015436
10	0·015937	0·016300	0·018916	0·019605	0·012614	0·012526	0·011662	0·013282	0·014369	0·014911	0·016088	0·015385
12	0·015947	0·016443	0·019159	0·019798	0·012475	0·012126	0·011531	0·012781	0·014041	0·014675	0·016004	0·015595

An extreme position appears from this table to take place at 0^h or at 22^h in every month, and starting from this point the next table is formed, to ascertain the times and the amounts of the changes.

TABLE XXXVI.—Hours of Göttingen Mean Solar Time at which the extreme Positions of the Horizontal Force Magnet occur in different Months, as inferred from the Monthly Means of the Two-hourly Observations, with the Readings and Amounts of the Changes: the Corrections for Temperature having been applied.

1843, Month.	Times of First extreme Positions.		Readings for First Extremes.		Interval in Time of First Extremes.	Difference for First Extremes.	Times of Second extreme Positions.		Readings for Second Extremes.		Interval in Time between the First extreme North Position and the Second extreme South Position.
	South.	North.	South.	North.			South.	North.	South.	North.	
	h	h			h		h	h			h
January	0	6	0·015264	0·016085	6	0·000821	10	12	0·015937	0·015947	4
February	22	2	0·016100	0·016482	4	0·000382	6	8	0·016350	0·016378	4
March	0	4	0·018187	0·019314	4	0·001127	10	14	0·018916	0·019200	6
April	22	6	0·018477	0·020320	8	0·001843	10	14	0·019605	0·019936	4
May	22	8	0·010450	0·013195	10	0·002745					
June	22	8	0·009840	0·012785	10	0·002945					
July	22	6	0·009457	0·012328	8	0·002871					
August	22	6	0·010583	0·013326	8	0·002743	8	10	0·013227	0·013282	2
September	22	4	0·012016	0·014284	6	0·002268	6	10	0·014002	0·014369	2
October	22	8	0·012874	0·015171	10	0·002297					
November	22	6	0·015300	0·016531	8	0·001231	14	16	0·015425	0·015470	8
December	0	4	0·015153	0·015428	4	0·000275	6	8	0·015426	0·015436	2

TABLE XXXVI.—*continued.*

1843, Month.	Difference between the Readings for the First extreme North Position and the Second extreme South Position.	Interval in Time of Second Extremes.	Difference for Second Extremes.	Times of Third extreme Positions.		Readings for Third Extremes.		Interval in Time between the Second extreme North Position and the Third extreme South Position.	Difference between the Readings for the Second extreme North Position and the Third extreme South Position.	Interval in Time of Third Extremes.	Difference for Third Extremes.	Times of Fourth extreme Positions.	
				South.	North.	South.	North.					South.	North.
		h		h	h			h		h		h	h
January	0·000148	2	0·000010	14	18	0·015749	0·016455	2	0·000198	4	0·000706		
February	0·000132	2	0·000028	10	12	0·016300	0·016443	2	0·000078	2	0·000143	16	20
March	0·000398	4	0·000284	16	18	0·018974	0·019252	2	0·000226	2	0·000278		
April	0·000715	4	0·000331	16	18	0·019596	0·020028	2	0·000340	2	0·000432		
May													
June													
July													
August	0·000099	2	0·000055	14	16	0·012371	0·012400	4	0·000911	2	0·000029		
September	0·000282	4	0·000367	12	14	0·014041	0·014062	2	0·000328	2	0·000021		
October													
November	0·001106	2	0·000045	18	20	0·015428	0·015547	2	0·000042	2	0·000119		
December	0·000002	2	0·000010	10	12	0·015385	0·015595	2	0·000051	2	0·000210	16	20

TABLE XXXVI.—*concluded.*

1843, Month.	Readings for Fourth Extremes.		Interval in Time between the Third extreme North Position and the Fourth extreme South Position.	Difference between the Readings for the Third extreme North Position and the Fourth extreme South Position.	Interval in Time of Fourth Extremes.	Difference for Fourth Extremes.	Interval in Time between the Last extreme North Position and the First extreme South Position.	Difference between the Readings for the Last extreme North Position and the First extreme South Position.	Whole Sum of the Differences.	Difference between the Greatest and Least Extremes, or Mean Daily Range.
	South.	North.								
			h		h		h			
January							6	0·001191	0·003074	0·001191
February	0·016367	0·016835	4	0·000076	4	0·000468	2	0·000735	0·002042	0·000735
March							6	0·001065	0·003378	0·001127
April							4	0·001551	0·005212	0·001843
May							14	0·002745	0·005490	0·002745
June							14	0·002945	0·005890	0·002945
July							16	0·002871	0·005742	0·002871
August							6	0·001817	0·005654	0·002743
September							8	0·002046	0·005312	0·002353
October							14	0·002297	0·004594	0·002297
November							2	0·000247	0·002790	0·001231
December	0·015097	0·015275	4	0·000498	4	0·000178	4	0·000442	0·001666	0·000498

The following particulars may be collected from this table:—At 0^h in the months of January, March, and December, and at 22^h in the other months, the marked end of the magnet has been less drawn towards the north than at any other hour of observation; from that time to 4^h, 6^h, or 8^h, it moved towards the north both in the summer and in the winter, describing an arc corresponding to a change in the horizontal force, in the former period of 0·002569, and in the latter period of 0·001006; and the marked end of the magnet at 4^h, 6^h, or 8^h has been more drawn towards the north than at any other hour of observation in every month, except in January, February, and December, in which months it reached that position at 18^h, 20^h, and 12^h respectively. Between 4^h, 6^h, 8^h, and 10^h the marked end was moving from the north, through an arc corresponding in the summer months to 0·000366, and in the winter months to 0·000357 parts of the whole horizontal force; from 10^h to 12^h or 14^h, the marked end was approaching the north, in the summer months by 0·000251, and in the winter months by 0·000075 parts of the whole horizontal force; from 12^h or 14^h to 14^h or 16^h, the marked end was moving from the north, in summer by 0·000526, in winter by 0·000119 parts of the whole horizontal force; from 14^h or 16^h to 16^h or 18^h, the marked end was approaching the north in summer by 0·000160, and in winter by 0·000291 parts of the whole horizontal force; a fourth recess from and approach to the north occurred in February and December, and the arcs described are exhibited in the table; from the latter times to 0^h or 22^h, the marked end was moving from the north, in summer by 0·002329, in winter by 0·000996 parts of the whole horizontal force; and at the latter times, as before mentioned, the marked end was the least drawn towards the north.

The diurnal movement has therefore consisted of four maxima and minima in February and December; of a triple maximum and minimum in January, March, April, August, September, and November; and of a single maximum and minimum in the remaining months. By examining Table XXXV., it will be seen that the motion of the magnet has evidently been checked in May between 6^h and 8^h, and in October between 14^h and 16^h; but in the months of June and July, so far as this table shews us, the magnet appears to have moved from one extreme position to the other. Examining the motion of the magnet on every day in those months, we find that in May there were 8 cases of double, 11 of triple, and 3 of quadruple maxima and minima; in June there were 11 cases of double, 9 of triple, and 6 of quadruple maxima and minima; in July there were 10 cases of double, 11 of triple, and 5 of quadruple maxima and minima; and in October there were 4 cases of double, 16 of triple, and 6 of quadruple maxima and minima; so that there was not a single day in any one of these months on which a single maximum and minimum took place, and such being exhibited in the means must be attributed to accident. The days in May on which the double maxima took place were the 11th, 13th, 18th, 22nd, 24th, 26th, 27th, and 31st; the days of triple maxima, were the 6th, 9th, 10th, 12th, 15th, 17th, 19th, 20th, 23rd, 29th, and 30th; and the days of quadruple maxima were the 8th, 16th, and 25th. In June, the days on which a double maximum and minimum took place were the 1st, 7th, 8th, 17th, 19th, 20th, 21st, 27th, 28th, 29th, and 30th; the days of triple maxima were the 2nd, 6th, 9th, 12th, 14th, 15th, 22nd, 23rd, and 26th; and of quadruple were the 3rd, 5th, 10th, 13th, 16th and 24th. In July, the days on which a double maximum and minimum took place were the 1st, 4th, 5th, 11th, 12th, 13th, 14th, 15th, 29th, and 31st; the days of triple were the 6th, 7th, 17th, 18th, 19th, 20th, 21st, 22nd, 24th, 25th, and 27th; and the days of quadruple were the 3rd, 8th, 10th, 26th, and 28th. In October, the days of double maxima and minima were the 12th, 16th, 19th, and 30th; the days of triple were the 3rd, 4th, 7th, 9th, 10th, 11th, 13th, 14th, 20th, 21st, 23rd, 24th, 25th, 27th, 28th, and 31st; and of quadruple were the 2nd, 5th, 6th, 17th, 18th, and 26th.

The numbers in the last column but one shew the sums of all the backward and forward motions of the magnet, as found by adding, without regard to sign, all the differences between successive extremes, and they exhibit nearly the mean amount of motion each day. The numbers in the last column shew the mean daily changes in the position of the magnet. The numbers in those two columns in the summer months are much larger than those in the winter months.

The times at which the marked end of the magnet reached its first extreme south position, as compared with the times at which the same position was attained in the previous years, appear to be somewhat different; in the year 1841, there were 3 instances of this time being at 22^h, 8 instances of its being at 0^h, and 1 at 2^h; in the year 1842, there were 3 instances at 22^h, and 9 cases at 0^h; in the above table there are 9 cases at 22^h, and 3 cases at 0^h: a progressive change in this respect is indicated.

The next table is formed by taking the means of the numbers in Table XXXV., corresponding to the same hours for several months; those from April to September are grouped together for summer, and the other six months for winter.

TABLE XXXVII.—Mean Reading of the Horizontal Force Magnet, corrected for Temperature, expressed in parts of the whole Horizontal Force, at every Even Hour of Göttingen Mean Solar Time, for the Summer and Winter periods, and for the Year.

Hour of Observation.	Mean Reading of the Magnet.			Hour of Observation.	Mean Reading of the Magnet.		
	Summer.	Winter.	Mean for the Year.		Summer.	Winter.	Mean for the Year.
h				h			
14	0·013565	0·016052	0·014809	2	0·013430	0·016247	0·014839
16	0·013439	0·016053	0·014746	4	0·014129	0·016345	0·015237
18	0·013401	0·016186	0·014793	6	0·014283	0·016394	0·015338
20	0·012827	0·016180	0·014503	8	0·014228	0·016380	0·015304
22	0·011804	0·015549	0·013676	10	0·014010	0·016256	0·015133
0	0·012217	0·015604	0·013910	12	0·013792	0·016304	0·015048

The maximum force is indicated at 6^h, both in the summer and in the winter. The minimum force is indicated at 22^h, both in summer and in winter. In summer there is but one maximum and but one minimum; in winter there is a triple maximum and minimum. The times are :—

In Summer.	In Winter.
The maximum at ^{h}6	The maximum at ^{h}6
The minimum at 22	A minimum at 10
	A maximum at 12
	A minimum at 14
	A maximum at 18
	The minimum at 22

The last column shews the mean at each hour for the year, and it indicates a double maximum and minimum.

The maximum at ^{h}6
A minimum at 16
A maximum at 18
The minimum at 22

The amount of the daily changes in summer was 0·002479
,, winter was 0·000845

So that the changes in winter were about one-third of those in summer.

The mean for the summer period is 0·013427
,, winter period is 0·016129
And the mean for the year is 0·014778

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 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. 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; and in the winter half year of 1843 less than in the winter half year of 1842 by 0·001506. In 1841 the mean for the whole year was 0·032932, and in 1842 it was 0·015535; so that the decrease from 1841 to 1842 was 0·017377, and from 1842 to 1843 it was 0·000757.

Comparing the results at each hour for the same periods of different years, we find that for 1842, in summer, the result at each hour was less than the result at the corresponding hour in 1841, the greatest difference being at 16^h, which amounted to 0·018940, and the least difference at 12^h, being 0·018532. In 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 at 12^h. 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 0·015872 at 6^h. In the winter of 1843 the result was at every hour less than the result of 1842 at the same hour, the greatest and least difference being 0·001783 and 0·001221 at 20^h and at 2^h respectively. 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, and so also every result in 1843 was less than the corresponding one of 1842; the greatest decrease from 1841 to 1842 was 0·017754 at 18^h, and the greatest decrease from 1842 to 1843 was 0·000996 at 20^h: the least decrease from 1841 to 1842 was 0·017130 at 2^h, and the least decrease from 1842 to 1843 was 0·000469, also at 2^h.

Comparing the numbers in the last column with the mean for the year, or 0·014778, the following results are obtained, exhibiting the difference between the mean position for the year and the mean position for the year at that hour; and thus it appears that the mean position of the marked end of the magnet

At ^{h}14 was 0·000031	parts of the whole horizontal force	more North	than the mean position for the year.
16 was 0·000032	,,	South	,,
18 was 0·000015	,,	North	,,
20 was 0·000275	,,	South	,,
22 was 0·001102	,,	South	,,
0 was 0·000868	,,	South	,,
2 was 0·000061	,,	North	,,
4 was 0·000459	,,	North	,,
6 was 0·000560	,,	North	,,
8 was 0·000526	,,	North	,,
10 was 0·000355	,,	North	,,
12 was 0·000270	,,	North	,,

TABLE XXXVIII.—Excess of the Mean Reading of the Horizontal Force Magnet, expressed in parts of the whole Horizontal Force, corrected for the Effect of Temperature, in every Month, at each Even Hour of Göttingen Mean Solar Time (deduced from all the Observations made throughout each Month at the same Hour), above the Monthly Mean, deduced from the Mean of all the Observations made at all Hours throughout the Month.

1843, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	−0·000209	−0·000018	+0·000232	+0·000253	−0·000042	+0·000096	+0·000181	−0·000028	+0·000369	+0·000093	−0·000411	−0·000149
16	+0·000040	−0·000020	+0·000006	−0·000087	−0·000154	+0·000024	+0·000003	+0·000001	+0·000286	+0·000083	−0·000366	−0·000201
18	+0·000497	+0·000137	+0·000284	+0·000345	−0·000366	−0·000094	−0·000044	−0·000174	+0·000176	−0·000122	−0·000408	−0·000045
20	+0·000439	+0·000448	+0·000236	+0·000163	−0·001051	−0·000837	−0·000661	−0·000788	−0·000428	−0·000504	−0·000289	−0·000023
22	−0·000401	−0·000287	−0·000721	−0·001206	−0·001594	−0·001798	−0·001648	−0·001816	−0·001677	−0·001452	−0·000536	−0·000084
0	−0·000694	−0·000278	−0·000781	−0·000825	−0·001265	−0·001284	−0·001570	−0·001104	−0·001214	−0·001027	−0·000224	−0·000145
2	+0·000073	+0·000095	+0·000053	+0·000137	+0·000299	−0·000068	−0·000352	+0·000059	−0·000053	+0·000275	+0·000342	−0·000127
4	+0·000110	−0·000005	+0·000346	+0·000558	+0·000877	+0·000535	+0·000817	+0·000832	+0·000591	+0·000372	+0·000342	+0·000130
6	+0·000127	−0·000037	+0·000163	+0·000637	+0·001138	+0·000903	+0·001223	+0·000927	+0·000309	+0·000512	+0·000695	+0·000128
8	+0·000052	−0·000009	+0·000047	−0·000009	+0·001151	+0·001147	+0·001070	+0·000828	+0·000620	+0·000845	+0·000435	+0·000138
10	−0·000021	−0·000087	−0·000052	−0·000078	+0·000570	+0·000888	+0·000557	+0·000883	+0·000673	+0·000585	+0·000252	+0·000087
12	−0·000011	+0·000056	+0·000191	+0·000115	+0·000431	+0·000488	+0·000426	+0·000382	+0·000348	+0·000349	+0·000168	+0·000297

As in the previous years, the quantities at 20^h and 22^h deserve particular attention. In the cases where there is a difference at 20^h with a positive sign, the difference at 22^h is affected with a negative sign. In the cases at 20^h where there is a number with a negative sign, the number at 22^h is much larger with the same sign: the former cases occur in the first four months, the latter in the last eight months. Thus it appears that the magnet was in its mean position between these two hours, during the first four months, and that it was in its mean position before 20^h during the remaining months. The numbers in February are all small, those in the months from May to September are large; those exhibited in May are the largest of any, and the next in order are those in July. 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	0·000162,	in winter	0·000185
	16	,, ,,	093	,,	119
	18	,, ,,	200	,,	249
	20	,, ,,	655	,,	323
	22	,, ,,	1623	,,	580
	0	,, ,,	1210	,,	525
	2	,, ,,	161	,,	161
	4	,, ,,	702	,,	218
	6	,, ,,	856	,,	277
	8	,, ,,	804	,,	254
	10	,, ,,	608	,,	181
	12	,, ,,	365	,,	179

TABLE XXXIX.—Table exhibiting the Differences in the Mean Positions of the Horizontal Force Magnet between every Pair of Consecutive Observation-hours in every Month, estimated positive when the force was greater at the latter Hour (obtained by taking the Differences between the Consecutive Numbers in each Month, contained in Table XXXVIII.).

1843. Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h h												
Between 14 & 16	+0·000249	−0·000002	−0·000226	−0·000340	−0·000112	−0·000072	−0·000178	+0·000029	−0·000083	−0·000010	+0·000045	−0·000052
,, 16 & 18	+0·000457	+0·000157	+0·000278	+0·000432	−0·000212	−0·000118	−0·000047	−0·000175	−0·000110	−0·000205	−0·000042	+0·000156
,, 18 & 20	−0·000058	+0·000311	−0·000048	−0·000182	−0·000685	−0·000743	−0·000617	−0·000614	−0·000604	−0·000382	+0·000119	+0·000022
,, 20 & 22	−0·000840	−0·000735	−0·000957	−0·001369	−0·000543	−0·000961	−0·000987	−0·001028	−0·001249	−0·000948	−0·000247	−0·000061
,, 22 & 0	−0·000293	+0·000009	−0·000060	+0·000381	+0·000329	+0·000514	+0·000078	+0·000712	+0·000463	+0·000425	+0·000312	−0·000061
,, 0 & 2	+0·000767	+0·000373	+0·000834	+0·000962	+0·001564	+0·001214	+0·001218	+0·001163	+0·001161	+0·001302	+0·000566	+0·000018
,, 2 & 4	+0·000037	−0·000100	+0·000293	+0·000421	+0·000578	+0·000605	+0·001169	+0·000773	+0·000644	+0·000097	0·000000	+0·000257
,, 4 & 6	+0·000017	−0·000032	−0·000183	+0·000079	+0·000261	+0·000368	+0·000406	+0·000095	−0·000282	+0·000140	+0·000353	−0·000002
,, 6 & 8	−0·000075	+0·000028	−0·000118	−0·000646	+0·000013	+0·000244	−0·000153	−0·000099	+0·000311	+0·000333	−0·000260	+0·000010
,, 8 & 10	−0·000073	−0·000078	−0·000097	−0·000069	−0·000581	−0·000259	−0·000513	+0·000055	+0·000056	−0·000260	−0·000183	−0·000051
,, 10 & 12	+0·000010	+0·000143	+0·000243	+0·000193	−0·000139	−0·000400	−0·000131	−0·000501	−0·000328	−0·000236	−0·000084	+0·000210
,, 12 & 14	−0·000198	−0·000074	+0·000041	+0·000138	−0·000473	−0·000392	−0·000245	−0·000410	+0·000021	−0·000256	−0·000579	−0·000446

The largest number contained in this table is that in May between 0^h and 2^h. By taking the mean of the numbers in each column (without regard to their signs) the mean change for two hours is exhibited :—

In January	the mean change	for two hours	was 0·000256
February	,,	,,	·000170
March	,,	,,	·000281
April	,,	,,	·000434
May	,,	,,	·000458
June	,,	,,	·000491
July	,,	,,	·000478
August	,,	,,	·000471
September	,,	,,	·000443
October	,,	,,	·000383
November	,,	,,	·000233
December	,,	,,	·000112

The following table is formed by taking the means of the numbers contained in this table (without regard to their signs) which correspond to the same pair of hours. The months from April to September are grouped together for Summer, and the remaining months are grouped together for Winter.

TABLE XL.—Amounts of the Differences in the Mean Position of the Horizontal Force Magnet, between every pair of consecutive Hours, with the character of the Changes for the Winter, the Summer, and the Year.

Between what Hours.	Amount of Difference of Mean Position of the Horizontal Force Magnet.			CHARACTER OF THE CHANGES.		
				Summer Period.	Winter Period.	The Year.
	Summer.	Winter.	Year.	The Horizontal Force was, at the latter Hour,		
^{h} ^{h} 14 to 16	0·000136	0·000097	0·000117	Always smaller, except in August.	Smaller in February, October, and Dec.; and larger in January, March, and Nov.	Generally smaller.
16 to 18	0·000182	0·000216	0·000199	,, except in April.	Larger, except in October and November.	,,
18 to 20	0·000574	0·000157	0·000365	,,	Smaller in January, March, and October; larger in February, November, and Dec.	,,
20 to 22	0·001023	0·000631	0·000827	,,	Always smaller.	Always smaller.
22 to 0	0·000413	0·000193	0·000303	Always larger.	Larger in February, October, and Nov.; smaller in January, March, and Dec.	Generally larger.
0 to 2	0·001214	0·000643	0·000928	,,	Always larger.	Always larger.
2 to 4	0·000698	0·000131	0·000415	,,	Generally larger.	Generally larger.
4 to 6	0·000249	0·000121	0·000185	,,	Larger in January, October, and Nov.; smaller in February, March, and Dec.	,,
6 to 8	0·000244	0·000137	0·000191	Larger in May, June, and Sep.; and smaller in April, July, and Aug.	Larger in February, October, and Dec.; smaller in January, March, and Nov.	Sometimes smaller, and sometimes larger.
8 to 10	0·000256	0·000124	0·000189	Smaller, except in August and Sep.	Always smaller.	Generally smaller.
10 to 12	0·000282	0·000154	0·000218	Always smaller, except in April.	Generally larger.	Sometimes smaller, and sometimes larger.
12 to 14	0·000280	0·000266	0·000273	Smaller, except in April and Sep.	Smaller, except in March.	Generally smaller.

The smallest two-hourly change of force appears, at all seasons, to be between 14^h and 16^h, and the largest between 0^h and 2^h; also, at all seasons,

The mean two-hourly change was	in Summer	0·000463
,,	Winter	0·000239
and the mean for the year was		0·000351

TABLE XLI.—Mean Reading of the Horizontal Force Magnet at each Hour during each Month, obtained by taking the Means of all the Readings at the same Hour during each Month (Table XXXV.), diminished by the Mean Reading for the Month Table XXVII.), and by the Mean Diurnal Change in each Hour (in the remarks following Table XXXVII.).

1843, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	−0·000240	−0·000049	+0·000201	+0·000222	−0·000073	+0·000064	+0·000150	−0·000059	+0·000338	+0·000062	−0·000442	−0·000180
16	+0·000072	+0·000012	+0·000038	−0·000055	−0·000122	+0·000056	+0·000035	+0·000033	+0·000318	+0·000115	−0·000334	−0·000169
18	+0·000482	+0·000122	+0·000269	+0·000330	−0·000381	−0·000109	−0·000059	−0·000189	+0·000161	−0·000137	−0·000423	−0·000060
20	+0·000714	+0·000723	+0·000511	+0·000438	−0·000776	−0·000562	−0·000386	−0·000513	−0·000153	−0·000229	−0·000014	+0·000252
22	+0·000701	+0·000815	+0·000381	−0·000104	−0·000492	−0·000696	−0·000546	−0·000714	−0·000575	−0·000350	+0·000566	+0·001018
0	+0·000174	+0·000590	+0·000087	+0·000043	−0·000397	−0·000416	−0·000702	−0·000236	−0·000346	−0·000159	+0·000644	+0·000723
2	+0·000012	+0·000034	−0·000008	+0·000076	+0·000238	−0·000129	−0·000413	−0·000002	−0·000114	+0·000214	+0·000281	−0·000188
4	−0·000349	−0·000464	−0·000113	+0·000099	+0·000418	+0·000076	+0·000358	+0·000373	+0·000132	−0·000087	−0·000117	−0·000329
6	−0·000433	−0·000597	−0·000397	+0·000077	+0·000578	+0·000343	+0·000663	+0·000367	−0·000251	−0·000048	+0·000135	−0·000432
8	−0·000474	−0·000535	−0·000479	−0·000535	+0·000625	+0·000621	+0·000544	+0·000302	+0·000094	+0·000319	−0·000091	−0·000388
10	−0·000376	−0·000442	−0·000407	−0·000433	+0·000215	+0·000533	+0·000202	+0·000528	+0·000318	+0·000230	−0·000103	−0·000268
12	−0·000281	−0·000214	−0·000079	−0·000155	+0·000161	+0·000218	+0·000156	+0·000112	+0·000078	+0·000079	−0·000102	+0·000027

The order of the signs in this table being different at different periods of the year, indicates that the daily changes in the horizontal force were different at different times of the year. By taking the sums of all the quantities ranging with each hour, without regard to their signs, Table XLII. is formed; and by taking the sums of all the quantities in each month, without regard to their signs, Table XLIII. is formed.

TABLE XLII.—Sums of the Differences of Diurnal Inequality at each Hour.

Hour.	Sums of the Differences.	Hour.	Sums of the Differences.
h		h	
14	0·002080	2	0·001709
16	0·001359	4	0·002915
18	0·002722	6	0·004321
20	0·005271	8	0·005007
22	0·006958	10	0·004055
0	0·004517	12	0·001662

Considering that the smallest number indicates the hour subject to the least irregularity, the hours thus shewn are 2^h, 12^h, and 16^h. At 22^h the largest number appears, and this hour would therefore seem subject to the greatest irregularity.

TABLE XLIII. Monthly Sums of the Differences.

1843, Month.	Sums of the Differences.	1843, Month.	Sums of the Differences.
January	0·004308	July	0·004214
February	0·004597	August	0·003428
March	0·002970	September	0·002878
April	0·002567	October	0·002029
May	0·004476	November	0·003252
June	0·003823	December	0·004034

The months of February and May depart the most from the mean annual force, and those of April and October agree most nearly with it.

TABLE XLIV.—Mean Reading of the Horizontal Force Magnet, corrected for the effect of Temperature, and expressed in parts of the whole Horizontal Force, as deduced from all the Triple Observations taken near 2^h Göttingen Mean Time on every Day in each Month.

1843, Month.	Mean Reading at $1^h.52^m.30^s$.	Mean Reading at $2^h.2^m.30^s$.	Mean Reading at $2^h.12^m.30^s$.	1843, Month.	Mean Reading at $1^h.52^m.30^s$.	Mean Reading at $2^h.2^m.30^s$.	Mean Reading at $2^h.12^m.30^s$.
January	0·016018	0·016031	0·016026	July	0·010691	0·010753	0·010904
February	0·016450	0·016482	0·016527	August	0·012350	0·012458	0·012571
March	0·018946	0·019021	0·019039	September	0·013554	0·013640	0·013701
April	0·019752	0·019820	0·019750	October	0·014528	0·014601	0·014622
May	0·012296	0·012343	0·012529	November	0·016183	0·016178	0·016243
June	0·011521	0·011568	0·011595	December	0·015208	0·015171	0·015184

The mean of all the observations in 1843, taken at $^h_1.\ ^m_52.\ ^s_30$, is 0·014791
,, ,, 2. 2. 30, is 0·014839
,, ,, 2. 12. 30, is 0·014891

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 XLV.—The Mean Reading of the Vertical Force Magnet, corrected for Temperature, expressed in parts of the whole Vertical Force, as deduced from the 12 Observations taken on every Civil Day of the Year 1843 (except Sundays, Good Friday, and Christmas Day), at the even Hours of Göttingen Mean Solar Time.

Days of the Month, 1843.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	*S*	0·032778	0·032286	0·031281	....	0·049993	0·048620	0·048530	0·048335	*S*	0·043628	0·043098
2	0·031930	0·032725	0·031947	*S*	....	0·049505	*S*	0·048147	0·048212	0·040715	0·043520	0·042998
3	0·031842	0·032564	0·031940	0·031470	....	0·049072	0·048930	0·048361	*S*	0·040666	0·043733	*S*
4	0·031744	0·032702	0·031974	0·031562	....	*S*	0·048831	0·048613	0·047843	0·040900	0·043989	0·042950
5	0·032897	*S*	*S*	0·031986	....	0·048945	0·048964	0·048450	0·047896	0·040817	*S*	0·043027
6	0·033668	0·033154	0·031931	0·031544	0·055266	0·049084	0·048347	*S*	0·048125	0·040652	0·043699	0·042959
7	0·033249	0·033053	0·031832	0·031639	*S*	0·049327	0·048653	0·048572	0·048031	0·040593	0·043752	0·043057
8	*S*	0·032871	0·031673	0·031685	0·056037	0·049252	0·048671	0·048687	0·048233	*S*	0·043469	0·043126
9	0·033693	0·032878	0·031680	*S*	0·056895	0·049284	*S*	0·048154	0·048046	0·040491	0·043337	0·042617
10	0·033484	0·032870	0·031618	0·031360	0·056089	0·049393	0·048970	0·048120	*S*	0·040744	0·043678	*S*
11	0·033694	0·032834	0·031721	0·031374	0·055520	*S*	0·049094	0·048575	0·047425	0·040446	0·043584	0·042898
12	0·033605	*S*	*S*	0·031726	0·055410	0·049364	0·049424	0·048586	0·047746	0·040357	*S*	0·042678
13	0·033946	0·032751	0·031787	0·031687	0·055071	0·048844	0·049116	*S*	0·047614	0·040862	0·043458	0·042752
14	0·033788	0·032809	0·031735	Good Fri.	*S*	0·049232	0·049215	0·048700	0·047718	0·040561	0·043420	0·043287
15	*S*	0·032895	0·031567	0·031887	0·055005	0·049288	0·049157	0·048549	0·047818	*S*	0·043327	0·043133
16	0·033731	0·032927	0·031705	*S*	0·054945	0·048837	*S*	0·048245	0·047898	0·043593	0·043610	0·042910
17	0·033326	0·032647	0·031961	0·031719	0·054739	0·048945	0·049012	0·048530	*S*	0·043886	0·043333	*S*
18	0·032949	0·032741	0·031759	0·031494	0·054416	*S*	0·048903	0·048550	0·047430	0·043728	0·043476	0·042786
19	0·032650	*S*	*S*	0·031331	0·054831	0·048986	0·048708	0·048299	0·047192	0·043754	*S*	0·042826
20	0·032567	0·032671	0·031582	0·031571	0·054795	0·048932	0·048856	*S*	0·047491	0·043680	0·043304	0·042744
21	0·032687	0·032557	0·031636	0·031532	*S*	0·049440	0·048818	0·048150	0·047333	0·043987	0·043493	0·042751
22	*S*	0·032256	0·031553	....	0·053722	0·049183	0·048984	0·048183	0·047189	*S*	0·043503	0·042560
23	0·033065	0·032399	0·031332	*S*	0·052478	0·049259	*S*	0·048255	0·046631	0·043889	0·043070	0·042813
24	0·032966	0·032354	0·031485	....	0·052553	0·048861	0·049019	0·048364	*S*	0·043618	0·043018	*S*
25	0·033013	0·032444	0·031162	....	0·052666	*S*	0·049950	0·048519	0·040708	0·043689	0·043369	Ch. Day.
26	0·033049	*S*	*S*	....	0·052292	0·049113	0·048878	0·048587	0·040803	0·043668	*S*	0·042445
27	0·032957	0·032305	0·031183	....	0·052394	0·049032	0·048406	*S*	0·040712	0·043650	0·043445	0·042224
28	0·033154	0·032618	0·031562	....	*S*	0·048858	0·048390	0·048355	0·041042	0·043781	0·043158	0·042221
29	*S*	....	0·031395	....	0·052402	0·049063	0·048492	0·048460	0·040879	*S*	0·043011	0·042029
30	0·032820	....	0·031349	*S*	0·052661	0·048647	*S*	0·048231	0·041029	0·043981	0·042911	0·042219
31	0·032808	....	0·031388	....	0·052726	....	0·048357	0·048256	....	0·043738	....	*S*

The letter *S* denotes that the day was Sunday.

The numbers between January 1^d and April 21^d require to be diminished by 0·030429, to reduce them to the series in December, 1842, but this quantity has not been applied. After April 21^d the magnet was disturbed for the purpose of determining the correction for the effect of temperature, and the numbers beginning May 6^d form an entirely different series; the most probable correction required to reduce this series to the preceding one is 0·022900 applied negatively to all the numbers beginning May 6^d, but it is impossible to deduce this number satisfactorily, and therefore it has been used in subsequent calculations only as an approximate means of comparing the results at different periods together, and has not been applied in the following table. The numbers beginning June 1^d and September 23^d require to be increased by 0·002620; the numbers between September 25^d and October 14^d require to be increased by 0·008011; and the numbers between October 16^d and December 31^d require to be increased by 0·03852, to reduce them to the series beginning May 6^d. (See the Introduction.) By the application of these numbers the next table is formed.

TABLE XLVI.

Days of the Month, 1843.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	*S*	0·032778	0·032286	0·031281	...	0·052613	0·051240	0·051150	0·050955	*S*	0·047480	0·046950
2	0·031930	0·032725	0·031947	*S*	...	0·052125	*S*	0·050767	0·050832	0·048726	0·047372	0·046850
3	0·031842	0·032564	0·031940	0·031470	...	0·051692	0·051550	0·050981	*S*	0·048677	0·047585	*S*
4	0·031744	0·032702	0·031974	0·031562	...	*S*	0·051451	0·051233	0·050463	0·048911	0·047841	0·046802
5	0·032897	*S*	*S*	0·031986	...	0·051565	0·051584	0·051070	0·050516	0·048828	*S*	0·046879
6	0·033668	0·033154	0·031931	0·031544	0·055266	0·051704	0·050967	*S*	0·050745	0·048663	0·047552	0·046811
7	0·033249	0·033053	0·031832	0·031639	*S*	0·051947	0·051273	0·051192	0·050651	0·048604	0·047604	0·046909
8	*S*	0·032871	0·031673	0·031685	0·056037	0·051872	0·051291	0·051307	0·050853	*S*	0·047321	0·046978
9	0·033693	0·032878	0·031680	*S*	0·056895	0·051904	*S*	0·050774	0·050666	0·048502	0·047189	0·046469
10	0·033484	0·032870	0·031618	0·031360	0·056089	0·052013	0·051590	0·050740	*S*	0·048755	0·047530	*S*
11	0·033694	0·032834	0·031721	0·031374	0·055520	*S*	0·051714	0·051195	0·050045	0·048457	0·047436	0·046750
12	0·033605	*S*	*S*	0·031726	0·055410	0·051984	0·052044	0·051206	0·050366	0·048368	*S*	0·046530
13	0·033946	0·032834	0·031787	0·031687	0·055071	0·051464	0·051736	*S*	0·050234	0·048873	0·047310	0·046604
14	0·033788	0·032809	0·031735	Good Friday	*S*	0·051852	0·051835	0·051320	0·050338	0·048572	0·047272	0·047139
15	*S*	0·032895	0·031567	0·031887	0·055005	0·051908	0·051777	0·051169	0·050438	*S*	0·047179	0·046985
16	0·033731	0·032927	0·031705	*S*	0·054945	0·051457	*S*	0·050865	0·050518	0·047445	0·047462	0·046762
17	0·033326	0·032647	0·031961	0·031719	0·054739	0·051565	0·051632	0·051150	*S*	0·047738	0·047185	*S*
18	0·032949	0·032741	0·031759	0·031494	0·054416	*S*	0·051523	0·051170	0·050050	0·047580	0·047328	0·046638
19	0·032650	*S*	*S*	0·031331	0·054831	0·051606	0·051328	0·050919	0·059812	0·047606	*S*	0·046678
20	0·032567	0·032671	0·031582	0·031571	0·054795	0·051552	0·051476	*S*	0·050111	0·047532	0·047156	0·046596
21	0·032687	0·032557	0·031636	0·031532	*S*	0·052060	0·051438	0·050770	0·049953	0·047839	0·047345	0·046603
22	*S*	0·032256	0·031553	...	0·053722	0·051803	0·051604	0·050803	0·049809	*S*	0·047355	0·046412
23	0·033065	0·032399	0·031332	*S*	0·052478	0·051879	*S*	0·050875	0·049251	0·047741	0·046922	0·046665
24	0·032966	0·032354	0·031485	...	0·052553	0·051481	0·051639	0·050984	*S*	0·047470	0·046870	*S*
25	0·033013	0·032444	0·031162	...	0·052666	*S*	0·052570	0·051139	0·048719	0·047541	0·047221	Ch. Day.
26	0·033049	*S*	*S*	...	0·052292	0·051733	0·051498	0·051207	0·048814	0·047520	*S*	0·046297
27	0·032957	0·032305	0·031183	...	0·052394	0·051652	0·051026	*S*	0·048723	0·047502	0·047297	0·046076
28	0·033154	0·032618	0·031562	...	*S*	0·051478	0·051010	0·050975	0·049053	0·047633	0·047010	0·046073
29	*S*	...	0·031395	...	0·052402	0·051683	0·051112	0·051080	0·048890	*S*	0·046863	0·045881
30	0·032820	...	0·031349	*S*	0·052661	0·051467	*S*	0·050851	0·049040	0·047833	0·046763	0·046071
31	0·032808	...	0·031388	...	0·052726	...	0·050977	0·050876		0·047590		*S*

The letter *S* denotes that the day was Sunday.

TABLE XLVII.—Table exhibiting the Times at which Differences greater than 0·0003, took place between the Mean Positions of the Vertical Force Magnet on Two Consecutive Days, estimated positive when the Vertical Force is greater on the Second Day.

January.		February.		March.		April.		May.		June.	
Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.
4 & 5	+0·001153	21 & 22	−0·000301	1 & 2	−0·000339	4 & 5	+0·000424	8 & 9	+0·000858	1 & 2	−0·000488
5 & 6	+0·000771	27 & 28	+0·000313	24 & 25	−0·000323	5 & 6	−0·000442	9 & 10	−0·000806	2 & 3	−0·000433
6 & 7	−0·000419	28 & 29	−0·000332	27 & 28	+0·000379	11 & 12	+0·000352	10 & 11	−0·000569	12 & 13	−0·000520
12 & 13	+0·000341							12 & 13	−0·000339	13 & 14	+0·000388
16 & 17	−0·000405							17 & 18	−0·000323	15 & 16	−0·000451
17 & 18	−0·000377							18 & 19	+0·000415	20 & 21	+0·000508
								22 & 23	−0·001244	23 & 24	−0·000398
								25 & 26	−0·000374		

TABLE XLVII.—*continued.*

July.		August.		September.		October.		November.		December.	
Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.
5 & 6	−0·000617	1 & 2	−0·000383	11 & 12	+0·000321	12 & 13	+0·000505	9 & 10	+0·000341	8 & 9	−0·000509
6 & 7	+0·000306	8 & 9	−0·000533	22 & 23	−0·000558	13 & 14	−0·000301	22 & 23	−0·000433	13 & 14	+0·000535
11 & 12	+0·000330	10 & 11	+0·000455	27 & 28	+0·000330	20 & 21	+0·000307	24 & 25	+0·000351		
12 & 13	−0·000308	15 & 16	−0·000304								
24 & 25	+0·000931										
25 & 26	−0·001072										
26 & 27	−0·000472										

From the numbers in this table it appears that there are

25	instances in which the force has changed more than	0·0003	parts of the whole vertical force, and less than	0·0004
11	,,	,,	·0004	,,	,,	·0005
8	,,	,,	·0005	,,	,,	·0006
1	,,	,,	·0006	,,	,,	·0007
1	,,	,,	·0007	,,	,,	·0008
2	,,	,,	·0008	,,	,,	·0009
1	,,	,,	·0009	,,	,,	·0010
1	,,	,,	·0010	,,	,,	·0011
1	,,	,,	·0011	,,	,,	·0012
1	,,	,,	·0012	,,	,,	·0013

TABLE XLVIII.—Table exhibiting the Greatest and the Least Differences in the Mean Positions of the Vertical Force Magnet, between any two consecutive Civil Days during each Month, estimated Positive when the Vertical Force was greater on the Second Day.

1843, Month.	Differences in the Mean Daily Positions of the Vertical Force Magnet, from one Day to the next.		Days between which the Greatest Difference took place.	Days between which the Least Difference took place.
	Greatest.	Least.		
January	+ 0·001153	− 0·000012	4d & 5d	30d & 31d
February	− 0·000332	− 0·000008	28 & 29	9 & 10
March	+ 0·000379	− 0·000007 + 0·000007	27 & 28	2 & 3 8 & 9
April	− 0·000442	+ 0·000014	5 & 6	10 & 11
May	− 0·001244	− 0·000060	22 & 23	15 & 16
June	− 0·000520	+ 0·000032	12 & 13	8 & 9
July	− 0·001072	− 0·000016	25 & 26	27 & 28
August	− 0·000533	+ 0·000011	8 & 9	11 & 12
September	− 0·000558	+ 0·000053	22 & 23	4 & 5
October	+ 0·000505	− 0·000018	12 & 13	26 & 27
November	− 0·000433	+ 0·000010	22 & 23	21 & 22
December	+ 0·000535	− 0·000003	13 & 14	27 & 28

TABLE XLIX. — Mean of all the Two-hourly Readings of the Vertical Force Magnet, corrected for Temperature, expressed in parts of the whole Vertical Force, for those Days of each Month on which, as shewn by the Mean of the Two-hourly Readings, the marked end was most drawn towards the Nadir, or was most drawn towards the Zenith.

1843, Month.	Mean Daily Reading of the Vertical Force Magnet when the marked end was most drawn towards the Nadir.	Mean Daily Reading of the Vertical Force Magnet when the marked end was most drawn towards the Zenith.	Greatest Difference in the extreme Positions of the Magnet between any Two Days in the Month.	Day on which the marked end was most drawn towards the Nadir.	Day on which the marked end was most drawn towards the Zenith.
				d	d
January	0·033946	0·031744	0·002202	13	4
February	0·033154	0·032256	0·000898	6	22
March	0·032286	0·031162	0·001124	1	25
April	0·031887	0·031281	0·000606	15	1
May	0·056895	0·052292	0·004603	9	26
June	0·052613	0·051457	0·001156	1	16
July	0·052570	0·050967	0·001603	25	6
August	0·051320	0·050740	0·000580	14	10
September	0·050955	0·048719	0·002236	1	25
October	0·048911	0·047445	0·001466	4	16
November	0·047841	0·046763	0·001078	4	30
December	0·047139	0·045881	0·001258	14	29

This table shews that the mean daily position of the magnet was subject to less variation in the month of August than in any other month, and to greater variation in the month of May than in any other month. The mean monthly range (estimated from the mean of all the observations on each day) was 0·001568. The force from January to April decreased month by month, and it also decreased month by month from May to December; the change of force in the former period (estimated as mentioned above) was 0·002784, and in the latter it was 0·011014. The numbers beginning with May require to be decreased to compare them with the preceding numbers; the most probable amount of this decrease, as mentioned in the remarks following table XLV, is 0·022900. If this is correct, the yearly range will be that between May and December, and it may therefore be considered to be 0·011014 ±.

TABLE L.—Mean Reading of the Vertical Force Magnet, corrected for Temperature, and expressed in parts of the whole Vertical Force, ~~for~~ the Mean of all the Two-hourly Observations in each Month.

1843, Month.	Mean for each Month.	1843, Month.	Mean for each Month.
January	0·033049	July	0·051496
February	0·032700	August	0·051029
March	0·031657	September	0·049994
April	0·031579	October	0·048097
May	0·054223	November	0·047286
June	0·051735	December	0·046616

The numbers ending with April belong to the series commencing 1841, June, when the numbers are diminished by 0·030429: during this period the mean of each month in 1842 was less than the mean of the corresponding month in 1841, and so also was the mean of each month in 1843 less than the mean of the same month in 1842, so far as April: and, from the circumstance of the numbers continually decreasing up to May 1843, it may be inferred that such was also the case with the months following April. Now the numbers in these months require 0·022900 ± to be taken from them to compare them with the preceding series; and, were this number applied, the mean of the monthly results would be 0·028857, and this would require to be diminished by 0·030429 to compare it with the mean of 1842; and, thus reduced, and compared with the mean for 1842, the decrease of force from 1842 to 1843 would be 0·014696.

TABLE LI.—Readings of the Vertical Force Magnet, corrected for Temperature, expressed in parts of the whole Vertical Force, in Single Observations, when the marked end of the Magnet was most drawn towards the Nadir, and when it was most drawn towards the Zenith, for the Daily, Term-Day, and Extraordinary Observations in each Month.

1843, Month.	Readings of the Vertical Force when the marked end of the Magnet was most drawn towards the						Day and Hour when the marked end of the Magnet was most drawn towards the					
	Nadir.	Zenith.	Nadir.	Zenith.	Nadir.	Zenith.	Nadir.	Zenith.	Nadir.	Zenith.	Nadir.	Zenith.
	Daily Observations.		Term-Day Observations.		Extraordinary Observations.		Daily Observations.		Term-Day Observations.		Extraordinary Observations.	
							d h m	d h m	d h m	d h m	d h m s	d h m s
January	0·035291	0·030902	0·033032	0·032222	0·033234	0·031341	5. 0. 0	1. 14. 0	18. 12. 55	18. 22. 55 18. 23. 10	23. 9. 57. 30	2. 13. 57. 30
February	0·033768	0·031470	0·033066	0·032163	0·033601	0·032111	17. 1. 50	26. 16. 0 26. 18. 0	24. 10. 30	24. 13. 25	6. 9. 57. 30	24. 13. 19. 0
March	0·033313	0·030546	0·031958	0·031364	0·032971	0·032713	17. 6. 0	26. 14. 0	23. 5. 5 23. 5. 10	22. 12. 15	7. 8. 18. 5	8. 51. 0. 0
April	0·034318	0·030092	0·032382	0·030974	0·033108	0·030215	5. 6. 0	17. 18. 0	20. 5. 45	19. 15. 50	5. 7. 57. 30	5. 13. 57. 30
May	0·058109	0·051766	0·053180	0·051759	0·056281	0·050766	9. 2. 0	26. 14. 0	27. 6. 55	26. 13. 55	6. 14. 8. 0	6. 11. 36. 0
June	0·050336	0·048151	0·049665	0·048807	....	....	1. 6. 0	30. 12. 0	21. 10. 0	22. 1. 0	....	....
July	0·051687	0·047786	0·049533	0·048143	0·051823	0·048837	25. 6. 0	27. 16. 0	20. 5. 0	19. 20. 10	25. 4. 48. 0	24. 12. 56. 0
August	0·049776	0·047096	0·049343	0·048060	....	....	4. 6. 0	22. 14. 0	26. 4. 0	25. 14. 15	....	....
September	0·049700	0·040263	0·048166	0·046437	0·046801	0·046386	1. 6. 0	28. 16. 0	21. 5. 40	20. 14. 50	23. 6. 9. 0	23. 7. 24. 0
October	0·041688	0·038290	0·044305	0·043073	0·044817	0·039784	5. 6. 0	10. 16. 0	19. 4. 50 19. 4. 55	18. 19. 5	26. 7. 57. 30	26. 11. 19. 40
November	0·044489	0·042288	0·043775	0·043037	....	....	4. 1. 50	12. 18. 0	25. 7. 0	25. 0. 0 25. 0. 5 25. 0. 10	....	....
December	0·043772	0·042492	0·043053	0·042497	0·043412	0·042999	8. 8. 0	11. 16. 0	21. 6. 0 to 21. 6. 15	20. 20. 0 20. 20. 5	11. 8. 4. 0	11. 9. 10. 0

The numbers ending in April are of an entirely different series from those commencing with May; to reduce approximately those of the latter to the former series, 0·022900 ± must be taken from all the numbers beginning with May. The numbers from the beginning of June to September 23d, inclusive, require to be increased by 0·002620; and those from Sep. 25d to Oct. 14d, inclusive, require to be increased by 0·008011; and those after Oct. 16d require to be increased by 0·003852, to reduce them to the series began in May. The next table is formed from this by applying the above three numbers.

TABLE LII.—Table formed from the preceding (Table LI.), by applying the Corrections mentioned at the foot of the latter, for the Months following May.

1843, Month.	Readings of the Vertical Force Magnet when the marked end of the Magnet was most drawn towards the						Range of the Magnet in the Month.	Day and Hour when the marked end of the Magnet was most drawn towards the					
	Nadir.	Zenith.	Nadir.	Zenith.	Nadir.	Zenith.		Nadir.	Zenith.	Nadir.	Zenith.	Nadir.	Zenith.
	Daily Observations.		Term-Day Observations.		Extraordinary Observations			Daily Observations.		Term-Day Observations.		Extraordinary Observations.	
								d h m	d h m	d h m	d h m	d h m s	d h m s
January	0·035291	0·030902	0·033032	0·032222	0·033234	0·031341	0·004389	5. 0. 0	1. 14. 0	18. 12. 55	18. 22. 55 18. 23. 10	23. 9. 57. 30	2. 13. 57. 30
February	0·033768	0·031470	0·033066	0·032163	0·033601	0·032111	0·002298	17. 1. 50	26. 16. 0 26. 18. 0	24. 10. 30	24. 13. 25	6. 9. 57. 30	24. 13. 19. 0
March	0·033313	0·030546	0·031958	0·031364	0·032971	0·032713	0·002767	17. 6. 0	26. 14. 0	23. 5. 5 23. 5. 10	22. 12. 15	7. 8. 18. 5	8. 51. 0. 0
April	0·034318	0·030092	0·032382	0·030974	0·033108	0·030215	0·004226	5. 6. 0	17. 18. 0	20. 5. 45	19. 15. 50	5. 7. 57. 30	5. 13. 57. 30
May	0·058109	0·051766	0·053180	0·051759	0·056281	0·050766	0·007343	9. 2. 0	26. 14. 0	27. 6. 55	26. 13. 55	6. 14. 8. 0	6. 11. 36. 0
June	0·052956	0·050771	0·052285	0·051427	....	....	0·002185	1. 6. 0	30. 12. 0	21. 10. 0	22. 1. 0	.....	.....
July	0·054307	0·050406	0·052153	0·050763	0·054443	0·051457	0·004037	25. 6. 0	27. 16. 0	20. 5. 5	19. 20. 10	25. 4. 48. 0	24. 12. 56. 0
August	0·052396	0·049716	0·051963	0·050680	....	....	0·002680	4. 6. 0	22. 14. 0	26. 4. 0	25. 14. 15	.....	.....
Sep.	0·052320	0·048274	0·050786	0·049063	0·049421	0·049006	0·004046	1. 6. 0	28. 16. 0	21. 5. 40	20. 14. 50	23. 6. 9. 0	23. 7. 24. 0
Oct.	0·049699	0·046301	0·048157	0·046925	0·048669	0·043636	0·006063	5. 6. 0	10. 16. 0	19. 4. 50 19. 4. 55	18. 19. 5	26. 7. 57. 30	26. 11. 19. 40
Nov.	0·048341	0·046140	0·047627	0·046889	....	....	0·002201	4. 1. 50	12. 18. 0	25. 7. 0	25. 0. 0 to 25. 0. 10	.....	.....
Dec.	0·047624	0·046344	0·046905	0·046349	0·047264	0·046851	0·001280	8. 8. 0	11. 16. 0	21. 6. 0 to 21. 6. 15	20. 20. 0 20. 20. 5	11. 8. 4. 0	11. 9. 10. 0

From this table we learn the following particulars:—That between January and April the marked end of the magnet was more drawn downwards in January on the 5th day at 0^h, and least drawn downwards in April on the 17th day at 18^h, than at any other time during the period; the difference between the numbers at these times was 0·005199. Between May and December, the marked end of the magnet was most drawn downwards in May on the 9th day at 2^h, and least drawn downwards in October on the 26th day at $11^h. 19^m. 40^s$: the difference between these numbers was 0·014473. The monthly range of the magnet was the smallest in December, and the largest in May. The monthly range was generally smaller in the year 1843 than it was in 1842; the mean monthly range in 1842 was 0·004762, and in 1843 it was 0·003626.

TABLE LIII.—Diurnal Range of the Vertical Force Magnet on every Day of the Year (except Sundays, Good Friday, the days included between April 21 and May 6, and Christmas Day), as deduced from all the Observations taken on the Day.

Days of the Month, 1843.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	*S*	0·000506	0·000478	0·001020	.....	0·000644	0·001325	0·000834	0·002483	*S*	0·000842	0·000536
2	0·001947	0·000282	0·000671	*S*	.....	0·001591	*S*	0·000904	0·001622	0·001467	0·000672	0·000875
3	0·000797	0·000553	0·001057	0·001089	.....	0·001519	0·001144	0·000690	*S*	0·000991	0·001054	*S*
4	0·000490	0·000935	0·000492	0·000347	.....	*S*	0·000946	0·001813	0·000990	0·000766	0·000963	0·000486
5	0·003913	*S*	*S*	0·003110	.....	0·000854	0·001656	0·001125	0·002002	0·001415	*S*	0·000623
6	0·000974	0·000831	0·000500	0·002510	0·002992	0·000999	0·000821	*S*	0·001137	0·000948	0·000853	0·000598

The letter *S* denotes that the day was Sunday.

TABLE LIII.—*continued.*

Days of the Month, 1843.	January.	February.	March.	April.	May.	June.	July.	August.	Sep.	Oct.	Nov.	Dec.
7	0·000768	0·000469	0·002004	0·001572	*S*	0·001399	0·000754	0·001059	0·001974	0·000753	0·000872	0·001022
8	*S*	0·000324	0·001445	0·001449	0·002487	0·001197	0·001091	0·001264	0·001227	*S*	0·000780	0·000956
9	0·002247	0·000396	0·000624	*S*	0·003000	0·000643	*S*	0·001798	0·001731	0·000391	0·001653	0·000923
10	0·000841	0·001498	0·000577	0·001164	0·003175	0·000845	0·001948	0·001195	*S*	0·001040	0·000648	*S*
11	0·000804	0·000469	0·000724	0·001478	0·001218	*S*	0·001003	0·001774	0·000820	0·002837	0·000849	0·001188
12	0·001145	*S*	*S*	0·001343	0·001193	0·001302	0·001508	0·001215	0·000915	0·000640	*S*	0·000703
13	0·001258	0·001013	0·001789	0·001284	0·000896	0·000735	0·000956	*S*	0·001390	0·001126	0·002031	0·000912
14	0·000559	0·001172	0·001230	Good Fri.	*S*	0·000953	0·001149	0·001053	0·001050	0·002361	0·000728	0·000548
15	*S*	0·000655	0·000327	0·000924	0·000769	0·000885	0·001120	0·001358	0·001040	*S*	0·000962	0·000569
16	0·001364	0·000679	0·000599	*S*	0·000978	0·001055	*S*	0·000572	0·001177	0·001664	0·000851	0·000323
17	0·000728	0·001642	0·002024	0·001772	0·000939	0·001705	0·001225	0·001347	*S*	0·001381	0·000991	*S*
18	0·000724	0·000711	0·001795	0·002447	0·001094	*S*	0·000733	0·001134	0·001365	0·001451	0·000698	0·000880
19	0·000810	*S*	*S*	0·001812	0·000829	0·000714	0·000870	0·001249	0·001286	0·001232	*S*	0·000643
20	0·000600	0·000437	0·001210	0·001408	0·001095	0·000595	0·001350	*S*	0·001196	0·001723	0·000784	0·000496
21	0·000647	0·001115	0·000915	....	*S*	0·001032	0·000842	0·001065	0·001723	0·000746	0·000871	0·000556
22	*S*	0·000577	0·000871	....	0·002135	0·000742	0·000891	0·001074	0·001618	*S*	0·001296	0·000594
23	0·000608	0·000647	0·001594	*S*	0·000748	0·001218	*S*	0·002034	0·001787	0·000683	0·001017	0·000690
24	0·000433	0·001751	0·001007	....	0·001038	0·001226	0·001035	0·000986	*S*	0·000888	0·000890	*S*
25	0·000647	0·000493	0·000768	....	0·000934	*S*	0·003026	0·000803	0·000906	0·000804	0·000738	Ch. Day
26	0·000310	*S*	*S*	....	0·000679	0·001485	0·001244	0·001283	0·001060	0·005033	*S*	0·000658
27	0·000475	0·001481	0·000909	....	0·001414	0·001348	0·001091	*S*	0·000610	0·001717	0·001196	0·000505
28	0·001210	0·000315	0·001044	....	*S*	0·000770	0·001226	0·001124	0·001684	0·000687	0·000636	0·000821
29	*S*	....	0·001393	....	0·000610	0·001142	0·000951	0·000590	0·001260	*S*	0·000554	0·000355
30	0·000857	....	0·001057	*S*	0·001402	0·000898	*S*	0·001350	0·000910	0·001808	0·001106	0·001195
31	0·000743	....	0·000643	....	0·000977	....	0·001203	0·000930	....	0·000621	....	*S*

The letter *S* denotes that the day was Sunday.

TABLE LIV.—Greatest and Least Daily Range of the Vertical Force Magnet, expressed in parts of the whole Vertical Force, in each Month.

1843, Month.	Daily Range of the Vertical Force Magnet.		Day on which the Range of the Magnet was	
	Greatest.	Least.	Greatest.	Least.
January	0·003913	0·000310	5 d	26 d
February	0·001751	0·000282	24	2
March	0·002024	0·000327	17	15
April	0·003110	0·000347	5	4
May	0·003175	0·000610	10	29
June	0·001705	0·000595	17	20
July	0·003026	0·000733	25	18
August	0·002034	0·000572	23	16
September	0·002483	0·000610	17	27
October	0·005033	0·000391	26	9
November	0·002031	0·000554	13	29
December	0·001195	0·000323	30	16

TABLE LV.—Mean of the Diurnal Ranges of the Vertical Force Magnet in each Month, expressed in parts of the whole Vertical Force.

1843, Month.	Mean of all the Daily Ranges in each Month.	1843, Month.	Mean of all the Daily Ranges in each Month.
January	0·000996	July	0·001196
February	0·000790	August	0·001171
March	0·001028	September	0·001345
April	0·001546	October	0·001353
May	0·001391	November	0·000944
June	0·001058	December	0·000706

The mean daily range of the magnet appears to be smallest in February and December, and largest in April. 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 0·001285 parts of the whole Vertical Force.
,, Winter was 0·000969 ,,
And the mean daily range for the year was 0·001127 ,,

TABLE LVI.—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.

1843, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	0·032831	0·032531	0·031372	0·031182	0·053963	0·048958	0·048609	0·048077	0·047088	0·043970	0·043315	0·042710
16	0·032820	0·032506	0·031386	0·031116	0·054032	0·048893	0·048546	0·048087	0·047011	0·043924	0·043305	0·042669
18	0·032834	0·032549	0·031402	0·031115	0·054035	0·048928	0·048509	0·048139	0·046976	0·044045	0·043210	0·042585
20	0·032854	0·032543	0·031418	0·031148	0·054174	0·048839	0·048497	0·048112	0·047074	0·044031	0·043217	0·042543
22	0·032964	0·032572	0·031488	0·031254	0·054193	0·048906	0·048573	0·048180	0·047077	0·044065	0·043260	0·042623
0	0·033220	0·032651	0·031595	0·031427	0·054177	0·049046	0·048739	0·048218	0·047224	0·044148	0·043358	0·042679
2	0·033232	0·032860	0·031844	0·031831	0·054407	0·049293	0·049053	0·048656	0·047709	0·044535	0·043629	0·042828
4	0·033397	0·032963	0·032112	0·032215	0·054522	0·049494	0·049309	0·048930	0·048001	0·044750	0·043795	0·042975
6	0·033207	0·032941	0·032052	0·032345	0·054586	0·049619	0·049424	0·048972	0·048014	0·044573	0·043649	0·042936
8	0·033146	0·032900	0·031949	0·032057	0·054449	0·049527	0·049356	0·048768	0·047735	0·044459	0·043630	0·042973
10	0·033075	0·032744	0·031704	0·031768	0·054200	0·049224	0·049095	0·048482	0·047442	0·044333	0·043509	0·042870
12	0·033008	0·032642	0·031565	0·031491	0·053938	0·049001	0·048797	0·048281	0·047136	0·044105	0·043336	0·042779

The numbers as observed, from Sep. 24^{d}. 14^{h} to Sep. 30^{d}. 12^{h}, have been increased by 0·005391 to reduce them to the series at the former part of the month; and all the numbers as observed between Oct. 1^{d}. 14^{h} and Oct. 14^{d}. 12^{h} have been increased by 0·004159 to reduce them to the series at the latter part of the month, and then the mean of the numbers at each hour was taken. To reduce the numbers after May to the series beginning with May, it is necessary to increase all the numbers between June and September by 0·002620, and the numbers from October to December by 0·003852: by applying these numbers the next table is formed.

TABLE LVII.—Table formed from the preceding (Table LVI.) by applying the corrections mentioned at the foot of the latter for the Months following May.

1843, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	0·032831	0·032531	0·031372	0·031182	0·053963	0·051578	0·051229	0·050697	0·049708	0·047822	0·047167	0·046562
16	0·032820	0·032506	0·031386	0·031116	0·054032	0·051513	0·051166	0·050707	0·049631	0·047776	0·047157	0·046521
18	0·032834	0·032549	0·031402	0·031115	0·054035	0·051548	0·051129	0·050759	0·049596	0·047897	0·047062	0·046437
20	0·032854	0·032543	0·031418	0·031148	0·054174	0·051459	0·051117	0·050732	0·049694	0·047883	0·047069	0·046395
22	0·032964	0·032572	0·031488	0·031254	0·054193	0·051526	0·051193	0·050800	0·049697	0·047917	0·047112	0·046475
0	0·033220	0·032651	0·031595	0·031427	0·054177	0·051666	0·051359	0·050838	0·049844	0·048000	0·047210	0·046531
2	0·033232	0·032860	0·031844	0·031831	0·054407	0 051913	0·051673	0·051276	0·050329	0·048387	0·047481	0·046680
4	0·033397	0·032963	0·032112	0·032215	0·054522	0·052114	0·051929	0·051550	0·050621	0·048602	0·047647	0·046827
6	0·033207	0·032941	0·032052	0·032345	0·054586	0·052239	0·052044	0·051592	0·050634	0·048425	0·047501	0·046788
8	0·033146	0·032900	0·031949	0·032057	0·054449	0·052147	0·051976	0·051388	0·050355	0·048311	0·047482	0·046825
10	0·033075	0·032744	0·031704	0·031768	0·054200	0·051844	0·051715	0·051102	0·050062	0·048185	0·047361	0·046722
12	0·033008	0·032642	0·031565	0·031491	0·053938	0·051621	0·051417	0·050901	0·049756	0·047957	0·047188	0·046631

To ascertain the times and the amounts of the changes contained in this table, the next table is formed, by considering that number which is the smallest at about 12^h as denoting the first extreme position towards the Zenith; then, the last of the following increasing numbers, as denoting the first extreme position towards the Nadir; then, the next smallest number, as denoting the second extreme position towards the Zenith, and so on successively.

TABLE LVIII.—Hours of Göttingen Mean Solar Time at which the Extreme Positions of the Vertical Force Magnet occur in different Months, as inferred from the Monthly Means of the Two-hourly Observations, with the Readings, and the Amounts of the Changes: the Corrections for Temperature having been applied.

1843, Month.	Times of 1st extreme Positions towards		Readings for 1st Extremes towards		Interval of Time between 1st Extremes.	Difference between 1st Extremes.	Times of 2nd extreme Positions		Readings for 2nd Extremes		Interval in Time between the 1st extreme Nadir Position and the 2nd extreme Zenith Position.	Difference between the Readings of the 1st extreme Nadir Position and the 2nd extreme Zenith Position.	Interval of Time in which the Magnet is moving from its 2nd extreme Zenith Position to its 2nd extreme Nadir Position.	Difference between the 2nd Extremes.	Interval of Time between the Last extreme Nadir Position and the 1st extreme Zenith Position.	Difference between the Last extreme Nadir Position and the 1st extreme Zenith Position.	Sums of the Differences.	Difference between the Greatest and Least Extremes, or Mean Daily Range.
	Zen.	Nad.	Zenith.	Nadir.			Zen.	Nad.	Zenith.	Nadir.								
	h	h			h		h	h			h		h		h			
Jan.	16	4	0·032820	0·033397	12	0·000577									12	0·000577	0·001154	0·000577
Feb.	16	18	0·032506	0·032549	2	0·000043	20	4	0·032543	0·032963	2	0·000006	8	0·000420	12	0·000457	0·001210	0·000599
March	14	4	0·031372	0·032112	14	0·000740									10	0·000740	0·001480	0·000740
April	18	6	0·031115	0·032345	12	0·001230									12	0·001230	0·002460	0·001230
May	12	22	0·053938	0·054193	10	0·000255	0	6	0·054177	0·054586	2	0·000016	6	0·000409	6	0·000648	0·001328	0·000648
June	16	18	0·051513	0·051548	2	0·000035	20	6	0·051459	0·052239	2	0·000089	10	0·000780	10	0·000726	0·001630	0·000780
July	20	6	0·051117	0·052044	10	0·000927									14	0·000927	0·001854	0·000927
Aug.	14	18	0·050697	0·050759	4	0·000062	20	6	0·050732	0·051592	2	0·000027	10	0·000860	8	0·000895	0·001844	0·000895
Sep.	18	6	0·049596	0·050634	12	0·001038									12	0·001038	0·002076	0·001038
Oct.	16	18	0·047776	0·047897	2	0·000121	20	4	0·047883	0·048602	2	0·000014	8	0·000719	12	0·000826	0·001680	0·000826
Nov.	18	4	0·047062	0·047647	10	0·000585									14	0·000585	0·001170	0·000585
Dec.	20	4	0·046395	0·046827	8	0·000432	6	8	0·046788	0·046825	2	0·000039	2	0·000037	12	0·000430	0·000938	0·000430

The following particulars may be collected from this table:—At 12^h, 14^h, 16^h, 18^h, and 20^h, the marked end of the magnet has been less drawn downwards; and at 4^h and 6^h it has been more drawn downwards than at any other observation hours. In six months of the year the magnet has moved from the first of these extreme positions to that of the second without any intermediate checked motion: the mean arc described between these times in the three summer months of these six, viz., April, July, and September, was 0·001065 parts of the whole vertical force; and in the three winter months, viz., January, March, and November, it was 0·000634 parts of the whole vertical force. The motion of the magnet in December was very similar to that in the last-mentioned months, the difference being that, after having attained its extreme position in December at 4^h, a small decrease of the force occurred between 4^h and 6^h, and then between 6^h and 8^h, an increase took place, but less in amount than the decrease between 4^h and 6^h; after 8^h the force decreased as in the other months: the arcs described in December are exhibited in the above table. In the three summer months of those remaining, viz., May, June, and August, the magnet moved from the times of the first extreme position, so that the force increased during a variable interval, and described an arc corresponding to a change in the vertical force of 0·000117: then for two hours the motion of the magnet was in the contrary direction, describing an arc corresponding to 0·000044, and then the force increased, as before, till 4^h or 6^h, describing an arc corresponding to 0·000683 parts of the vertical force. In the two remaining winter months, viz., February and October, the force increased between 16^h and 18^h, the mean arc described being 0·000082; then between 18^h and 20^h a small decrease took place of 0·000010; and from 20^h to 4^h the force was increasing, the arc described between these times being 0·000570. Neglecting the insignificant arcs described in December, between 4^h and 8^h, the magnet has moved from its extreme downward position, at 4^h or 6^h, to that of its extreme upward position at the times above mentioned, in every month without interruption; the mean arc described between these times corresponded to a change in the whole vertical force during the summer months of 0·000911, and during the winter months of 0·000603.

The diurnal movement has therefore consisted of a single maximum and a single minimum in six months of the year, and of a double maximum and a double minimum in the other six months.

The numbers in the last column but one shew the sums of all the upward and downward motions of the magnet as found by adding, without regard to sign, all the differences between successive extremes, and they exhibit nearly the mean amount of motion each day. The numbers in the last column shew the changes in the mean daily position of the magnet. The numbers in the two last columns are larger in the summer months than in the winter months.

The numbers in Table LVII., beginning with those in May, must be diminished by 0·022900, to reduce them to the same series with the numbers preceding May, for the purpose of comparing approximately the results at different times of the year. From the means of the numbers in Table LVII. thus altered, for the same hour between April and September for summer, and for the same hour in the other months for winter, the following table is formed:—

TABLE LIX.—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 Position of the Magnet in		For the Year.
	Summer.	Winter.	
h			
14	0·028976	0·028264	0·028620
16	0·028944	0·028244	0·028594
18	0·028947	0·028247	0·028597
20	0·028971	0·028244	0·028608
22	0·029027	0·028305	0·028666
0	0·029135	0·028418	0·028777
2	0·029488	0·028631	0·029060
4	0·029742	0·028808	0·029275
6	0·029823	0·028702	0·029263
8	0·029645	0·028652	0·029149
10	0·029365	0·028515	0·028940
12	0·029104	0·028382	0·028743

The minimum force is indicated at 16^h, both in the summer and in the winter periods; and in the winter period the force at 20^h is the same as at 16^h. The maximum force is indicated at 6^h in summer, and at 4^h in the winter. In summer and for the year there is only one maximum and one minimum; in winter there are two maxima and two minima. The times are:—

In Summer.	In Winter.	For the Year.
The minimum at 16^h	The minimum at 16^h	The minimum at 16^h
The maximum at 6	A maximum at 18	The maximum at 4
	A minimum at 20	
	The maximum at 4	

The amount of the daily changes in Summer was 0·000879
,, Winter was 0·000564

These numbers are very nearly the same as those derived from the observations of the year 1842; the changes in the winter are about two-thirds of those in the summer.

The mean vertical force for the Summer period was 0·029264
,, Winter period was 0·028451
And the mean for the Year was 0·028857

If these numbers be diminished by 0·030429, and, thus decreased, be compared with the similar results derived from the observations in the year 1842, we find

That the decrease of the whole vertical force from the Summer of 1842 to the Summer of 1843 was 0·013757
,, ,, Winter of 1842 to the Winter of 1843 was 0·015633
,, ,, Year 1842 to the Year 1843 was 0·014696

Comparing the numbers in the last column of the above table with the mean for the year, or 0·028857, 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

At 14^h was 0·000237 parts of the whole vertical force *less* drawn downwards than the mean position for the year.
16 was 0·000263 ,, ,, ,,
18 was 0·000260 ,, ,, ,,
20 was 0·000249 ,, ,, ,,
22 was 0·000191 ,, ,, ,,
0 was 0·000080 ,, ,, ,,

At ^{h} 2 was 0·000203 parts of the whole vertical force *more* drawn downwards than the mean position for the year.
4 was 0·000418 ,, ,, ,,
6 was 0·000406 ,, ,, ,,
8 was 0·000292 ,, ,, ,,
10 was 0·000083 ,, ,, ,,
12 was 0·000114 ,, *less* drawn downwards than the mean position for the year.

TABLE LX.—Excess of the Mean Reading of the Vertical Force Magnet, corrected for Temperature, expressed in parts of the whole Vertical Force in every Month, at each even Hour of Göttingen Mean Solar Time deduced from all the Observations made in each Month at the same Hour, above the Monthly Mean deduced from the Mean of all the Observations made at all Hours throughout the Month.

1843, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	−0·000218	−0·000333	−0·000285	−0·000397	−0·000260	−0·000157	−0·000267	−0·000332	−0·000286	−0·000275	−0·000119	−0·000054
16	−0·000229	−0·000191	−0·000271	−0·000463	−0·000191	−0·000222	−0·000330	−0·000322	−0·000363	−0·000321	−0·000129	−0·000095
18	−0·000215	−0·000148	−0·000255	−0·000464	−0·000188	−0·000187	−0·000367	−0·000270	−0·000398	−0·000200	−0·000224	−0·000179
20	−0·000195	−0·000154	−0·000239	−0·000431	−0·000049	−0·000276	−0·000379	−0·000297	−0·000300	−0·000214	−0·000217	−0·000221
22	−0·000085	−0·000125	−0·000169	−0·000325	−0·000030	−0·000209	−0·000303	−0·000229	−0·000297	−0·000180	−0·000174	−0·000141
0	+0·000171	−0·000046	−0·000062	−0·000152	−0·000046	−0·000069	−0·000137	−0·000191	−0·000150	−0·000097	−0·000076	−0·000085
2	+0·000183	+0·000163	+0·000187	+0·000252	+0·000184	+0·000178	+0·000177	+0·000247	+0·000335	+0·000290	+0·000195	+0·000064
4	+0·000348	+0·000266	+0·000455	+0·000636	+0·000299	+0·000379	+0·000433	+0·000521	+0·000627	+0·000505	+0·000361	+0·000211
6	+0·000158	+0·000244	+0·000395	+0·000766	+0·000363	+0·000504	+0·000548	+0·000563	+0·000640	+0·000328	+0·000215	+0·000172
8	+0·000097	+0·000203	+0·000292	+0·000478	+0·000226	+0·000412	+0·000480	+0·000359	+0·000361	+0·000214	+0·000196	+0·000209
10	+0·000026	+0·000047	+0·000047	+0·000189	−0·000023	+0·000109	+0·000219	+0·000073	+0·000068	+0·000088	+0·000075	+0·000106
12	−0·000041	−0·000055	−0·000092	−0·000088	−0·000285	−0·000114	−0·000079	−0·000128	−0·000238	−0·000140	−0·000098	+0·000015

This table exhibits the following particulars. With the exception of the month of January, the sign of the numbers in every month at 0^{h} is −; the sign of the numbers in every month at 2^{h} is +; and, with the exception of the − sign in May at 10^{h}, the signs at that hour are all +, and at 12^{h} they are all −, except for December. Thus it appears, that between 0^{h} and 2^{h}, and between 10^{h} and 12^{h}, the magnet was in its mean position; and (as the difference between the numbers at 0^{h} and 2^{h} is greater than the difference between any other two hours) that the magnet between 0^{h} and 2^{h} moves more rapidly than at any other time.

In the months of January 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 these months was longer above its mean position than it was below it. The turning points in this table are strongly marked, and agree closely with each other, and with previous results in this respect. 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 0·000283, in winter 0·000214
16 ,, ,, 315 ,, 206
18 ,, ,, 312 ,, 204
20 ,, ,, 289 ,, 207
22 ,, ,, 232 ,, 146
0 ,, ,, 124 ,, 089
2 ,, ,, 229 ,, 180
4 ,, ,, 483 ,, 358
6 ,, ,, 564 ,, 252
8 ,, ,, 386 ,, 202
10 ,, ,, 114 ,, 065
12 ,, ,, 155 ,, 074

These numbers have been deduced by comparing the mean reading for the month with the mean readings at each hour in that month, and therefore they are independent of all assumption whatever. The mean of the results for the summer and winter periods at each hour would represent the mean amount of departure from the mean of the year at that hour; and in the cases where the signs

of the numbers in Table LX. are the same in every month at that hour, such means should be identical with the numbers following Table LIX., exhibiting the difference between the mean position for the year and the mean position of the year at that hour, which differences have been deduced on the assumption that the decrease in the force from April to May was 0·022900: some idea of the correctness of this assumption may be inferred from the agreement of the following numbers with those numbers following Table LIX:—

At	14	the mean departure from the mean of the year was	0·000249
	16	,, ,,	261
	18	,, ,,	258
	20	,, ,,	248
	22	,, ,,	189
	0	,, ,,	107
	2	,, ,,	205
	4	,, ,,	421
	6	,, ,,	408
	8	,, ,,	296
	10	,, ,,	090
	12	,, ,,	115

This agreement is very close at all the hours, except that at 0^h, at which hour a change of sign takes place; so that it would seem that the number assumed is very nearly correct.

TABLE LXI.—Table exhibiting the Differences in the Mean Positions of the Vertical Force Magnet between every Pair of Consecutive Observation-hours in every Month, estimated positive when the Force was greater at the latter Hour (obtained by taking the Differences between the Consecutive Numbers in each Month, contained in Table LVII. or in Table LX.).

1843, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h h												
Between 14 & 16	−0·000011	−0·000025	+0·000014	−0·000066	+0·000069	−0·000065	−0·000063	+0·000010	−0·000077	−0·000046	−0·000010	−0·000041
,, 16 & 18	+0·000014	+0·000043	+0·000016	−0·000001	+0·000003	+0·000035	−0·000037	+0·000052	−0·000035	+0·000121	−0·000095	−0·000084
,, 18 & 20	+0·000020	−0·000006	+0·000016	+0·000033	+0·000139	−0·000089	−0·000012	−0·000027	+0·000098	−0·000014	+0·000007	−0·000042
,, 20 & 22	+0·000110	+0·000029	+0·000070	+0·000106	+0·000019	+0·000067	+0·000076	+0·000068	+0·000003	+0·000034	+0·000043	+0·000080
,, 22 & 0	+0·000256	+0·000079	+0·000107	+0·000173	−0·000016	+0·000140	+0·000166	+0·000038	+0·000147	+0·000083	+0·000098	+0·000056
,, 0 & 2	+0·000012	+0·000209	+0·000249	+0·000404	+0·000230	+0·000247	+0·000314	+0·000438	+0·000485	+0·000387	+0·000271	+0·000149
,, 2 & 4	+0·000165	+0·000103	+0·000268	+0·000384	+0·000115	+0·000201	+0·000256	+0·000274	+0·000292	+0·000215	+0·000166	+0·000147
,, 4 & 6	−0·000190	−0·000022	−0·000060	+0·000130	+0·000064	+0·000125	+0·000115	+0·000042	+0·000013	−0·000177	−0·000146	−0·000039
,, 6 & 8	−0·000061	−0·000041	−0·000103	−0·000288	−0·000137	−0·000092	−0·000068	−0·000204	−0·000279	−0·000114	−0·000019	+0·000037
,, 8 & 10	−0·000071	−0·000156	−0·000245	−0·000289	−0·000249	−0·000303	−0·000261	−0·000286	−0·000293	−0·000126	−0·000121	−0·000103
,, 10 & 12	−0·000067	−0·000102	−0·000139	−0·000277	−0·000262	−0·000223	−0·000298	−0·000201	−0·000306	−0·000228	−0·000173	−0·000091
,, 12 & 14	−0·000177	−0·000111	−0·000193	−0·000309	+0·000025	−0·000043	−0·000188	−0·000204	−0·000048	−0·000135	−0·000021	−0·000069

The largest number contained in this table is that in September between 0^h and 2^h. By taking the mean of the numbers in each column (without regard to their signs) the mean change for two hours is exhibited:—

In January	the mean change for two hours was		0·000096
February	,,	,,	086
March	,,	,,	123
April	,,	,,	205
May	,,	,,	111
June	,,	,,	136
July	,,	,,	155
August	,,	,,	154
September	,,	,,	173
October	,,	,,	140
November	,,	,,	098
December	,,	,,	078

And the next table is formed by taking the means of the numbers contained in this table (without regard to their signs) which correspond to the same pair of hours. The months from April to September are grouped together for summer, and the remaining months for winter.

TABLE LXII.—Amounts of the Differences in the Mean Positions of the Vertical Force Magnet, between every Pair of Consecutive Hours, with the character of the Changes for the Winter, the Summer, and the Year.

Between what Hours.	Amount of the Difference in the Mean Position of the Vertical Force Magnet.			CHARACTER OF THE CHANGES.		
				Summer Period.	Winter Period.	For the Year.
	Summer.	Winter.	Year.	The Vertical Force was, at the latter Hour,		
h h						
14 & 16	0·000058	0·000024	0·000041	Alternately smaller and larger.	Always smaller, except in March.	Generally smaller.
16 & 18	027	062	045	Smaller in April, July, and Sep.; and larger in May, June, and August.	Larger, except in Nov. and Dec.	Generally larger.
18 & 20	066	018	042	Larger in April, May, and Sep.; and smaller in June, July, and Aug.	Alternately larger and smaller.	Generally smaller.
20 & 22	056	061	059	Always larger.	Always larger.	Always larger.
22 & 0	113	113	113	,,	,,	,,
0 & 2	353	213	283	,,	,,	,,
2 & 4	254	177	216	,,	,,	,,
4 & 6	081	106	094	,,	Always smaller.	Larger during the Summer period, and smaller during the Winter period.
6 & 8	178	063	120	Always smaller.	Smaller, except in December.	Generally smaller.
8 & 10	280	137	209	,,	Always smaller.	Always smaller.
10 & 12	261	133	197	,,	,,	,,
12 & 14	136	118	127	Smaller, except in May.	,,	Generally smaller.

The smallest change of force for two hours appears to be between 14^h and 16^h, and the largest between 0^h and 2^h, at all seasons.

The mean change for two hours in Summer was 0·000155
,, Winter was 0·000102
,, the Year was 0·000129

TABLE LXIII.—Mean Reading of the Vertical Force Magnet at each Hour during each Month, obtained by taking the Means of all the Readings at the same Hour during each Month (Table LVII.), diminished by the Mean Reading for the Month (Table L.), and by the Mean Diurnal Change in each Hour (in the remarks following Table LIX.).

1843, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	+0·000019	−0·000096	−0·000048	−0·000160	−0·000023	+0·000080	−0·000030	−0·000095	−0·000049	−0·000038	+0·000118	+0·000183
16	+0·000034	+0·000072	−0·000008	−0·000200	+0·000072	+0·000041	−0·000067	−0·000059	−0·000100	−0·000058	+0·000134	+0·000168
18	+0·000045	+0·000112	+0·000005	−0·000204	+0·000072	+0·000073	−0·000107	−0·000010	−0·000138	+0·000060	+0·000036	+0·000081
20	+0·000054	+0·000095	+0·000010	−0·000182	+0·000200	−0·000027	−0·000130	−0·000048	−0·000051	+0·000035	+0·000032	+0·000028
22	+0·000106	+0·000066	+0·000022	−0·000134	+0·000161	−0·000018	−0·000112	−0·000038	−0·000106	+0·000011	+0·000017	+0·000050
0	+0·000251	+0·000034	+0·000018	−0·000072	+0·000034	+0·000011	−0·000057	−0·000111	−0·000070	−0·000017	+0·000004	−0·000005
2	−0·000020	−0·000040	−0·000016	+0·000049	−0·000019	−0·000025	−0·000026	+0·000044	+0·000132	+0·000087	−0·000008	−0·000139
4	−0·000070	−0·000152	+0·000037	+0·000218	−0·000119	−0·000039	+0·000015	+0·000103	+0·000209	+0·000087	−0·000057	−0·000207
6	−0·000248	−0·000162	−0·000011	+0·000360	−0·000043	+0·000098	+0·000142	+0·000157	+0·000234	−0·000078	−0·000191	−0·000234
8	−0·000195	−0·000089	0·000000	+0·000186	−0·000066	+0·000120	+0·000188	+0·000067	+0·000069	−0·000078	−0·000096	−0·000083
10	−0·000057	−0·000036	−0·000036	+0·000106	−0·000106	+0·000026	+0·000136	−0·000010	−0·000015	+0·000005	−0·000008	+0·000023
12	+0·000073	+0·000059	+0·000022	+0·000026	−0·000171	0·000000	+0·000035	−0·000014	−0·000124	−0·000026	+0·000016	+0·000129

No simple law exists in this table relatively to the order of the signs. Generally, however, the order of the signs in the summer and the winter periods, is different. By taking the sums of all the numbers ranging with each hour, without regard to sign, the following table is formed:—

TABLE LXIV.—Sums of the Differences of Diurnal Inequality at each Hour.

Hours of Göttingen Mean Time.	Sums of the Differences.	Hours of Göttingen Mean Time.	Sums of the Differences.
h		h	
14	0·000939	2	0·000605
16	0·001013	4	0·001313
18	0·000943	6	0·001958
20	0·000892	8	0·001237
22	0·000841	10	0·000564
0	0·000684	12	0·000695

Considering that the smallest number indicates the hour subject to the least irregularity, and the largest the hour subject to the greatest irregularity, it appears that the vertical force at 10^h is the most uniform. At 6^h the largest number appears, and this hour would therefore appear subject to the greatest irregularity. The following table contains the sums of all the quantities in each month, in Table LXIII., without regard to their signs.

TABLE LXV.—Monthly Sums of the Differences of Diurnal Inequality.

Month.	Sums of the Differences.	Month.	Sums of the Differences.
January	0·001172	July	0·001045
February	0·001013	August	0·000756
March	0·000233	September	0·001297
April	0·001897	October	0·000580
May	0·001086	November	0·000717
June	0·000558	December	0·001330

From this table it appears that the diurnal motion of the vertical force magnet agrees most nearly with its mean diurnal motion, as found from the mean of the determinations throughout the year, in March; and departs the most from the mean in April.

TABLE LXVI.—Mean Reading of the Vertical Force Magnet, corrected for Temperature, and expressed in parts of the whole Vertical Force, as deduced from all the Triple Observations taken near 2^h Göttingen Mean Solar Time, on every Day in each Month.

Month.	Mean Reading at			Month.	Mean Reading at		
	$1^h.47^m.30^s.$	$1^h.57^m.30^s.$	$2^h.7^m.30^s.$		$1^h.47^m.30^s.$	$1^h.57^m.30^s.$	$2^h.7^m.30^s.$
January	0·033262	0·033232	0·033242	July	0·049036	0·049052	0·049044
February	0·032863	0·032860	0·032855	August	0·048662	0·048656	0·048657
March	0·031855	0·031844	0·031823	September	0·047726	0·047709	0·047682
April	0·031856	0·031831	0·031836	October	0·044610	0·044535	0·044537
May	0·054415	0·054407	0·054393	November	0·043651	0·043629	0·043620
June	0·049307	0·049293	0·049275	December	0·042841	0·042829	0·042819

The mean of all the observations, between January and April, both inclusive, taken at	h m s 1. 47. 30,	is	0·032459
,, ,,	1. 52. 30,	is	0·032442
,, ,,	1. 57. 30,	is	0·032439
,, between May and December, both inclusive, taken at	1. 47. 30,	is	0·047531
,, ,,	1. 52. 30,	is	0·047514
,, ,,	1. 57. 30,	is	0·047503

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.

Abstracts of the Observations of the Magnetic Dip.

The results of all the observations, made at 21^h and 3^h, with both needles in every month, have been collected, and their means taken, and thus the following table is formed.

TABLE LXVII.—Mean Monthly Magnetic Dip.

Month. 1842. — 1843.	Mean Monthly Dip at 21^h				Mean Monthly Dip at 3^h			
	By Needle Marked A 1.	No. of Obs.	By Needle Marked A 2.	No. of Obs.	By Needle Marked A 1.	No. of Obs.	By Needle Marked A 2.	No. of Obs.
1842.	° ′		° ′		° ′		° ′	
November	68. 57·50	3	68. 56·25	3	68. 59·50	2	68. 59·75	1
December	68. 56·00	3	68. 56·25	3	68. 59·50	5	68. 59·25	5
1843.								
January	68. 59·00	5	68. 58·75	5	68. 59·50	2	68. 59·75	2
February	69. 0·25	4	68. 59·50	3	68. 59·50	4	68. 59·50	4
March	68. 59·00	3	68. 58·25	3	69. 2·00	4	69. 1·50	3
April	69. 0·00	4	68. 59·75	4	69. 0·75	1	69. 0·75	1
May	68. 59·75	5	68. 59·25	3	69. 0·50	4	69. 0·25	4
June	69. 1·75	4	69. 1·25	3	69. 1·50	4	69. 2·50	2
July	69. 2. 00	5	68. 58·75	5	69. 1·50	2	69. 1·00	2
August	69. 0·00	4	69. 1·00	4	69. 1·00	4	69. 1·00	4
September	69. 0·50	2	69. 0·75	4	69. 3·00	2	69. 3·25	3
October	69. 0·00	4	69. 1·25	4	69. 3·00	3	69. 4·00	2
November	68. 58·00	4	68. 59·75	4	69. 0·25	5	69. 0·25	5
December	69. 0·75	4	69. 1·75	4	68. 59·25	3	69. 0·25	3

And the mean for the whole period, at 21^h by needle A 1,	° ′ was 69. 0·1;	by needle A 2,	° ′ was 69. 0·0
,, at 3^h ,,	was 69. 1·0;	,,	was 69. 1·2
Therefore, the Mean Dip at 21^h from both needles	was 69. 0·1.		
,, at 3^h ,,	was 69. 1·1.		

By using the numbers for 1843 only, and dividing them into quarterly periods, the next table is formed.

TABLE LXVIII.—Mean Quarterly Magnetic Dip.

1843. Months forming the Quarterly Period.	Mean Quarterly Dip at 21^h				Mean Quarterly Dip at 3^h			
	By Needle Marked A 1.	No. of Obs.	By Needle Marked A 2.	No. of Obs.	By Needle Marked A 1.	No. of Obs.	By Needle Marked A 2.	No. of Obs.
	° ′		° ′		° ′		° ′	
Jan. Feb. March	68. 59·83	12	68. 58·83	11	69. 0·33	10	69. 0·25	9
Apr. May June	69. 0·50	13	69. 0·08	10	69. 0·92	9	69. 1·17	7
July Aug. Sep.	69. 0·83	11	69. 0·17	13	69. 1·83	8	69. 1·75	9
Oct. Nov. Dec.	68. 59·58	12	69. 0·92	12	69. 0·83	11	69. 1·50	10

		° ′		° ′
And the yearly mean at 21^h from A 1, was	69. 0·2;	from A 2	was	69. 0·0
,, at 3^h ,,	69. 1·0;	,,	was	69. 1·2
Therefore, the Mean Magnetic Dip for the year at 21^h from both needles			was	69. 0·1
,, at 3^h ,,			was	69. 1·1

ROYAL OBSERVATORY, GREENWICH.

ABSTRACTS

OF THE

RESULTS

OF THE

METEOROLOGICAL OBSERVATIONS.

1843.

TABLE I.—Mean Height of the Barometer, as deduced from the Twelve Observations taken on every Civil Day of the Year 1843 (except Sundays, Good Friday, and Christmas Day), at the even Hours of Göttingen Mean Time.

Days of the Month, 1843.	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	*S*	29·773	29·615	29·410	29·963	29·522	29·869	29·798	30·181	*S*	29·558	29·940
2	29·961	29·611	29·877	*S*	29·972	29·206	*S*	29·596	30·217	29·937	29·674	30·092
3	30·095	29·261	30·004	29·620	29·756	29·352	29·867	29·457	*S*	30·013	29·545	*S*
4	29·877	29·370	30·235	29·327	29·634	*S*	29·824	29·438	30·171	30·018	29·578	30·249
5	29·827	*S*	*S*	29·678	29·564	29·673	29·584	29·673	30·262	29·929	*S*	30·041
6	29·977	29·733	30·170	29·686	29·403	29·697	29·659	*S*	30·162	29·592	29·869	30·229
7	29·751	29·823	30·118	29·420	*S*	29·724	29·800	30·085	30·159	29·445	29·628	30·110
8	*S*	29·922	30·201	29·422	29·455	29·278	29·762	30·085	30·143	*S*	29·534	30·086
9	29·406	29·845	30·261	*S*	29·576	29·330	*S*	29·917	30·032	29·418	29·774	30·180
10	28·911	29·753	30·055	29·779	29·922	29·706	29·829	29·925	*S*	29·702	29·509	*S*
11	28·922	29·801	30·040	29·873	30·072	*S*	29·938	30·122	29·896	29·096	29·903	30·199
12	28·796	*S*	*S*	29·806	29·982	29·876	30·026	30·120	30·077	29·195	*S*	30·326
13	28·460	29·862	29·573	29·748	29·796	29·730	29·919	*S*	29·965	29·542	30·122	30·348
14	28·682	29·584	29·413	Good Fri.	*S*	29·827	29·934	29·893	29·747	29·643	30·072	30·380
15	*S*	29·309	29·702	29·977	29·397	29·857	29·944	29·800	29·746	*S*	30·050	30·262
16	29·442	29·115	29·880	*S*	29·315	29·827	*S*	29·883	29·907	29·547	29·907	30·277
17	30·082	29·347	29·776	29·807	29·427	29·872	30·084	29·971	*S*	29·216	29·715	*S*
18	30·282	29·310	29·753	29·967	29·727	*S*	29·797	29·921	30·004	29·809	29·454	30·368
19	30·399	*S*	*S*	29·798	29·784	29·749	29·605	29·665	30·055	30·226	*S*	30·355
20	30·152	29·192	29·510	29·617	29·686	29·976	29·617	*S*	29·984	30·154	29·497	30·287
21	29·937	29·269	29·342	29·736	*S*	29·965	29·600	29·810	30·060	29·863	29·479	30·291
22	*S*	29·203	29·289	29·791	29·563	29·890	29·610	29·500	30·286	*S*	29·464	30·289
23	29·888	29·370	29·373	*S*	29·564	29·927	*S*	29·442	30·396	29·912	29·338	30·290
24	29·770	29·520	29·504	29·904	29·422	29·882	29·921	29·552	*S*	29·671	29·473	*S*
25	29·929	29·511	29·627	29·611	29·519	*S*	30·080	29·751	30·120	29·302	29·546	Ch. Day.
26	29·937	*S*	*S*	29·548	29·531	29·765	30·104	29·865	29·961	29·417	*S*	30·277
27	29·849	28·831	29·613	29·720	29·385	29·628	29·906	*S*	29·640	29·492	29·601	30·349
28	29·709	29·045	29·657	29·648	*S*	29·534	29·871	29·868	29·660	29·079	29·993	30·415
29	*S*	....	29·835	29·590	29·836	29·655	29·604	29·874	29·845	*S*	30·200	30·348
30	29·682	....	29·681	*S*	29·944	29·762	*S*	30·000	29·750	29·241	30·188	30·129
31	29·799	....	29·349	....	29·745	....	29·714	30·095	....	29·246	....	*S*

The letter *S* denotes that the day was Sunday.

TABLE II.—Table exhibiting the Times at which Differences greater than $0^{in}\cdot250$, took place between the Mean Heights of the Barometer on Two consecutive Days, with the amounts of the Differences, estimated positive when the Height on the Second Day is the greater.

January.		February.		March.		April.		May.		June.	
Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.
	in.		in.		in.		in.		in.		in.
9 & 10	−0·495	2 & 3	−0·350	1 & 2	+0·262	3 & 4	−0·293	9 & 10	+0·346	1 & 2	−0·316
12 & 13	−0·336	13 & 14	−0·278	14 & 15	+0·289	4 & 5	+0·351	17 & 18	+0·300	7 & 8	−0·446
16 & 17	+0·640	14 & 15	−0·275	30 & 31	−0·332	6 & 7	−0·266			9 & 10	+0·376
		28 & Mar. 1	+0·570			24 & 25	+0·293				

TABLE II.—*continued.*

July.		August.		September.		October.		November.	
Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.
	in.		in.		in.		in.		in.
17 & 18	−0·287	18 & 19	−0·256	26 & 27	−0·321	5 & 6	−0·337	9 & 10	−0·265
28 & 29	−0·267	21 & 22	−0·310			10 & 11	−0·606	10 & 11	+0·394
						12 & 13	+0·347	17 & 18	−0·261
						16 & 17	−0·331	27 & 28	+0·392
						17 & 18	+0·593		
						18 & 19	+0·417		
						20 & 21	−0·291		
						24 & 25	−0·369		
						27 & 28	−0·413		
						31 & 32	+0·312		

The above table shews, that from observations on 310 days taken consecutively, six and six together, excepting in two cases, where four and five respectively were consecutively taken, there were 38 cases out of 257 in which the difference in the mean heights of the barometer between two consecutive days exceeded a quarter of an inch: of these, 14 took place between April and September, and the remaining 24 in the other months of the year. In the winter half-year there were:—

7	instances in which the difference exceeded	in. 0·25	and was less than	in. 0·30	between two consecutive days.
10	,,	,,	0·30	,,	0·40	,,
3	,,	,,	0·40	,,	0·50	,,
2	,,	,,	0·50	,,	0·60	,,
2	,,	,,	0·60			,,

Not one of these differences occurred in December, the greatest difference in the mean heights between any two days in December being $0^{in.}219$, between the 29th and 30th days.

In the summer half-year there were

6	instances in which the difference exceeded	in. 0·25	and was less than	in. 0·30	between two consecutive days.
7	,,	,,	0·30	,,	0·40	,,
1	instance	,,	0·40			,,

It appears from these numbers that the differences of the heights of the barometer on consecutive days are much larger and more numerous in the winter than in the summer.

TABLE III.—Table exhibiting the Times at which the Greatest and Least Difference took place in each Month, between the Mean Heights of the Barometer on Two consecutive Civil Days, with the amount of the Difference, estimated positive when the Mean Height was greater on the Second Day.

1843, Month.	Difference between the Mean Heights of the Barometer on consecutive Days.		Days of the Month between which the Difference of the Mean Heights of the Barometer took place.	
	Greatest.	Least.	Greatest.	Least.
	in.	in.	d d	d d
January	+ 0·640	+ 0·008	16 & 17	25 & 26
February	− 0·350	− 0·009	2 & 3	24 & 25
March	− 0·332	− 0·015	30 & 31	10 & 11
April	+ 0·351	+ 0·002	4 & 5	7 & 8
May	+ 0·346	+ 0·001	9 & 10	22 & 23
June	− 0·446	− 0·011	7 & 8	20 & 21
July	− 0·287	+ 0·010	17 & 18	14 & 15 / 21 & 22
August	− 0·310	− 0·002	21 & 22	11 & 12
September	− 0·321	− 0·001	26 & 27	14 & 15
October	− 0·606	+ 0·005	10 & 11	3 & 4 / 30 & 31
November	+ 0·394	− 0·012	10 & 11	29 & 30
December	− 0·219	+ 0·001	29 & 30	22 & 23

Between the last day of February and the first day of March a difference of $0^{in.}570$ took place.

TABLE IV.—Mean of all the Two-hourly Heights of the Barometer for those Days in each Month, in which (as deduced from the Mean of the Two-hourly Observations) the Barometer was Highest or Lowest.

1843, Month.	Mean Daily Heights of the Barometer in the Month.		Difference.	Day of the Month on which the Mean Height of the Barometer was	
	Highest.	Lowest.		Highest.	Lowest.
	in.	in.	in.	d	d
January	30·399	28·460	1·939	19	13
February	29·922	28·831	1·091	8	27
March	30·261	29·289	0·972	9	22
April	29·977	29·327	0·650	15	4
May	30·072	29·315	0·757	11	16
June	29·976	29·206	0·770	20	2
July	30·104	29·584	0·520	26	5
August	30·122	29·438	0·684	11	4
September	30·396	29·640	0·756	23	27
October	30·226	29·079	1·147	19	28
November	30·200	29·338	0·862	29	23
December	30·415	29·940	0·475	28	1

The highest daily mean was in December, and the lowest was in January; and the difference between them was 1in·955, being the range of the mean daily heights of the barometer for the year.

TABLE V.—The Highest and Lowest Readings of the Barometer in the simple Two-hourly Observations in each Month.

1843, Month.	Reading in the Month.		Range.	The Day and Hour in each Month when the Reading of the Barometer was	
	Highest.	Lowest.		Highest.	Lowest.
	in.	in.	in.	d h	d h
January	30·437	28·104	2·333	18. 22	13. 2
February	29·966	28·733	1·233	8. 0	27. 6
March	30·304	29·243	1·061	4. 10 & 4. 12	21. 16
April	30·021	29·198	0·823	14. 22	4. 2
May	30·093	29·231	0·862	11. 0	5. 22
June	30·059	29·123	0·936	20. 12	2. 10
July	30·139	29·457	0·682	25. 20	22. 12
August	30·145	29·238	0·907	10. 22	23. 14
September	30·414	29·576	0·838	22. 22	27. 6
October	30·285	28·895	1·390	19. 10	27. 16
November	30·307	29·174	1·133	29. 20	23. 2
December	30·437	29·849	0·588	13. 22	0. 16

560
d h
A 31·12

On Sunday, March 4d. 22h, the barometer reading was 30in.314, and it was the highest in the month.

In every month, except February, there have been readings of the barometer above 30 inches:

In January, September, and December,	there were readings greater than	30 in. ·4
In March and November	,,	30 ·3
In October	,,	30 ·2
In July and August	,,	30 ·1
In April, May, and June	,,	30 ·0
In February	,,	29 ·9

And thus, as shewn in the previous years, the highest readings occur in the winter months. From March to September, both inclusive, the reading was never below 29 inches, and it was below 29 inches in three of the remaining months; and thus it appears, that in the winter the barometer rises higher and sinks lower than in the summer. The month of December in this year was very remarkable, the reading being high throughout the whole of the month, and its changes from day to day were unusually small, the extreme range in the month being but little more than half an inch, being less than has before occurred in any month since the establishment of this department of the Royal Observatory.

The lowest reading in the year took place on January 13d, at 0h. 53m, in extraordinary observations; it was 28in.096, being a lower reading than has occurred since 1821, December 24d.17h. (See the Remarks upon the storm of January 13 in the section of Extraordinary Observations, page (266).) The highest reading in the year was on the 18th day of January, at 22h, and it was 30in.437 (see the section of Term-Day Observations): the same reading occurred on the 13th day of December, at 22h. The range of the readings of the barometer in the year was 2in.341, and it is very remarkable that the interval of time between which those readings were taken was only 5d. 21h. 7m.

In the volume for 1842, at page 32, in the corresponding table to this, it is stated that the lowest reading in March was 29in.120, and that it occurred at 0d. 22h. This *was wrong:* the lowest reading in the year occurred on March 9d, at 14h, and it was 28in.587. In consequence of this error the monthly range *should be* 1in.685, instead of 1in.152, and some of the remarks following the table *are erroneous.* Beginning at the middle of the sixth line from the top, on page 33, read as follows:—"From April to September, both inclusive, the reading was never below 29 inches, and it was below 29 inches in four out of the remaining months; and thus it appears that in the winter the barometer rises higher and sinks lower than in the summer. The highest reading during the year was in November, and it was 30in.470, and the lowest reading for the year was in March, and it was 28in.587; the range in the year was 1in.883. In the winter half-year the range of the barometer appears to be about 1½ inch, and in the summer half-year about 1 inch."

TABLE VI.—The Mean Height of the Barometer in each Month, deduced from the Mean of all the Two-hourly Observations in each Month.

1843, Month.	Mean Height of the Barometer.	1843, Month.	Mean Height of the Barometer.
	in.		in.
January	29 ·674	July	29 ·826
February	29 ·473	August	29 ·819
March	29 ·758	September	30 ·017
April	29 ·687	October	29 ·604
May	29 ·664	November	29 ·718
June	29 ·700	December	30 ·245

The mean of all the monthly results is 29in.765.

TABLE VII.—Diurnal Range of the Barometer, as deduced from the Twelve Observations on every Civil Day of the Year 1843 (except Sundays, Good Friday, and Christmas Day), at the Even Hours of Göttingen Mean Time.

Days of the Month, 1843.	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	*S*	0 ·107	0 ·359	0 ·092	0 ·211	0 ·245	0 ·103	0 ·088	0 ·088	*S*	0 ·292	0 ·171
2	0 ·084	0 ·201	0 ·143	*S*	0 ·176	0 ·233	*S*	0 ·197	0 ·099	0 ·137	0 ·102	0 ·150
3	0 ·133	0 ·591	0 ·152	0 ·247	0 ·156	0 ·239	0 ·027	0 ·043	*S*	0 ·075	0 ·108	*S*
4	0 ·231	0 ·497	0 ·182	0 ·282	0 ·097	*S*	0 ·151	0 ·106	0 ·177	0 ·047	0 ·318	0 ·109
5	0 ·279	*S*	*S*	0 ·378	0 ·027	0 ·020	0 ·223	0 ·229	0 ·078	0 ·240	*S*	0 ·161
6	0 ·115	0 ·113	0 ·075	0 ·336	0 ·302	0 ·115	0 ·124	*S*	0 ·080	0 ·311	0 ·111	0 ·222

TABLE VII.—*continued.*

Days of the Month, 1843.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
7	0·390	0·166	0·061	0·199	*S*	0·272	0·121	0·088	0·044	0·159	0·259	0·321
8	*S*	0·157	0·155	0·220	0·061	0·297	0·108	0·102	0·071	*S*	0·257	0·140
9	0·573	0·129	0·075	*S*	0·335	0·418	*S*	0·203	0·120	0·485	0·242	0·070
10	0·233	0·079	0·235	0·166	0·251	0·297	0·057	0·249	*S*	0·379	0·274	*S*
11	0·347	0·161	0·103	0·064	0·049	*S*	0·198	0·063	0·200	0·345	0·334	0·073
12	0·489	*S*	*S*	0·175	0·251	0·093	0·085	0·043	0·076	0·465	*S*	0·135
13	0·857	0·178	0·197	0·253	0·045	0·143	0·073	*S*	0·235	0·171	0·094	0·063
14	0·541	0·237	0·205	Good Fri.	*S*	0·130	0·056	0·138	0·121	0·174	0·117	0·112
15	*S*	0·275	0·333	0·095	0·039	0·046	0·080	0·052	0·156	*S*	0·240	0·054
16	0·808	0·106	0·059	*S*	0·081	0·070	*S*	0·095	0·146	0·114	0·116	0·107
17	0·197	0·236	0·078	0·265	0·277	0·033	0·123	0·072	*S*	0·248	0·413	*S*
18	0·250	0·066	0·067	0·072	0·208	*S*	0·340	0·150	0·054	0·680	0·077	0·034
19	0·093	*S*	*S*	0·253	0·038	0·161	0·071	0·242	0·036	0·168	*S*	0·018
20	0·325	0·111	0·273	0·111	0·164	0·195	0·080	*S*	0·075	0·269	0·341	0·110
21	0·038	0·105	0·104	0·059	*S*	0·166	0·129	0·140	0·177	0·198	0·226	0·122
22	*S*	0·139	0·079	0·226	0·055	0·087	0·248	0·326	0·205	*S*	0·236	0·109
23	0·138	0·159	0·225	*S*	0·133	0·053	*S*	0·241	0·040	0·160	0·320	0·086
24	0·077	0·102	0·198	0·031	0·111	0·050	0·242	0·544	*S*	0·470	0·158	*S*
25	0·168	0·043	0·046	0·403	0·121	*S*	0·093	0·062	0·166	0·101	0·213	Ch. Day.
26	0·054	*S*	*S*	0·086	0·169	0·056	0·093	0·213	0·246	0·248	*S*	0·052
27	0·132	0·330	0·025	0·258	0·157	0·184	0·165	*S*	0·199	0·458	0·197	0·146
28	0·177	0·590	0·131	0·289	*S*	0·099	0·101	0·171	0·161	0·438	0·309	0·036
29	*S*	....	0·136	0·079	0·210	0·102	0·251	0·120	0·117	*S*	0·246	0·115
30	0·234	....	0·365	*S*	0·140	0·087	*S*	0·127	0·168	0·338	0·365	0·254
31	0·124	....	0·182	....	0·121	....	0·225	0·075	....	0·215	....	*S*

The letter *S* denotes that the day was Sunday.

TABLE VIII.—The Greatest and Least Daily Ranges of the Barometer in each Month, with the Days on which they occurred.

1843, Month.	Daily Range of the Barometer in the Month.		Day on which occurred the	
	Greatest.	Least.	Greatest.	Least.
	in.	in.	d	d
January	0·857	0·038	13	21
February	0·591	0·043	3	25
March	0·365	0·025	30	27
April	0·403	0·031	25	24
May	0·335	0·027	9	5
June	0·418	0·020	9	5
July	0·340	0·027	18	3
August	0·544	0·043	24	3 & 12
September	0·246	0·036	26	19
October	0·680	0·047	18	4
November	0·413	0·077	17	18
December	0·321	0·018	7	19

The greatest daily range of the barometer was on January 13^{d}, being 0$^{in.}$857, and the next in order were on October 18^{d}, February 3^{d}, and August 24^{d}, &c. The least daily range was on December 19^{d}, being 0$^{in.}$018, and the next in order were June 5^{d}, March 27^{d}, &c.

TABLE IX.—The Mean Diurnal Range of the Barometer in each Month, in Quarterly Periods, and for the Year.

1843, Month.	Mean Diurnal Range.	Mean Diurnal Range in Spring.	Summer.	Autumn.	Winter.	Year.
	in.	in.	in.	in.	in.	in.
December	0·119					
January	0·273				0·198	
February	0·203					
March	0·157					
April	0·193	0·166				
May	0·148					
June	0·150					0·180
July	0·137		0·147			
August	0·155					
September	0·128					
October	0·273			0·210		
November	0·229					

TABLE X.—Table exhibiting the Number of Cases in each Month, and during the Year, in which the Daily Range of the Barometer was within certain Limits.

The Daily Range was	Number of Cases in Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Whole Number of Cases in the Year.
in. in.													
Greater than 0·01 and less than 0·02												1	1
,, 0·02 ,, 0·03			1		1	1	1						4
,, 0·03 ,, 0·04	1			1	1	1			1			2	7
,, 0·04 ,, 0·05		1	1		2	1		2	2	1			10
,, 0·05 ,, 0·06	1		1	1	1	3	2	1	1			2	13
,, 0·06 ,, 0·07		1	2	1	1			2				1	8
,, 0·07 ,, 0 08	1	1	4	2		1	2	2	4	1	1	2	21
,, 0·08 ,, 0·09	1			1	1	2	3	2	2			1	13
,, 0·09 ,, 0·10	1			2	1	2	2	1	1		1		11
,, 0·10 ,, 0·11		4	2			1	3	2		1	2	3	18
,, 0·11 ,, 0·12	1	2		1	1	1			1	1	3	3	14
,, 0·12 ,, 0·13	1	1			2		4	2	2			1	13
,, 0·13 ,, 0·14	3	1	2		1	1		1		1		1	11
,, 0·14 ,, 0·15			1		1	1		1	1			2	7
,, 0·15 ,, 0·16		2	2		2		1	1	1	1	1	1	12
,, 0·16 ,, 0·17	1	2		1	2	2	1		3	2		1	15
,, 0·17 ,, 0·18	1	1		1	1			1	2	2		1	10
,, 0·18 ,, 0·19			2			1							3
,, 0·19 ,, 0·20	1		2	1		1	1	1	1	1	1		10
,, 0·20 ,, 0·25	3	3	3	3	2	3	4	6	4	4	6	1	42
,, 0·25 ,, 0·30	2	1	1	6	5	3	1			1	4	1	25
,, 0·30 ,, 0·40	3	1	3	2	2		1	1		4	6	1	24
,, 0·40 ,, 0·50	1	1		1		1				5	1		10
,, 0·50 ,, 0·60	2	2						1					5
,, 0·60 ,, 0·70										1			1
,, 0·70 ,, 0·80													
,, 0·80 ,, 0·90	2												2

From this table we collect the following particulars: that

On 88 days out of 310 the daily range of the barometer was less than 0·1 in.

113 ,, ,, greater than 0·1 and less than 0·2 in.

On	67	days out of 310	the daily range of the barometer was greater than	in. 0·2	and less than	in. 0·3
	24	,,	,,	,,	0·3	,,	0·4
	10	,,	,,	,,	0·4	,,	0·5
	5	,,	,,	,,	0·5	,,	0·6
	1	,,	,,	,,	0·6	,,	0·7
	2	,,	,,	,,	0·8	,,	0·9

TABLE XI.—The Mean Height of the Barometer, at every Even Hour of Göttingen Mean Time, deduced from all the Observations taken at that Hour in each Month.

1843, 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	29·686	29·475	29·743	29·683	29·663	29·704	29·832	29·812	30·016	29·608	29·716	30·243
16	29·682	29·464	29·734	29·673	29·654	29·691	29·827	29·809	30·003	29·587	29·701	30·241
18	29·666	29·461	29·740	29·676	29·654	29·692	29·831	29·816	30·006	29·581	29·693	30·239
20	29·661	29·472	29·750	29·689	29·663	29·699	29·839	29·827	30·019	29·593	29·702	30·247
22	29·674	29·479	29·765	29·694	29·664	29·700	29·842	29·833	30·030	29·610	29·715	30·262
0	29·680	29·481	29·770	29·693	29·667	29·706	29·836	29·829	30·026	29·621	29·717	30·260
2	29·657	29·464	29·762	29·681	29·673	29·705	29·828	29·825	30·015	29·615	29·709	30·238
4	29·665	29·462	29·754	29·673	29·664	29·693	29·815	29·814	30·004	29·606	29·714	30·232
6	29·676	29·466	29·760	29·679	29·659	29·691	29·805	29·805	30·004	29·611	29·726	30·241
8	29·679	29·479	29·771	29·694	29·668	29·698	29·812	29·813	30·020	29·612	29·742	30·241
10	29·679	29·489	29·772	29·706	29·673	29·712	29·821	29·822	30·029	29·609	29·745	30·246
12	29·685	29·488	29·769	29·699	29·671	29·715	29·820	29·820	30·028	29·597	29·738	30·247

Setting out from that mean height which is the highest about 0^h, and calling it the first maximum; then, calling that mean height following it, which immediately precedes a greater, the first minimum; then, that mean height which follows, and immediately precedes a smaller mean height, the second maximum, &c., the next table is formed.

TABLE XII.—Hours of Göttingen Mean Solar Time (Astronomical Reckoning), at which the Greatest and Least Heights of the Barometer occur in different Months, as inferred from the Monthly Means of the Two-hourly Observations; with the actual Heights and the Amounts of the Changes.

1843, Month.	Hour of the		Height of the Barometer.		Interval of Time between the First Max. and the First Min.	Difference between the First Max. and the First Min.	Hour of the		Height of the Barometer.		Interval of Time between the First Min and the Second Max.	Difference between the First Min. and the Second Max.	Interval of Time between the Second Max. and the Second Min.	Difference between the Second Max. and the Second Min.
	1st Max.	1st Min.	1st Max.	1st Min.			2nd Max.	2nd Min.	2nd Max.	2nd Min.				
	h	h	in.	in.	h	in.	h	h	in.	in.	h	in.	h	in.
January	0	2	29·680	29·657	2	0·023	14	20	29·686	29·661	12	0·029	6	0·025
February	0	4	29·481	29·462	4	0·019	10	18	29·489	29·461	6	0·027	8	0·028
March	0	4	29·770	29·754	4	0·016	10	16	29·772	29·734	6	0·018	6	0·038
April	22	4	29·694	29·673	6	0·021	10	16	29·706	29·673	6	0·033	6	0·033
May	2	6	29·673	29·659	4	0·014	10	16 & 18	29·673	29·654	4	0·014	6 & 8	0·019
June	0	6	29·706	29·691	6	0·015	12	16	29·715	29·691	6	0·024	4	0·024
July	22	6	29·842	29 805	8	0·037	10	12	29·821	29·820	4	0·016	2	0·001
August	22	6	29·833	29·805	8	0·028	10	16	29·822	29·809	4	0·017	6	0·013
Sep.	22	4 & 6	30·030	30·004	6 & 8	0·026	10	16	30·029	30·003	4 & 6	0·025	6	0·026
Oct.	0	4	29·621	29·606	4	0·015	8	12	29·612	29·597	4	0 006	4	0·015
Nov.	0	2	29·717	29·709	2	0·008	10	18	29·745	29·693	8	0·036	8	0·052
Dec.	22	4	30·262	30·232	6	0·030	12	18	30·247	30·239	8	0·015	6	0·008

TABLE XII.—*continued.*

1843, Month.	Hour of the		Height of the Barometer.		Interval of Time between the Second Min. and the Third Max.	Difference between the Second Min. and the Third Max.	Interval of Time between the Third Max. and the Third Min.	Difference between the Third Max. and the Third Min.	Interval of Time between the Last Min. and the First Max.	Difference between the Last Min. and the First Max.	Whole Sum of the Differences.	Greatest Maximum — the Smallest Minimum.
	3rd Max.	3rd Min.	3rd Max.	3rd. Min.								
	h	h	in.	in.	h	in.	h	in.	h	in.	in.	in.
January									4	0·019	0·096	0·029
February									6	0·020	0·094	0·028
March									8	0·036	0·108	0·038
April									6	0·021	0·108	0·033
May									10 & 8	0·019	0·066	0·019
June									8	0·015	0·078	0·024
July	14	16	29·832	29·827	2	0·012	2	0·005	6	0·015	0·086	0·037
August									6	0·024	0·082	0·028
September									6	0·027	0·104	0·027
October	14	18	29·608	29·581	2	0·011	4	0·027	6	0·040	0·114	0·040
November									6	0·024	0·120	0·052
December									4	0·023	0·076	0·030

The following particulars may be collected from this table:—At 0^h or 22^h the reading of the barometer was at a maximum, and at 4^h or 6^h it was at a minimum, the mean decrease in the readings between those times being $0^{in}·024$, $0^{in}·017$, $0^{in}·027$, and $0^{in}·016$, respectively, for winter, spring, summer, and autumn. At 10^h or 12^h a second maximum has generally taken place, and the increases in the readings for winter, spring, summer, and autumn, were $0^{in}·024$, $0^{in}·022$, $0^{in}·019$, and $0^{in}·022$, respectively. At 16^h, 18^h, or 20^h, a second minimum took place, the decrease from the previous maximum being $0^{in}·020$, $0^{in}·030$, $0^{in}·013$, and $0^{in}·031$, respectively, for winter, spring, summer, and autumn. A third maximum and minimum took place in one summer month and in one autumn month, the amounts of whose respective increase and decrease can be at once seen in the table. From the last minimum to the first maximum the readings increased by $0^{in}·021$, $0^{in}·025$, $0^{in}·018$, and $0^{in}·030$, in winter, spring, summer, and autumn, respectively. The means of the sums of all the increases and decreases in the readings for winter, spring, summer, and autumn, were $0^{in}·089$, $0^{in}·094$, $0^{in}·082$, and $0^{in}·113$, respectively.

The diurnal movement has therefore consisted of a triple maximum pressure and a triple minimum pressure in two months, viz., in July and October, and of a double maximum and a double minimum in the ten remaining months. No fixed order appears in the successive maxima and minima as to their amounts; sometimes the first maximum has been greater than the second, and sometimes it has been less, and the same remark applies to the minima. The interval of time between the first maximum and the first minimum was about 4^h in the winter months and about 6^h in the summer months, the minima at the latter period occurring later than at the former period.

The means of the numbers in Table XI. are taken for March, April, and May, and called Spring
,, ,, June, July, and August, ,, Summer
,, ,, September, October, and November ,, Autumn
,, ,, December, January, and February ,, Winter

And thus the following table is formed:—

TABLE XIII.—Mean Height of the Barometer at every Even Hour of Göttingen Mean Time, in Quarterly Periods.

1843.	Mean Height of the Barometer.				Mean.
	Spring.	Summer.	Autumn.	Winter.	
h	in.	in.	in.	in.	in.
14	29·696	29·783	29·780	29·801	29·765
16	29·687	29·776	29·764	29·796	29·756
18	29·690	29·780	29·760	29·789	29·755
20	29·701	29·788	29·771	29·793	29·763
22	29·708	29·792	29·785	29·805	29·773
0	29·710	29·790	29·788	29·807	29·774
2	29·705	29·786	29·780	29·786	29·764
4	29·697	29·774	29·775	29·786	29·758
6	29·699	29·767	29·780	29·794	29·760
8	29·711	29·774	29·791	29·800	29·769
10	29·717	29·785	29·794	29·805	29·775
12	29·713	29·785	29·788	29·807	29·773

From this table it appears that a double maximum and a double minimum have taken place in each period of the year.

In spring	the minima	took place at	16^h	and at 4^h,	the former being	0$^{in.}$·010 lower than the latter.
,,	the maxima	,,	0	and at 10,	,,	0·007 ,,
In summer	the minima	,,	16	and at 6,	,,	0·009 higher than the latter.
,,	the maxima	,,	22	and at 10 and 12	,,	0·007 ,,
In autumn	the minima	,,	18	and at 4,	,,	0·015 lower than the latter.
,,	the maxima	,,	0	and at 10,	,,	0·006 ,,
In winter	the minima	,,	18	and at 2 and 4	,,	0·003 higher than the latter.
,,	the maxima	,,	0	and at 12,	,,	the same as the latter.
For the year	the minima	,,	18	and at 4,	,,	0·003 lower than the latter.
,,	the maxima	,,	0	and at 12,	,,	0·001 higher than the latter.

The range of the heights was different at the different periods.

In spring it was	0$^{in.}$·030
In summer it was	0·025
In autumn it was	0·034
In winter it was	0·021
For the year it was	0·020

The daily motion differs at the different periods of the year.

Between 14^h and 16^h a fall at all periods; large in the autumn.
16 and 18 a moderate rise in spring and in summer, and a moderate fall in autumn and winter.
18 and 20 a rise at all periods.
20 and 22 a rise throughout; moderate in spring and in summer, and large in autumn and in winter.
22 and 0 nearly stationary, with a tendency to fall in summer, and to rise at other times.
0 and 2 a fall at all periods; large in the winter.
2 and 4 the fall continues in spring, summer, and autumn, but in the winter the height is stationary.
4 and 6 a fall in summer; a rise at the other periods.
6 and 8 a rise throughout.
8 and 10 a rise throughout, but larger in the summer than in the other periods.
10 and 12 stationary in summer, a fall in spring and autumn, and a small rise in winter.
12 and 14 a fall at all periods; larger in spring and in autumn.

The mean height of the barometer in	Spring	was 29$^{in.}$·703
,,	Summer	was 29·782
,,	Autumn	was 29·780
,,	Winter	was 29·797
,, for the whole	Year	was 29·765

By taking the differences between the mean for the year and the numbers in the last column of the above table, the following results are deduced:—

At 14^h	the mean height of the barometer was	the same as the mean of the year.	
16	,,	lower than the mean of the year by	0$^{in.}$·009
18	,,	lower ,,	0·010
20	,,	lower ,,	0·002
22	,,	higher ,,	0·008
0	,,	higher ,,	0·009
2	,,	lower ,,	0·001
4	,,	lower ,,	0·007
6	,,	lower ,,	0·005
8	,,	higher ,,	0·004
10	,,	higher ,,	0·010
12	,,	higher ,,	0·008

The mean height deduced from all the observations taken at 2^h is 0$^{in.}$·001 less than the mean of the year: in the year 1841, and also in the year 1842, the mean of the observations taken at this time agreed precisely with the mean of each year respectively. If, therefore, this element be determined by an isolated observation each day, the hour indicated as the best is 2^h. The mean height deduced from the observations at 20^h requires 0$^{in.}$·002 to be added to reduce it to the mean of all the observations in the year. In 1841 the correction was 0$^{in.}$·001 to be added, and in 1842 it was 0$^{in.}$·003 to be taken away; the mean correction, therefore, from three years'

observations, is insensible. The mean height, as deduced from the observations at 8^h, is very nearly the same as the mean of 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, from the three years' observations, is $0^{in}{\cdot}002$ to be subtracted.

TABLE XIV.—Excess of the Mean Height of the Barometer in every Month, at each Even Hour of Göttingen Mean Time (as deduced from the Monthly Means of the Observations at each Hour) above the Mean Height for the Month (as found from the Mean of all the Two-hourly Observations for that Month).

1843, 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	+0·012	+0·002	−0·015	−0·004	−0·001	+0·004	+0·006	−0·007	−0·001	+0·004	−0·002	−0·002
16	+0·008	−0·009	−0·024	−0·014	−0·010	−0·009	+0·001	−0·010	−0·014	−0·017	−0·017	−0·004
18	−0·008	−0·012	−0·018	−0·011	−0·010	−0·008	+0·005	−0·003	−0·011	−0·023	−0·025	−0·006
20	−0·013	−0·001	−0·008	+0·002	−0·001	−0·001	+0·013	+0·008	+0·002	−0·011	−0·016	+0·002
22	0·000	+0·006	+0·007	+0·007	0·000	0·000	+0·016	+0·014	+0·013	+0·006	−0·003	+0·017
0	+0·006	+0·008	+0·012	+0·006	+0·003	+0·006	+0·010	+0·010	+0·009	+0·017	−0·001	+0·015
2	−0·017	−0·009	+0·004	−0·006	+0·009	+0·005	+0·002	+0·006	−0·002	+0·011	−0·009	−0·007
4	−0·009	−0·011	−0·004	−0·014	0·000	−0·007	−0·011	−0·005	−0·013	+0·002	−0·004	−0·013
6	+0·002	−0·007	+0·002	−0·008	−0·005	−0·009	−0·021	−0·014	−0·013	+0·007	+0·008	−0·004
8	+0·005	+0·006	+0·013	+0·007	+0·004	−0·002	−0·014	−0·006	+0·003	+0·008	+0·024	−0·004
10	+0·005	+0·016	+0·014	+0·019	+0·009	+0·012	−0·005	+0·003	+0·012	+0·005	+0·027	+0·001
12	+0·011	+0·015	+0·011	+0·012	+0·007	+0·015	−0·006	+0·001	+0·011	−0·007	+0·020	+0·002

TABLE XV.—Mean Height of the Barometer at each Even Hour during each Month (Table XI.), diminished by the Mean Height for the Month (Table VI.), and by the Mean Diurnal Change at each Hour (Table XIII. and following numbers).

1843, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
14	+0·013	+0·003	−0·014	−0·003	0·000	+0·005	+0·007	−0·006	0·000	+0·005	−0·001	−0·001
16	+0·018	+0·001	−0·014	−0·004	0·000	+0·001	+0·011	0·000	−0·004	−0·007	−0·007	+0·006
18	+0·003	−0·001	−0·007	0·000	+0·001	+0·003	+0·016	+0·008	0·000	−0·012	−0·014	+0·005
20	−0·010	+0·002	−0·005	+0·005	+0·002	+0·002	+0·016	+0·011	+0·005	−0·008	−0·013	+0·005
22	−0·007	−0·001	0·000	0·000	−0·007	−0·007	+0·009	+0·007	+0·006	−0·001	−0·010	+0·010
0	−0·002	0·000	+0·004	−0·002	−0·005	−0·002	+0·002	+0·002	+0·001	+0·009	−0·009	+0·007
2	−0·015	−0·007	+0·006	−0·004	+0·011	+0·007	+0·004	+0·008	0·000	+0·013	−0·007	−0·005
4	−0·001	−0·003	+0·004	−0·006	+0·008	+0·001	−0·003	+0·003	−0·005	+0·010	+0·004	−0·005
6	+0·008	−0·001	+0·008	−0·002	+0·001	−0·003	−0·015	−0·008	−0·007	+0·013	+0·014	+0·002
8	+0·002	+0·003	+0·010	+0·004	+0·001	−0·005	−0·017	−0·009	0·000	+0·005	+0·021	−0·007
10	−0·004	+0·007	+0·005	+0·010	0·000	+0·003	−0·014	−0·006	+0·003	−0·004	+0·018	−0·008
12	+0·001	+0·005	+0·001	+0·002	−0·003	+0·005	−0·016	−0·009	+0·001	−0·017	+0·008	−0·008

The order of the signs in this table, being different at different times of the year, indicates that the daily change of the pressure of the atmosphere is different at different times of the year.

TABLE XVI.—Hourly Sums of the Changes of Diurnal Inequality for different Months.

Hour.	Mean Difference.	Sum of the Differences.	Hour.	Mean Difference.	Sum of the Differences.
h	in.	in.	h	in.	in.
14	0·005	0·058	2	0·006	0·077
16	0·006	0·073	4	0·004	0·053
18	0·006	0·070	6	0·007	0·082
20	0·007	0·084	8	0·007	0·084
22	0·005	0·065	10	0·007	0·082
0	0·004	0·045	12	0·006	0·076

These numbers indicate that at 0^h the pressure of the atmosphere in any particular month has departed less from its mean state than at any other hour; and that at 20^h and at 8^h it has departed more from its mean state than at any other hours; and, consequently, the pressure of the atmosphere has been most uniform throughout the year at 0^h, and it has been subject to the greatest irregularities about 20^h and 8^h.

TABLE XVII.—Monthly Sums of the Changes of Diurnal Inequality at different Hours.

1843.	Mean Difference.	Sums of the Differences.	1843.	Mean Difference.	Sums of the Differences.
	in.	in.		in.	in.
January	0·007	0·084	July	0·010	0·120
February	0·003	0·034	August	0·006	0·077
March	0·007	0·078	September	0·003	0·032
April	0·003	0·042	October	0·009	0·104
May	0·003	0·039	November	0·011	0·126
June	0·004	0·044	December	0·006	0·069

These numbers indicate, that in September the daily motion of the barometer agreed very nearly with its mean motion, and in November the daily motion departed the most from the mean yearly motion.

On the Influence of the Moon on the Barometer.

The following tables have been arranged by considering that observation of the Barometer which was made the nearest to the time of the meridian passage of the Moon to correspond to 0^h of the Moon's hour-angle, and the five preceding and following observations to correspond to 2^h, 4^h, 6^h, 8^h, and 10^h, of the Moon's East and West hour-angles respectively. The sixth observation following that at 0^h of hour-angle, is considered to correspond to 12^h of hour-angle, or to the time of the lower meridian passage of the Moon. The means of the numbers thus collected have been taken for every month, and are exhibited in the following table:—

TABLE XVIII.—Monthly Means of the corrected Barometer Readings, arranged by Hour-Angles of the Moon.

Lunation.		Mean Monthly Corrected Barometer Readings at the 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.					
1842. d h	1843. d h	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Dec. 30. 0	Jan. 26. 22	29·701	29·691	29·686	29·686	29·690	29·698	29·719	29·712	29·704	29·694	29·688	29·688
1843.													
Jan. 28. 0	Feb. 25. 22	29·563	29·562	29·550	29·519	29·526	29·531	29·549	29·536	29·543	29·556	29·560	29·565
Feb. 27. 0	Mar. 27. 22	29·706	29·702	29·703	29·707	29·704	29·707	29·704	29·707	29·701	29·708	29·739	29·724
Mar. 29. 0	Apr. 26. 22	29·695	29·690	29·686	29·683	29·678	29·668	29·676	29·668	29·676	29·681	29·689	29·696
Apr. 28. 0	May 25. 22	29·668	29·654	29·654	29·664	29·662	29·649	29·641	29·646	29·639	29·640	29·641	29·648
May 27. 0	June 24. 22	29·713	29·711	29·716	29·713	29·714	29·713	29·711	29·705	29·703	29·710	29·708	29·708
June 26. 0	July 23. 22	29·766	29·777	29·775	29·777	29·784	29·785	29·787	29·788	29·784	29·787	29·781	29·782
July 25. 0	Aug. 22. 22	29·832	29·827	29·838	29·838	29·839	29·823	29·819	29·824	29·823	29·816	29·801	29·809
Aug. 24. 0	Sep. 20. 22	29·978	29·976	29·980	29·978	29·986	29·985	29·989	29·991	29·992	29·999	30·006	30·010
Sep. 22. 0	Oct. 20. 22	29·791	29·790	29·776	29·763	29·760	29·756	29·764	29·764	29·767	29·763	29·772	29·781
Oct. 22. 0	Nov. 18. 22	29·626	29·642	29·649	29·671	29·652	29·650	29·658	29·642	29·632	29·623	29·620	29·612
Nov. 20. 0	Dec. 18. 22	29·997	30·001	29·983	29·983	29·989	29·995	30·006	30·019	30·027	30·012	30·039	30·038

The next table is formed from the preceding, by taking the mean of the numbers in each vertical column.

TABLE XIX.—The Mean Height of the Barometer at every Two Hours of the Moon's Hour-Angle in the Year 1843.

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	29·7551		
	10	29·7530		29·7526
	8	29·7519		
	6	29·7497	29·7504	
	4	29·7485		
	2	29·7487		
	0	29·7467		29·7492
West	2	29·7519		
	4	29·7502		
	6	29·7493	29·7508	
	8	29·7491		
	10	29·7537		

The general fact of a daily lunar tide is here indicated as in the years 1841 and 1842.

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 mean taken; then the mean heights on all the days next following them, and so on.

TABLE XX.—Mean Daily Heights of the Barometer, arranged with Reference to the Moon's Declination, 1843.

Days after the Moon's greatest North Declination.	Mean Height of the Barometer.	No. of Observations.	Days after the Moon was in the Equator, the Moon going South.	Mean Height of the Barometer.	No. of Observations.	Days after the Moon's greatest South Declination.	Mean Height of the Barometer.	No. of Observations.	Days after the Moon was in the Equator, the Moon going North.	Mean Height of the Barometer.	No. of Observations.
d	in.		d	in.		d	in.		d	in.	
0	29·7183	11	0	29·8828	12	0	29·7038	12	0	29·8608	13
1	29·7263	12	1	29·8099	11	1	29·6609	11	1	29·7885	12
2	29·7682	9	2	29·7983	10	2	29·7260	12	2	29·7928	12
3	29·6744	11	3	29·7880	10	3	29·9108	11	3	29·7267	11
4	29·7238	12	4	29·6837	11	4	29·8217	11	4	29·7180	11
5	29·8654	11	5	29·6927	12	5	29·7461	12	5	29·6701	12
6	30·0273	7	6	(29·6623)	3	6	29·8345	11	6	29·6596	11
						7	(29·6150)	1	7	(29·8698)	5

The mean of the numbers in each column respectively gives the mean height of the barometer when the

Moon's declination was North, and going South, 29·7862 in.
Moon's declination was South, and going South, 29·7759
Moon's declination was South, and going North, 29·7720
Moon's declination was North, and going North, 29·7452

The numbers in brackets have not been used, in consequence of the few observations on which they depend.

And, combining the mean height of the barometer when the Moon was in the equator, or at her extreme declination, with the height of the barometer on the three preceding and three following days, we have

The mean height of the barometer, when the Moon was at or near her greatest North declination, 29·7050 in.
in or near the Equator, and moving southward, 29·8422
at or near her greatest South declination, 29·7380
in or near the Equator, and moving northward, 29·7959

From these numbers it seems that the mean height of the barometer is increased by the Moon's position when she is at or near the equator; in each of the years, 1841 and 1842, this increase appeared to be dependent on the Moon's position in South declination.

The following table is also based upon the daily results in Table I. The mean heights on all the days at which the Moon was in perigee have been collected, and their mean taken; then the mean heights on all the days next following them, and so on.

TABLE XXI.—Mean Daily Heights of the Barometer, with reference to the Moon's Parallax.

Days after Perigee.	Mean Height of the Barometer.	No. of Observations.	Days after Apogee.	Mean Height of the Barometer.	No. of Observations.
d	in.		d	in.	
0	29·771	9	0	29·702	11
1	29·831	13	1	29·780	12
2	29·771	10	2	29·638	11
3	29·733	11	3	29·658	12
4	29·653	11	4	29·709	10
5	29·622	12	5	29·705	10
6	29·704	10	6	29·801	12
7	29·716	10	7	29·672	11
8	29·847	13	8	29·761	12
9	29·945	10	9	29·738	11
10	29·925	11	10	29·889	12
11	29·709	10	11	29·898	9
12	29·777	9	12	29·747	9
13	29·808	6	13	29·772	6
14	(29·825)	2	14	(29·798)	3
15	(29·800)	3	15	(29·906)	3

The variation of the distance of the Moon seems to have but little effect: the numbers increase and decrease from day to day without any order. Dividing each of the above columns into two groups of seven days, and taking the mean of each group, we have the mean height of the barometer—

	in.
$3\frac{1}{2}$ days after the Moon was in Perigee,	29·7264
$10\frac{1}{2}$ days after the Moon was in Perigee,	29·8181
$3\frac{1}{2}$ days after the Moon was in Apogee,	29·7133
$10\frac{1}{2}$ days after the Moon was in Apogee,	29·7824
And the mean of all between Perigee and Apogee, was	29·7722
,, Apogee and Perigee, was	29·7478

And, combining the mean height of the barometer when the Moon was at or near her mean distance, and at her greatest and least distances, with the heights of the barometer on the three preceding and three following days, we find that

			in.
The mean height of the barometer, when the Moon was		at or near Perigee, was	29·7890
,,	,,	at or near her mean distance and going from the Earth, was	29·7732
,,	,,	at or near Apogee, was	29·7247
,,	,,	at or near her mean distance and coming nearer the Earth, was	29·7536

These numbers seem to indicate, that when the Moon is nearest to the Earth, the mean height of the barometer is the greatest, and that it is the least when the Moon is at the greatest distance from the Earth.

In deducing these results, the numbers in brackets have not been used, in consequence of the few observations on which they depend.

The following table is formed in the same manner as the last two:—

TABLE XXII.—Mean Daily Heights of the Barometer, arranged with reference to the relative positions of the Sun and Moon.

Days after New Moon.	Mean Height of the Barometer.	No. of Observations.	Days after the Moon enters First Quarter.	Mean Height of the Barometer.	No. of Observations.	Days after Full Moon.	Mean Height of the Barometer.	No. of Observations.	Days after the Moon enters Third Quarter.	Mean Height of the Barometer.	No. of Observations.
d	in.		d	in.		d	in.		d	in.	
0	29·761	12	0	29·762	10	0	29·816	9	0	29·758	11
1	29·715	9	1	29·695	11	1	29·799	12	1	29·668	11
2	29·747	10	2	29·711	10	2	29·801	10	2	29·774	10
3	29·777	11	3	29·725	10	3	29·703	10	3	29·769	11
4	29·597	11	4	29·767	12	4	29·836	11	4	29·625	9
5	29·657	10	5	29·680	9	5	29·837	9	5	29·766	11
6	29·817	9	6	29·764	10	6	29·766	10	6	29·600	8
7	(29·772)	4	7	(29·785)	3	7	(29·896)	4	7	(29·679)	5
			8	(30·229)	1				8	(29·681)	1

The mean of the numbers in each column, omitting those in brackets, on account of the small number of observations on which they depend, gives the mean height of the barometer—

	in.
When the Moon was between new and first quarter,	29·7244
,, first quarter and full,	29·7291
,, full and third quarter,	29·7940
,, third quarter and new,	29·7086

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	29·7130
,, at or near first quarter, was	29·7091
,, at or near full Moon, was	29·7614
,, at or near third quarter, was	29·7726

It would seem, therefore, that the mean pressure was greatest when the Moon was about 17 days old.

Results of the Observations of the Thermometers.

TABLE XXIII.—Mean Daily Temperature, as deduced from the Mean of the Twelve Observations with the Dry Thermometer, taken on every Civil Day (except Sundays, Good Friday, and Christmas Day), at the Even Hours of Göttingen Mean Time.

Days of the Month, 1843.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	°	°	°	°	°	°	°	°	°	°	°	°
1	*S*	48·3	34·2	51·9	57·4	59·9	59·9	58·6	67·1	*S*	42·8	45·8
2	32·8	44·7	33·4	*S*	55·3	57·1	*S*	57·7	67·4	59·2	42·8	40·6
3	30·1	37·4	32·8	53·0	49·3	56·7	66·0	59·1	*S*	57·5	49·6	*S*
4	38·1	31·3	34·3	49·2	53·8	*S*	64·8	56·9	61·3	59·5	50·1	46·5
5	36·3	*S*	*S*	46·9	53·9	52·3	71·5	59·2	56·2	58·9	*S*	49·3
6	36·6	32·9	36·8	49·3	47·1	51·0	61·5	*S*	60·0	59·8	48·1	43·9
7	42·7	33·1	33·8	53·1	*S*	52·6	59·5	60·8	63·7	59·5	51·1	48·4
8	*S*	35·7	34·9	49·1	43·0	55·9	56·5	67·1	64·4	*S*	42·0	48·6
9	36·8	37·0	34·3	*S*	47·4	56·7	*S*	68·0	65·4	49·0	34·5	39·5
10	38·5	35·3	37·4	37·4	49·3	52·9	60·2	59·2	*S*	47·4	41·2	*S*
11	33·6	36·7	39·7	36·5	49·8	*S*	57·3	58·5	61·6	54·4	38·2	41·2
12	31·1	*S*	*S*	35·4	53·8	53·0	62·1	62·3	63·1	43·7	*S*	32·8
13	38·2	32·8	43·8	36·5	55·3	51·9	60·9	*S*	58·8	41·1	34·8	36·0
14	35·9	28·9	49·2	Good Friday	*S*	59·2	61·7	66·0	60·6	41·6	37·8	43·7
15	*S*	24·8	47·2	51·5	53·6	60·5	64·8	67·4	64·9	*S*	36·1	47·3
16	35·7	27·9	48·5	*S*	53·6	60·8	*S*	63·7	65·8	35·8	39·2	47·6
17	38·1	29·6	48·3	52·3	50·5	59·1	68·7	65·9	*S*	40·8	41·3	*S*
18	44·2	32·2	48·9	50·7	46·9	*S*	63·2	68·2	66·0	39·9	43·5	42·4
19	38·9	*S*	*S*	48·3	50·1	54·6	57·3	70·3	64·9	36·4	*S*	44·1
20	38·0	36·7	50·2	55·2	52·1	52·6	55·4	*S*	61·5	40·2	45·9	42·6
21	34·9	42·3	52·1	53·3	*S*	58·3	59·4	57·7	60·7	46·4	52·2	45·8
22	*S*	44·2	53·2	49·0	53·6	58·5	59·6	55·6	59·4	*S*	51·2	45·3
23	43·0	43·7	51·1	*S*	54·8	58·8	*S*	56·9	57·9	50·9	46·0	51·6
24	44·8	38·1	52·2	45·7	56·2	57·8	54·1	59·0	*S*	53·6	38·8	*S*
25	44·4	34·5	45·0	43·3	56·2	*S*	56·2	60·8	52·4	45·4	42·9	Ch. Day.
26	47·4	*S*	*S*	43·0	54·8	57·5	62·1	62·3	48·6	38·0	*S*	44·2
27	50·7	37·2	38·0	44·9	55·1	60·7	61·6	*S*	45·4	41·1	52·1	43·4
28	52·3	38·4	41·1	46·1	*S*	53·8	59·9	60·4	46·6	45·1	49·4	45·3
29	*S*	...	41·0	49·6	47·3	53·9	61·3	65·4	47·3	*S*	46·3	42·8
30	48·6	...	47·1	*S*	51·6	56·7	*S*	64·4	57·3	53·0	42·2	40·2
31	45·5	...	50·9	...	58·4	...	58·7	65·0	..	50·1	..	*S*

The letter *S* denotes that the day was Sunday.

TABLE XXIV.—Table exhibiting the Times at which Differences greater than 5° took place between the Mean Temperatures on two consecutive Days, with the Amount of the Differences, estimated positive when the Temperature on the Second Day is the higher.

January.		February.		March.		April.		May.		June.	
Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.
	°		°		°		°		°		°
3 & 4	+ 8·0	2 & 3	— 7·3	13 & 14	+ 5·4	19 & 20	+ 6·9	2 & 3	— 6·0	13 & 14	+ 7·3
6 & 7	+ 6·1	3 & 4	— 6·1	24 & 25	— 7·2			5 & 6	— 6·8	20 & 21	+ 5·7
12 & 13	+ 7·1	20 & 21	+ 5·6	29 & 30	+ 6·1			30 & 31	+ 6·8	27 & 28	— 6·9
17 & 18	+ 6·1	23 & 24	— 5·6								
18 & 19	— 5·3										

July.		August.		September.		October.		November.		December.	
4 & 5	+ 6·7	7 & 8	+ 6·3	4 & 5	— 5·1	10 & 11	+ 7·0	2 & 3	+ 6·8	1 & 2	— 5·2
5 & 6	—10·0	9 & 10	— 8·8	29 & 30	+10·0	11 & 12	—10·7	7 & 8	— 9·1	5 & 6	— 5·4
17 & 18	— 5·5	28 & 29	+ 5·0			16 & 17	+ 5·0	8 & 9	— 7·5	8 & 9	— 9·1
18 & 19	— 5·9					20 & 21	+ 6·2	9 & 10	+ 6·7	11 & 12	— 8·4
25 & 26	+ 5·9					24 & 25	— 8·2	20 & 21	+ 6·3	13 & 14	+ 7·7
						25 & 26	— 7·4	22 & 23	— 5·2	22 & 23	+ 6·3
						31 & 32	— 7·3	23 & 24	— 7·2		

The table contains 49 instances out of 257, in which the mean temperature of one day was at least 5° different from the mean temperature of the next day; of these there are

14	instances in which the difference exceeded	5°	and was less than	6°	
16	,,	,,	6	,,	7
10	,,	,,	7	,,	8
4	,,	,,	8	,,	9
2	,,	,,	9	,,	10
2	,,	,,	was 10		
1	instance	,,	exceeded 10	,,	11

TABLE XXV.—Mean of all the Two-hourly Readings of the Dry Thermometer, for those Days in each Month, in which (as deduced from the Mean of the Two-hourly Observations) the Thermometer was Highest or Lowest.

1843, Month.	Mean Daily Temperature of the Month.		Greatest Difference between the Highest and Lowest Mean Daily Temperature in the Month.	Day of the Month on which the Mean Temperature of the Day was	
	Highest.	Lowest.		Highest.	Lowest.
	°	°	°	d	d
January	52·3	30·1	22·2	28	3
February	48·3	24·8	23·5	1	15
March	53·2	32·8	20·4	22	3
April	55·2	35·4	19·8	20	12
May	58·4	43·0	15·4	31	8
June	60·8	51·0	9·8	16	6
July	71·5	54·1	17·4	5	24
August	68·2	55·6	12·6	18	22
September	67·4	45·4	22·0	2	27
October	59·8	35·8	24·0	6	16
November	52·2	34·5	17·7	21	9
December	51·6	32·8	18·8	23	12

The yearly mean daily range was 46°·7, being the difference between the lowest daily mean in the year, viz. 24°·8, on February 15, and the highest daily mean in the year, viz. 71°·5, on July 5.

TABLE XXVI.—The Highest and Lowest Readings of the Dry Thermometer in each Month, from the Two-hourly Observations.

1843, Month.	Dry Thermometer.		Range.	Day and Hour at which occurred	
	Greatest.	Least.		Greatest.	Least.
	°	°	°	d h	d h
January	55·7	25·0	30·7	28. 0	2. 20
February	51·0	21·1	29·9	1. 2	14. 18
March	61·7	27·5	34·2	18. 4	6. 18
April	66·5	28·2	38·3	20. 2	11. 18
May	67·7	37·4	30·3	31. 2	7. 16
June	75·0	43·7	31·3	27. 2	4. 16
July	87·3	45·5	41·8	5. 4	23. 18
August	78·6	46·8	31·8	15. 6 17. 4	10. 18
September	78·1	38·3	39·8	2. 4	28. 20
October	67·0	28·5	38·5	5. 2	18. 18
November	57·0	28·0	29·0	7. 2	12. 20
December	54·0	26·0	28·0	23. 2	12. 18

TABLE XXVII.—The Highest and Lowest Readings shewn by the Self-Registering Maximum and Minimum Thermometer.

1843, Month.	Reading of the Thermometer in the Month.		Range of the Thermometer in the Month.	Day of the Month on which the Thermometer was	
	Highest.	Lowest.		Highest.	Lowest.
	°	°	°	d	d
January	57·0	24·0	33·0	29	3
February	51·9	20·3	31·6	22	15
March	63·7	26·5	37·2	19	5
April	70·8	27·2	43·6	21	12
May	69·5	37·3	32·2	13	8
June	77·3	42·9	34·4	28	5
July	89·8	44·6	45·2	6	24
August	82·8	47·2	35·6	20	11
September	79·9	34·0	45·9	18	29
October	70·4	28·5	41·9	2	19
November	57·5	27·4	30·1	8	13
December	54·7	25·6	29·1	24	13

The range of the thermometer was large in April, July, September, and October, being in each month greater than 40°. The yearly range was 69° ·5, being the difference between the minimum reading in February and the maximum in July.

TABLE XXVIII.—Mean Height of the Thermometer in each Month, deduced from the Mean of all the Two-hourly Observations in each Month.

1843, Month.	Mean Temperature.	1843, Month.	Mean Temperature.
	°		°
January	39·9	July	60·9
February	36·0	August	62·1
March	42·9	September	59·5
April	47·1	October	48·0
May	52·2	November	43·8
June	56·3	December	43·9

The Mean of all the monthly results is 49·4°

TABLE XXIX.—Table exhibiting the Diurnal Range of the Thermometer on every Civil Day throughout the Year (Sundays, Good Friday, and Christmas Day excepted).

Day.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	°	°	°	°	°	°	°	°	°	°	°	°
1	*S*	4·8	8·2	9·6	16·5	10·3	18·0	19·9	21·0	*S*	11·6	8·5
2	6·8	9·5	9·7	*S*	20·7	11·5	*S*	14·3	19·5	8·9	10·1	5·4
3	10·0	15·5	9·3	11·0	20·3	17·0	17·3	11·3	*S*	13·0	7·6	*S*
4	6·9	13·7	10·1	10·9	18·7	*S*	16·4	9·6	17·3	10·0	10·7	2·5
5	5·8	*S*	*S*	12·3	12·4	17·5	30·3	15·5	20·6	13·5	*S*	5·7
6	9·2	6·2	11·6	12·6	13·9	12·8	15·9	*S*	24·0	8·5	9·9	8·0
7	4·4	2·5	14·0	11·4	*S*	12·7	15·1	21·0	23·0	7·7	14·4	12·4
8	*S*	3·6	12·6	12·7	10·8	15·7	11·5	19·3	17·6	*S*	11·5	12·0
9	14·9	3·0	6·8	*S*	9·0	10·3	*S*	20·8	15·5	6·7	7·3	9·1
10	10·8	5·5	11·0	12·5	15·3	7·4	14·4	14·2	*S*	16·6	6·7	*S*
11	6·1	6·7	11·0	15·0	18·0	*S*	7·4	23·7	9·1	14·6	9·9	11·9
12	6·8	*S*	*S*	13·1	23·2	8·6	18·9	24·0	19·5	9·7	*S*	5·0
13	12·1	11·5	14·7	12·0	15·7	5·9	12·3	*S*	18·1	11·5	14·8	19·2
14	7·7	11·7	9·5	Good Fri.	*S*	11·1	13·8	17·9	18·1	12·1	5·9	6·5
15	*S*	6·7	4·3	10·6	10·5	16·8	19·1	17·1	13·4	*S*	8·5	5·6
16	9·9	8·3	14·6	*S*	14·1	17·8	*S*	10·1	18·3	13·6	3·5	9·5
17	8·5	14·5	21·7	21·3	7·8	24·9	20·9	22·1	*S*	9·0	16·6	*S*
18	8·8	3·0	23·9	24·0	7·6	*S*	14·7	20·7	18·5	9·7	10·1	6·3
19	7·8	*S*	*S*	19·5	11·1	11·8	15·4	20·2	19·7	18·7	*S*	3·9
20	5·5	1·5	16·5	23·2	11·4	7·0	17·6	*S*	21·5	20·7	6·7	2·1
21	8·8	12·6	11·5	19·3	*S*	26·6	9·0	14·7	18·0	12·5	7·8	5·4
22	*S*	9·5	10·7	16·7	14·9	20·3	9·7	9·3	16·5	*S*	9·1	6·9
23	4·5	9·3	9·8	*S*	14·1	26·8	*S*	14·4	15·6	10·0	15·6	4·4
24	4·0	5·9	15·0	22·0	13·9	17·6	15·7	15·3	*S*	9·4	7·5	*S*
25	7·1	4·3	7·1	19·2	13·4	*S*	17·3	18·2	14·5	15·3	14·9	Ch. Day.
26	3·8	*S*	*S*	16·1	16·4	22·2	22·4	17·4	12·9	16·6	*S*	2·2
27	4·6	6·1	4·4	17·4	15·9	28·5	13·1	*S*	11·7	15·9	6·4	2·3
28	8·1	4·0	15·2	13·8	*S*	12·1	12·4	16·3	15·5	7·0	5·6	3·6
29	*S*	....	20·5	14·5	10·1	14·4	12·1	9·5	17·1	*S*	8·3	3·4
30	11·1	....	20·2	*S*	21·9	8·5	*S*	8·6	16·7	16·9	14·2	2·7
31	10·4	....	9·7	....	18·0	....	15·6	16·5	....	12·6	....	*S*

The letter *S* denotes that the day was Sunday.

TABLE XXX.—Greatest and Least Daily Ranges of the Thermometer in each Month, as deduced from the Two-hourly Observations.

1843, Month.	Daily Range of the Thermometer.		Difference of Greatest and Least.	Day at which occurred	
	Greatest.	Least.		Greatest.	Least.
	°	°	°	d	d
January	14·9	3·8	11·1	9	26
February	15·5	1·5	14·0	3	20
March	23·9	4·3	19·6	18	15
April	24·0	9·6	14·4	18	1
May	23·2	7·6	15·6	12	18
June	28·5	5·9	22·6	27	13
July	30·3	7·4	22·9	5	11
August	24·0	8·6	15·4	12	30
September	24·0	9·1	14·9	6	11
October	20·7	6·7	14·0	20	9
November	16·6	5·6	11·0	17	28
December	19·2	2·1	17·1	13	20

TABLE XXXI.—Mean Daily Range of the Thermometer in each Month, in Quarterly Periods, and for the Year.

1843, Month.	Mean Monthly Daily Range.	Mean Daily Range in				
		Spring.	Summer.	Autumn.	Winter.	Year.
	°	°	°	°	°	°
December	6·6					
January	7·9				7·3	
February	7·5					
March	12·4					
April	15·4	14·2				
May	14·7					
June	15·2					12·7
July	15·6		15·7			
August	16·4					
September	17·4					
October	12·8			13·5		
November	10·2					

TABLE XXXII.—Table exhibiting the Number of Cases in each Month, and during the Year, in which the Daily Range of the Thermometer was within certain Limits.

The Daily Range was				Number of Cases in												Whole Number of Cases in the Year.
				Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	
	°		°													
Greater than	1	and less than	2		1											1
,,	2	,,	3		1										5	6
,,	3	,,	4	1	3									1	3	8
,,	4	,,	5	4	3	2									1	10
,,	5	,,	6	2	2				1					2	5	12
,,	6	,,	7	4	4	1							1	3	3	16
,,	7	,,	8	3		1		2	2	1			2	4		15
,,	8	,,	9	4	1	1			2		1		2	2	2	15
,,	9	,,	10	2	3	5	1	1		2	3	1	4	3	2	27
,,	10	,,	11	3		2	2	3	2		1		2	3		18
,,	11	,,	12	1	2	4	2	2	3	1	1	1	1	2	1	21
,,	12	,,	13	1	1	1	5	1	3	3		1	3		2	21
,,	13	,,	14		1		2	3		2		1	3			12
,,	14	,,	15	1	1	3	1	3	1	2	4	1	1	4		22
,,	15	,,	16		1	2	1	3	1	5	2	3	2	1		21
,,	16	,,	17			1	2	2	1	1	2	2	3	1		15
,,	17	,,	18				1		4	3	3	3				14
,,	18	,,	19					3		2	1	5	1			12
,,	19	,,	20				3			1	2	3			1	10
,,	20	,,	21			2		2	1	1	3	1	1			11
,,	21	,,	22			1	1	1			1	2				6
,,	22	,,	25			1	3	1	2	1	3	2				13
,,	25	,,	30						3							3
,,	30	,,	35							1						1

From the last column of this table we find, that on

25	days out of 310	the daily range of the thermometer was	less	than	5	°	
85	,,	,,	greater than	5	and less than	10	
94	,,	,,	,,	10	,,	15	
72	,,	,,	,,	15	,,	20	
30	,,	,,	,,	20	,,	25	
3	,,	,,	,,	25	,,	30	
1	,,	,,	,,	30	,,	35	

TABLE XXXIII.—The Mean Temperature at every Even Hour of Göttingen Mean Time, deduced from all the Observations taken at that Hour in each Month.

1843, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	38·7	34·9	39·5	42·1	47·1	50·5	55·2	56·5	53·9	45·5	42·5	43·4
16	38·5	34·2	39·1	41·5	46·7	49·7	54·5	56·0	53·4	45·2	42·3	43·1
18	38·2	34·3	38·8	41·4	47·4	50·7	54·8	56·0	53·3	44·9	42·2	42·4
20	38·1	34·2	39·5	44·3	51·9	54·7	58·8	59·8	55·2	45·9	41·9	42·0
22	39·2	35·9	43·6	48·8	55·1	58·8	63·3	64·8	61·1	48·6	43·5	42·7
0	41·4	38·1	47·2	52·1	57·1	61·1	66·5	68·0	66·3	51·7	46·4	45·0
2	42·3	39·2	48·9	54·3	58·2	63·1	67·0	69·1	68·3	52·7	47·5	46·2
4	41·9	38·9	48·0	53·9	57·3	62·9	67·9	68·8	67·5	52·4	46·6	45·6
6	40·5	36·8	46·1	51·4	55·9	60·5	65·6	67·1	63·9	49·6	44·2	44·7
8	40·1	35·8	42·9	47·5	52·5	57·5	62·2	62·3	59·4	47·8	43·4	44·5
10	40·1	34·9	41·1	45·2	49·7	53·9	58·6	59·3	57·1	46·5	42·7	44·1
12	40·0	34·6	40·5	43·3	47·8	51·8	56·8	57·5	55·1	45·5	42·8	43·8

The highest temperature has happened in every month nearer to the observation at 2^h than to any other. The time when the lowest temperatures have taken place is more variable. In every month the temperature passes uninterruptedly from one extreme to the other. To ascertain the times and the amount of the changes, the next table is formed.

TABLE XXXIV.—Hours of Göttingen Mean Time (Astronomical Reckoning) at which the Greatest and Least Heights of the Thermometer occur in different Months, as inferred from the Monthly Means of the Two-hourly Observations, with the actual Heights and the Amounts of the Changes.

1843, Month.	Even Hour at which the Mean Temperature was		Interval of Time between the Highest and Lowest.	Mean Temperature		Difference.
	Highest.	Lowest.		Highest.	Lowest.	
	h	h	h	°	°	°
January	2	20	18	42·3	38·1	4·2
February	2	16 & 20	14 & 18	39·2	34·2	5·0
March	2	18	16	48·9	38·8	10·1
April	2	18	16	54·3	41·4	12·9
May	2	16	14	58·2	46·7	11·5
June	2	16	14	63·1	49·7	13·4
July	4	16	12	67·9	54·5	13·4
August	2	16 & 18	14 & 16	69·1	56·0	13·1
September	2	18	16	68·3	53·3	15·0
October	2	18	16	52·7	44·9	7·8
November	2	20	18	47·5	41·9	5·6
December	2	20	18	46·2	42·0	4·2

From this table it appears that the maximum temperature has happened in every month, except in that of July, nearer to the observation at 2^h than to any other; in July it took place nearer to the observation at 4^h than to any other, and this is the first case since the establishment of the Meteorological Observatory of such maximum 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.

The numbers in the last column exhibit the greatest differences between the mean temperatures at any two even hours in the month. This difference was the largest in September and the smallest in January and December.

The differences from March to September are twice as great as they are in the months immediately preceding March and following September; and those from [illegible]e to September are fully three times as great as they are in the first two and in the last two months of the year.

In the following table Spring means the months of March, April, and May.

[illegible] ,, Summer ,, June, July, and August.
,, Autumn ,, September, October, and November.
,, Winter ,, January, February, and December.

TABLE XXXV.—Mean Temperature at every even Hour, Göttingen Mean Time, in Quarterly Periods.

Hour of Observation.	1843.				For the Year.
	Spring.	Summer.	Autumn.	Winter.	
h	°	°	°	°	°
14	42·9	54·1	47·3	39·0	45·8
16	42·4	53·4	47·0	38·6	45·3
18	42·5	53·8	46·8	38·3	45·3
20	45·2	57·8	47·7	38·1	47·2
22	49·2	62·3	51·1	39·3	50·5
0	52·1	65·2	54·8	41·5	53·4
2	53·8	66·4	56·2	42·6	54·7
4	53·1	66·5	55·5	42·1	54·3
6	51·1	64·4	52·6	40·7	52·2
8	47·6	60·7	50·2	40·1	49·6
10	45·3	57·3	48·8	39·7	47·8
12	43·9	55·4	47·8	39·5	46·7

From this table it appears, that in Spring the maximum temperature took place at 2^h, and the minimum temperature at 16^h
,, Summer ,, 4^h, ,, 16^h
,, Autumn ,, 2^h, ,, 18^h
,, Winter ,, 2^h, ,, 20^h
,, for the Year ,, 2^h, ,, 16 and 18

In summer the mean temperature at 2^h was only $0°\cdot1$ less than at 4^h, which was the maximum.

The difference between the maximum and the minimum in Spring was $11°\cdot4$
,, Summer was $13°\cdot1$
,, Autumn was $9°\cdot4$
,, Winter was $4°\cdot5$
,, for the Year was $9°\cdot4$

The mean temperature for Spring was $47°\cdot4$
,, Summer was $59°\cdot8$
,, Autumn was $50°\cdot5$
,, Winter was $40°\cdot0$
,, the Year was $49°\cdot4$

By taking the difference between the mean temperature for the year, and the mean temperature of each even hour for the year, as contained in the last column of the above table, the following results are deduced:—

The mean temperature at 14^h was below the mean temperature of the year by $3°\cdot6$
,, 16^h ,, $4°\cdot1$
,, 18^h ,, $4°\cdot1$
,, 20^h ,, $2°\cdot2$
,, 22^h was above the mean temperature of the year by $1°\cdot1$
,, 0^h ,, $4°\cdot0$
,, 2^h ,, $5°\cdot3$
,, 4^h ,, $4°\cdot9$
,, 6^h ,, $2°\cdot8$
,, 8^h ,, $0°\cdot2$
,, 10^h was below the mean temperature of the year by $1°\cdot6$
,, 12^h ,, $2°\cdot7$

The mean temperature from all the observations at 8^h is higher by $0°\cdot2$ than the mean of the year; in the previous year the same difference was exhibited, and in 1841 there was no difference. If, therefore, this element were to be determined by an isolated observation daily, the hour indicated is 8^h, and the mean correction from three years' observations is $0°\cdot1$ to be taken away.

If the mean temperature be determined from two observations taken daily, the hours as shewn above are 16^h and 0^h, or 18^h and 0^h, or 6^h and 12^h; and the mean in each case from the three years' observations is the same as the mean of the year; the same element as deduced from 22^h and 10^h as exhibited above is $0°\cdot25$ too low: in the previous year it was $0°\cdot20$ too low; and in 1841 it was $0°\cdot25$ too low; therefore, from the three years' observations the correction to be added to observations taken at 22^h and 10^h is $0°\cdot2$. In the following table the mean temperature is deduced from the maximum and minimum readings of the self-registering thermometer, by taking a simple arithmetical mean. The mean maximum and minimum readings are found from the daily maximum and minimum readings, by taking the mean of each month:—

TABLE XXXVI.—Mean Temperature of each Month, deduced from the Maximum and Minimum Self-Registering Thermometer.

1843, Month.	Mean of all the Maximum Readings in each Month.	Mean of all the Minimum Readings in each Month.	Mean Temperature deduced from Max. and Min. Thermometer.	1843, Month.	Mean of all the Maximum Readings in each Month.	Mean of all the Minimum Readings in each Month.	Mean Temperature deduced from Max. and Min. Thermometer.
	°	°	°		°	°	°
January	44·7	35·4	40·1	July	71·8	53·5	62·7
February	40·2	31·9	36·0	August	72·5	55·2	63·9
March	50·5	37·5	44·0	September	70·4	52·3	61·3
April	57·9	40·7	49·3	October	55·5	42·0	48·8
May	63·3	45·5	54·4	November	50·0	38·5	44·3
June	67·0	49·0	58·0	December	48·2	40·3	44·2

And the mean of the Monthly Results is $50°\cdot6$.

TABLE XXXVII.—Approximations to the Mean Temperature of each Month from various combinations.

1843, Month.	Mean Temperature in each Month, obtained from Maximum and Minimum Thermometer.	Mean Temperature in each Month, obtained from combining observations taken at 16h & 0h.	18h & 0h.	22h & 10h.	6h & 12h.	8h.	True Mean for each Month.	Errors of the Mean Temperature in each Month, obtained from Maximum and Minimum Thermometer.	Errors of the Mean Temperature in each Month, obtained from observations taken at 16h & 0h.	18h & 0h.	22h & 10h.	6h & 12h.	8h.
	°	°	°	°	°	°	°	°	°	°	°	°	°
January	40·1	40·0	39·8	39·7	40·3	40·1	39·9	+ 0·2	+0·1	−0·1	−0·2	+0·4	+0·2
February	36·0	36·2	36·2	35·4	35·7	35·8	36·0	0·0	+0·2	+0·2	−0·6	−0·3	−0·2
March	44·0	43·2	43·0	42·4	43·3	42·9	42·9	+ 1·1	+0·3	+0·1	−0·5	+0·4	0·0
April	49·3	46·8	46·8	47·0	47·4	47·5	47·1	+ 2·2	−0·3	−0·3	−0·1	+0·3	+0·4
May	54·4	51·9	52·3	52·4	51·9	52·5	52·2	+ 2·2	−0·3	+0·1	+0·2	−0·3	+0·3
June	58·0	55·4	55·9	56·4	56·2	57·5	56·3	+ 1·7	−0·9	−0·4	+0·1	−0·1	+1·2
July	62·7	60·5	60·7	61·0	61·2	62·2	60·9	+ 1·8	−0·4	−0·2	+0·1	+0·3	+1·3
August	63·9	62·0	62·0	62·1	62·3	62·3	62·1	+ 1·8	−0·1	−0·1	0·0	+0·2	+0·2
September	61·3	59·9	59·8	59·1	59·5	59·4	59·5	+ 1·8	+0·4	+0·3	−0·4	0·0	−0·1
October	48·8	48·5	48·3	47·6	47·6	47·8	48·0	+ 0·8	+0·5	+0·3	−0·4	−0·4	−0·2
November	44·3	44·4	44·3	43·1	43·5	43·4	43·8	+ 0·5	+0·6	+0·5	−0·7	−0·3	−0·4
December	44·2	44·1	43·7	43·4	44·3	44·5	43·9	+ 0·3	+0·2	−0·2	−0·5	+0·4	+0·6

By taking the means of the errors in each column we obtain:—

That the mean temperature of the year, derived from the maximum and minimum thermometer, is too high by 1·2°

,, obtained from observations at 16h and 0h is too high by 0·03

,, ,, at 18 and 0 is too high by 0·02

,, ,, at 22 and 10 is too low by 0·25

,, ,, at 6 and 12 is too high by 0·05

,, ,, at 8 is too high by 0·27

And thus it would appear, that the result obtained from the maximum and minimum thermometer departs more from the true mean than that obtained by any of the above combinations, the mean amount of its departure from the three years' observations being 1°.

The mean yearly temperature deduced from the three years' observations at 16h and 0h is the true mean

,, at 18 and 0 is the true mean

,, at 22 and 10 is 0°·2 too low

,, at 6 and 12 is the true mean

,, at 8 is 0°·1 too high

TABLE XXXVIII.—Excess of the Monthly Mean Temperature at each Even Hour, above the Mean Temperature of the Month.

1843, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	− 1·2	− 1·1	− 3·4	− 5·0	− 5·1	− 5·8	− 5·7	− 5·6	− 5·6	− 2·5	− 1·3	− 0·5
16	− 1·4	− 1·8	− 3·8	− 5·6	− 5·5	− 6·6	− 6·4	− 6·1	− 6·1	− 2·8	− 1·5	− 0·8
18	− 1·7	− 1·7	− 4·1	− 5·7	− 4·8	− 5·6	− 6·1	− 6·1	− 6·2	− 3·1	− 1·6	− 1·5
20	− 1·8	− 1·8	− 3·4	− 2·8	− 0·3	− 1·6	− 2·1	− 2·3	− 4·3	− 2·1	− 1·9	− 1·9
22	− 0·7	− 0·1	+ 0·7	+ 1·7	+ 2·9	+ 2·5	+ 2·4	+ 2·7	+ 1·6	+ 0·6	− 0·3	− 1·2
0	+ 1·5	+ 2·1	+ 4·3	+ 5·0	+ 4·9	+ 4·8	+ 5·6	+ 5·9	+ 6·8	+ 3·7	+ 2·6	+ 1·1
2	+ 2·4	+ 3·2	+ 6·0	+ 7·2	+ 6·0	+ 6·8	+ 6·1	+ 7·0	+ 8·8	+ 4·7	+ 3·7	+ 2·3
4	+ 2·0	+ 2·9	+ 5·1	+ 6·8	+ 5·1	+ 6·6	+ 7·0	+ 6·7	+ 8·0	+ 4·4	+ 2·8	+ 1·7
6	+ 0·6	+ 0·8	+ 3·2	+ 4·3	+ 3·7	+ 4·2	+ 4·7	+ 5·0	+ 4·4	+ 1·6	+ 0·4	+ 0·8
8	+ 0·2	− 0·2	0·0	+ 0·4	+ 0·3	+ 1·2	+ 1·3	+ 0·2	− 0·1	− 0·2	− 0·4	+ 0·6
10	+ 0·2	− 1·1	− 1·8	− 1·9	− 2·5	− 2·4	− 2·3	− 2·8	− 2·4	− 1·5	− 1·1	+ 0·2
12	+ 0·1	− 1·4	− 2·4	− 3·8	− 4·4	− 4·5	− 4·1	− 4·6	− 4·4	− 2·5	− 1·0	− 0·1

TABLE XXXIX.—Mean Temperature at each Even Hour during each Month (Table XXXIII.), diminished by the Mean Temperature for the Month (Table XXVIII.), and by the Mean Diurnal Change at each Hour (Table XXXV. and following Numbers).

1843, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	+ 2·4	+ 2·5	+ 0·2	− 1·4	− 1·5	− 2·2	− 2·1	− 2·0	− 2·0	+ 1·1	+ 2·3	+ 3·1
16	+ 2·7	+ 2·3	+ 0·3	− 1·5	− 1·4	− 2·5	− 2·3	− 2·0	− 2·0	+ 1·3	+ 2·6	+ 3·3
18	+ 2·4	+ 2·4	0·0	− 1·6	− 0·7	− 1·5	− 2·0	− 2·0	− 2·1	+ 1·0	+ 2·5	+ 2·6
20	+ 0·4	+ 0·4	− 1·2	− 0·6	+ 1·9	+ 0·6	+ 0·1	− 0·1	− 2·1	+ 0·1	+ 0·3	+ 0·3
22	− 1·8	− 1·2	− 0·4	+ 0·6	+ 1·8	+ 1·4	+ 1·3	+ 1·6	+ 0·5	− 0·5	− 1·4	− 2·3
0	− 2·5	− 1·9	+ 0·3	+ 1·0	+ 0·9	+ 0·8	+ 1·6	+ 1·9	+ 2·8	− 0·3	− 1·4	− 2·9
2	− 2·9	− 2·1	+ 0·7	+ 1·9	+ 0·7	+ 1·5	+ 0·8	+ 1·7	+ 3·5	− 0·6	− 1·6	− 3·0
4	− 2·9	− 2·0	+ 0·2	+ 1·9	+ 0·2	+ 1·7	+ 2·1	+ 1·8	+ 3·1	− 0·5	− 2·1	− 3·2
6	− 2·2	− 2·0	+ 0·4	+ 1·5	+ 0·9	+ 1·4	+ 1·9	+ 2·2	+ 1·6	− 1·2	− 2·4	− 2·0
8	0·0	− 0·4	− 0·2	+ 0·2	+ 0·1	+ 1·0	+ 1·1	0·0	− 0·3	− 0·4	− 0·6	+ 0·4
10	+ 1·8	+ 0·5	− 0·2	− 0·3	− 0·9	− 0·8	− 0·7	− 1·2	− 0·8	+ 0·1	+ 0·5	+ 1·8
12	+ 2·8	+ 1·3	+ 0·3	− 1·1	− 1·7	− 1·8	− 1·4	− 1·9	− 1·7	+ 0·2	+ 1·7	+ 2·6

From the circumstance of the order of the signs contained in this table being different at different times of the year, it is shewn that the daily change of temperature is different at different times of the year. By taking the sum of all the numbers hour by hour, without regard to the signs, the following table is formed, in which those hours which have the smallest numbers opposite to them will shew the hours at which the relation of the temperature to the mean daily temperature is the most uniform throughout the year, and the largest numbers will shew those hours subject to the greatest irregularity.

TABLE XL.—Hourly Sums of the Changes of Diurnal Inequality for different Months.

Hour, Göttingen Mean Time.	Sums of the Differences.	Hour, Göttingen Mean Time.	Sums of the Differences.
h	°	h	°
14	22·8	2	21·0
16	24·2	4	21·7
18	20·8	6	19·7
20	8·1	8	4·7
22	14·8	10	9·6
0	18·3	12	18·5

These numbers shew that at 20^h and at 8^h, the relation of the temperature to the mean temperature of the day was subject to less irregularity than at any other hours. Those at 14^h, 16^h, 2^h, and 4^h, are the most irregular. To ascertain the months subject to the greatest and the least irregularity, the sums of all the numbers in each month (Table XXXIX.) are taken, without regard to their signs, and the following table is formed :—

TABLE XLI.—Monthly Sums of the Changes of Diurnal Inequality for different Hours.

1843.	Sums of the Differences.	1843.	Sums of the Differences.
	°		°
January	24·8	July	17·4
February	19·0	August	18·4
March	4·4	September	22·5
April	13·6	October	7·3
May	12·7	November	19·4
June	17·2	December	27·5

These numbers indicate that March and October were the most uniform; and that January and December were subject to the greatest irregularity, departing the most from the mean of the year.

TABLE XLII.—Abstract of the Results of the Observations of Radiation.

1843, Month.	Monthly Mean of the: Observations of the Thermometer whose Bulb is in the full Rays of the Sun.	Monthly Mean of the: Observations of the Thermometer whose Bulb is in the Focus of a Metallic Reflector exposed to the Sky.	1843, Month.	Monthly Mean of the: Observations of the Thermometer whose Bulb is in the full Rays of the Sun.	Monthly Mean of the: Observations of the Thermometer whose Bulb is in the Focus of a Metallic Reflector exposed to the Sky.
	°	°		°	°
January	49·6	28·3	July	90·9	47·3
February	46·3	25·4	August	93·0	47·6
March	65·5	29·3	September	92·6	44·4
April	74·8	33·8	October	67·5	36·5
May	80·9	40·4	November	55·6	32·8
June	85·1	42·4	December	49·5	35·8

The mean of all the observations of the thermometer, whose bulb was in the full rays of the Sun, is 70° ·9; and the mean of all the observations by the other thermometer is 37° ·0. The mean of all the observations for the same time of the maximum temperature is 57° ·7, and that of the minimum temperature is 43° ·5.

Abstracts of the Results of the Temperature of Evaporation.

TABLE XLIII.—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 the Difference 0° ·2, between the Readings of the Dry and Wet Thermometers, when under the same circumstances.

Days of the Month, 1843.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	°	°	°	°	°	°	°	°	°	°	°	°
1	*S*	46·9	32·9	50·8	52·7	58·4	56·7	55·2	64·8	*S*	42·7	44·5
2	31·3	43·4	31·9	*S*	50·6	55·0	*S*	56·1	64·4	58·0	42·7	39·5
3	29·3	36·1	31·3	50·6	48·3	54·0	62·5	57·5	*S*	56·0	48·8	*S*
4	36·6	29·7	33·2	48·1	52·0	*S*	62·7	56·0	57·1	57·9	48·9	46·3
5	34·9	*S*	*S*	45·1	52·2	49·5	66·1	56·2	53·3	56·6	*S*	48·1
6	35·7	32·5	35·1	48·5	46·7	49·6	57·8	*S*	57·1	58·9	47·7	42·0
7	41·6	32·9	32·4	51·8	*S*	50·5	55·7	58·8	60·2	57·4	49·4	47·0
8	*S*	34·7	33·9	46·2	42·8	52·8	55·3	63·7	62·7	*S*	40·3	47·3
9	35·5	36·5	33·1	*S*	46·4	53·3	*S*	65·0	63·1	48·2	31·6	39·3
10	36·8	33·9	36·0	35·6	47·8	50·9	56·8	57·5	*S*	46·2	39·7	*S*
11	32·6	35·8	37·6	33·8	48·0	*S*	56·2	54·2	59·3	53·6	36·3	40·5
12	30·7	*S*	*S*	33·0	50·5	51·8	59·3	58·1	61·7	41·9	*S*	32·7
13	36·7	31·6	41·8	34·9	52·2	52·0	59·6	*S*	55·8	38·5	33·7	35·3
14	33·9	28·5	47·3	Good Fri.	*S*	58·7	59·5	62·8	59·1	39·5	37·2	42·4
15	*S*	24·3	46·3	49·4	52·2	57·3	61·6	64·9	61·3	*S*	35·1	46·0
16	34·2	26·9	47·6	*S*	52·2	56·0	*S*	62·8	62·6	34·0	37·9	46·5
17	37·4	28·1	46·3	49·2	50·1	56·4	64·5	62·6	*S*	39·6	40·2	*S*
18	43·8	31·6	46·8	47·2	45·6	*S*	61·0	65·3	63·7	37·1	41·9	42·2
19	38·9	*S*	*S*	46·7	48·7	52·8	54·7	65·0	61·6	34·7	*S*	43·4
20	37·5	36·7	48·3	52·1	50·1	49·7	52·4	*S*	58·5	38·4	43·4	41·8
21	34·5	41·7	49·5	50·5	*S*	54·2	56·0	52·8	59·2	44·7	50·7	44·7
22	*S*	43·3	50·8	46·6	52·1	55·7	57·7	53·7	57·0	*S*	49·1	44·3
23	42·4	42·9	48·9	*S*	53·8	54·6	*S*	55·1	56·6	48·9	44·7	50·7
24	44·6	37·4	49·7	43·0	54·5	54·0	50·8	56·7	*S*	51·4	38·0	*S*
25	43·6	34·0	42·2	41·6	53·4	*S*	54·5	58·7	51·1	44·8	42·8	Ch. Day
26	46·6	*S*	*S*	40·7	53·1	54·2	59·6	59·6	45·1	36·9	*S*	44·1
27	49·5	36·7	36·0	42·9	53·6	55·5	59·1	*S*	42·8	39·4	50·6	42·9
28	50·4	37·3	38·6	44·7	*S*	50·3	56·8	58·9	42·8	42·8	47·6	44·5
29	*S*	....	38·8	47·5	46·4	49·4	59·1	63·6	43·6	*S*	43·7	41·3
30	46·6	....	45·3	*S*	48·8	53·1	*S*	62·9	55·6	52·1	41·7	38·7
31	44·7	....	49·8	....	56·7	....	56·6	62·8	....	49·8	....	*S*

The letter *S* denotes that the day was Sunday.

Taking the difference between the numbers contained in this table and the numbers contained in Table XXIII., the next table was formed.

TABLE XLIV.—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, 1843.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	°	°	°	°	°	°	°	°	°	°	°	°
1	*S*	1·4	1·3	1·1	4·7	1·5	3·2	3·4	2·3	*S*	0·1	1·3
2	1·5	1·3	1·5	*S*	4·7	2·1	*S*	1·6	3·0	1·2	0·1	1·1
3	0·8	1·3	1·5	2·4	1·0	2·7	3·5	1·6	*S*	1·5	0·8	*S*
4	1·5	1·6	1·1	1·1	1·8	*S*	2·1	0·9	4·2	1·6	1·2	0·2
5	1·4	*S*	*S*	1·8	1·7	2·8	5·4	3·0	2·9	2·3	*S*	1·2
6	0·9	0·4	1·7	0·8	0·4	1·4	3·7	*S*	2·9	0·9	0·4	1·9
7	1·1	0·2	1·4	1·3	*S*	2·1	3·8	2·0	3·5	2·1	1·7	1·4
8	*S*	1·0	1·0	2·9	0·2	3·1	1·2	3·4	1·7	*S*	1·7	1·3
9	1·3	0·5	1·2	*S*	1·0	3·4	*S*	3·0	2·3	0·8	2·9	0·2
10	1·7	1·4	1·4	1·8	1·5	2·0	3·4	1·7	*S*	1·2	1·5	*S*
11	1·0	0·9	2·1	2·7	1·8	*S*	1·1	4·3	2·3	0·8	1·9	0·7
12	0·4	*S*	*S*	2·4	3·3	1·2	2·8	4·2	1·4	1·8	*S*	0·1
13	1·5	1·2	2·0	1·6	3·1	−0·1	1·3	*S*	3·0	2·6	1·1	0·7
14	2·0	0·4	1·9	Good Fri.	*S*	0·5	2·2	3·2	1·5	2·1	0·6	1·3
15	*S*	0·5	0·9	2·1	1·4	3·2	3·2	2·5	3·6	*S*	1·0	1·3
16	1·5	1·0	0·9	*S*	1·4	4·8	*S*	0·9	3·2	1·8	1·3	1·1
17	0·7	1·5	2·0	3·1	0·4	2·7	4·2	3·3	*S*	1·2	1·1	*S*
18	0·4	0·6	2·1	3·5	1·3	*S*	2·2	2·9	2·3	2·8	1·6	0·2
19	0·0	*S*	*S*	1·6	1·4	1·8	2·6	5·3	3·3	1·7	*S*	0·7
20	0·5	0·0	1·9	3·1	2·0	2·9	3·0	*S*	3·0	1·8	2·5	0·8
21	0·4	0·6	2·6	2·8	*S*	4·1	3·4	4·9	1·5	1·7	1·5	1·1
22	*S*	0·9	2·4	2·4	1·5	2·8	1·9	1·9	2·4	*S*	2·1	1·0
23	0·6	0·8	2·2	*S*	1·0	4·2	*S*	1·8	1·3	2·0	1·3	0·9
24	0·2	0·7	2·5	2·7	1·7	3·8	3·3	2·3	*S*	2·2	0·8	*S*
25	0·8	0·5	2·8	1·7	2·8	*S*	1·7	2·1	1·3	0·6	0·1	Ch. Day.
26	0·8	*S*	*S*	2·3	1·7	3·3	2·5	2·7	3·5	1·1	*S*	0·1
27	1·2	0·5	2·0	2·0	1·5	5·2	2·5	*S*	2·6	1·7	1·5	0·5
28	1·9	1·1	2·5	1·4	*S*	3·5	3·1	1·5	3·8	2·3	1·8	0·8
29	*S*	...	2·2	2·1	0·9	4·5	2·2	1·8	3·7	*S*	2·6	1·5
30	2·0	...	1·8	*S*	2·8	3·6	*S*	1·5	1·7	0·9	0·5	1·5
31	0·8	...	1·1	...	1·7	...	2·1	2·2	...	0·3	...	*S*

The letter *S* denotes that the day was Sunday.

The number ranging with June 13d has a negative sign prefixed: the mean reading of the Wet-bulb Thermometer was higher on that day than the mean reading of the Dry-bulb Thermometer. It is considered that the air was saturated with moisture during that day, and all the results dependent on it are so treated in the subsequent calculations.

The greatest observed excess of the reading of the Dry-bulb Thermometer above that of the Wet-bulb Thermometer,

In January, was	4·9	on the	30th day;	and the greatest mean daily excess was	2·0	on the 14th and 30th days.
February	4·9	,,	17th	,,	1·6	,, 4th day.
March	6·4	,,	18th	,,	2·8	,, 25th day.
April	9·0	,,	18th	,,	3·5	,, 18th day.
May	8·7	,,	2nd	,,	4·7	,, 1st and 2nd days.
June	12·6	,,	27th	,,	5·2	,, 27th day.
July	12·7	,,	5th	,,	5·4	,, 5th day.
August	12·4	,,	19th	,,	5·3	,, 19th day.
September	10·1	,,	7th	,,	4·2	,, 4th day.
October	6·9	,,	18th	,,	2·8	,, 18th day.
November	5·2	,,	9th	,,	2·9	,, 9th day.
December	3·8	,,	6th	,,	1·9	,, 6th day.

The next table contains the sums of the excesses of the temperature of the air above the temperature of evaporation and of the dew-point, in each month, whenever the temperature of the air has exceeded 34°·9; the observations being divided into groups of 5° of air-temperature. The yearly sums of these numbers have been taken, and combined with the same results deduced from the observations of 1841 and of 1842, and the mean excess of the air-temperature above evaporation-temperature in each group is deduced.

TABLE XLV.—Excess of the Air Temperature above Evaporation Temperature, and above the Temperature of the Dew-Point, for all Temperatures included between 35° and 90°, separated into Groups of 5°, from the Observations of 1843, combined with those of 1841 and 1842.

	Between what Temperatures of the Air.														
	35° to 40°			40° to 45°			45° to 50°			50° to 55°			55° to 60°		
1843, Month.	No. of Observations.	Sums and Mean Value of the Excess of Air Temperature above Evaporation Temperature.	Sums and Mean Value of the Excess of Air Temperature above Dew-Point Temperature.	No. of Observations.	Sums and Mean Value of the Excess of Air Temperature above Evaporation Temperature.	Sums and Mean Value of the Excess of Air Temperature above Dew-Point Temperature.	No. of Observations.	Sums and Mean Value of the Excess of Air Temperature above Evaporation Temperature.	Sums and Mean Value of the Excess of Air Temperature above Dew-Point Temperature.	No. of Observations.	Sums and Mean Value of the Excess of Air Temperature above Evaporation Temperature.	Sums and Mean Value of the Excess of Air Temperature above Dew-Point Temperature.	No. of Observations.	Sums and Mean Value of the Excess of Air Temperature above Evaporation Temperature.	Sums and Mean Value of the Excess of Air Temperature above Dew-Point Temperature.
		°	°		°	°		°	°		°	°		°	°
January	25	40·9	108·7	25	18·9	40·9	13	14·1	28·4	8	14·3	28·4			
February	28	31·0	76·0	11	16·6	36·7	10	14·0	30·6						
March	23	45·3	112·7	15	30·3	71·0	22	34·0	71·2	16	37·6	77·1	8	33·1	67·2
April	9	12·0	37·9	16	32·4	77·8	18	24·7	59·3	26	62·6	142·1	10	43·1	96·0
May				6	4·3	11·1	20	17·1	46·2	31	42·7	102·1	21	68·6	157·1
June				2	1·1	2·8	9	9·6	22·0	33	62·9	140·1	21	66·9	148·6
July							2	1·3	4·3	11	9·0	24·8	35	63·7	145·2
August										12	11·5	21·8	13	21·1	37·1
September				3	4·8	11·0	11	32·9	72·8	7	20·4	54·8	13	27·9	55·9
October	12	12·9	32·4	16	32·8	69·6	19	40·5	96·6	17	29·1	60·0	14	25·7	44·1
November	23	29·6	71·6	20	27·7	65·4	20	35·3	75·6	18	33·1	58·6	2	1·6	3·0
December	4	3·5	9·5	45	42·0	98·2	25	27·5	61·0	9	12·5	25·6			
Sums	124	175·2	448·8	159	210·9	484·5	169	251·0	568·0	188	335·7	735·4	137	351·7	754·2
Sums from 1841 & 1842	187	194·8	479·7	332	430·8	1001·6	403	580·3	1211·4	373	644·0	1271·0	339	922·5	1522·5
Whole Sums	311	370·0	928·5	491	641·7	1486·1	572	831·3	1779·4	561	979·7	2006·4	476	1274·2	2276·7
Mean....		1·19	2·98		1·31	3·03		1·45	3·11		1·75	3·57		2·68	4·78

TABLE XLV.—*continued.*

Between what Temperatures of the Air.

1843, Month.	60° to 65°			65° to 70°			70° to 75°			75° to 80°			80° to 85°			85° to 90°		
	No. of Observations.	Sums and Mean Value of the Excess of Air Temperature above Evaporation Temperature.	Sums and Mean Value of the Excess of Air Temperature above Dew-Point Temperature.	No. of Observations.	Sums and Mean Value of the Excess of Air Temperature above Evaporation Temperature.	Sums and Mean Value of the Excess of Air Temperature above Dew-Point Temperature.	No. of Observations.	Sums and Mean Value of the Excess of Air Temperature above Evaporation Temperature.	Sums and Mean Value of the Excess of Air Temperature above Dew-Point Temperature.	No. of Observations.	Sums and Mean Value of the Excess of Air Temperature above Evaporation Temperature.	Sums and Mean Value of the Excess of Air Temperature above Dew-Point Temperature.	No. of Observations.	Sums and Mean Value of the Excess of Air Temperature above Evaporation Temperature,	Sums and Mean Value of the Excess of Air Temperature above Dew-Point Temperature.	No. of Observations.	Sums and Mean Value of the Excess of Air Temperature above Evaporation Temperature.	Sums and Mean Value of the Excess of Air Temperature above Dew-Point Temperature.
		°	°		°	°		°	°		°	°		°	°		°	°
January																		
February																		
March	1	5·7	10·7															
April	4	24·8	62·7	1	8·1	16·1												
May	11	54·7	132·5	2	11·5	22·6												
June	16	71·2	148·8	9	58·2	114·4												
July	26	75·8	163·5	15	76·8	161·6	5	28·8	49·6	3	21·7	46·5	1	8·4	18·1	1	12·5	22·3
August	32	65·5	124·3	24	87·6	159·7	6	37·4	70·3	5	41·0	64·4	1	9·5	16·7			
September	19	36·8	66·6															
October	12	30·0	53·4	2	8·6	13·3												
November																		
December																		
Sums	121	364·5	762·5	53	250·8	487·7	11	66·2	119·9	8	62·7	110·9	2	17·9	34·8	1	12·5	22·3
Sums from 1841 & 1842	228	921·8	1519·5	137	886·1	1427·9	55	443·1	664·9	24	252·6	388·8	8	105·9	165·6	2	16·8	29·2
Whole Sums	349	1286·3	2282·0	190	1136·9	1915·6	66	509·3	784·8	32	315·3	499·7	10	123·8	200·4	3	29·3	51·5
Mean ...		3·69	6·54		5·98	10·08		7·72	11·89		9·85	15·62		12·38	20·04		9·77	17·17

All the observations of the temperature of the dew-point at times when the temperature of the air has been less than 35°, have been collected from all the observations taken between 1841, March 1, and the end of March 1845, and divided into groups for every degree of air-temperature, and the corresponding mean excesses of the air-temperature above those of evaporation and of the dew-point have been deduced; these results, together with those of the above table (XLV), are contained in the following table, and also the deduced value of the fraction—

$$\frac{\text{Air-temperature—dew-point temperature}}{\text{Air-temperature—evaporation-temperature,}}$$

for every group.

TABLE XLVI.—Deduction of the Factors by which it is necessary to multiply the Excess of the Air Temperature above Evaporation Temperature, to find the Excess of the Air Temperature above the Dew-Point Temperature, at different Temperatures of the Air.

The Observations were made between	The reading of the Dry Bulb Thermometer.	Number of Observations.	Mean excess of the reading of the Dry Thermometer above that of the Wet Thermometer.	Mean excess of the reading of the Dry Thermometer above that of the Dew Point.	Factor.
	° °		°	°	
1841, March 1, and 1845, March 31	Below 20	4	0·35	2·98	8·5
,, ,,	Between 20 and 21	2	0·45	3·75	8·3
,, ,,	,, 21 ,, 22	5	0·52	4·66	9·0
,, ,,	,, 22 ,, 23	6	0·62	5·23	8·4
,, ,,	,, 23 ,, 24	12	0·60	4·94	8·2
,, ,,	,, 24 ,, 25	23	0·69	5·04	7·3
,, ,,	,, 25 ,, 26	22	0·77	4·95	6·4
,, ,,	,, 26 ,, 27	34	0·76	4·24	5·7
,, ,,	,, 27 ,, 28	38	0·78	4·75	6·1
,, ,,	,, 28 ,, 29	45	0·71	4·03	5·7
,, ,,	,, 29 ,, 30	48	0·96	4·74	5·0
,, ,,	,, 30 ,, 31	64	0·71	3·24	4·6
,, ,,	,, 31 ,, 32	58	0·73	2·61	3·6
,, ,,	,, 32 ,, 33	88	0·88	2·76	3·1
,, ,,	,, 33 ,, 34	78	1·21	3·42	2·8
,, ,,	,, 34 ,, 35	95	1·08	2·81	2·6
1841, March 1, and 1843, December 31	,, 35 ,, 40	311	1·19	2·98	2·5
,, ,,	,, 40 ,, 45	491	1·31	3·03	2·3
,, ,,	,, 45 ,, 50	572	1·45	3·11	2·1
,, ,,	,, 50 ,, 55	561	1·75	3·57	2·0
,, ,,	,, 55 ,, 60	476	2·68	4·78	1·8
,, ,,	,, 60 ,, 65	349	3·69	6·54	1·8
,, ,,	,, 65 ,, 70	190	5·98	10·08	1·7
,, ,,	,, 70 ,, 75	66	7·72	11·89	1·5
,, ,,	,, 75 ,, 80	32	9·85	15·62	1·6
,, ,,	,, 80 ,, 85	10	12·38	20·04	1·6
,, ,,	,, 85 ,, 90	3	9·77	17·17	1·8

The next table is formed by multiplying the numbers contained in Table XLIV. into the factors following Table L. of the volume for 1842, according to the mean temperature of the day.

TABLE XLVII.—The true Difference between the Mean Daily Temperature of the Air and the Mean Daily Temperature of the Dew-Point, as found by multiplying the Numbers contained in Table XLIV. into the Factors following Table L. of the volume for 1842. (This table was calculated before the factors in Table XLVI. were deduced: the differences between the factors following Table L. of the volume for 1842 and those in Table XLVI. above, were considered to be too small to require that this table, and the deductions from it, should be re-computed.)

Day.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	°	°	°	°	°	°	°	°	°	°	°	°
1	*S*	2·9	3·6	2·2	8·0	2·6	5·4	5·8	3·7	*S*	0·2	2·7
2	4·2	2·9	4·2	*S*	8·0	3·6	*S*	2·7	4·8	2·0	0·2	2·4
3	3·3	3·3	4·2	4·8	2·1	4·6	5·6	2·7	*S*	2·6	1·7	*S*
4	3·8	6·6	3·1	2·3	3·6	*S*	3·6	1·5	7·1	2·7	2·4	0·4
5	3·5	*S*	*S*	3·8	3·4	5·6	8·1	5·1	4·9	3·9	*S*	2·5
6	2·3	1·1	4·3	1·7	0·8	2·8	6·3	*S*	4·9	1·5	0·8	4·2
7	2·4	0·6	3·9	2·6	*S*	4·2	6·5	3·4	6·0	3·6	3·4	2·9
8	*S*	2·5	2·8	6·1	0·4	5·3	2·0	5·4	2·9	*S*	3·7	2·7
9	3·3	1·3	3·4	*S*	2·1	5·8	*S*	4·8	3·7	1·7	8·1	0·5
10	4·3	3·5	3·5	4·5	3·2	4·0	5·8	2·9	*S*	2·5	3·3	*S*
11	2·8	2·3	5·3	6·8	3·8	*S*	1·9	7·3	3·9	1·6	4·8	1·5
12	1·6	*S*	*S*	6·0	6·6	2·4	4·8	7·1	2·4	4·0	*S*	0·3
13	3·8	3 4	4·4	4·0	5·3	0·0	2·2	*S*	5·1	5·7	3·1	1·8
14	5·0	2·1	4·0	Good Fri.	*S*	0·9	3·7	5·1	2·6	4·6	1·5	2·9
15	*S*	3·5	1·9	4·2	2·8	5·4	5·4	4·0	6·1	*S*	2·5	2·7
16	3·8	5·2	1·9	*S*	2·8	8·2	*S*	1·5	5·1	4·5	3·3	2·3

The letter *S* denotes that the day was Sunday.

TABLE XLVII.—*continued.*

Day.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	°	°	°	°	°	°	°	°	°	°	°	°
17	1·8	7·8	4·2	6·2	0·8	4·6	6·7	5·3	*S*	2·6	2·4	*S*
18	0·9	1·7	4·4	7·0	2·7	*S*	3·7	4·6	3·7	7·0	3·5	0·4
19	0·0	*S*	*S*	3·4	2·8	3·6	4·4	8·5	5·6	4·3	*S*	1·5
20	1·3	0·0	3·8	5·3	4·0	5·8	5·1	*S*	5·1	4·0	5·3	1·8
21	1·1	1·3	5·2	5·6	*S*	7·0	5·8	8·3	2·6	3·6	3·0	2·3
22	*S*	2·0	4·8	5·0	3·0	4·8	3·2	3·2	4·1	*S*	4·2	2·1
23	1·3	1·8	4·4	*S*	2·0	7·1	*S*	3·1	2·2	4·0	2·7	1·8
24	0·4	1·8	5·0	5·7	2·9	6·5	6·6	3·9	*S*	4·4	2·0	*S*
25	1·8	1·4	5·9	3·7	4·8	*S*	2·9	3·6	2·6	1·3	0·2	Ch. Day.
26	1·7	*S*	*S*	5·1	3·4	5·6	4·3	4·6	7·4	2·8	*S*	0·2
27	2·4	1·3	5·0	4·4	2·6	8·8	4·3	*S*	5·5	3·7	3·0	1·1
28	3·8	2·8	5·5	2·9	*S*	7·0	5·3	2·6	8·0	4·8	3·8	1·7
29	*S*	...	4·8	4·4	1·9	9·0	3·7	2·9	7·8	*S*	5·5	3·3
30	4·2	...	3·8	*S*	5·6	6·1	*S*	2·6	2·9	1·8	1·1	3·3
31	1·7	...	2·2	...	2·9	...	3·6	3·7	...	0·6	...	*S*

The letter *S* denotes that the day was Sunday.

TABLE XLVIII.—The Greatest and Least Differences between the Mean Daily Temperature of the Air and that of the Dew-Point in each Month, deduced from the preceding Table.

1843, Month.	Excess of the Mean Daily Temperature of the Air above that of the Dew-Point.		Day on which occurred the	
	Greatest.	Least.	Greatest.	Least.
	°	°	d	d
January	5·0	0·0	14	19
February	7·8	0·0	17	20
March	5·9	1·9	25	15 & 16
April	7·0	1·7	18	6
May	8·0	0·4	1 & 2	8
June	9·0	0·0	29	13
July	8·1	1·9	5	11
August	8·5	1·5	19	4 & 16
September	8·0	2·2	28	23
October	7·0	0·6	18	31
November	8·1	0·2	9	1, 2, & 25
December	4·2	0·2	6	26

The greatest observed excess was in January 12·0° on the 14th day.
,, February 9·3 on the 16th day.
,, March 18·6 on the 28th day.
,, April 18·2 on the 18th day.
,, May 24·4 on the 2nd day.
,, June 24·7 on the 27th day.
,, July 22·3 on the 5th day.
,, August 22·5 on the 11th day.
,, Sep. 17·3 on the 20th day.
,, Oct. 13·2 on the 13th day.
,, Nov. 11·1 on the 11th day.
,, Dec. 6·2 on the 7th day.

By subtracting the numbers contained in Table XLVII. from the numbers contained in Table XXIII. the next table is formed.

TABLE XLIX.—Mean Daily Temperature of the Dew-Point, as calculated from Tables XXIII. and XLVII.

Day.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	°	°	°	°	°	°	°	°	°	°	°	°
1	*S*	45·4	30·6	49·7	49·4	57·3	54·5	52·8	63·4	*S*	42·6	43·1
2	28·6	41·8	29·2	*S*	47·3	53·5	*S*	55·0	62·6	57·2	42·6	38·2
3	26·8	34·1	28·6	48·2	47·2	52·1	60·4	56·4	*S*	54·9	47·9	*S*
4	34·3	24·7	31·2	46·9	50·2	*S*	61·2	55·4	54·2	56·8	47·7	46·1
5	32·8	*S*	*S*	43·1	50·5	46·7	63·4	54·1	51·3	55·0	*S*	46·8
6	34·3	31·8	32·5	47·6	46·3	48·2	55·2	*S*	55·1	58·3	47·3	39·7
7	40·3	32·5	29·9	50·5	*S*	48·4	53·0	57·4	57·7	55·9	47·7	45·5
8	*S*	33·2	32·1	43·0	42·6	50·6	54·5	61·7	61·5	*S*	38·3	45·9
9	33·5	35·7	30·9	*S*	45·3	50·9	*S*	63·2	61·7	47·3	26·4	39·0
10	34·2	31·8	33·9	32·9	46·1	48·9	54·4	56·3	*S*	44·9	37·9	*S*
11	30·8	34·4	34·4	29·7	46·0	*S*	55·4	51·2	57·7	52·8	33·4	39·7
12	29·5	*S*	*S*	29·4	47·2	50·6	57·3	55·2	60·7	39·7	*S*	32·5
13	34·4	29·4	39·4	32·5	50·0	51·9	58·7	*S*	53·7	35·4	31·7	34·2
14	30·9	26·8	45·2	Good Friday	*S*	58·3	58·0	60·9	58·0	37·0	36·3	40·8
15	*S*	21·3	45·3	47·3	50·8	55·1	59·4	63·4	58·8	*S*	33·6	44·6
16	31·9	22·7	46·6	*S*	50·8	52·6	*S*	62·2	60·7	31·3	35·9	45·3
17	36·3	21·8	44·1	46·1	49·7	54·5	62·0	60·6	*S*	38·2	38·9	*S*
18	43·3	30·5	44·5	43·7	44·2	*S*	59·5	63·6	62·3	32·9	40·0	42·6
19	38·9	*S*	*S*	44·9	47·3	51·0	52·9	61·8	59·3	32·1	*S*	42·6
20	36·7	36·7	46·4	49·9	48·1	46·8	50·3	*S*	56·4	36·2	40·6	40·8
21	33·8	41·0	46·9	47·7	*S*	51·3	53·6	49·4	58·1	42·8	49·2	43·5
22	*S*	42·2	48·4	44·0	50·6	53·7	56·4	52·4	55·3	*S*	47·0	43·2
23	41·7	41·9	46·7	*S*	52·8	51·7	*S*	53·8	55·7	46·9	43·3	49·8
24	44·4	36·3	47·2	40·0	53·3	51·3	47·5	55·1	*S*	49·2	36·8	*S*
25	42·6	33·1	39·1	39·6	51·4	*S*	53·3	57·2	49·8	44·1	42·7	Ch. Day.
26	45·7	*S*	*S*	37·9	51·4	51·9	57·8	57·7	41·2	35·2	*S*	44·0
27	48·3	35·9	33·0	40·5	52·5	51·9	57·3	*S*	39·9	37·4	49·1	42·3
28	48·5	35·6	35·6	43·2	*S*	46·8	54·6	57·8	38·6	40·3	45·6	43·6
29	*S*	...	36·2	45·2	45·4	44·9	57·6	62·5	39·5	*S*	40·8	39·5
30	44·4	...	43·3	*S*	46·0	50·6	*S*	61·8	54·4	51·2	41·1	36·9
31	43·8	...	48·7	...	55·5	...	55·1	61·3	...	49·5	...	*S*

The letter *S* denotes that the day was Sunday.

TABLE L.—Table exhibiting the Times at which Differences greater than 5° took place between the Mean Temperatures of the Dew-Point on two consecutive Days, with the Amounts of the Differences, estimated positive when the Temperature on the Second Day is the higher.

January.		February.		March.		April.		May.		June.	
Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.
	°		°		°		°		°		°
3 & 4	+ 7·5	2 & 3	− 7·7	13 & 14	+ 5·8	7 & 8	− 7·5	17 & 18	− 5·5	13 & 14	+ 6·4
6 & 7	+ 6·0	3 & 4	− 9·4	24 & 25	− 8·1	19 & 20	+ 5·0	30 & 31	+ 9·5	27 & 28	− 5·1
17 & 18	+ 7·0	14 & 15	− 5·5	29 & 30	− 7·1					29 & 30	+ 5·7
		17 & 18	+ 8·7	30 & 31	+ 5·4						
		23 & 24	− 5·6								

July.		August.		September.		October.		November.		December.	
5 & 6	− 8·2	9 & 10	− 6·9	12 & 13	− 7·0	10 & 11	+ 7·9	2 & 3	+ 5·3	5 & 6	− 7·1
18 & 19	− 6·6	10 & 11	− 5·1	25 & 26	− 8·6	11 & 12	−13·1	7 & 8	− 9·4	6 & 7	+ 5·8
24 & 25	+ 5·8			29 & 30	+14·9	16 & 17	+ 6·9	8 & 9	−11·9	8 & 9	− 6·9
						17 & 18	− 5·3	9 & 10	+11·5	11 & 12	− 7·2
						20 & 21	+ 6·6	20 & 21	+ 8·6	13 & 14	+ 6·6
						24 & 25	− 5·1	23 & 24	− 6·5	22 & 23	+ 6·6
						25 & 26	− 8·9	24 & 25	+ 5·9		

The table contains 47 instances out of 257 cases, in which the mean temperature of the dew-point differed at least 5° on two consecutive days; of these there were

1	instance	in which the difference was	5°		
14	instances	in which the difference exceeded	5°	and was less than	6°
10	,,	,,	6	,,	7
9	,,	,,	7	,,	8
6	,,	,,	8	,,	9
3	,,	,,	9	,,	10
4	,,	,,	11	,,	15

TABLE LI.—Mean of all the Two-hourly Temperatures of the Dew Point, for those Days in each Month, in which (as deduced from the Mean of the Two-hourly Results) the Temperature of the Dew Point was Highest or Lowest.

1843, Month.	Mean Daily Temperature of the Dew-Point in the Month.		Greatest Difference between the Highest and Lowest Mean Daily Temperature in the Month.	Day of the Month on which the Mean Temperature of the Dew-Point for the Day was	
	Highest.	Lowest.		Highest.	Lowest.
	°	°	°	d	d
January	48·5	26·8	21·7	28	3
February	45·4	21·3	24·1	1	15
March	48·7	28·6	20·1	31	3
April	50·5	29·4	21·1	7	12
May	55·5	42·6	12·9	31	8
June	58·3	44·9	13·4	14	29
July	63·4	47·5	15·9	5	24
August	63·6	51·2	12·4	18	11
September	63·4	38·6	24·8	1	28
October	58·3	31·3	27·0	6	16
November	49·2	26·4	22·8	21	9
December	49·8	32·5	17·3	23	12

The yearly mean daily range was 42°·3, being the difference between the lowest daily mean in the year, viz. 21°·3, on February 15d, and the highest daily mean in the year, viz. 63°·6, on August 18d.

TABLE LII.—The Highest and Lowest Readings of the Temperature of the Dew-Point in each Month, from the Six-hourly Observations.

1843, Month.	Temperature of the Dew-Point.		Range.	Day on which occurred	
	Highest.	Lowest.		Highest.	Lowest.
	°	°	°	d	d
January	52·0	19·5	32·5	28	3
February	48·3	16·5	31·8	1	17
March	51·0	26·5	24·5	18, 22, & 24	3 & 7
April	54·0	25·0	29·0	20	12
May	60·0	37·5	22·5	31	8
June	61·0	38·5	22·5	14 & 15	29
July	66·0	45·0	21·0	26	20
August	67·2	48·0	19·2	19	7, 11, & 21
September	67·0	36·0	31·0	2	27, 28, & 29
October	60·0	27·5	32·5	2, 3, & 6	16 & 20
November	54·0	26·0	28·0	7	9
December	51·0	28·0	23·0	23	13

TABLE LIII.—Mean Temperature of the Dew-Point in each Month, deduced from the Mean of all the Two-hourly Results of the Observations of the Dry and Wet-bulb Thermometers in each Month.

1843, Month.	Mean Temperature of the Dew-Point.	1843, Month.	Mean Temperature of the Dew-Point.
	°		°
January	37·3	July	56·3
February	33·4	August	57·8
March	38·9	September	54·9
April	42·6	October	44·7
May	48·8	November	40·9
June	51·2	December	42·0

The mean of all the monthly results is 45°·7.

TABLE LIV.—Mean Temperature of Evaporation, deduced from the Two-hourly Observations of the Wet-bulb Thermometer, at every Even Hour of Göttingen Mean Time in every Month. (The Difference 0°·2, between the Readings of the Dry and Wet Thermometers when under the same circumstances, has been applied.)

1843, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	37·5	33·9	38·9	41·5	46·8	49·7	54·3	56·2	53·4	44·8	41·7	42·7
16	37·5	33·8	38·5	41·1	46·4	49·0	53·8	55·7	53·3	44·8	41·6	42·5
18	37·5	33·8	38·2	41·0	47·1	49·9	54·1	55·7	53·0	44·6	41·3	41·7
20	37·4	33·7	38·8	43·3	50·4	52·8	57·1	58·4	54·4	45·2	41·1	41·4
22	38·2	35·0	41·8	46·4	52·7	55·0	59·6	61·3	58·4	46·7	42·3	41·9
0	40·2	36·9	44·1	48·3	53·9	56·3	61·6	62·5	61·0	48·8	44·5	43·7
2	40·8	37·7	45·1	49·8	54·5	57·7	62·1	63·2	61·8	49·3	45·2	44·7
4	40·3	37·4	44·5	49·7	53·8	57·5	62·7	63·5	61·1	49·2	44·3	44·4
6	39·1	35·7	43·4	47·9	52·7	56·3	61·4	62·5	59·7	47·6	42·6	43·8
8	39·0	34·8	41·2	45·1	50·6	54·5	59·2	59·9	57·0	46·2	42·2	43·6
10	39·2	34·3	40·0	43·6	48·8	51·9	56·7	58·1	55·7	45·2	41·8	43·1
12	39·1	33·9	39·6	42·3	47·3	50·8	55·5	57·1	54·4	44·6	42·0	43·0

By taking the differences between the numbers contained in this table and the numbers contained in Table XXXIII., the next table is formed.

TABLE LV.—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.

1843, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	
14	1·2	1·0	0·6	0·6	0·3	0·8	0·9	0·3	0·5	0·7	0·8	0
16	1·0	0·4	0·6	0·4	0·3	0·7	0·7	0·3	0·1	0·4	0·7	0·6
18	0·7	0·5	0·6	0·4	0·3	0·8	0·7	0·3	0·3	0·3	0·9	0·7
20	0·7	0·5	0·7	1·0	1·5	1·9	1·7	1·4	0·8	0·7	0·8	0·6
22	1·0	0·9	1·8	2·4	2·4	3·8	3·7	3·5	2·7	1·9	1·2	0·8
0	1·2	1·2	3·1	3·8	3·2	4·8	4·9	5·5	5·3	2·9	1·9	1·3
2	1·5	1·5	3·8	4·5	3·7	5·4	4·9	5·9	6·5	3·4	2·3	1·5
4	1·6	1·5	3·5	4·2	3·5	5·4	5·2	5·3	6·4	3·2	2·3	1·2
6	1·4	1·1	2·7	3·5	3·2	4·2	4·2	4·6	4·2	2·0	1·6	0·9
8	1·1	1·0	1·7	2·4	1·9	3·0	3·0	2·4	2·4	1·6	1·2	0·9
10	0·9	0·6	1·1	1·6	0·9	2·0	1·9	1·2	1·4	1·3	0·9	1·0
12	0·9	0·7	0·9	1·0	0·5	1·0	1·3	0·4	0·7	0·9	0·8	0·8

The numbers contained in this table being multiplied by the factors contained in Table XLVI., which correspond to the mean temperature of the hour in that month, the next table is formed.

TABLE LVI.—The Difference between the Mean Daily Temperature of the Air and the Mean Daily Temperature of the Dew-Point, as found by multiplying the numbers contained in the last table by the Factors contained in Table XLVI.

1843, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	3·0	2·6	1·5	1·4	0·6	1·6	1·6	0·5	1·0	1·5	1·8	1·6
16	2·5	1·0	1·5	0·9	0·6	1·5	1·4	0·5	0·2	0·8	1·6	1·4
18	1·8	1·3	1·5	0·9	0·6	1·6	1·4	0·5	0·6	0·7	2·1	1·6
20	1·8	1·5	1·8	2·3	3·0	3·8	3·1	2·5	1·4	1·5	1·8	1·4
22	2·5	2·3	4·1	5·0	4·3	6·8	6·7	6·3	4·9	4·0	2·8	1·8
0	2·8	3·0	6·5	7·6	5·8	8·6	8·3	9·4	9·0	5·8	1·9	2·7
2	4·5	3·8	8·0	9·0	6·7	9·7	8·3	10·0	11·1	6·8	4·8	3·2
4	3·7	3·8	7·4	8·4	6·3	9·7	8·8	9·0	10·9	6·4	4·8	2·5
6	3·2	2·8	5·7	7·0	5·8	7·6	7·1	7·8	7·6	4·2	3·7	2·1
8	2·5	2·5	3·9	5·0	3·8	5·4	5·4	4·3	4·3	3·4	2·8	2·1
10	2·1	1·6	2·5	3·4	1·9	4·0	3·4	2·2	2·5	2·7	2·1	2·3
12	2·1	1·8	2·1	2·3	1·1	2·0	2·3	0·7	1·3	1·9	1·8	1·8

By subtracting these numbers from the numbers in Table XXXIII., the next table is formed.

TABLE LVII.—The Mean Temperature of the Dew-Point at every Even Hour of Göttingen Mean Time in each Month, as found by subtracting the Numbers contained in the last Table from the Numbers in Table XXXIII.

1843, Hour, Göttingen Mean Time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h	°	°	°	°	°	°	°	°	°	°	°	°
14	35·7	32·3	38·0	40·7	46·5	48·9	53·6	56·0	52·9	44·0	40·7	41·8
16	36·0	33·2	37·6	40·6	46·1	48·2	53·1	55·5	53·2	44·4	40·7	41·7
18	36·4	33·0	37·3	40·5	46·8	49·1	53·4	55·5	52·7	44·2	40·1	40·8
20	36·3	32·7	37·7	42·0	48·9	50·9	55·7	57·3	53·8	44·4	40·1	40·6
22	36·7	33·6	39·5	43·8	50·8	52·0	56·6	58·5	56·2	44·0	40·7	40·9
0	38·6	35·1	40·7	44·5	51·3	52·5	58·2	58·6	57·3	45·9	42·4	42·3
2	38·8	35·4	40·9	45·3	51·5	53·4	58·7	59·1	57·2	45·9	42·7	43·0
4	38·2	35·1	40·6	45·5	51·0	53·2	59·1	59·8	56·6	46·0	41·8	43·1
6	37·3	34·0	40·4	44·4	50·1	52·9	58·5	59·3	56·3	45·4	40·5	42·6
8	37·6	33·3	39·0	42·5	48·7	52·1	56·8	58·0	55·1	44·4	40·6	42·4
10	38·0	33·3	38·6	41·8	47·8	49·9	55·2	57·1	54·6	43·8	40·6	41·8
12	37·9	32·8	38·4	41·0	46·7	49·8	54·5	56·8	53·8	43·6	41·0	42·0

The highest temperature of the dew-point has been generally at 2^h or 4^h; the time at which the lowest temperature has taken place is more variable. In January the temperature has risen slowly from 6^h to 10^h, while between 10^h and 12^h it has been nearly stationary, and within the next two hours it has fallen 2°·2, which is a larger amount of change than has taken place between any other two hours in the month. A similar result to the last was obtained from the observations of 1842, and it is worthy of remark.

To ascertain the times and the amounts of the changes, the next table is formed.

TABLE LVIII.—Hours of Göttingen Mean Time (Astronomical Reckoning) at which occurred the Greatest and Least Heights of the Temperature of the Dew-Point, as inferred from the Monthly Means of the Two-hourly Results, with the actual Heights and the Amounts of the Changes.

1843, Month.	Even Hour at which the Mean Temperature of the Dew-Point was		Interval of time between the Highest and Lowest.	Mean Temperature of the Dew-Point.		Difference.
	Highest.	Lowest.		Highest.	Lowest.	
	h	h	h	°	°	°
January	2	14	12	38·8	35·7	3·1
February	2	14	12	35·4	32·3	3·1
March	2	18	16	40·9	37·3	3·6
April	4	18	14	45·5	40·5	5·0
May	2	16	14	51·5	46·1	5·4
June	2	16	14	53·4	48·2	5·2

TABLE LVIII.—*continued.*

1843, Month.	Even Hour at which the Mean Temperature of the Dew-Point was		Interval of Time between the Highest and Lowest.	Mean Temperature of the Dew-Point.		Difference.
	Highest.	Lowest.		Highest.	Lowest.	
	h	h	h	°	°	°
July	4	16	12	59·1	53·1	6·0
August	4	16 & 18	12 & 14	59·8	55·5	4·3
September	0	18	18	57·3	52·7	4·6
October	4	12 & 22	8 & 18	46·0	43·6	2·4
November	2	18 & 20	16 & 18	42·7	40·1	2·6
December	4	20	16	43·1	40·6	2·5

From this table it appears that the maximum generally happens near to the observation at 2^h or 4^h, and that the minimum happens near to that hour of observation that is nearest to the rising of the Sun, except in January and February.

From Table LVII. the next table is formed, Spring, Summer, Autumn, and Winter being defined as before.

TABLE LIX.—Mean Temperature of the Dew-Point at every Even Hour of Göttingen Mean Time, in Quarterly Periods and for the Year.

Hour of Observation.	1843.				For the Year.
	Spring.	Summer.	Autumn.	Winter.	
h	°	°	°	°	°
14	41·7	52·8	45·9	36·6	44·3
16	41·4	52·3	46·1	37·0	44·2
18	41·5	52·7	45·7	36·7	44·1
20	42·9	54·6	46·1	36·6	45·1
22	44·7	55·7	47·0	37·1	46·1
0	45·5	56·4	48·5	38·7	47·3
2	45·9	57·1	48·6	39·1	47·7
4	45·7	57·4	48·1	38·8	47·5
6	45·0	56·9	47·4	38·0	46·8
8	43·4	55·6	46·7	37·8	45·9
10	42·7	54·1	46·3	37·7	45·2
12	42·0	53·7	46·1	37·6	44·8

From this table it appears, that in Spring the maximum took place at 2^h and the minimum at 16^h
,, Summer ,, 4^h ,, 16^h
,, Autumn ,, 2^h ,, 18^h
,, Winter ,, 2^h ,, 14^h and 20^h
,, for the Year ,, 2^h ,, 18^h

The difference between the maximum and the minimum was in Spring $4°·5$
,, Summer $5°·1$
,, Autumn $2°·9$
,, Winter $2°·5$
,, for the Year $3°·6$

The mean temperature for Spring was $43°·5$
,, Summer was $54°·9$
,, Autumn was $46°·9$
,, Winter was $37°·6$
,, the Year was $45°·7$

And the mean temperature at 8^h is in every period nearly the mean for that period.

TABLE LX.—Comparison of the observed Dew-Point with the Dew-Point deduced by the use of the Factors contained in Table XLVI., and also with the Dew-Point deduced from Dr. Apjohn's Formulæ. (In every month the observations of the dew-point have been divided into groups for every degree of air temperature below 35°, and for every five degrees of air temperature above 35°; at every observation of the dew-point, the observations of the dry thermometer, of the wet thermometer, and for the barometer, were copied, and then their respective means were taken in each group, and in this way the first division of the table was formed: the headings of the other columns explain themselves. The auxiliary tables, by which the "Elastic Force of Vapour" and the "Dew-Point by Dr. Apjohn's Formulæ" are obtained, will be found in the Introduction.)

1843, Month.	Between what Temperatures.	Mean Temperature of Air.	Mean Temperature of Evaporation.	Mean Temperature of Observed Dew Point.	Mean Height of the Barometer.	No. of Obs.	Evaporation Temperature below Air Temperature.	Factor.	Product.	Dew-Point as deduced by using the Greenwich Factors.	Error of Dew-Point deduced by using the Greenwich Factors.	Mean Error giving Weight according to the No. of Observations.	Elastic Force of Vapour at Temperature of Evaporation.	$\frac{d}{96}\times\frac{h}{30}$ / $\frac{d}{88}\times\frac{h}{30}$	Elastic Force of Vapour at Temperature of Dew Point.	Dew Point by Dr Apjohn's Formulæ.	Error of Dew Point deduced from Dr. Apjohn's Formulæ.	Mean Error giving Weight according to the No. of Observations.
	° °	°	°	°	in.		°		°	°	°	°	in.	in.	in.	°	°	°
Feb.	23 to 24	23·4	22·7	21·3	29·161	2	0·7	8·2	5·7	17·7	— 3·6	— 3·6	0·143	0·007	0·136	21·4	+ 0·1	+ 0·1
Feb.	24 to 25	24·5	24·2	17·0	29·360	1	0·3	7·3	2·2	22·3	+ 5·3	+ 5·3	0·151	0·003	0·148	23·8	+ 6·8	+ 6·8
Feb.	25 to 26	25·6	25·0	17·6	29·300	2	0·6	6·4	3·8	21·8	+ 4·2	+ 4·2	0·156	0·006	0·150	24·1	+ 6·5	+ 6·5
Jan.	26 to 27	26·5	25·4	23·2	30·026	1	1·1	5·9	6·5	20·0	— 3·2	— 0·7	0·157	0·011	0·146	23·3	+ 0·1	+ 2·1
Feb.		26·4	25·5	21·2	29·323	3	0·9	5·7	5·1	21·3	+ 0·1		0·158	0·009	0·149	23·9	+ 2·7	
Feb.	27 to 28	27·7	26·8	21·3	29·380	2	0·9	6·1	5·5	22·2	+ 0·9	+ 0·9	0·166	0·009	0·157	25·3	+ 4·0	+ 4·0
Jan.	28 to 29	28·1	28·0	26·5	29·049	1	0·1	5·7	0·6	27·5	+ 1·0	+ 1·0	0·173	0·001	0·172	27·9	+ 1·4	+ 1·4
Feb.	29 to 30	29·2	28·3	22·0	29·129	1	0·9	5·0	4·5	24·7	+ 2·7		0·175	0·009	0·166	26·9	+ 4·9	
March		29·5	28·6	26·5	29·965	1	0·9		4·5	25·0	— 1·5	+ 1·0	0·177	0·009	0·168	27·3	+ 0·8	+ 2·6
Oct.		29·8	29·7	27·5	29·547	1	0·1		0·5	29·3	+ 1·8		0·184	0·001	0·183	29·6	+ 2·1	
Jan.	30 to 31	30·5	29·4	28·0	29·567	2	1·1	4·6	5·1	25·4	— 2·6		0·182	0·011	0·171	27·7	— 0·3	
Feb.		30·9	30·7	30·0	29·290	1	0·2		0·9	30·0	0·0		0·190	0·002	0·188	30·3	+ 0·3	
March		30·5	30·4	28·0	30·129	1	0·1		0·5	30·0	+ 2·0	— 0·9	0·188	0·009	0·179	29·0	+ 1·0	+ 0·1
Oct.		30·5	29·7	29·0	30·140	1	0·8		3·7	26·8	— 2·2		0·184	0·008	0·176	28·5	— 0·5	
Nov.		30·0	29·7	29·3	30·077	1	0·3		1·4	28·6	— 0·7		0·184	0·003	0·181	29·3	0·0	
Dec.		30·0	29·5	28·0	30·346	1	0·5		2·3	27·7	— 0·3		0·182	0·005	0·177	28·7	+ 0·7	
Jan.	31 to 32	31·4	30·8	29·4	29·159	4	0·6	3·7	2·2	29·2	— 0·2		0·192	0·006	0·186	30·0	+ 0·6	
Feb.		31·6	30·9	25·0	29·183	2	0·7		2·6	29·0	+ 4·0	— 0·1	0·192	0·007	0·185	29·9	+ 4·9	+ 0·8
March		31·5	30·8	30·2	30·150	6	0·7		2·6	28·9	— 1·3		0·191	0·007	0·184	29·8	— 0·4	
Jan.	32 to 33	32·8	31·9	30·0	29·008	2	0·9	3·1	2·8	30·0	0·0		0·198	0·009	0·189	30·5	+ 0·5	
Feb.		32·4	31·8	30·2	29·662	7	0·6		1·9	30·5	+ 0·3	+ 0·2	0·198	0·006	0·192	30·9	+ 0·7	+ 0·7
March		32·4	31·5	29·6	30·020	7	0·9		2·8	29·6	0·0		0·196	0·009	0·187	30·2	+ 0·6	
Nov.		32·4	31·5	29·1	29·995	3	0·9		2·8	29·6	+ 0·5		0·196	0·009	0·187	30·2	+ 1·1	
Jan.	33 to 34	33·4	32·0	30·1	29·741	5	1·4	2·8	3·9	29·5	— 0·6		0·199	0·016	0·183	29·6	— 0·5	
Feb.		33·4	31·5	26·8	29·333	3	1·9		5·3	28·1	+ 1·3		0·196	0·019	0·177	28·7	+ 1·9	
March		33·2	31·7	30·0	29·948	1	1·5		4·2	29·0	— 1·0	0·0	0·197	0·015	0·182	29·5	— 0·5	+ 0·3
April		33·2	32·5	30·6	29·752	3	0·7		2·0	31·2	+ 0·6		0·203	0·008	0·195	31·4	+ 0·8	
Oct.		33·6	32·6	31·0	29·908	2	1·0		2·8	30·8	— 0·2		0·204	0·011	0·193	31·1	+ 0·1	
Nov.		33·6	31·0	27·0	29·778	2	2·6		7·3	26·3	— 0·7		0·192	0·026	0·166	26·9	— 0·1	

TABLE LX.—*continued.*

1843, Month.	Between what Temperatures.	Mean Temperature of Air.	Mean Temperature of Evaporation.	Mean Temperature of Observed Dew Point.	Mean Height of the Barometer.	No. of Obs.	Evaporation Temperature below Air Temperature.	Factor.	Product.	Dew-Point as deduced by using the Greenwich Factors.	Error of Dew-Point deduced by using the Greenwich Factors.	Mean Error giving Weight according to the No. of Observations.	Elastic Force of Vapour at Temperature of Evaporation.	$\frac{d}{88} \times \frac{h}{30}$	Deduced Elastic Force of Vapour at Temperature of Dew-Point.	Dew-Point deduced from Dr. Apjohn's Formula.	Error of Dew-Point deduced from Dr. Apjohn's Formula.	Mean Error giving Weight according to the No. of Observations.
	° °	°	°	°	in.		°		°	°	°	°	in.	in.	in.	°	°	°
Jan.	34 to 35	34·4	33·5	32·4	29·572	7	0·9	2·6	2·3	32·1	— 0·3		0·210	0·010	0·200	32·1	— 0·3	
Feb.		34·4	33·6	32·0	29·662	9	0·8		2·1	32·3	+ 0·3		0·211	0·009	0·202	32·4	+ 0·4	
March		34·2	33·2	31·8	30·036	3	1·0		2·6	31·6	— 0·2		0·208	0·011	0·197	31·7	— 0·1	
April		34·5	32·8	28·5	29·721	2	1·7		4·4	30·1	+ 1·6	+ 0·2	0·205	0·019	0·186	30·1	+ 1·6	+ 0·2
Oct.		34·5	34·3	33·5	29·400	1	0·2		0·5	34·0	+ 0·5		0·216	0·002	0·214	34·0	+ 0·5	
Nov.		34·5	33·6	31·9	29·705	2	0·9		2·3	32·2	+ 0·3		0·211	0·010	0·201	32·2	+ 0·3	
Jan.	35 to 40	37·1	35·5	32·8	29·496	25	1·6	2·5	4·0	33·2	+ 0·4		0·226	0·018	0·208	33·2	+ 0·4	
Feb.		37·2	36·1	34·5	29·459	28	1·1		2·8	34·4	— 0·1		0·231	0·012	0·219	34·6	+ 0·1	
March		37·4	35·5	32·5	29·909	23	1·9		4·8	32·6	+ 0·1		0·226	0·022	0·204	32·7	+ 0·2	
April		37·6	36·2	33·4	29·756	9	1·4		3·5	34·1	+ 0·7	+ 0·1	0·231	0·016	0·215	34·1	+ 0·7	+ 0·2
Oct.		37·4	36·4	34·7	29·563	12	1·1		2·8	34·6	— 0·1		0·233	0·012	0·221	34·9	+ 0·2	
Nov.		37·7	36·4	34·6	29·856	23	1·3		3·3	34·4	— 0·2		0·233	0·015	0·218	34·5	— 0·1	
Dec.		39·1	38·3	36·8	30·173	4	0·9		2·3	36·8	0·0		0·249	0·010	0·239	37·1	+ 0·3	
Jan.	40 to 45	42·2	41·4	40·5	29·800	25	0·8	2·3	1·8	40·4	— 0·1		0·278	0·009	0·269	40·5	0·0	
Feb.		41·9	40·4	38·6	29·384	11	1·5		3·5	38·4	— 0·2		0·268	0·017	0·251	38·5	— 0·1	
March		42·4	40·4	37·7	29·889	15	2·0		4·6	37·8	+ 0·1		0·268	0·023	0·245	37·8	+ 0·1	
April		42·7	40·7	37·9	29·733	16	2·0		4·6	38·1	+ 0·2		0·271	0·023	0·248	38·2	+ 0·3	
May		42·8	42·1	40·9	29·830	6	0·7		1·6	41·2	+ 0·3		0·284	0·008	0·276	41·2	+ 0·3	
June		43·9	43·4	42·5	29·853	2	0·6		1·4	42·5	0·0	0·0	0·298	0·007	0·291	42·8	+ 0·3	+ 0·1
Sep.		40·8	39·2	37·2	29·622	3	1·6		3·7	37·1	— 0·1		0·257	0·018	0·239	37·1	— 0·1	
Oct.		42·1	40·0	37·7	29·549	16	2·1		4·8	37·3	— 0·4		0·264	0·024	0·240	37·3	— 0·4	
Nov.		42·6	41·3	39·4	29·699	20	1·3		3·0	39·6	+ 0·2		0·277	0·015	0·262	39·7	+ 0·3	
Dec.		43·0	42·1	40·9	30·256	45	0·9		2·1	40·9	0·0		0·284	0·010	0·274	41·0	+ 0·1	
Jan.	45 to 50	47·9	46·8	45·7	29·877	13	1·1	2·1	2·3	45·6	— 0·1		0·335	0·013	0·322	45·7	0·0	
Feb.		48·1	46·7	45·1	29·550	10	1·4		2·9	45·2	+ 0·1		0·333	0·016	0·317	45·2	+ 0·1	
March		47·6	46·1	44·4	29·631	22	1·6		3·4	44·2	— 0·2		0·327	0·018	0·309	44·5	+ 0·1	
April		47·8	46·4	44·5	29·645	18	1·4		2·9	44·9	+ 0·4		0·330	0·016	0·314	45·0	+ 0·5	
May		47·7	46·8	45·4	29·718	20	0·9		1·9	45·8	+ 0·4		0·335	0·010	0·325	46·0	+ 0·6	
June		47·9	46·8	45·4	29·779	9	1·1		2·3	45·6	+ 0·2	+ 0·2	0·335	0·013	0·322	45·7	+ 0·3	+ 0·3
July		47·6	46·8	45·3	29·822	2	0·7		1·5	45·9	+ 0·6		0·335	0·008	0·327	46·1	+ 0·8	
Sep.		47·9	44·9	41·3	29·833	11	3·0		6·3	41·6	+ 0·3		0·313	0·034	0·279	41·5	+ 0·2	
Oct.		47·1	45·0	42·1	29·497	19	2·1		4·4	42·7	+ 0·6		0·315	0·024	0·291	42·8	+ 0·7	
Nov.		47·6	45·8	43·8	29·718	20	1·8		3·8	43·8	0·0		0·323	0·020	0·303	43·9	+ 0·1	
Dec.		46·8	45·7	44·4	30·259	25	1·1		2·3	44·5	+ 0·1		0·322	0·013	0·309	44·5	+ 0·1	
Jan.	50 to 55	52·1	50·3	48·6	29·728	8	1·8	2·0	3·6	48·5	— 0·1		0·377	0·020	0·357	48·7	+ 0·1	
March		51·7	49·3	46·8	29·444	16	2·4		4·8	46·9	+ 0·1		0·365	0·027	0·338	47·1	+ 0·3	
April		52·1	49·7	46·7	29·657	26	2·4		4·8	47·3	+ 0·6		0·370	0·027	0·343	47·5	+ 0·8	
May		52·1	50·7	48·8	29·662	31	1·4		3·8	49·3	+ 0·5		0·382	0·016	0·366	49·4	+ 0·6	
June		52·4	50·4	48·1	29·671	33	2·0		4·0	48·4	+ 0·3		0·379	0·023	0·356	48·6	+ 0·5	
July		52·8	52·0	50·4	29·767	10	0·8		1·6	51·2	+ 0·8	+ 0·2	0·400	0·009	0·391	51·4	+ 1·0	+ 0·5
Aug.		52·6	51·6	50·8	29·648	12	1·0		2·0	50·6	— 0·2		0·394	0·011	0·383	50·8	+ 0·0	

TABLE LX.—*concluded.*

1843, Month.	Between what Temperatures.	Mean Temperature of Air.	Mean Temperature of Evaporation.	Mean Temperature of Observed Dew Point.	Mean Height of the Barometer.	No. of Obs.	Evaporation Temperature below Air Temperature.	Factor.	Product.	Dew-Point as deduced by using the Greenwich Factors.	Error of Dew-Point deduced by using the Greenwich Factors.	Mean Error giving Weight according to the No. of Observations.	Elastic Force of Vapour at Temperature of Evaporation.	$\frac{d}{88} \times \frac{h}{30}$	Deduced Elastic Force of Vapour at Temperature of Dew-Point.	Dew-Point deduced from Dr. Apjohn's Formula.	Error of Dew-Point deduced from Dr. Apjohn's Formula.	Mean Error giving Weight according to the No. of Observations.
	° °	°	°	°	in.		°		°	°	°	°	in.	in.	in.	°	°	°
Sep.	50 to 55	52·8	49·9	45·0	29·842	7	2·9		5·8	47·0	+ 2·0		0·372	0·033	0·339	47·2	+ 2·2	
Oct.		51·7	50·0	48·2	29·623	17	1·7		3·4	48·3	+ 0·1		0·373	0·019	0·354	48·4	+ 0·2	
Nov.		52·2	50·4	49·0	29·590	18	1·8		3·6	48·6	− 0·4		0·379	0·020	0·359	48·9	− 0·1	
Dec.		51·4	50·0	48·6	30·140	9	1·4		2·8	48·6	0·0		0·373	0·016	0·357	48·7	+ 0·1	
March	55 to 60	56·3	52·1	47·9	29·445	8	4·1	1·8	7·4	48·9	+ 1·0		0·401	0·046	0·355	48·5	+ 0·6	
April		57·8	53·5	48·2	29·640	10	4·3		7·7	50·1	+ 1·9		0·421	0·048	0·373	50·0	+ 1·8	
May		57·9	54·6	50·4	29·682	21	3·3		5·9	52·0	+ 1·6		0·437	0·037	0·400	52·0	+ 1·6	
June		57·5	54·3	50·4	29·679	21	3·2		5·8	51·7	+ 1·3		0·432	0·036	0·396	51·7	+ 1·3	
July		57·7	55·8	53·5	29·830	35	1·8		3·2	54·5	+ 1·0	+ 0·9	0·455	0·020	0·435	54·5	+ 1·0	+ 0·9
Aug.		57·1	55·4	54·2	29·686	13	1·6		2·9	54·2	0·0		0·449	0·018	0·431	54·2	0·0	
Sep.		58·0	55·9	53·7	30·105	13	2·1		3·8	54·2	+ 0·5		0·456	0·024	0·432	54·3	+ 0·6	
Oct.		57·0	55·2	53·9	29·654	14	1·8		3·2	53·8	− 0·1		0·445	0·020	0·425	53·8	− 0·1	
Nov.		55·3	54·5	53·8	29·432	2	0·8		1·4	53·9	+ 0·1		0·435	0·009	0·426	53·9	+ 0·1	
March	60 to 65	61·7	56·0	51·0	29·750	1	5·7	1·8	10·3	51·4	+ 0·4		0·458	0·064	0·394	51·6	+ 0·6	
April		61·5	55 3	45·9	29·807	4	6·2		11·2	50·3	+ 4·4		0·447	0·070	0·377	50·3	+ 4·4	
May		62·1	57·1	50·0	29·691	11	5·0		9·0	53·1	+ 3·1		0·475	0·056	0·419	53·4	+ 3·4	
June		61·7	57·2	52·4	29·628	16	4·4		7·9	53·8	+ 1·4		0·476	0·049	0·427	54·0	+ 1·6	
July		62·4	59·5	56·2	29·818	26	2·9		5·2	57·2	+ 1·0	+ 0·9	0·515	0·033	0·482	57·6	+ 1·4	+ 1·2
Aug.		61·9	59·9	58·0	29·831	32	2·0		3·6	58·3	+ 0·3		0·521	0·023	0·498	58·5	+ 0·5	
Sep.		62·2	60·2	58·7	30·053	19	1·9		3·4	58·8	+ 0·1		0·527	0·022	0·505	59·0	+ 0·3	
Oct.		61·9	59·4	57·5	29·719	12	2·5		4·5	57·4	− 0·1		0·513	0·028	0·485	57·7	+ 0·2	
April	65 to 70	66·1	58·0	50·0	29·606	1	8·1	1·7	13·8	52·3	+ 2·3		0·489	0·091	0·398	51·9	+ 1·9	
May		65·6	59·8	54·3	29·862	2	5·8		9·9	55·7	+ 1·4		0·520	0·066	0 454	55·8	+ 1·5	
June		66·8	60·3	54·1	29·780	9	6·5		11·1	55·7	+ 1·6		0·528	0·073	0·455	55·8	+ 1·7	
July		67·5	62·5	56·8	29·816	15	5·1		8·7	58·8	+ 2·0	+ 0·8	0·568	0·058	0·510	59·3	+ 2·5	+ 1·2
Aug.		67·0	63·4	60·4	29·886	24	3·7		6·3	60·7	+ 0·3		0·586	0·042	0·544	61·2	+ 0·8	
Sep.		67·4	62·9	59·8	30·094	17	4·5		7·7	59·7	− 0·1		0·576	0·052	0·524	60·1	+ 0·3	
Oct.		65·7	61·4	59·0	29·901	2	4·3		7·3	58·4	− 0·6		0·548	0·049	0·499	58·6	− 0·4	
June	70 to 75	70·9	61·7	50·8	29·819	4	9·3	1·6	14·9	56·0	+ 5·2		0·554	0·105	0·449	55·4	+ 4·6	
July		71·7	65·9	61·8	30·004	5	5·8		9·3	62·4	+ 0·6		0·636	0·066	0·570	62·6	+ 0·8	
Aug.		72·5	66·2	60·8	30·045	6	6·2		9·9	62·6	+ 1·8	+ 1·6	0·642	0·071	0·571	62·7	+ 1·9	+ 1·6
Sep.		72·3	65·7	61·4	30·044	8	6·7		10·7	61·6	+ 0·2		0·632	0·076	0·556	61·9	+ 0·5	
July	75 to 80	76·7	69·4	61·2	29·914	3	7·2	1·6	11·5	65·2	+ 4·0		0·713	0·082	0·631	65·7	+ 4·5	
Aug.		77·3	69·1	64·4	29·828	5	8·2		13·1	64·2	− 0·2	+ 0·7	0·706	0·093	0·613	64·8	+ 0·4	+ 1·2
Sep.		76·5	68·8	65·0	30·107	4	7·7		12·3	64·2	− 0·8		0·699	0·088	0·611	64·7	− 0·3	
July	80 to 85	82·1	73·7	64·0	29·637	1	8·4	1·6	13·4	68·7	+ 4·7		0·819	0·094	0·725	69·9	+ 5·9	
Aug.		80·7	71·2	64·0	29·881	1	9·5		15·2	65·5	+ 1·5	+ 3·1	0·756	0·108	0·648	66·5	+ 2·5	+ 4·2

For the "evaporation-temperature below air-temperature" the means of all the differences of the dry and wet thermometer-readings were taken independently; and, therefore, these quantities may sometimes differ 0°·1 from the difference of the mean values of the air-temperature and evaporation-temperature.

TABLE LXI.—Mean Daily Elastic Force of Vapour for every Civil Day in the Year, except Sundays, Good Friday, and Christmas Day.

Days of the Month, 1843.	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	*S*	0·319	0·190	0·370	0·366	0·478	0·435	0·411	0·586	*S*	0·289	0·295
2	0·177	0·282	0·180	*S*	0·340	0·421	*S*	0·442	0·570	0·476	0·289	0·248
3	0·165	0·215	0·177	0·351	0·339	0·401	0·530	0·464	*S*	0·441	0·348	*S*
4	0·216	0·153	0·194	0·336	0·376	*S*	0·544	0·449	0·431	0·470	0·345	0·327
5	0·205	*S*	*S*	0·295	0·380	0·333	0·586	0·429	0·390	0·442	*S*	0·335
6	0·216	0·198	0·203	0·344	0·329	0·351	0·445	*S*	0·444	0·494	0·340	0·262
7	0·267	0·203	0·185	0·380	*S*	0·354	0·414	0·480	0·485	0·456	0·345	0·320
8	*S*	0·208	0·200	0·293	0·289	0·381	0·435	0·554	0·550	*S*	0·249	0·324
9	0·210	0·227	0·192	*S*	0·318	0·385	*S*	0·582	0·554	0·340	0·163	0·255
10	0·216	0·198	0·213	0·206	0·327	0·360	0·434	0·462	*S*	0·313	0·246	*S*
11	0·191	0·217	0·217	0·184	0·326	*S*	0·449	0·389	0·485	0·411	0·210	0·262
12	0·182	*S*	*S*	0·182	0·339	0·381	0·478	0·445	0·536	0·262	*S*	0·203
13	0·217	0·182	0·259	0·203	0·373	0·398	0·501	*S*	0·423	0·225	0·197	0·216
14	0·192	0·165	0·317	Good Fri.	*S*	0·494	0·489	0·539	0·489	0·238	0·232	0·272
15	*S*	0·136	0·318	0·340	0·383	0·444	0·513	0·586	0·503	*S*	0·211	0·310
16	0·198	0·143	0·332	*S*	0·383	0·408	*S*	0·563	0·536	0·194	0·229	0·318
17	0·232	0·138	0·305	0·327	0·370	0·435	0·559	0·534	*S*	0·248	0·254	*S*
18	0·297	0·189	0·309	0·301	0·306	*S*	0·515	0·590	0·565	0·206	0·264	0·289
19	0·254	*S*	*S*	0·313	0·340	0·386	0·412	0·555	0·511	0·200	*S*	0·289
20	0·235	0·235	0·330	0·372	0·350	0·335	0·377	*S*	0·464	0·231	0·270	0·272
21	0·213	0·274	0·336	0·345	*S*	0·390	0·422	0·366	0·491	0·291	0·363	0·299
22	*S*	0·285	0·354	0·304	0·381	0·423	0·464	0·405	0·447	*S*	0·337	0·296
23	0·281	0·282	0·333	*S*	0·411	0·396	*S*	0·425	0·453	0·336	0·297	0·371
24	0·308	0·232	0·339	0·264	0·418	0·390	0·343	0·444	*S*	0·363	0·236	*S*
25	0·289	0·207	0·256	0·261	0·392	*S*	0·418	0·476	0·371	0·305	0·290	Ch. Day.
26	0·322	*S*	*S*	0·246	0·392	0·398	0·486	0·485	0·276	0·223	*S*	0·304
27	0·352	0·229	0·207	0·269	0·407	0·398	0·478	*S*	0·263	0·241	0·362	0·286
28	0·355	0·227	0·227	0·296	*S*	0·335	0·437	0·486	0·252	0·267	0·321	0·300
29	*S*	...	0·231	0·317	0·319	0·313	0·483	0·568	0·260	*S*	0·272	0·260
30	0·308	...	0·297	*S*	0·326	0·381	*S*	0·555	0·434	0·389	0·275	0·237
31	0·302	...	0·357	...	0·450	...	0·444	0·546	...	0·367	...	*S*

The letter *S* denotes that the day was Sunday.

TABLE LXII.—Mean Elastic Force of Vapour for those Days in each Month in which the Force was the Greatest and the Least.

1843, Month.	Mean Elastic Force of Vapour.		Days of the Month when the Mean Elastic Force was		1843, Month.	Mean Elastic Force of Vapour.		Days of the Month when the Mean Elastic Force was	
	Greatest.	Least.	Greatest.	Least.		Greatest.	Least.	Greatest.	Least.
	in.	in.	d	d		in.	in.	d	d
January	0·355	0·165	28	3	July	0·586	0·343	5	24
February	0·319	0·136	1	15	August	0·590	0·366	18	21
March	0·357	0·177	31	3	September	0·586	0·252	1	28
April	0·380	0·182	7	12	October	0·494	0·194	6	16
May	0·450	0·289	31	8	November	0·363	0·163	21	9
June	0·494	0·313	14	29	December	0·371	0·203	23	12

The mean elastic force was greater on August 18 than on any other day in the year, being $0^{in}\cdot590$; and it was less on February 15 than on any other day, being $0^{in}\cdot136$.

TABLE LXIII.—Mean Elastic Force of Vapour in each Month, deduced from the Mean of all the Two-hourly Observations in each Month.

1843, Month.	Mean Elastic Force of Vapour.	1843, Month.	Mean Elastic Force of Vapour.
	in.		in.
January	0·246	July	0·465
February	0·214	August	0·490
March	0·261	September	0·453
April	0·296	October	0·324
May	0·360	November	0·278
June	0·391	December	0·286

The mean of all the monthly results is $0^{in.}\cdot338$.

The diminution of the force from September to October is larger than the change between any other two consecutive months.

TABLE LXIV.—The Mean Elastic Force of Vapour at every Even Hour of Göttingen Mean Time in each Month.

1843, 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	0·227	0·201	0·246	0·271	0·331	0·360	0·422	0·458	0·412	0·304	0·271	0·282
16	0·230	0·208	0·243	0·270	0·327	0·351	0·415	0·450	0·416	0·308	0·271	0·281
18	0·233	0·207	0·240	0·269	0·335	0·362	0·419	0·450	0·409	0·306	0·265	0·272
20	0·232	0·204	0·244	0·283	0·360	0·385	0·453	0·478	0·425	0·308	0·265	0·270
22	0·235	0·211	0·260	0·302	0·383	0·400	0·467	0·498	0·461	0·304	0·271	0·273
0	0·252	0·223	0·271	0·309	0·390	0·407	0·493	0·499	0·478	0·324	0·287	0·286
2	0·253	0·225	0·273	0·318	0·393	0·419	0·501	0·508	0·476	0·324	0·290	0·293
4	0·248	0·223	0·270	0·320	0·386	0·416	0·508	0·520	0·467	0·326	0·282	0·295
6	0·240	0·214	0·268	0·308	0·375	0·412	0·498	0·511	0·462	0·319	0·269	0·289
8	0·243	0·209	0·255	0·288	0·357	0·401	0·470	0·489	0·444	0·308	0·270	0·287
10	0·246	0·209	0·252	0·282	0·346	0·372	0·445	0·475	0·437	0·302	0·270	0·282
12	0·246	0·205	0·250	0·274	0·333	0·371	0·435	0·470	0·425	0·300	0·274	0·283

The difference between the numbers contained in this table for any hour in September and for the same hour in October is larger than the difference between those for the same hour in any other two consecutive months. The hours in each month, at which the force exceeded the mean force for the month, were—

		h	h	h	h
In January	at		0,	2, and 4.	
February	at		0,	2, and 4.	h
March	at		0,	2,	4, and 6.
April	at	22,	0,	2,	4, and 6.
May	at	22,	0,	2,	4, and 6. h
June	at	22,	0,	2,	4, 6, and 8.
July	at	22,	0,	2,	4, 6, and 8.
August	at	22,	0,	2,	4, and 6.
September	at	22,	0,	2,	4, and 6.
October	at		0,	2, and 4.	
November	at		0,	2, and 4.	
December	at		0,	2,	4, 6, and 8.

And at the remaining hours in each month the force was less than or equal to the mean force for the month.

The times at which the force is about the same as the mean force for the month are, in the winter months, at 8^h and 10^h; in the summer months, at 20^h or after 20^h, and at 8^h.

TABLE LXV.—Hours of Göttingen Mean Time at which the Greatest and the Least Elastic Force of Vapour occurred in different Months, as inferred from the Monthly Means of the Two-hourly Observations; with the Forces and the Amount of the Changes.

1843, Month.	Hour of the		Difference.	Elastic Force of Vapour.		Difference.	Hour of the		Difference.	Elastic Force of Vapour.		Difference.	Hour of the		Difference.	Elastic Force of Vapour.		Difference.	Greatest Maximum — Smallest Minimum.
	1st Max.	1st Min.		1st Max.	1st Min.		2nd Max	2nd Min.		2nd Max	2nd Min.		3rd Max.	3rd Min.		3rd Max.	3rd Min.		
	h	h	h	in.	in.	in.	h	h	h	in.	in.	in.	h	h	h	in.	in.	in.	in.
January	2	6	4	0·253	0·240	0·013	10 & 12	14	2	0·246	0·227	0·019	18	20	2	0·233	0·232	0·001	0·026
February	2	14	12	0·225	0·201	0·024	16	20	4	0·208	0·204	0·004							0·024
March	2	18	16	0·273	0·240	0·033													0·033
April	4	18	14	0·320	0·269	0·051													0·051
May	2	16	14	0·393	0·327	0·066													0·066
June	2	16	14	0·419	0·351	0·068													0·068
July	4	16	12	0·508	0·415	0·093													0·093
August	4	16 & 18	12+	0·520	0·450	0·070													0·070
Septem.	0	14	14	0·478	0·412	0·066	16	18	2	0·416	0·409	0·007							0·069
October	4	12	8	0·326	0·300	0·026	16	18	2	0·308	0·306	0·002	20	22	2	0·308	0·304	0·004	0·026
Novem.	2	6	4	0·290	0·269	0·021	12	18 & 20	6+	0·274	0·265	0·009							0·025
Decem.	4	10	6	0·295	0·282	0·013	12	20	8	0·283	0·270	0·013							0·025

This table shews that in every month a maximum force has taken place at 2^h or 4^h generally, and a minimum force at 16^h or 18^h generally. In six months, more than one maximum and one minimum has taken place, but the differences of the second and third are small.

The means of the numbers in Table LXIV. are taken for March, April, and May, for Spring;
,, ,, June, July, and August, for Summer;
,, ,, September, October, and November, for Autumn;
,, ,, December, January, and February, for Winter;

and thus the following Table is formed:—

TABLE LXVI.—Mean Elastic Force of Vapour at every Even Hour of Göttingen Mean Time in Quarterly Periods, and for the Year.

Hour of Göttingen Mean Time.	1843.				For the Year.
	Spring.	Summer.	Autumn.	Winter.	
h	in.	in.	in.	in.	in.
14	0·283	0·413	0·329	0·237	0·316
16	0·280	0·405	0·332	0·240	0·314
18	0·281	0·410	0·327	0·237	0·314
20	0·296	0·439	0·333	0·235	0·326
22	0·315	0·455	0·345	0·240	0·339
0	0·323	0·466	0·363	0·254	0·351
2	0·328	0·476	0·363	0·257	0·356
4	0·325	0·481	0·358	0·255	0·355
6	0·317	0·474	0·350	0·248	0·347
8	0·300	0·453	0·341	0·246	0·335
10	0·293	0·431	0·336	0·254	0·328
12	0·286	0·425	0·333	0·245	0·322

From this table it appears that the force is nearly constant at all periods between 0^h and 4^h, at which times the maximum force has taken place; the times at which the minimum force has taken place are at 16^h or at 18^h in the Spring, Summer, and the Autumn, and at 20^h in the Winter: the force varies but little between 16^h and 20^h except in the Summer period.

		in.	
The mean force in Spring,	is	0·302	
,, Summer,	is	0·444	
,, Autumn,	is	0·343	
,, Winter,	is	0·246	
,, for the Year,	is	0·334	

	h			in.
And the mean force at	14	is less than	the mean force for the year by	0·018
,,	16	,,		0·020
,,	18	,,		0·020
,,	20	,,		0·008
,,	22	is greater than	the mean force for the year by	0·005
,,	0	,,		0·016
,,	2	,,		0·022
,,	4	,,		0·021
,,	6	,,		0·013
,,	8	,,		0·001
,,	10	is less than	the mean force for the year by	0·006
,,	12	,,		0·012

The mean elastic force of vapour at 8^h is therefore nearly the same as the mean elastic force for the year.

TABLE LXVII.—Mean Weight in Grains Troy of Vapour in a Cubic Foot of Air, for every Civil Day in the Year, except Sundays, Good Friday, and Christmas Day.

Day.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.
1	*S*	3·67	2·24	4·22	4·13	5·36	4·87	4·62	6·48	*S*	3·37	3·40
2	2·09	3·26	2·13	*S*	3·86	4·76	*S*	4·99	6·31	5·35	3·37	2·90
3	1·98	2·52	2·09	4·00	3·89	4·54	5·88	5·21	*S*	4·97	3·99	*S*
4	2·54	1·83	2·30	3·85	4·28	*S*	6·06	5·07	4·82	5·29	3·95	3·77
5	2·41	*S*	*S*	3·39	4·32	3·80	6·43	4·83	4·42	4·98	*S*	3·84
6	2·55	2·35	2·39	3·95	3·80	4·02	4·98	*S*	4·99	5·54	3·92	3·04
7	3·10	2·41	2·18	4·33	*S*	4·03	4·65	5·37	5·39	5·12	3·94	3·68
8	*S*	2·46	2·37	3·37	3·37	4·31	4·92	6·12	6·12	*S*	2·90	3·73
9	2·47	2·67	2·26	*S*	3·67	4·36	*S*	6·43	6·15	3·91	1·93	2·99
10	2·53	2·33	2·50	2·42	3·74	4·10	4·86	5·20	*S*	3·60	2·86	*S*
11	2·26	2·56	2·54	2·16	3·73	*S*	5·06	4·43	5·42	4·67	2·46	3·05
12	2·17	*S*	*S*	2·14	3·86	4·34	5·34	4·98	5·97	3·04	*S*	2·41
13	2·55	2·15	3·00	2·39	4·23	4·55	5·62	*S*	4·77	2·63	2·34	2·54
14	2·26	1·98	3·63	Good Fri.	*S*	5·55	5·47	5·98	5·48	2·77	2·73	3·15
15	*S*	1·63	3·67	3·89	4·36	4·98	5·70	6·42	5·58	*S*	2·49	3·58
16	2·34	1·71	3·81	*S*	4·36	4·58	*S*	6·27	5·94	2·29	2·68	3·67
17	2·73	1·65	3·50	3·72	4·24	4·90	6·17	5·91	*S*	2·90	2·97	*S*
18	3·44	2·25	3·55	3·44	3·52	*S*	5·74	6·51	6·27	2·41	3·07	3·30
19	2·98	*S*	*S*	3·60	3·90	4·39	4·66	6·10	5·68	2·36	*S*	3·36
20	2·76	2·77	3·78	4·22	3·99	3·81	4·28	*S*	5·19	2·71	3·12	3·16
21	2·51	3·18	3·83	3·93	*S*	4·40	4·74	4·13	5·50	3·37	4·14	3·45
22	*S*	3·31	4·02	3·48	4·33	4·77	5·21	4·59	5·03	*S*	3·85	3·42
23	3·26	3·28	3·81	*S*	4·66	4·45	*S*	4·80	5·11	3·84	3·42	4·23
24	3·57	2·73	3·87	3·51	4·73	4·40	3·90	5·00	*S*	4·13	2·77	*S*
25	3·36	2·46	2·96	3·03	4·44	*S*	4·73	5·03	4·23	3·52	3·38	Ch. Day.
26	3·71	*S*	*S*	2·85	4·45	4·50	5·43	5·41	3·16	2·62	*S*	3·52
27	4·03	2·69	2·43	3·11	4·62	4·47	5·34	*S*	3·05	2·82	4·13	3·33
28	4·05	2·66	2·64	3·41	*S*	3·81	4·91	5·45	2·90	3·09	3·68	3·47
29	*S*	....	2·70	3·63	3·68	3·56	5·40	6·31	2·98	*S*	3·14	3·02
30	3·54	....	3·41	*S*	3·72	4·31	*S*	6·18	4·89	4·39	3·20	2·77
31	3·49	....	4·08	....	5·07	....	5·00	6·08	....	4·21	....	*S*

The letter *S* denotes that the day was Sunday.

TABLE LXVIII.—Mean Weight in Grains Troy of Vapour in a Cubic Foot of Air, for those Days in each Month when the Mean Weight was the Greatest or the Least.

1843, Month.	Mean Weight in Grains Troy of a Cubic Foot of Vapour.		Difference.	Day of the Month when the Mean Weight was	
	Greatest.	Least.		Greatest.	Least.
	gr.	gr.	gr.	d	d
January	4·05	1·98	2·07	28	3
February	3·67	1·63	2·04	1	15
March	4·08	2·09	1·99	31	3
April	4·33	2·14	2·19	7	12
May	5·07	3·37	1·70	31	8
June	5·55	3·56	1·99	14	29
July	6·43	3·90	2·53	5	24
August	6·51	4·13	2·38	18	21
September	6·48	2·90	3·58	1	28
October	5·54	2·29	3·25	6	16
November	4·14	1·93	2·21	21	9
December	4·23	2·41	1·82	23	12

The day in the year on which the mean weight of vapour in a cubic foot of air was the greatest was August 18, the weight being 6·51 grains troy; and the day on which the weight was less than on any other day during the year was February 15, the weight being 1·63 grains troy.

TABLE LXIX.—Mean Weight in Grains Troy of Vapour in a Cubic Foot of Air in each Month, deduced from the Mean of all the Two-hourly Observations in each Month.

1843, Month.	Mean Weight of Vapour.	1843, Month.	Mean Weight of Vapour.	1843, Month.	Mean Weight of Vapour.
	gr.		gr.		gr.
January	2·9	May	4·1	September	5·1
February	2·5	June	4·4	October	3·7
March	3·0	July	5·2	November	3·2
April	3·4	August	5·5	December	3·3

The mean of all the monthly results is 3·9 grains.

TABLE LXX.—Mean Weight in Grains Troy of Vapour in a Cubic Foot of Air, at every Even Hour of Göttingen Mean Time in each Month.

1843, 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	2·66	2·38	2·88	3·15	3·82	4·12	4·79	5·17	4·70	3·51	3·15	3·27
16	2·70	2·47	2·84	3·15	3·77	4·04	4·72	5·09	4·74	3·57	3·15	3·26
18	2·74	2·44	2·82	3·14	3·86	4·14	4·76	5·09	4·67	3·54	3·09	3·16
20	2·73	2·42	2·85	3·28	4·11	4·37	5·06	5·36	4·82	3·57	3·09	3·14
22	2·76	2·49	3·02	3·46	4·35	4·50	5·21	5·53	5·16	3·49	3·14	3·17
0	2·93	2·61	3·12	3·53	4·41	4·56	5·46	5·51	5·29	3·70	3·31	3·31
2	2·95	2·64	3·13	3·61	4·43	4·67	5·54	5·60	5·25	3·70	3·35	3·39
4	2·89	2·61	3·10	3·64	4·36	4·65	5·62	5·73	5·16	3·71	3·25	3·40
6	2·81	2·51	3·10	3·52	4·26	4·63	5·52	5·65	5·15	3·66	3·11	3·36
8	2·84	2·46	2·97	3·33	4·07	4·53	5·25	5·46	4·99	3·55	3·13	3·33
10	2·88	2·46	2·94	3·26	3·96	4·24	5·01	5·34	4·94	3·48	3·14	3·26
12	2·87	2·42	2·92	3·17	3·84	4·23	4·91	5·30	4·82	3·47	3·18	3·29

The means of the numbers contained in this table are taken for March, April, and May, and called Spring:
,, for June, July, and August, and called Summer;
,, for September, October, and November, and called Autumn;
,, for December, January, and February, and called Winter;
and thus the following table is formed:—

TABLE LXXI.—Mean Weight in Grains Troy of Vapour in a Cubic Foot of Air, at every Even Hour of Göttingen Mean Time in Quarterly Periods, and for the Year.

Hour, Göttingen Mean Time.	1843.				For the Year.
	Spring.	Summer.	Autumn.	Winter.	
h	gr.	gr.	gr.	gr.	gr.
14	3·28	4·69	3·79	2·77	3·63
16	3·25	4·62	3·82	2·81	3·63
18	3·27	4·66	3·77	2·78	3·62
20	3·41	4·93	3·83	2·76	3·73
22	3·61	5·08	3·93	2·81	3·86
0	3·69	5·18	4·10	2·95	3·98
2	3·76	5·27	4·10	2·99	4·03
4	3·70	5·33	4·04	2·97	4·01
6	3·63	5·27	3·97	2·89	3·94
8	3·46	5·08	3·89	2·88	3·83
10	3·39	4·86	3·85	2·87	3·74
12	3·31	4·81	3·82	2·86	3·70

The mean weight of vapour in a cubic foot of air in Spring, was 3·5 grains
,, Summer, was 5·0 ,,
,, Autumn, was 3·9 ,,
,, Winter, was 2·9 ,,
,, for the Year, was 3·8 ,,

TABLE LXXII.—Mean additional Weight of Vapour in Grains Troy, required for complete Saturation of a Cubic Foot of Air, on every Civil Day of the Year, except Sundays, Good Friday, and Christmas Day.

Days of the Month, 1843.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.
1	*S*	0·38	0·31	0·23	1·28	0·49	0·98	1·00	0·84	*S*	0·02	0·34
2	0·34	0·34	0·35	*S*	1·21	0·60	*S*	0·47	1·08	0·38	0·02	0·25
3	0·24	0·32	0·34	0·71	0·29	0·75	1·20	0·50	*S*	0·46	0·23	*S*
4	0·36	0·48	0·26	0·32	0·55	*S*	0·73	0·25	1·30	0·49	0·34	0·05
5	0·33	*S*	*S*	0·48	0·53	0·81	1·95	0·90	0·79	0·69	*S*	0·34
6	0·21	0·09	0·39	0·23	0·09	0·40	1·17	*S*	0·88	0·29	0·10	0·47
7	0·28	0·05	0·33	0·40	*S*	0·62	1·13	0·65	1·20	0·66	0·49	0·38
8	*S*	0·22	0·24	0·78	0·04	0·85	0·34	1·20	0·62	*S*	0·40	0·36
9	0·31	0·13	0·30	*S*	0·26	0·93	*S*	1·10	0·80	0·23	0·64	0·05
10	0·41	0·32	0·34	0·42	0·44	0·60	1·05	0·53	*S*	0·33	0·34	*S*
11	0·24	0·21	0·53	0·60	0·52	*S*	0·33	1·17	0·75	0·25	0·45	0·16
12	0·13	*S*	*S*	0·52	0·97	0·37	0·93	1·33	0·50	0·45	*S*	0·02
13	0·36	0·28	0·50	0·37	0·84	0·00	0·42	*S*	0·88	0·57	0·26	0·17
14	0·44	0·15	0·54	Good Fri.	*S*	0·18	0·72	1·10	0·50	0·49	0·14	0·34
15	*S*	0·22	0·24	0·60	0·44	0·99	1·13	0·97	1·27	*S*	0·23	0·34
16	0·34	0·35	0·27	*S*	0·44	1·44	*S*	0·32	1·10	0·40	0·33	0·29
17	0·17	0·53	0·55	0·89	0·11	0·81	1·52	1·15	*S*	0·27	0·25	*S*
18	0·10	0·14	0·58	0·94	0·35	*S*	0·75	1·07	0·81	0·67	0·40	0·04
19	0·00	*S*	*S*	0·45	0·39	0·57	0·73	1·98	1·17	0·39	*S*	0·17
20	0·13	0·00	0·53	0·83	0·59	0·84	0·80	*S*	0·97	0·40	0·63	0·21

The letter *S* denotes that the day was Sunday.

TABLE LXXII.—*continued.*

Days of the Month, 1843.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.
21	0·10	0·15	0·75	0·83	*S*	1·16	1·02	1·33	0·50	0·44	0·45	0·29
22	*S*	0·23	0·72	0·66	0·47	0·83	0·59	0·53	0·73	*S*	0·60	0·26
23	0·15	0·21	0·62	*S*	0·33	1·20	*S*	0·52	0·38	0·57	0·34	0·27
24	0·05	0·17	0·72	0·21	0·48	1·08	0·98	0·69	*S*	0·67	0·20	*S*
25	0·21	0·11	0·68	0·41	0·77	*S*	0·48	0·99	0·39	0·17	0·02	Ch. Day.
26	0·22	*S*	*S*	0·56	0·54	0·93	0·84	0·90	0·93	0·27	*S*	0·02
27	0·35	0·13	0·46	0·52	0·42	1·53	0·83	*S*	0·64	0·38	0·45	0·12
28	0·56	0·27	0·56	0·36	*S*	1·02	0·94	0·50	0·93	0·56	0·52	0·21
29	*S*	....	0·49	0·59	0·24	1·29	0·72	0·64	0·94	*S*	0·66	0·37
30	0·55	....	0·48	*S*	0·78	0·98	*S*	0·56	0·50	0·32	0·12	0·34
31	0·21	....	0·33	....	0·51	....	0·64	0·79	....	0·08	....	*S*

The letter *S* denotes that the day was Sunday.

TABLE LXXIII.—Mean Additional Weight of Vapour, in Grains Troy, required for complete Saturation of a Cubic Foot of Air, for those Days in each Month in which the Quantity was the Greatest and the Least.

Month, 1843.	Mean Additional Weight of Vapour.		Difference.	Day of the Month when	
	Greatest.	Least.		Greatest.	Least.
	gr.	gr.	gr.	d	d
January	0·56	0·00	0·56	28	19
February	0·53	0·00	0·53	17	20
March	0·75	0·24	0·51	21	8 & 15
April	0·94	0·21	0·73	18	24
May	1·28	0·04	1·24	1	8
June	1·53	0·00	1·53	27	13
July	1·95	0·33	1·62	5	11
August	1·98	0·25	1·73	19	4
September	1·30	0·38	0·92	4	23
October	0·69	0·08	0·61	5	31
November	0·66	0·02	0·64	29	1, 2, & 25
December	0·47	0·02	0·45	6	12 & 26

TABLE LXXIV.—Mean additional Weight of Vapour, in Grains Troy, required for complete Saturation of a Cubic Foot of Air, in each Month, deduced from the Mean of all the Two-hourly Observations in each Month.

Month, 1843.	Mean additional Weight of Vapour.	Month, 1843.	Mean additional Weight of Vapour.
	gr.		gr.
January	0·26	July	0·89
February	0·23	August	0·86
March	0·46	September	0·82
April	0·54	October	0·42
May	0·51	November	0·33
June	0·82	December	0·23

TABLE LXXV.—Mean additional Weight of Vapour in Grains Troy, required for complete Saturation of a Cubic Foot of Air, at every Even Hour of Göttingen Mean Time in each Month.

Hour, Göttingen Mean Time, 1843.	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	0·30	0·23	0·16	0·16	0·07	0·23	0·26	0·09	0·15	0·19	0·21	0·18
16	0·24	0·08	0·16	0·10	0·07	0·20	0·22	0·09	0·03	0·09	0·18	0·16
18	0·17	0·12	0·15	0·09	0·07	0·24	0·23	0·09	0·09	0·09	0·23	0·18
20	0·17	0·13	0·19	0·28	0·44	0·60	0·59	0·45	0·23	0·19	0·20	0·16
22	0·25	0·21	0·46	0·65	0·69	1·15	1·30	1·30	0·92	0·52	0·33	0·21
0	0·30	0·29	0·79	1·05	0·95	1·52	1·73	2·02	1·86	0·82	0·50	0·33
2	0·38	0·37	1·00	1·30	1·12	1·80	1·76	2·18	2·35	0·97	0·60	0·39
4	0·40	0·37	0·91	1·21	1·03	1·78	1·89	1·98	2·26	0·91	0·58	0·31
6	0·33	0·27	0·67	0·96	0·90	1·34	1·48	1·67	1·48	0·56	0·43	0·24
8	0·26	0·23	0·43	0·62	0·57	0·90	1·04	0·85	0·77	0·43	0·32	0·25
10	0·22	0·15	0·26	0·40	0·28	0·61	0·61	0·40	0·42	0·34	0·24	0·27
12	0·22	0·16	0·22	0·27	0·14	0·30	0·40	0·13	0·22	0·23	0·21	0·21

The means of the numbers contained in this table are taken for March, April, and May, and called Spring;
,, for June, July, and August, and called Summer;
,, for September, October, and November, and called Autumn;
,, for December, January, and February, and called Winter.

TABLE LXXVI.—Mean additional Weight of Vapour in Grains Troy, required for complete Saturation of a Cubic Foot of Air, at every Even Hour of Göttingen Mean Time in Quarterly Periods, and for the Year.

Hour, Göttingen Mean Time.	1843.				
	Spring.	Summer.	Autumn.	Winter.	For the Year.
h	gr.	gr.	gr.	gr.	gr.
14	0·13	0·19	0·18	0·24	0·18
16	0·11	0·17	0·10	0·16	0·13
18	0·10	0·19	0·14	0·16	0·15
20	0·30	0·55	0·21	0·15	0·30
22	0·60	1·25	0·59	0·22	0·67
0	0·93	1·76	1·06	0·31	1·02
2	1·14	1·91	1·31	0·38	1·18
4	1·05	1·88	1·25	0·36	1·14
6	0·84	1·50	0·82	0·28	0·86
8	0·54	0·93	0·51	0·25	0·56
10	0·31	0·54	0·33	0·21	0·35
12	0·21	0·28	0·22	0·20	0·23

The mean additional weight required in Spring, was 0·52 grains
,, Summer, was 0·93 ,,
,, Autumn, was 0·58 ,,
,, Winter, was 0·24 ,,
for the Year, was 0·56 ,,

TABLE LXXVII.—Mean Degree of Humidity (complete Saturation = 1) for every Day in the Year, except Sundays, Good Friday, and Christmas Day.

Day of the Month, 1843.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	*S*	0·906	0·878	0·927	0·763	0·916	0·832	0·822	0·885	*S*	0·994	0·909
2	0·860	0·906	0·859	*S*	0·761	0·888	*S*	0·914	0·854	0·934	0·994	0·921
3	0·892	0·887	0·860	0·849	0·931	0·858	0·831	0·912	*S*	0·915	0·945	*S*
4	0·876	0·792	0·898	0·923	0·886	*S*	0·893	0·953	0·788	0·915	0·921	0·987
5	0·879	*S*	*S*	0·876	0·870	0·824	0·767	0·843	0·848	0·878	*S*	0·919
6	0·924	0·963	0·860	0·945	0·977	0·909	0·809	*S*	0·850	0·950	0·975	0·866

The letter *S* denotes that the day was Sunday.

TABLE LXXVII.—*continued.*

Day of the Month, 1843.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
7	0·917	0·979	0·869	0·916	*S*	0·867	0·804	0·892	0·818	0·886	0·889	0·906
8	*S*	0·918	0·908	0·812	0·988	0·835	0·935	0·836	0·908	*S*	0·879	0·912
9	0·888	0 954	0·883	*S*	0·934	0·824	*S*	0·854	0·885	0·944	0·751	0·983
10	0·861	0·879	0·880	0·852	0·895	0·872	0·822	0·908	*S*	0·916	0·894	*S*
11	0·904	0·924	0·827	0·783	0·878	*S*	0·939	0·791	0·878	0·950	0·845	0·950
12	0·944	*S*	*S*	0·804	0·799	0·921	0·852	0·789	0·923	0·871	*S*	0·992
13	0·876	0·885	0·857	0·866	0·834	1·000	0·930	*S*	0·844	0·822	0·900	0·937
14	0·837	0·929	0·871	Good Friday	*S*	0·969	0·884	0·845	0·916	0·850	0·951	0·902
15	*S*	0·886	0·939	0·866	0·908	0·834	0·835	0·869	0·815	*S*	0·915	0·913
16	0·873	0·830	0·934	*S*	0·908	0·761	*S*	0·951	0·844	0·851	0·890	0·927
17	0·941	0·757	0·864	0·807	0·975	0·858	0·802	0·837	*S*	0·915	0·922	*S*
18	0·972	0·941	0·859	0·785	0·910	*S*	0·884	0·859	0·886	0·782	0·885	0·988
19	1·000	*S*	*S*	0·889	0·909	0·885	0·864	0·755	0·829	0·858	*S*	0·952
20	0·955	1·000	0·877	0·836	0·871	0·819	0·843	*S*	0·842	0·871	0·831	0·938
21	0·962	0·955	0·836	0·826	*S*	0·791	0·823	0·756	0·917	0·885	0·902	0·923
22	*S*	0·935	0·848	0·841	0·902	0·852	0·898	0·896	0·873	*S*	0·865	0·929
23	0·956	0·940	0·860	*S*	0·934	0·788	*S*	0·902	0·931	0·871	0·909	0·940
24	0·986	0·941	0·841	0·944	0·908	0·803	0·799	0·879	*S*	0·860	0·933	*S*
25	0·941	0·957	0·810	0·881	0·852	*S*	0·908	0·835	0·915	0·954	0·994	Ch. Day.
26	0·944	*S*	*S*	0·837	0·892	0·829	0·866	0·857	0·772	0·907	*S*	0·994
27	0·920	0·954	0·841	0·857	0·917	0·745	0·865	*S*	0·827	0·881	0·902	0·965
28	0·879	0·908	0·825	0·905	*S*	0·789	0·839	0·916	0·757	0·847	0·876	0·943
29	*S*	...	0·846	0·860	0·939	0·734	0·882	0·908	0·760	*S*	0·826	0·891
30	0·866	...	0·877	*S*	0·827	0·815	*S*	0·917	0·907	0·932	0·964	0·891
31	0·943	...	0·925	...	0·909	...	0·886	0·885	...	0·981	...	*S*

The letter *S* denotes that the day was Sunday.

In this table there are three days in which the air was completely saturated with moisture throughout the day; viz., January 19th, February 20th, and June 13th. Besides these, there are thirty-three days in which the air was nearly saturated, viz., January 18th, 20th, 21st; February 6th, 7th, 9th, 21st, 25th, 27th; May 6th, 8th, 17th; June 14th; August 4th, 16th; October 6th, 11th, 25th, 31st; November 1st, 2nd, 6th, 14th, 25th, 30th; December 4th, 9th, 11th, 12th, 18th, 19th, 26th, and 27th.

TABLE LXXVIII.—Mean Degree of Humidity (complete Saturation = 1) on those Days in each Month when the Mean Degree of Humidity was Greatest or Least.

Month, 1843.	Mean Degree of Humidity.		Extreme Range of the Daily Mean Degree of Humidity in each Month.	Day of the Month when the Mean Degree of Humidity is	
	Greatest.	Least.		Greatest.	Least.
January	1·000	0·837	0·163	19 d	14 d
February	1·000	0·757	0·243	20	17
March	0·939	0·810	0·129	15	25
April	0·945	0·783	0·162	6	11
May	0·988	0·761	0·227	8	2
June	1·000	0·734	0·266	13	29
July	0·939	0·767	0·172	11	5
August	0·953	0·755	0·198	4	19
September	0·931	0·757	0·174	23	28
October	0·981	0·782	0·199	31	18
November	0·994	0·751	0·243	1, 2, and 25	9
December	0·994	0·866	0·128	26	6

The day on which the degree of humidity was less than on any other day in the year was June 29, it being then 0·734; the difference between this and unity, viz., 0·266, represents the yearly range of the mean daily degree of moisture in the atmosphere.

TABLE LXXIX.—Mean Degree of Humidity (complete Saturation = 1) in each Month, deduced from the Mean of all the Two-hourly Observations in each Month.

Month, 1843.	Mean Degree of Humidity.	Month, 1843.	Mean Degree of Humidity.
January	0·918	July	0·856
February	0·916	August	0·866
March	0·868	September	0·857
April	0·862	October	0·893
May	0·892	November	0·907
June	0·845	December	0·935

The mean of all the monthly results is 0·887.

TABLE LXXX.—The Mean Degree of Humidity (complete Saturation = 1) at every Even Hour of Göttingen Mean Time in each Month.

Hour, Göttingen Mean Time, 1843.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	0·899	0·912	0·947	0·952	0·982	0·947	0·948	0·983	0·969	0·949	0·938	0·948
16	0·919	0·969	0·947	0·969	0·982	0·953	0·955	0·982	0·993	0·975	0·946	0·953
18	0·942	0·954	0·949	0·972	0·982	0·945	0·954	0·982	0·981	0·975	0·931	0·946
20	0·941	0·949	0·937	0·922	0·903	0·879	0·895	0·922	0·954	0·949	0·938	0·952
22	0·917	0·922	0·868	0·842	0·863	0·796	0·800	0·809	0·848	0·888	0·905	0·938
0	0·907	0·900	0·800	0·771	0·823	0·750	0·759	0·732	0·740	0·818	0·868	0·909
2	0·886	0·877	0·758	0·735	0·799	0·722	0·759	0·719	0·691	0·792	0·847	0·897
4	0·878	0·876	0·773	0·750	0·809	0·723	0·748	0·743	0·695	0·803	0·848	0·916
6	0·894	0·903	0·822	0·786	0·826	0·775	0·789	0·772	0·777	0·867	0·878	0·934
8	0·916	0·915	0·874	0·843	0·877	0·834	0·834	0·865	0·866	0·892	0·907	0·929
10	0·929	0·943	0·919	0·891	0·934	0·874	0·891	0·931	0·921	0·911	0·929	0·923
12	0·929	0·938	0·929	0·922	0·965	0·934	0·924	0·976	0·956	0·938	0·938	0·940

This table shews that at 2^h generally, the atmosphere is in its driest state, and that it continues in that state, with but slight variations, till 4^h; after 6^h it becomes more charged with moisture, which increases till about the time of sun rising, at which time the air is most saturated; the changes during the night hours are small.

The degree of humidity was less than the mean degree for the month in January at 0^h, 2^h, 4^h, 6^h, and slightly so at 14^h.
" " in February at 0^h, 2^h, 4^h, 6^h, 8^h, and 14^h.
" " from March to August at 22^h, 0^h, 2^h, 4^h, 6^h, and 8^h.
" " in September at 22^h, 0^h, 2^h, 4^h, and 6^h.
" " in October at 22^h, 0^h, 2^h, 4^h, 6^h, and 8^h.
" " in November at 22^h, 0^h, 2^h, 4^h, and 6^h.
" " in December at 0^h, 2^h, 4^h, 8^h, and 10^h.

At the remaining hours in each month the degree of humidity exceeds the mean degree for the month.

In the six winter months the atmosphere is in its mean state of humidity at 22^h and 8^h. In the six summer months the atmosphere is in its mean state of humidity between 20^h and 22^h, and again between 8^h and 10^h.

TABLE LXXXI.—Hours of Göttingen Mean Time at which the Greatest and the Least Degree of Humidity took place, as inferred from the Monthly Means of the Two-hourly Observations, with the Degrees of Humidity (complete Saturation = 1) and the Amounts of the Changes.

Month, 1843.	Hour of the		Difference.	Degree of Humidity.		Difference.	Hour of the		Difference.	Degree of Humidity.		Difference.	Hour of the		Difference.	Degree of Humidity.		Difference.	Greatest Maximum —the Smallest Minimum.
	1st Min.	1st Max.		1st Min.	1st Max.		2nd Min.	2nd Max.		2nd Min.	2nd Max.		3rd Min.	3rd Max.		3rd Min.	3rd Max.		
	h	h	h				h	h	h				h	h	h				
January	4	10 & 12	6+	0·878	0·929	0·051	14	18	4	0·899	0·942	0·043							0·964
February	4	10	6	0·876	0·943	0·067	14	16	2	0·912	0·969	0·057							0·093
March	2	18	16	0·758	0·949	0·191													0·191
April	2	18	16	0·735	0·972	0·137													0·137
May	2	14, 16, & 18	12	0·799	0·982	0·183													0·183
June	2	16	14	0·722	0·953	0·231													0·231
July	4	16	12	0·748	0·955	0·207													0·207
August	2	14	12	0·719	0·983	0·264													0·264
September	2	16	14	0·691	0·993	0·302													0·302
October	2	16 & 18	14	0·792	0·975	0·183													0·183
November	2	16	14	0·847	0·946	0·099	18	20	2	0·931	0·938	0·007							0·099
December	2	6	4	0·897	0·934	0·037	10	16	6	0·923	0·953	0·030	18	20	2	0·946	0·952	0·006	0·056

From this table it appears, that during the winter months, from November to February both inclusive, the degree of moisture in the atmosphere was subject to a double increase and decrease, and in the remaining months there was only one increase and one decrease; the last column shews that the changes are much larger in the summer than at any other period of the year.

The means of the numbers in Table LXXX. are taken for March, April, and May, and called Spring;
" for June, July, and August, and called Summer;
" for September, October, and November, and called Autumn;
" for December, January, and February, and called Winter;

and thus the following table is formed:—

TABLE LXXXII.—Mean Degree of Humidity (complete Saturation = 1), at every Even Hour of Göttingen Mean Time, in Quarterly Periods, and for the Year.

Hour, Göttingen Mean Time.	1843.				
	Spring.	Summer.	Autumn.	Winter.	For the Year.
h					
14	0·960	0·959	0·952	0·920	0·948
16	0·966	0·963	0·971	0·947	0·962
18	0·968	0·960	0·962	0·947	0·959
20	0·921	0·899	0·947	0·947	0·929
22	0·858	0·802	0·880	0·926	0·867
0	0·798	0·747	0·809	0·905	0·815
2	0·764	0·733	0·777	0·887	0·790
4	0·777	0·738	0·782	0·890	0·797
6	0·811	0·779	0·841	0·910	0·835
8	0·865	0·844	0·888	0·920	0·879
10	0·915	0·899	0·920	0·932	0·917
12	0·939	0·945	0·944	0·936	0·941

Thus, it appears that at 2^h the least degree of humidity prevails, and at about 16^h and 18^h the greatest.

The mean degree of humidity in Spring is 0·878
,, Summer is 0·856
,, Autumn is 0·889
,, Winter is 0·922
,, for the Year is 0·887

Comparing this last number with those contained in the last column, we find that

At 14^h	the degree of humidity is	0·061	greater than the mean of the year.
16	,,	0·075	,,
18	,,	0·072	,,
20	,,	0·042	,,
22	,,	0·020	less than the mean of the year.
0	,,	0·072	,,
2	,,	0·097	,,
4	,,	0·090	,,
6	,,	0·052	,,
8	,,	0·008	,,
10	,,	0·030	greater than the mean of the year.
12	,,	0·054	,,

And thus it appears, that the degree of humidity at 8^h agrees more nearly than that at any other observation hour, with the degree of humidity for the year.

TABLE LXXXIII.—Mean Weight in Grains Troy of a Cubic Foot of Air, for every Civil Day in the Year, except Sundays, Good Friday, and Christmas Day.

Day of the Month, 1843.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.	gr.
1	*S*	538·1	551·9	527·4	531·8	520·6	527·2	527·1	524·1	*S*	540·5	544·2
2	560·3	539·5	557·9	*S*	534·2	517·9	*S*	524·6	525·5	528·7	542·7	553·1
3	565·8	541·4	560·9	530·1	536·9	521·1	520·3	520·4	*S*	531·8	532·7	*S*
4	552·3	551·0	563·5	529·4	529·7	*S*	520·4	522·2	531·0	530·0	531·1	548·7
5	553·3	*S*	*S*	538·2	528·0	532·1	509·3	524·2	538·2	529·2	*S*	541·8
6	556·8	555·6	559·4	535·7	532·8	533·9	521·8	*S*	531·8	522·1	540·3	552·0
7	544·6	557·0	561·9	526·6	*S*	532·7	526·1	529·7	527·7	520·0	532·2	544·5
8	*S*	555·6	562·2	531·4	538·6	521·0	528·6	522·7	526·5	*S*	541·7	543·7
9	544·9	552·9	564·0	*S*	535·8	521·2	*S*	518·5	523·4	531·2	555·1	556·0
10	534·1	553·4	556·4	551·5	539·6	531·8	525·8	528·3	*S*	538·0	542·1	*S*
11	539·7	552·2	553·2	554·3	539·7	*S*	530·8	533·1	525·6	519·2	552·8	554·5
12	540·3	*S*	*S*	554·5	535·8	534·8	527·3	528·9	525·9	533·1	*S*	566·8
13	526·1	558·1	540·1	552·0	530·8	533·2	526·3	*S*	530·0	542·8	560·6	563·6
14	532·7	557·6	530·6	Good Friday	*S*	526·5	526·0	520·8	524·0	543·8	555·8	554·9
15	*S*	558·5	538·2	538·3	525·5	526·0	522·7	517·1	519·5	*S*	557·9	548·5
16	546·8	549·9	539·9	*S*	523·9	525·4	*S*	522·5	522·1	548·9	551·5	548·1
17	556·1	552·5	538·7	534·8	529·4	528·0	521·1	522·0	*S*	536·9	545·6	*S*
18	552·0	548·6	537·5	539·4	539·2	*S*	521·7	518·3	522·2	549·2	538·2	555·8
19	560·5	*S*	*S*	538·7	536·5	530·9	525·2	512·2	524·7	561·0	*S*	553·8
20	557·2	556·0	531·6	527·7	532·7	537·1	527·4	*S*	526·9	554·8	536·1	554·5
21	557·1	536·2	526·3	532·0	*S*	530·7	523·0	528·8	529·2	542·5	528·8	550·7
22	*S*	532·4	524·0	538·0	528·2	528·7	522·5	524·9	534·5	*S*	529·5	551·3
23	546·3	536·2	538·1	*S*	526·8	529·6	*S*	522·9	538·2	537·9	533·1	543·9
24	542·0	545·5	528·9	543·7	523·1	529·6	534·4	522·2	*S*	531·0	544·2	*S*
25	545·8	549·7	539·9	541·2	524·9	*S*	534·9	524·1	539·8	533·1	540·3	Ch. Day
26	542·3	*S*	*S*	540·5	526·4	527·8	528·3	524·4	541·8	544·0	*S*	552·0
27	536·9	533·8	547·5	541·6	523·8	522·4	525·7	*S*	539·4	541·0	531·0	554·1
28	532·5	536·3	545·0	538·4	*S*	527·8	527·2	526·3	538·7	529·3	541·2	553·5
29	*S*	...	547·8	533·4	540·8	530·0	520·7	520·7	541·2	*S*	548·7	555·5
30	536·2	...	537·9	*S*	537·7	528·7	*S*	523·9	527·8	523·5	552·8	554·2
31	541·8	...	527·5	...	526·0	...	530·0	524·9	...	526·6	...	*S*

The letter *S* denotes that the day was Sunday.

The numbers in this and the following table were computed to two places of decimals, and inserted in the tables to one place by contraction; therefore, the numbers in the following table may frequently differ $0^{gr}·1$ from the numbers deduced from the above.

TABLE LXXXIV.—Table exhibiting the Times at which Differences greater than 5 Grains took place between the Mean Weights of a Cubic Foot of Air on Two consecutive Days, with the Amount of the Differences, estimated positive when the Weight on the Second Day was the greater.

January.		February.		March.		April.		May.		June.	
Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.	Between what Days.	Difference.
	gr.		gr.		gr.		gr.		gr.		gr.
2 & 3	+ 5·5	3 & 4	+ 9·6	1 & 2	+ 6·0	4 & 5	+ 8·8	3 & 4	− 7·2	7 & 8	−11·7
3 & 4	−13·5	15 & 16	− 8·6	9 & 10	− 7·6	6 & 7	− 9·1	12 & 13	− 5·0	9 & 10	+10·6
6 & 7	−12·2	20 & 21	−19·8	13 & 14	− 9·5	19 & 20	−11·0	16 & 17	+ 5·5	13 & 14	− 6·7
9 & 10	−10·8	23 & 24	+ 9·3	14 & 15	+ 7·6	21 & 22	+ 5·9	17 & 18	+ 9·7	19 & 20	+ 6·2
10 & 11	+ 5·6	28 & 29	+15·5	20 & 21	− 5·3	28 & 29	− 5·0	30 & 31	−11·7	20 & 21	− 6·4
12 & 13	−14·2			22 & 23	+14·2					26 & 27	− 5·4
13 & 14	+ 6·6			23 & 24	− 9·2					27 & 28	+ 5·4
16 & 17	+ 9·3			24 & 25	+11·0						
18 & 19	+ 8·5			29 & 30	− 9·9						
26 & 27	− 5·4			30 & 31	−10·4						
30 & 31	+ 5·6										

July.		August.		September.		October.		November.		December.	
4 & 5	−11·1	7 & 8	− 6·9	4 & 5	+ 7·2	5 & 6	− 7·1	2 & 3	−10·0	1 & 2	+ 8·9
5 & 6	+12·4	9 & 10	+ 9·7	5 & 6	− 6·5	9 & 10	+ 6·8	6 & 7	− 8·1	4 & 5	− 6·9
10 & 11	+ 5·0	15 & 16	+ 5·4	21 & 22	+ 5·3	10 & 11	−18·9	7 & 8	+ 9·5	5 & 6	+10·3
25 & 26	− 6·6	18 & 19	− 6·0	29 & 30	−13·4	11 & 12	−14·0	8 & 9	+13·4	6 & 7	− 7·6
28 & 29	− 6·5	28 & 29	− 5·6			12 & 13	+ 9·6	9 & 10	−13·0	8 & 9	+12·3
						16 & 17	−12·1	10 & 11	+10·7	11 & 12	+12·2
						17 & 18	+12·3	15 & 16	− 6·4	13 & 14	− 8·7
						18 & 19	+11·8	16 & 17	− 5·9	14 & 15	− 6·5
						19 & 20	− 6·2	17 & 18	− 7·4	22 & 23	− 7·5
						20 & 21	−12·3	20 & 21	− 7·3		
						23 & 24	− 6·8	23 & 24	+11·1		
						25 & 26	+10·9	27 & 28	+10·2		
						27 & 28	−11·7	28 & 29	+ 7·5		
						31 & 32	+13·8				

The table contains 93 instances out of 257, in which the mean weight of a cubic foot of air on one day was at least 5 grains different from the mean weight on the next day; of these there were

16	instances in which the difference exceeded		5 grains and was less than		6 grains
16	,,	,,	6	,,	7 ,,
10	,,	,,	7	,,	8 ,,
6	,,	,,	8	,,	9 ,,
11	,,	,,	9	,,	10 ,,
8	,,	,,	10	,,	11 ,,
8	,,	,,	11	,,	12 ,,
7	,,	,,	12	,,	13 ,,
5	,,	,,	13	,,	14 ,,
6	,,	,,	14	,,	20 ,,

But, besides these, there were several instances in which the weight on a Saturday has differed more than 10 grains from the weight on the following Monday: the following are these cases:—

Between January	14d and 16d	the weight on the latter day	exceeded	that on the former by	14·1 grains
,,	21 and 23	,,	was less than	,,	10·7 ,,
February	25 and 27	,,	,,	,,	16·0 ,,
March	11 and 13	,,	,,	,,	13·1 ,,
April	8 and 10	,,	exceeded	,,	20·1 ,,
,,	13 and 15	,,	was less than	,,	13·7 ,,
May	27 and 29	,,	exceeded	,,	17·0 ,,
June	3 and 5	,,	,,	,,	10·9 ,,
July	22 and 24	,,	,,	,,	11·8 ,,
August	19 and 21	,,	,,	,,	16·6 ,,
October	7 and 9	,,	,,	,,	11·2 ,,

TABLE LXXXV.—Table exhibiting the Times at which the Greatest and Least Differences took place in each Month between the Mean Weight in Grains Troy of a Cubic Foot of Air, on Two consecutive Civil Days, with the Amount of the Difference, estimated positive when the Mean Weight was greater on the Second Day.

Month, 1843.	Difference between the Mean Weights of a Cubic Foot of Air on consecutive Days.		Days of the Month between which the Difference of the Mean Weights of of a Cubic Foot of Air was	
	Greatest.	Least.	Greatest.	Least.
	gr.	gr.	d d	d d
January	− 14·2	− 0·2	12 & 13	20 & 21
February	− 19·8	± 0·5	20 & 21	9 & 10 13 & 14
March	+ 14·2	+ 0·3	22 & 23	7 & 8
April	− 11·0	+ 0·2	19 & 20	11 & 12
May	− 11·7	0·0	30 & 31	10 & 11
June	− 11·7	− 0·1	7 & 8	23 & 24
July	+ 12·4	+ 0·1	5 & 6	3 & 4
August	+ 9·7	+ 0·3	9 & 10	25 & 26
September	− 13·4	+ 0·3	29 & 30	11 & 12
October	− 18·9	− 0·8	10 & 11	4 & 5
November	+ 13·4	+ 0·7	8 & 9	21 & 22
December	+ 12·3	− 0·4	8 & 9	15 & 16

TABLE LXXXVI.—Mean Weight in Grains Troy of a Cubic Foot of Air, for those days in each Month when the Mean Weight was the Greatest and the Least.

Month, 1843.	Mean Weight in Grains Troy of a Cubic Foot of Air.		Difference.	Day of the Month when the Mean Weight was the	
	Greatest.	Least.		Greatest.	Least.
	gr.	gr.	gr.	d	d
January	565·79	526·10	39·69	3	13
February	558·50	532·38	26·12	15	22
March	564·04	523·99	40·05	9	22
April	554·48	526·62	27·86	12	7
May	540·81	523·14	17·67	29	24
June	537·12	517·91	19·21	20	2
July	534·87	509·33	25·54	25	5
August	533·13	512·24	20·89	11	19
September	541·84	519·50	22·34	26	15
October	560·98	519·17	41·81	19	11
November	560·63	528·76	31·87	13	21
December	566·84	541·75	25·09	12	5

The day in the year on which the mean weight of a cubic foot of air was the greatest was December 12; and the day on which it was least was July 5; the weights were respectively 566·84 grains and 509·33 grains: the difference of these numbers is 57·51 grains.

TABLE LXXXVII.—Mean Weight in Grains Troy of a Cubic Foot of Air in each Month, deduced from the Mean of all the Two-hourly Observations in each Month.

Month, 1843.	Mean Weight.	Month, 1843.	Mean Weight.
	gr.		gr.
January	546·3	July	525·2
February	547·8	August	523·5
March	544·8	September	530·0
April	538·3	October	535·8
May	531·8	November	542·6
June	528·1	December	552·0

The mean of all the monthly results is 537·2 grains.

TABLE LXXXVIII.—Mean Weight in Grains Troy of a Cubic Foot of Air, at every Even Hour of Göttingen Mean Time in each Month.

Hour, Göttingen Mean Time, 1843.	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	553·0	548·2	547·7	543·6	535·7	534·4	531·1	529·5	536·3	538·5	543·7	552·5
16	547·9	549·0	548·2	544·2	537·6	535·3	531·9	529·5	536·3	538·2	543·9	552·8
18	548·1	548·9	548·6	544·3	536·8	534·1	531·6	530·1	536·4	538·6	544·0	553·7
20	548·3	549·0	548·3	541·0	532·3	529·7	527·2	526·0	534·8	537·5	544·4	554·1
22	547·0	547·0	543·6	536·6	528·8	525·4	522·9	520·7	528·4	535·8	542·6	553·9
0	544·5	545·0	539·6	533·0	526·6	522·9	519·0	517·5	523·0	531·7	539·3	551·2
2	542·9	543·2	537·7	530·0	525·5	520·8	518·5	516·3	521·0	530·6	538·1	549·2
4	543·9	543·6	538·7	530·5	526·5	521·0	517·5	516·5	521·3	530·9	539·1	549·9
6	545·5	546·0	540·8	533·2	527·5	523·5	519·4	517·8	525·0	534·0	542·4	550·9
8	546·0	547·1	542·4	538·1	531·7	526·7	523·5	523·3	530·3	536·0	543·2	551·2
10	545·9	548·7	546·4	540·6	534·8	530·7	527·4	526·5	532·7	537·4	544·0	551·7
12	546·1	549·1	547·1	542·8	536·9	532·9	529·3	528·4	534·9	538·0	543·9	552·0

This table shows that the mean weight of a cubic foot of air is less than the mean weight for the month:

	h	h	h	h	h	h	h
In January,	at 0,	2,	4,	6,	8,	10, and 12	
February and March,	at 22,	0,	2,	4, and 6			
April,	at 22,	0,	2,	4,	6, and 8		
May,	at 22,	0,	2,	4, and 6			
June, July, and August,	at 22,	0,	2,	4,	6, and 8		
September,	at 22,	0,	2,	4, and 6			
October,	at 0,	2,	4, and 6				
November,	at 0,	2, and 4					
December,	at 0,	2,	4,	6,	8, and 10;		

and that at the other hours in each month the weight exceeds, or is equal to, the mean for the month.

In the first three months, and also in the last three, the hours at which the mean weight nearly agrees with the mean weight for the month, are 22^h and 8^h, excepting March, when the mean weight at 10^h more nearly agrees with that for the month than at 8^h. In the six middle months, the hours at which the mean weight nearly agrees with the mean weight for the month, are between 20^h and 22^h, and at 8^h, except in June and July, when the hours of nearest agreement are between 20^h and 22^h, and 8^h and 10^h.

TABLE LXXXIX.—Hours of Göttingen Mean Time at which the Weight of a Cubic Foot of Air was the Greatest and the Least in different Months, as inferred from the Monthly Means of the Two-hourly Observations, with the Weight and the Amount of the Changes.

Month, 1843.	Hour of the		Difference.	Weight of a Cubic Foot of Air.		Difference.	Hour of the		Difference.	Weight of a Cubic Foot of Air.		Difference.	Hour of the		Difference.	Weight of a Cubic Foot of Air.		Difference.	Greatest Maximum — Smallest Minimum.
	1st Min.	1st Max.		1st Min.	1st Max.		2nd Min.	2nd Max.		2nd Min.	2nd Max		3rd Min.	3rd Max.		3rd Min.	3rd Max.		
	h	h	h	gr.	gr.	gr.	h	h	h	gr.	gr.	gr.	h	h	h	gr.	gr.	gr.	gr.
January	2	8	6	542·9	546·0	3·1	10	14	4	545·9	553·0	7·1	16	20	4	547·9	548·3	0·4	10·1
February	2	12	10	543·2	549·1	5·9	14	16	2	548·2	549·0	0·8	18	20	2	548·9	549·0	0·1	5·9
March	2	8	6	537·7	549·4	11·7	10	18	8	546·4	548·6	2·2							11·7
April	2	18	16	530·0	544·3	14·3													14·3
May	2	12	10	525·5	536·9	11·4	14	16	2	535·7	537·6	1·9							12·1
June	2	16	14	520·8	535·3	14·5													14·5
July	4	16	12	517·5	531·9	14·4													14·4
August	2	18	16	516·3	530·1	13·8													13·8
Septem.	2	18	16	521·0	536·4	15·4													15·4
October	2	14	12	530·6	538·5	7·9	16	18	2	538·2	538·6	0·4							8·0
Novem.	2	10	8	538·1	544·0	5·9	14	20	6	543·7	544·4	0·7							6·3
Decem.	2	20	18	549·2	554·1	4·9													4·9

This table shews, that at 2^h in every month, except in July, the weight of a cubic foot of air was less than at any other time in the day, and that at 16^h or at 18^h the weight of a cubic foot of air was the greatest. In six of the months one maximum is shewn and one minimum: in the other six months there are more than one.

The means of the numbers in Table LXXXVIII. are taken for March, April, and May, and called Spring;
,, ,, June, July, and August, and called Summer;
,, ,, September, October, and November, and called Autumn;
,, , December, January, and February, and called Winter;

and thus the following Table is formed:—

TABLE XC.—Mean Weight in Grains Troy of a Cubic Foot of Air, at every Even Hour of Göttingen Mean Time, in Quarterly Periods and for the Year.

Hour of Göttingen Mean Time.	1843.				
	Spring.	Summer.	Autumn.	Winter.	For the Year.
h	gr.	gr.	gr.	gr.	gr.
14	542·3	531·6	539·5	551·2	541·1
16	543·3	532·2	539·5	549·9	541·2
18	543·2	531·9	539·7	550·2	541·3
20	540·5	527·6	538·9	550·5	539·4
22	536·3	523·0	535·6	549·3	536·1
0	533·1	519·8	531·3	546·9	532·8
2	531·1	518·5	529·9	545·1	531·1
4	531·9	518·3	530·5	545·8	531·6
6	533·8	520·2	533·8	547·5	533·8
8	539·7	524·5	536·2	548·1	537·1
10	540·6	528·2	538·0	548·8	538·9
12	542·3	530·2	538·6	549·0	540·0

The even hour here shewn as that at which the mean weight of a cubic foot of air is the least, is 2^h in spring, autumn, and winter, and 4^h in summer; and the hours at which it is the greatest, are 16^h in spring and in summer, from 14^h to 18^h in autumn, and 14^h in winter.

The mean weight in Spring, is 538·2 grains
,, Summer, is 525·5 ,,
,, Autumn, is 536·0 ,,
,, Winter, is 548·5 ,,
,, for the Year, is 537·1 ,,

The mean weight at 14^h exceeds the mean weight for the year by 4·0 grains
,, 16 ,, ,, 4·1 ,,
,, 18 ,, ,, 4·2 ,,
,, 20 ,, ,, 2·3 ,,
,, 22 is less than the mean weight for the year by 1·0 ,,
,, 0 ,, ,, 4·3 ,,
,, 2 ,, ,, 6·0 ,,
,, 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 1·8 ,,
,, 12 ,, ,, 2·9 ,,

Abstracts of the Results by Osler's Anemometer.

In every month, the mean force of the wind and its direction (supposing the circumference divided into 16 equal parts) at every hour was copied from the anemometer sheets as recorded by the anemometer, when the pressure on a square foot was more than a quarter of a pound. From this summary a first abstract was formed, by collecting at each hour all the cases in which the wind had blown in each of those 16 directions, with the forces at the corresponding times. A second abstract was formed, by taking the sums of the forces of the wind in each direction 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 XCI.—Sums of the Pressures of the Winds for different Directions in every Month, without Distinction of Hours; and the Number of Hours during which the Wind blew in each Direction with a recorded Pressure greater than ¼lb. to the square foot; and the general Range of Hours during which it blew in each Direction, the Direction being referred to Sixteen Points of the Azimuthal Circle.

Month, 1843.	N.			N.N.E.			N.E.			E.N.E.		
	Sums of Pressures.	No. of Hours.	General Range of Hours.	Sums of Pressures.	No. of Hours.	General Range of Hours.	Sums of Pressures.	No. of Hours.	General Range of Hours.	Sums of Pressures.	No. of Hours.	General Range of Hours.
	lbs.	h	h h	lbs	h	h h	lbs.	h	h h h	lbs.	h	h h
January	10	2	at 10 & 11									
February	79¾	30	from 17 to 13	20½	20	from 16 to 3	53¾	20	from 2 to 7, at 11, 14, 15, 18, & from 20 to 0	116	49	at all hours
March	1	2	at 2 & 4				12	4	from 21 to 0	171¾	60	at all hours
April	2	4	at 1, 3, & 23	½	1	at 2				3½	3	at 22 & 23
May	4¾	9	from 13 to 23							31½	22	from 11 to 15, & from 18 to 8
June	4	4	from 20 to 22, & at 5	17¾	28	at all hours, except 8, 9, 11, 15, & 20	6	7	at 0, 2, 4, 8, 9, & 22	12½	10	from 23 to 6
July	50	30	from 21 to 14	1½	2	at 5 & 6	½	1	at 7			
August	3¾	3	at 8, 14, & 15							1	2	at 23 & 3
September	1½	2	at 20 & 21	5½	1	at 5	½	1	at 2	4	7	from 0 to 6, & at 21
October	5½	3	from 21 to 23									
November	1	2	at 0 & 23									
December	1½	2	at 19 & 20									

TABLE XCI.—*continued.*

Month, 1843.	E.			E.S.E.			S.E.			S.S.E.		
	Sums of Pressures.	No. of Hours.	General Range of Hours.	Sums of Pressures.	No. of Hours.	General Range of Hours.	Sums of Pressures.	No. of Hours.	General Range of Hours.	Sums of Pressures.	No. of Hours.	General Range of Hours.
	lbs.	h	h h	lbs.	h	h	lbs.	h	h h	lbs.	h	h h
January										2	1	at 3
February	26½	18	from 10 to 21									
March	10	6	at 2, & from 17 to 21	¼	1	at 20	7½	6	from 23 to 3	5	3	from 1 to 3
April	5½	7	from 0 to 2, & at 12, 20, & 21							14½	7	from 21 to 2
May	35	24	from 23 to 11	½	1	at 21						
June	1½	3	at 2, 3, & 7									
July							2½	3	from 2 to 4	½	1	at 5
August	1	2	at 0 & 1									
September				¾	1	at 9				2¼	5	from 1 to 5
October										42½	14	from 7 to 15, & from 0 to 2
November	¾	1	16									
December												

	S.			S.S.W.			S.W.			W.S.W.		
	lbs.	h	h h h	lbs.	h	h h	lbs.	h	h h	lbs.	h	h h
January	29½	18	from 2 to 18, & at 21	67¼	12	from 16 to 20, & at 22 & 0	174½	49	from 16 to 12	506¾	135	at all hours
February				34½	10	at 5 & 6, 11 & 12, & from 15 to 21	86½	26	from 7 to 2	13½	10	from 1 to 9
March	11¼	9	from 6 to 12, & at 20, 21, & 23	7	8	from 3 to 5, at 10, 12, 13, & 23	12½	9	at 5 & 6, & from 12 to 17	31½	26	from 20 to 4, from 6 to 11, & at 17
April	16½	12	from 19 to 5, & at 10	37½	12	from 19 to 2, & at 13	142	52	at all hours except 0	269½	83	at all hours
May	¼	1	at 0	10½	11	from 22 to 4	18	17	from 19 to 5, & at 7	27¼	18	from 15 to 6
June	52¾	22	from 1 to 17	69	28	from 22 to 15, & at 18 & 19	60½	27	at all hours, except 7, 11, & 19	52¾	18	from 19 to 7
July				25½	18	at 23, 0, & 2; from 5 to 8, & from 14 to 21	69¼	38	from 20 to 6, & at 9, 11, 13, & 14	63	39	at all hours, except 9, 10, & 11
August	9	10	from 23 to 5	32¾	29	from 20 to 11, & at 14, 16, & 17	16¾	17	from 19 to 6, & at 15	14½	8	from 22 to 5
September							1½	3	from 18 to 20			
October	20¾	11	from 3 to 9, from 16 to 19, & at 23	43	24	from 4 to 17, & at 20, 21, 0, & 1	167½	67	at all hours	144	64	at all hours, except 7 & 11
November	42¼	13	from 10 to 16, & at 19 & 23	181¾	69	at all hours	188	46	at all hours except 13	88	27	from 10 to 1, & from 4 to 6
December	6¼	6	from 0 to 2, & from 15 to 17	43½	24	from 22 to 12, & at 17	42¾	28	from 23 to 17	70½	48	at all hours, except 22 & 23

TABLE XCI.—*concluded.*

Month, 1843.	W.			W.N.W.			N.W.			N.N.W.		
	Sums of Pressures.	No. of Hours.	General Range of Hours.	Sums of Pressures.	No. of Hours.	General Range of Hours.	Sums of Pressures.	No. of Hours.	General Range of Hours.	Sums of Pressures.	No. of Hours.	General Range of Hours.
	lbs.	h	h h h	lbs.	h	h h h h	lbs.	h	h h h h h	lbs.	h	h h
January	90	27	from 5 to 9, at 13, & from 16 to 3	6½	6	at 10, 11, 13, 14, & 19	16¾	11	at 1, 3, 9, 11, 12, 14, 17, 18, & 21	32	15	from 22 to 10
February	5	4	at 0, 6, 7, & 23	3½	1	at 8	34½	8	at 9, from 14 to 16, & from 20 to 23	52	15	from 10 to 19, & from 23 to 3
March										1	2	at 23 & 0
April	20¾	12	from 1 to 6, at 15, & from 18 to 20	½	1	at 0				3	1	at 2
May	7½	5	at 0, 2, 5, 6, & 22	7	5	from 23 to 4						
June	10¼	9	from 4 to 6, & from 21 to 1	7	3	at 1, 2, & 13	2	2	at 1 & 2			
July	20	14	from 20 to 5	1	2	at 20 & 22	7¾	4	at 3, 4, 6, & 21	4	3	at 0, 12, & 21
August	7	6	from 0 to 4	1	2	at 18 & 4				15½	9	from 5 to 7, and from 16 to 21
September				1½	1	at 0	6	4	from 1 to 5	9¼	12	from 19 to 5
October	42½	18	from 22 to 5	6½	2	at 23 & 0	9½	7	from 1 to 4, & at 8 & 9	71	16	from 10 to 0, & at 7
November	23½	12	from 22 to 5	10¼	9	from 0 to 7	10	5	at 1, 3, 5, 10, & 11	1	2	at 18 & 19
December										½	1	at 17

The largest number contained in this table is that ranging with January, and under W. S. W.; the next in order of magnitude is that ranging with April, and under W. S. W.; the next is that ranging with November, and under S. W.; the next, also in November, and under S. S. W.; and those under S. W. in January and October respectively.

The first strong wind in the year, of some duration, was on January 9^d and 10^d, during which there were occasional pressures, varying from 7lbs. to 10lbs., and once a pressure of 14lbs. [For the character of this gale see page (6), and the foot-note on page (7).] A gale of wind of more than usual violence took place on January 12^d, 13^d, and 14^d, during which the greater part of the pressures in January, under W. S. W., were recorded. In this gale is recorded a pressure of 25lbs. on the square foot, being the greatest recorded pressure in the year. [For full particulars of this gale see page (8) and pages (252) to (267). There was a nearly constant strong wind principally from the W. S. W., from January 25^d to February 4^d. [For some particulars of this gale see pages (14), (16), (17), foot-note on page (19), page (20), and foot-note on page (21).] On February 4^d at 2^h is recorded a pressure of 21lbs. on the square foot, the wind blowing from the N. The next strong wind was on February 17^d, 18^d, and 19^d, in which pressures from 3lbs. to 7lbs. were recorded. [See pages (26) and (28).] A steady wind blew from the E. N. E. on March 25^d and 26^d, the recorded pressures being from 3lbs. to 9lbs. [See page (46).] A strong wind blew from the S. W. and W. S. W. on April 1^d and 2^d, during which a pressure of 10lbs. is recorded. [See page (50).] A gale of wind took place on April 4^d and 5^d, and a strong wind blew on April 6^d, 7^d, and 8^d, principally from the W. S. W.: during the 4th day pressures of 12lbs. and 13lbs. are recorded. [See page (50), and foot-note to page (51).] On the 8th day pressures to 7lbs. took place: it was during those days that the greater part of the pressures in April, under W. S. W., were recorded. [See pages (50), (52), and (53).] A strong wind blew on June 7^d, 8^d, and 9^d, from the S. W., S. S. W., and W. S. W.; for some hours the pressure was between 3lbs. and 7lbs. [See page (86).] On July 2^d and 3^d the wind blew strongly from the S. W. and the S. S. W. [See page (100).] After this, no wind blew to any large amount till October 6^d, 7^d, and 11^d, the direction then being S. W. or W. S. W.: on the 7th day pressures to 8lbs. were recorded. [See page (154).] On October 22^d, 23^d, and 24^d, a rather strong wind was blowing from the W. S. W. [See page (161).] On October 27^d and 28^d the wind blew strongly from the S. S. E. and S. W.: frequent pressures to 6lbs. were recorded. [See

page (166).] A gale of wind occurred on November 19d, 20d, and 21d, from the S. S. W.: in this gale pressures of 10lbs. and 12lbs. were recorded. [See page (180).] On November 25d, 26d, and 27d, a strong wind blew from the S. W. and W. S.W. [See pages (183) and (184).] No wind blew after this time recording pressures for any long continuance; and the only strong wind after this time was that of December 14d, when it blew from the S. W. with a pressure of 2lbs. to 4lbs. for some hours. From this account it appears, that with the exception of the N. wind which blew on February 4d recording a pressure of 21lbs., no strong wind has blown from any other quarter than the S. W., S. S. W., and the W. S. W. The columns in the preceding table, under the head of E. S. E. and S. E., being nearly blank, it appears that those winds throughout the year were insignificant in amount.

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 of the wind 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 was formed:—

TABLE XCII.—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.

Month, 1843.	N.	N. N. E.	N. E.	E. N. E.	E.	E. S. E.	S. E.	S. S. E.	S.	S. S. W.	S. W.	W. S. W.	W.	W. N. W.	N. W.	N. N. W.	Number of Hours in each Month during which the Wind blew without recording Pressure.
	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h
January	6		2	8	3	6		2	8	12	38	70	58	17	10	32	272
February	99	33	59	52	40	4	2	5	2	3	11	3	2	1	3	36	355
March	39	13	35	46	49	18	8	9	23	14	14	19	7	1		16	311
April	22	22	27	41	34	3		2	9	22	35	57	10	11	3	23	321
May	28	23	45	40	34	6	1	7	26	48	72	40	5	2	1	9	387
June	85	55	44	26	18	6	2	3	10	25	22	24	16	8	16	26	386
July	47	14	1	3	1	1	5	1	8	36	77	90	47	20	18	31	395
August	42	15	16	15	27	4	9	5	14	52	63	33	18	6	3	11	329
September	51	32	39	37	26	7	2	9	2	3	21	23	10	2	15	59	345
October	25	3	1		1	1	2	5	12	14	58	49	31	19	17	18	256
November	13	2		2	5			4	14	28	65	37	14	19	10	19	234
December	4								26	27	89	56	15	4	6	17	244

By adding together all the quantities for each wind, in Tables XCI. and XCII., we find that in the year the

N.	wind blew	93	hours, recording a pressure of	164¾	lbs., and it blew	461 hours without recording any pressure
N. N. E.	,,	52	,,	45¾	,,	212 ,,
N. E.	,,	33	,,	72¾	,,	269 ,,
E. N. E.	,,	153	,,	340¼	,,	270 ,,
E.	,,	61	,,	80¼	,,	238 ,,
E. S. E.	,,	3	,,	1½	,,	56 ,,
S. E.	,,	9	,,	10	,,	31 ,,
S. S. E.	,,	31	,,	66¾	,,	52 ,,
S.	,,	102	,,	188½	,,	154 ,,
S. S. W.	,,	245	,,	552¼	,,	284 ,,
S. W.	,,	379	,,	979¾	,,	565 ,,
W. S. W.	,,	476	,,	1281¼	,,	501 ,,
W.	,,	107	,	226½	,,	233 ,,
W. N. W.	,,	32	,,	44¾	,,	110 ,,
N. W.	,,	41	,,	86½	,,	102 ,,
N. N. W.	,,	76	,,	189¼	,,	297 ,,

The sum of all the pressures is 4330¾lbs., the number of hours 1893, and the number of the hours during which air was in motion without recording pressure is 3835.

The W. S. W. wind has by far the greatest number opposite to it, and the next in order of magnitude are the S. W., the S. S. W., and the E. N. E.; the circumstance of the last-mentioned wind having so large a number is unusual.

Resolving the sum of the pressures for each direction of wind into two component forces in the two cardinal directions between which it is included, according to the usual rule of mechanics (by multiplying each force by the cosine of the angle which its direction makes with the cardinal direction), the following results are obtained:

TABLE XCIII.

Direction of Wind.	Whole recorded Pressure.	Resolved parts in the Direction of N.	E.	S.	W.
	lbs.	lbs.	lbs.	lbs.	lbs.
N.	164·8	164·8			
N. N. E.	45·8	42·3	17·5		
N. E.	72·8	51·4	51·4		
E. N. E.	340·3	130·2	314·4		
E.	80·3		80·3		
E. S. E.	1·5		1·4	0·6	
S. E.	10·0		7·1	7·1	
S. S. E.	66·8		25·5	61·7	
S.	188·5			188·5	
S. S. W.	552·3			510·2	211·3
S. W.	979·8			692·8	692·8
W. S. W.	1281·3			490·3	1183·7
W.	226·5				226·5
W. N. W.	44·8	17·1			41·3
N. W.	16·5	61·2			61·2
N. N. W.	189·3	174·9			72·4
	Sums...	741·9	497·6	1951·2	2489·2

TABLE XCIV.—Sums of the Pressures of the Wind at every Hour, Greenwich Mean Time (Astronomical Reckoning), independently of Direction, and Numbers of Hours of its Duration in each Month, when a Pressure of more than ¼lb. was recorded by the Anemometer.

Month, 1843.	13h		14h		15h		16h		17h		18h		19h		20h		21h	
	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.
	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h
January	34¼	11	29	11	31	8	27¾	10	41	12	37½	13	40¼	11	54½	11	45½	11
February	19¼	7	23	8	17	8	18½	8	17½	9	20½	10	19½	10	27	11	32¼	12
March	9	5	5½	4	5½	3	5½	3	10½	5	6	4	8½	4	13¼	6	12½	5
April	9½	4	13	4	10	4	9	4	9½	4	4½	4	11½	7	17½	9	20	10
May	1	2	¾	2	1	2	¾	2	¾	2	¾	2	4½	4	4½	5	6	6
June	9	6	8½	5	7½	3	8¾	5	9¾	4	7	3	9	4	8	4	15	7
July	3	3	3½	4	2½	2	3	3	1	2	2	2	4	4	7½	6	17¼	9
August			3	2	1½	2	4	2	2¾	2	2½	2	3½	3	5	4	4½	4
September											½	1	1¼	2	1¾	3	2½	4
October	16	8	24	9	22½	8	31½	7	23	10	24¼	9	23	8	30¼	9	35	10
November	29½	8	22¾	8	18	6	27¾	9	27	6	29⅓	8	29	9	33½	7	29¾	7
December	3½	4	5	4	2¾	4	4¼	3	5	5	2	1	1½	2	3½	2	¾	1

TABLE XCIV.—*continued.*

Month, 1843.	22h		23h		0h		1h		2h		3h		4h		5h		6h	
	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.	Sum of Pressures.	No. of Hours.
	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h	lbs.	h
January	41	12	44¼	13	45¼	11	48	11	38½	13	41¾	14	32	12	37	11	31	12
February	31	9	30	10	28	10	31	10	29¼	10	19¼	9	17	5	16	6	18	10
March	11	4	16	9	19	10	19½	9	21¼	11	20¼	10	14	8	11½	6	13¼	6
April	28½	9	37	14	32½	14	36	13	41½	16	40¾	14	41½	12	39	11	23	8
May	4½	5	11½	10	22¾	11	16	9	17½	11	15½	10	14½	9	7¼	7	5	5
June	13	8	15¼	9	14¼	10	23¼	12	23½	11	15½	11	20½	11	18½	12	12¼	8
July	15½	10	18¾	12	19	11	20	11	20½	11	28¼	14	21¾	12	17½	10	10	8
August	6½	5	8	7	8	7	8¾	7	9	7	9½	8	9¾	8	9½	7	2	4
September			1	1	2½	3	4¾	4	4	4	3½	4	2	4	7¾	5	½	1
October	24½	8	30¼	12	31	13	30	13	26¾	12	30¾	12	14¾	10	9¾	7	9½	8
November	21	7	27¾	11	24	10	23¾	8	25½	8	32½	9	26½	8	16¾	9	13½	7
December	2	2	5½	4	12	8	14	7	8¼	6	8¾	5	3¾	5	7	5	7½	6

	7h		8h		9h		10h		11h		12h		Whole Sum of Pressures.	Whole Number of Hours.
January	33½	11	36	10	39½	12	42	12	42½	12	42¼	12	935¼	276
February	19½	9	21¼	10	15¼	9	15½	7	19¼	8	21	6	526	211
March	9¼	4	7½	4	7	2	8	5	8½	4	8½	5	270¾	136
April	15½	6	23	7	11½	6	16	5	12	4	13½	6	515¾	195
May	1½	2	1¾	2	1	1	1½	1	1½	2	½	1	142¼	113
June	9	5	7¾	5	8½	5	10	5	12	3	10½	5	296	161
July	10½	6	9½	3	1	2	4½	4	4	4	1	2	245½	155
August	1	2	1	2	2	1	¼	1	¼	1			102¼	88
September					¾	1							32¾	37
October	14	8	16	7	15¼	8	21¼	10	25	10	24½	10	552¾	226
November	11	5	12½	7	15½	7	14	7	16½	7	19	8	546½	186
December	11	6	11½	6	15½	6	10	6	10½	6	9½	5	165	109

In each of the six middle months, viz., from April to September, there is a marked difference between the sums of the pressures between 6h and 19h and the sums of the pressures between 20h and 5h; those between 6h and 19h being alike and small in amount, and those between 20h and 5h being both different and larger in amount. During the first three months and the last three months of the year this marked difference does not exist: in January it is strongly indicated, and less so in October, November, and December, and scarcely indicated at all in February and March. During the month of September the sums are very small, particularly those between 6h and 19h, and this, therefore, was the calmest period in the year; indeed, the whole month was remarkably calm. The month of March of this year, 1843, is also remarkable, as deviating from its usual character, the sums of the pressures being less than one quarter of their usual amount. At all periods of the year the sums of the pressures are smallest about the times of sunrise and sunset. After 19h in the six middle months the pressures increase, and continue their increase in April to 2h, the sums at 3h and 4h being nearly the same; in May to 0h; in June to 2h (the increase from 1h to 2h being small); in July till 3h; in August and September till 4h and 5h respectively, but in these months the sums at all the hours are small. In January the maximum sum of pressures is at 20h, in February at 21h, in March at 2h, in October at 21h, in November at 20h, and in December at 9h, those at 0h and at 1h being nearly the same in December.

The ratio of the maximum pressure to the minimum pressure was in January 2 to 1
" " February 2·2 to 1
" " March 4·2 to 1
" " April 10 to 1
" " May 44 to 1

The ratio of the maximum pressure to the minimum pressure was in June 33 to 1
,, ,, July 28 to 1
,, ,, August 36 to 1
,, ,, September 14 to 1
,, ,, October 4 to 1
,, ,, November 3 to 1
,, ,, December 20 to 1

The ratios which most nearly approach to equality are those of January, February, and November, and therefore in those months the strength of the wind was more uniform throughout the whole of the day than in any of the other months. The ratios of greatest inequality are those of May, June, July, and August, and therefore the nights of those months may be considered as among the calmest in the year.

At all the hours in every month not included in Table XCII., 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 XCIV., and thus the following table has been formed:—

TABLE XCV.—Shewing 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, in every Month, at every Hour of Greenwich Mean Time.

Month, 1843.	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	9	11	8	12	8	15	8	13	8	11	8	10	8	12	8	12	9	11
February	2	18	2	17	3	16	3	16	4	14	5	12	5	13	4	13	12	4
March	14	12	14	13	16	12	16	12	16	10	16	11	16	11	14	11	13	13
April	14	12	15	11	13	13	13	13	14	12	13	13	12	11	6	15	6	14
May	16	13	17	12	18	11	16	13	17	12	17	12	15	12	13	13	10	15
June	12	12	13	12	13	14	14	11	13	13	11	16	9	17	7	19	4	19
July	11	17	12	15	14	15	14	14	14	15	13	16	12	15	9	16	8	14
August	22	10	20	10	20	10	22	9	22	8	23	6	23	5	15	12	14	13
September	20	10	20	10	19	11	18	12	17	13	19	10	18	10	17	10	16	10
October	13	8	13	7	13	8	11	11	11	8	11	9	11	10	12	7	10	9
November	13	9	14	8	13	11	14	7	15	9	16	6	15	6	16	7	13	10
December	18	9	18	9	18	9	18	10	18	8	18	12	17	12	18	11	17	13

	22h		23h		0h		1h		2h		3h		4h		5h		6h	
January	9	10	8	10	8	12	8	12	8	10	8	9	8	11	8	12	8	11
February	4	15	5	13	5	13	6	12	3	14	3	15	4	17	5	17	5	13
March	9	18	7	15	8	13	7	15	5	15	6	15	8	15	11	14	15	10
April	3	18	3	13	3	13	3	14	3	11	4	12	4	14	4	15	4	18
May	6	20	3	18	2	18	2	20	1	19	2	18	3	18	3	20	6	19
June	2	19	1	19	1	18	1	16	0	18	0	17	1	17	1	16	3	18
July	3	20	4	14	4	17	5	14	5	15	4	14	5	13	5	17	5	16
August	6	19	4	19	4	19	3	20	3	20	2	20	5	17	6	18	5	23
September	9	21	6	23	7	20	7	19	8	18	5	21	6	20	10	15	11	18
October	7	14	6	11	3	13	2	15	2	16	5	13	6	14	11	12	10	12
November	9	13	8	10	6	13	7	14	7	14	9	11	11	10	12	9	13	9
December	15	14	14	13	14	9	14	10	15	10	17	9	16	10	14	12	15	10

TABLE XCV.—*continued.*

Month, 1843.	7h		8h		9h		10h		11h		12h		Whole Number of Calm Hours during the Month.	Whole Number of Hours during the Month at which Wind was blowing without 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
January	8	11	8	12	8	12	7	11	9	10	9	11	196	272
February	4	16	5	13	3	16	3	18	3	17	3	18	101	355
March	14	13	16	11	14	15	15	11	13	14	14	12	297	311
April	8	16	9	14	12	12	12	13	13	13	13	11	204	321
May	7	22	10	19	14	16	14	16	14	15	14	16	240	387
June	6	19	7	18	10	15	10	16	11	16	13	12	163	386
July	5	20	8	20	7	22	8	19	9	18	10	19	194	395
August	10	10	14	15	17	13	19	11	20	10	21	10	320	329
September	17	13	16	14	17	12	18	12	18	12	19	11	338	345
October	11	11	10	12	10	11	10	9	11	8	11	8	220	256
November	13	12	13	9	14	9	14	9	14	9	13	9	292	234
December	15	10	15	10	15	10	17	8	17	8	18	8	391	244

By adding together the numbers contained in this table and those contained in Table XCIV., between 6^h and 19^h, and also the numbers between 20^h and 5^h in each month, the next two tables are formed.

TABLE XCVI.

Month, 1843.	Between what Times.	Sum of Pressures.	Number of Hours of Wind		Number of Hours		Total Number of Hours in the Period.
			Recording Pressure.	Not recording Pressure.	Of Calm.	Instrument out of Order.	
	h h	lbs.	h	h	h	h	h
January	6 and 19	507½	157	166	111	0	434
February		265	119	216	56	1	392
March		112½	58	167	209	0	434
April		181½	73	182	165	0	420
May		22¼	30	208	195	1	434
June		129¼	66	208	145	1	420
July		59½	49	241	144	0	434
August		23¾	24	152	258	0	434
September		3	5	168	247	0	420
October		289¾	120	132	154	28	434
November		285½	102	123	194	1	420
December		99¼	64	133	237	0	434

The sum of all the pressures between 6^h and 19^h was 1979 lbs.; the number of hours of wind recording pressure was 867; the number of hours of wind not recording pressure was 2096; the number of hours of calm was 2115; the number of hours during which the instrument was out of order was 32. The total number of hours in the period was 5110; and as wind with pressure was recorded at 867 hours, the pressure was equal to or greater than ¼ lb. on the square foot for one hour out of $5^h.\,54^m$ during the period. The air was in motion for 2963 hours out of 5110; and therefore the air was in motion for one hour out of $1^h.\,43^m$, and the air was not in motion for one hour out of $2^h.\,25^m$.

TABLE XCVII.

Month, 1843.	Between what Times.	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	20 and 5	427¾	119	106	85	0	310
February		261	92	139	45	4	280
March		158¼	78	144	88	0	310
April		334¼	122	139	39	0	300
May		120	83	179	45	3	310
June		166¾	95	178	18	9	300
July		186	106	154	50	0	310
August		78½	64	177	62	7	310
September		29¾	32	177	91	0	300
October		263	106	124	66	14	310
November		261	84	111	98	7	300
December		65½	45	111	154	0	310

The sum of all the pressures between 20^h and 5^h was $2351\frac{3}{4}$ lbs.; the number of hours of wind recording pressure was 1026; the number of hours of wind not recording pressure was 1739; the number of hours of calm was 841; the number of hours during which the instrument was out of order was 44. The total number of hours in the period was 3650; and as wind with pressure has taken place at 1026 hours, the pressure was equal to or greater than $\frac{1}{4}$ lb. on the square foot for one hour out of $3^h.34^m$ during the period. The air was in motion for ~~1002~~ hours out of 3650; and therefore the air was in motion for one hour out of ~~$1^h.55^m$~~; and as there were 876 hours of calm out of 3650, the air was not in motion during one hour out of $4^h.10^m$. By taking the sum of all the quantities at each hour, the next table is formed. 2765/1

TABLE XCVIII.

Hour, 1843.	Sum of Pressures.	Number of Hours of Wind Recording Pressure.	Number of Hours of Wind Not recording Pressure.	Number of Hours Of Calm.	Number of Hours Instrument out of Order.	Total Number of Hours.
h	lbs.	h	h	h	h	h
13	134	58	141	164	2	365
14	137¾	61	136	166	2	365
15	119¼	50	145	168	2	365
16	140¾	56	141	167	1	365
17	147¾	61	133	169	2	365
18	137	59	133	170	3	365
19	155½	68	134	161	2	365
20	206¼	77	146	139	3	365
21	221¼	86	145	132	2	365
22	198½	79	201	82	3	365
23	245¼	112	178	69	6	365
0	258¼	118	178	65	4	365
1	275	114	181	65	5	365
2	265½	120	180	60	5	365
3	266¼	120	174	65	6	365
4	218	104	176	77	8	365
5	197½	96	177	90	2	365
6	145½	83	176	102	4	365
7	135¾	64	181	116	4	365
8	147¾	63	167	131	4	365
9	132¾	60	163	140	2	365
10	143	63	153	147	2	365
11	152	61	150	153	1	365
12	150¼	60	146	158	1	365

Therefore there is a minimum pressure at the time of sun-rising and of sun-setting, and a maximum at the time the Sun has passed the meridian by 1 hour.

The sum of all the pressures is $4330\frac{3}{4}$ lbs. The number of hours the wind was blowing while recording this pressure was 1893; the number of hours the wind was blowing without recording any pressure was 3835; and the number of hours that were calm was 2954, as shewn by Osler's anemometer: the instrument during the year has been out of order 76 hours. The instrument fails entirely in registering all light winds.

From the numbers in Table XCIV. the following table is immediately formed:—

TABLE XCIX.—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.

1843.	13h	14h	15h	16h	17h	18h	19h	20h	21h	22h	23h	0h	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	12h
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
January	3·1	2·6	3·9	2·8	3·4	2·9	3·7	5·0	4·1	3·4	3·4	4·1	4·4	3·0	3·0	2·7	3·4	2·6	3·0	3·6	3·3	3·5	3·5	3·5
February	2·7	2·9	2·1	2·3	1·9	2·1	2·0	2·5	2·7	3·4	3·0	2·8	3·1	2·9	2·1	3·4	2·7	1·8	2·2	2·1	1·7	2·2	2·4	3·5
March	1·8	1·4	1·8	1·8	2·1	1·5	2·1	2·2	2·5	2·8	1·8	1·9	2·2	1·9	2·0	1·8	1·9	2·2	2·3	1·9	3·5	1·6	2·1	1·7
April	2·4	3·3	2·5	2·3	2·4	1·1	1·6	1·9	2·0	3·2	2·6	2·3	2·8	2·6	2·9	3·5	3·5	2·9	2·6	3·3	1·9	3·2	3·0	2·3
May	0·5	0·4	0·5	0·4	0·4	0·4	1·1	0·9	1·0	0·9	1·2	2·1	1·8	1·6	1·6	1·6	1·0	1·0	0·8	0·9	1·0	1·5	0·8	0·5
June	1·5	1·6	2·5	1·8	2·4	2·3	2·3	2·0	2·1	1·6	1·7	1·4	1·9	2·1	1·4	1·9	1·5	1·5	1·8	1·6	1·7	2·0	4·0	2·1
July	1·0	0·9	1·3	1·0	0·5	1·0	1·0	1·3	1·9	1·6	1·6	1·7	1·8	1·9	2·0	1·8	1·8	1·3	1·8	3·2	0·5	1·1	1·0	0·5
August		1·5	0·8	2·0	1·4	1·3	1·2	1·3	1·1	1·3	1·1	1·1	1·2	1·3	1·2	1·2	1·4	0·5	0·5	0·5	2·0	0·3	0·3	
September						0·5	0·6	0·6	0·6		1·0	0·8	1·2	1·0	0·9	0·5	1·5	0·5			0·8			
October	2·0	2·7	2·8	4·5	2·3	2·7	2·9	3·4	3·5	3·1	2·5	2·4	2·3	2·2	2·6	1·5	1·4	1·2	1·8	2·3	1·9	2·1	2·5	2·4
November	3·7	2·8	3·0	3·1	4·5	3·7	3·2	4·8	4·2	3·0	2·5	2·4	3·0	3·2	3·6	3·3	1·9	1·9	2·2	1·8	2·2	2·0	2·4	2·4
December	0·9	1·3	0·7	1·4	1·0	2·0	0·8	1·8	0·8	1·0	1·4	1·5	2·0	1·4	1·7	0·7	1·4	1·3	1·8	1·9	2·6	1·7	1·8	1·9

TABLE C.—Sums of the Pressures of each Wind at every Hour, 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 1843.

Direction of Wind.	13h		14h		15h		16h		17h		18h		19h		20h	
	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.
	lbs.		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.	
N.	1¾	3	4¼	3	1	1	½	1	2	2	½	1	1½	3	3½	5
N. N. E.	½	1	½	1			1½	3	2	3	2	3	4½	5	3	3
N. E.			½	1	1½	2					½	1			5	1
E. N. E.	9	4	7	4	6½	4	5½	3	6½	3	9	4	11½	5	15½	5
E.	3	1	3	1	4	2	4¾	3	5	3	2½	4	3½	3	4	3
E. S. E.															¼	1
S. E.																
S. S. E.	5	1	6½	2	5	2										
S.	29	5	15	4	8½	4	17½	5	13½	5	3	2	2	3	4½	2
S. S. W.	12½	8	6	6	18	8	24½	9	21	10	27	8	42½	11	56	13
S. W.	21½	13	39¼	16	25	9	32¾	12	40¼	14	42	12	33½	12	22½	12
W. S. W.	40	16	37¾	17	37¾	15	30¼	15	29½	15	30	15	41½	18	74¾	23
W.	¾	1			1	1	9	1	10	1	4½	3	1¼	2	5	4
W. N. W.	4	3	1	1							½	1	1	1	½	1
N. W.			8	3	3	1	3½	1	2	1	1	1			4	1
N. N. W.	7	2	9	2	8	1	11	3	16	4	14½	4	12¾	5	7¾	3

	21h		22h		23h		0h		1h		2h		3h		4h	
N.	9½	6	6½	6	9	7	4½	4	20	5	17½	5	13	6	11	5
N. N. E.	4	4	2½	2	2	3	1½	3	5¾	4	2¼	4	2½	3	1	1
N. E.	7½	3	10	5	9½	3	8½	3			9½	3	5	1	7½	2
E. N. E.	15	5	14½	6	15½	9	18½	9	21	11	21	9	21½	11	18½	9
E.	5½	4			4	3	7½	6	6	5	7	5	7	3	1½	2
E. S. E.	½	1														
S. E.					2	1	2	2	1½	1	2½	2	1½	2	½	1
S. S. E.	½	1	2½	2	2	1	2½	2	6¼	4	7½	4	3½	3	½	1
S.	6½	3			6¼	6	2¾	5	4½	5	6¼	5	6	5	9	6
S. S. W.	25¾	10	26	11	33	14	31½	15	22¾	11	13	9	14½	10	11½	9
S. W.	47	14	52½	17	55¼	18	58¼	16	68	19	52	21	61	24	50	24
W. S. W.	76¼	24	57	20	63¼	30	64¼	27	70½	27	84½	30	89½	30	86¼	27
W.	4½	3	16	6	18	9	31	13	28½	10	26	13	22¼	11	15	9
W. N. W.			½	1	7	2	6½	5	6¼	3	4	2	4	3	2	3
N. W.	11½	3	6	1	7	1			8½	6	3½	3	12¾	5	1¼	2
N. N. W.	7½	5	4½	2	11½	5	19	8	5½	3	9	5	2½	3	2½	3

TABLE C.—*continued.*

Direction of Wind.	5h		6h		7h		8h		9h		10h		11h		12h		Sum of Pressures for the Year.	Sum of Hours.
	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.	Sum of Pressures.	Number of Hours.		
	lbs.		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.		lbs.	
N.	7	4	$5\frac{3}{4}$	4	$10\frac{1}{2}$	4	10	4	$1\frac{1}{4}$	3	10	6	$9\frac{1}{2}$	4	5	1	$164\frac{3}{4}$	93
N. N. E.	8	4	1	2	$\frac{1}{2}$	1					$\frac{1}{2}$	1			$\frac{1}{2}$	1	$45\frac{3}{4}$	52
N. E.	4	1	1	2	1	2	$\frac{1}{2}$	1	1	1			$\frac{1}{4}$	1			$72\frac{3}{4}$	33
E. N. E.	18	9	$22\frac{1}{4}$	9	$15\frac{1}{2}$	5	$16\frac{1}{2}$	8	$15\frac{1}{2}$	6	13	5	$14\frac{1}{2}$	6	9	4	$340\frac{1}{4}$	153
E.	$1\frac{1}{4}$	2	$1\frac{1}{2}$	2	$1\frac{1}{2}$	2	$\frac{3}{4}$	1	1	1	2	2	1	1	3	2	$80\frac{1}{4}$	61
E. S. E.									$\frac{3}{4}$	1							$1\frac{1}{2}$	3
S. E.																	10	9
S. S. E.	1	2			$\frac{1}{2}$	1	3	1	$3\frac{1}{2}$	1	4	1	6	1	7	1	$66\frac{3}{4}$	31
S.	$10\frac{1}{2}$	7	4	5	$5\frac{3}{4}$	4	$3\frac{1}{4}$	4	$4\frac{3}{4}$	4	$10\frac{1}{2}$	5	$7\frac{1}{2}$	4	8	4	$188\frac{1}{2}$	102
S. S. W.	17	14	$21\frac{1}{4}$	13	17	9	$19\frac{3}{4}$	9	$20\frac{1}{4}$	9	$23\frac{3}{4}$	12	$22\frac{3}{4}$	8	25	9	$552\frac{1}{4}$	245
S. W.	27	16	$30\frac{1}{2}$	16	$35\frac{1}{2}$	16	$40\frac{1}{4}$	16	$35\frac{1}{2}$	14	34	14	43	18	$33\frac{1}{4}$	16	$979\frac{3}{4}$	379
W. S. W.	$85\frac{1}{2}$	23	41	19	40	13	$45\frac{1}{2}$	15	$39\frac{1}{2}$	15	$35\frac{3}{4}$	13	$35\frac{1}{2}$	13	$45\frac{1}{2}$	16	$1281\frac{1}{4}$	476
W.	11	8	$13\frac{3}{4}$	7	$4\frac{1}{2}$	3	2	1	$2\frac{1}{2}$	1							$226\frac{1}{2}$	107
W. N. W.	$1\frac{1}{2}$	1	1	1	$\frac{1}{2}$	1	$3\frac{1}{2}$	1			$\frac{1}{2}$	1	$\frac{1}{2}$	1			$44\frac{3}{4}$	32
N. W.	3	2	$\frac{1}{2}$	1			1	1	3	3	$\frac{1}{2}$	1	3	2	$3\frac{1}{2}$	2	$86\frac{1}{2}$	41
N. N. W.	$2\frac{3}{4}$	3	2	2	3	3	2	1	4	1	9	3	$8\frac{1}{2}$	2	10	3	$189\frac{1}{4}$	76

TABLE CI.—Mean Pressure of each Wind, for every Hour of Greenwich Mean Time, during the whole of the Year 1843.

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.	0·6	1·4	1·0	0·5	1·0	0·5	0·5	0·7	1·5	1·1	1·3	1·1
N. N. E.	0·5	0·5		0·5	0·7	0·7	0·9	1·0	1·0	1·3	0·7	0·5
N. E.		0·5	0·8			0·5		5·0	2·5	2·0	3·2	2·8
E. N. E.	2·2	1·8	1·6	1·8	2·2	2·3	2·3	3·1	3·0	2·4	1·7	2·1
E.	3·0	3·0	2·0	1·6	1·7	0·6	1·2	1·3	1·4		1·3	1·3
E. S. E.								0·3	0·5			
S. E.											2·0	1·0
S. S. E.	5·0	3·3	2·5						0·5	1·3	2·0	1·3
S.	5·8	3·8	2·1	3·5	2·7	1·5	0·7	2·3	2·2		1·0	0·6
S. S. W.	1·6	1·0	2·3	2·7	2·1	3·4	3·9	4·3	2·6	2·4	2·4	2·1
S. W.	1·7	2·5	2·8	2·7	2·9	3·5	2·8	1·9	3·4	3·1	3·1	3·6
W. S. W.	2·5	2·2	2·5	2·0	2·0	2·0	2·3	2·8	3·2	2·9	2·1	2·4
W.	0·8		1·0	9·0	10·0	1·5	0·6	1·3	1·5	2·7	2·0	2·4
W. N. W.	1·3	1·0				0·5	1·0	0·5		0·5	3·5	1·3
N. W.		2·7	3·0	3·5	2·0	1·0		4·0	3·8	6·0	7·0	
N. N. W.	3·5	4·5	8·0	3·7	4·0	3·6	2·5	2·6	1·5	2·3	2·3	2·4

	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	11h	12h
N.	4·0	3·5	2·2	2·2	1·8	1·4	2·6	2·5	0·4	1·7	2·4	5·0
N. N. E.	1·4	0·6	0·8	1·0	2·0	0·5	0·5			0·5		0·5
N. E.		3·2	5·0	3·8	4·0	0·5	0·5	0·5	1·0		0·3	
E. N. E.	1·9	2·3	2·0	2·1	2·0	2·5	3·1	2·1	2·6	2·6	2·4	2·3
E.	1·2	1·4	2·3	0·8	0·6	0·8	0·8	0·8	1·0	1·0	1·0	1·5
E. S. E.									0·8			
S. E.	1·5	1·3	0·8	0·5								
S. S. E.	1·6	1·9	1·2	0·5	0·5		0·5	3·0	3·5	4·0	6·0	7·0
S.	0·9	1·3	1·2	1·5	1·5	0·8	1·4	0·8	1·2	2·1	1·9	2·0
S. S. W.	2·1	1·4	1·5	1·3	1·2	1·6	1·9	2·2	2·3	2·0	2·8	2·8
S. W.	3·6	2·5	2·5	2·1	1·7	1·9	2·2	2·5	2·5	2·4	2·4	2·1
W. S. W.	2·6	2·8	3·0	3·2	3·7	2·2	3·1	3·0	2·6	2·7	2·7	2·8
W.	2·9	2·0	2·0	1·7	1·4	1·9	1·5	2·0	2·5			
W. N. W.	2·1	2·0	1·3	0·7	1·5	1·0	0·5	3·5		0·5	0·5	
N. W.	1·4	1·2	2·6	0·6	1·5	0·5		1·0	1·0	0·5	1·5	1·8
N. N. W.	1·8	1·8	0·8	0·8	0·9	1·0	1·0	2·0	4·0	3·0	4·3	3·3

Sums of the Forces of the Wind, by estimation, in the Year 1843.

The remarks applying to the formation of the abstracts of results deduced from the records of Osler's self-registering anemometer (introduction to Table XCI.) apply in every respect to the formation of the results obtained by estimation. It will be remarked, however, that the force and direction of the wind have been estimated only at every even hour of Göttingen mean time, whereas the readings of the anemometer-record have been taken for every hour of Greenwich mean time; and thus the estimation-results are only half as numerous as those registered by the anemometer, and do not exactly correspond with any of them. It will also be remarked, that the proportion which the force by estimation bears to the pressure, as recorded by Osler's anemometer, is not the same for great and for small pressures.

TABLE CII.—Sums of the Forces of the Winds for different Directions in every Month, without distinction of Hours, and the number of Two-hourly Periods during which it blew in each Direction, and the general Range of Two-hourly Periods during which the Wind blew in each Direction, the Direction being referred to Sixteen Points of the Azimuthal Circle.

Month, 1843.	N.			N.N.E.			N.E.			E.N.E.		
	Sums of Forces.	Number of Two-hourly Periods.	General Range of Hours.	Sums of Forces.	Number of Two-hourly Periods.	General Range of Hours.	Sums of Forces.	Number of Two-hourly Periods.	General Range of Hours.	Sums of Forces.	Number of Two-hourly Periods.	General Range of Hours.
	lbs.	h	h h	lbs.	h	h h	lbs.	h	h h	lbs.	h	h h
January	11	21	at all hours, except 20							$\frac{1}{2}$	2	at 4 & 6
February	$22\frac{1}{4}$	48	at all hours	$8\frac{3}{4}$	28	at all hours, except 4	$31\frac{1}{4}$	47	at all hours	$15\frac{1}{4}$	21	at all hours, except 8
March	$8\frac{1}{4}$	29	at all hours	$1\frac{1}{4}$	5	from 22 to 2	10	14	at all hours, except 4 & 14	$14\frac{1}{2}$	34	at all hours
April	$5\frac{1}{4}$	18	at all hours	$\frac{1}{2}$	2	at 0 & 2	$1\frac{1}{2}$	6	from 0 to 10	$\frac{3}{4}$	3	at 0, 4, & 22
May	5	14	at all hours, except 12	3	10	from 14 to 2	$4\frac{1}{2}$	13	at all hours, except 0, 10, & 12	17	40	at all hours
June	$11\frac{3}{4}$	39	at all hours	$7\frac{3}{4}$	25	at all hours	6	20	at all hours	2	8	from 0 to 8, & at 20
July	$11\frac{1}{4}$	25	at all hours, except 18	$2\frac{1}{2}$	2	at 16 & 18	$5\frac{1}{2}$	14	at all hours, except 0, 2, 22	$\frac{1}{4}$	1	at 20
August	10	23	at all hours, except 8	$1\frac{1}{4}$	3	at 8, 10, & 22	$2\frac{1}{2}$	9	at all hours, except 6, 10, 12, 14, & 22	$1\frac{3}{4}$	6	from 22 to 6
September	20	52	at all hours	3	11	from 18 to 10	$6\frac{3}{4}$	25	at all hours, except 12	4	12	from 18 to 8
October	$6\frac{1}{2}$	18	from 22 to 10	$\frac{1}{2}$	2	at 2 & 20	$1\frac{1}{2}$	3	from 4 to 8			
November	4	12	at all hours, except 8, 10, & 12									
December	$1\frac{3}{4}$	6	from 18 to 2, & at 10									

	E.			E.S.E.			S.E.			S.S.E.		
	lbs.	h	h h	lbs.	h	h h	lbs.	h	h h	lbs.	h	h h
January	2	8	from 20 to 2, & from 8 to 12							1	1	at 4
February	$12\frac{1}{4}$	41	at all hours	$\frac{1}{2}$	2	10 & 18	$\frac{1}{2}$	1	at 6	$\frac{3}{4}$	2	at 10 & 20
March	$14\frac{3}{4}$	35	at all hours	$1\frac{1}{4}$	3	from 4 to 6	1	4	from 6 to 10	2	6	at 0, 8, 10, & 12
April	$5\frac{3}{4}$	22	from 20 to 14	$\frac{1}{2}$	2	from 6 to 8						
May	$14\frac{1}{2}$	30	from 20 to 12	$1\frac{1}{2}$	4	from 22 to 0, & 4						
June	6	21	from 0 to 12, & 18 & 20	1	1	at 0						
July										$\frac{1}{4}$	1	at 0
August	$\frac{3}{4}$	3	from 4 to 6	$1\frac{1}{4}$	4	at 2, 6, & 8	$\frac{1}{2}$	2	at 8	$\frac{1}{4}$	1	at 0
September	$6\frac{1}{2}$	22	from 0 to 16	1	4	from 2 to 6, & 12	1	4	at 0, 4, 8, & 10	$1\frac{3}{4}$	7	from 20 to 6
October	$\frac{1}{2}$	2	from 14 to 16							4	2	at 12 & 14
November	$1\frac{1}{2}$	4	from 6 to 12	$\frac{1}{4}$	1	at 4	1	4	from 0 to 8	$1\frac{1}{2}$	5	at 2, 6, 10, 18, & 22
December										$\frac{1}{2}$	2	at 6 & 10

TABLE CII.—*continued.*

Month, 1843.	S.			S.S.W.			S.W.			W.S.W.		
	Sums of Forces.	Number of Two-hourly Periods.	General Range of Hours.	Sums of Forces.	Number of Two-hourly Periods.	General Range of Hours.	Sums of Forces.	Number of Two-hourly Periods.	General Range of Hours.	Sums of Forces.	Number of Two-hourly Periods.	General Range of Hours.
	lbs.	h	h h	lbs.	h	h h	lbs.	h	h h	lbs.	h	h h
January	10½	23	at all hours	16¼	13	from 20 to 14	22¼	36	at all hours	62½	66	at all hours
February	2½	10	from 20 to 4, & at 12	3	8	from 4 to 10, & at 14	13¾	12	from 14 to 2	15½	19	at all hours
March	11	31	at all hours, except 8 & 10	6½	19	from 20 to 14	7¼	19	at all hours, except 0 & 2	4	13	from 14 to 8
April	10½	17	from 20 to 10	13½	14	from 20 to 8, & at 12	35¼	50	at all hours	37	37	at all hours
May	2	7	from 22 to 4, & at 12 & 14	11½	31	at all hours	17¼	37	at all hours	8	17	at all hours, except 0, 14, & 18
June	8½	11	from 4 to 16, & at 22	23¾	21	at all hours	24	31	at all hours	8	16	at all hours, except 0 & 4
July	4½	12	at all hours, except 18	3¾	7	from 0 to 12	23¾	45	at all hours	32¾	67	at all hours
August	5½	16	at all hours, except 10	11½	25	at all hours	31	69	at all hours	11	27	at all hours, except 12
September	3½	10	from 0 to 4, & from 14 to 18	2	4	at 4, 6, & 20	4	14	from 10 to 2	1½	6	from 18 to 22
October	9	17	at all hours, except 18	21½	32	at all hours	42	64	at all hours	39½	50	at all hours
November	7¾	18	at all hours, except 6	16¼	22	at all hours	54¾	68	at all hours	16¾	23	at all hours, except 8 & 10
December	5½	17	from 20 to 12	5	15	from 16 to 8	19½	45	at all hours	17¼	41	at all hours

	W.			W.N.W.			N.W.			N.N.W.		
	lbs.	h	h h	lbs.	h	h h	lbs.	h	h h	lbs.	h	h h h h
January	28½	65	at all hours	5	6	at 2, 12, & from 18 to 22	3	8	from 4 to 10, & from 16 to 22	4¾	7	at 0, 2, 12, 14, & 18
February	¾	2	at 2 & 4	1½	1	at 20	1¾	2	at 6 & at 16	7¾	7	at 0, 4, 14, 18, & 22
March	3¾	9	from 22 to 10	½	2	at 14 & 16	¼	1	at 20	¼	1	at 22
April	7½	19	from 22 to 12	¼	1	at 4	3	9	from 4 to 10, & from 16 to 22	2½	10	from 6 to 14, & from 22 to 2
May	11½	25	from 16 to 10				1¾	2	at 0			
June	8	17	from 20 to 12	5¾	10	from 0 to 8, & from 18 to 20	2½	5	from 2 to 6, & from 14 to 16	7½	15	from 22 to 12
July	22	53	at all hours	4¾	11	at all hours, except 14, 20, & 2	2	6	from 18 to 22, & at 2	3¼	10	at 6 & 8, & from 14 to 0
August	5¾	18	from 0 to 12, & at 20	2¼	5	from 14 to 20, & at 4				2½	8	from 22 to 6
September	2¼	7	at 0, from 6 to 12, & at 16	2½	5	at 2, 14, & 16	4½	8	from 4 to 14	4¾	10	at all hours, except 2, 10, & 12
October	25	42	at all hours	6¼	14	at all hours, except 0, 12, & 18	6½	13	at all hours, except 16	13¼	10	at all hours, except 8, 10, & 22
November	18¼	30	at all hours	8½	15	at all hours, except 0, 2, & 14	2¾	8	from 0 to 6, & at 12 & 14	2	2	at 10 & 12
December	8	20	at all hours, except 14							1¼	3	at 4, 12, & 14

By adding together the quantities for each wind, we obtain that during the year, (excepting Sundays, Good Friday, and Christmas Day,) the

N.	wind blew during	305	two-hourly periods, and the whole sum of the estimated forces was		117¼
N. N. E.	,,	88	,,	,,	28½
N. E.	,,	151	,,	,,	69½
E. N. E.	,,	127	,,	,,	56
E.	,,	188	,,	,,	64½
E. S. E.	,,	21	,,	,,	7¼
S. E.	,,	15	,,	,,	4
S. S. E.	,,	27	,,	,,	12
S.	,,	189	,,	,,	80¾
S. S. W.	,,	211	,,	,,	134½
S. W.	,,	490	,,	,,	294¾
W. S. W.	,,	382	,,	,,	253¾
W.	,,	307	,,	,,	141¼
W. N. W.	,,	70	,,	,,	37¼
N. W.	,,	62	,,	,,	28
N. N. W.	,,	83	,,	,,	49¾

The sum of all the estimated forces is 1379; the whole number of two-hourly periods 2716.

Resolving these numbers for the estimated forces into the cardinal directions, as in page 103, we have

TABLE CIII.

Direction of Wind.	Whole estimated Force.	Resolved parts in the Direction of N.	E.	S.	W.
N.	117·25	117·25			
N. N. E.	28·50	26·33	10·91		
N. E.	69·50	49·14	49·14		
E. N. E.	56·00	26·60	64·21		
E.	64·50		64·50		
E. S. E.	7·25		6·70	2·77	
S. E.	4·00		2·82	2·82	
S. S. E.	12·00		4·59	11·09	
S.	80·75			80·75	
S. S. W.	134·50			124·26	51·47
S. W.	294·75			208·42	208·42
W. S. W.	253·75			96·10	234·42
W.	141·25				141·25
W. N. W.	37·25	14·26			34·41
N. W.	28·00	19·80			19·80
N. N. W.	49·75	45·96			19·04
	Sums.....	299·34	202·87	526·21	708·81

TABLE CIV.—Sums of the Forces of the Wind at every Even Hour of Göttingen Mean Time, independently of Direction; and Number of Hours of its Duration for each Month in the Year 1843.

Month, 1843.	14h		16h		18h		20h		22h		0h		2h		4h		6h		8h		10h		12h		The Sum of all the Forces.	The Sum of all the Two-hourly Periods.
	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.		
January	13½	19	11½	17	13	18	14¾	20	12¾	22	12¾	22	15¾	23	15¾	25	16	25	14	23	13¾	22	13¾	20	167½	256
February	11½	19	13½	19	14¾	18	12	20	11½	23	11¼	21	16¼	24	10¼	23	9¾	24	8½	21	9½	21	9¾	18	138¼	251
March	7¼	17	5¾	15	4¾	14	6¾	20	7¼	23	8	25	9½	23	8¾	21	7½	20	7	16	7¾	17	6½	14	86½	225
April	9½	12	6¾	10	6¼	12	8	18	8¼	17	13¼	21	13	21	14	23	15¾	23	11½	21	9	20	8½	12	123¾	210

TABLE CIV.—*continued.*

Month, 1843.	14h		16h		18h		20h		22h		0h		2h		4h		6h		8h		10h		12h		The Sum of all the Forces.	The Sum of all the Two-hourly Periods.
	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.		
May	$4\frac{1}{4}$	10	5	13	$4\frac{1}{2}$	15	$6\frac{1}{4}$	19	8	20	$11\frac{1}{2}$	24	$12\frac{3}{4}$	25	$12\frac{1}{4}$	26	13	26	$9\frac{1}{2}$	25	$5\frac{3}{4}$	16	$4\frac{3}{4}$	11	$97\frac{1}{2}$	230
June	9	13	$7\frac{1}{2}$	14	$7\frac{3}{4}$	17	$7\frac{3}{4}$	17	$9\frac{1}{4}$	18	10	21	$13\frac{3}{4}$	24	15	24	$12\frac{3}{4}$	26	$11\frac{1}{2}$	25	$9\frac{3}{4}$	23	$8\frac{1}{2}$	18	$122\frac{1}{2}$	240
July	$8\frac{1}{2}$	19	$7\frac{3}{4}$	18	$8\frac{1}{4}$	18	$9\frac{3}{4}$	22	$10\frac{1}{4}$	22	$11\frac{1}{2}$	25	12	24	$12\frac{3}{4}$	22	12	23	$9\frac{1}{2}$	23	$7\frac{1}{2}$	20	$6\frac{3}{4}$	18	$116\frac{1}{2}$	254
August	$5\frac{1}{4}$	12	$6\frac{1}{2}$	15	6	15	6	16	$6\frac{1}{4}$	18	$9\frac{1}{4}$	24	$10\frac{1}{2}$	25	$9\frac{1}{2}$	23	$10\frac{1}{4}$	24	$7\frac{3}{4}$	21	6	14	$4\frac{1}{2}$	12	$87\frac{3}{4}$	219
September	$4\frac{1}{2}$	11	$4\frac{3}{4}$	12	$4\frac{3}{4}$	13	$5\frac{1}{4}$	16	5	19	8	22	$8\frac{1}{4}$	24	$7\frac{1}{2}$	23	8	23	5	16	5	15	3	7	69	201
October	$15\frac{1}{4}$	18	$13\frac{3}{4}$	17	14	18	$14\frac{1}{2}$	24	$14\frac{3}{4}$	24	$16\frac{1}{4}$	26	15	27	16	27	$13\frac{1}{4}$	24	$12\frac{1}{4}$	23	$15\frac{1}{4}$	22	$15\frac{3}{4}$	19	176	269
November	$11\frac{1}{2}$	17	$13\frac{3}{4}$	16	$13\frac{1}{2}$	16	$11\frac{1}{4}$	17	$13\frac{1}{4}$	20	$12\frac{1}{4}$	19	12	20	11	21	$9\frac{1}{2}$	19	8	15	10	16	$9\frac{1}{4}$	16	$135\frac{1}{4}$	212
December	5	9	$3\frac{1}{4}$	8	$4\frac{1}{4}$	9	4	11	4	14	$4\frac{3}{4}$	15	$6\frac{1}{4}$	14	$5\frac{1}{2}$	16	$6\frac{1}{4}$	16	$5\frac{1}{2}$	14	$5\frac{1}{2}$	12	$4\frac{1}{2}$	11	$58\frac{3}{4}$	149

TABLE CV.—Number of Two-hourly Periods of Calm, and of Air in very gentle Motion, at every Even Hour of Göttingen Mean Time, in every Month, including all observations not included in Table CIV.

Month, 1843.	14h		16h		18h		20h		22h		0h		2h		4h		6h		8h		10h		12h		Whole Number of Calm Observations in each Month.	Whole Number of very light Winds in each Month.
	Number of Observations.		Number of Observations.		Number of Observations.		Number of Observations.		Number of Observations.		Number of Observations.		Number of Observations.		Number of Observations.		Number of Observations.		Number of Observations.		Number of Observations.		Number of Observations.			
	Calm.	Very Light.	Calm.	Very Light.	Calm.	Very Light.	Calm.	Very Light.	Calm.	Very Light.	Calm.	Very Light.	Calm.	Very Light.	Calm.	Very Light.	Calm.	Very Light.	Calm.	Very Light.	Calm.	Very Light.	Calm.	Very Light.		
January	7	0	9	0	8	0	6		4		4		3		1		1		3		4		6		56	0
February	5		5		6		4		1		3		0		1		0		3		3		6		37	
March	10		12		13		7		4		2		4		6		7		11		10		13		99	
April	12		14		12		6		7		3		3		1		1		3		4		12		78	
May	17		14		11	1	8		7		3		2		1		1		2		11		16		93	1
June	13		12		9		7	2	8		3	2	2		1	1	0		0	1	2	1	8		65	7
July	7		8		8		4		4		1		2		4		3		3		6		8		58	
August	15		12		12		11		9		3		2		4		3		6		13		15		105	
September	15		14		13		9	1	7		4		2		2	1	3		10		11		19		109	2
October	9		10		9		3		3		1		0		0		3		4		5		8		55	
November	9		10		10		9		6		6	1	5	1	3	2	6	1	10	1	10		10		94	6
December	16		17		16		14		11		10		11		9		9		11		12	1	14		150	1

By taking the sums of the quantities at each hour, in Tables CIV. and CV., we obtain that

At 14h	the whole sum of the estimated forces was 105,	the number of two-hourly periods	176,	the number of calms was 135,	the number of other cases	0
16	,,	,,	$99\frac{3}{4}$	,,	174	,,	137	,, 0
18	,,	,,	$101\frac{3}{4}$	,,	183	,,	127	,, 1
20	,,	,,	$106\frac{1}{4}$	,,	220	,,	88	,, 3
22	,,	,,	$110\frac{1}{2}$	,,	240	,,	71	,, 0
0	,,	,,	$128\frac{3}{4}$	,,	265	,,	43	,, 3
2	,,	,,	$144\frac{3}{4}$	,,	274	,,	36	,, 1
4	,,	,,	$138\frac{1}{4}$	,,	274	,,	33	,, 4
6	,,	,,	134	,,	273	,,	37	,, 1
8	,,	,,	110	,,	243	,,	66	,, 2
10	,,	,,	$104\frac{3}{4}$	,,	218	,,	91	,, 2
12	,,	,,	$95\frac{1}{2}$	,,	176	,,	135	,, 0

The whole number of two-hourly periods over which the observations are spread is 3732. There are 2716 observations during the period, indicating that the air was in motion at those times; there are 17 cases in which the air was in very gentle motion; and there are 999 cases of calm: considering the 17 cases of very gentle motion as calms, the whole number would be 1016, of which 271 occurred in spring, 235 in summer, 266 in autumn, and 244 in winter;

and of the 135 cases at 14^h, in spring there were 39, in summer there were 35, in autumn there were 33, and in winter there were 28

137	,,	16,	,,	40,	,,	32,	,,	34,	,,	31
128	,,	18,	,,	37,	,,	29,	,,	32,	,,	30
91	,,	20,	,,	21,	,,	24,	,,	22,	,,	24
71	,,	22,	,,	18,	,,	21,	,,	16,	,,	16
46	,,	0,	,,	8,	,,	9,	,,	12,	,,	17
37	,,	2,	,,	9,	,,	6,	,,	8,	,,	14
37	,,	4,	,,	8,	,,	10,	,,	8,	,,	11
38	,,	6,	,,	9,	,,	6,	,,	13,	,,	10
68	,,	8,	,,	16,	,,	10,	,,	25,	,,	17
93	,,	10,	,,	25,	,,	22,	,,	26,	,,	20
135	,,	12,	,,	41,	,,	31,	,,	37,	,,	26

Spring is here used for March, April, May; Summer for June, July, August; Autumn for September, October, November; and Winter for December, January, and February.

Now dividing the 24 hours of the day into two periods, that between 18^h and 6^h for the day period, and that between 6^h and 18^h for the night period, we find that there were—

In Spring	73	cases of calm during the day out of	468,	and 198	cases during the night out of	468
In Summer	76	,, ,,	474,	159	,,	474
In Autumn	79	,, ,,	474,	187	,,	474
In Winter	92	,, ,,	456,	152	,,	456

Therefore in Spring, during the day, one hour in $6^h.25^m$ was calm.
,, during the night, one hour in 2.22 was calm.
In Summer, during the day, one hour in 6.14 was calm.
,, during the night, one hour in 2.59 was calm.
In Autumn, during the day, one hour in 6.0 was calm.
,, during the night, one hour in 2.32 was calm.
In Winter, during the day, one hour in 4.57 was calm.
,, during the night, one hour in 3.0 was calm.

Or, for the whole year, there were 320 cases of calm out of 1872, during the day period,
and there were 696 cases of calm out of 1872, during the night period.
Therefore, for the whole year, one hour out of $5^h.51^m$ was calm during the day,
and one hour out of $2^h.41^m$ was calm during the night.

TABLE CVI.—Sums of the Forces of each Wind at every even Hour of Göttingen Mean Time, and Numbers of Two-hourly Periods of its duration about that time, for the year 1843.

Direction of Wind.	14^h		16^h		18^h		20^h		22^h		0^h		2^h		4^h		6^h		8^h		10^h		12^h	
	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.	Sums of Forces.	Number of Two-hourly Periods.
N.	$5\frac{3}{4}$	14	6	17	$5\frac{3}{4}$	17	$7\frac{3}{4}$	21	11	31	13	36	17	40	$12\frac{1}{4}$	31	13	32	$9\frac{3}{4}$	27	$9\frac{1}{4}$	25	$6\frac{3}{4}$	14
N. N. E	$2\frac{3}{4}$	6	$3\frac{1}{4}$	8	$3\frac{3}{4}$	11	3	11	$2\frac{1}{4}$	8	$2\frac{1}{4}$	8	2	8	$1\frac{1}{4}$	3	$2\frac{1}{4}$	7	$2\frac{1}{2}$	7	$2\frac{1}{4}$	7	1	4
N. E.	4	12	$5\frac{3}{4}$	12	$4\frac{1}{2}$	9	$5\frac{1}{2}$	13	$4\frac{3}{4}$	12	$5\frac{1}{4}$	13	8	10	$6\frac{3}{4}$	19	$5\frac{1}{2}$	15	7	15	6	11	$6\frac{1}{2}$	11
E. N. E.	$7\frac{1}{2}$	10	$6\frac{1}{2}$	11	6	10	$5\frac{1}{2}$	12	4	11	$3\frac{1}{4}$	11	4	12	5	14	$5\frac{3}{4}$	13	$3\frac{1}{4}$	10	$2\frac{3}{4}$	7	$2\frac{1}{2}$	6
E.	$2\frac{1}{2}$	9	$1\frac{3}{4}$	6	$2\frac{1}{2}$	7	$2\frac{3}{4}$	9	$3\frac{1}{2}$	11	$7\frac{1}{2}$	20	$10\frac{3}{4}$	26	$7\frac{3}{4}$	22	9	27	$6\frac{1}{2}$	20	$6\frac{3}{4}$	21	$3\frac{1}{4}$	10
E. S. E.					$\frac{1}{4}$	1			1	2	$1\frac{1}{4}$	2	$\frac{3}{4}$	2	$1\frac{3}{4}$	5	$1\frac{1}{4}$	5	$\frac{1}{2}$	2	$\frac{1}{4}$	1	$\frac{1}{4}$	1
S. E.											$\frac{1}{2}$	2	$\frac{1}{4}$	1	$\frac{1}{2}$	2	1	3	$1\frac{1}{2}$	5	$\frac{1}{2}$	2		
S. S. E.	2	1			$\frac{1}{4}$	1	$\frac{1}{2}$	2	$\frac{3}{4}$	3	$1\frac{1}{2}$	5	$\frac{3}{4}$	2	$1\frac{1}{4}$	2	$\frac{3}{4}$	3	$\frac{1}{2}$	2	$1\frac{1}{4}$	4	$2\frac{1}{2}$	2
S.	5	12	$6\frac{3}{4}$	13	$3\frac{3}{4}$	10	$5\frac{1}{4}$	12	$5\frac{3}{4}$	20	$7\frac{1}{4}$	21	$10\frac{1}{2}$	26	$8\frac{3}{4}$	18	$8\frac{3}{4}$	13	5	12	$6\frac{1}{2}$	14	$7\frac{1}{2}$	18
S. S. W.	$11\frac{1}{4}$	15	$7\frac{1}{4}$	13	$6\frac{1}{2}$	13	$7\frac{3}{4}$	18	$12\frac{1}{2}$	22	$14\frac{1}{2}$	23	$10\frac{1}{4}$	16	$12\frac{3}{4}$	18	$17\frac{3}{4}$	27	12	20	$11\frac{1}{4}$	14	$10\frac{1}{4}$	12
S. W.	$26\frac{3}{4}$	40	$26\frac{1}{2}$	38	25	43	$26\frac{3}{4}$	44	$20\frac{3}{4}$	38	$24\frac{1}{4}$	38	$28\frac{1}{2}$	37	$21\frac{1}{4}$	40	$21\frac{1}{2}$	39	$27\frac{1}{2}$	49	$24\frac{1}{2}$	44	$21\frac{1}{2}$	40
W.S.W.	$20\frac{1}{2}$	27	19	25	23	28	24	40	24	41	$22\frac{1}{2}$	37	$22\frac{1}{2}$	33	$21\frac{1}{2}$	32	20	31	$18\frac{1}{2}$	35	$18\frac{3}{4}$	28	$19\frac{1}{2}$	25
W.	5	11	$6\frac{1}{4}$	17	$9\frac{1}{2}$	19	$8\frac{1}{4}$	20	$10\frac{1}{2}$	22	$14\frac{3}{4}$	30	$17\frac{3}{4}$	38	$25\frac{1}{4}$	41	17	35	$11\frac{1}{2}$	27	$9\frac{1}{4}$	28	$6\frac{1}{2}$	31
W.N.W.	$2\frac{1}{4}$	4	$3\frac{1}{4}$	6	$3\frac{1}{2}$	7	$4\frac{3}{4}$	9	3	4	$1\frac{1}{2}$	3	$5\frac{1}{2}$	9	$5\frac{1}{4}$	10	$3\frac{1}{4}$	7	$2\frac{1}{4}$	4	$1\frac{3}{4}$	4	1	3
N.W.	$2\frac{1}{4}$	5	3	4	$\frac{3}{4}$	3	2	6	$2\frac{3}{4}$	6	$2\frac{1}{4}$	4	$1\frac{1}{2}$	4	5	12	$3\frac{3}{4}$	8	$\frac{3}{4}$	3	.2	4	2	3
N. N.W.	$7\frac{1}{2}$	10	$3\frac{3}{4}$	4	$6\frac{3}{4}$	4	$2\frac{1}{2}$	3	4	9	$7\frac{1}{4}$	12	$4\frac{3}{4}$	10	2	6	$3\frac{1}{2}$	8	$1\frac{1}{4}$	5	$1\frac{3}{4}$	4	$4\frac{3}{4}$	8

TABLE CVII.—Comparison of the estimated Forces of the Wind, where the Limits are 0 and 6, with the corresponding Pressures on the Square Foot, as shewn by Osler's Anemometer, and Deduction of the Rule for comparing the Results obtained by the two Methods.

Month, 1843.	ESTIMATED FORCE.															
	½		1		1½		2		2½		3		4		4½	
	Number of Observations of estimated Force.	Sum of the Pressures at the Anemometer in lbs. on the Square Foot.	Number of Observations of estimated Force.	Sum of the Pressures at the Anemometer in lbs. on the Square Foot.	Number of Observations of estimated Force.	Sum of the Pressures at the Anemometer in lbs. on the Square Foot.	Number of Observations of estimated Force.	Sum of the Pressures at the Anemometer in lbs. on the Square Foot.	Number of Observations of estimated Force.	Sum of the Pressures at the Anemometer in lbs. on the Square Foot.	Number of Observations of estimated Force.	Sum of the Pressures at the Anemometer in lbs. on the Square Foot.	Number of Observations of estimated Force.	Sum of the Pressures at the Anemometer in lbs. on the Square Foot.	Number of Observations of estimated Force.	Sum of the Pressures at the Anemometer in lbs. on the Square Foot.
Jan.	37	12½	42	55	22	66¼	7	38	3	24	4	39	1	13	1	15
Feb.	29	7¼	25	29¾	9	27¼	8	26	3	10½	1	8	1	8		
March	41	8	21	19¼	4	12	3	11								
April	14	5½	42	52¼	19	56	12	45	2	10						
May	62	10	29	27½			2	6½								
June	62	9¾	27	25½	11	30¾	10	38	1	5	1	7				
July	58	8¼	70	46	4	5										
Aug.	63	6½	34	27½	1	1										
Sep.	39	2	16	6												
Oct.	53	7¾	68	49½	23	64½	15	68	2	11½						
Nov.	57	8¾	55	54½	8	24½	11	48	7	41½	1	10				
Dec.	31	11¼	23	22¼												
Sums	546	97½	452	415	101	287¼	68	280½	18	102½	7	64	2	21	1	15
Mean pressure in pounds for corresponding estimation.	lbs. 0·2		lbs. 0·9		lbs. 2·8		lbs. 4·1		lbs. 5·6		lbs. 9·1		lbs. 10·5		lbs. 15·0	

These results are nearly identical with those deduced from the observations of 1841 and 1842, and the connexion indicated as existing between the estimated force and the pressure at the anemometer in lbs. on the square foot, is confirmatory of that indicated in the discussion of the previous year, viz.: that the square of the force by estimation represents approximately the number of lbs. pressure on the square foot. If the above numbers be combined with the corresponding numbers of 1841 and 1842 we have—

Estimated force	½,	1010 observations,	227½ lbs. pressure;	mean pressure in lbs.		0·2
,,	1,	1326 ,,	1396	,,	,,	1·1
,,	1½,	370 ,,	1055¼	,,	,,	2·9
,,	2,	215 ,,	860½	,,	,,	4·0
,,	2½,	85 ,,	526½	,,	,,	6·2
,,	3,	41 ,,	325	,,	,,	7·9
,,	3½,	6 ,,	65	,,	,,	10·8
,,	4,	11 ,,	113	,,	,,	10·3
,,	4½,	2 ,,	25	,,	,,	12·5
,,	5,	4 ,,	74	,,	,,	18·5

And the error that arises from assuming that the square of the estimated force corresponds with the pressure in lbs. on the square foot, is as follows:—

The force by estimation ½, the error is 0·05 lb. in defect.
,, 1, ,, 0·1 ,, in excess.
,, 1½, ,, 0·6 ,,
,, 2, ,, 0·0
,, 2½, ,, 0·0

The force by estimation 3, the error is 1·1 lb. in defect.

,,	$3\frac{1}{2}$,	,,	1·4	,,	,,
,,	4,	,,	5·7	,,	,,
,,	$4\frac{1}{2}$,	,,	7·7	,,	,,
,,	5,	,,	6·5	,,	,,

With respect to the forces 4 and 5, the estimations are of gusts in gales, and they are so few in amount as to be of little value, and cannot be considered as of much weight.

Considering the strength of the wind by estimation to be reduced to pressures on the square foot, by the above rule—

$\frac{1}{4}$	by estimation is	1	oz.	pressure on the square foot.
$\frac{1}{2}$	,,	4	,,	,,
$\frac{3}{4}$	,,	9	,,	,,
1	,,	1	lb.	,,
$1\frac{1}{2}$	,,	$2\frac{1}{4}$	,,	,,
2	,,	4	,,	,,
$2\frac{1}{2}$	,,	$6\frac{1}{4}$	,,	,,
3	,,	9	,,	,,
$3\frac{1}{2}$	,,	$12\frac{1}{4}$	,,	,,
4	,,	16	,,	,,
$4\frac{1}{2}$	,,	$20\frac{1}{4}$	,,	,,
5	,,	25	,,	,,
6	,,	36	,,	,,

During this investigation it was found that there were 1598 cases of estimated force of $\frac{1}{4}$, and that in 1513 of these cases there were no pressures shewn at the anemometer, while the sum of the pressures in the other 85 cases amounted to 31 lbs.; and there were 376 cases of estimated force of $\frac{1}{2}$, 65 cases of $\frac{3}{4}$, 26 cases of 1, and 1 case of $1\frac{1}{2}$, in which no pressures were shewn at the anemometer. From these results, which agree closely in their general character with those of 1842, it appears that the wind may frequently blow with a pressure of $\frac{1}{2}$ lb. on the square foot, and occasionally with a pressure of 1 lb. on the square foot, and yet no pressure may be shewn by the instrument.

Monthly Changes of the Wind as derived from Osler's Anemometer in the Year 1843.

By *direct motion*, in the following statements, is meant that the change of the direction of the wind was in the order N, E, S, W, N, &c.; by *retrograde*, is meant in the order N, W, S, E, N, &c.

1842, Dec. $31^d.\ 12^h.$ The direction of the wind was N.W.
1843, Jan. $31^d.\ 12^h.$,, ,, S.W.; which implies apparent retrograde motion 90°.
Jan. $20^d.\ 22^h.$ The trace of the pencil was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
Therefore, the whole excess of direct motion during the month of January was 270°.

1843, Jan. $31^d.\ 12^h.$ The direction of the wind was S.W.
Feb. $28^d.\ 12^h.$,, ,, N.; which implies apparent direct motion 135°.
Feb. $13^d.\ 22^h.$ The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
Feb. $17^d.\ 7\frac{3}{4}^h$ to $19\frac{1}{2}^h$. The board was unclamped (no change of trace).
Feb. $20^d.\ 22^h.$ The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
Feb. $27^d.\ 22^h.$ The trace was shifted to the next set of lines upwards, which implies apparent retrograde motion 360°.
Therefore, the whole excess of direct motion during the month of February was 495°.

1843, Feb. $28^d.\ 12^h.$ The direction of the wind was N.
Mar. $31^d.\ 12^h.$,, ,, W. S. W.; which implies apparent retrograde motion 112°. 30′.
Mar. $1^d.\ 22^h.$ The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
Mar. $7^d.\ 22^h.$ The trace was shifted to the next set of lines upwards, which implies apparent retrograde motion 360°.

1843, Mar. $9^d.\ 22^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
Mar. $15^d.\ 19\frac{1}{2}^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
Mar. $16^d.\ 22^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
Mar. $21^d.\ 19\frac{1}{2}^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
Mar. $24^d.\ 22^h$. The trace was shifted to the next set of lines upwards, which implies apparent retrograde motion 360°.
Mar. $29^d.\ 22^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
Therefore, the whole excess of direct motion during the month of March was $1327\frac{1}{2}°$.

1843, Mar. $31^d.\ 12^h$. The direction of the wind was W. S. W.
April $30^d.\ 12^h$. ,, ,, E by N.; which implies apparent direct motion $191\frac{1}{2}°$.
April $16^d.\ 22^h$. The trace was shifted to the next set of lines upwards, which implies apparent retrograde motion 360°.
April $19^d.\ 22^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
April $28^d.\ 22^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
Therefore, the whole excess of direct motion during the month of April was $551\frac{1}{2}°$.

1843, April $30^d.\ 12^h$. The direction of the wind was E by N.
May $31^d.\ 12^h$. ,, ,, S. S. W.; which implies apparent retrograde motion $236\frac{1}{2}°$.
May $3^d.\ 22^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
May $12^d.\ 19\frac{1}{4}^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
May $16^d.\ 19\frac{1}{2}^h$. The trace was shifted to the next set of lines upwards, which implies apparent retrograde motion 360°.
May $20^d.\ 22^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
May $23^d.\ 15\frac{1}{2}^h$. The trace was shifted two sets of lines downwards, which implies apparent direct motion 720°.
May $29^d.\ 20^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
May $29^d.\ 22^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
Therefore, the whole excess of direct motion during the month of May was $1923\frac{1}{2}°$.

1843, May $31^d.\ 12^h$. The direction of the wind was S. S. W.
June $30^d.\ 12^h$. ,, ,, S.W.; which implies apparent direct motion $22\frac{1}{2}°$.
June $6^d.\ 2^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
June $20^d.\ 22^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
June $26^d.\ 22^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
Therefore, the whole excess of direct motion during the month of June was $1102\frac{1}{2}°$.

1843, June $30^d.\ 12^h$. The direction of the wind was S. W.
July $31^d.\ 12^h$. ,, ,, N. W.; which implies apparent direct motion 90°.
July $5^d.\ 7\frac{1}{2}^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
July $9^d.\ 22^h$. The trace was shifted to the next set of lines upwards, which implies apparent retrograde motion 360°.
July $14^d.\ 19^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
July $25^d.\ 22^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
Therefore, the whole excess of direct motion during the month of July was 810°.

1843, July $31^d.\ 12^h$. The direction of the wind was N. W.
August $31^d.\ 12^h$. ,, ,, S. E.; which implies apparent retrograde motion 180°.
August $9^d.\ 22^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
August $11^d.\ 22^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
August $15^d.\ 22^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
August $19^d.\ 22^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
August $23^d.\ 19^h$. The trace was shifted to the next set of lines upwards, which implies apparent retrograde motion 360°.
August $30^d.\ 22^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
Therefore, the whole excess of direct motion during the month of August was 1260°.

1843, August $31^d.\ 12^h$. The direction of the wind was S. E.
Sep. $30^d.\ 12^h$. ,, ,, S. W.; which implies apparent direct motion 90°.
Sep. $5^d.\ 22^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.

1843, Sep. $10^d.\ 6\frac{1}{2}^h$. The trace was shifted to the next set of lines upwards, which implies apparent retrograde motion 360°.
Sep. $11^d.\ 22^h$. The trace was shifted to the next set of lines upwards, which implies apparent retrograde motion 360°.
Sep. $15^d.\ 1\frac{3}{4}^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
Sep. $18^d.\ 22^h$. The trace was shifted to the next set of lines upwards, which implies apparent retrograde motion 360°.
Sep. $20^d.\ 22^h$. The trace was shifted to the next set of lines downwards, which implies apparent direct motion 360°.
Therefore the whole excess of direct motion during the month of September was 90°.

1843, Sep. $30^d.\ 12^h$. The direction of the wind was S. W.
Oct. $31^d.\ 12^h$. ,, ,, W. N. W.; which implies apparent direct motion $67\frac{1}{2}$°.
Therefore the whole excess of direct motion during the month of October was $67\frac{1}{2}$°.

1843, Oct. $31^d.\ 12^h$. The direction of the wind was W. N. W.
Nov. $30^d.\ 12^h$. ,, ,, S. W.; which implies apparent retrograde motion $67\frac{1}{2}$°.
Nov. $5^d.\ 19^h$. The trace was shifted to the next set of lines downwards, which implies apparent retrograde motion 360°.
Therefore the whole motion during the month of November was $427\frac{1}{2}$° retrograde.

1843, Nov. $30^d.\ 12^h$. The direction of the wind was S. W.
Dec. $31^d.\ 12^h$. ,, ,, S. S. W.; which implies apparent retrograde motion $22\frac{1}{2}$°.

The whole excess of direct motion during the year was $7447\frac{1}{2}$°.

Abstracts of the Results from Whewell's Anemometer.

In every month the amounts in inches by which the pencil had descended, corresponding to each direction of the wind (supposing the circumference divided into 16 equal parts), were collected together and their sums taken, and thus the following table was formed:—

TABLE CVIII.—Sums of the Descent of the Pencil 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.
Sep. 15. 22 to 30. 22	5·02	3·24	1·19	2·16	1·15	0·32	0·31	0·25	2·80	0·63	0·83	6·10	1·97	0·31	3·09	13·45	42·82
Oct. 1. 22 to 17. 22 and Oct. 23. 22 to 30. 22	2·92	0·30				0·70	0·53	4·38	10·80	0·76	23·54	33·52	14·03	6·06	2·22	1·95	101·71
Nov. 0. 22 to 29. 22	9·33	2·40		0·72	2·83	0·11	0·40	2·83	9·06	24·42	40·06	25·85	6·98	3·28	2·85	0·61	131·73
Dec. 0. 22 to 30. 22	1·70				0·36		0·62	2·51	18·79	5·90	21·48	45·85	2·57	0·85	3·10	0·20	103·93

By taking the sum of all the quantities for each wind, we find that from September 15th to the end of the year (excepting six days in October), the

Descent of the pencil with the N. wind was 18·97 inches.
,, N. N. E. ,, 5·94 ,,
,, N. E. ,, 1·19 ,,
,, E. N. E. ,, 2·88 ,,
,, E. ,, 4·34 ,,
,, E. S. E. ,, 1·13 ,,
,, S. E. ,, 1·86 ,,
,, S. S. E. ,, 9·97 ,,
,, S. ,, 41·45 ,,
,, S. S. W. ,, 31·71 ,,

Descent of the pencil with the S. W. wind was 85·91 inches.
,, W. S. W. ,, 111·32 ,,
,, W. ,, 25·55 ,,
,, W. N. W. ,, 10·50 ,,
,, N. W. ,, 11·26 ,,
,, N. N. W. ,, 16·21 ,,

The W. S. W. wind has the largest number, and the next in order of magnitude is the S. W.

By taking the sum of all the quantities for each day inserted in the section of the Ordinary Observations, the following table is immediately formed:—

TABLE CIX.—Shewing the whole Descent of the Pencil in the Twenty-four Hours previously to reading the Instrument.

Day and Hour of Reading, 1843.	September.	October.	November.	December.	Day and Hour of Reading, 1843.	September.	October.	November.	December.
d h	in.	in.	in.	in.	d h	in.	in.	in.	in.
0. 22			2·80	5·12	16. 22	0·43	3·69	4·00	3·60
1. 22		5·96	0·00	2·50	17. 22	2·65	2·48	7·22	2·51
2. 22		1·72	1·67	1·08	18. 22	1·50		5·76	0·00
3. 22		3·31	4·52	4·80	19. 22	1·62		8·52	2·25
4. 22		0·87	0·20	5·90	20. 22	1·63		9·88	4·43
5. 22		1·94	2·98	7·83	21. 22	1·51		11. 48	5·14
6. 22		6·68	9·05	6·50	22. 22	2·06		5·30	7·26
7. 22		8·22	4·84	7·30	23. 22	1·65	6·58	4·20	5·34
8. 22		5·08	4·64	1·50	24. 22	2·45	7·21	1·05	2·16
9. 22		2·43	3·50	0·40	25. 22	4·12	1·39	4·37	0·72
10. 22		3·83	0·81	0·63	26. 22	4·38	2·02	10·28	1·22
11. 22		7·79	0·72	1·37	27. 22	4·54	7·40	8·70	1·20
12. 22		3·41	1·52	0·51	28. 22	3·84	8·01	5·11	0·48
13. 22		3·94	0·55	2·69	29. 22	4·54	2·05	3·48	1·52
14. 22		0·58	0·58	6·50	30. 22	5·90	5·10		4·34
15. 22		0·02	3·10	7·13					

And the sum of all the descents from September 15^{d}. 22^{h} to September 30^{d}. 22^{h} was 42·82 in.
,, in October was 101·71
,, in November was 131·73
,, in December was 103·93

Amount of Clouds in the Year 1843.

TABLE CX.—Mean Amount of Cloud, as deduced from the Twelve Observations taken daily at the Even Hour 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, 1843.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	*S*	5·1	7·2	9·7	0·1	8·7	7·3	3·4	5·2	*S*	8·3	10·0
2	2·5	9·4	4·7	*S*	0·1	8·9	*S*	6·9	2·4	8·3	10·0	7·2
3	5·3	7·2	3·8	9·3	5·7	6·4	5·2	6·4	*S*	8·8	7·7	*S*
4	6·2	7·0	6·7	10·0	6·3	*S*	8·0	7·0	5·3	6·9	8·1	10·0
5	2·1	*S*	*S*	2·9	7·5	4·3	4·8	5·8	0·1	6·1	*S*	10·0
6	5·8	7·4	7·5	9·5	7·9	6·2	9·3	*S*	1·3	9·8	9·6	1·3
7	8·8	9·3	0·3	8·7	*S*	9·6	6·1	5·4	1·0	7·9	7·0	8·9
8	*S*	10·0	4·1	4·5	8·9	7·3	7·8	8·7	5·5	*S*	4·2	4·4
9	5·3	10·0	9·2	*S*	8·3	8·4	*S*	7·7	5·6	7·9	2·7	8·6
10	6·5	6·0	9·9	6·1	6·8	9·1	6·3	6·0	*S*	6·6	9·9	*S*
11	4·2	10·0	9·7	2·2	8·4	*S*	10·0	1·6	8·1	9·9	4·9	4·8
12	7·0	*S*	*S*	4·9	5·9	9·6	9·4	3·1	6·6	6·7	*S*	10·0

The spaces in which the letter *S* is inserted correspond to Sunday.

TABLE CX.—*continued.*

Days of the Month, 1843.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
13	8·5	0·1	5·9	5·8	6·8	10·0	9·4	*S*	0·8	4·4	5·5	10·0
14	7·6	7·0	9·6	Good Fri.	*S*	10·0	7·8	6·2	8·8	5·3	10·0	5·5
15	*S*	8·2	10·0	10·0	9·2	4·5	5·7	8·7	5·3	*S*	6·3	7·9
16	4·8	9·6	8·7	*S*	9·6	2·9	*S*	7·2	3·9	2·0	4·7	7·3
17	8·7	3·7	2·2	7·2	10·0	5·0	5·0	2·6	*S*	8·4	8·4	*S*
18	8·3	10·0	0·5	2·1	9·3	*S*	8·0	2·3	5·1	2·8	3·7	9·2
19	10·0	*S*	*S*	6·2	9·7	8·8	7·3	2·6	6·4	0·6	*S*	10·0
20	10·0	10·0	5·2	4·1	8·1	10·0	5·9	*S*	1·4	3·8	2·9	10·0
21	9·7	6·9	6·3	4·4	*S*	5·3	10·0	4·0	3·8	6·7	9·8	9·1
22	*S*	7·3	8·2	6·0	6·7	6·9	8·7	7·3	1·8	7·8	9·9	9·8
23	9·7	7·2	6·3	*S*	9·5	0·8	*S*	6·0	5·1	3·7	8·9	9·8
24	10·0	9·8	6·0	2·7	8·5	6·1	5·5	6·9	*S*	9·0	8·7	*S*
25	8·3	10·0	1·9	6·1	4·7	*S*	7·5	7·0	7·2	7·2	9·7	Ch. Day
26	10·0	*S*	*S*	6·1	6·5	7·0	7·2	5·4	6·8	2·3	*S*	10·0
27	9·9	10·0	9·9	6·8	7·8	5·9	8·1	*S*	5·5	4·1	7·1	10·0
28	7·2	10·0	5·4	9·3	*S*	8·2	8·8	9·1	3·4	5·3	7·8	9·8
29	*S*	...	2·2	9·4	7·4	7·6	8·1	9·7	3·3	*S*	3·2	10·0
30	5·2	...	8·1	*S*	6·5	9·8	*S*	9·4	9·7	9·9	6·4	10·0
31	7·1	...	9·3	...	9·8	...	7·7	5·4	...	10·0	...	*S*

The spaces in which the letter *S* is inserted correspond to Sunday.

From this table we learn that there was not one day in the year free from cloud; there were, however, four that may be considered cloudless, viz., February 13^d, May 1^d and 2^d, and September 5^d. The period about May 1^d and 2^d was the longest clear period in the year. There were thirty-five totally cloudy days, viz., January 19^d, 20^d, 24^d, and 26^d; February 8^d, 9^d, 11^d, 18^d, 20^d, 25^d, 27^d, and 28^d; March 15^d; April 4^d and 15^d; May 17^d; June 13^d, 14^d, and 20^d; July 11^d and 21^d; October 31^d; November 2^d and 14^d; December 1^d, 4^d, 5^d, 12^d, 13^d, 19^d, 20^d, 26^d, 27^d, 29^d, and 30^d. Besides these, there were thirty-one days that may be considered totally cloudy, viz., January 21^d, 23^d, and 27^d; February 16^d and 24^d; March 10^d, 11^d, 14^d, and 27^d; April 1^d and 6^d; May 16^d, 19^d, 23^d, and 31^d; June 7^d, 12^d, and 30^d; August 29^d; September 30^d; October 6^d, 11^d, and 30^d; November 6^d, 10^d, 21^d, 22^d, and 25^d; December 22^d, 23^d, and 28^d. Or there were only four days in the year that can be considered cloudless, and there were sixty-six days in the year that may be considered quite cloudy.

TABLE CXI.—Mean Amount of Cloud in each Month, deduced from the Mean of all the Two-Hourly Observations in each Month.

Month, 1843.	Mean Amount of Cloud 0 — 10.	Month, 1843.	Mean Amount of Cloud 0 — 10.
January	7·3	July	7·5
February	8·0	August	6·0
March	6·2	September	4·6
April	6·4	October	6·4
May	7·3	November	7·1
June	7·2	December	8·5

The mean of all the monthly results is 6·9.

TABLE CXII.—Mean Amount of Cloud at every Even Hour of Göttingen Mean Time, deduced from all the Observations taken at that Hour in each Month.

Hour, Göttingen Mean Time, 1843.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
h												
14	7·0	7·6	6·5	6·1	7·0	6·0	6·8	5·3	4·6	7·4	8·2	9·0
16	7·0	7·8	6·7	6·7	7·2	7·0	7·6	6·3	5·4	6·5	7·5	8·9
18	7·2	8·2	6·6	7·6	7·6	7·8	7·4	6·4	5·9	6·4	7·7	8·7
20	7·2	8·1	7·2	7·3	7·6	7·9	6·3	7·5	6·4	5·7	6·9	8·2
22	7·6	7·0	6·1	7·6	7·8	8·1	7·3	6·9	4·5	5·8	7·0	7·8
0	8·2	8·1	6·7	7·0	8·1	7·7	8·4	6·7	4·3	6·5	6·4	8·5
2	8·0	8·3	6·8	6·3	8·2	7·2	8·6	6·9	4·5	6·9	7·4	8·8
4	7·2	8·3	7·3	6·6	7·6	7·2	7·8	6·4	4·1	8·1	7·0	8·3
6	7·3	7·9	6·3	6·3	7·0	7·4	7·8	5·1	3·8	6·7	6·4	7·9
8	6·8	7·6	4·9	5·4	6·5	6·2	8·1	5·1	4·3	5·2	6·7	8·7
10	7·3	8·1	4·5	4·5	6·7	6·7	7·1	5·0	3·8	5·2	7·3	8·6
12	7·0	8·4	5·2	5·4	6·0	7·1	6·6	4·2	3·4	6·1	6·9	9·1

Generally, the largest quantities of cloud prevail between 22^h and 6^h, and the least quantities occur between 6^h and 22^h; but this is not true in each individual month, as will be seen from the following table:—

TABLE CXIII.—Hours of the Day, in different Months, at which the Greatest and the Least Amounts of Cloud prevailed, with the Amounts of Cloud at those Hours.

Month, 1843.	Hour at which prevailed the		Amount of Cloud 0—10.		Difference.
	Most Cloud.	Least Cloud.	Greatest.	Least.	
	h	h			
January	0	8	8·2	6·8	1·4
February	12	22	8·4	7·0	1·4
March	4	10	7·3	4·5	2·8
April	18 & 22	10	7·6	4·5	3·1
May	2	12	8·2	6·0	2·2
June	22	14	8·1	6·0	2·1
July	2	20	8·6	6·3	2·3
August	20	12	7·5	4·2	3·3
September	20	12	6·4	3·4	3·0
October	4	8 & 10	8·1	5·2	2·9
November	14	0 & 6	8·2	6·4	1·8
December	12	22	9·1	7·8	1·3

The hours at which the greatest quantity of cloud prevailed were during the day, and generally near noon, except in February, November, and December; and the hours at which the least quantity prevailed were during the evening or night, and generally near midnight, except in February, July, and December.

The next table is formed in the usual way from the numbers in Table CXII.

TABLE CXIV.—Mean Amount of Cloud in Quarterly Periods and for the Year.

Hour, Göttingen Mean Time, 1843.	Mean Amount of Cloud in				For the Year.
	Spring.	Summer.	Autumn.	Winter.	
h					
14	6·5	6·0	6·7	7·9	6·8
16	6·9	7·0	6·5	7·9	7·1
18	7·3	7·2	6·7	8·0	7·3
20	7·4	7·2	6·3	7·8	7·2
22	7·2	7·4	5·8	7·5	7·0
0	7·3	7·6	5·7	8·3	7·2
2	7·1	7·6	6·3	8·4	7·3
4	7·2	7·1	6·4	7·9	7·1
6	6·5	6·8	5·6	7·7	6·7
8	5·6	6·5	5·4	7·7	6·3
10	5·2	6·3	5·4	8·0	6·2
12	5·5	6·0	5·5	8·2	6·3

The greatest quantity of cloud in Spring was at ^{h} 20, and the least quantity was at ^{h} 10
Summer at 0 and 2^{h} ,, 12 and 14^{h}
Autumn at 14 and 18 ,, 8 and 10^{h}
Winter at 2 ,, 22

The difference between the greatest and least amount in Spring was 2·2
,, Summer was 1·6
,, Autumn was 1·3
,, Winter was 0·9

The mean quantity of cloud in Spring was 6·6
,, Summer was 6·9
,, Autumn was 6·0
,, Winter was 7·9
And the mean for the Year was 6·9

Records of the Rain Gauges.

TABLE CXV.—Amount of Rain collected in each Month in the several Gauges.

Month, 1843.	Monthly Amount of the Rain collected in the Gauge,			
	At Osler's Anemometer.	On the Top of the Library.	Crosley's.	Cylinder partly sunk in the Ground.
	in.	in.	in.	in.
January	0·57	1·04	1·25	1·35
February	1·02	2·20	2·23	2·39
March	0·27	0·29	0·48	0·51
April	0·97	1·57	1·61	1·72
May	2·57	3·51	3·45	3·75
June	0·59	0·94	1·24	1·30
July	1·82	2·58	2·35	2·42
August	2·51	3·38	3·27	3·62
September	0·32	0·38	0·46	0·46
October	2·65	4·28	3·88	4·25
November	1·49	1·78	2·02	2·30
December	0·10	0·17	0·29	0·40

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 CXVI.—Quarterly Amount of Rain.

1843.	At Osler's Anemometer.	On the Top of the Library.	Crosley's.	Cylinder partly sunk in the Ground.
	in.	in.	in.	in.
Spring	3·81	5·37	5·54	5·98
Summer	4·92	6·90	6·86	7·34
Autumn	4·46	6·44	6·36	7·01
Winter	1·69	3·41	3·77	4·14

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 $5\frac{1}{2}$ inches above the ground. The proportion of the sums collected are—

	Osler's Anemometer.	Top of Library.	Crosley's.	Cylindrical.
In Spring	64	90	93	100
In Summer	67	94	93	100
In Autumn	64	92	91	100
In Winter	41	82	91	100

Between the two lowest gauges (viz., Crosley's and the Cylindrical gauge) there has been hitherto very nearly a ratio of equality; and it is believed that such not being the case this 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 nearly 2 inches. The numbers at the upper stations differ most from those at the lower in winter, and least of all in summer. Occasional observations have been made on the temperature of rain, and it has been always found that when the rain has been warm with respect to the temperature of the air at the time, no differences have existed in the quantities of rain collected at the different heights; but that, when the temperature of the air has been higher than the temperature of the rain, a difference has always existed; from this it appears probable that the differences in the quantity of water collected at different heights are owing, at least in part, to the great condensation of the vapour in the atmosphere from being brought into contact with the relatively cold rain.

The sums of the amounts fallen at each gauge during the year are as follow:—

		ft.	in.		in.
At Osler's anemometer-gauge, whose receiving surface is		205.	6	above the mean level of the sea,	14·88
At the gauge above the Library	,,	177.	2	,,	22·12
At Crosley's gauge	,,	156.	6	,,	22·53
At the Cylindrical gauge	,,	155.	3	,,	24·47

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 90 : 100; and that, for a point 50 feet above the ground, the ratio is 61 : 100.

Abstracts of the Observations made with the Actinometer.

TABLE CXVII.

Month and Day, 1843.	Greenwich Mean Astronomical Time.	Altitude of the Sun.	Mean Radiation per Minute, in Parts of the Scale.	GENERAL REMARKS.	Kind of Cloud, &c., and Time of its Continuance.	Number of Divisions by which the Cloud, &c., caused the Readings to be less.	Number of Divisions that would have been shewn by the Instrument, had the Sky been clear, &c., during the time of continuance of the Cloud.	Approximate Proportion of the whole of the Rays cut off by the Cloud, &c.
d	h m s	°	div.			div.	div.	
Feb. 12	22. 2.53	21	20·37	Cloudless.				
	23. 6.53	24	23·71	,,				
13	0. 6.53	25	27·31	,,				
	1.11.23	24	25·71	,,				
	3.11.23	14	14·67	Nearly cloudless.				
	3.30.23	10	11·90	Cloudless.				
16	22.22.19	22	12·83	Cloudless.				
	23.26.19	25	17·44	Cloudless: between $31^m.49^s$ and $32^m.49^s$ the Sun was covered by a thin cloud of a woolly nature, the effect of which was to cause the increase in the readings in one minute to be $15^{div}.5$ instead of $18^{div}.5$: between $34^m.49^s$ and $35^m.49^s$ the cloud was more dense, and the increase in one minute was $11^{div}.5$: between $37^m.49^s$ and $38^m.49^s$ the cloud was so dense that no shadow was cast, and the increase in the minute was $5^{div}.4$.	A thin cloud of a woolly nature.	3·5	18·5	$\frac{2}{10}$ of the whole.
					The same cloud increased in density.	7·0	18·5	$\frac{4}{10}$ of the whole.
					The same cloud so increased that no shadow was cast, but the Sun was still visible.	13·1	18·5	$\frac{7}{10}$ of the whole.
17	0. 4. 4	26	24·75	Cloudless: between $5^m.49^s$ and $6^m.49^s$ a very thin cumulus covered the Sun for 5^s; the increase in the readings in one minute was $23^{div}.8$ instead of $25^{div}.2$, which would have been the increase had the sky been clear: between $8^m.49^s$ and $9^m.49^s$ a white cumulous cloud covered the Sun for 37^s, and the increase in one minute was $10^{div}.0$.	The Sun in a thin cumulous cloud one-twelfth of the whole time.	1·4	2·1	$\frac{7}{10}$ of the whole.
					White cumulous cloud for 37^s.	15·2	15·5	The whole.
17	0.13.49	26	24·40	Cloudless: between $17^m.49^s$ and $18^m.49^s$ the Sun was obscured by a dense cumulous cloud for 15^s; the increase in the scale reading was $18^{div}.8$; had the sky been clear the increase would have been $23^{div}.5$.	A dense cumulous cloud for one-fourth of the whole time.	4·7	5·9	$\frac{8}{10}$ of the whole.
Mar. 1	21.24. 0	21	14·84	Cloudless.				
7	21.58.30	25	20·11	Cloudless.				
	22.29. 0	27	21·00	,,				
	23.11.45	30	22·50	Nearly cloudless: between $15^m.0^s$ and $16^m.0^s$ the Sun was obscured by a cumulous cloud for 15^s; the increase in one minute in the scale readings was $19^{div}.0$: between $18^m.0^s$ and $19^m.0^s$ the Sun was in a cumulous cloud all the time, his place being just visible, and a very faint shadow was cast; the increase in the minute was $7^{div}.0$: between $21^m.0^s$ and $22^m.0^s$ the Sun was quite obscured by a cumulous cloud; no shadow was cast, and the increase was $2^{div}.0$: had the sky been clear at each of these times the increase would have been $25^{div}.$.	A cumulous cloud for one-fourth of the time.	6·0	6·1	The whole.
					A cumulous cloud during the whole time: a faint shadow cast.	18·0	25·0	$\frac{7}{10}$ of the whole.
					A cumulous cloud during the whole time: no shadow cast.	23·0	25·0	$\frac{9}{10}$ of the whole.
8	0.14. 0	33	25·10	Cloudless: between $9^m.0^s$ and $10^m.0^s$ the Sun was covered by a thin cumulus for 40^s, and the increase in the scale readings was $22^{div}.0$: between $18^m.0^s$ and $19^m.0^s$ the Sun was at the edge of a cumulous cloud for 20^s, and in the cloud for 20^s, and the increase in the scale divisions was $10^{div}.0$; had the sky been free from clouds the increase at both these times would have been $27^{div}.2$.	A thin cumulous cloud for 40^s.	5·2	18·1	$\frac{3}{10}$ of the whole.
					At the edge of a cumulous cloud for 20^s, and within it for 20^s additional.	17·2	18·1	The whole nearly.

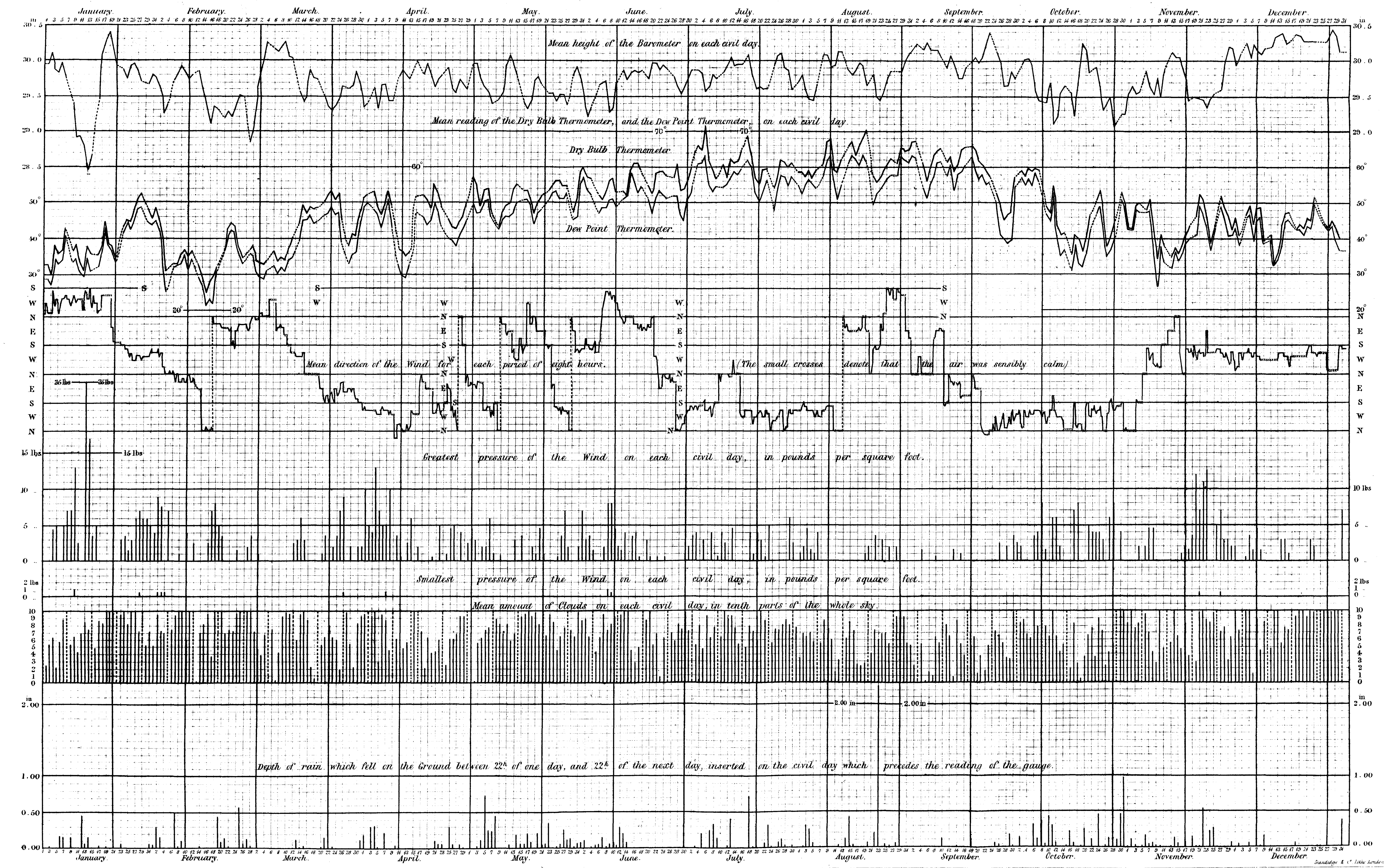
TABLE CXVII.—*continued.*

Month and Day, 1843.	Greenwich Mean Astronomical Time.	Altitude of the Sun.	Mean Radiation per Minute, in Parts of the Scale.	GENERAL REMARKS.	Kind of Cloud, &c., and Time of its Continuance.	Number of Divisions by which the Cloud, &c., caused the Readings to be less.	Number of Divisions that would have been shewn by the Instrument, had the Sky been clear, &c., during the time of continuance of the Cloud.	Approximate Proportion of the whole of the Rays cut off by the Cloud, &c.
d	h m s	°	div.			div.	div.	
Apr. 18	21. 51. 4	42	24·14	A haze variable in density.				
	23. 13. 4	48	24·93	A thin cirrus cloud, of rather a woolly nature, prevailed during the observation.				
19	0. 51. 34	47	30·44	Nearly cloudless.				
Sep. 1	22. 5. 15	39	25·60	Cloudless.				
	22. 35. 42	40	31·45	,,				
	23. 32. 12	43	35·19	,, windy.				
	23. 42. 42	44	34·41	,,				
	23. 52. 27	44	34·63	,,				
	0. 2. 12	44	36·16	Cloudless, except that in one shade observation a cumulous cloud was 5^s passing over the Sun, and in another shade observation the Sun was covered by a cumulous cloud during 10^s; in one Sun observation a cumulous cloud was 10^s passing over the Sun, and the increase in the scale reading during this minute was $31^{div.}·3$ instead of about $32^{div.}·5$.	A cumulous cloud 10^s passing over the Sun.	1·2	5·4	$\frac{2}{10}$ of the whole.
1	0. 12. 42	44	33·80	In one Sun observation a white cumulus covered the Sun for 10^s, and the increase in the scale reading was $30^{div.}·5$ instead of $32^{div.}·5$; in another Sun observation the Sun was at the edge of a cloud 3^s at one time, 5^s at another time, and 10^s at a third time; a very faint shadow was cast each time: the increase in the minute was $22^{div.}·5$ instead of $32^{div.}·5$; and in one shade observation the Sun was in a cloud for 30^s: with these exceptions the sky was cloudless during the series.	A white cumulous cloud for 10^s.	2·0	5·4	$\frac{4}{10}$ of the whole.
					At the edge and within a cumulous cloud 18^s.	10·0	9·7	The whole.
1	0. 23. 12	43	37·51	Cloudless.				
	0. 33. 42	43	38·41	,,				
	0. 44. 12	43	38·96	,,				
	0. 54. 42	42	40·26	,,				
	1. 5. 12	41	37·09	,,				
	1. 14. 57	41	36·18	,,				
9	1. 29. 12	40	35·90	,,				
	1. 48. 12	38	30·71	,,				
	3. 49. 27	23	20·39	A thin haze, and the Sun shining through light cirri.	Haze and light cirri.	6·7	27·0	$\frac{3}{10}$ of the whole.
	3. 58. 27	21	27·02	Cloudless.				
	4. 7. 27	20	27·23	Nearly cloudless: at the latter part of the series there were light cirri about the Sun's place.				
9	4. 15. 42	19	27·00	Cloudless.				
	4. 23. 12	18	25·56	,,				
	4. 30. 42	17	25·86	,,				
	4. 38. 12	16	25·26	,,				
	4. 45. 42	14	23·34	,,				
	5. 6. 57	11	22·05	Cloudless about the Sun's place.				
	5. 13. 42	10	17·26	Cloudless.				
	5. 34. 12	6	6·66	Cirri and haze about the Sun's place.				
Sep. 12	21. 23. 21	31	26·95	Very nearly cloudless.				
	21. 44. 6	34	30·14	Cloudless.				

TABLE CXVII.—*concluded.*

Month and Day, 1843.	Greenwich Mean Astronomical Time.	Altitude of the Sun.	Mean Radiation per Minute, in Parts of the Scale.	GENERAL REMARKS.	Kind of Cloud, &c., and Time of its Continuance.	Number of Divisions by which the Cloud, &c., caused the Readings to be less.	Number of Divisions that would have been shewn by the Instrument, had the Sky been clear, &c., during the time of continuance of the Cloud.	Approximate Proportion of the whole of the Rays cut off by the Cloud, &c.
d	h m s	°	div.			div.	div.	
Sep. 12	21. 56. 6	36	31·75	Cloudless.				
13	22. 8. 51	37	34·53	,,				
	22. 43. 21	39	34·84	,,				
	23. 45. 21	42	34·87	,,				
	0. 2. 21	42	37·64	,,				
	0. 25. 21	42	38·17	,,				
	0. 35. 51	41	37·41	,,				
	0. 46. 21	41	36·84	,,				
	1. 32. 21	39	34·21	,,				
	1. 52. 21	37	34·60	,,				
	3. 56. 6	21	30·75	,,				
	4. 8. 6	19	29·65	,,				
	4. 20. 6	17	28·90	,,				
	4. 32. 6	16	27·29	,,				
	4. 44. 6	14	25·89	,,				
	4. 56. 6	12	24·34	,,				
	5. 8. 51	10	21·78	,,				
	5. 31. 21	6	11·96	,,				

Curves exhibiting the principal Meteorological Phenomena in the Year 1843, as observed at the Royal Observatory, Greenwich. (A dotted line denotes that no observations were made on the day whose place is at the centre of that dotted line.)



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