

ROYAL OBSERVATORY, GREENWICH.

R E S U L T S

OF

MAGNETICAL AND METEOROLOGICAL
OBSERVATIONS.

1861.

ROYAL OBSERVATORY, GREENWICH.

INDICATIONS

OF

M A G N E T O M E T E R S.

1861.

The establishment of Assistants in the Magnetical and Meteorological Department of the Royal Observatory consisted during the year 1861, of Mr. James Glaisher, the Superintendant, and Mr. Thomas Downs ; with three supernumerary assistants, to aid in the observations and reductions.

For description of the three Magnetometers, the method of observing by the Telescope, and the method of reducing the observations, the reader is referred to the *Greenwich Magnetical and Meteorological Observations* for 1847, Introduction, page i to xlii ; and to corresponding parts of the preceding volumes.

During the year 1861, Telescope-Observations of the Magnetometers have usually been made four times every day, except on Sundays, on which days two or three observations only have been taken ; but, though these observations are employed in forming the base-lines on the Photographic sheets, their immediate results are not necessarily given in the following pages.

Observations were made of the Horizontal Circle of the Theodolite by which the DECLINATION MAGNET is observed, corresponding to the Astronomical Meridian, on January 8, February 6, March 4, April 20, May 13, 18, July 3, 31, August 10, September 20, November 6, 27, December 11, 23, and 24 ; and the constancy of its readings was checked by the observations of a fixed mark on many other days.

Observations were made of the Collimation of the DECLINATION MAGNETOMETER; of the Torsion-force of its Suspension skein ; and of the Collimation of the Theodolite-Telescope ; on 1860, December 28, 29, and 31.

Observations of the Angle of Torsion of the HORIZONTAL FORCE MAGNETOMETER were made on 1861, January 2, 4, and again on July 13 and 17, after the restoration of the brass suspension, which gave way on June 22. The angles determined were $43^{\circ} 46'$ and $44^{\circ} 7'$ respectively.

Observations were made for the times of vibration and readings of the scale for different readings of the torsion-circle on the same days ; and the general conclusion was, that the scale-readings and the times of vibration had nearly the same value, when the reading of the torsion-circle was $142^{\circ}.30'$ (marked end West), and $230^{\circ}.20'$ (marked end East) on January 2 and 4 ; from July 12 these values were $142^{\circ}.30'$ and $230^{\circ}.30'$ respectively. The reading adopted for the adjustment of the torsion-circle throughout the year (marked end West) was $142^{\circ}.30'$.

The numbers used for the variation of horizontal force for a disturbance through one division of the scale, in parts of the whole horizontal force, are 0.0020051 till June 21 ; and 0.0019808 from July 12 to the end of the year.

The correction for temperature is $0.0000809 \times (t-32) + 0.000000762 \times (t-32)^2$, where t is the temperature in degrees of Fahrenheit's scale. This formula, which represents the mean of the results deduced from temperature-experiments made with each end of the magnet alternately near the measuring apparatus, is preferable to that given in the volumes before 1850, which were based on experiments made in one position of the magnet. The correction for temperature is *not* applied to any of the results of observations.

Observations of the times of vibration of the VERTICAL FORCE MAGNETOMETER have usually been made three or four times a week. The adopted time of vibration for the year was 15^{..}6.

Observations for the time of vibration in a horizontal plane were made in 1859, April 19, when the time of vibration was found to be 24^o.258 from 700 vibrations.

The value of the disturbing force, in terms of the whole vertical force, for one division of the scale, is inferred to be 0.00015275 : and this number has been used throughout the year.

The correction for temperature is $0.00013845 \times (t - 32) + 0.000004054 \times (t - 32)^2$. This formula, like that for the Horizontal Force Magnetometer, is deduced from temperature-experiments made in both positions of the magnet. The correction is *not* applied to any of the results of observation.

The methods adopted in the use of the Photographic Apparatus ; in the determination of zeros, both for time and for magnetic indications; and in the translation into numbers of the indications given by the Photographic Traces for arbitrary times ; are in every respect the same as those described in the Addendum to the Introduction to the *Greenwich Magnetical and Meteorological Observations*, 1847, pages lxxxiii to xc. The only important alterations that have been made are, that (as mentioned at the end of that Introduction) coal-gas charged with the vapour of coal-naphtha is used to give the light required for forming the Photographic Trace ; and that the cylinders carrying the Photographic paper (both that which receives the traces of the Declination Magnet and the Horizontal Force Magnet, and that which receives the traces of the Vertical Force Magnet and the Barometer), are now made to revolve in 24^h. It may be mentioned also that, commencing with the year 1858, the observations are referred to Greenwich Mean Time instead of Göttingen Mean Time as heretofore.

It is proper to add, that, in measuring the ordinates of the Vertical Force Curves, the same difficulty that is mentioned in preceding volumes has still occasionally been felt. Apparently without cause, the curve is dislocated; one part being raised above or depressed below the contiguous part, in the direction of the ordinate, usually by small quantities. In all cases the displacement is accompanied by vibration, the original position being at the extremity of the arc of vibration, and the new position being at its center; showing that there has been no want of delicacy in the movement, and that the change is precisely the same as would be caused by the quiet application of a small weight upon one end of the magnet.

In general the ordinates of the Photographic Curves have been measured so frequently, including all maxima and minima, that a reader, laying down a succession of points by means of the given times as abscissæ and the given measures of force as ordinates, connecting these points by straight lines, and attending to the symbols as explained in the foot-notes, will very nearly produce the original curves.

At the times when the Vertical Force Trace is dislocated, two ordinates have been taken for the same abscissa ; these are connected by a brace, and the difference of the numbers indicates the amount of the disturbance.

INDICATIONS OF THE MAGNETOMETERS

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

On January 2 the Horizontal Force Magnet was under adjustment.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(vii)

Greenwich Mean Solar Time.*	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.			
							Of H. F. Magnet.	Of V. F. Magnet.								Of H. F. Magnet.	Of V. F. Magnet.		
h m	o i "	Jan. 5 18. 52	'1007 ***	h m		h m			h m	o i "	Jan. 6 11. 7	'0984 ***	h m		h m		h m	o	o
		21. 30	'1004								11. 50	'0996 ***							
		21. 38	'1007								12. 46	'0991 ***							
		21. 46	'1003 ***								16. 15	'0997 ***							
		23. 32	'1011								16. 46	'1000 ***							
		23. 59	'1002								17. 45	'0997 ***							
Jan. 6	21. 13. o	Jan. 6	'1002	Jan. 6	'02832	Jan. 6	10. 23	35. 4	37. 0	o i "	Jan. 7 11. 7	'0984 ***	h m		h m		h m	o	o
o. o	13. 40	o. o	***	o. o	0. 42	'02852	21. 0	30. 0	31. 8										
0. 45	13. 40	o. 16	'0997	3. 50	'02611						21. 43	'0996 ***							
2. 43	10. 15	o. 40	'1009								22. 50	'0981 ***							
3. 45	11. 0	o. 40	***	5. 46	'02543						23. 13	'0986 ***							
4. 17	10. 0			6. 40	'02614						23. 50	'0979							
4. 41	12. 25	1. 2	'1003								23. 59	'0980							
5. 14	10. 0			***															
5. 30	14. 0	1. 30	'1004	11. 45	'02560														
	***	1. 33	'1008	18. 17	'02921														
5. 49	14. 0	1. 46	'0997	23. 30	'02757														
6. 6	23. 10			23. 59	'02716														
6. 21	10. 0	2. 22	'0999																
6. 46	4. 0	2. 35	'0996																
7. 9	12. 0	2. 47	'1000																
	***		***																
7. 33	12. 0	4. 0	'1001																
7. 50	15. 0	4. 7	'1008																
8. 4	15. 0	4. 26	'1000																
8. 22	12. 40			***															
8. 31	14. 30	4. 40	'1001																
9. 0	12. 0	4. 43	'1012																
9. 15	12. 0	4. 46	'1000																
10. 8	11. 10	5. 10	'1031																
10. 50	13. 0	5. 16	'1028																
	***	5. 32	'1006																
11. 29	11. 40	5. 46	'0973																
11. 41	9. 45	5. 50	'0983																
12. 30	9. 35	6. 10	'0951																
14. 0	12. 30			***															
14. 15	11. 30	6. 18	'0947																
15. 7	12. 25	6. 50	'0991																
15. 30	11. 20	7. 3	'0976																
	***	7. 15	'0977																
16. 35	14. 20	7. 18	'0975																
	***	7. 32	'0983																
17. 45	11. 0	7. 52	'0987																
	***	8. 8	'0978																
21. 24	11. 30	8. 17	'0987																
	***		***																
23. 8	14. 0	8. 50	'0976																
23. 25	13. 10	9. 30	'0986																
23. 59	14. 15	9. 32	'0980																
		9. 46	'0985																
		10. 26	'0988																
		10. 45	'0984																
		10. 59	'0987																

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS

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AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(ix)

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(xi)

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		
Jan. 18	o. o	Jan. 18	h m	h m	h m	o	o	Jan. 20	o. o	Jan. 20	b m	b m	h m	h m	h m	o	o
19. 25	21. 11. 0	11. 16	.0970					4. 20	13. 10	3. 45	.0966						
20. 30	10. 30	11. 40	.0966					4. 45	14. 0	3. 52	.0965						
21. 41	13. 0	12. 20	.0971	***				5. 5	12. 10	4. 15	.0956						
23. 10	13. 30	13. 52	.0967	***				5. 18	13. 0	4. 20	.0960						
23. 26	15. 30	15. 40	.0969	***				6. 15	10. 0	4. 33	.0955						
23. 59	15. 30	17. 6	.0978					6. 45	11. 0	4. 46	.0958						
		19. 28	.0975					9. 15	7. 0	5. 47	.0954						
		20. 18	.0970					9. 40	7. 40	6. 2	.0961						
		21. 46	.0951	***				10. 10	7. 10	6. 8	***						
		23. 0	.0948	***				10. 55	5. 0								
		23. 59	.0950					11. 40	8. 0	6. 32	.0963						
Jan. 19	21. 15. 40	o. o	.0950	o. o	Jan. 19	.02456	1. 0	43. 3	43. 7	12. 30	13. 3	5. 25	7. 33	10. 30	.0966		
0. 0	16. 0	1. 26	.0948	0. 33		.02442	3. 0	45. 2	45. 1	13. 32	9. 15	9. 40	7. 43	10. 47	.0960	***	
1. 20	14. 20	1. 40	.0950			(†)	9. 0	44. 7	44. 0	14. 39	9. 40	9. 40	9. 0	10. 33	.0960		
1. 42	15. 10	1. 58	.0944	1. 0		.02492*	22. 15	42. 2	43. 0	15. 6	15. 6	15. 46	15. 46	10. 45	.0967	***	
2. 0	10. 40	2. 36	.0950	2. 27				18. 5	8. 40	11. 8	11. 45	11. 20	12. 50	12. 50	10. 0	.0960	
3. 30	10. 40	3. 15	.0945	8. 0				19. 50	10. 0	12. 35	12. 35	13. 10	13. 7	13. 7	12. 35	.0964	***
6. 0	9. 10	3. 58	.0949	14. 12				20. 10	22. 10	11. 20	11. 20	13. 28	13. 28	13. 28	11. 20	.0960	***
8. 30	8. 0	4. 40	.0946	21. 30				22. 10	23. 59	16. 30	16. 30	18. 45	18. 45	18. 45	16. 30	.0974	***
11. 30	9. 55	5. 46	***	23. 59								19. 36	19. 36	19. 36	19. 36	.0967	
16. 0	5. 46	6. 7	.0954									19. 45	19. 45	19. 45	19. 45	.0956	
20. 0	8. 15	6. 7	.0951									20. 4	20. 4	20. 4	20. 4	.0958	
21. 40	11. 20	8. 15	***									20. 15	20. 15	20. 15	20. 15	.0951	
22. 15	10. 5	8. 15	.0962													18. 45	.0955
23. 59	13. 10	11. 28	.0967	***												19. 36	.0934
		12. 6	.0965													19. 45	.0934
		12. 22	.0970													20. 4	.0930
		12. 36	.0965													20. 15	.0941
		15. 10	.0974														
		18. 7	.0980														
		22. 2	.0961														
		23. 18	.0966														
		23. 50	.0961														
		23. 59	.0958														
Jan. 20	o. o	Jan. 20	o. o	o. o	Jan. 20	.02636	9. 55	45. 6	46. 8	Jan. 21	o. o	o. 17	o. 17	Jan. 21	o. o	o. o	o. 2456
0. 41	17. 0	o. 44	.0963	1. 27		.02622	21. 0	44. 7	45. 3						1. 37	o. 2382	3. 0
0. 47	15. 30	o. 47	.0956			***				1. 55	15. 30	(†)	2. 20		4. 75	4. 75	4. 75
0. 52	16. 10	o. 50	.0960	6. 8		.02356				2. 47	14. 50	1. 0	7. 27		9. 8	9. 8	9. 8
1. 0	14. 0	1. 2	.0950	10. 29		.02255				5. 5	8. 35	1. 52	14. 3		14. 3	14. 3	14. 3
1. 30	14. 0	***		21. 10		.02433				7. 15	11. 0	3. 27	19. 46		19. 46	19. 46	19. 46
1. 45	12. 0	1. 20	.0946	22. 55		.02502				9. 52	4. 0	4. 25	23. 59		23. 59	23. 59	23. 59
1. 53	14. 25	1. 36	.0951	23. 59		.02456				9. 59	4. 55	4. 55					
2. 1	13. 0	1. 46	.0945							10. 5	4. 0	5. 11	.0949				
2. 14	14. 35	2. 17	.0962							10. 40	10. 0	6. 20	.0961				
3. 15	12. 10	3. 15	.0957														
4. 6	14. 0	3. 34	.0961														

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INDICATIONS OF THE MAGNETOMETERS

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							Of H. F. Magnet.	Of V. F. Magnet.								Of H. F. Magnet.	Of V. F. Magnet.		
Jan. 21	15.30	21. 11. 10	8. 31	.0967	h m	h m	o	o	Jan. 22	12. 40	21. 14. 0	9. 3	.0939	h m	h m	o	o	o	o
16. 15	10. 30	9. 20	.0963	***	9. 51	.0970			12. 55	8.	o	9. 12	.0930					***	***
19. 36	10. 0	10. 12	.0984						14. 0	12. 0	***	9. 43	.0930						
22. 6	13. 0	10. 17	.0978						14. 30	10. 5		9. 48	.0936						
22. 31	12. 25	10. 26	.0983						15. 0	11. 10	10. 3		.0926						
23. 0	14. 30	10. 58	.0970						15. 10	9. 50	10. 25		.0941						
23. 40	13. 30	11. 16	.0977	***					18. 28	10. 30	10. 45		.0935						
23. 59	16. 0				14. 0	.0979 ***			18. 32	5. 35	10. 56		.0937						
					15. 49	.0976 ***			18. 44	12. 10	11. 8		.0932						
					18. 56	.0977 ***			18. 50	7. 10	11. 30		.0921						
					20. 47	.0973			19. 30	21. 9. 30	12. 17		.0915 ***						
					21. 4	.0964			19. 42	20. 55. 0									
					21. 27	.0961			20. 7	21. 14. 30	13. 36		.0944 ***						
					21. 45	.0955			21. 20	12. 0	14. 22		.0936 ***						
					22. 6	.0960			23. 59	13. 30	14. 47		.0944 ***						
					22. 20	.0957							.0940 ***						
					22. 45	.0960 ***							17. 16	.0954 ***					
					23. 35	.0952							18. 37	.0953					
					23. 48	.0959							18. 45	.0941					
					23. 59	.0954							18. 50	.0961					
Jan. 22	0. 2	21. 17. 0	0. 0	.0954	Jan. 22	Jan. 22	0. 0	.02859	Jan. 22	1. 0	41. 3	41. 8							
0. 45	13. 50	0. 8	.0955	3. 41		3. 41	.02623	3. 0	44. 0	45. 0			18. 58	.0942					
***	0. 16	.0948	6. 30	.02421		9. 0	45. 6	45. 1		19. 7			.0954 ***						
2. 35	15. 0		6. 49	.02501	21. 0	41. 6	42. 2						19. 50	.0948					
2. 50	13. 10	0. 57	.0946	7. 10		7. 10	.02762						20. 2	.0965 ***					
3. 10	14. 10	***	7. 26	.02505		7. 26	***						20. 35	.0927					
	1. 56	.0952											20. 41	.0938 ***					
4. 15	9. 40	2. 10	.0949	8. 17		8. 17	.02436						22. 30	.0917 ***					
5. 15	14. 0	2. 35	.0956	8. 40		8. 40	.02477	***					23. 4	.0930					
	2. 46	.0947											23. 59	.0916					
6. 5	7. 30	3. 15	.0954	12. 33		12. 33	.02409 ***												
6. 16	12. 0	3. 46	.0936																
6. 37	8. 0	4. 59	.0959	13. 17		13. 17	.02328 ***												
6. 53	21. 9. 25	5. 20	.0950																
7. 12	20. 29. 10	5. 36	.0967	16. 36		16. 36	.02477 ***												
7. 40	21. 11. 10	5. 45	.0961																
7. 51	20. 55. 0	6. 0	.0994	22. 13		22. 13	.02691												
8. 15	21. 9. 40	6. 11	.0997	23. 59		23. 59	.02700												
8. 36	1. 0	6. 33	.0925																
8. 55	8. 45	6. 45	.0936																
9. 33	11. 40	6. 49	.0922																
9. 53	8. 10	7. 6	.0961																
10. 0	9. 30	7. 10	.0946																
10. 26	4. 30	7. 20	.0980																
	7. 44	.0915																	
11. 3	10. 15	8. 0	.0950																
11. 32	7. 30	8. 17	.0928																
11. 56	10. 0	8. 30	.0934																
12. 3	13. 15	8. 43	.0946																
12. 17	10. 50	8. 48	.0934																

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							Of H. F. Magnet.	Of V. F. Magnet.							Of H. F. Magnet.	Of V. F. Magnet.	
Jan. 23		Jan. 23		Jan. 23		Jan. 23			Jan. 24		Jan. 24		Jan. 24		Jan. 24		
8. 55	o. , "	21. 7. 0	7. 47	.0945	23. 59	.02756	h m	o o	4. 51	21. 14. 0	3. 10	.0913	7. 36	.02320	h m	o	o
9. 14	o. 30			***					5. 6	11. 0	3. 17	.0924	7. 43	.02418			
9. 37	21. 2. 0		8. 36	.0958					5. 25	22. 0	3. 36	.0920	8. 12	.02310			
9. 45	20. 59. 0		8. 47	.0951					5. 40	10. 5	3. 46	.0929	8. 37	.02451			
10. 3	21. 6. 30		9. 20	.0982					6. 6	3. 15	4. 5	.0924		***			
10. 25	1. 0		9. 33	.0972					6. 35	22. 0	4. 11	.0911	10. 12	.02263			
10. 33	21. 1. 30		9. 50	.0978					6. 50	2. 0	4. 11	***	10. 46	.02261			
10. 58	20. 57. 0	10. 18	.0957						7. 0	21. 25. 5	4. 48	.0930	11. 48	.02192			
11. 16	21. 3. 10	10. 27	.0959						7. 9	20. 53. 0	4. 56	.0939		***			
11. 53	4. 15	10. 50	.0943						7. 18	21. 1. 0	5. 8	.0925	12. 15	.02068			
	***	11. 7	.0952						7. 30	20. 41. 10	5. 26	.0941		***			
12. 40	21. 1. 0	11. 22	.0943						7. 55	21. 0. 0	5. 40	.0911	13. 10	.02171			
13. 40	20. 57. 0	11. 47	.0952						8. 35	10. 30	6. 14	.0914		***			
14. 0	21. 10. 50	12. 20	.0947						8. 43	8. 0	6. 5	.0935	15. 50	.02250			
14. 10	10. 50	12. 42	.0937						9. 0	21. 11. 20	6. 27	.0910		***			
14. 32	8. 15	13. 14	.0941						9. 14	20. 50. 15	6. 36	.0862	23. 59	.02250			
14. 55	9. 50	13. 52	.0960						9. 30	57. 15	7. 0	.0964		***			
15. 5	13. 0	14. 20	.0943						9. 36	20. 56. 0	7. 10	.0894					
	***	14. 46	.0948						9. 50	21. 1. 25	7. 50	.0901					
16. 6	13. 15	15. 0	.0944						10. 16	20. 58. 10	7. 18	.0925					
16. 30	9. 25	15. 20	.0957						10. 45	20. 52. 0	7. 27	.0892					
17. 0	11. 0		***						11. 15	21. 2. 5	7. 42	.0906					
17. 55	10. 30	16. 47	.0950														
18. 10	12. 30	17. 50	.0961														
18. 22	11. 15	18. 6	.0953														
	***	19. 7	.0961														
18. 45	12. 30		***														
18. 55	15. 0	19. 40	.0954														
	***		***														
19. 53	9. 0	20. 17	.0957														
20. 15	9. 30	20. 36	.0949														
20. 30	11. 25		***														
	***	21. 43	.0944														
21. 45	9. 30	22. 0	.0890														
22. 7	18. 30	22. 19	.0864														
22. 15	16. 10	22. 56	.0918														
22. 40	22. 0	23. 7	.0902														
22. 52	18. 0	23. 45	.0938														
23. 5	23. 30	23. 59	.0937														
23. 33	16. 0																
23. 55	23. 0																
23. 58	21. 0																
Jan. 24	(†)	Jan. 24		Jan. 24		Jan. 24			Jan. 24		Jan. 24		Jan. 24		Jan. 24		
o. 10	21. 19. 50	o. 0	.0937	o. 0	.02756	o. 0	43. 0	43. 4	17. 55	14. 40	12. 17	.0893					
o. 35	29. 0	o. 33	.0934	o. 38	.02712	1. 0	44. 0	44. 3	18. 8	11. 15	12. 35	.0907					
o. 55	16. 30	o. 47	.0913	1. 20	.02738	3. 0	47. 0	46. 5	19. 6	12. 5	13. 0	.0966					
i. 15	22. 0	o. 56	.0894	5. 6	.02472	21. 0	47. 2	47. 0	19. 23	9. 30	13. 12	.0905					
i. 45	28. 0	1. 3	.0916	5. 42	.02476	6. 13	.02433		19. 30	10. 15	13. 27	.0913					
	***	1. 7	.0892	6. 13	.02433				19. 44	8. 0	13. 33	.0898					
2. 20	28. 10	1. 18	.0915	6. 35	.02477				20. 0	10. 25	13. 58	.0927					
3. 0	17. 20	1. 42	.0929	6. 38	.02710				20. 27	13. 0	14. 25	.0912					
	***	2. 11	.0883	6. 45	.02281				20. 43	10. 0	14. 32	.0913					
3. 42	18. 30	2. 18	.0906	6. 49	.02409				21. 5	13. 35	14. 32						
3. 52	17. 0	2. 36	.0920	6. 53	.02351				21. 50	9. 30	14. 43	.0921					
4. 1	19. 0	2. 47	.0908	7. 5	.02411				22. 20	18. 0	15. 15	.0928					
4. 30	11. 40	3. 6	.0924	7. 10	.02313		***										

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS.

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (↑) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(xv)

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Jan. 26	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.		
Jan. 26	0. 35	21. 17. 35	0. 45	.0915	2. 45	.02072	h m	o	o	20. 45	21. 14. 35	13. 45	.0928	h m	o	
	0. 58	16. 30	0. 56	.0916	3. 26	.01933	***			21. 10	15. 30	14. 12	.0896			
	1. 55	22. 0	1. 45	.0898	6. 0	.01841	***			21. 36	14. 0	14. 36	.0914			
	2. 13	13. 20	2. 7	.0866						22. 2	19. 0	15. 9	.0923			
	2. 18	11. 30	2. 10	.0873	6. 33	.01862				22. 16	19. 30		***			
	2. 27	14. 30	2. 14	.0858	7. 2	.01941				22. 40	23. 10	16. 0	.0917			
	2. 30	12. 30	2. 17	.0872	7. 13	.02080	***			22. 50	23. 0	16. 21	.0928	***		
	2. 39	17. 0	2. 26	.0865						23. 30	16. 0					
	2. 45	11. 5	2. 31	.0883	8. 16	.01797				23. 45	18. 30	17. 5	.0921			
	2. 53	20. 15	2. 40	.0871	8. 23	.01908				23. 59	17. 0	17. 20	.0899	***		
	3. 5	12. 0	2. 46	.0921										18. 13	.0922	
	3. 20	21. 0	3. 0	.0895	9. 0	.02049	***							18. 18	.0930	
		***	3. 11	.0937										18. 27	.0923	
	4. 30	15. 0		***	3. 45	.0921	9. 40	.01988						18. 46	.0936	***

	6. 0	13. 0	4. 10	.0936	10. 3	.01900								21. 28	.0901	
		***	4. 17	.0921										21. 46	.0904	
	6. 52	21. 13. 25	4. 30	.0936	10. 40	.01808								22. 4	.0893	***
	7. 6	20. 54. 35	4. 38	.0925	10. 45	.01842								22. 36	.0893	
	7. 16	49. 10		***	10. 49	.01736								22. 47	.0881	
	7. 30	20. 36. 10	5. 5	.0940	11. 8	.01950	***							23. 27	.0895	
	7. 55	21. 7. 0												23. 40	.0891	
	8. 10	20. 45. 5	5. 56	.0942	12. 0	.01961								23. 59	.0897	
	8. 15	50. 0	6. 7	.0921	12. 17	.0206a										
	8. 20	20. 48. 0	6. 18	.0943	12. 56	.02032										
	9. 0	21. 1. 30	6. 26	.0927	13. 35	.01923										
	9. 28	3. 0		***	14. 50	.02180										
	9. 40	0. 15	6. 47	.0928	16. 40	.02310										
	9. 46	8. 30	6. 58	.0911	17. 18	.02277										
	9. 55	3. 10	7. 7	.0943	18. 7	.02178										
	10. 0	9. 30	7. 36	.0886	20. 55	.02263										
	10. 13	2. 0	7. 47	.0916	23. 59	.02532										
	10. 30	21. 4. 30	8. 6	.0857												
	10. 54	20. 37. 0	8. 10	.0880												
	11. 15	50. 0	8. 15	.0862												
	11. 30	48. 0		***												
	12. 15	53. 0	9. 20	.0892												
	12. 19	20. 51. 15		***												
	12. 45	21. 3. 5	9. 40	.0880												
	13. 5	1. 10	9. 47	.0888												
	13. 25	14. 5	10. 4	.0871												
	13. 45	1. 10	10. 6	.0894												
	14. 15	13. 35	10. 17	.0875												
	14. 24	12. 30	10. 27	.0896												
	14. 33	9. 0	10. 42	.0880												
		***	10. 48	.0910												
	15. 55	8. 25	10. 53	.0867												
		***	11. 15	.0946	***											
	17. 14	11. 30														
	17. 50	32. 30	11. 48	.0910												
	18. 15	32. 0	12. 6	.0885												
	18. 36	23. 15	12. 25	.0904												
	18. 55	26. 0	12. 34	.0885												
	19. 7	23. 10	13. 6	.0898												
	19. 15	24. 15	13. 10	.0884												
	19. 54	15. 30	13. 20	.0921												
	20. 14	21. 0	13. 27	.0912												

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.		
Jan. 27 13. 40	o. / " 21. 9. 30 ***	Jan. 27 13. 20	.0938 ***	h m			Jan. 29 9. 55	o. / " 21. 42. 10	Jan. 29 .0951 ***	h m			h m		
16. 30	10. 55 ***	15. 0	.0937 ***				10. 40	20. 59. 10	.0945 ***				h m		
20. 5	9. 30	18. 53	.0944 ***				11. 55	21. 7. 0	.0949 ***				h m		
20. 45	7. 0 ***	21. 7	.0921 ***				12. 46	5. 0	8. 36				h m		
23. 59	14. 30	22. 6	.0927				13. 25	13. 0	.0932				h m		
		23. 44	.0919				14. 17	4. 30	.0965				h m		
		23. 59	.0913				14. 45	9. 30	.0960				h m		
Jan. 28		Jan. 28		Jan. 28			16. 10	11. 35 ***	.0916 ***				h m		
o. o	21. 14. 30	o. o	.0913	o. o	.02863	1. o 50. 0 49. 9	17. 0	10. o	12. 33	.0937			h m		
1. 15	14. 35	o. 42	.0918	2. o	.02886	3. o 52. 0 52. 6	17. 34	10. 50	12. 47	.0930			h m		
3. o	14. 0 ***	o. 55	.0922		***	9. o 50. 0 50. 3	17. 51	9. o	13. 15	.0952 ***			h m		
6. o	9. 30	1. 42	.0919	6. 8	.02422	21. o 39. 7 42. 6	18. 5	10. 30	14. 20	.0940 ***			h m		
6. 45	11. o		***	11. 46	.02431		21. 2	10. o	15. 7	.0941 ***			h m		
7. o	7. 55	3. 25	.0920	14. 15	.02642		23. 59	16. 50	17. 6	.0952			h m		
7. 25	10. o		***	18. 50	.03070				17. 45	.0960 ***			h m		
7. 40	6. 5	3. 56	.0921	23. 17	.02872	(†)				19. 50	.0964 ***			h m	
8. 5	9. 30		***							20. 37	.0961 ***			h m	
8. 31	7. 5	4. 54	.0934							21. 56	.0940 ***			h m	
9. o	9. 10 ***	5. 46	.0925							23. 17	.0932 ***			h m	
12. 40	11. o		***							23. 59	.0932			h m	
17. o	11. o	6. 37	.0936				Jan. 30		Jan. 30				h m		
19. 45	9. 40	6. 46	.0925				o. o	21. 17. o	o. o	.0932	o. o	42. 3	43. 2	h m	
21. 30	7. 30	7. 17	.0940				o. 25	19. 30	o. 27	.0937	3. 6	43. 1	44. 8	h m	
22. 50	13. o	7. 32	.0926 ***				o. 33	17. o		***	10. 8	46. 0	46. 3	h m	
23. 59	14. 30	8. 6	.0935 ***				o. 40	19. o	1. o	.0926	17. 40	47. 0	47. 5	h m	
		9. 47	.0936				1. 4	13. 10	1. 56	.0937	23. 20	47. 0	48. 1	h m	
		11. 16	.0942 ***				1. 47	14. 50	2. 17	.0935	23. 59	46. 8	47. 7	h m	
		15. 3	.0951 ***				6. 30	9. 30	4. 36	.0937		44. 4	45. 3	h m	
		19. 40	.0961 ***				10. 15	8. 10	6. 35	.0949		45. 0	45. 7	h m	
		23. 16	.0930				15. 55	10. 55		***				h m	
		23. 59	.0926				20. 45	8. 15	10. 3	.0949 ***				h m	
Jan. 29		Jan. 29		Jan. 29			22. 35	13. o		23. 59	16. o 15. 8	.0956 ***		h m	
o. o	21. 14. 30	o. o	.0926	(†)	1. o 43. 0 45. 0									h m	
1. 40	16. 35	1. 17	.0928	0. 43	.02572	3. o 47. 8 48. 7	19. 53							h m	
2. 10	14. 50	1. 36	.0934	1. 35	.02554	9. o 49. 5 51. 5								h m	
5. 34	9. 25	1. 45	.0929	5. 17	.02061	21. o 41. 4 43. 6								h m	
6. 16	10. o		***	11. 36	.01703									h m	
6. 43	8. 50	3. 20	.0933	20. 47	.02284									h m	
7. 5	9. 30		***	23. 5	.02406									h m	
7. 25	5. 5	4. 35	.0929	23. 59	.02449									h m	
7. 30	6. o	5. 16	.0935				Jan. 31		Jan. 31					h m	
7. 48	4. o	5. 27	.0933				o. o	21. 16. o	o. o	.0922	o. o	47. 6	47. 3	h m	
8. 24	7. 40	5. 52	.0938				o. 20	17. o	o. 12	.0918	1. 17	48. 4	48. 6	h m	
9. 13	21. 7. o	6. 36	.0936				o. 46	15. 55	o. 26	.0925	3. 20	51. 2	51. 2	h m	
9. 35	20. 41. o	7. o	.0938				1. 16	17. o	0. 55	.0920	6. 13	50. 0	50. 4	h m	
							2. 45	15. o	1. 26	.0925	9. 6	50. 0	50. 4	h m	
										10. 25	.01725	46. 0	47. 6	h m	
											.01786			h m	

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Jan. 31	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.	Feb. 1	Greenwich Mean Solar Time.	Western Declina- tion.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.	
Jan. 31	4. 0	21. 12. 5	2. 18	.0921	11. 36	.01791	h m	o o	Feb. 1	21. 16. 0	0. 0	.0927	(†)	1. 0	50. 0	50. 0	
4. 23	14. 0	2. 42	.0928	14. 31	.01942	***			Feb. 1	16. 30	2. 8	.0921	0. 45	21. 0	52. 0	52. 0	
4. 55	11. 0			18. 46	.02150				Feb. 1	15. 20	2. 19	.0925	4. 40	11. 0	52. 0	52. 0	
5. 16	2. 0	3. 12	.0922	21. 6	.02213				Feb. 1	16. 55	2. 37	.0914	5. 35	11. 0	18. 10	21. 0	
5. 58	11. 35			23. 5	.02208				Feb. 1	15. 0	3. 30	.0917	12. 17	18. 42			
6. 39	13. 0	3. 30	.0928		(†)				Feb. 1	12. 0	4. 18	.0930	13. 35	18. 00			
8. 45	21. 9. 10								Feb. 1	10. 30	4. 36	.0927	20. 42	22. 61			
9. 25	20. 54. 0	4. 35	.0899						Feb. 1	10. 40	5. 17	.0936	23. 15	24. 82			
9. 55	21. 0. 30								Feb. 1	9. 10	5. 17			(†)			
10. 16	4. 30	4. 52	.0903						Feb. 1	10. 35	7. 26	.0936					
10. 33	4. 0	5. 15	.0893						Feb. 1	8. 8	8. 40	8. 20					
	***	5. 36	.0910						Feb. 1	8. 23	3. 35	7. 45					
11. 40	9. 0	5. 47	.0905						Feb. 1	8. 38	3. 0						
	***	6. 7	.0910						Feb. 1	9. 20	5. 0	8. 15					
12. 30	10. 0	6. 35	.0922						Feb. 1	9. 42	8. 40	8. 20					
13. 10	7. 0								Feb. 1	9. 50	8. 35	8. 35					
	***	7. 0	.0921						Feb. 1	10. 9	9. 50	8. 58					
15. 0	9. 30								Feb. 1	11. 45	8. 35	9. 20					
15. 27	6. 40	7. 35	.0937						Feb. 1	12. 35	10. 0	10. 18					
15. 50	9. 30	7. 38	.0931						Feb. 1	12. 55	12. 0	10. 45					
	***	7. 50	.0936						Feb. 1	13. 45	7. 0	11. 50					
16. 41	10. 0								Feb. 1	14. 10	9. 30	12. 17					
17. 25	7. 25	8. 40	.0916						Feb. 1	12. 0	12. 35	12. 35					
18. 3	10. 5		(†)						Feb. 1	10. 20	12. 50	10. 50					
19. 4	10. 0	9. 0	.0919*						Feb. 1	16. 25	8. 10	13. 36					
19. 26	11. 20	9. 36	.0920						Feb. 1	16. 55	9. 15	14. 17					
19. 45	9. 0	9. 47	.0916						Feb. 1	18. 25	12. 0	18. 26					
19. 53	10. 5								Feb. 1	19. 5	8. 0	19. 8					
20. 0	9. 0	10. 46	.0923						Feb. 1	21. 23	9. 30	19. 54					
20. 15	12. 0	11. 5	.0920						Feb. 1	21. 30	8. 0	19. 54					
21. 0	11. 30	11. 46	.0932						Feb. 1	21. 44	13. 0	21. 4					
21. 30	9. 0								Feb. 1	23. 15	15. 20	22. 25					
	***	12. 17	.0931						Feb. 1	23. 54	14. 10	22. 47					
22. 40	14. 30	12. 34	.0937						Feb. 1	23. 59	21. 9. 0	23. 59					
23. 0	13. 0	12. 56	.0937						Feb. 2	21. 14. 0	0. 0	.0930	(†)	2. 0	46. 5	47. 0	
23. 59	16. 0	13. 28	.0951						Feb. 2	12. 35	0. 27	.0923	1. 0	25. 18*	3. 0	48. 3	49. 0
		13. 42	.0944						Feb. 2	14. 10	2. 11	.0928	1. 13	24. 71	9. 0	47. 8	48. 2
		13. 50	.0951						Feb. 2	16. 40	3. 40	.0916	2. 27	23. 62	22. 0	41. 0	42. 7
			***						Feb. 2	9. 55	4. 8	.0925	9. 26	20. 60			
			15. 0	.0942					Feb. 2	5. 54	21. 9. 40	4. 17	.0921	14. 45	22. 50		
				***					Feb. 2	6. 23	20. 55. 0	4. 17	***	18. 26	25. 51		
				16. 43	.0946				Feb. 2	7. 35	21. 9. 0	4. 17	***	23. 59	28. 43		
					***				Feb. 2	9. 5	6. 0	5. 56	.0936				
				17. 35	.0957				Feb. 2	9. 30	3. 30	6. 20	.0916				
				17. 45	.0949				Feb. 2	10. 5	6. 25	6. 35	.0927				
				18. 0	.0956				Feb. 2	10. 55	7. 0	6. 47	.0935				
					***				Feb. 2	11. 30	14. 10	7. 27	.0935				
				19. 5	.0948				Feb. 2	12. 0	7. 30	7. 50	.0928				
				19. 26	.0952				Feb. 2				.0937				
				19. 42	.0944				Feb. 2				***				
				19. 47	.0948				Feb. 2								
				19. 58	.0943				Feb. 2								
				20. 15	.0946				Feb. 2								
				21. 55	.0930				Feb. 2								
					***				Feb. 2								
				23. 59	.0927				Feb. 2								

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		
							Of H. F. Magnet.	Of V. F. Magnet.						Of H. F. Magnet.	Of V. F. Magnet.	
Feb. 2		Feb. 2	'0938	"	"	"			Feb. 4		Feb. 4		"	"		
13. 44	21. 7. 0	9. 5	'0938	"	"	"	o	o	17. 50	21. 9. 50	9. 35	'0943	"	o	o	
13. 58	7. 20	9. 18	'0930						20. 50	8. 0	10. 8:	'0961				
14. 16	13. 0	9. 58	'0941						23. 59	14. 10	10. 42	'0944				
15. 12	6. 40	10. 15	'0935							12. 0	'0953	***				
15. 58	9. 10	10. 50	'0942								14. 26	'0953	***			
	***	11. 2	'0937								17. 20	'0956				
17. 23	7. 35	11. 15	'0944								19. 27	'0957				
	***		***								20. 46	'0950	***			
21. 44	9. 10	12. 35	'0944								21. 49	'0937	***			
22. 36	12. 0	13. 6	'0954								22. 28	'0940	***			
23. 59	13. 30	13. 45	'0943								23. 59	'0936				
		14. 15	'0962													
		14. 37	'0955													
		15. 13	'0954													
		16. 27	'0961													
			19. 50	'0963												
			21. 26	'0955												
			22. 37	'0940												
			23. 36	'0946												
			23. 59	'0942												
Feb. 3		Feb. 3		Feb. 3					Feb. 5		Feb. 5				Feb. 5	
o. o	21. 13. 30	o. o	'0942	o. o	'02843	8. 30	45. 5	46. 0	o. o	21. 14. 10	o. o	'0936	o. o	'02031	1. 0	49. 0
o. 23	13. 30	o. 18	'0941	2. 15:	'02842	21. 0	43. 8	44. 5				***	***	'02040	3. 0	50. 0
1. o	15. 10	o. 35	'0943	9. 8	'02573				1. 35	14. 40	2. 7	'0930	1. 47	'02262	9. 0	49. 8
1. 58	15. 0	1. 15	'0942	14. 16	'02420				2. 9	13. 0	4. 42	'0936	9. 37	'02063	21. 15	48. 0
5. 30	10. 30	3. 42	'0954	22. 45	'02500				2. 39	12. 0	6. 55	'0947	15. 36	'02144		
6. 35	10. 55	5. 0	'0956	23. 59	'02494				5. 25	9. 40	8. 16	'0952	18. 47	'02223		
8. 46	8. 45	5. 16	'0951						9. 0	9. 55	9. 38	'0952	23. 59	'02250		
11. 30	9. 15	***	6. 15	'0958					15. 0	10. 30	***	***	6. 0	'02061		
17. 55	9. 30	***	***								11. 40	'0959	***			
18. 50	10. 45	11. 36	'0956								20. 46	8. 0	13. 52	'0954		
19. 40	9. 5	***									23. 30	12. 15	16. 40	'0961		
21. 35	9. 10	14. 35	'0961								23. 59	12. 50	18. 28	'0963		
22. 55	14. 0	***	20. 13	'0960									19. 46	'0962		
23. 59	14. 0	23. 27	'0937										20. 17	'0963		
		23. 59	'0935										22. 7	'0946	***	
Feb. 4		Feb. 4		Feb. 4					Feb. 6		Feb. 6				Feb. 6	
o. o	21. 14. 0	o. o	'0935	o. o	'02494	1. 0	47. 0	45. 7	o. o	21. 12. 50	o. o	'0937	o. o	'02250	o. o	49. 4
2. o	14. 0	o. 26	'0934	2. 12	'02391	3. 0	49. 2	48. 0	0. 31	12. 40	0. 26	'0937	1. 37	'02231	1. o	50. 2
6. o:	10. 0	1. 26	'0938	5. 40:	'01935	9. 0	49. 0	50. 0	0. 52	14. 10	0. 26	'0937	6. 12	'01976	3. o	51. 7
7. 10	11. 15	***	3. 0	'0929	10. 43	7. 50	'01822	21. 0	47. 0	47. 4	1. 5	13. 30	0. 37	'02010	6. o	53. 0
7. 53	7. 0	5. 6	'0937	22. 6	'02000				1. 46	15. 30	0. 48	'0934	14. 47	'02122	9. o	53. 0
8. o	7. 50	5. 47	'0938	23. 59	'02031				2. 10	13. 10	1. 37	'0936	17. 36	'02489	12. o	52. 5
8. 15	6. 20	6. 48	'0943	***					2. 30	14. 30	1. 45	'0940	22. 45	'02531	18. o	51. 6
8. 53	10. 30	***	7. 20	'0935					3. 51	9. 0	1. 56	'0936	23. 59	'02531	21. o	48. 2
10. 50	4. 30	7. 45	'0937						5. 45	11. 0	2. 24	'0941	***			
12. o:	8. o	7. 55	'0941						7. 6	9. 0	3. 5	'0940	***			
14. 10	8. o	8. 6	'0936						9. 25	8. 0	1. 5	'0937	2. 15			
		8. 27	'0941	***					12. 13	9. 0	3. 5					
				***					12. 36	7. 5	3. 47					
									12. 50	13. 30	4. 48					
									16. 55	10. 5	5. 7	'0938	***			
										5. 15	5. 15	'0934				

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(xix)

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.			Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.							
							Of H. F. Magnet.	Of V. F. Magnet.							Of H. F. Magnet.	Of V. F. Magnet.					
Feb. 6	21. 25.	21. 7. 0	Feb. 6 5. 27	'0938 ***	" " "	" " "	" " "	" " "	Feb. 7	22. 50	'0938 ***	" " "	" " "	" " "	Feb. 8	21. 14. 0	Feb. 8	Feb. 8	Feb. 8		
	22. 2	9. 10	8. 4	'0933 ***	" " "	" " "	" " "	" " "		23. 59	'0930	" " "	" " "	" " "	" " "	1. 50	14. 30	0. 0	'02415 1. 0 50.5 50.3	0. 0	
	22. 24	8. 0														2. 0	13. 30	2. 6	'02360 3. 0 52.2 51.9		
	22. 35	11. 0														2. 15	15. 20	5. 48	'02049 9. 0 51.8 51.5		
	23. 10	11. 50	10. 7	'0934	" " "	" " "	" " "	" " "								2. 30	13. 0	6. 25	'02122 21. 0 47.0 48.0		
	23. 45	14. 30	10. 48	'0938 ***	" " "	" " "	" " "	" " "								4. 10	11. 0	8. 48	'02088 '02195		
	23. 59	14. 0	11. 50	'0936	" " "	" " "	" " "	" " "								5. 24	9. 0	16. 12	'02520 (†)		
			12. 7	'0939	" " "	" " "	" " "	" " "								5. 50	11. 0	23. 7	'02498 '02520		
			12. 20	'0947	" " "	" " "	" " "	" " "								7. 44	9. 10	9. 32	'0930		
			12. 46	'0941 ***	" " "	" " "	" " "	" " "								8. 7	6. 40	5. 18	'0923		
			14. 30	'0941 ***	" " "	" " "	" " "	" " "								9. 15	8. 30	5. 36	'0924		
			18. 36	'0961 ***	" " "	" " "	" " "	" " "								17. 0	11. 0	5. 45	'0922		
			19. 50	'0962 ***	" " "	" " "	" " "	" " "								21. 0	8. 0	7. 15	'0936		
			21. 47	'0945	" " "	" " "	" " "	" " "								23. 10	12. 20	7. 37	'0935		
	22. 6		'0948	" " "	" " "	" " "	" " "	" " "								23. 59	13. 0	8. 20	'0942		
	22. 20		'0939	" " "	" " "	" " "	" " "	" " "									8. 36	8. 56	'0952		
	22. 45		'0945	" " "	" " "	" " "	" " "	" " "									8. 56	11. 18	'0950		
	23. 7		'0939	" " "	" " "	" " "	" " "	" " "									13. 3	'0953 ***			
	23. 36		'0925	" " "	" " "	" " "	" " "	" " "													
	23. 59		'0929	" " "	" " "	" " "	" " "	" " "													
Feb. 7	21. 14. 0	21. 14. 0	Feb. 7	'0929	Feb. 7	'02531	o. o	48. 3	48. 8	Feb. 9	o. o	17. 45	'0961	" " "	" " "	1. 58	15. 20	18. 48	'0962 ***		
	***	***	o. 35	'0936	1. 5	'02500	1. o	49. 8	49. 7		o. o	20. 5	'0959	" " "	" " "	6. 12	'02062	2. 6	'0959 ***		
	2. 30	15. 0	0. 45	'0932	2. 27	'02448	3. o	51. 8	51. 5		o. o	22. 17	'0940	" " "	" " "	9. 0	52. 7	2. 26	'0940		
	3. 0	12. 30		***							o. o	23. 59	23. 59	23. 59	23. 59	11. 0	14. 30	3. 15	'02418*	3. 0 51.0 51.6	
	3. 26	13. 30	1. 44	'0937	7. 46	'01953	21. o	48. 0	48. 0		o. o	23. 59	23. 59	23. 59	23. 59	12. 20	12. 15	4. 42	'02231	9. 0 48.2 49.8	
	3. 45:	11. 10	2. 18	'0937	8. 7	'01961	21. o	48. 0	48. 0		o. o	23. 59	23. 59	23. 59	23. 59	13. 0	14. 20	5. 42	22. 31	22. 31 43.0 43.5	
	10. 40	9. 0	2. 27	'0939	8. 28	'02020					o. o	23. 59	23. 59	23. 59	23. 59	9. 0	9. 20	8. 35	8. 35		
	11. 15	7. 5	***								o. o	23. 59	23. 59	23. 59	23. 59	9. 39	6. 10	4. 17	4. 17		
	12. 43	10. 0	3. 5	'0932	17. 25	'02173					o. o	23. 59	23. 59	23. 59	23. 59	10. 17	8. 30	5. 35	5. 35		
	16. 0	12. 0	3. 29	'0937	23. 59	'02415					o. o	23. 59	23. 59	23. 59	23. 59	11. 15	8. 10	6. 10	6. 10		
	17. 11	8. 5	3. 40	'0931							o. o	23. 59	23. 59	23. 59	23. 59	11. 30	9. o	8. 6	8. 6		
	17. 26	9. 40	4. 8	'0934							o. o	23. 59	23. 59	23. 59	23. 59	11. 50	5. 40	4. 17	4. 17		
	17. 45	8. 5	***								o. o	23. 59	23. 59	23. 59	23. 59	12. 15	14. 30	3. 15	3. 15		
	21. 25:	6. 30	4. 33	'0932							o. o	23. 59	23. 59	23. 59	23. 59	9. 20	9. 39	8. 35	8. 35		
	***	5. 38	'0941								o. o	23. 59	23. 59	23. 59	23. 59	10. 17	8. 30	5. 35	5. 35		
	23. 10	13. 0	5. 38	'0941							o. o	23. 59	23. 59	23. 59	23. 59	11. 15	8. 10	6. 10	6. 10		
	23. 45	11. 5	8. 16	'0945							o. o	23. 59	23. 59	23. 59	23. 59	11. 30	9. o	8. 6	8. 6		
	23. 59	14. 0	11. 40	'0951							o. o	23. 59	23. 59	23. 59	23. 59	11. 50	10. 35	10. 5	10. 5		
			11. 49	'0946							o. o	23. 59	23. 59	23. 59	23. 59	12. 17	15. 35	9. 40	9. 40		
			12. 17	'0952							o. o	23. 59	23. 59	23. 59	23. 59	13. 32	10. 30	11. 27	11. 27		
			13. 32	'0950							o. o	23. 59	23. 59	23. 59	23. 59	18. 5	20. 10	8. 40	8. 40		
			18. 5	'0963							o. o	23. 59	23. 59	23. 59	23. 59	19. 15	21. 30	9. 45	9. 45		
			19. 15	'0963							o. o	23. 59	23. 59	23. 59	23. 59	22. 33	22. 46	13. 50	13. 47		
			22. 33	'0933							o. o	23. 59	23. 59	23. 59	23. 59		23. o	13. o	14. 42	'0961	

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.						
Feb. 9 23. 32 23. 59	21. 16. 5 15. 5	Feb. 9 15. 15 16. 37 17. 13 19. 35 21. 7 21. 42 21. 10 22. 45 23. 0 23. 59	•0966 •0968 •0965 *** •0969 *** •0963 •0959 •0960 •0954 •0956 •0945	h m s	h m s	h m s	Feb. 10 22. 50 23. 25 23. 59	21. 15. 0 14. 0 19. 0	Feb. 10 17. 50 18. 18 18. 50 20. 6 20. 12 21. 7 21. 16 22. 35 23. 30 23. 42 (†)	h m s	Feb. 10 •0963 •0971 *** •0963 •0963 •0957 •0944 •0945 *** •0925 •0938 •0932	h m s	Feb. 10 •0963 •0963 •0957 •0944 •0945 *** •0925 •0938 •0932	h m s	Feb. 10 •0963 •0971 *** •0963 •0963 •0957 •0944 •0945 *** •0925 •0938 •0932	h m s	Feb. 10 •0963 •0971 *** •0963 •0963 •0957 •0944 •0945 *** •0925 •0938 •0932		
Feb. 10	o. o	21. 15. 5	o. o	•0945	o. o	•02810	Feb. 10	7. 25	45. 0	45. 5	Feb. 11	o. o	•02781	Feb. 11	1. o	42. 2	43. 0		
	o. 35	19. o	o. 45	•0948	2. 20	•02861		21. 0	40. 0	41. 0		o. 40	•0920*		o. 47	•02743	3. o	45. 0	45. 3
	1. o	18. 20	0. 50	•0944	7. o	•02682					Feb. 11	1. o	•0942	Feb. 11	(†)	9. o	43. 0	44. 0	
	1. 15	17. o	1. 8	•0949	7. 26	•02725						1. 45	•0942			21. o	34. 2	37. 0	
	1. 36	19. 10	1. 56	•0937	9. 15	•02678					Feb. 11	2. 16	17. o	Feb. 11	•02781	1. o	42. 2	43. 0	
	2. 10	18. o	2. 18	•0948	10. 50	•02720						2. 17	•0948			3. o	45. 0	45. 3	
	2. 42	13. 55	***	•0948	11. 15	•02709					Feb. 11	3. 23	13. o	Feb. 11	•02743	(†)	9. o	43. 0	44. 0
	3. o	14. 10	3. 26	•0954	***	13. 53						3. 27	•0935			21. o	34. 2	37. 0	
	3. 20	17. o	***	•0954	***	•02848					Feb. 11	3. 41	14. o	Feb. 11	•02600	1. o	42. 2	43. 0	
	4. 33	12. o	4. 45	•0950	16. 30	•02822						3. 46	•0943			3. o	45. 0	45. 3	
	5. 35	12. o	5. 6	•0955	20. 45	•02850					Feb. 11	5. 54	9. o	Feb. 11	•02271	21. o	34. 2	37. 0	
	5. 54	13. o	5. 27	•0950	23. 59	•02781						5. 35	•0939			3. o	45. 0	45. 3	
	6. 40	12. o	5. 48	•0962							Feb. 11	6. 24	4. o	Feb. 11	•02232	1. o	42. 2	43. 0	
	7. o	2. 35	6. 7	•0951								6. 35	•0943			3. o	45. 0	45. 3	
	7. 5	3. 30	6. 26	•0958							Feb. 11	6. 54	7. 30	Feb. 11	•02250	1. o	42. 2	43. 0	
	7. 20	1. 10	6. 56	•0934								6. 46	•0945			3. o	45. 0	45. 3	
	7. 45	10. 30	7. 17	•0934							Feb. 11	7. 45	2. 55	Feb. 11	•02231	1. o	42. 2	43. 0	
	10. 10	8. o	7. 50	•0946								7. 19	•0938			3. o	45. 0	45. 3	
	10. 32	1. 30	8. 18	•0953							Feb. 11	9. 16	21. 7. 45	Feb. 11	•02500	1. o	42. 2	43. 0	
	10. 44	2. 30	***	•0953								9. 36	•0947			3. o	45. 0	45. 3	
	11. o	2. 10	9. 22	•0959							Feb. 11	9. 45	20. 57. 30	Feb. 11	•02858	1. o	42. 2	43. 0	
	11. 20	5. o	5. o	•0959								9. 48	•0943			3. o	45. 0	45. 3	
	11. 30	3. 40	10. o	•0953							Feb. 11	10. 2	20. 55. o	Feb. 11	•02631	1. o	42. 2	43. 0	
	12. 40	9. o	10. 17	•0951								10. 30	•0943			3. o	45. 0	45. 3	
	13. 40	7. o	10. 35	•0983							Feb. 11	10. 45	21. 9. 30	Feb. 11	•0954	1. o	42. 2	43. 0	
	14. 5	10. o	10. 46	•0985								10. 52	•0950			3. o	45. 0	45. 3	
	14. 42	6. 25	11. 11	•0955							Feb. 11	11. 28	7. o	Feb. 11	•0952	1. o	42. 2	43. 0	
	15. 2	7. 50	11. 33	•0962								11. 30	•0952			3. o	45. 0	45. 3	
	15. 40	1. o	11. 47	•0945							Feb. 11	11. 42	6. o	Feb. 11	•0945	1. o	42. 2	43. 0	
	15. 50	1. o	12. 20	•0950								11. 45	•0945			3. o	45. 0	45. 3	
	16. 23	6. 40	12. 47	•0958							Feb. 11	12. 46	10. o	Feb. 11	•0990	1. o	42. 2	43. 0	
	17. 39	6. 50	13. 18	•0955								12. 47	•0949			3. o	45. 0	45. 3	
	18. 20	9. 10	13. 30	•0962							Feb. 11	13. 55	7. o	Feb. 11	•0956	1. o	42. 2	43. 0	
	18. 38	7. 45	13. 47	•0966								13. 38	•0956			3. o	45. 0	45. 3	
	18. 46	9. 30	14. 15	•0957							Feb. 11	14. o	11. o	Feb. 11	•0957	1. o	42. 2	43. 0	
	18. 55	8. 5	14. 40	•0963								14. 47	•0949			3. o	45. 0	45. 3	
	19. 15	10. 15	15. 8	•0958							Feb. 11	15. 55	7. o	Feb. 11	•0956	1. o	42. 2	43. 0	
	20. 21	8. o	15. 36	•0965								15. 38	•0956			3. o	45. 0	45. 3	
	21. 30	10. o	16. 7	•0960							Feb. 11	16. 59	13. 5	Feb. 11	•0944	1. o	42. 2	43. 0	
	21. 40	8. 30	***	•0960								16. 56	•0967			3. o	45. 0	45. 3	

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Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		
							Of H. F. Magnet.	Of V. F. Magnet.								Of H. F. Magnet.	Of V. F. Magnet.	
Feb. 12	o. o 21. 13. 5	Feb. 12	.0949	Feb. 12	.02631	Feb. 12	8. 50	21. 4. 30	Feb. 13	o. o 21. 4. 30	Feb. 13	8. 6	Feb. 13	8. 6	Feb. 13	9. o 21. 4. 47	47° 44' 5	
0. 36	17. 35		***	1. 50	.02559	3. o	10. 15	9. o		1. 50	.02077	9. o	10. 15	9. 49	.0948	14. o	.01679	45° 7' 46' 6
1. 10	14. o	1. 46	.0947	6. 26	.02178	9. o	11. 5	7. 40		21. o	.01989	7. 47	12. 20	9. 30	.0951	17. 48	.01907	40° 5' 42' 0
2. 50:	16. 5		***				15. 45	10. 15		21. o	***		15. 45	10. 42	.0952	23. 5	.02371	39° 2' 40' 6
	***	2. 47	.0939		7. 47		18. o	10. 15								(†)		
4. 45	10. 15	3. 6	.0941				20. 45	10. 15										
	***	3. 28	.0933	12. 46	.01930		21. 23	6. 30										
5. 55	10. o	3. 56	.0932	22. 35:	.02178		22. 35	9. 10										
6. 21	o. o	4. 32	.0923	23. 59	.02150		23. 59	13. 5										
6. 45	3. 30		***															
7. 10	7. 15		***															
7. 30	8. o	5. 10	.0928															
7. 54	8. o	5. 36	.0943															
8. 20	21. 4. o		***															
9. 15	20. 59. o	5. 55	.0941															
9. 43	20. 59. 30	6. 20	.0923															
9. 55	21. 4. o	6. 42	.0947															
10. 19	20. 58. o		***															
10. 34	21. o. o	7. 10	.0954															
11. 5	21. 8. 15	7. 30	.0952															
11. 32	20. 59. 30	7. 46	.0942															
12. 0	20. 59. o	8. 18	.0955															
12. 30	21. 7. 10	8. 36	.0947															
13. 23	6. o		***															
14. 10	9. o	9. 50	.0944															
15. 20	9. 50	10. 5	.0937															
16. 50:	8. o	10. 36	.0939															
17. 40	11. o	10. 42	.0943															
18. 13	10. 55	10. 50	.0940															
19. 10	8. 20	11. 6	.0948															
19. 30	9. 35	11. 10	.0941															
	***	11. 18	.0946															
20. 50	6. 40	11. 26	.0941															
	***	11. 47	.0948															
22. 30	7. 15	12. o	.0946															
	***	12. 20	.0959															
23. 59	14. o	12. 41	.0953															
		13. 22	.0959															
		14. 47	.0956															
		16. 46	.0964															
			.0963															
			17. 59															
			18. 27															
			19. 6															
			19. 35															
			20. 47															
			23. 59															
Feb. 13	o. o 21. 14. o	Feb. 13	.0945	Feb. 13	.02150	Feb. 13	Feb. 15	o. o 21. 11. 20	Feb. 15	o. o 21. 11. 20	Feb. 15	o. o 21. 11. 20	Feb. 15	Feb. 15	o. o 21. 11. 20	49° 48' 7		
2. 16	14. o		***	2. 35	.01997	1. o	1. 30	14. 40		1. 30	42° 6' 43' 7	42° 6' 43' 7	1. 4	1. 4	4. 15	4. 15	4. 15	51° 2' 51' c
6. 20	10. o	1. 58	.0945	5. 46	.01588	3. o	6. 25	9. o		6. 25	48° 0' 48' 0	48° 0' 48' 0			7. 43	7. 43	7. 43	50° 2' 49' 5
8. 30	9. 30	2. 22	.0942	6. 40	.01522	6. o												47° 5' 48' 3

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	
Feb. 15	6. 55	Feb. 15	Feb. 15	Feb. 15		Feb. 16	12. 55	Feb. 16	Feb. 16		Feb. 17	Feb. 17
6. 55	21. 11. 30	2. 42	.0933	11. 10.	.01738	12. 55	21. 10. 5	8. 4	.0932		o. o	.02043
	"	***	***	17. 15	.01997		***	8. 20	.0926		o	9. 0
7. 46	10. 20	4. 47	.0945	20. 16	.02060	16. 54	10. 0	8. 50	.0925			51. 8
8. 15	o. o		***	23. 59	.02053	17. 10	8. 5	9. 16	.0930			51. 7
8. 34	3. o	5. 18	.0940			17. 40	10. 0	9. 34	.0925			
8. 44	2. 10	5. 45	.0942				***	9. 46	.0927			
9. 36	9. 15	5. 53	.0936			21. 25	7. 0	10. 3	.0923			
	***	6. 7	.0937			23. 6	11. 30	10. 45	.0933			
12. o	9. 40	6. 20	.0934			23. 23	15. o	11. 6	.0942			
	***	***	***			23. 59	15. 50	11. 35	.0949			
15. 55	9. o	7. 5	.0940					12. 7	.0939			
16. 24	10. 35		***						***			
16. 46	10. o	7. 47	.0936						16. 30	.0950		
17. 2	11. 50		***						16. 46	.0957		
18. o	8. 30	8. 25	.0954						17. 18	.0950		
	***	8. 40	.0940							***		
20. 50	6. 5	8. 48	.0946									
	***	9. 7	.0937									
21. 45	9. 40		***						19. 11	.0955		
22. 35	11. 45	10. 45	.0952							***		
23. 8	11. o		***						19. 40	.0949		
23. 36	16. 30	12. 47	.0956							***		
23. 56	14. 30	13. 3	.0954						20. 35	.0946		
23. 59	15. 30		***							***		
									22. 40	.0934		
									23. 8	.0917		
									23. 25	.0923		
									23. 35	.0920		
									23. 59	.0925		
Feb. 16	Feb. 16	Feb. 16	Feb. 16	Feb. 16	Feb. 16	Feb. 17	o. o	Feb. 17	Feb. 17	Feb. 17	Feb. 17	Feb. 17
o. o	21. 15. 30	o. o	.0939	o. o	.02053	o. 59	17. 35	o. o	.0925	o. o	.02043	9. 0
o. 10	16. 30	o. 5	.0929		***	1. 25	15. 30	3. 3	.0932	1. 15	.02062	51. 8
o. 23	9. 30	o. 13	.0923	3. 56	{ .01708	3. o	50. 8	50. 7	1. 47	18. o	21. 46	51. 7
o. 44	19. 30	o. 20	.0926		{ .01750	9. o	53. 0	53. 0	2. 10	15. 10	23. 59	
	***	o. 44	.0923			21. 30	50. 8	51. 5		***		
1. 13	19. o	0. 52	.0932	8. 50	.01802	3. 2	15. 10	6. 11		5. 50	.0940	
1. 51	16. o		***	12. 15	.01798	3. 22	12. o	6. 20		6. 11	.0937	
2. 5	19. o	1. 30	.0920	15. 7	.01881	4. 15	13. 10	6. 45		6. 14	.0938	
	***	1. 55:	.0908	23. 59	.02043	6. 32	13. 10	6. 45		6. 40	***	
2. 45	16. o	2. 20	.0921			7. 12	8. 10	7. 8		7. 12	.0936	
3. 22	17. 25		***			8. 10	8. 10	7. 25		8. 10	.0942	
3. 40	14. 55	3. 6	.0918			10. 15	10. o	14. 35		9. 40	***	
	***	3. 35	.0926			14. 24	10. 5	18. 26		10. 15	.0951	
5. o	13. 30	3. 47	.0919			14. 39	13. o	19. 38		14. 24	.0962	
5. 20	11. o	4. 36:	.0923			15. 7	10. o	23. o		15. 7	.0961	
	***	5. o	.0912				***				***	
7. o	9. 40	5. 35	.0924			18. o	9. o	23. 11		18. o	.0935	
7. 55	6. o		***				***	23. 35		19. 38	.0940	
8. 10	6. 10	6. 45	.0937			21. 20	6. 15			21. 20	.0934	
8. 38	3. 55	7. 2	.0927				***				***	
10. 5	2. 40	7. 20	.0925			23. 59	13. 50	23. 59		23. 59	.0936	

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.			
							Of H. F. Magnet.	Of V. F. Magnet.								Of H. F. Magnet.	Of V. F. Magnet.		
Feb. 18	o. o 21. 13. 50	Feb. 18	.0936 ***	Feb. 18	.02430 1. 0 49° 6' 50° 2'	Feb. 18			Feb. 20	o. o 21. 7. 10	Feb. 20	.0963 ***	Feb. 20			Feb. 20	o. o 22. 0	o. o 49° 5' 49° 2'	
0. o 14. 30	1. 0 ***	1. 6	.0941 ***	8. 8	.02365 3. 0 52° 3' 52° 2'	8. 26	.01772 9. 5 54° 5' 53° 5'	21. 0	18. 25	7. 0	15. 36	.0969 ***			23. 0	50° 0' 49° 3'			
3. 15	15. 0 ***	3. 32	.0933 12. 50	.01897					19. 24	10. 0	20. 27	.0961 ***							
4. 38	14. 30	4. 11	.0938 20. 15	.02320					20. 20	6. 5									
5. 50	9. 0	4. 56	.0930 22. 30	.02392					20. 32	7. 0									
6. 10	11. 40	5. 35	.0938 23. 59	.02384					20. 55	5. 55	22. 6	.0937							
7. 26	10. 5	5. 44	.0933						22. 2	9. 0	22. 17	.0942 ***							
7. 55	5. 35	6. 5	.0938						22. 20	12. 0									
8. 25	8. 0 ***	6. 20	.0933						23. 35	14. 0	23. 59	.0928							
9. 36	6. 0	6. 45	.0941 ***						23. 59	15. 0									
10. 0	7. 5	7. 45	.0937																
10. 30	5. 0	8. 6	.0945																
10. 40	6. 50	8. 50	.0941 ***																
12. 45	8. 0																		
17. 30	9. 0	12. 11	.0945 ***																
21. 30:	4. 0																		
23. 25	11. 10	17. 46:	.0961 ***																
23. 59	14. 50	20. 0	.0958 ***																
		22. 17	.0933 ***																
		23. 59	.0930																
Feb. 19	o. o 21. 14. 55	Feb. 19	.0930 ***	Feb. 19	.02384 1. 0 51° 3' 51° 4'	Feb. 19			Feb. 21	o. o 21. 15. 0	Feb. 21	.0928 ***	Feb. 21			Feb. 21	o. o 51° 2' 51° 3'		
1. 0 18. 30	1. 2 15. 15	1. 11	.0913 2. 46	2. 46	.02200 9. 0 53° 8' 53° 2'	{.01892 20. 0 47° 0' 47° 5'	5. 32	17. 0 16. 30	0. 55	17. 0 16. 30	0. 38	.0922 ***	4. 7	1. 30	18. 30	2. 7	1. 30	51° 8' 51° 6'	
1. 25	15. 15								2. 7	18. 30	2. 7	.0937	6. 0	2. 40	15. 30	2. 40	2. 40	53° 3' 53° 1'	
1. 55	14. 10								2. 40	15. 30	15. 30	.0931 ***						9. 0 52° 6' 52° 7'	
2. 30:	17. 30	2. 45	.0925	5. 32	{.01983 21. 0 46° 6' 47° 5'	{.01983 21. 0 47° 2' 47° 4'			3. 40	15. 35	3. 47	.0945						21. 0 47° 8' 48° 3'	
3. 35	10. 35	3. 21	.0913 ***						4. 40	11. 15	4. 18	.0942	18. 16						
4. 15	12. 25	3. 46	.0920	11. 7	.01990 23. 0 47° 4' 47° 3'	.01990 23. 0 47° 4' 47° 3'			4. 51	12. 0	5. 0	.0955	22. 27						
6. 10:	9. 40								5. 3	10. 30	5. 8	.0950	23. 50						
16. 10	9. 15	4. 42	.0920	23. 59	.02650				5. 10	21. 12. 0	5. 17	.0954							
20. 45	5. 10								5. 45	20. 59. 0	5. 36	.0934 ***							
20. 50	7. 30	10. 15	.0941 ***						6. 25	21. 14. 0									
21. 7	8. 0								6. 32	11. 0	6. 15	.0955							
21. 16	5. 30 ***	17. 42	.0957 ***						6. 44	10. 30	6. 42	.0930 ***							
23. 59	13. 0	19. 50:	.0956 ***						7. 0	13. 0									
		22. 42	.0928 ***						7. 15	12. 5	7. 20	.0929							
		23. 59	.0926						7. 40	4. 10	7. 42	.0916							
Feb. 20	o. o 21. 13. 0	Feb. 20	.0926 ***	Feb. 20	.02650 0. 0 48° 2' 48° 3'	Feb. 20			8. 30	2. 0	8. 35	.0917 ***							
0. 10 14. 5	1. 17								8. 40	4. 35									
0. 21 13. 5	3. 6	.0933	5. 16						9. 2	6. 30	9. 7	.0923							
1. 30: 15. 35	5. 55	.0953	9. 45						9. 19	3. 0	9. 25	.0933 ***							
5. 40 9. 40 ***	6. 46	.0955	13. 40						9. 39	7. 30									
10. 45 6. 30 ***	7. 15	.0959	15. 6:						10. 8	8. 30	10. 30	.0939							
15. 0 9. 30 ***	10. 47	.0970	23. 59						10. 45	21. 5. 55	10. 47	.0925							
									11. 7	20. 49. 10	11. 0	.0936							
									11. 45	21. 0. 30	11. 15	.0912							
									12. 46	2. 10	11. 24	.0930							
									13. 0	7. 10	11. 36	.0923 ***							
									13. 16	7. 40									
									13. 45	11. 10	12. 5	.0920 ***							
										12. 35		.0938 ***							

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.	
h m	o i "	Feb. 21 h m 22. 17	'0923 ***	h m			h m	o	o	Feb. 23 h m 22. 47 23. 59	'0925 '0936			h m	o o
Feb. 22	o. o 21. 18. o	Feb. 22	'0920	Feb. 22	(†) 1. o 51° 4' 51" .	Of H. F. Magnet.	Feb. 24	o. o 21. 12. 40	o. o	Feb. 24	'0936	o. o	'02490	Feb. 24	10. 10 48° 5' 49" .
o. 20	19. o	o. o	***	o. 7	'02391 3. o 54° 0' 54" .	Of V. F. Magnet.	Feb. 24	o. 44	14. o	Feb. 24	'0937	1. 37	'02563	21. o 46° 2' 46" .	51° 0' 51" .
0. 45	23. o	o. 26	'0914	3. 6	'02163 9. o 54° 6' 54" .		Feb. 24	1. 17	17. 40	Feb. 24	'0930	12. 29	'02765		51° 0' 51" .
1. 5	23. o	1. 7	'0916	4. 17	'02009 21. o 50° 0' 52" .		Feb. 24	1. 45	14. 40	Feb. 24	'0937	13. 20	'02764		51° 0' 51" .
1. 35	17. 15	1. 18	'0910	6. 18	'01952		Feb. 24	2. 30	15. 10	Feb. 24	'0933	16. 52	'02890		51° 0' 51" .
2. 30	19. 30	---	---	---	---		Feb. 24	4. 44	10. 15	Feb. 24	'0944	23. 59	'02839		51° 0' 51" .
6. o	11. o	2. 40	'0920	14. 43	'01932		Feb. 24	5. 20	6. o	Feb. 24	'0948	---	---		51° 0' 51" .
7. 15	9. 35	---	---	23. 59	'02190		Feb. 24	5. 45	8. 30	Feb. 24	'0945	---	---		51° 0' 51" .
7. 39	7. 10	4. o	'0915	---	---		Feb. 24	8. o	9. o	Feb. 24	'0937	5. 8	'0937		51° 0' 51" .
7. 46	8. o	---	---	---	---		Feb. 24	8. 25	7. o	Feb. 24	'0940	5. 40	'0943		51° 0' 51" .
7. 58	4. o	8. o	'0922	---	---		Feb. 24	10. 14	8. o	Feb. 24	'0942	6. 25	'0942		51° 0' 51" .
8. 11	9. 30	8. 15	'0938	---	---		Feb. 24	10. 43	4. o	Feb. 24	'0947	6. 46	'0947		51° 0' 51" .
9. o	1. o	8. 42	'0914	---	---		Feb. 24	12. o	4. 50	Feb. 24	'0937	8. 7	'0937		51° 0' 51" .
10. 20	7. 5	10. 19	'0928	---	---		Feb. 24	12. 50	12. o	Feb. 24	'0939	8. 38	'0939		51° 0' 51" .
10. 46	4. 10	10. 47	'0923	---	---		Feb. 24	13. 20	6. 10	Feb. 24	'0937	9. 3	'0937		51° 0' 51" .
11. o	5. o	11. 20	'0931	---	---		Feb. 24	13. 46	8. 15	Feb. 24	'0937	---	---		51° 0' 51" .
11. 55	3. o	13. 36	'0932	---	---		Feb. 24	18. 55	7. 10	Feb. 24	'0948	10. 42	'0948		51° 0' 51" .
12. 18	0. 55	14. 15	'0939	---	---		Feb. 24	19. 41	9. 15	Feb. 24	'0946	11. 37	'0946		51° 0' 51" .
13. 30	9. o	15. 7	'0936	---	---		Feb. 24	20. 40	7. 20	Feb. 24	'0954	12. 35	'0954		51° 0' 51" .
14. 10	7. o	15. 48	'0943	---	---		Feb. 24	23. 59	15. 30	Feb. 24	'0962	12. 45	'0962		51° 0' 51" .
14. 40	4. o	---	---	---	---		Feb. 24	18. 26	13. 4	Feb. 24	'0958	13. 35	'0958		51° 0' 51" .
15. 2	6. 25	19. o	'0940	---	---		Feb. 24	21. 27	13. 2	Feb. 24	'0952	14. 2	'0952		51° 0' 51" .
17. o	8. 20	19. 46	'0929	---	---		Feb. 24	21. 44	15. 43	Feb. 24	'0955	15. 43	'0955		51° 0' 51" .
20. 54	---	20. 17	'0930	---	---		Feb. 24	22. 51	21. 27	Feb. 24	'0934	18. 26	'0934		51° 0' 51" .
23. o	12. 30	21. 42	'0917	---	---		Feb. 24	23. o	21. 44	Feb. 24	'0935	19. 40	'0935		51° 0' 51" .
23. 59	14. 15	22. 46	'0918	---	---		Feb. 24	22. 51	22. 51	Feb. 24	'0923	20. 40	'0923		51° 0' 51" .
		23. 15	'0912	---	---		Feb. 24	23. 59	23. 59	Feb. 24	'0916	21. 40	'0916		51° 0' 51" .
		23. 35	'0915	---	---		Feb. 24	23. 59	23. 59	Feb. 24	---	22. 40	---		51° 0' 51" .
		23. 59	'0912	---	---		Feb. 24	23. 59	23. 59	Feb. 24	---	23. 40	---		51° 0' 51" .
Feb. 23	o. o 21. 14. 15	Feb. 23	'0912	o. o	'02190 1. o 52° 6' 53" .	Of H. F. Magnet.	Feb. 25	o. o 21. 15. 35	o. o	Feb. 25	'0921	o. o	'02837	Feb. 25	1. o 49° 4' 49" .
1. 50	16. 30	0. 56	'0910	1. 36	'02188 3. o 53° 7' 54" .	Of V. F. Magnet.	Feb. 25	1. 55	16. o	Feb. 25	'0921	1. 52	'02751	3. o 51° 0' 51" .	51° 0' 51" .
3. o	15. o	---	---	5. 37	'01967 9. o 53° 0' 54" .		Feb. 25	5. o	10. 40	Feb. 25	'0922	10. 45	'02290	9. o 50° 5' 51" .	51° 0' 51" .
5. o	10. 30	4. 36	'0937	13. 5	'02002 22. o 48° 0' 50" .		Feb. 25	7. 35	9. 50	Feb. 25	'0922	21. 30	'02932	21. o 43° 3' 45" .	51° 0' 51" .
10. 30	10. o	5. 5	'0934	23. 59	'02490		Feb. 25	8. 20	7. 15	Feb. 25	'0925	---	---		51° 0' 51" .
14. o	10. o	---	---	8. 25	'0941		Feb. 25	9. 5	9. 30	Feb. 25	'0925	---	---		51° 0' 51" .
20. 55	6. 30	10. 30	'0940	---	---		Feb. 25	10. o	9. 20	Feb. 25	'0938	7. 50	'0938		51° 0' 51" .
23. o	11. 55	---	---	---	---		Feb. 25	11. 15	10. 15	Feb. 25	'0936	8. 8	'0936		51° 0' 51" .
23. 59	12. 40	18. 35	'0948	---	---		Feb. 25	18. o	9. 10	Feb. 25	'0957	17. 30	'0957		51° 0' 51" .
		19. 47	'0946	---	---		Feb. 25	21. 15	7. o	Feb. 25	'0954	20. 40	'0954		51° 0' 51" .
		20. 45	'0938	---	---		Feb. 25	23. 25	15. o	Feb. 25	'0943	21. 43	'0943		51° 0' 51" .
		22. 40	'0931	---	---		Feb. 25	23. 45	13. 45	Feb. 25	'0926	22. 35	'0926		51° 0' 51" .

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AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(xxv)

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.		
Mar. 2 h m s 0. 0 21. 13. 35	Mar. 2 h m s 0. 0 ***	Mar. 2 h m s 0. 0 .0907	Mar. 2 h m s 0. 0 .02981	Mar. 2 h m s 1. 0 47° 47' 4"	Mar. 2 h m s 1. 0 47° 47' 4"	Mar. 4 h m s 0. 0 21. 15. 30	Mar. 4 h m s 0. 0 ***	Mar. 4 h m s 0. 0 .0932	Mar. 4 h m s 0. 0 .02640	Mar. 4 h m s 0. 0 1. 0 47° 47' 3"	Mar. 4 h m s 0. 0 .02631	Mar. 4 h m s 0. 0 3. 0 49° 5' 48' 6"	Mar. 4 h m s 0. 0 3. 0 49° 5' 48' 6"	Mar. 4 h m s 0. 0 43° 0' 44' 3"	
0. 40 13. 0	0. 47 .0902	1. 27 .02905	5. 7 .02549	9. 0 .50° 5' 49' 3"	5. 20 .02549	1. 45 12. 0	4. 40 8. 0	1. 45 .0924	1. 45 .02243	1. 45 .02243	2. 37 9. 0 .18° 8' 49' 0"	2. 37 9. 0 .18° 8' 49' 0"	2. 37 9. 0 .18° 8' 49' 0"	2. 37 9. 0 .18° 8' 49' 0"	
1. 52 17. 0	0. 47 .0902	1. 27 .02905	5. 7 .02549	9. 0 .50° 5' 49' 3"	5. 20 .02549	4. 40 8. 0	5. 5 10. 0	4. 40 .0921	4. 40 .02630	4. 40 .02630	5. 5 10. 0 19. 16	5. 5 10. 0 19. 16	5. 5 10. 0 19. 16	5. 5 10. 0 19. 16	
2. 13 16. 0	0. 47 .0902	1. 27 .02905	5. 7 .02549	9. 0 .50° 5' 49' 3"	5. 20 .02549	6. 55 9. 0	6. 55 9. 0	6. 55 .0930	6. 55 .02837	6. 55 .02837	7. 0 5. 0 5. 11	7. 0 5. 0 5. 11	7. 0 5. 0 5. 11	7. 0 5. 0 5. 11	
2. 25 17. 0	2. 5 .0918	11. 22 .02512	14. 50° .02531	19. 45° .02398	23. 59 .02130	8. 42 5. 0	9. 30 7. 10	8. 42 .0934	8. 42 .0940	8. 42 .0940	9. 30 7. 10 7. 46	9. 30 7. 10 7. 46	9. 30 7. 10 7. 46	9. 30 7. 10 7. 46	
2. 40 15. 10	*** 2. 30	.0912 11. 22	.02512 14. 50°	.02531 19. 45°	.02398 23. 59	10. 35° 7. 40	18. 0 7. 0	10. 35° .0940	10. 35° .0940	10. 35° .0940	18. 0 7. 0 8. 45	18. 0 7. 0 8. 45	18. 0 7. 0 8. 45	18. 0 7. 0 8. 45	
3. 45 14. 35	*** 3. 2	.0931 19. 45°	.02163 23. 3	.02130 23. 59		18. 55 7. 20	21. 10 14. 0	18. 55 13. 46	18. 55 13. 46	18. 55 13. 46	21. 10 14. 0 16. 40	21. 10 14. 0 16. 40	21. 10 14. 0 16. 40	21. 10 14. 0 16. 40	
4. 20 10. 0	*** 3. 47	.0933 23. 59	.02130			22. 30 14. 15	(†) 18. 39	22. 30 14. 15	22. 30 14. 15	22. 30 14. 15	22. 30 14. 15 18. 39	22. 30 14. 15 18. 39	22. 30 14. 15 18. 39	22. 30 14. 15 18. 39	
4. 56 13. 0	4. 30	*** 4. 30									20. 18 .0937	20. 18 .0937	20. 18 .0937	20. 18 .0937	
5. 10 4. 30	21. 11. 0	4. 16 .0922									20. 37 .0931	20. 37 .0931	20. 37 .0931	20. 37 .0931	
5. 30 20. 54. 0	20. 54. 0	*** 20. 54. 0									21. 7 .0933	21. 7 .0933	21. 7 .0933	21. 7 .0933	
6. 30 21. 11. 35	4. 47 .0930										(†) 18. 39 .0939	(†) 18. 39 .0939	(†) 18. 39 .0939	(†) 18. 39 .0939	
6. 55 9. 30	5. 7 .0928										20. 18 .0937	20. 18 .0937	20. 18 .0937	20. 18 .0937	
7. 5 11. 35	5. 18 .0915										20. 37 .0931	20. 37 .0931	20. 37 .0931	20. 37 .0931	
10. 40 7. 5	5. 37 .0946										21. 7 .0933	21. 7 .0933	21. 7 .0933	21. 7 .0933	
11. 0 2. 0	5. 50 .0915										(†) 18. 39 .0939	(†) 18. 39 .0939	(†) 18. 39 .0939	(†) 18. 39 .0939	
12. 45 9. 0	6. 8 .0962										20. 18 .0937	20. 18 .0937	20. 18 .0937	20. 18 .0937	
14. 35 8. 20	6. 47 .0925										20. 37 .0931	20. 37 .0931	20. 37 .0931	20. 37 .0931	
16. 40 11. 0	7. 5 .0934	***									21. 7 .0933	21. 7 .0933	21. 7 .0933	21. 7 .0933	
17. 7 9. 0	9. 22 .0948										20. 18 .0937	20. 18 .0937	20. 18 .0937	20. 18 .0937	
18. 10 9. 0	***										20. 37 .0931	20. 37 .0931	20. 37 .0931	20. 37 .0931	
19. 25 6. 0	10. 47 .0943										21. 7 .0933	21. 7 .0933	21. 7 .0933	21. 7 .0933	
21. 25 8. 30	11. 13 .0963										21. 7 .0933	21. 7 .0933	21. 7 .0933	21. 7 .0933	
22. 5 12. 0	11. 36 .0947										21. 7 .0933	21. 7 .0933	21. 7 .0933	21. 7 .0933	
23. 59 14. 20	11. 47 .0952	***									21. 7 .0933	21. 7 .0933	21. 7 .0933	21. 7 .0933	
	12. 33 .0947	***									21. 7 .0933	21. 7 .0933	21. 7 .0933	21. 7 .0933	
	16. 37 .0955										21. 7 .0933	21. 7 .0933	21. 7 .0933	21. 7 .0933	
	17. 15 .0961	***									21. 7 .0933	21. 7 .0933	21. 7 .0933	21. 7 .0933	
	19. 0 .0952	***									21. 7 .0933	21. 7 .0933	21. 7 .0933	21. 7 .0933	
	19. 42 .0936	***									21. 7 .0933	21. 7 .0933	21. 7 .0933	21. 7 .0933	
	23. 59 .0893										21. 7 .0933	21. 7 .0933	21. 7 .0933	21. 7 .0933	
Mar. 3	Mar. 3	Mar. 3	Mar. 3	Mar. 3	Mar. 3	Mar. 3	Mar. 3	Mar. 3	Mar. 3	Mar. 3	Mar. 3	Mar. 3	Mar. 3	Mar. 3	
0. 0 21. 14. 25	0. 0 .0893	0. 0 .02130	0. 0 9. 6	0. 0 51° 0' 52' 0"	0. 0 22. 15	0. 0 13. 5	0. 0 22. 25	0. 0 17. 30	0. 0 22. 43	0. 0 19. 10	0. 0 23. 59	0. 0 17. 0	0. 0 21. 17. 0	0. 0 21. 17. 0	
0. 55 17. 0	*** 1. 45	.0912 5. 15	.02123 .01930	21. 0 45° 7' 46' 8"	21. 0 45° 7' 46' 8"	21. 0 45° 7' 46' 8"	21. 0 45° 7' 46' 8"	21. 0 45° 7' 46' 8"	21. 0 45° 7' 46' 8"	21. 0 45° 7' 46' 8"	21. 0 45° 7' 46' 8"	21. 0 45° 7' 46' 8"	21. 0 45° 7' 46' 8"	21. 0 45° 7' 46' 8"	
3. 40 18. 5	*** 8. 52°	8. 52° .01898	20. 16 .02493	23. 59 .02640											
5. 45 11. 25	5. 8 .0922														
6. 0 9. 10	5. 47 .0918														
7. 20 10. 0	6. 38 .0925	***													
7. 45 9. 0															
8. 10 9. 30	10. 36° .0934														
8. 35 7. 30	19. 37 .0951														
9. 55 9. 55	22. 40 .0930														
18. 30 9. 40	23. 59 .0932														
19. 55 8. 35															
20. 44 6. 10															
23. 59 15. 30															

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		
															Of H. F. Magn.	Of V. F. Magn.	
Mar. 6	o 18.30	8. 0	Mar. 6	17. 12	'0944	Mar. 6	'02731	20. 0	46° 5' 47" 4	Mar. 9	4. 10	23. 5	6. 40	'0907	9. 42	'02042	h h o o
	20. 15	4. 0		17. 45	'0947			21. 0	46° 8' 47" 3			***	7. 4	'0888	10. 17	'01879	
	23. 59	16. 40		19. 13	'0943			22. 0	46° 8' 47" 0			***	7. 16	'0903	10. 26	'01918	
					***			23. 0	47° 0' 46" 8				29. 30	7. 39	'0886	10. 45	'01830
												5. 45	14. 0	(†)			
												5. 55	20. 30	8. 25	'0900	15. 17	'02381
												6. 20	14. 50	8. 29	'0894	17. 16	'02730
												7. 0	21. 15	8. 40	'0916	18. 35	'02822
												7. 16	14. 30	8. 55	'0889	23. 59	'02768
												7. 30	17. 25	9. 32	'0882		
												8. 7	8. 10	9. 46	'0856		
												8. 24	21. 11. 0	10. 30	'0912		
												8. 40	20. 58. 0	10. 54	'0852		
												9. 0	21. 9. 0	(†)			
												9. 24	7. 30	11. 13	'0852		
												9. 30	4. 0	11. 44	'0912		
												9. 44	21. 4. 30	11. 48	'0903		
												9. 57	20. 55. 0	11. 55	'0910		
												10. 31	21. 14. 10	11. 59	'0905		
												10. 45	21. 9. 10	12. 1	'0907		
												11. 0	20. 55. 5	12. 14	'0882		
												11. 44	21. 28. 30	12. 21	'0920		
												11. 50	0. 0	12. 40	'0854		
												12. 1	8. 0	13. 11	'0886		
												12. 10	4. 25	13. 27	'0897		
												12. 35	21. 18. 35	13. 49	'0870		
												13. 7	20. 59. 30	13. 59	'0873		
												13. 32	20. 59. 10	14. 10	'0852		
												13. 45	21. 4. 40	(†)			
												14. 5	0. 0	14. 30	'0852		
												14. 15	6. 5	15. 14	'0923		
												14. 47	0. 0	15. 17	'0919		
												15. 11	4. 15	15. 24	'0924		
												15. 23	11. 35	15. 29	'0922		
												15. 36	12. 10	15. 40	'0918		
												15. 45	15. 30	15. 44	'0925		
												16. 3	15. 10	15. 55	'0920		
												16. 3	15. 10	15. 55	'0924		
												16. 38	8. 0	16. 9	'0924		
												16. 43	9. 50	16. 12	'0922		
												16. 43	9. 0	16. 15	'0925		
												16. 48	12. 0	16. 20	'0919		
												16. 48	12. 0	16. 26	'0924		
												19. 10	8. 15	16. 34	'0915		
												19. 10	8. 15	16. 39	'0922		
												20. 0	10. 30	16. 45	'0915		
												20. 5	15. 0	16. 49	'0919		
												20. 10	10. 30	16. 55	'0915		
												20. 10	10. 30	18. 11	'0931		
												22. 0	17. 20	18. 28	'0925		
												22. 25	21. 0	18. 54	'0929		
												22. 35	18. 5	19. 0	'0925		
												22. 45	23. 0	19. 29	'0930		
												23. 45	19. 20	19. 37	'0927		
												23. 58	21. 15	19. 42	'0934		
												19. 45	19. 45	19. 45	'0928		
												19. 47	19. 47	19. 47	'0936		

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

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For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

On March 9, from $10^h. 54^m$ to $11^h. 13^m$, and from $14^h. 10^m$ to $14^h. 30^m$, the trace of the Horizontal Force Magnet went off the sheet, in the direction of diminishing force.

INDICATIONS OF THE MAGNETOMETERS

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(xxi)

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.		Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.		
Mar. 19	o. 45	21. 20. 10	Mar. 19	5. 45	.0950	13. 45	.01243	h m	o	o	Mar. 20	22. 50	21. 27. 20	11. 46	.0951	b m
5. 45	18. 0	18. 30	5. 3	6. 6	.0930	14. 15	.01199		***		23. 59	29. 0		13. 38	.0953	
6. 46	18. 30	14. 0	5. 42	7. 15	.0934	19. 28	.01463							16. 47	.0963	***
7. 15	11. 55	11. 55	6. 9	7. 47	.0927	22. 45	.01642							18. 48	.0964	***
8. 0	21. 0	21. 0	6. 37	8. 16	.0936	23. 59	.01663							19. 36	.0961	***
8. 16	9. 0	9. 0	7. 36	8. 24										21. 34	.0933	
8. 24	13. 0	13. 0	7. 49	8. 35										21. 45	.0922	***
8. 35	8. 10	8. 10	8. 8	8. 50										22. 13	.0917	***
8. 50	20. 30	20. 30	8. 18	9. 10										23. 59	.0915	
9. 10	8. 0	8. 0	8. 29	9. 25												
9. 25	13. 10	13. 10	8. 40	11. 0												
11. 0	16. 0	16. 0	9. 8	12. 30												
12. 30	16. 0	16. 0	9. 25	12. 46												
12. 46	18. 10	18. 10	9. 41	13. 1												
13. 1	17. 30	17. 30	***	13. 28												
13. 28	24. 30	24. 30	11. 5	14. 6												
14. 6	11. 5	11. 59	.0944	14. 16												
14. 16	***	13. 0	.0948	16. 50												
16. 50	12. 25	13. 23	.0963	17. 40												
17. 40	14. 50	13. 46	.0955	19. 10												
19. 10	11. 0	14. 7	.0961	20. 15												
20. 15	9. 35	9. 35	***	21. 52												
21. 52	13. 30	15. 6	.0946	23. 5												
23. 5	19. 40	15. 34	.0954	23. 20												
23. 20	21. 30	16. 9	.0947	23. 59												
23. 59	22. 0	17. 13	.0963	21. 50												
21. 50		17. 37	.0952	22. 17												
22. 17		18. 12	.0949	23. 59												
23. 59		19. 36	.0953													

			.0941													
			.0948													
			.0937													
Mar. 20	o. o	21. 22. 0	o. o	Mar. 20	o. o	.0937	o. o	Mar. 20	o. o	46. 0	47. 3		19. 36	.0962		
o. 30	20. 20	o. 43	.0942	2. 6	2. 6	.01770	1. 0	47. 8	47. 4				21. 17	.0944		
o. 48	23. 20	1. 10	.0936	6. 7	6. 7	.01592	2. 0	48. 5	48. 2				21. 20	.0947		
1. 10	20. 0	***	7. 45	1. 45	7. 45	.01588	3. 0	49. 0	48. 8				21. 47	.0935	***	
1. 45	23. 5	1. 45	.0953	9. 46	9. 46	.01486	4. 0	49. 0	49. 0				22. 50	.0926	***	
2. 10	22. 30	2. 16	.0941	12. 37	12. 37	.01380	6. 0	50. 4	50. 0				23. 59	.0932		
2. 33	24. 0	2. 20	.0947	15. 8	15. 8	.01510	9. 0	50. 0	50. 0							
3. 25	17. 30	2. 48	.0932	22. 0	22. 0	.01918	12. 0	49. 0	50. 5							
5. 52	15. 0	***	23. 59	.01910	18. 0	.044. 0	44. 0	45. 0								
7. 10	11. 40	4. 40	.0945		20. 0	.043. 0	44. 0									
8. 10	13. 30	5. 5	.0945		21. 0	.043. 0	44. 7									
9. 25	13. 20	6. 46	.0957		22. 0	.044. 2	44. 8									
10. 9	15. 15	6. 46	.0957		23. 0	.045. 0	45. 0									
10. 30	13. 10	7. 6	.0953													
12. 0	16. 0	8. 0	.0959													
15. 10	16. 30	9. 56	.0952													
18. 15	14. 40	10. 40	.0956													
20. 10	11. 10	10. 40	.0956													

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AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

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For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers.	Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers.		
							Of H. F. Magnet.								Of H. F. Magnet.		
							Of V. F. Magnet.								Of V. F. Magnet.		
h m	o i "	Mar. 24 23. 17	'0935 ***	h m		h m	o o	o	o	h m	Mar. 25 19. 46	'0937 ***	h m	h m	o o	o	
Mar. 25		Mar. 25		Mar. 25		Mar. 25					Mar. 25 20. 35	'0941					
o. o	21. 25. 30	o. o	'0934 ***	o. o	'02043	1. o	51. 3	52. 2			20. 47	'0934					
1. o	27. 0	3. 25	'02149	3. o	52. 6	52. 7					21. 30	'0937					
1. 14	25. 5	1. 36	'0945 ***	4. 28	'02146	9. o	50. 6	51. 0			21. 46	'0928					
1. 45	28. 0	5. 37	'02170	21. o	48. 3	49. 0					22. 0	'0933					
2. 52	24. 20	2. 40	'0936	6. 13	'02161						22. 17	'0929 ***					
3. 34	26. 0	3. 7	'0943	6. 27	'02100						23. 25	'0930					
4. 8	23. 30	3. 15	'0940	6. 45	'02137						23. 43	'0939					
4. 40	22. 10	3. 38	'0949	7. 6	'02106						23. 59	'0932					
4. 55	24. 30	3. 45	'0945														
5. 30	15. 10	3. 49	'0950	7. 45	'02095												
5. 45	14. 0	4. 1	'0942	9. 42	'02150												
5. 58	15. 30	4. 15	'0950	11. 6	'02067												
6. 5	11. 15	4. 29	'0947														
6. 16	21. 0	4. 47	'0958	15. 38	'02303												
6. 32	2. 0	5. 6	'0949	17. 10	'02341												
6. 55	13. 0	5. 18	'0945	20. 8	'02463												
7. 6	9. 5	5. 42	'0961	23. 59	'02540												
7. 23	9. 10	5. 46	'0954														
7. 44	15. 0		(†)														
7. 57	12. 30	6. 47	'0969														
8. 44	16. 35	7. 5	'0939														
9. 16	0. 30	7. 36	'0960														
9. 44	11. 0	7. 53	'0933														
10. 4	13. 30	8. 12	'0941														
10. 23	11. 0	8. 35	'0935														
10. 33	16. 0	8. 41	'0940														
10. 51	17. 5	8. 58	'0928														
11. 6	10. 30	9. 40	'0946														
11. 20	7. 40	9. 49	'0933														
11. 38	11. 0	10. 11	'0942														
11. 52	8. 30	10. 36	'0975														
12. 50	12. 0	10. 46	'0963														
13. 41	9. 30	11. 6	'0941														
14. 16	4. 10	11. 15	'0951														
15. 50	9. 30	11. 38	'0956														
16. 17	7. 0	11. 50	'0941														
	***	12. 36	'0953														
17. 54	15. 0	12. 49	'0945														
18. 25	11. 0	13. 35	'0954														
18. 46	15. 0		***														
19. 10	12. 0	14. 17	'0944														
	***	15. 13	'0952														
20. 40	15. 45	15. 47	'0965														
21. 0	14. 40	16. 11	'0959														
22. 0	19. 30	16. 45	'0961														
	***	17. 5	'0957														
23. 59	25. 0	17. 50	'0960														
		18. 3	'0949														
		18. 41	'0953														
		19. 40	'0943														

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

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Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.		Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.		
h m	o ' "	Mar. 26		h m		h m		h m	o ' "	Mar. 27		h m		h m	o ' "	h m
21. 47	.0926 ***	23. 59	.0918	21. 47		23. 59		21. 47	.0906 ***	23. 59	.0908	21. 47		23. 59	.0908	21. 47
Mar. 27		Mar. 27		Mar. 27		Mar. 27		Mar. 28		Mar. 28		Mar. 28		Mar. 28		Mar. 28
0. 0	21. 14. 0	0. 0	.0918	0. 0	.02510	0. 0	53. 0 52. 7	0. 0	21. 17. 15	0. 0	.0908	0. 0	.01930	0. 0	53. 8	54. 0
1. 0	14. 30	0. 36	.0922	4. 45	.01947	1. 0	54. 0 53. 6	1. 0	21. 0	0. 46	.0923	2. 45	.01902	1. 0	54. 0	54. 5
1. 30	17. 0	0. 47	.0912 ***	12. 12	.01622	2. 0	54. 8 54. 6	1. 40	20. 0	1. 35	.0918	9. 52	.01476	2. 0	55. 0	55. 3
3. 10	11. 30	1. 42	.0925	19. 6	.01857	4. 0	56. 0 55. 0	2. 31	16. 10	3. 9	.0929	19. 15	.02283	3. 0	55. 8	56. 2
4. 15	12. 15		***	23. 59	.01930	6. 0	56. 5 55. 7	2. 45	18. 0	3. 20	.0923	22. 36	.02472	21. 35	55. 5	56. 0
6. 25	21. 7. 35	2. 45	.0929			9. 0	56. 2 56. 0	3. 15	17. 30		***	23. 59	.02443			
7. 0	20. 58. 35	3. 2	.0924 ***			12. 0	55. 0 56. 1	4. 5	8. 0	4. 18	.0935					
7. 50	21. 6. 40		***			18. 0	53. 0 54. 6			4. 45	.0930					
8. 15	6. 0	3. 20	.0934 ***			21. 0	52. 5 53. 6			5. 9	.0931					
9. 7	8. 0		***			22. 0	53. 0 53. 3			5. 20	.0925					
			3. 57			23. 0	53. 7 53. 8			5. 46	.0931					
10. 24	9. 0		***							6. 8	.0926					
10. 30	4. 30	4. 34	.0927 ***							7. 0	***					
10. 41	1. 0									5. 35	7. 33	.0931				
10. 57	5. 0	5. 47	.0936 ***							8. 30	8. 15	.0945				
11. 24	1. 0									9. 45	8. 15	.0945				
12. 10	3. 0	6. 33	.0933							8. 0	14. 45	.0960				
13. 1	0. 30	6. 45	.0923							10. 10	9. 29	.0935				
13. 25	4. 0	7. 13	.0944							13. 0	14. 2	.0953				
		7. 37	.0935							13. 15	14. 45	.0960				
14. 10	4. 25	7. 46	.0940							14. 10	15. 47	.0950				
14. 55	1. 0	7. 55	.0935							14. 30	16. 38	.0958				
15. 53	6. 25		***							15. 50	18. 19	.0963				
16. 23	3. 30	9. 25	.0938							16. 20	19. 46	.0957				
17. 7	5. 30	9. 38	.0943							17. 50	20. 26	.0945				
17. 40	9. 0	9. 47	.0940							19. 50	22. 17	.0924				
18. 15:	6. 10	10. 8	.0944							22. 0	22. 35	.0926				
		10. 19	.0938							23. 59	23. 2	.0921				
18. 58	9. 0	10. 43	.0957								23. 46	.0925				
19. 15	5. 50	10. 47	.0952								23. 59	.0932				
19. 23	6. 30	11. 3	.0960													
19. 50	2. 0	11. 20	.0950													
20. 10	4. 0	11. 40	.0957 ***													
21. 0:	4. 0															
21. 53	8. 0	12. 33	.0939													
22. 10	7. 0	12. 50	.0945													
		13. 18	.0942 ***													
23. 59	17. 35	14. 46	.0955													
		15. 8	.0948													
		16. 36	.0956													
		17. 9	.0953													
		17. 30	.0959 ***													
		19. 8	.0950													
		19. 18	.0953													
		19. 38	.0942													
		19. 55	.0946													
		21. 26	.0925													
		21. 37	.0926													
		22. 4	.0908													
		22. 42	.0921													

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers.	Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers.	
							Of H. F. Magnet.								Of H. F. Magnet.	
							Of V. F. Magnet.								Of V. F. Magnet.	
h m	o . "	Mar. 29														
	14. 26	.0961 ***		b b												
	15. 52	.0966 ***														
	17. 7	.0963														
	17. 39	.0967														
	19. 46	.0964														
	21. 48	.0936														
	23. 37	.0927														
	23. 59	.0929														
Mar. 30		Mar. 30		Mar. 30		Mar. 30										
o. o	21. 15. 45	o. o	.0929	o. o	.02381	1. o 50	.049 .6									
2. 14	17. 50	1. 37	.0929	2. 56	.02350	3. o 51	.851 .0									
3. 16	18. o	***		12. 7	.02017	9. o 52	.551 .1									
	***	4. 29	.0944	20. 36	.02276	22. 33	48 .549 .0									
	6. 5	9. 40	***	23. 59	.02360											
	8. 5	9. o	6. 35													
	8. 45	6. 50	7. 18													
	9. 42	9. o	***													
	13. 14	9. 30	10. 37													
	14. o	8. 10	13. 16													
	14. 42	6. o	14. 17													
	***	15. 35														
	17. 30	5. o	15. 51													
	18. 30	6. 30	16. 12													
	20. o	8. 45	17. 37													
	22. o	8. 30	20. 16													
	23. 59	11. 30	22. 27													
			23. 3													
			23. 20													
			23. 59													
Mar. 31		Mar. 31		Mar. 31		Mar. 31										
o. o	21. 11. 30	o. o	.0932	o. o	.02360	8. o 53	.053 .4									
o. 36	17. o	o. 30	.0938	1. 47	.02413	21. o 44	.546 .0									
o. 55	21. o	o. 45	.0926	3. 36:	.02382											
1. 35	22. 10	1. 11	.0939	10. 45:	.02068											
2. 2	20. o	1. 46	.0943	18. 7	.02410		***									
2. 31	23. o	2. 3	.0937													
3. 5	17. o	2. 25	.0937	20. 5	{ .02472											
3. 50	17. o	2. 42	.0948		{ .02406											
4. 4	15. 10	2. 50	.0943		{ .02331											
	***		***	22. 36	{ .02164											
	4. 45	15. o	3. 45	.0957	23. 32	.02142	(†)									
		***	***													
	5. 44	8. 50	4. 37													
		***	5. 5													
	8. 34	7. o	5. 16													
	12. 15	7. 15	5. 35													
		***	5. 46													
	17. 30	9. 35	6. 6													
	18. 40	5. 55	6. 17													
		***	***													
	20. 15	2. 30	7. 33													
		***	***													
	21. 24	4. o	8. 46													

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

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For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(xvi)

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.	
						Of H. F. Magnet.	Of V. F. Magnet.							Of H. F. Magnet.	Of V. F. Magnet.
Apr. 13	4. 0	21. 11. 35	Apr. 13	5. 21	.0960	4. 5	.01240	Apr. 13	22. 0	23. 15:	21. 16. 30	Apr. 14	13. 45	.0990	h m
	6. 10	8. 15		6. 18	.0966	6. 22	.01146			23. 59	15. 35		15. 25	.0996	***
	6. 50	6. 0	6. 43	.0963	10. 15:	14. 7	.01141						17. 2	.0992	
	7. 20	8. 0	8. 36	.0970	18. 46	.01310							17. 45	.0997	***
	9. 0	5. 30	8. 42	.0977	21. 25	.01621							18. 40	.0993	
	9. 20	9. 25	8. 47	.0968	23. 59	.01720							18. 53	.0996	
	9. 40	4. 30	9. 8	.0978									20. 19	.0978	
	9. 55	6. 0	9. 22	.0974									20. 37	.0980	
	10. 25	2. 15	9. 42	.0978									21. 33	.0967	
	12. 0	8. 0	10. 7	.0959									21. 56	.0972	
	12. 27	6. 10	11. 55	.0970									22. 15	.0953	
	13. 5	9. 5	12. 47	.0961									22. 43	.0959	***
	14. 35	6. 0	13. 8	.0965									23. 59	.0950	
	15. 40	7. 20	14. 34	.0962											
	16. 10	6. 10	***												
	16. 55	10. 5	15. 35	.0967											
	***	16. 18	.0964												
18. 54	2. 30	16. 46	.0973												
	***	17. 26	.0974												
19. 45	1. 25	17. 57	.0979												
	***	18. 36	.0975												
21. 10	4. 0	19. 6	.0977												
22. 50	12. 30	19. 43	.0975												

23. 59	15. 0	21. 8	.0956												
		(†)													
		22. 0	.0947*												
Apr. 14	o. o	21. 15. 0	Apr. 14	(†)	Apr. 14	o. o	.01709	Apr. 14	10. 40	21. 0	2. 15:	Apr. 15	o. o	.01709	Apr. 15
	0. 40	17. 10	0. 25	.0962		5. 13	.01748		50. 0	48. 0	0. 51	20. 0	0. 28	.01662	1. o
	***			***									19. 45	0. 36	51. 8
	2. 15:	15. 15	2. 18	.0973	10. 17	{ .01768	{ .01702						20. 0	0. 45	53. 8
	6. 15:	7. 0	***										19. 45	0. 45	54. 0
	7. 15	8. 0	3. 7	.0969	21. 8	.01750							21. 0	1. 39	53. 6
	7. 40	7. 10	3. 48	.0973									21. 10	1. 39	54. 2
	8. 58	9. 35	4. 37	.0980	23. 59	.01709							21. 10	1. 39	50. 7
	9. 22	4. 0	5. 25	.0975											
	***	5. 53	.0976												
10. 32	0. 10	6. 45	.0975												
11. 25	5. 0	7. 7	.1001												

12. 50	8. 0	7. 56	.0991												
	***	8. 8	.0995												
14. 0	3. 50	8. 21	.0991												
	***	8. 45	.1000												
16. 0	6. 10	8. 50	.0995												
16. 50:	9. 25	9. 6	.1001												
17. 55	6. 10	9. 17	.0996												
	***	9. 51	.0975												
18. 53	7. 0	10. 7	.0983												
19. 2	9. 10	10. 20	.0975												
19. 45	6. 0	12. 19	.0983												

20. 53	10. 50	9. 0	12. 49	.0990											
21. 45	14. 0	13. 6	.0999												
22. 5	13. 10			***											

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

VERTICAL FORCE.—April 14. The usual diurnal range did not take place on this day, and on April 15 the magnet was examined, and settled in a different position, as shown by the difference between the observations at 1^h, 0^m and 4^h, 45^m.

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		
							Of H.F. Magnet.	Of V.F. Magnet.						Of H.F. Magnet.	Of V.F. Magnet.	
Apr. 15	h m	Apr. 15		h m		h m			Apr. 16	h m	Apr. 17		Apr. 17	h m	Apr. 17	
10. 5	o , "	20. 57. o	8. 45	.0914		h m		o	22. 27	.0924	o . o	.00782	o . o	51 . 8	51 . 9	
10. 15		58. o	9. 25	.0945					23. 37	.0909	(†)		1. o	54 . 3	54 . 1	
10. 28		20. 56. 20	9. 36	.0940					23. 59	.0913			2. o	55 . 7	55 . 5	
10. 45		21. 0 . 30	9. 47	.0893									2. 15	18. o	7. 58	.0937
11. 15		20. 51. o	10. 8	.0923									2. 41	15. 15		***
12. 0		21. 6. 10		***									6. 30	8. o	11. 17	.0949
12. 23		20. 57. o	10. 36	.0920									9. o	9. 10		15. 45
12. 40		21. 4. o		***									15. 50	8. 15		23. 59
13. 0		20. 59. 40	11. 7	.0898									17. 50	8. 30		
13. 10		21. 4. 30	11. 25	.0912									20. 6	2. 50		16. 55
14. 10		10. 50		***									20. 36	3. 5		
15. 0		8. o	11. 44	.0905									23. 0	15. 30		19. 17
		***	12. 2	.0923									23. 59	16. 20		20. 18
16. 40		9. o	12. 15	.0897												
17. 15		13. 10	12. 37	.0923												
		***	12. 46	.0915												
18. 13		6. o	13. 15	.0935												
18. 29		8. 15	13. 37	.0939												
		***		***												
19. 6		4. 5	14. 45	.0936												
19. 30		6. o		***												
19. 45		2. 30	15. 56	.0945												
		***		***												
20. 10		6. o	17. 50	.0944												
20. 32		4. 40		***												
20. 48		6. 30	18. 35	.0954												
21. 25		7. 10		***												
22. 30		12. 15	21. 15	.0925												
		***	21. 42	.0928												
23. 59		16. 10	22. 20	.0901												
			23. 25	.0913												
			23. 59	.0908												
Apr. 16		Apr. 16		Apr. 16					Apr. 16		Apr. 18		Apr. 18		Apr. 18	
o. o		21. 16. 20	o . o	.0908					o . o	o . o	Apr. 18		Apr. 18		Apr. 18	
0. 50		18. o		***					21. 16. 20	o . o						
		***	1. 45	.0910					2. o	16. o						
2. o		19. 10		***					3. 35	12. 30						
2. 35		19. o	2. 47	.0893					4. 6	20. o						
3. 13		12. 5		***					6. 29	21. 9						
4. 20		13. o	3. 20	.0911					00650	22. o						
6. 15		5. o	3. 46	.0906					00761	23. o						
7. 7		8. o		***					01276	23. o						
9. 30		9. 50	10. 7	.0925					00782	23. 59						
		***	11. 45	.0933												
12. 20		10. o	12. 12	.0931												
12. 45		8. 30	12. 45	.0937												
13. 20		8. 20		***												
14. 30		13. o	14. 40	.0939												
15. 15		11. o		***												
17. o		9. o	15. 49	.0943												
18. o		11. 35	16. 36	.0955												
20. 30		4. o	17. 34	.0958												
23. 59		16. 30	18. 9	.0948												
			19. 50	.0955												
			21. 45	.0937												

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

VERTICAL FORCE.—April 17. The Photographic Trace being situated near to the boundary of the paper, the adjustments were altered between the hours of 1 and 2, so that the readings were increased by o.0174 parts of the whole Vertical Force.

INDICATIONS OF THE MAGNETOMETERS.

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol ; attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

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For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.		Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.	
b m	o i "	Apr.23		b m				Apr.25	o i "	Apr.25		b m				
		22. 5	.0932	b m				18. 45	21. 6. 30	13. 27	.0953	b m				
		22. 36	.0927	***				19. 15	3. 10	13. 57	.0950					
		23. 17	.0932	***				19. 39	4. 30	17. 0	.0961					
		23. 45	.0924					20. 5	2. 0	18. 15	.0956					
		23. 59	.0929					22. 0	8. 5	18. 24	.0948					
Apr.24	21. 19. 30	Apr.24		Apr.24				23. 0	9. 10	21. 45	.0929					
0. o	***	o. o	.0929	o. o	.02681	o. o 50° 8' 51" 7		23. 59	12. 25	23. 59	.0925					
1. 47	22. 0	(†)	o. 6	o. 20	.02620	1. o 52° 8' 53" 3		Apr.26	21. 12. 30	o. o	.02846	1. o	56° 5' 55" 8	Apr.26		
2. o	19. 20	1. o	.0927*	1. 17	.02573	2. o 54° 8' 55" 2		o. 45	14. o	(†)	.02797	3. o	58° 3' 58" 0			
4. 10	11. 40	3. o	.0936*	4. 40	.01948	3. o 56° 0' 56" 6		1. 7	16. 40	1. o	.02300	9. o	57° 2' 57" 3			
5. o	10. 35	7. 22	.0934	11. 18	.02049	4. o 57° 0' 57" C		2. 40	15. 30	2. 3	.02080	21. o	47° 2' 48" 0			
5. 40	7. 53	8. 17	.0932	14. 28	.02028	6. o 59° 0' 59" 0		5. 0	9. 45	3. 20	.02873					
7. 44	4. 35	9. 46	.0940	20. 36	.02902	9. o 58° 5' 58" 0		6. 10	7. 15	23. 59	.02710					
9. o	7. 30	10. 31	.0948	23. 59	.02810	12. o 56° 0' 56" 0		7. 30:	6. 10	5. 43	.0948					
	***	10. 45	.0944			18. o 50° 2' 50" 2		11. 10	8. o	6. 36	.0944					
11. 55	4. o	11. 14	.0958			20. o 50° 5' 51" 0		11. 55	6. 5	7. 47	.0951					
13. 15	6. o	11. 47	.0942			21. o 51° 8' 51" 7		16. 17	7. o	8. 53	.0948					
14. o	10. o	12. 36	.0954			22. o 52° 0' 52" 2		16. 45	4. 30	10. 13	.0955					
14. 55	8. 30		***			23. o 52° 7' 53" 0		17. 45	5. o	11. 7	.0953					
15. 24	5. o	13. 47	.0953					18. 10	1. 25	11. 28	.0958					
	***	14. 7	.0959						19. 5	0. 30	12. 56	.0955				
17. 16	5. 45		***					19. 23	21. 3. o	16. 25	.0962					
18. 10:	8. 30	14. 52	.0953						20. 43	20. 58. 30	17. 50	.0964				
18. 45	4. 20	15. 16	.0960					20. 54	21. 2. o	19. 11	.0962					
	***	15. 45	.0954						22. 52	8. o	20. 16	.0963				
19. 45	2. o		***						23. 59	14. o	22. 17	.0940				
20. 15	1. 25	17. 8	.0954								22. 49	.0946				
	***	17. 33	.0959								23. 9	.0941				
21. 45	5. 30	17. 50	.0956								23. 31	.0941				
22. 15	10. 15		***								(†)					
23. 59	14. 95	19. 28	.0962													
		20. 40	.0959													

		21. 45	.0928													
		22. 6	.0935													
		23. 59	.0923													
Apr.25	21. 15. o	Apr.25	.0923	Apr.25				Apr.27	21. 13. 30	(†)	1. o	.0941*	48° 3' 49" 0	Apr.27		
0. o	16. 20	2. o	.0929	1. 13	.02822	1. o 54° 0' 54" 2		0. 50	14. 30	3. o	.0950*	9. 51	{ .02778	9. o	48° 2' 49" 6	
0. 58	14. 30	3. 18	.0936	2. 46	.02743	3. o 56° 3' 56" 0		1. 25	15. 35	3. 48	.0954		* .02690	22. 27	43° 0' 43" 7	
3. 15	9. 5	3. 32	.0931	8. 18	.02042	9. o 58° 4' 59" 5		2. 2	15. 50	4. 13	.0952		** .02678			
4. 45:	6. 10	4. 54	.0934		***	21. o 51° 8' 51" 6		2. 28	14. 45	4. 46	.0961	18. 36	.02773			
6. 15	7. o	5. 57	.0943	13. 26	.02072			2. 41	15. 30	4. 58	.0959	23. 59	.02678			
8. o	6. 35	6. 18	.0940	16. 36	.02342			3. 7	13. 25	5. 43	.0971					
9. 20	4. 30	7. 17	.0941	21. 17	.02823			6. o:	7. 10	6. 31	.0971					
9. 46	7. o	8. 11	.0946	23. 59	.02846			7. 20	7. 15	7. 6	.0964					
10. 9	***	8. 29	.0943					8. o	3. 10	7. 41	.0962					
12. 32	2. o	8. 57	.0941					8. 15	3. o	7. 48	.0973					
14. 30	6. 50	9. 24	.0943					8. 36	7. o	8. 22	.0964					
16. 30:	7. 25	9. 47	.0939					9. 24	4. 45	8. 45	.0981					
17. 40	6. 15	10. 30	.0946					11. 25	6. 35	9. 13	.0964					
18. 5	8. o	12. 13	.0951					11. 50	5. 15	9. 39	.0961					
19. 2	14. 10	12. 40	.0947					15. 49	9. o	10. 15	.0964					
								19. o	3. o	11. 28	.0965					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(xlv)

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

HORIZONTAL FORCE.—April 25. The times are approximate only, and may be from two minutes to three minutes in error.
HORIZONTAL FORCE.—April 27. The times are approximate only, and may be from ten minutes to fifteen minutes in error.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		
May 1	° 13.30	May 1 21. 7. 0	5. 5	.0945	17. 29	.02263	21. 0	51. 0 51. 6	May 3 20. 35	° 0. 15	May 3 7. 42	.0955	22. 34	.02572	h		
	14. 55	7. 0	5. 37	.0953	21. 8	.02702	22. 0	51. 9 52. 6	23. 59	14. 30	12. 38	.0964	23. 59	.02183		***	
	16. 0	8. 30	5. 50	.0945	23. 47	.02580	23. 0	53. 0 53. 7			14. 6	.0960			***		
	19. 5	3. 35	6. 46	.0948	23. 59	.02607					16. 17	.0967			***		
	20. 20	0. 0	6. 51	.0955							20. 43	.0964					
	23. 0	8. 5	7. 26	.0946							21. 56	.0949					
	23. 59	11. 0		***							22. 42	.0947	(†)				
		10. 37	.0950	***													
		14. 2	.0961	***													
		15. 45	.0961	***													
		18. 10	.0967														
		18. 47	.0971														
		20. 40	.0965														
		23. 7	.0941														
		23. 20	.0944														
		23. 59	.0937														
May 2	0. 0	May 2 21. 11. 0	0. 0	.0937	0. 0	.02607	0. 0	54. 0 54. 6	May 4 3. 14	14. 0	5. 56	.0967		May 4 21. 14. 30	May 4 0. 0	May 4 1. 0	
	1. 30	13. 30		***	4. 40	.01921	1. 0	56. 8 56. 3	3. 32	15. 10	6. 19	.0952		1. 0	.0950*	1. 0	50. 0 50. 6
	5. 0	10. 40	1. 0	.0930	7. 45	{ .01837	2. 0	57. 6 57. 4	4. 0	13. 0	6. 46	.0952*		0. 37	.02163	3. 0	52. 5 52. 3
	7. 0	7. 35	2. 57	.0939		{ .01892	3. 0	58. 3 58. 3	5. 0	12. 30	7. 20	.0947					
	10. 13	8. 15	3. 16	.0935	14. 7:	{ .02130	9. 0	58. 5 58. 4	6. 36	7. 35	7. 26	.0954					
	10. 55	6. 0		***	17. 56	{ .02532	21. 0	53. 0 53. 6	6. 53	4. 20	7. 46	.0939					
	12. 25	8. 0	5. 40	.0940	20. 42	{ .02710			7. 7	6. 0	8. 6	.0940					
	13. 15	3. 35	6. 49	.0943	21. 11	{ .02678			7. 38	8. 15	8. 18	.0950					
	15. 0	6. 45	7. 12	.0951		{ .02202			7. 58	6. 0	8. 34	.0965					
	17. 7	5. 0	7. 44	.0944	23. 59	{ .02290			8. 10	8. 10	8. 46	.0955					
	17. 55	7. 0		***					9. 25	8. 0	9. 33	.0962					
	19. 45	2. 45	10. 37	.0955					9. 40	2. 0		***					
	21. 20	8. 30	11. 0	.0951	***				10. 5	6. 0	10. 27	.0976					
	23. 59	14. 35		***	12. 46	.0957			10. 55	3. 35		***					
					14. 45	.0955			11. 45	4. 0	11. 53	.0964					
					17. 12	.0967			12. 10	6. 5		***					
					20. 6	.0975			12. 35	4. 30	12. 52	.0966					
					23. 7	.0949	(†)		13. 40	9. 0	13. 5	.0974					
May 3	0. 0	May 3 21. 14. 35	(†)	0. 0	.02290	1. 0	57. 0 56. 8	19. 30	20. 59. 0	16. 0	.0973						
		***	1. 0	.0944*	0. 57	.02208	3. 0	59. 0 58. 4	20. 40	21. 4. 0		***					
	3. 0	9. 25	1. 56	.0942	2. 36	{ .02127	9. 0	56. 2 57. 0	20. 53	3. 0	19. 40	.0968					
	6. 0	8. 0	2. 45	.0940	4. 17	{ .01948	21. 0	47. 7 49. 0	23. 8	6. 0	20. 25	.0950					
	10. 40	10. 25	3. 34	.0947	5. 12	{ .01907			23. 25	15. 0	21. 34	.0942					
	11. 32	9. 0	3. 43	.0944		{ .01974			23. 59	16. 30	22. 6	.0930					
	12. 0	10. 30	4. 6	.0948	8. 26	{ .01890					22. 45	.0935					
	12. 55	8. 0	4. 23	.0943	12. 45	{ .02196					23. 30	.0931					
	15. 0	8. 0	4. 56	.0951	17. 25	{ .02683					23. 55	.0942					
	18. 45	1. 5	7. 16	.0956	19. 4	{ .02658					(†)						
		***				{ .02501	***										

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.			
					Of H. F. Magnet.	Of V. F. Magnet.						Of H. F. Magnet.	Of V. F. Magnet.		
May 5	o. o 21. 16. 35	May 5	(†) .0947	May 5	.02471	8. 36	53° 8' 54.2"	May 6	o. o 20. 17	.0948	h. m	h. m	o. o	o. o	
1. o 19. o	2. 16		*** 4.48		.02322	21. o 49.3	50.2		21. 6	.0955			1. o	52° 0'	
1. 30	18. o		*** 4.48		.02123				23. 5	.0943			3. o	53° 0'	
4. 50	13. o	3. 45	*** 4.48	11. 10. 7	.01728				23. 59	.0949			4. o	53.8°	
7. o 4. 50	4. 43		*** 4.48	17. 7	.01990								5. o	53.8°	
8. 28	7. 45	5. 4	*** 4.48	19. 55	.02230								6. o	53.8°	
9. 13	4. 25			23. 59	.02289								7. o	53.8°	
9. 50	6. 10	6. 8	.0945										8. o	53.8°	
10. 15	4. 30	6. 20	.0956										9. o	53.8°	
10. 55	7. o	6. 51	.0935										10. o	53.8°	
11. 15	5. 30	7. 37	.0953										11. o	53.8°	
13. 10	7. o	8. 16	.0949										12. o	53.8°	
13. 40	9. o	8. 45	.0952										13. o	53.8°	
	***	9. 14	.0943										14. o	53.8°	
17. 30	7. 50	9. 42	.0946										15. o	53.8°	
19. 51	1. 45	10. 4	.0955										16. o	53.8°	
22. 15	6. o		***										17. o	53.8°	
23. 59	11. o	10. 55	.0950										18. o	53.8°	
			***										19. o	53.8°	
			11. 40										20. o	53.8°	
			11. 46										21. o	53.8°	
			12. 5										22. o	53.8°	
			12. 24										23. o	53.8°	
			12. 43										24. o	53.8°	
			12. 50										25. o	53.8°	
			13. 7										26. o	53.8°	
			13. 17										27. o	53.8°	
			14. 8										28. o	53.8°	
			18. 33										29. o	53.8°	
			20. o										30. o	53.8°	
			22. 45										31. o	53.8°	
			23. 59										32. o	53.8°	
May 6	o. o 21. 11. 0	May 6	.0941	May 6	.02289	1. o 53.3	53.5	May 8	o. o 0.45	.0969	May 8	(†)	May 8	May 8	
1. 18	13. o		***	2. 18	.02120	3. o 55.8	56.3		1. 30	15. o	o. 33	.0961	0. 36	o. o	48° 0'
2. 17	13. 30	0. 50	.0940		***	9. o 56.8	57.2		2. 15	12. o	1. o	.0957*	1. 17	1. 17	50° 2'
2. 39	11. 30		***	5. o	.01762	21. o 48.2	49.2		4. 30	10. o	5. 30	.0985	11. 20	0.1622	51° 1.8°
3. 44	9. 30		***	1. 18	.0950	11. 35	.01813		4. 46	13. o	6. 17	.0964	12. 46	0.1630	51° 5.5°
6. 20:	6. o	2. 10	.0940		13. 26	{ .01912			5. 27	9. 15	7. 5	.0977	21. 6	0.1572	52° 2.4°
9. 15	7. o		***			{ .01983			7. 15	5. o	8. o	.0967		0.2103	53° 8.53° 2.4°
9. 40	21. 6. o	5. 7	.0936	19. 45		.02710			10. 20	3. o	8. 45	.0962		12. o	53.5 53.0
10. o	20. 58. 10	5. 30	.0941	23. 59		.02608			11. 54	o. o	9. 40	.0969		13. o	49° 0'
10. 16	21. 3. 30	6. 5	.0937						12. 10	11. o	9. 46	.0963		14. o	49° 7.49° 4°
11. 31	2. 30		***						12. 30	10. 55	10. 35	.0961		15. o	50° 2.50° 2
13. o	8. 50	9. 56	.0940						13. 10	8. 15	11. 14	.0953		16. o	49° 0'
14. 8	9. o	10. 8	.0951						13. 50	5. 20	11. 42	.0958		17. o	49° 0'
14. 40	7. o		***						14. 15	4. o	11. 53	.0965		18. o	49° 0'
15. 30:	8. o	12. 42	.0941						14. 50	5. o	12. 10	.0955		19. o	49° 0'
18. 30	4. o	14. 17	.0955						15. 4	4. o	12. 34	.0963		20. o	49° 0'
19. 4	1. 10		***	18. 5	.0961				15. 20	5. 45	12. 50	.0986		21. o	49° 0'
21. 30:	6. o		***						17. 2	6. o	13. 17	.0978		22. o	49° 7.49° 4°
23. 59	15. o	19. 43	.0956						17. 45	4. o	13. 29	.0980		23. o	50° 2.50° 2
									18. 0	o. 35	14. 6	.0970			
									18. 23	4. o	15. 30	.0969			
									18. 45	1. 45	18. 36	.0981			
										***	21. 45	.0951			

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.			
							Of H. F. Magnet.	Of V. F. Magnet.						Of H. F. Magnet.	Of V. F. Magnet.		
May 8																	
19. 45	o. , "	21. o. o	23. 15	.0952 (†)	h m	h m	o o	o o									
22. 30	8. o																
23. 59	14. 5																
May 9																	
0. o	21. 14. 10	May 9	(†)	May 9	(†)	May 9	o. o	51. 5 51. 5									
1. o	15. 40	1. o	.0960*	1. o	.01980*	1. o	51. 5 51. 5	o. o									
***		3. o	.0962*	1. 45	.01945	3. o	52. 2 52. 2	o. o									
2. 10	13. o	3. 6	.0961	5. 46	.01603	9. o	55. 5 54. 3	o. o									
2. 25	14. o	3. 55	.0967	11. 43	.01590	21. o	50. 0 50. 2	o. o									
4. o	10. o	4. 13	.0975	13. 47	.01662												
5. o	7. 35	5. o	.0970	19. 36	.02301												
7. 45	8. o	5. 46	.0972	22. 26	{.02409												
9. o	6. 35	6. 30	.0980		{.02540												
9. 24	7. o	6. 45	.0974	23. o	{.02536												
10. 10	4. 30	7. 6	.0977		{.01936												
11. 50	6. 40	7. 45	.0974	23. 59	.01936												
12. 2	10. 5	8. 15	.0978														
13. 52	5. o		***														
14. 10	6. 45	9. 7	.0974														
15. 19	3. 20	9. 21	.0981														
17. 20	5. o	9. 40	.0978		***												
20. o	3. o	11. 3	.0980		***												
21. o	4. 25	11. 56	.0985														
22. 30	11. o	12. 15	.0996		***												
23. 59	15. o	13. 15	.0999														
		13. 50	.0992		***												
		15. 7	.0996														
		15. 38	.0991		***												
		18. 56	.0998		***												
		21. 53	.0983														
		22. 14	.0976														
		22. 26	.0982														
		22. 55	.0975														
		23. 26	.0980														
		23. 50	.0976														
		23. 59	.0980														
May 10																	
0. o	21. 15. 5	May 10	.0980	o. o	.01936	1. o	52. 0 52. 4										
1. o	16. o	0. 16	.0983	2. 37	.01863	3. o	53. 0 53. 8										
2. 35	14. 30	(†)	9. 46	.0154	9. o	53. 0 53. 6											
6. 45:	7. 30	1. o	.0980*	16. 7	.01810	21. o	48. 0 50. 2										
8. 30	7. o	2. 17	.0986	19. 43	.02012												
8. 47	3. o	2. 40	.0983		{.02072												
9. 17	8. o	3. 15	.0996	21. 30	{.01986												
9. 30	5. o	3. 46	.0991	23. 59	{.02007												
9. 45	6. 30	***															
12. 30	4. 10	6. 17	.1000		***												
13. o	6. o	7. 42	.0994		***												
15. o	6. o																
May 11																	
0. o	21. 14. 30	May 11	o. o														
1. 10	15. o	o. 8															
2. o	12. 40	o. 20															

		3. 40	11. o	1. o													
		4. 15	8. 35	3. o													
		6. 40:	7. o	9. o													
		11. 8	4. 50	22. 15													
		11. 47	5. 45														
		12. 15	4. o														
		13. o	5. 30														
		14. 15	5. 35														
		14. 46	6. o														
		16. 45	3. o														
		17. 20	4. o														
		17. 43	1. 45														
		19. 11	2. 15														
		20. 15	0. 35														
		21. o	1. 15														
		23. 5	8. o														
		23. 59	12. 10														
May 12																	
0. o	21. 12. 15	May 12	o. o														
0. 40	14. o	0. 42															
0. 48	15. 35	0. 49															
1. 30	14. 30	1. 28															
2. o	15. 15																
4. 15	10. o	3. 19															
5. 30	9. 45																
7. 30	6. 35	4. 2															
12. 20	9. 15	4. 46															
14. 22	6. o	4. 56															
		1017	18. 37														

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(xlii)

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

(1)

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	
May 16	0. 3	21. 16. 0	May 16	(†)	0. 0	•02523	0. 0	62° 7' 62" 6	May 17	2. 5	21. 14. 0	May 17	•02426	***
1. 15	19. 30	1. 0*	•1064	0. 47	•02465	1. 0	64° 8' 64" 8	2. 38	9. 35	10. 40	•02380	***		
1. 37	19. 0	2. 45	•1059	•1070	3. 18	•02043	3. 0	66° 4' 66" 4	3. 0	14. 40	21. 7	{ •02396		
1. 47	21. 0	2. 56	•1063	4. 2	•01850	4. 0	68° 5' 69" 0	5. 21	9. 0	16. 16	•02392			
2. 16	18. 35	3. 7	•1063	•1078	•1089	•01834	9. 0	69° 6' 69" 7	5. 30	21. 5. 35	23. 59	•02290		
2. 25	20. 30	3. 37	•1078	7. 15	•01882	21. 0	61° 0' 61" 0	6. 0	20. 59. 0	•02322	***			
3. 15	9. 0	4. 7	•1046	7. 20	•01830	8. 28	{ •01927	6. 13	21. 2. 35	23. 59	•02290			
4. 30	12. 5	4. 40	•1068	8. 28	{ •01927	10. 6	•01882	6. 26	1. 10					
5. 45	9. 25	5. 45	•1087	10. 17	•01810	12. 22	•02015	7. 0	5. 0					
6. 10	5. 0	6. 7	•1084	12. 46	•02010	12. 46	•02010	7. 15	3. 30					
6. 50	4. 25	6. 15	•1089	12. 46	•02010	16. 37	•02522	7. 22	21. 5. 0					
7. 25	8. 0	6. 44	•1079	16. 37	•02522	16. 37	•02522	8. 0	20. 49. 50					
8. 25	6. 0	7. 5	•1091	22. 35	•02476	22. 35	•02476	8. 23	21. 2. 50					
9. 0	9. 0	7. 45	•1089	23. 59	•02480	23. 59	•02480	8. 36	0. 25					
9. 45	0. 10	7. 49	•1093	16. 37	•02522	13. 0	9. 0	8. 46	2. 10					
9. 51	21. 1. 35	***	•1093	16. 37	•02522	13. 0	9. 0	9. 0	0. 10					
9. 55	20. 56. 30	8. 18	•1083	22. 35	•02476	22. 35	•02476	9. 15	21. 1. 30					
10. 14	21. 16. 10	8. 46	•1099	•1099	•1099	•1099	•1099	9. 26	20. 59. 0					
10. 35	20. 53. 35	***	•1099	23. 59	•02480	23. 59	•02480	10. 0	21. 5. 35					
11. 5	59. 45	9. 45	•1086					10. 13	20. 58. 0					
11. 38	20. 55. 0	9. 48	•1100					10. 22	21. 2. 0					
11. 55	21. 0. 0	9. 52	•1093					10. 37	20. 57. 0					
12. 9	20. 58. 10	10. 6	•1119					11. 3	21. 6. 0					
12. 30	21. 3. 0	10. 22	•1044					11. 27	7. 35					
12. 55	3. 0	10. 46	•1089					12. 25	2. 15.					
	***	***	***					12. 44	12. 35					
14. 5	10. 35	11. 33	•1070					13. 0	9. 0					
14. 24	6. 0	12. 17	•1086					13. 45	9. 0					
14. 55	9. 30	12. 46	•1064					14. 35	4. 20					
	***	13. 20	•1088					15. 20	5. 20					
15. 24	5. 0	13. 52	•1096					16. 0	8. 15					
15. 40	7. 0	14. 7	•1090					18. 45	3. 0					
15. 50	2. 45	15. 8	•1101					22. 15	7. 0					
16. 20	12. 0	15. 33	•1108					(†)						
	***	15. 43	•1086											
17. 45	2. 0	16. 0	•1076											
18. 2	4. 45	17. 7	•1097											
18. 45	1. 0	20. 7	•1090											
21. 0	1. 45	21. 22	•1068											
22. 45	9. 0	21. 40	•1074											
23. 45	9. 10	23. 8	•1070											
23. 59	12. 45	23. 39	•1067											
	(†)													
May 17	0. 0	21. 12. 45	1. 0	•1064*	•02480	1. 0	62° 0' 61" 6	May 18	(†)	May 18	May 18	May 18	53° 0' 53" 7	
	***	3. 0	•1085*	8. 27	•02368	3. 0	62° 0' 61" 7	o. 30	21. 12. 20	3. 0	1. 50	•02228	3. 0	54° 6' 55" 0
o. 55	13. 5	9. 0	•1099*	•1106*	•02368	9. 0	59° 0' 60" 0		***	9. 0	6. 48	•01450	9. 0	58° 2' 58" 7
1. 10	11. 0	21. 0	•1106*		•02368	21. 0	50° 0' 51" 0	2. 6	12. 50	21. 10	•1100*	8. 20	•01483	
								2. 35	14. 45			8. 46	•01417	
								2. 52	13. 0			10. 37	•01463	
								4. 50	8. 15			11. 0	•01442	
								5. 3	10. 35			13. 35	•01583	
								5. 20	6. 5			19. 37	•02443	
								6. 0	9. 10			21. 33	{ •02408	
								7. 23	21. 6. 45			23. 59	•02342	
								7. 41	20. 58. 10			•02285		
								8. 0	20. 58. 10					
								8. 32	21. 11. 0					
								9. 25	4. 0					

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(ii)

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		
					Of H. F. Magnet.	Of V. F. Magnet.						Of H. F. Magnet.	Of V. F. Magnet.	
May 18														
10. 0	21. 0. 15													
10. 40	10. 55													
10. 54	4. 30													
11. 10	6. 30													
11. 39	3. 20													
12. 38	7. 0													
12. 49	6. 0													
13. 7	11. 30													
14. 2	0. 30													
14. 35	21. 3. 0													
14. 55	20. 59. 40													
15. 38	21. 2. 40													
15. 52	2. 0													
16. 25	3. 0													
16. 50	2. 20													
17. 8	5. 0													
17. 46	4. 35													
18. 0	6. 20													
18. 36	5. 0													
19. 10	0. 35													
19. 35	21. 2. 30													
19. 54	20. 59. 30													

22. 30	21. 8. 5													
23. 59	14. 10													
May 19		May 19		May 19		May 19		May 19		May 19		May 19		May 19
0. 0	21. 14. 10	8. 34	'1112*	0. 0	'02285	8. 34	61. 0	60. 7						
1. 25	14. 50	21. 8	'1151*	2. 17	'02221	21. 8	52. 5	53. 2	11. 48	3. 0	'1143	8. 55	'01610	22. 0
1. 46	13. 0		6. 36		'01446				13. 0	5. 0	3. 57	'1140	10. 12	23. 0
2. 14	14. 15		***						15. 55	0. 30		***	'01660	
2. 28	13. 10		11. 37		'01470				17. 8	1. 0	5. 35	'1159	12. 6	
3. 0	13. 40		***						17. 55	2. 20		***	'01763	
3. 45	8. 15		15. 8		'01708				18. 24	0. 30	8. 30	'1137	14. 45	
4. 25	9. 35		***						20. 40	1. 0	8. 56	'1140	'01910	
	***		19. 45		'02223				23. 45	10. 0		***	'02483	
5. 20	7. 10		22. 30		'02440				23. 59	5. 15	10. 27	'1135	21. 36	
5. 27	8. 30		23. 59		'02438							23. 59	'02436	
5. 54	3. 0													
6. 30	7. 30													
7. 0	6. 0													
8. 58	5. 30													
9. 15	2. 0													
9. 25	6. 40													
9. 40	1. 45													
11. 0	5. 0													

12. 40	1. 20													
13. 15	6. 50													
13. 31	5. 30													
14. 14	8. 25													
15. 13	8. 0													
16. 0	5. 0													
17. 7	5. 0													

18. 55	1. 45													
19. 40	4. 0													
20. 45:	4. 0													
May 22		May 22		May 22		May 22		May 22		May 22		May 22		May 22
0. 0	21. 5. 15	1. 0	'1147*	0. 0					0. 25	7. 0	3. 0	'1150*	3. 42	'02320
									0. 40	6. 0	9. 0	'1130*	8. 4	'02377
									2. 10	6. 40	21. 0	'1141*	9. 43	'02263

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

HORIZONTAL FORCE.—May 18, 19, 20, and 22. The Photographic Traces on these days were either entirely lost, or so faint they could not be used.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.			
May 22				May 22			May 22		May 24			May 24		May 24			
7. 0	21. 0. 15	7. 0	21. 0. 15	13. 0:	'02203	4. 0	66° 0' 66° 2'	8. 0	21. 0. 0	5. 47	'1150	12. 6	'01574	7. 0			
8. 17	21. 0. 0	8. 17	21. 0. 0	16. 35	'02398	6. 0	66° 9' 67° 2'		***	6. 16	'1186	12. 6	'01670	8. 0			
8. 55	20. 58. 25	8. 55	20. 58. 25		***	9. 0	67° 7' 67° 8'	9. 51	20. 57. 15	6. 47	'1148	16. 11	'02253	9. 0			
10. 0:	21. 0. 0	10. 0:	21. 0. 0	19. 46	'02340	12. 0	67° 2' 67° 4'	10. 27	21. 2. 20	7. 0	'1155	21. 36	'02250	10. 0			
11. 15	20. 59. 40	11. 15	20. 59. 40	20. 27	'02376	18. 0	62° 7' 63° 2'	(†)	20. 58. 15	7. 9	'1149	23. 35	'02214	11. 0			
13. 0	59. 0	13. 0	59. 0		20. 0	62° 5' 63° 0'	21. 0	'02246*	21. 0	62° 8' 63° 5'	12. 50	21. 0. 0	7. 20	'1156	12. 0		
14. 15	59. 50	14. 15	59. 50			22. 0	64° 8' 64° 9'	16. 5	20. 59. 40	7. 40	'1155	14. 16	'1155	13. 0			
17. 0	57. 30	17. 0	57. 30			23. 0	66° 0' 66° 0'	17. 25	58. 0	7. 49	'1163	14. 30	'1161	14. 0			
17. 30	59. 0	17. 30	59. 0					19. 15	53. 30	8. 21	'1150	14. 43	'1155	15. 0			
17. 50	57. 20	17. 50	57. 20					19. 30	55. 0	8. 48	'1150	18. 11	'1162	16. 0			
18. 30	58. 0	18. 30	58. 0					20. 10	20. 53. 50	9. 43	'1141	19. 17	'1148	17. 0			
19. 5	20. 56. 10	19. 5	20. 56. 10					23. 45	21. 6. 25	10. 34	'1158	21. 5	'1136	18. 0			
21. 30	21. 2. 40	21. 30	21. 2. 40					23. 59	6. 0	10. 46	'1149	22. 44	'1122	19. 0			
22. 25	3. 30	22. 25	3. 30								***	23. 59	'1125	20. 0			
22. 45	10. 30	22. 45	10. 30														
23. 10	13. 40	23. 10	13. 40														
23. 59	11. 40	23. 59	11. 40														
May 23		May 23		May 23		May 23		May 25		May 25		May 25		May 25			
0. 0	21. 11. 40	0. 0	'1136	0. 0	'02132	0. 0	67° 5' 67° 2'	0. 0	21. 6. 0	0. 0	'1125	3. 0	'01325*	1. 0			
0. 25	12. 50	0. 25	12. 50	0. 11	'1137	1. 35	'02021	1. 0	68° 5' 68° 6'	2. 20:	7. 0	***	9. 0	'01015*	3. 0		
1. 14	9. 10	1. 14	9. 10	0. 33	'1127	4. 43	'01450	2. 0	70° 6' 70° 5'	7. 0	0. 35	3. 36	'1142	22. 30	'00715*	9. 0	
1. 40	12. 15	1. 40	12. 15	0. 47	'1127		***	3. 0	72° 3' 71° 7'	7. 45	21. 1. 0	4. 29	'1143				
2. 18	9. 0	2. 18	9. 0	1. 7	'1120	11. 37	'01537	4. 0	73° 0' 73° 0'	8. 10	20. 59. 30	5. 2	'1149				
2. 32	11. 0	2. 32	11. 0	***	3. 55	'1126	'01650	9. 0	72° 6' 73° 5'	9. 40	21. 1. 0	5. 31	'1143				
3. 40	21. 7. 0	3. 40	21. 7. 0	***	4. 18	'1144	17. 44	21. 0	60° 8' 58° 6'	10. 0	21. 2. 0	5. 47	'1156				
				4. 46	'1137	23. 59	'02273			11. 0	20. 59. 30	6. 37	'1155				
7. 0	20. 58. 0	7. 0	20. 58. 0	5. 8	'1143			12. 15	56. 20	6. 56	'1150						
7. 10	21. 0. 0	7. 10	21. 0. 0	5. 45	'1132	***		11. 33	20. 56. 40	7. 12	'1158						
7. 25	20. 57. 20	7. 25	20. 57. 20	7. 13	'1140			12. 0	21. 1. 30	7. 22	'1151						
9. 10	20. 56. 30	9. 10	20. 56. 30	7. 22	'1157			12. 20	0. 0	7. 39	'1155						
10. 18	21. 1. 10	10. 18	21. 1. 10	7. 45	'1150	***		14. 10	21. 0. 0	8. 17	'1154						
10. 45	20. 59. 0	10. 45	20. 59. 0	10. 44	'1140			15. 0	20. 52. 30	9. 2	'1148						
12. 22	20. 57. 0	12. 22	20. 57. 0	11. 13	'1168			15. 30	53. 25	9. 2	***						
13. 25	21. 0. 0	13. 25	21. 0. 0	11. 32	'1157	***		15. 56	57. 0	9. 45	'1156						
17. 25	20. 55. 0	17. 25	20. 55. 0	12. 47	'1149			15. 15	56. 10	9. 45	'1156						
				12. 56	'1156	***		15. 15	56. 10	10. 46	'1149						
19. 0	55. 0	19. 0	55. 0	15. 26	'1152			19. 30:	57. 30	11. 7	'1158						
				18. 20	'1151	***		20. 30	20. 56. 0	11. 39	'1149						
20. 0	20. 51. 35	20. 0	20. 51. 35	19. 5	'1142				***	***	***						
				20. 18	'1136	***											
22. 0	21. 1. 10	22. 0	21. 1. 10	5. 15	'1122	***											
23. 59	21. 4. 7	23. 59	21. 4. 7	23. 59	'1137	***											
May 24		May 24		May 24		May 24		May 25		May 25		May 25		May 25			
0. 0	21. 5. 15	0. 0	21. 5. 15	0. 0	'1137	1. 0	'02273	1. 0	61° 8' 60° 7'	23. 59	21. 5. 0	12. 47	'1151				
2. 10:	7. 10	2. 10:	7. 10	1. 46	'1138	3. 0	'02276	3. 0	63° 5' 63° 5'			14. 8	'1164				
6. 0	21. 2. 20	6. 0	21. 2. 20	2. 42	'1147	2. 30	'02100	9. 0	65° 5' 66° 0'			15. 55	'1157				
7. 40	20. 57. 10	7. 40	20. 57. 10	3. 12	'1144	6. 40	'01642	10. 42	'01450								

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

May 25. A suspicion had reigned over the results of the Vertical Force for several days, and on this day its box was opened, and the magnet thoroughly examined. It settled so that its spot of light fell off the paper. Its motion seemed to be free, and on May 27 its adjustments were altered so that the spot of light fell properly on the paper.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(iii)

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		
						Of H. F. Magnet	Of V. F. Magnet							Of H. F. Magnet	Of V. F. Magnet	
h m	o ' "	May 25		h m			h m	o o	o o	h m		h m		h m	o o	
		18. 17	'1156													
		18. 54	'1138			***										
		19. 47	'1144			***										
		21. 42	'1134													
		22. 0	'1127			***										
		23. 59	'1127													
May 26	21. 5. o	May 26		May 26			May 26			May 27						
o. o	8. 35	o. o	'1127	10. 33	-'01025	10. 33	63. o	64. o		11. 39	20. 57. 50	3. 5	'1121			
1. 10	8. 35	o. 48	'1141	21. o	-'00715	21. o	60. 8	58. 2		12. 40	21. 1. 30	4. 2	'1137			
2. 46	21. 8. 30	1. 46:	'1137							13. 26	o. o	4. 25	'1129			
		***	'1151							14. 17	2. 30	4. 44	'1133			
7. 30	20. 59. o	2. 47	'1139							14. 50	1. o	5. 6	'1124			
8. 20	21. 0. 20		***							16. 34	1. 30	5. 25	'1132			
9. 10	20. 59. o	4. 13	'1154							17. o	4. o	6. 7	'1130			
10. 55	21. o. o	4. 34	'1151							17. 16	3. 20	7. 7	'1146			
11. 23	20. 57. 50	5. o	'1160							17. 31	5. o	7. 29	'1143			
11. 58	21. o. 30	5. 16	'1151							18. 25	2. o	7. 46	'1149			
14. 32	20. 59. 30	6. 18	'1162							19. 30	21. o. o	8. 20	'1144			
15. 35	21. o. 20		***							21. 25	20. 57. o	11. 40	'1152			
17. 5	20. 57. o	7. 18	'1156								23. 59	21. 7. 10	12. 17	'1148		
17. 25	58. o	7. 43	'1166										***			
		***	8. 6													
19. 20	52. o	9. 22	'1154							May 28		May 28		May 28		
19. 35	51. 35	10. 47	'1159							o. o	21. 7. 10	o. o	'1137	o. o	'02090	
19. 52	55. 20	11. 22	'1154							1. 55	10. o	1. o	'1138	1. o	57. 2	
20. 19	20. 51. o	11. 38	'1160							***	2. 3.	'1145	3. 19	'02102	58. 2	
21. 10	21. 1. o	11. 49	'1153							3. 45	8. 10	2. 46	'1135	10. 43	'02018	
21. 46	20. 57. 30	12. 17	'1162							***	3. 5	'1135	14. 45	'02110	56. 5	
		***	***							7. 50	0. 40	3. 20	'1147	15. 16	{'02087	
23. 25	21. 7. 30	13. 5	'1155							8. 3	1. 20	***	22. 0	22. o	58. 7	
23. 40	6. 40	14. 35	'1159							8. 40	0. o	3. 47	'1146	'02097	58. 2	
23. 59	9. o	17. 46	'1169							9. 40	1. 25	4. 2	'1158	17. 45	***	
		***								12. o	21. 1. o	4. 18	'1161			
		19. 45	'1149							13. 22	20. 58. o	4. 45	'1156	23. 59	'01938	
		20. 37	'1119							14. 40	21. 1. o		***			
		21. 39	'1123							15. 44	20. 59. 10	5. 44	'1162			
		22. 37	'1112							16. 5	21. 1. o	6. 10	'1157			
		23. 59	'1125							16. 19	20. 59. 20	6. 20	'1163			
May 27	21. 9. o	o. o	'1125			(†)	1. o	63. 6	63. 8		16. 40	21. 1. 10	7. 17	'1157		
o. 10	11. 20	o. 18	'1128				3. o	66. o	65. 8		17. 4	o. 20	7. 46	'1162		
		***	(†)				9. o	65. 7	65. 8		17. 30	4. 15	8. 37	'1153		
2. 30	11. 10	1. o	'1127			4. 15:	21. 6	56. 8	57. 7		18. 13	21. 3. 10		***		
		***	1. 25			***				19. 5	20. 58. 45	12. 18	'1152			
6. 20	21. 2. o	1. 39	'1123			7. 17	'02296			19. 50	59. 30	15. 7	'1151			
6. 46	20. 59. o	1. 57	'1131			9. 10	'02338			21. o	20. 56. 30		***			
		***	2. 11			'1127	12. 56	'02572					16. 38	'1158		
8. 20	21. o. 30	2. 28	'1129			14. 48	'02750						19. 42	'1153		
		***	2. 45			'1121	21. 36	'02183					20. 17	'1146		
10. 50	21. o. 45	2. 49	'1123			23. 59	'02090							***		

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

VERTICAL FORCE.—May 25 and 26. The results have been derived from eye-observations referred to the same zero as on May 24; they are valuable only as indicating the amount of change from one observation to the next.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		
							Of H. F. Magnet.	Or V. F. Magnet.						Of H. F. Magnet.	Or V. F. Magnet.	
h m	o .	May 28 21. 15	'1145 ***	h m		h m	o	o	May 31 15. 30	o .	May 31 17. 3	'02392	h m	o	o	
		22. 36 23. 59	'1127 '1141						16. 55	51. 40 ***	'1137 18. 30	'02223 ***				
May 29	o. o 21. 7. 5 2. 2 8. 30 4. 8 5. 35 6. 15: 1. o 2. 46 *** 3. o 12. 13 0. 30 4. 6 13. o 21. 2. 25 *** 4. 45	May 29 o. o *** 2. 20 '1140 4. 18 '1145 8. 10 '1140 14. 6 '1150 20. 2 '1144 22. 0 '1147 5. 49	May 29 o. o *** '01938 '01782 '01553 '02042 '02210 '02557 '02483 (†)	May 29 o. o 2. 20 '1141 '1145 '1140 '1150 '1144 '1147 '1146 '1144 '1147 '1146 '1147 '1144 '1146 '1143 '1146 '1128 '1121 '1110 (†)	May 29 o. o 2. 20 '1140 4. 18 '1145 8. 10 '02042 '02210 '02557 '02483 (†)	May 29 o. o 60. 4 61. 2 62. 5 63. 8 64. 0 65. 5 66. 2 67. 5 68. 0 69. 8 70. 2 70. 4 70. 8 71. 2 72. 0 72. 4 72. 8 73. 2 73. 6 74. 0 74. 4 74. 8 75. 2 75. 6 76. 0 76. 4 76. 8 77. 2 77. 6 78. 0 78. 4 78. 8 79. 2 79. 6 80. 0 80. 4 80. 8 81. 2 81. 6 82. 0 82. 4 82. 8 83. 2 83. 6 84. 0 84. 4 84. 8 85. 2 85. 6 86. 0 86. 4 86. 8 87. 2 87. 6 88. 0 88. 4 88. 8 89. 2 89. 6 90. 0 90. 4 90. 8 91. 2 91. 6 92. 0 92. 4 92. 8 93. 2 93. 6 94. 0 94. 4 94. 8 95. 2 95. 6 96. 0 96. 4 96. 8 97. 2 97. 6 98. 0 98. 4 98. 8 99. 2 99. 6 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AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(iv)

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V.F. uncorrected for Temperature.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V.F. uncorrected for Temperature.	Readings of Thermo- meters.	
June 3		June 3		June 3			June 4		June 4					
8. 5	20. 59. 10	4. 28	'1174	21. 0	'02056	h m	9. 17	'1162	h m					
8. 45	21. 1. 0		***		***		9. 46	'1168						
10. 40	20. 59. 30	4. 46	'1179	23. 59	'02013			***						
12. 15	21. 0. 10	5. 25	'1158				12. 17	'1173						
15. 50	20. 57. 0		***				12. 40	'1169						
16. 38	54. 10	6. 18	'1166				13. 17	'1175						
17. 0	54. 10	6. 46	'1161				13. 46	'1167						
	***	7. 37	'1165				14. 5	'1169						
19. 6	51. 20	8. 16	'1161				14. 34	'1162						
20. 24	59. 30	9. 5	'1166				17. 8	'1175						
21. 30	20. 57. 45		***				17. 47	'1175						
23. 59	21. 4. 30	10. 36	'1153				18. 45	'1168						
		10. 54	'1157				19. 6	'1172						
		11. 55	'1156				20. 5	'1160						
			***				21. 27	'1163						
			14. 29	'1161			22. 36	'1155						
			***				23. 59	'1156						
			17. 8	'1163										
			18. 8	'1160										

			19. 36	'1143										

			21. 35	'1150										

			22. 33	'1152										
			23. 15	'1145										

			23. 59	'1145										
June 4		June 4		June 4			June 5		June 5					
0. 0	21. 4. 30	o. o	'1145	o. o	'02013	1. o	0. o	'1156	o. o	'01963	o. o	59. 5	59. 8	
1. 0	5. 10	o. 16	'1148		***	3. o	0. 21	'1154	3. 8	'01890	1. o	60. 0	60. 2	
2. 15	8. 35		(†)	9. 18	'01980	9. o	0. 61	'1162	10. 17	'01573	2. o	60. 8	60. 7	
3. 0	9. 0	1. o	'1151*	11. 39	'02032	20. o	57. 4	'1157	16. o	'01802	3. o	61. 8	61. 4	
3. 24	7. 15	1. 35	'1155		***	21. 8	57. 7	'1167	20. 8	'02020	4. o	62. 0	62. 0	
4. 0	7. 30	1. 56	'1161	18. 53	'02071	22. o	58. 0	'1158	21. o	***	6. o	63. 3	63. 7	
5. 25	21. 3. 10	2. 8	'1176		***	23. o	59. 0	'1159	21. 0. 35	'01976	9. o	62. 8	62. 8	
7. 10	20. 59. 25		***	2. 19	'1177			20. 57. 30	3. 7	'01930	12. o	61. 9	61. 6	
								20. 57. 40	3. 42		18. o	58. 9	58. 6	
								21. 2. o			20. o	58. 0	58. 0	
								21. 5. o	5. 40		21. o	58. 0	58. 0	
								21. 6. o	'1172		22. o	58. 0	58. 4	
								21. 7. o	'1177		23. o	58. 0	58. 5	
								21. 8. o	'1171					
								21. 9. o	'1165					
								21. 10. o	'1170					
								21. 11. o	'1166					
								21. 12. o	'1166					
								21. 13. o	'1168					
								21. 14. o	'1174					
								21. 15. o	'1174					
								21. 16. o	'1174					
								21. 17. o	'1174					
								21. 18. o	'1174					
								21. 19. o	'1174					
								21. 20. o	'1174					
								21. 21. o	'1174					
								21. 22. o	'1174					
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								21. 70. o	'1174					
								21. 71. o	'1174					
								21. 72. o	'1174					
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INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers.	Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers.
							Of H. F. Magnet. Of V. F. Magnet.							Of H. F. Magnet. Of V. F. Magnet.	
June 6		June 6		June 6		June 6		June 8		June 8		June 8		June 8	
3. 7	21. 5. 30	1. 52	•1158 ***	6. 46	•01983 { •02042	2. 0 3. 0 4. 0 9. 0	58° 58° 58° 58° 6	2. 35:	21. 8. 15	1. 25	•1164 1. 50	15. 50	•01964 22. 10	55° 2	56° 1
3. 35	6. 30							4. 15	6. 30	1. 50	•1165 21. 7	21. 7	•02298 { •02231		
6. 30:	21. 0. 15	2. 35	•1162	12. 7	{ •01990	4. 0	58° 58° 59° 0	6. 15:	1. 30	2. 35:	•1173 22. 6	22. 6	{ •02160		
	***	2. 47	•1158		***	9. 0	58° 358° 8	7. 30	21. 1. 0	3. 12	•1161 23. 59	23. 59	•02169		
11. 0	20. 57. 30	5. 5	•1172	18. 17	•02073	21. 0	55° 8° 56° 3	8. 15	20. 57. 0	3. 48	•1164				
	***	5. 26	•1170		***			10. 50	21. 0. 0	4. 17	•1173 ***				
15. 30	59. 0	6. 0	•1175	23. 59	•01976			14. 15	20. 59. 30						
15. 55	58. 0	12. 46	•1176					15. 10	21. 2. 0	5. 42	•1167				
16. 45	58. 10	14. 27	•1174					20. 0:	20. 55. 5	7. 6	•1174				
18. 10	55. 0	15. 46	•1175					23. 0	21. 3. 10	7. 37:	•1178				
	***	18. 34	•1175						(†)	8. 4	•1173				
19. 55	20. 54. 0	21. 17	•1167							8. 35	•1175 ***				
23. 59	21. 8. 0	21. 39	•1169							10. 6	•1165 ***				
		21. 53	•1164								10. 47	•1171			
		23. 59	•1166								11. 4	•1185			
June 7		June 7		June 7		June 7					11. 26	•1175			
0. 0	21. 8. 10	0. 0	•1166	0. 0	•01976	1. 0	57° 8° 58° 1				11. 50	•1175			
2. 30	10. 5	1. 50	•1176	2. 7	•02000	3. 0	60° 3° 60° 3				12. 27	•1170			
5. 45	21. 1. 45	2. 15	•1172	7. 50	•01610	9. 0	62° 0° 62° 0				14. 5	•1175			
6. 0	20. 59. 0	2. 36	•1179	15. 15	•01822	21. 0	58° 3° 58° 0				14. 46	•1169			
6. 55	57. 55	2. 52	•1173	21. 16:	•02089						15. 47	•1179			
8. 0	59. 30	3. 19	•1176	23. 59	•02030						18. 8	•1179			
9. 8	54. 35	3. 45	•1174								20. 55	•1166			
9. 54	58. 0	4. 9	•1179								(†)				
	***	4. 47	•1174								22. 10	•1160*			
13. 45	20. 58. 0	5. 46	•1177								23. 16	•1153			
14. 16:	21. 0. 5	6. 11	•1172		***						23. 59	•1159			
15. 10	20. 56. 15		***												
	***	7. 56	•1175												
17. 30	56. 40	8. 35	•1166												
17. 45	54. 0	9. 11	•1168		***										
18. 15	54. 30		***												
18. 39	52. 20	10. 10	•1159		***										
19. 2	54. 30		***												
19. 17	52. 10	11. 4	•1166		***										

20. 10	53. 0	11. 48	•1157												
21. 0	58. 0	12. 15	•1164		***										
21. 30	20. 58. 0		***												
23. 59	21. 6. 50	14. 6	•1167												
		15. 3	•1171												
		15. 46	•1167												
		17. 0	•1178		***										
		18. 51	•1171		***										
		20. 39	•1150												
		21. 50	•1153												
		22. 19	•1145		***										
		23. 36	•1155												
		23. 59	•1151												
June 8		June 8		June 8		June 8									
0. 0	21. 6. 50	0. 0	•1151	0. 0	•02030	1. 0	60° 8° 60° 3								
0. 45	7. 0	0. 39	•1172	***	12. 7:	•01811	9. 45	61° 3° 61° 2							
1. 5	8. 10		***												

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(lvii)

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.			
							Of H.F. Magnet.	Of V.F. Magnet.						Of H.F. Magnet.	Of V.F. Magnet.		
June 10	o. (†) "	June 10	'1143	June 10	'02180	June 10	60° 8' 60.3"		June 11	o. 20.	20. 53. 0"	June 11	'1157				
1. o	21. 3. o	o. o	'1152	1. 7	'02178	1. o	62° 8' 62.3"		21. 7	51. 10	13. 47		'1169				
2. 30:	21. 3. 55	***	***	o. 20	{ '01543	9. o	63° 0' 63.0"		21. 20	53. 35	13. 56		'1164				
6. 15	20. 57. o	2. 8	'1175	3. 12	'01520	21. o	61° 6' 58.7"		21. 30	50. 45			***				
10. o:	54. 45	3. 14	'1177	9. 6:	'01848				21. 45	53. 40	15. 13		'1171				
15. 15	56. 35	4. 8	'1171	14. 25	'02002				21. 49	20. 51. 30			***				
	***			20. 10	'02330				23. o	21. o. 10	16. 46		'1173				
18. 25	52. o	6. 43	'1173	23. 5	{ '02350				(†)				***				
20. 50	20. 51. o	7. 26	'1175		{ '02255								18. 21	'1167			
23. 59	21. 3. 5	10. 18	'1170	23. 59	'02180								18. 37	'1171			
			***										19. 32	'1158			
			13. 7	'1175									21. 19	'1156			
			13. 48	'1174									21. 43	'1147			
			16. 7	'1183									21. 50	'1160			
			***										22. 7	'1145			
			18. 16	'1184									22. 16	'1157			
			19. 18	'1166									22. 47	'1140			
			***										23. 9	'1147			
			21. 50	'1154									23. 20	'1140			
			***										23. 38	'1162			
			23. 39	'1157									23. 59	'1178			
June 11	21. 3. 10	June 11	'1157	June 11	'02180	June 11	64° 7' 63.9"		June 12	21. 9. 45*	o. o	June 12	'1179				
o. o	***	o. o	'1160	o. 45	***	3. o	66° 5' 65.5"		3. o	21. 9. 20*	o. 42		'1150	3. o	'02427*	1. o	
2. o:	7. 20	1. 7	'1156	3. 15	'01821	9. o	67° 3' 67.1"		9. o	20. 55. 45*			***	9. o	'02388*	3. o	
3. 50	3. 30	1. 17	'1166	4. 7	{ '01923	20. o	62° 9' 61.2"		21. o	21. o. 59*	1. 10		'1157	21. o	'02665*	4. o	
5. 5	3. 30	2. 23	'1162	7. 38	{ '02290	22. o	63° 6' 63.1"				1. 19		'1148		6. o	66° 5' 65.5"	
5. 45	21. 2. o	2. 36	'1157	11. 16	'02362	23. o	64° 0' 63.2"				1. 36		'1164		6. o	68° 0' 67.5"	
6. 44	20. 54. o	2. 45	'1167		***						1. 47		'1156		9. o	68° 0' 67.5"	
6. 55	54. 10	2. 49	'1161	18. 5	'02770						1. 52		'1170		12. o	67° 0' 67.0"	
7. 10	57. 35	3. 17	'1169	18. 28	'02783						2. 8		'1142		18. o	61° 7' 61.9"	
	***		***		(†)						2. 34		'1170		20. o	64° 0' 62.0"	
9. 14	59. o	3. 56	'1160								2. 46		'1153		21. o	66° 0' 63.0"	
10. 15	48. 55	4. 8	'1167										3. 31	'1185		22. o	66° 7' 64.2"
10. 39	50. 35	4. 17	'1158										3. 49	'1147		23. o	67° 0' 66.5"
10. 54	48. o	4. 40	'1183										4. 7	'1146			
11. 17	49. 45	4. 48	'1187										4. 16	'1159			
11. 45	44. 10	5. 2	'1183										4. 32	'1148			
13. 15	47. 25	5. 12	'1189										4. 43	'1175			
13. 36	48. 30	5. 35	'1180										5. 8	'1167			
13. 45	52. 5	5. 46	'1191										6. 18	'1182			
14. 4	48. 35	6. 20	'1147										6. 42	'1177			
14. 45	53. 5	***											7. 0	'1190			
15. 45	50. 15	7. 43	'1170										7. 17	'1176			
15. 50	52. 10	***											7. 36	'1209			
16. 10	50. 40	9. 18	'1171										7. 50	'1175			
16. 46	56. 5	9. 44	'1179										8. 12	'1156			
	***	10. 13	'1173										8. 35	'1172			
18. 15	53. 15	10. 37	'1178										8. 47	'1154			
18. 30	51. 10	10. 50	'1172										9. 8	'1150			
18. 46	54. o	11. 6	'1175										9. 29	'1157			
	***	11. 24	'1162										10. 4	'1151			
20. 41	53. 5	***											10. 15	'1156			
20. 50	51. o	12. 38	'1154	***									10. 26	'1151			

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

June 12. There are no Photographic Traces of the movements of the Declination and Vertical Force magnets on this day.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.	
						Of H. F. Magnet.								Of H. F. Magnet.	Of V. F. Magnet.
h m	o ' "	June 12		h m			h m	o ' "	June 13		h m		h m	h m	
10. 44		11.56		10. 44			10. 44		10. 44		10. 44		10. 44	10. 44	
11. 15		11.43		11. 15			11. 15		11. 15		11. 15		11. 15	11. 15	
11. 40		11.62		11. 40			11. 40		11. 40		11. 40		11. 40	11. 40	
12. 2		11.34		12. 2			12. 2		12. 2		12. 2		12. 2	12. 2	
12. 36		11.71		12. 36			12. 36		12. 36		12. 36		12. 36	12. 36	
13. 7		11.67		13. 7			13. 7		13. 7		13. 7		13. 7	13. 7	
13. 18		11.75		13. 18			13. 18		13. 18		13. 18		13. 18	13. 18	
13. 40		11.56		13. 40			13. 40		13. 40		13. 40		13. 40	13. 40	
13. 49		11.64		13. 49			13. 49		13. 49		13. 49		13. 49	13. 49	
14. 7		11.28		14. 7			14. 7		14. 7		14. 7		14. 7	14. 7	
14. 37		11.76		14. 37			14. 37		14. 37		14. 37		14. 37	14. 37	
14. 45		11.62		14. 45			14. 45		14. 45		14. 45		14. 45	14. 45	
14. 55		11.56		14. 55			14. 55		14. 55		14. 55		14. 55	14. 55	
***		***		***			***		***		***		***	***	
16. 20		11.69		16. 20			16. 20		16. 20		16. 20		16. 20	16. 20	
17. 15		11.50		17. 15			17. 15		17. 15		17. 15		17. 15	17. 15	
17. 20		11.57		17. 20			17. 20		17. 20		17. 20		17. 20	17. 20	
17. 35		11.49		17. 35			17. 35		17. 35		17. 35		17. 35	17. 35	
***		***		***			***		***		***		***	***	
17. 56		11.49		17. 56			17. 56		17. 56		17. 56		17. 56	17. 56	
***		***		***			***		***		***		***	***	
19. 2		11.21		19. 2			19. 2		19. 2		19. 2		19. 2	19. 2	
20. 6		11.31		20. 6			20. 6		20. 6		20. 6		20. 6	20. 6	
21. 7		11.27		21. 7			21. 7		21. 7		21. 7		21. 7	21. 7	
23. 26		11.18		23. 26			23. 26		23. 26		23. 26		23. 26	23. 26	
23. 45		11.27		23. 45			23. 45		23. 45		23. 45		23. 45	23. 45	
23. 59		11.24		23. 59			23. 59		23. 59		23. 59		23. 59	23. 59	
June 13		June 13		June 13			June 13		June 13		June 13		June 13	June 13	
o. o	21. 2. 30	o. o	11.24	o. o	02.166	o. o	68. 6	67. 7	June 14		June 14		June 14	June 14	
***	o. 17	o. 17	11.34	1. 10	02.010	1. 0	69. 8	68. 8	June 14		June 14		June 14	June 14	
0. 55	8. o	0. 32	11.23	(†)	2. 16	2. 0	70. 9	70. 3	8. 25	21. 0. 20	4. 29	11.30	11. 13	{ .3614	
1. 25	4. 10	0. 46	11.32	1. 12	02.642	3. 0	72. 0	71. 6	9. 30	21. 1. 0	5. 11	11.52	14. 21	{ .3800	
3. 15	7. 30	1. 37	11.30	3. 13	{ 02.500	9. 0	73. 2	72. 6	10. 35	20. 56. 0	4. 46	11.56	17. 16	{ .4632	
4. 10	1. 15	1. 45	11.24	3. 56	{ 02.843	21. 0	68. 8	67. 4	11. 0	58. 30	6. 18	11.24	23. 59	{ .3480	
5. o	21. 4. o	***	3. 43	5. 14	{ 02.810	***	***	***	12. 5	20. 58. 30	6. 45	11.30	11.26	***	
7. 16	20. 55. o	4. 8	11.44	5. 14	{ 02.980	***	***	***	13. 30	21. 3. 50	7. 30	11.32	11.27	***	
7. 30	58. o	4. 40	11.44	4. 58	10. 16	03.004	***	***	15. 0	20. 58. 30	7. 45	11.29	(†)	***	
9. 20	20. 58. o	5. 21	11.38	5. 21	13. 7	03.086	16. 40	21. 3. 30	9. 0	11.33	***	***	***	***	
9. 55	21. 1. 35	5. 46	11.31	13. 40	03.060	17. 30	20. 56. 20	11. 16	17. 30	20. 56. 20	11. 16	11.17	11.26	11.18	
10. 11	20. 57. o	6. 10	11.44	18. 25	03.556	18. 40	53. 35	13. 26	22. 25	20. 57. 45	15. 35	11.30	11.25	11.33	
11. 40	20. 57. 30	7. 19	11.44	21. 0	02.697	23. 59	21. 2. 10	16. 7	23. 59	21. 2. 10	16. 7	11.34	18. 14	11.31	
12. 52	21. 5. o	8. 17	11.33	23. 59	02.658	16. 56	16. 56	16. 56	19. 7	16. 56	16. 56	11.22	19. 7	11.34	
13. 16	21. 12. o	8. 46	11.22	***	***	18. 14	18. 14	18. 14	20. 15	18. 14	18. 14	11.31	19. 7	11.34	
14. 10	20. 59. 30	9. 44	11.42	10. 8	11.25	19. 7	19. 7	19. 7	20. 15	19. 7	19. 7	11.22	20. 15	11.34	
14. 50	59. o	7. 54	11.27	22. 33	02.750	***	***	***	***	***	***	***	***	***	
15. 7	20. 56. 10	8. 46	11.33	23. 59	02.658	***	***	***	***	***	***	***	***	***	
17. 5	21. 2. o	9. 44	11.42	10. 8	11.25	***	***	***	***	***	***	***	***	***	
18. 20	21. o. o	(†)	11.42	10. 8	11.25	***	***	***	***	***	***	***	***	***	

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(ix)

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermometers.	Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermometers.		
h m	o / "	h m	20. 39	h m	h m	Of H. F. Magnet. Of V. F. Magnet.	h m	o / "	h m	20. 39	h m	h m	Of H. F. Magnet. Of V. F. Magnet.		
June 14	o . 0	June 14	20. 39	h m	h m	h m	June 16	o . 0	June 16	20. 39	h m	h m	h m		
0. 0	21. 2. 15	(†)	•1123	1. 0	•03480	1. 0	June 16	20. 58. 35	June 16	12. 39	•1122	1. 0	•02822		
1. 30	8. 0	1. 0	•1112*	4. 7	•03002	3. 0	June 16	20. 59. 10	June 16	12. 58	•1124	1. 0	1. 0		
3. 16	9. 45	2. 0	•1118	5. 40	•03237	9. 0	June 16	21. 1. 20	June 16	13. 30	•1121	1. 0	•02723		
4. 0	1. 40	3. 40	•1137	7. 56	•03305	21. 7	June 16	21. 5. 0	June 16	16. 45	•1139	1. 0	3. 0		
5. 0	5. 30	4. 0	•1113	7. 56	•03270	21. 7	June 16	21. 9. 0	June 16	19. 39	•1130	1. 0	•02530		
5. 40	4. 45	4. 45	•1151	8. 36	{ •03362	21. 7	June 16	21. 17	June 16	21. 15	•1121*	1. 0	21. 15		
6. 10	2. 5	5. 59	•1136	10. 45	•03320	21. 7	June 17	(†)	June 17	(†)	June 17	June 17	•02896		
6. 35	21. 3. 0	(†)	13. 36	13. 36	•03492	21. 7	June 17	0. 15	June 17	1. 0	•02822	1. 0	67. 7		
8. 50	9. 0	9. 0	•1127*	14. 35	•03510	21. 7	June 17	21. 8. 30	June 17	11. 29*	2. 6	•02723	3. 0	70. 2	
9. 9	21. 0. 0	11. 17	•1119	17. 50	•03922	21. 7	June 17	1. 5	June 17	1. 33	•1121	4. 20	•02530	9. 0	67. 8
9. 30	21. 8. 10	11. 39	•1116	22. 48	{ •03058	21. 7	June 17	10. 10	June 17	3. 16	•1120	8. 22	•02273	21. 0	69. 9
9. 56	20. 52. 15	12. 0	•1123	23. 59	•02978	21. 7	June 17	3. 25	June 17	9. 30	•1127	15. 30	•02896	21. 0	62. 1
10. 45	21. 5. 0	12. 27	•1120	23. 59	•02907	21. 7	June 17	4. 15	June 17	6. 30	•1121	23. 59	•02523		
12. 20	2. 55	13. 28	•1129				7. 7	2. 20	June 17	7. 35	•1132				
13. 30	4. 30	14. 18	•1134				8. 30	3. 15	June 17	9. 37	•1136				
13. 47	21. 10. 50	14. 45	•1129				10. 8	1. 45	June 17	9. 57	•1132				
15. 0	20. 59. 5	15. 19	•1138				12. 45	1. 30	June 17	15. 36	•1143				
16. 14	21. 1. 20	15. 45	•1133				14. 30	1. 35	June 17	15. 50	•1139				
17. 20	0. 0	17. 44	•1137				15. 5	0. 0	June 17	17. 45	•1140				
18. 0	21. 1. 10	20. 0	•1128				16. 4	2. 15	June 17	18. 17	•1138				
19. 5	20. 58. 30	21. 7	•1123*				17. 15	20. 58. 40	June 17	19. 41	•1135				
19. 30	21. 1. 35						17. 45	21. 0. 0	June 17	20. 27	•1119				
20. 14	21. 1. 10						18. 15	20. 58. 30	June 17	21. 39	•1127				
20. 25	20. 59. 25		-				21. 15	20. 58. 0	June 17	21. 45	•1120				
20. 45	21. 1. 30						21. 38	21. 2. 0	June 17	22. 45	•1121				
21. 25	20. 59. 45						22. 45	3. 0	June 17	23. 59	•1117				
23. 59	21. 7. 0						23. 59	6. 25							
June 16	o . 0	June 16	(†)	o . 0	•02907	9. 0	June 16	o . 0	June 16	73. 8	75. 0				
1. 0	21. 7. 0	4. 0	•1122	1. 10	•02861	21. 15	June 16	1. 40	June 16	9. 50	o . 26				
10. 20	***	4. 39	•1131	5. 21	•02310	64. 5	June 16	3. 10	June 16	8. 45	1. 9				
2. 25	11. 35	5. 10	•1134	7. 45	•02653	66. 1	June 16	6. 15	June 16	2. 45	1. 47				
3. 45	8. 15	5. 19	•1133	18. 56	•03448	66. 1	June 16	9. 0	June 16	3. 0	1. 47				
5. 15	4. 0	5. 43	•1129	23. 59	•02822	66. 1	June 16	10. 0	June 16	0. 0	4. 20				
6. 44	4. 5	5. 50	•1137				15. 45	1. 20	June 16	9. 0	•1161*				
7. 45	1. 0	6. 19	•1130				17. 15	21. 0. 30	June 16	12. 51	•1159				
8. 46	4. 0	6. 30	•1136				17. 15	21. 0. 30	June 16	16. 52	•1170				
9. 32	4. 5	7. 0	•1135				18. 15	20. 56. 35	June 16	19. 5	•1163				
9. 47	7. 10	7. 30	•1129				21. 0	20. 50. 27*	June 16	19. 18	•1165				
10. 15	2. 20	8. 27	•1127				21. 30	21. 0. 0	June 16						
10. 52	3. 5	8. 57	•1135				22. 15	20. 59. 0	June 16						
11. 30	0. 45	9. 16	•1130												
13. 14	0. 30	9. 39	•1131												
13. 45	3. 25	9. 57	•1123												
14. 10	2. 35	10. 43	•1132												
14. 55	4. 20	11. 30	•1126												
16. 30	21. 2. 0	12. 12	•1129												

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

 June 15 and 16. The Horizontal Force traces were faint, and the times are only approximate : their error cannot rise to 10^m.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters. Of H. F. Magnet. Of V. F. Magnet.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters. Of H. F. Magnet. Of V. F. Magnet.							
June 18 23. 50	° 21. 5. 20	June 18 21. 50	•1146 ***	b m		b m	o o	b m	o	June 19 9. 0	•1175*	4. 42	June 21 21. 13	•02657 •1159*	June 21 7. 51 10. 19 17. 36 17. 45 19. 47 23. 59	•02652 •02610 •03051 •02980 •02729 •02529	June 21 21. 13	° 9. 0	72. 7	74. 0	69. 0	
June 19 1. 0	20. 59. 24*	June 19 0. 0	•1151							June 19 1. 6	•03170	67. 0	68. 3									
3. 0	21. 9. 52*									1. 45	•03068	68. 3	70. 0									
										1. 47	•02750	70. 6	72. 0									
										2. 7	•1161	72. 7	73. 8									
										***	6. 15	73. 0	75. 0									
										2. 45	•1162	75. 5	76. 5									
										3. 3	•1170	75. 5	76. 5									
										***	12. 18	73. 2	74. 8									
										3. 50	•1159	71. 8	73. 1									
										5. 10	•1166	67. 8	70. 4									
										5. 18	•1161	67. 0	68. 2									
										5. 50	•1174	67. 2	69. 0									
										6. 36	•1175	67. 2	69. 0									
										7. 37	•1157	67. 3	69. 3									
										8. 26	•1168											
										8. 57	•1163											
										11. 35	•1165											
										12. 3	•1171											
										13. 7	•1161											
										13. 36	•1164											
										13. 56	•1161											

										15. 56	•1171											
										17. 0	•1171											
										17. 55	•1168											
										18. 27	•1171											
										20. 45	•1162											
										21. 16	•1167											
										21. 39	•1158											
										21. 53	•1160											
										22. 17	•1147											
										23. 59	•1165											
June 20		June 20		June 20		June 20		June 20		1. 0	•02810	67. 3	69. 2	2. 16	7. 10	7. 5	9. 40	11. 30	14. 17	18. 46	19. 37	21. 35
										3. 0	•1160*	68. 2	69. 8	3. 0	***	***	•02120	•02135	•02271	•02570	{ •02480	{ •02442
										9. 0	•1157*	69. 5	70. 9	4. 30	4. 0	4. 40	•02442	•02470	•02423	•02445	{ •02445	{ •02445
										21. 0	•1150*	70. 8	71. 9	5. 15	5. 0	5. 40	•02445	•02445	•02445	•02445		
										8. 45	•02316	71. 5	73. 0	5. 45	21. 0. 15	21. 0. 15	21. 0. 15	21. 0. 15	21. 0. 15	21. 0. 15	21. 0. 15	21. 0. 15
										11. 16	•02352	75. 7	76. 5	6. 27	20. 54. 0	20. 54. 0	20. 54. 0	20. 54. 0	20. 54. 0	20. 54. 0	20. 54. 0	20. 54. 0
										14. 11	•02430	70. 5	71. 2	7. 40	58. 10	58. 10	58. 10	58. 10	58. 10	58. 10	58. 10	58. 10
										20. 50	•02911											
										22. 36	•02958											
										23. 59	•02840											
June 21		June 21		June 21		June 21		June 21		1. 0	•1156*	72. 8	74. 0	12. 10	20. 57. 40	20. 57. 40	20. 57. 40	20. 57. 40	20. 57. 40	20. 57. 40	20. 57. 40	20. 57. 40
										3. 0	•1150*	73. 3	74. 8	15. 20	21. 0. 0	21. 0. 0	21. 0. 0	21. 0. 0	21. 0. 0	21. 0. 0	21. 0. 0	21. 0. 0

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

June 19. From this day till June 21st, 21st, the Declination Magnet was resting against some portion of the case enclosing it; it was then liberated, and worked as usual afterwards. On June 20 and 21. The Photographic Traces either failed or were too faint for use. On June 22 the southern projection of the brass suspension-piece affixed to the top of the vertical support of the Horizontal Force Magnet gave way, and was not restored till July 12.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

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Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		
					Of H. F. Magnet.	Of V. F. Magnet.						Of H. F. Magnet.	Of V. F. Magnet.	
June 23														
16. 30	° 20. 56. "	° 56. o			h m		h m	o	c	h m		h m	o	c
18. 8	56. o	***												
20. 20.	52. 10													
21. 36	55. o													
21. 44	54. o													
22. 10	20. 57. o													
23. 59	21. 2. 5													
June 24					June 24		June 24							
0. 0	21. 2. 5				o. o	'02445	1. o	68. 6		June 26		June 26		
3. 10.	5. 30				1. 7	'02402	3. o	70. 4		h m	22. 32:	°02651	9. o	66. 66. °
4. 0	4. 50					(†)	9. o	72. 2		10. 30	23. 59	°02608	12. o	64. 566. 5
4. 50	21. 2. 10				2. 22	'01843	21. o	65. o		12. 45			18. o	60. 764. 0
7. 10	20. 56. 30				4. 45	'01640				13. 24			20. o	60. 262. 0
9. 40:	59. 35				8. 16:	'01896				13. 36			21. o	61. 062. 8
16. 7	59. o				11. 41	'01990				13. 53			22. o	62. 263. 7
17. 0	55. o					***				14. 25			23. o	63. 164. 3
18. 10	52. 55				18. 46	'02698				16. 40				
18. 53	53. 30				20. 5	'02565				17. 15				
19. 50	51. 30					***				20. 16				
20. 10	56. 15				23. 59	'02530				20. 35				
21. 10	20. 57. o	(†)								21. 5				
June 25					June 25		June 25			22. 46				
0. 28	(†)				o. o	'02530	1. o	65. 7		23. 30				
o. 45	21. 6. 40					***	3. o	65. 7		23. 59	11. o			
1. 24	8. 30				7. 4	'02628	9. o	64. o						
2. 12	8. 20				10. 50	{'02621	20. o	62. o	60. 5					
3. 15	10. 10					'02530	21. o	60. 6	61. 4					
3. 39	7. 40					***	22. o	61. 7	62. 5					
8. 22	8. 30				16. 45	'02667	23. o	62. 7	63. 4					
8. 44	21. 2. 10					***								
9. 30	20. 54. 30				22. 50	{'02610								
9. 54	21. 0. 10					'02543								
13. 26	1. 30				23. 59	'02500								
13. 44	21. 3. 15													
15. 35	20. 58. o													
17. 27	58. 20													
19. 13	53. 50													
19. 42	55. 20													
19. 54	20. 53. o													
20. 52	21. 0. 45													
21. 17	20. 59. o													
22. 52	21. 4. 30													
23. 8	3. 25													
23. 35	6. 30													
23. 59	6. o													
June 26					June 26		June 26							
2. o	(†)				o. o	'02500	o. o	63. o	62. 8	o. o	21. 10. o			
3. o:	21. 14. 45				2. 8	'02432	1. o	63. 7	63. 9	4. o:	7. 40			
5. o	14. 25				7. 20	'01992	2. o	64. 8	64. 6	6. o:	4. 35			
6. 15:	12. o					***	3. o	66. o	65. 5	7. 45	3. 55			
8. o	9. o				14. 49	'02250	4. o	66. o	66. o	8. 10	2. o			
	8. 30					***	6. o	67. o	66. 9	10. 8	6. 10			
										12. o	4. 15			
												7. 23		
													June 29	
													o. o	'02907
													1. 50	'02843
													2. 37	{'03105
													9. o	66. 368. 3
													22. 31	'03081
													61. o	'03362
													7. 23	{'03350
													62. o	'03422

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

 June 25, DECLINATION.—The times may be a little in error, but they are closely approximate : the error will probably not amount to 5^m.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	June 29 8. 45 14. 26 14. 29 21. 29 23. 59	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	June 29 8. 45 14. 26 21. 29 23. 59	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	June 29 8. 45 14. 26 21. 29 23. 59	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.				
June 29	14. 0 21. 4. 40	" "	" "	June 29 8. 45 14. 26 21. 29 23. 59	'03390 '03802 '02990 '02893	" "	0° 0°	July 2 11. 15 11. 50	21. 6. 0 3. 0 ***	" "	July 2 21. 0 23. 59	'02873 '02663 '02510	July 2 23. 0	64° 0° 64° 8					
14. 5 2. 30								15. 45: 17. 0 21. 0. 0 19. 15 20. 58. 0 23. 59 21. 10. 45	2. 30 0° 0°										
17. 25 4. 0								July 3 0. 0 21. 10. 50 1. 45: 12. 10 5. 0 6. 5 7. 45: 5. 40 9. 30 7. 0 11. 36 5. 0 13. 30 6. 10 14. 13 8. 35 17. 10 1. 10 19. 5 3. 0 19. 15 1. 0 19. 32 21. 1. 45 19. 50 20. 59. 0 20. 54 21. 5. 0 21. 43 4. 0 23. 10 10. 20 23. 59 10. 10				0. 0 6. 3 '02510 '02043 '02138 '02220 '02936 '02637 '02558 '02463 '02420 20. 0 62° 262° 21. 0 62° 563° 22. 0 63° 363° 23. 0 64° 064°	July 3 0. 0 64° 265° 3 1. 0 64° 965° 8 2. 0 65° 566° 5 3. 0 66° 667° 5 4. 0 67° 068° 9 5. 0 68° 569° 4 6. 0 68° 069° 0 9. 0 69° 867° 2 12. 0 65° 867° 2 18. 0 61° 064° 0 20. 0 62° 262° 0 21. 0 62° 563° 2 22. 0 63° 363° 7 23. 0 64° 064° 3	July 3 0. 0 64° 265° 3 1. 0 64° 965° 8 2. 0 65° 566° 5 3. 0 66° 667° 5 4. 0 67° 068° 9 5. 0 68° 569° 4 6. 0 68° 069° 0 9. 0 69° 867° 2 12. 0 65° 867° 2 18. 0 61° 064° 0 20. 0 62° 262° 0 21. 0 62° 563° 2 22. 0 63° 363° 7 23. 0 64° 064° 3					
18. 10 4. 0								July 4 0. 0 21. 10. 10 1. 17 12. 0 1. 56 11. 0 2. 10 12. 15 2. 52 9. 35 3. 13 11. 0 3. 41 9. 0 4. 30 8. 20 5. 30 4. 0 6. 30 7. 0 7. 50 7. 0 8. 18 5. 0 9. 20 7. 30 11. 0 9. 0 12. 10 6. 55 12. 45 11. 0 13. 35 7. 45 15. 30 7. 0 18. 30 1. 30 20. 50 2. 0 21. 45 4. 0 23. 0 12. 0 23. 59 2. 40				0. 0 3. 46 '02420 '02335 '02456 '02402 '02463 '02427 11. 43 '02476 21. 0 62° 661° 6	July 4 0. 0 64° 764° 8 1. 0 65° 265° 3 2. 0 65° 465° 4 3. 0 65° 865° 4 4. 0 65° 465° 9 9. 0 63° 664° 3 9. 0 63° 664° 3	July 4 0. 0 64° 764° 8 1. 0 65° 265° 3 2. 0 65° 465° 4 3. 0 65° 865° 4 4. 0 65° 465° 9 9. 0 63° 664° 3 9. 0 63° 664° 3					
18. 41 2. 0								July 1 0. 0 21. 10. 0 (†) 1. 0 14. 8° 2. 50 13. 0 4. 10: 9. 10 7. 15 5. 35 12. 47 2. 30 13. 5 4. 0 16. 25 21. 3. 30 *** 18. 30 20. 58. 35 *** 21. 43 21. 3. 5 23. 25 9. 15 23. 59 8. 30				0. 0 1. 0 '02410 1. 30 '02196 2. 43 '02010 4. 0 { '02183 '02720 8. 17 '02920 8. 46 '02870 12. 47 '03010 20. 16 '03592 22. 15 '03372 23. 59 '03307	65. 5 68. 6 72. 3 66. 8 7. 50 8. 18 9. 20 11. 0 12. 10 12. 45 13. 35 15. 30 18. 30 20. 50 21. 45 23. 0 23. 59	4. 30: 5. 30: 6. 30 7. 50 8. 18 9. 20 11. 0 12. 10 12. 45 13. 35 15. 30 18. 30 20. 50 21. 45 23. 0 (†)	8. 20 4. 0 7. 0 7. 0 5. 0 7. 30 9. 0 6. 55 11. 0 7. 45 7. 0 *** 1. 30 2. 0 4. 0 12. 0 2. 40	15. 17 '02508 *** 21. 52 23. 59 '02390 '02342	July 5 0. 0 3. 47 3. 47 '02196 3. 0 (†) 9. 50: '01923 9. 20	July 5 1. 0 64° 0° 3. 0 65° 0° 3. 0 65° 0° 9. 0 66° 0° 9. 0 66° 0°	July 5 1. 0 64° 0° 3. 0 65° 0° 3. 0 65° 0° 9. 0 66° 0° 9. 0 66° 0°
18. 52 4. 5								July 2 0. 0 21. 8. 30 1. 30: 10. 0 5. 15: 4. 0 10. 55 4. 30											
18. 58 2. 25																			
21. 15 4. 0																			
22. 45 12. 35																			
23. 59 12. 0																			
June 30	0. 0 21. 12. 5 0. 25 14. 40 1. 40: 14. 30 5. 20 7. 0 (†) 9. 0 5. 0 10. 30 2. 0 13. 30 5. 10 15. 0 9. 0 15. 55 21. 1. 5 (†) 18. 45 20. 57. 25 19. 5 59. 30 19. 16 58. 0 19. 54 20. 58. 0 20. 15 21. 1. 30 *** 21. 45 5. 45 22. 10 4. 0 23. 10 9. 30 23. 59 10. 0				June 30 0. 0 *** 3. 45 '02893 9. 16: '02618 22. 30 '02492 23. 59 '02410	63. 9 65. 4 61. 7 61. 0 19. 5 { '02880 '02500 22. 30 23. 59			July 3 0. 0 21. 10. 50 1. 45: 12. 10 5. 0 6. 5 7. 45: 5. 40 9. 30 7. 0 11. 36 5. 0 13. 30 6. 10 14. 13 8. 35 17. 10 1. 10 19. 5 3. 0 19. 15 1. 0 19. 32 21. 1. 45 19. 50 20. 59. 0 20. 54 21. 5. 0 21. 43 4. 0 23. 10 10. 20 23. 59 10. 10										
June 30	0. 0 21. 12. 5 0. 25 14. 40 1. 40: 14. 30 5. 20 7. 0 (†) 9. 0 5. 0 10. 30 2. 0 13. 30 5. 10 15. 0 9. 0 15. 55 21. 1. 5 (†) 18. 45 20. 57. 25 19. 5 59. 30 19. 16 58. 0 19. 54 20. 58. 0 20. 15 21. 1. 30 *** 21. 45 5. 45 22. 10 4. 0 23. 10 9. 30 23. 59 10. 0				June 30 0. 0 *** 3. 45 '02893 9. 16: '02618 22. 30 '02492 23. 59 '02410	63. 9 65. 4 61. 7 61. 0 19. 5 { '02880 '02500 22. 30 23. 59			July 3 0. 0 21. 10. 50 1. 45: 12. 10 5. 0 6. 5 7. 45: 5. 40 9. 30 7. 0 11. 36 5. 0 13. 30 6. 10 14. 13 8. 35 17. 10 1. 10 19. 5 3. 0 19. 15 1. 0 19. 32 21. 1. 45 19. 50 20. 59. 0 20. 54 21. 5. 0 21. 43 4. 0 23. 10 10. 20 23. 59 10. 10										
July 1	0. 0 21. 10. 0 (†) 1. 0 14. 8° 2. 50 13. 0 4. 10: 9. 10 7. 15 5. 35 12. 47 2. 30 13. 5 4. 0 16. 25 21. 3. 30 *** 18. 30 20. 58. 35 *** 21. 43 21. 3. 5 23. 25 9. 15 23. 59 8. 30				July 1 0. 0 21. 10. 0 1. 30 '02196 2. 43 '02010 4. 0 { '02183 '02720 8. 17 '02920 8. 46 '02870 12. 47 '03010 20. 16 '03592 22. 15 '03372 23. 59 '03307	65. 5 68. 6 72. 3 66. 8 7. 50 8. 18 9. 20 11. 0 12. 10 12. 45 13. 35 15. 30 18. 30 20. 50 21. 45 23. 0 23. 59	4. 30: 5. 30: 6. 30 7. 50 8. 18 9. 20 11. 0 12. 10 12. 45 13. 35 15. 30 18. 30 20. 50 21. 45 23. 0 (†)	8. 20 4. 0 7. 0 7. 0 5. 0 7. 30 9. 0 6. 55 11. 0 7. 45 7. 0 *** 1. 30 2. 0 4. 0 12. 0 2. 40	15. 17 '02508 *** 21. 52 23. 59 '02390 '02342	July 5 0. 0 3. 47 3. 47 '02196 3. 0 (†) 9. 50: '01923 9. 20	July 5 1. 0 64° 0° 3. 0 65° 0° 3. 0 65° 0° 9. 0 66° 0° 9. 0 66° 0°	July 5 1. 0 64° 0° 3. 0 65° 0° 3. 0 65° 0° 9. 0 66° 0° 9. 0 66° 0°							
July 2	0. 0 21. 8. 30 1. 30: 10. 0 5. 15: 4. 0 10. 55 4. 30				July 2 0. 0 '03307 5. 4 '02728 7. 45 { '02760 9. 50 '02870 16. 39 '03350	68. 6 70. 0 66. 8 63. 4 63. 8 63. 2 63. 8	July 5 0. 0 21. 2. 45 1. 30 3. 0 (†)			July 5 0. 0 '02342 3. 47 '02196 3. 0 9. 50: '01923 9. 20	July 5 1. 0 64° 0° 3. 0 65° 0° 3. 0 65° 0° 9. 0 66° 0° 9. 0 66° 0°	July 5 1. 0 64° 0° 3. 0 65° 0° 3. 0 65° 0° 9. 0 66° 0° 9. 0 66° 0°							

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

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Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		
							Of H. F. Magnet.	Of V. F. Magnet.						Of H. F. Magnet.	Of V. F. Magnet.	
July 5	h 3. 0 3. 25 6. 30: 9. 0 11. 30 12. 0 14. 15 15. 40 17. 35 19. 27 21. 45: 23. 59	21. 10. 16* 10. 0 4. 35 4. 35 6. 25 4. 0 *** 4. 0 21. 6. 0 20. 59. 30 *** 20. 57. 30 21. 1. 45 12. 0	h m h m	July 5 16. 0 18. 45 21. 17 22. 15 23. 59	.02263 .02440 (†) .02193 .02228 .02190	July 5 21. 0	o o	61° 7	July 8 15. 5 17. 35 19. 5 20. 26 20. 50 20. 10 20. 18 20. 42 21. 15 22. 15 23. 59	21. 3. 30 0. 0 *** 21. 2. 20 20. 59. 0 21. 4. 0 1. 30 4. 55 8. 25 4. 25 11. 35	h m	July 8 21. 50 23. 59	{ .02348 .02243 *** .02190	h m	h m	h m
July 6	0. 0 2. 0: 4. 50 6. 30: 9. 45: 11. 54 12. 0 12. 30 13. 10 15. 30 18. 50: 22. 50 23. 59	21. 12. 0 13. 5 7. 5 3. 20 6. 0 6. 0 8. 0 3. 55 5. 0 21. 3. 25 20. 58. 30 21. 12. 0 13. 0	—	July 6 0. 0 5. 26 8. 35 12. 46 20. 40 23. 59	.02190 .01812 .01640 .01702 .01970 .01902	July 6 1. 0 3. 0 9. 0 22. 30	o o 67° 0 66° 3 67° 5	64° 3	July 9 0. 0 0. 35 1. 50 2. 5 2. 20 3. 30 4. 52 5. 20 5. 51 6. 25 6. 44 7. 22 7. 45 8. 45 9. 16 9. 25 9. 45 10. 1 10. 44 13. 30 23. 17 23. 59	21. 11. 35 15. 40 16. 10 14. 40 16. 0 10. 0 8. 0 10. 0 9. 30 6. 0 7. 0 7. 0 3. 30 21. 3. 25 20. 57. 0 59. 40 20. 59. 0 21. 6. 0 21. 6. 0 20. 58. 15 21. 4. 35 12. 25 12. 50 13. 35 14. 35 6. 0 14. 55 15. 25 17. 0 1. 40 *** 20. 40 20. 47 21. 15 21. 35 22. 10 9. 0 10. 0	—	July 9 0. 0 2. 8 5. 26 8. 10: 10. 13 10. 44 13. 30 23. 17 23. 59	.02190 *** .02063 .01630 *** .01923 .01942 .01903 .02002 .02621 .02604	1. 0 3. 0 20. 9 22. 0 23. 0	66° 8 68° 4 70° 9 63° 64° 8 63° 7 65° 0 64° 3 65° 2 64° 7 65° 4	
July 7	0. 0 2. 20 5. 0: 9. 45: 11. 15 12. 11 12. 58 13. 40 14. 5 14. 45 15. 20 19. 30 21. 0 22. 5 23. 10: 23. 59	21. 13. 0 12. 30 5. 45 4. 35 7. 10 4. 40 11. 0 4. 30 6. 55 3. 30 21. 4. 0 *** 20. 58. 15 21. 3. 30 5. 30 9. 40 10. 0	—	July 7 0. 0 *** 5. 7 14. 6 21. 17: 23. 59	.01902 *** .01680 .01890 .02356 .02260	July 7 9. 0 21. 0	69° 5 65° 8	70° 2	July 10 0. 0 1. 50 2. 31 4. 10	21. 10. 0 *** 10. 0	—	July 10 0. 0 2. 43: 8. 17	.02604 .02523 *** .01950 ***	1. 0 2. 0 11. 0 11. 40	65° 3 66° 2 66° 8 68° 3 69° 68° 9 70° 69° 5	
July 8	0. 0 2. 30: 4. 45 8. 10 8. 45 9. 45:	21. 10. 0 9. 30 5. 30 (†) 4. 20 3. 30 6. 0 ***	—	July 8 0. 0 2. 15 4. 40 8. 17 11. 56 19. 15	.02260 .02123 .01820 (†) .01831 .02007 .02530 ***	July 8 1. 0 3. 0 9. 0 21. 8	o o 61° 8 63° 5	68° 6	July 10 1. 50 2. 31 4. 10	21. 10. 0 *** 11. 0	—	July 10 0. 0 2. 43: 8. 17	.02604 .02523 *** .01950 ***	1. 0 2. 0 11. 0 11. 40	65° 3 66° 2 66° 8 68° 3 69° 68° 9 70° 69° 5	

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.				
							Of H.F. Magnet.	Of V.F. Magnet.								Of H.F. Magnet.	Of V.F. Magnet.			
July 10				July 10		July 10			July 11											
4. 51	21. 11. 0	b b		10. 8	.01892 ***	6. 0	71.3	70.9	18. 0	20. 57.30 ***	b b						b b	o o	o o	
5. 35	7. 5					9. 0	69.3	70.2												
6. 5	21. 9. 0			13. 3	.02080	12. 0	64.7	68.4	19. 10	21. 6. 0 ***	b b									
7. 10	20. 56.35			18. 55	.02813	18. 0	61.0	61.8	19. 50	4. 0										
8. 0	21. 3. 25				.02420	20. 0		61.5	20. 44	1. 0										
8. 35	20. 59. 15					21. 0	62.7	61.8	22. 50	7. 15										
9. 0	20. 59. 15					22. 0	65.2	63.3	23. 59	9. 0										
9. 10	21. 2. 55					23. 0	66.1	63.9												
9. 27	20. 51. 30																			
9. 54	21. 3. 0																			
10. 40	20. 53.30																			
11. 0	21. 2. 0																			
12. 8	2. 0																			
12. 25	21. 7. 10																			
13. 30	20. 52.15																			
13. 55	21. 3. 35																			

16. 15	1. 0																			
16. 40	2. 20																			
17. 22	0. 30																			
17. 42	5. 30																			
17. 55	21. 5. 30																			

19. 0	20. 59. 30																			
19. 6	21. 3. 45																			
19. 36	7. 30																			
19. 58	21. 2. 30																			
20. 24	20. 58. 30																			
20. 29	59. 10																			
20. 36	20. 58. 10																			
20. 50	21. 1. 35																			

21. 33	1. 30																			

22. 45	7. 10																			
23. 0	7. 0																			
	(†)																			
July 11				July 11		July 11			July 13			July 13					July 13			
0. 5	21. 11. 15	(†)		0. 0	.02420	0. 0	67.6	65.2	3. 5	(†)	0. 0									
1. 12	13. 50			2. 8	.02308	1. 0	68.2	66.3	0. 55	14. 55	3. 5	.0962*								
1. 54	11. 0					9. 17	.01702	2. 0	69.6	67.1	1. 15	11. 30	6. 40							
2. 37	12. 10					13. 10	.01938	3. 0	71.3	68.7	2. 15	12. 25	7. 0	.0984	3. 0					
3. 17	15. 15					15. 45	.02210	4. 0		69.0	9. 32	21. 6. 20	14. 57							
3. 56	14. 5					20. 10	.02523	9. 0		68.6	10. 0	12. 30	15. 29							
	***					23. 59	.02418	21. 0		62.7	15. 0	12. 30	15. 29							
4. 43	9. 45										16. 15	7. 0	20. 40							
5. 8	14. 20										18. 0	2. 0								
6. 47	5. 15										20. 7	20. 59. 35								
7. 20	7. 10										22. 20	21. 7. 10								
7. 45	5. 30										23. 59	7. 50								
8. 25	6. 35																			
8. 46	11. 0																			
9. 21	5. 10																			
9. 35	7. 35																			
10. 25	21. 6. 0																			
	(†)																			
July 14																	July 14			
0. 0	21. 7. 50										0. 0							8. 30		
1. 15	9. 40										1. 7						21. 0	70. 8	71. 1	
																	66. 8	66. 7		

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

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Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.				
							Of H. F. Magnet.	Of V. F. Magnet.						Of H. F. Magnet.	Of V. F. Magnet.			
July 14		July 14		July 14		July 14				July 16		July 16						
3. 18	o 1 "	1. 28	.0969	7. 15	.02280	h m	o	o	h m	11. 30	21. 1. o	July 17			July 17			
5. 15	5. o	3. 28	.0982	9. 19	.02130		***		h m	12. 44	4. 5				July 17			
6. 35	21. 5. o	4. 17	.0971						h m	13. 25	2. o							
7. 18	20. 57. 10	5. 15	.0979	13. 45	.02168				h m	19. 7	21. 1. o							
7. 26	57. 40	5. 19	.0973	20. 3	.02550				h m	19. 30	20. 58. o							
	(†)	5. 45	.0994	23. 59	.02605				h m	20. 0	21. 1. 50							
8. 30	57. 32*	6. 23	.1005						h m	20. 31	1. 40							
10. 36	57. 15	7. 7	.0988						h m	21. 0	5. o							
11. 7	58. 30	7. 29	.1005						h m	21. 50	6. o							
11. 30	54. 20	8. o	.0989						h m	22. 50	9. 5							
11. 47	20. 54. 10	8. 21	.0977						h m	23. 59	11. 40							
12. 18	21. 1. 30	8. 44	.0968															
13. 5	20. 59. 30	10. o	.0974															
13. 27	21. 1. 45	10. 15	.0967															
	(†)	11. 13	.0963															
16. 50	3. o	11. 30	.0969															
18. 10	1. 20	11. 58	.0966															
18. 28	4. o	12. 42	.0978															
18. 52	2. 30	13. 11	.0968															
19. 10	3. 30	13. 42	.0981															
20. 5	1. o	14. 15	.0968															
21. 51	2. 15	15. 27	.0979															
23. 59	9. 30	18. 55	.0978															
			(†)															
			21. o	.0938*														
July 15		July 15		July 15		July 15				July 17		July 17				July 17		
	(†)	1. o	.1027*	o. o	.02605	1. o	66. 368. 4			July 17		July 17				July 17		
1. o	21. 10. 30	3. o	.1023*	3. 7	.02589	3. o	67. 868. 8			o. o	.1051*	o. o	.02372	o. o	67. 867. 7			
4. 30	11. 30	9. o	.1027*	9. 28	.02360	9. o	69. o69. 7			o. 40	12. o	9. o	.02104	1. o	69. 368. 8			
5. 44	9. 20	21. o	.1014*	16. 6	.02653	21. o	64. o65. o			***	21. o	1044*	9. 5:	.01790	2. o	70. 870. c		
6. 45	4. 30			16. 45	.02742					2. 25	9. 30		.01883	3. o	71. 270. 5			
11. o	7. 30			18. 43	{ .02510					2. 35	10. 25		.01986	4. o	71. 571. 0			
	(†)				{ .02458					4. 25	5. o		.02450	6. o	72. o71. 8			
15. 15	7. 5			22. 17	.02510					9. 25	4. o		.02401	9. o	71. 271. 0			
15. 40	7. 30			23. 59	.02372					9. 58	5. 35			12. o	69. o69. 2			
16. 44	5. o									10. 22	3. 30			18. o	65. 665. 6			
17. 3	6. 45									10. 50	4. 10			20. o	65. o65. 2			
17. 40	2. o									11. 10	3. o			21. o	65. o65. 7			
17. 55	21. 3. o									12. 25	7. o			22. o	65. 366. 2			
18. 55	20. 59. o									13. 15	1. 15			23. o	65. 866. 3			
20. 25	20. 59. 10									15. 45	o. 30							
23. o	21. 7. o	9. 5								(†)								
23. 59										19. 20	1. o							
July 16		July 16		July 16		July 16				19. 35	2. o							
	o. o	21. 9. 5	1. o	.1027*	o. o	.02372	1. o	68. o68. 8		20. o	0. o		.02065	4. o	69. 269. 8			
1. 15	11. 50	3. o	.1024*	2. 17	.02229	3. o	71. 271. 3		21. 5	5. o		.02302	9. o	68. 268. 6				
2. 10	12. o	9. o	.1008*	4. 29	.01980	9. o	72. 773. 8		21. 5	5. o		.02250	1. o	67. o67. 7				
3. 30	11. o	21. o	.1005*	8. 50	.01592	20. o	65. 566. o		21. 5	4. 35		.02113	2. o	67. 668. 3				
5. 10	6. 40			10. 35	.01709	21. o	65. 366. o		(†)			.02032	3. o	68. o68. 6				
7. 15	6. o			11. 11	.01672	22. o	66. o66. 3					***	4. o	69. 269. 5				
9. 40	5. o			15. 45	.01920	23. o	66. 667. o					11. 37						
10. 25	2. 10			20. 46	.02380							16. 18						
10. 44	6. 20			23. 59	.02372							21. 30						
												23. 59						

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

July 15 to 30. There was no Photographic Register of the Horizontal Force.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		
														Of H. F. Magnet.	Of V. F. Magnet.	
July 19	o. " (†)	July 19	•1057*	July 19	•02436	1. o 66° 66° 8	July 22	o. " 21. 4. 17*	July 22	•1059*	11. 26	•01684	July 22	9. o 69° 69° 6		
1. o	21. 10. 56*	3. o	•1054*	6. 5	•02447	3. o 66° 867° 3	9. o	21. 3. 43*	13. 57	•1036*	17. 20	•01770	21. o	66° 366° 8		
1. 45	10. o	9. o	•1059*	8. 17	•02396	9. o 68° 68° 0			20. 10.	•02043						
5. 14	5. 35	21. 9	•1047*	12. 0	•02435	21. 9 66° 267° 2			23. 59	•02092						
5. 44	3. o			13. 20	{ 02483											
8. 45	6. 30				•02450											
11. 15	5. 10				{ 02443											
11. 50	7. 50			13. 42	{ 02396											
15. 20	21. 4. 40			15. 50	•02470											
18. 10	20. 58. 20			16. 15	•02447											
20. 45	20. 59. 30			17. 43	•02490											
23. 45	21. 7. o			18. 27	•02446											
23. 59	8. 35			19. 46	•02463											
				21. 45	•02370											
				23. 59	•02354											
July 20	o. o 21. 8. 35	1. o	•1047*	July 20	July 20	1. o 68° 68° 3	July 23	o. o 21. 8. o	July 23	•1034*	o. o	•02092	July 23	1. o 67° 868° 7		
1. 50	11. o 3. o	•1057*	2. 15	•02350	3. o 69° 869° 8	17. 15	21. 1. o	12. 10	1. 37	•01986	3. o	69° 169° 5				
2. 52	9. 40	9. o	•1075*	5. 27	•02203	9. o 71° 872° 0	18. 5	20. 58. 35	3. o	•1053*	1. 37	•01510	9. o	69° 670° 0		
3. 44	10. 5	22. 30	•1016*	10. 3:	•01910	22. 30 65° 866° 0	19. 16	20. 58. o	9. o	•1051*	9. 20	•01720	20. o	63° 064° 0		
	***			15. o	•02132	(†)			21. o	•1042*	14. o	•02030	21. o	63° 064° 0		
4. 53	6. 30			22. 17	•02243				23. 59	5. 10	17. 38	•02292	22. o	63° 064° 3		
5. 30	7. o			23. 59	•02143					(†)	20. 45	•02100	23. o	63° 364° 7		
6. 26	2. 40															
7. 15	4. 50															

9. 5	4. 10															
9. 25	0. 30															
9. 54	21. 1. 45															
10. 25	20. 58. o															
11. 13	20. 59. 10															
13. o	21. 4. 35															
13. 10	5. 50															
13. 30	3. o															
13. 50	6. o															
14. 10	5. o															
14. 50	7. 30															
15. 15	6. 20															
22. 30	(†) 8. 6*															
July 21	(†) 9. o	July 21	•1056*	July 21	•02143	9. o 70° 71° 0	July 24	1. o 21. 13. 23*	July 24	•1053*	o. o	•02100	July 24	o. o 63° 464° 7		
2. 30	21. 14. o	21. o	•1036*	2. 46	•02042	21. o 67° 67° 2	18. 5	10. 42*	3. o	•1060*	3. 15	•02129	1. o	63° 364° 5		
5. o:	7. o			10. 15:	•01663			9. o	•033*	9. o	•1058*	5. 50	•02060	2. o	63° 964° 9	
7. 35	2. o			12. 26	•01704			21. o	2. 45*	21. o	•1044	8. 20	•01926	3. o	64° 965° 2	
8. 10	2. o			20. 40:	•02063											
8. 55	4. 35			23. 59	•01980											
10. 30	4. 45															
21. o	o. 32*															
July 22	1. o 21. 7. 35*	July 22	•1040*	July 22	•01980	1. o 69° 69° 5	July 25	1. o 21. 10. 46*	July 25	•1022*	o. o	•02010	July 25	o. o 68° 368° 8		
3. o	9. 47*	3. o	•1044*	9. 17	•01672	3. o 70° 870° 3	18. 5	11. 10*	3. o	•1041*	3. 22	•01908	1. o	69° 669° 8		
							9. o	6. 4*	9. o	•1064*	11. 15	•01934	2. o	69° 369° 4		
							21. o	1. 49*	21. o	•1027*	15. 36	•02005	3. o	70° 70° 70° 0		
											19. 15	{ 02167	4. o	69° 869° 7		
											20. 14	{ 02130	9. o	68° 869° 5		
											(†)	•02123	21. o	65° 866° 5		
											21. o	•02074*				

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(lxvii)

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.*	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.		
July 26	21. 11. 15*	July 26	1037*	July 26	(†)	1. 0 67° 6' 68° 2'	July 26	21. 7. 0	July 30	02056*	July 30	21. 0 63° 0' 63° 3'	July 30	21. 0 63° 0' 63° 3'	
1. 0	10. 39*	1. 0	1061*	0. 26	01973	3. 0 68° 3' 69° 0'	1. 0	7. 0	3. 0	02379	22. 0	64° 0' 64° 2'	22. 0	64° 0' 64° 2'	
3. 0	1. 55*	9. 0	1067*	3. 17	01790	9. 0 67° 8' 69° 2'	3. 0	7. 0	8. 39	02246	23. 0	65° 1' 66° 0'	23. 0	65° 1' 66° 0'	
9. 0	5. 44*	21. 14	1053*	5. 16	01778	21. 14 63° 6' 63° 1'	9. 35	2. 10	12. 20	02390	(†)				
21. 14					01660		12. 12:	0. 0	18. 16	02728					
					01662		17. 18	6. 0	23. 5	02448					
					02040		21. 29	7. 50	23. 59	02382					
					01829		(†)								
July 27	(†)	July 27	1026*	July 27	(†)	1. 0 66° 8' 67° 5'	July 27		July 31	1060	July 31	02382	July 31	66° 0' 65° 8'	
0. 30	21. 11. 20	1. 0	1044*	1. 0	01440*	3. 0 69° 0' 70° 3'	0. 0	10. 55	0. 0	01763	1. 0	66° 8' 67° 2'	1. 0	66° 8' 67° 2'	
0. 50	11. 0	9. 0	1054*	1. 18	01472	9. 0 68° 3' 70° 2'	2. 0:	6. 10	3. 45	1061	(†)	2. 0	68° 0' 68° 1'	2. 0	68° 0' 68° 1'
1. 30:	13. 0	21. 20	1049*	4. 35	01008	21. 20 64° 0' 65° 2'	4. 55	(†)	6. 56	01905	3. 0	69° 0' 69° 0'	3. 0	69° 0' 69° 0'	
4. 0	7. 50			8. 18	01347		14. 0	4. 0	1073	01982	4. 0	70° 0' 69° 8'	4. 0	70° 0' 69° 8'	
6. 0	4. 0			14. 6	01550		14. 45:	21. 4. 0	16. 45	02370	6. 0	70° 0' 69° 8'	6. 0	70° 0' 69° 8'	
8. 25	21. 3. 5			19. 43	01886		19. 15:	20. 57. 30	21. 46	02478	9. 0	69° 0' 69° 2'	9. 0	69° 0' 69° 2'	
8. 50	20. 59. 30			(†)			23. 35	21. 12. 45	23. 17	02407	12. 0	68° 0' 68° 6'	12. 0	68° 0' 68° 6'	
9. 55	21. 3. 30			21. 20	01882*		23. 59	12. 25	1070	(†)	18. 0	65° 0' 66° 2'	18. 0	65° 0' 66° 2'	
21. 20	20. 57. 59*			22. 6	01887				12. 46	01073	20. 0	65° 0' 66° 0'	20. 0	65° 0' 66° 0'	
				23. 59	01762				16. 47	01080	21. 0	65° 8' 66° 2'	21. 0	65° 8' 66° 2'	
									18. 16	01074	22. 0	66° 3' 66° 8'	22. 0	66° 3' 66° 8'	
									19. 39	01057	23. 0	66° 9' 67° 7'	23. 0	66° 9' 67° 7'	
July 28	21. 5. 1*	8. 10	1058*	July 28	0. 0	01762	8. 10	69° 0' 69° 5'	July 28	1055					
8. 10	0. 15*	21. 0	1048*	2. 17	01580	21. 0 63° 9' 63° 8'	4. 6	01352	(†)	01046*					
21. 0				7. 56:	01690		12. 36	01796							
				12. 36	02502		19. 50	02506							
				21. 22	(†)										
July 29	(†)	July 29	1057*	July 29	(†)	1. 0 66° 8' 67° 2'	July 29		Aug. 1	(†)	Aug. 1	02363	Aug. 1	67° 3' 68° 6'	
1. 0	21. 10. 53*	3. 0	1058*	0. 50	02407	3. 0 68° 8' 69° 2'	1. 15	14. 0	1. 0	1066*	1. 0	68° 0' 69° 6'	1. 0	68° 0' 69° 6'	
1. 30	10. 30	9. 0	1065*	6. 42	01829	9. 0 69° 5' 70° 0'	3. 35	9. 0	2. 33	1064	4. 42	01957	2. 0	69° 3' 70° 0'	
3. 45	11. 0	21. 0	1052*	7. 58	{ 01730	21. 0 65° 2' 65° 5'	7. 25	5. 15	5. 8	02076	3. 0	70° 8' 71° 5'	3. 0	70° 8' 71° 5'	
4. 30	7. 0			7. 58	{ 01763		8. 13	{ 01778		1061	4. 46	02882	4. 0	71° 0' 72° 0'	
6. 20	1. 10				{ 01823		9. 18	{ 01770		1063	5. 2	{ 02796	9. 0	71° 0' 72° 0'	
8. 10	1. 35				01770		12. 7	01812		1063	5. 35	02275	21. 0	65° 0' 66° 3'	
8. 48	3. 30				01812		12. 25	01812		1063	5. 46	02303			
9. 20	2. 40				02153		12. 39	21. 2. 35		1043	5. 47	{ 02882			
11. 0	5. 20				02328		13. 5	21. 4. 0		13. 44	5. 48	{ 02796			
15. 45	3. 30				02342		14. 0	20. 56. 0		21. 15	5. 49	02642			
16. 15	7. 35				02264		14. 46	20. 57. 25		23. 59	5. 50				
16. 30	7. 35						15. 14	20. 57. 30			7. 50				
16. 53	5. 0						15. 25	20. 57. 30			9. 45				
17. 47	6. 35						16. 39	21. 2. 35			10. 45				
19. 55:	1. 0						17. 30	21. 4. 0			11. 45				
21. 50	4. 15						18. 28	21. 0. 30			12. 50				
23. 59	12. 15						19. 45:	20. 58. 0			13. 50				
July 30	21. 12. 15	July 30	1051*	July 30	0. 0	02264	1. 0	67° 4' 68° 0'	July 30	11. 15	1068	1051			
0. 0	***	3. 0	1055*	0. 27	02243	3. 0 69° 3' 69° 7'	2. 32	15. 0	12. 8	1051	***				
6. 15	9. 30	9. 0	1069*	(†)	9. 0	68° 4' 69° 2'	23. 59	17. 10	12. 43	1050	1066	***			
	***	21. 0	1064*	1. 0	02226*	20. 0 62° 0' 61° 9'			13. 6						

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

July 22, 24, 25, 26, and 28. The Photographic Traces of the Declination Magnet were too faint for use.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		Greenwich Mean Solar Time.	Western Declina- tion.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.				
							Of H. F. Magnet.	Of V. F. Magnet.							Of H. F. Magnet.	Of V. F. Magnet.			
h m	o t "	Aug. 1	'1055 '1074 *** 18.35 '1076 *** 20.27 '1047 22. 3 '1042 22.36 '1047 22.40 '1041 *** 23.26 '1050 23.40 '1092 23.45 '1074 *** 23.59 '1082	h m	h m	h m	o	o	h m	o t "	Aug. 2	'1055 *** 15.11 '1061 *** 16.30 '1056 16.45 '1061 17. 3 '1053 *** 17.49 '1063 *** 19. 8 '1042 *** 21.30 '1043 22.16 '1043 22.51 '1055 23.59 '1059	h m	h m	h m	o	o		
Aug. 2		Aug. 2	'1082	Aug. 2	'02642 *** 3. o 71.3 71.8	Aug. 2	1. o 68.3 69.8	Aug. 3	21. 10. 46* o. o 3. o 70.0 71.0	Aug. 3	'1059 o. o 10.55* o. 7 2. 20* (†) 6. 50*	Aug. 3	'1059 o. o 1060 2. 35 (†) 7. 10 '1058* 10. 29 3. o '1066* 20. 10 9. o '1065* 23. 59 22. o '1044*	Aug. 3	'02570 1. o 64.2 65.2 '02542 3. o 65.7 66.5 '02290 9. o 66.2 67.8 '02232 22. o 66.5 67.4 '02563 '02502	Aug. 3			
0. 0	21. 17. 10	0. o	'1082	0. o	'02642 *** 3. o 71.3 71.8	Aug. 3	1. o 21. 10. 46* o. o 3. o 10.55* o. 7 2. 20* (†) 6. 50*	Aug. 4	21. 13. 40 o. o 1. 51 17. 20 2. 16 15. 30 2. 35 16. 0 6. 15 2. o 1. 55 7. 41 9. 15 9. 30 14. 51 2. 30 15. 44 4. o 11. 13 17. 7 2. o 11. 35 *** 11. 42	Aug. 4	'1052 *** 2. 7 '02420 21. o 65.8 65.9 '01792 '01983 '02490 '02567 '02510 (†)	Aug. 4	'02502 8. o 72.0 73.0 '02420 21. o 65.8 65.9	Aug. 4					
0. 50	17. o	0. 8	'1090						18. 59	4. 30 *** 3. 10 21. 41 21. 51 23. 59	11. 46 12. 6 12. 22 6. 55 6. 30 13. 11 12. 10 16. 13 17. 37 18. 21 21. 18 23. 59	10. 67 '1051 '1057 '1051 '1057 '1056 '1065 '1059 '1065 '1048 '1040	Aug. 5	'1039 1. 6 '1040 o. 50 1. 55 4. 33 *** 2. 47 8. 50 5. 55 3. 46	Aug. 5	(†) 1. o 70.3 70.5 '02420 3. o 72.5 73.3 '01769 9. o 73.6 74.0 { '02140 21. o 66.2 66.8 '02265 '02410 ***	Aug. 5		
1. 6	21. 4. 5	0. 37	'1051	2. 46	'02430	9. o	70.0 71.0												
1. 25	19. 30	***	1. 45	4. 45:	'02153	21. o	63.0 64.5												
2. 5	20. o	2. 29	'1053	9. 26	'02104														
2. 16	17. o	2. 41	'1064		***														
5. o	7. 35	3. 6	'1066	13. 55	'02370														
5. 45	9. o	3. 50	'1067	18. 46	'02853														
6. 16	6. o	4. 7	'1054	23. 59	'02570														
7. 15	8. 10	4. 33	'1063																
7. 28	6. 30	4. 46	'1055																
7. 40	11. 35	5. 15	'1082																
8. o	1. 30	***	1. 30																
8. 10	4. 30	5. 36	'1090																
8. 17	2. 30	6. 7	'1057																
8. 30	6. o	6. 36	'1066																
9. 14	2. 10	6. 48	'1083																
9. 35	21. 4. o	***	7. 17	'1077															
12. 14	20. 51. o	7. 46	'1052																
12. 40	21. 2. 25	7. 55	'1062																
13. 8	21. 6. o	8. 6	'1056																
13. 42	20. 56. 35	8. 15	'1065																
14. o	21. o. 30	8. 36	'1043		***														
16. 10	20. 58. o	9. 52	'1039																
16. 55	21. 1. o	10. 15	'1049																
17. 9	20. 59. o	10. 20	'1041																
17. 20	21. 1. 50	10. 33	'1047																
17. 50	20. 56. 40	11. 3	'1033																
18. o	59. o	11. 30	'1049																
18. 32	58. 10	***	11. 30	'1049															
18. 40	56. 20	12. o	'1038																
19. 15	59. 10	12. 15	'1044																
20. 14	20. 59. 5	12. 41	'1038																
23. 15	21. 9. o	13. o	'1057																
	(†)	13. 17	'1053																
		13. 45	'1077																

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.			
							Of H. F. Magnet.	Of V. F. Magnet.						Of H. F. Magnet.	Of V. F. Magnet.	
Aug. 5		Aug. 5		Aug. 5					Aug. 6		Aug. 6					
13. 10	o 1. 15	5. 37	.1043	17. 37	.02730	h m	o	o	8. 24	o 1. 15	5. 46	.1023	h m	h m	o o	
13. 35	1. 20		***		***				8. 31	20. 56. 30		***				
	(†)	7. 26	.1042	20. 46	.03028				8. 55	21. 3. 40	6. 45	.1043				
15. 15	21. 1. 10		***	22. 35	.03066				9. 10	o. 20	7. 2	.1032				
15. 50	20. 58. o	8. 33	.1043	23. 59	.02973				9. 45	4. 30	7. 13	.1066				
16. 30	21. 4. 30	9. 4	.1050						13. 50	4. o	7. 34	.1039				
16. 54	20. 59. o		***						(†)	7. 43	.1054					
	***	10. 25	.1041						21. o	2. 49*	8. o	.1025				
18. o	20. 59. o		***								8. 17	.1056				
	(†)	12. 37	.1054								8. 27	.1042				
20. 50	21. 1. 30	12. 50	.1062		***						8. 46	.1046				
	***										9. 4	.1021				
23. 40	18. 35	14. 2	.1055								9. 17	.1030	***			
23. 59	17. 35	14. 18	.1070								12. 15	.1037	***			
		14. 25	.1059								15. 46	.1049	(†)			
		14. 36	.1072								21. o	.1032*				
		14. 44	.1054													
		14. 50	.1068													
		15. 15	.1064													
		15. 29	.1075													
		16. 7	.1064													
		18. 18	.1076													
		18. 42	.1034													
		18. 49	.1073													
		18. 57	.1054													
		19. 56	.1053													
		21. 18	.1042													
		21. 46	.1031													
		22. 3	.1044													
		23. 7	.1034													
		23. 26	.1049													
		23. 37	.1037													
		23. 59	.1024													
Aug. 6		Aug. 6		Aug. 6					Aug. 6							
o. o	21. 17. 30	o. o	.1024	o. o	.02973	1. o	68. 8	69. 8								
o. 45	20. 15	o. 13	.1024	2. 50	.02742	3. o	71. 2	71. 6								
1. 30	16. 20		(†)	3. 45	{ .02605	9. o	72. 0	73. 7								
2. 44	12. 25	1. o	.1036*	{ .02780	20. o	64. 0	64. 3			12. 15	.1051					
2. 57	14. 30	3. o	.1056*	***	21. o	64. 9	64. 8			12. 39	.1052					
3. 30	10. o	3. 3	.1051	6. 48	.02648	22. o	65. 8	66. c		12. 50	.1042	***				
3. 45	12. 5	3. 29	.1027	***	23. o	66. 7	67. o			16. 17	.1063	***				
4. 6	8. 20		***	11. 27	.02770					20. 38	.1056					
	***	4. 5	.1016	15. 33	.03163					21. 17	.1050	(†)				
6. 40	21. 3. 50	4. 17	.1029													
7. 5	20. 52. 10	4. 35	.1013	19. 35	.02463											
7. 25	58. o	4. 43	.1022	23. 59	.02170											
7. 36	20. 56. 10		***													
7. 49	21. o. o	5. 5	.1018													
8. 6	20. 52. 5	5. 33	.1029													

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

August 3. The Photographic Traces of the Declination and Horizontal Force Magnets were too faint for use.

August 4. DECLINATION AND HORIZONTAL FORCE.—The times may be in error to the amount of five minutes.

INDICATIONS OF THE MAGNETOMETERS

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(xxi)

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.					
							Of H. F. Magnet.	Of V. F. Magnet.										Of H. F. Magnet.	Of V. F. Magnet.		
h m	o i n	h m	Aug. 12	h m	h m	h m			Aug. 14	h m	o i n	Aug. 15	h m	h m	h m	h m	h m	o i n	h m	o i n	
			8.48		'02163					13.46		'1082									
			11.42		'02242					14.25		'1077									
			13.50		'02406							***									
			16.40		'02683							15.27									
			19.28		'02896							15.56									
			23.15		'03079	(†)						16.40									
												17.59									
												18.27									

Aug. 13	(†)	Aug. 13	(†)	Aug. 13	(†)	1. o 71.8 73.2			Aug. 15	(†)	o. o	'1056						Aug. 15	(†)	o. o 71.2 71.4	
1. o 21. 10. 30	1. o	'1048*	0.50	'02942	3. o 73.3 75.0					19.40		'1056							1. o	71.2 71.8	
2. 20	10. o	1. 23	'1051	8. 13	'02140	9. o 73.6 75.2				21. 7		'1064							2. o	71.5 72.5	
4. 53	4. o	***	13. 55	13. 55	'02402	20. o 66.5 68.2						22. 16							3. o	71.8 73.2	
5. 10	5. 10	3. 49	'1047	18. 56	'02910	21. o 66.8 67.6						23. 35							4. o	72.5 73.0	
6. 30	2. 30	***	21. 30	'02583	22. o 67.3 68.5							23. 59							5. o	74.0	
11. o	2. 45	6. 46	'1047	22. 36	'02495	23. o 67.8 69.4												21. o	66.7 68.0		
17. 15	21. 3. 0	7. 8	'1050		(†)																
18. 50	20. 59. o	***																			
20. 25	21. 6. 35	10. 43	'1055																		
20. 55	6. o	***																			
22. 30	12. o	16. 45	'1064																		
	(†)	18. 53	'1059																		
		20. 3	'1042																		
		21. 17	'1035																		
		22. 15	'1044																		
		23. 9	'1045																		
			(†)																		
Aug. 14	(†)	Aug. 14	(†)	Aug. 14	(†)	o. o 68.3 70.2			Aug. 15	(†)	o. o	'1053						Aug. 15	(†)	o. o 71.2 71.4	
1. o 21. 13. o*	1. o	'1051*	1. o	'02422*	1. o 70.2 70.8					1. 15	15.55	1. 7	'1047	1. o	'01692*				1. o	71.2 71.8	
4. 25	10. o	3. o	'1062*	3. o	'02332*	2. o 71.0 71.0				1. 30	16. o	(†)	'1059	3. 6	'01710	2. o	71.5 72.5				
	***	3. 28	'1059	4. 45	'02173	3. o 72.5 72.0				2. 14	12. o	3. o	'1072*	14. 17	'01463	3. o	71.8 73.2				
5. 30	7. 15	3. 50	'1053	9. 34	'01930	4. o 72.8 72.0				3. o	10. 40	6. 18	'1056	15. 56	'01792	9. o	72.8 74.0				
6. 50	7. o	***	12. 7	'02048	6. o 73.3 73.5					3. 16	8. 25	6. 47	'1064	16. 13	'01758	21. o	66.7 68.0				
	(†)	4. 35	'1058	15. 46	'02260	9. o 72.8 73.7				5. 45	3. 20	2. o	'1055	20. 25	'02002						
9. o	4. 44*	4. 44	'1053	16. 26	'02257	12. o 71.0 71.6				7. 15	5. o	7. 40	'1055	20. 25	(†)						
10. o	4. 15	5. 6	'1065	18. 25	'02360	18. o 64.5 65.5				9. o	2. 15	19. 9	'1049		'01622*						
12. o	3. 50	5. 9	'1060		(†)	20. o 69.0 69.5				20. 38	2. 15	19. 55	'1047								
12. 54	1. 30	5. 35	'1094	21. o	'01652*	21. o 69.3 70.0				21. 44	3. o	20. 8	'1039								
13. 25	5. o	5. 50	'1051			22. o 70.0 69.8				23. 30	8. o	20. 35	'1052								
	(†)	6. 7	'1046			23. o 70.8 70.3					(†)	21. 17	'1035								
21. o	8. 37*	6. 36	'1055								21. 48	'1045									
		6. 40	'1047								22. 40	'1043									
		7. 15	'1067								23. 45	'1052									
		7. 29	'1062									(†)									

		8. 6	'1068																		

		8. 42	'1061																		

		11. 45	'1066																		
		11. 56	'1081																		
		12. 5	'1052																		
		12. 46	'1079																		
		13. 5	'1074																		

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

August 11. DECLINATION AND HORIZONTAL FORCE.—The times are approximate only, and may be in error to the amount of 15 minutes.

August 12. Declination and Horizontal Force Photographic Traces were too faint for use.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	
Of H. F. Magnet.	Of V. F. Magnet.	Of H. F. Magnet.	Of V. F. Magnet.											
Aug. 16	o 4. 25	Aug. 16	h m	Aug. 16	h m	o	Aug. 19	o 2. 40	Aug. 19	h m	Aug. 19	h m	o	h m
4. 25	21. 4. 10	4. 8	.1081	18. 15	.01750		2. 40	21. 13. 0	5. 0	.1050	5. 6	.01382		
4. 40	2. 25	4. 35	.1072	18. 46	.01792		2. 45	11. 10	5. 10	.1066		***		
***	***	***	***	19. 7	.01750		2. 50	12. 30	5. 17	.1035	6. 15	.01470		
7. 43	4. 50	5. 34	.1067	19. 18	.01758		3. 4	5. 45	5. 30	.1039		***		
8. 15	6. o	6. o	***	{ 19. 18	{ .01730		3. 16	8. 25	5. 39	.1029	7. 17	.01462		
9. o	4. 55	7. 36	.1076	20. 16	{ .01281		3. 20	7. o	5. 47	.1037	7. 40	.01390		
10. 30	21. 5. o	10. 15	.1072	22. 17:	.01320		3. 25	9. o	6. 11	.1027		***		
11. 50	20. 59. 10		***	23. 48	.01256		3. 30	7. 10	6. 16	.1036	9. 39	.01427		
12. 15	21. 1. 15	11. 47	.1077	(†)			3. 39	21. 12. 30	6. 20	.1029	11. 27	.01490		
	(†)	12. 16	.1068				4. o	20. 59. o	6. 36	.1038	13. 15	.01662		
17. 30	11. o	12. 35	.1073				4. 15	21. 12. 10	6. 46	.1010	13. 50	.01683		
18. o	4. 55	13. 35	.1069				4. 35	20. 58. 15	7. 15	.1049	15. o	.01790		
18. 45	2. o	14. 27	.1075				4. 44	21. 13. 40	7. 37	.1013	19. 12	.02322		
19. 5	2. o	14. 56	.1067				4. 50	20. 57. o	***	21. 26		.02132		
19. 17	1. o	15. 25	.1081				5. 23	21. 6. 30	8. 15	.1029	23. 59	.02010		
19. 35	2. 20	15. 50	.1071				6. o	20. 56. o	8. 30	.1026				
19. 51	0. 20	17. 7	.1081				6. 12	58. 30				***		
21. 30	8. o	17. 29	.1076				6. 23	58. o	9. 4	.1034		***		
	***	17. 52	.1056				6. 30	55. 30						
23. 59	14. 20	18. 45	.1077				6. 43	56. o	9. 37	.1029		***		
		18. 52	.1073				7. 5	20. 48. 15						
		19. 43	.1077				7. 30	21. 1. 30	10. 36	.1042				
		21. 6	.1064				7. 41	20. 58. 10	10. 47	.1039				
		21. 42:	.1047				8. 20	21. 3. o	11. 12	.1058				
		23. 34	.1055				10. 15	5. o	11. 33	.1042				
		(†)					10. 30	2. 30	11. 47	.1048				
							11. 8	2. 10	12. 13	.1042				
Aug. 17	o. o	Aug. 17		Aug. 17			11. 24	7. 30	12. 31	.1050				
1. 12	21. 14. 25	(†)	1. o	.01133*	1. o	66. o	11. 46	5. o	12. 45:	.1046				
	14. 40	1. o	.1049*	3. o	.00905*	66. 7	12. 2	5. o	13. 11	.1054		***		
	***	3. o	.1053*	9. o	.00794*	66. 7	12. 25	1. 30						
5. 45	3. 15	3. 17	.1045	22. o	.01483*	66. 0	13. o	2. 30	14. 15	.1049				
	(†)	4. 16	.1044				13. 45	12. o	14. 46	.1065				
9. o	1. 41*	4. 37	.1038				14. 10	7. 35	15. 5	.1057				
10. o	4. o	4. 48	.1043				14. 45	12. 15	15. 35	.1062				
12. 30	3. 30	***					16. o	1. o	16. 6	.1057				
	(†)	5. 46	.1037				16. 50	7. 30	16. 40	.1064				
22. o	9. 24*	7. 20	.1045				17. 10	6. o	17. 6	.1049				
		9. 7	.1051				17. 15	8. 10	17. 22	.1046				
		11. 18	.1049				17. 39	8. 30				***		
		12. 29	.1053				18. o	4. 35	18. 37	.1055		***		
		(†)					18. 30	3. 30						
		22. o	.1028*				18. 32	5. o	19. 42	.1031				
Aug. 18	8. o	Aug. 18		Aug. 18			18. 45	3. 30	20. 5	.1037		***		
21. o	21. 5. 32*	8. o	.1042*	8. o	.01083*	70. 8	19. 15	3. 30						
	3. 40*	21. o	.1021*	21. o	.01302*	71. 0	19. 25	6. o	22. 15	.1031				
Aug. 19	(†)	Aug. 19		Aug. 19			19. 43	6. o				***		
1. o	21. 14. 42*	1. o	.1049*	1. o	.01253*	69. 9	19. 50	4. 30	22. 58	.1041		***		
1. 30	13. o	3. o	.1094*	1. 15	.01250	69. 0	20. 16	5. 45						
1. 54	13. o	3. 56	.1121	2. 46	.01145	70. 0	20. 40	4. o	23. 20	.1033		***		
2. 4	14. 55	4. 22	.1048				21. 45	10. o						
2. 22	12. o	4. 35	.1089	3. 29	.01338		23. 5	13. 35	23. 59	.1036				
2. 26	13. 35	4. 42	.1065				23. 59	12. 40						
2. 35	12. o	4. 47	.1107	4. 50	.01470		Aug. 20	o. o	21. 12. 30	o. o	.1036	Aug. 20	Aug. 20	Aug. 20
							o. 25	13. o			***	o. 56	o. 1953	1. o
												65. 8	66. 8	
												3. o	68. o	69. 5

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

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Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	
Aug. 20		Aug. 20		Aug. 20			Aug. 20		Aug. 21			Aug. 21		
h m	o .	h m	o .	h m	o .	o .	h m	o .	h m	o .	h m	h m	o .	o .
1. 0	21. 10. 15	0. 32	1047	1. 0	02023*	67. 569. 3	16. 5	21. 5. 10	13. 46	1072	h m	h m	o .	o .
	***	0. 53	1041	3. 0	01663*	60. 561. 7	17. 8	20. 58. 30	14. 15	1064				
1. 45	11. 35		(†)	3. 45	01570	61. 061. 8	17. 30	21. 2. 30	14. 48	1070				
2. 30	10. 0	1. 0	1039*	5. 15	01342	61. 362. 6		***	15. 35	1059				
3. 50	5. 5	3. 0	1035*	8. 43	01257	62. 063. 5	19. 2	20. 59. 25	16. 8	1061				
6. 50	0. 0	3. 15	1034	12. 38	01410		19. 30	21. 3. 0	18. 45	1053				
7. 40	1. 30	4. 5	1036	15. 45	01722		19. 55	1. 0	19. 20	1051				
8. 35	0. 0	4. 15	1029	20. 5	02176		22. 16	13. 30	20. 15	1031	***			
9. 40	21. 0. 30	4. 18	1036		(†)		22. 45	13. 0						
9. 50	20. 58. 10	4. 32	1030	21. 0	02053*		23. 35	15. 0	21. 55	1039				
10. 4	21. 0. 5	4. 43	1040					(†)	22. 30	1037				
10. 25	20. 58. 10	4. 48	1033						23. 7	1026				
11. 45	21. 2. 30	5. 7	1037						23. 26	1029				
	(†)	5. 16	1029						23. 43	1026				
15. 0	5. 15	5. 42	1041						23. 59	1034				
15. 55	3. 0	5. 46	1034											
16. 8	4. 30	6. 18	1035											
	***	7. 5	1052											
18. 44	0. 0	7. 21	1035											
19. 27	2. 0	7. 42	1041											
20. 26	0. 15	8. 5	1037											
21. 50	7. 0	9. 35	1049											
22. 10	7. 20		***											
23. 25	13. 0	12. 16	1053											
	(†)	12. 35	1049											

			14. 56	1057										
			(†)											
			21. 0	1034*										
Aug. 21		Aug. 21		Aug. 21			Aug. 21							
	(†)	(†)		(†)			o .	o .	1034	o .	o .	1542	o .	o .
0. 35	21. 13. 30	1. 0	1035*	0. 45	01593	62. 864. 7	0. 30	21. 14. 30	1034	2. 45	1310	1. 0	66. 366. 8	64. 865. 5
1. 2	10. 20	1. 30	1056	3. 16	01438	63. 365. 2	1. 25	14. 30	o . 55	1024	***	2. 0	67. 267. 8	
1. 30	11. 20	2. 37	1051	9. 17	01010	64. 566. 2		***	14. 30	1024	8. 46	1022	3. 0	68. 068. 8
	***	2. 46	1043	12. 42	01108	65. 566. 7	4. 40	21. 2. 35	3. 27	1049	14. 35	1307	4. 0	68. 068. 5
3. 0	9. 0	2. 50	1051	15. 15	01229	66. 067. 3	5. 14	20. 54. 10		***	15. 46	1320	9. 0	68. 269. 0
3. 35	6. 35		***	21. 6	01650	65. 567. 5	5. 39	53. 30	4. 0	1038	20. 7	1563	21. 0	65. 266. 8
4. 50	8. 0	3. 15	1052	23. 59	01542	64. 266. 5	6. 12	57. 0	4. 33	1052	23. 38	1588	(†)	
	***	3. 27	1038				6. 30	57. 0	5. 17	1046				
7. 5	2. 0	3. 46	1044				6. 55	59. 0	5. 29	1052				
8. 25	2. 15		***				7. 30	20. 47. 30		***				
8. 40	0. 20	4. 19	1034				8. 16	21. 1. 0	6. 56	1031				
9. 0	3. 0		***				9. 0	1. 0		***				
9. 35	3. 45	6. 12	1057				9. 45	5. 0	7. 37	1048				
9. 58	2. 20	6. 36	1049				11. 15	6. 0		***				
10. 14	5. 0		***				12. 10	21. 3. 5	10. 13	1061				
10. 30	2. 10	7. 5	1054					(†)	12. 3	1066				
10. 53	9. 0		***				15. 15	20. 58. 0	12. 18	1062				
11. 25	4. 30	8. 2	1047				15. 35	21. 1. 30		***				
11. 58	3. 30		***				16. 9	20. 58. 30	13. 49	1076				
12. 8	5. 0	9. 15	1057				16. 40	21. 2. 45	14. 10	1072				
13. 0	4. 30	9. 41	1051				17. 30	1. 10	14. 36	1079				
13. 16	2. 0	10. 6	1057				17. 40	2. 40		***				
13. 40	6. 0	10. 20	1046				17. 55	21. 0. 30	16. 50	1086				
13. 57	2. 0	10. 45	1067					19. 8	20. 57. 0	17. 17	1071			
14. 26	2. 0	11. 10	1053				19. 43	21. 2. 0		***				
14. 52	0. 20	11. 45	1053		***		20. 25	2. 15	19. 18	1054				
							21. 30	8. 25	19. 46	1041				
							22. 35	8. 35		***				
							22. 55	13. 0	22. 5	1037				
							23. 15	13. 0	22. 45	1049				
							23. 30	14. 40	23. 7	1044				
							23. 50	14. 45	23. 59	1058				
Aug. 23							Aug. 23							
								(†)	o .	o .	1058	(†)	1. 0	67. 768. 8
							0. 55	21. 15. 0	o . 12	1055	0. 32	01637	3. 0	69. 870. 3
							2. 20	9. 0	o . 43	1066	1. 25	01546	9. 0	69. 270. 8

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

August 17. VERTICAL FORCE.—There was no Photographic Trace.

INDICATIONS OF THE MAGNETOMETERS

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.			Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.			
							Of H. F. Magnet.	Of V. F. Magnet.										
Aug. 26	10. 0	21. 5. 0	Aug. 26	5. 46	.1066	***			h m	o	o	Aug. 28	21. 43	.1046		h m	o o	
11. 55	5. 10												22. 4	.1051				68. 0
12. 28	3. 0		6. 45		.1060								22. 16	.1047	(†)			70. 0
16. 20	4. 0		7. 3		.1065												71. 0	
17. 55	2. 0																71. 0	
	***		8. 41		.1058	***											72. 0	
19. 40	1. 30																72. 5	
23. 10	14. 0		10. 58		.1060												75. 8	
	(†)		11. 27		.1066	***												
			13. 13		.1059													
			16. 29		.1065	***												
			20. 6		.1049	***												
			22. 40		.1051													
			23. 30		.1046	(†)												
Aug. 27	(†)		Aug. 27		Aug. 27													
0. 15	21. 13. 30	3. 0	.1040*	0. 0	.01328	1. 0	68. 3	70. 5										
1. 35:	13. 0	9. 0	.1046*	2. 37	.00950	3. 0	71. 5	73. 0										
4. 10	4. 0	21. 0	.1052*	5. 18	.00543	9. 0	72. 8	74. 0										
7. 30:	1. 30		.1039*	8. 0:	.00786	20. 0	65. 6	67. 0										
9. 7	3. 0			13. 46	.01050	21. 0	66. 3	67. 2										
9. 35	1. 0			18. 30	.01512	22. 0	67. 5	68. 3										
9. 58	2. 20			21. 6	.01785	23. 0	68. 4	69. 2										
11. 50	3. 25			21. 45	.01780													
12. 30	2. 30			23. 59	.01622													
15. 30	3. 55																	
19. 30:	0. 5																	
22. 45	13. 10																	
23. 59	13. 15																	
Aug. 28			Aug. 28		Aug. 28													
0. 0	21. 13. 15	0. 0	.1049	0. 0	.01622	0. 0	69. 5	70. 2										
0. 46	13. 0	0. 37	.1050	4. 35	.01050	1. 0	70. 7	71. 2										
4. 8	2. 0		***	7. 30	.00748	2. 0	72. 0	72. 9										
7. 25	2. 0	0. 35	.1037	9. 21:	.00890	3. 0	73. 0	73. 9										
9. 50	2. 10		***	11. 30	.00921	4. 0	74. 3	74. 2										
10. 20	6. 0	3. 29	.1032	20. 16	.01683	6. 0	75. 3	75. 2										
11. 0	1. 0		***	23. 59	.01725	9. 0	74. 0	75. 0										
13. 30:	21. 2. 10	5. 46	.1035			12. 0	71. 0	71. 8										
14. 58	20. 58. 0	6. 45	.1043			18. 0	66. 2	67. 1										
15. 30	59. 20	9. 8	.1045			20. 0	67. 0	68. 0										
16. 15	57. 0	10. 7	.1048			21. 0	66. 5	67. 2										
	***	10. 45	.1063			22. 0	67. 0	68. 2										
18. 40	20. 57. 30	11. 20	.1052			23. 0	67. 5	69. 0										
19. 30	21. 0. 20	11. 46	.1056															
21. 40	2. 35	12. 17	.1052															
22. 45	7. 15	15. 2	.1065															
	(†)	15. 46	.1065															
		16. 50	.1074															
		18. 40	.1067															
		18. 48	.1060															
		21. 7	.1045															

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

August 30. The Photographic Trace of the Horizontal Force Magnet was too faint for use.

INDICATIONS OF THE MAGNETOMETERS

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(lxxvii)

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		
						Of H. F. Magnet.							Of V. F. Magnet.			Of H. F. Magnet.	Of V. F. Magnet.
Sept. 4	h m	Sept. 4		h m			h m	o	o	h m			h m	o	o	h m	o
19. 13	o. o	20. 57. o	18. 45	•1061						22. 15	•1047		22. 15	•1047		22. 15	•1047
20. 37	20. 59. 30	19. 47	•1056							22. 40	•1031		22. 40	•1031		22. 40	•1031
22. 25	21. 10. o	22. 24	•1027							23. 5	•1052		23. 5	•1052		23. 5	•1052
23. 12	10. 10 (†)	23. 45	•1043 (†)	*						23. 12	•1047		23. 12	•1047		23. 12	•1047
Sept. 5	21. 9. 40	Sept. 5	(†)	Sept. 5	(†)	Sept. 5	o. o	67. 5	69. 8	Sept. 6	o. o	•1048	Sept. 6	o. o	•1048	Sept. 6	o. o
o. 15	9. 40	o. 45	•1043	o. 16	•00421	Sept. 5	1. o	68. 8	70. 4	Sept. 6	o. 29	•1033	Sept. 6	1. o	•01473	Sept. 6	1. o
o. 30	13. 15	***	2. 12	•00230		Sept. 5	2. o	70. 0	71. 5	Sept. 6	2. 17	•01452	Sept. 6	3. o	•01452	Sept. 6	3. o
o. 46	10. 30	2. 6	•1048	5. 45	•00619	Sept. 5	3. o	71. 3	72. 6	Sept. 6	8. 50	•01567	Sept. 6	9. o	•01567	Sept. 6	9. o
1. 32	12. o	2. 42	•1038	7. 48	•00743	Sept. 5	4. o	72. 2	73. 6	Sept. 6	11. 16	•01768	Sept. 6	21. o	•01768	Sept. 6	21. o
2. 5	9. o	3. 37	•1059	9. 6	•00762	Sept. 5	9. o	73. 0	74. 5	Sept. 6	15. 8	{•01420	Sept. 6	66. o	{•01420	Sept. 6	66. o
2. 55	9. 10	4. 10	•1046	9. 35	•00730	Sept. 5	21. o	68. 3	70. 1	Sept. 6	2. o	•01251	Sept. 6	71. 5	•01251	Sept. 6	71. 5
3. 30	6. 30	4. 10	***	12. 7	•00872	Sept. 5				Sept. 6	3. o	•01547	Sept. 6	71. 5	•01547	Sept. 6	71. 5
4. 20	6. 35	5. 12	•1047	15. 13	•01170	Sept. 5				Sept. 6	4. 15	•01456	Sept. 6	68. 8	•01456	Sept. 6	68. 8
6. o	2. 20	***	20. 45	•01432		Sept. 5				Sept. 6	5. 19	•01510	Sept. 6	67. o	•01510	Sept. 6	67. o
6. 13	1. o	6. 15	•1054	23. 59	•01473	Sept. 5				Sept. 6	5. 46	•01368	Sept. 6	61. 2	•01368	Sept. 6	61. 2
6. 28	21. 1. 30	6. 45	•1041			Sept. 5				Sept. 6	10. 6	•01558	Sept. 6	21. 40	•01558	Sept. 6	21. 40
7. 2	20. 58. o	6. 50	•1049			Sept. 5				Sept. 6	10. 44	•01580	Sept. 6	23. 59	•01580	Sept. 6	23. 59
7. 10	21. o. o	7. 8	•1049			Sept. 5				Sept. 6	21. 1. o	•0170	Sept. 6			Sept. 6	
8. 43	20. 52. 10	7. 46	•1057			Sept. 5				Sept. 6	13. 40	•0154	Sept. 6	10. 54	•0154	Sept. 6	10. 54
9. 15	55. 50	8. 5	•1054			Sept. 5				Sept. 6	2. 10	•0166	Sept. 6	10. 66	•0166	Sept. 6	10. 66
9. 43	20. 54. o	***	7. 18	•1043		Sept. 5				Sept. 6	(†)	8. 5	Sept. 6	10. 61	•0161	Sept. 6	10. 61
11. 40	21. 0. 35	9. 10	•1056			Sept. 5				Sept. 6	15. 25	•0165	Sept. 6	10. 65	•0165	Sept. 6	10. 65
13. 35	21. 3. 20	9. 28	•1076			Sept. 5				Sept. 6	6. 20	•0158	Sept. 6	10. 58	•0158	Sept. 6	10. 58
14. 20	20. 59. 30	9. 45	•1061			Sept. 5				Sept. 6	16. 20	•0165	Sept. 6	10. 65	•0165	Sept. 6	10. 65
14. 46	21. 3. o	9. 56	•1065			Sept. 5				Sept. 6	16. 53	21. 2. o	Sept. 6	10. 6	•0161	Sept. 6	10. 6
15. o	3. o	10. 32	•1055			Sept. 5				Sept. 6	17. 40	20. 59. 30	Sept. 6	10. 37	•0161	Sept. 6	10. 37
15. 23	5. 40	10. 47	•1058			Sept. 5				Sept. 6	18. 35	21. 1. o	Sept. 6	10. 55	•0174	Sept. 6	10. 55
15. 51	2. o	11. 13	•1051			Sept. 5				Sept. 6	20. 5	20. 57. o	Sept. 6	12. 47	•0166	Sept. 6	12. 47
16. 45	2. 5	11. 36	•1065			Sept. 5				Sept. 6	23. 8	21. 11. o	Sept. 6	11. 50	•0176	Sept. 6	11. 50
17. o	1. 30	11. 46	•1055			Sept. 5				Sept. 6	23. 59	11. 50	Sept. 6	15. o	•0172	Sept. 6	15. o
17. 30	***	12. 7	•1070	***		Sept. 5							Sept. 6	15. 47	•0182	Sept. 6	15. 47
17. 55	4. 10	12. 45	•1061			Sept. 5							Sept. 6	16. 36	•0175	Sept. 6	16. 36
18. 25	4. 50	12. 49	•1066			Sept. 5							Sept. 6	17. 13	•0177	Sept. 6	17. 13
18. 35	1. 10	***				Sept. 5							Sept. 6	19. 46	•0165	Sept. 6	19. 46
18. 50	* 3. o	13. 43	•1056			Sept. 5							Sept. 6	21. 47	•0142	Sept. 6	21. 47
19. 6	1. 30	15. 47	•1060	***		Sept. 5							Sept. 6	22. 16	•0147	Sept. 6	22. 16
19. 30	5. 45					Sept. 5							Sept. 6	22. 58	•1040	Sept. 6	22. 58
19. 50	4. 30	17. 30	•1049			Sept. 5							Sept. 6	23. 59	•1044	Sept. 6	23. 59
23. o	10. o	17. 58	•1035			Sept. 5							Sept. 7	o. o	21. 11. 50	Sept. 7	o. o
	(†)	18. 9	•1031			Sept. 5							Sept. 7	o. 22	13. 45	Sept. 7	o. 22
		18. 34	•1046			Sept. 5							Sept. 7	o. 30	12. o	Sept. 7	o. 30
		18. 50	•1030			Sept. 5							Sept. 7	2. o	10. o	Sept. 7	2. o
		19. 15	•1045	***		Sept. 5							Sept. 7	3. 45	4. 5	Sept. 7	3. 45
		20. 6	•1048	***		Sept. 5							Sept. 7	3. 53	5. o	Sept. 7	3. 53
		20. 45	•1043			Sept. 5							Sept. 7	5. o	2. 30	Sept. 7	5. o
		21. 4	•1063			Sept. 5							Sept. 7	6. 10	2. 30	Sept. 7	6. 10
		21. 29	•1039	***		Sept. 5							Sept. 7	6. 55	0. 35	Sept. 7	6. 55
						Sept. 5							Sept. 7	7. 43	21. 1. 30	Sept. 7	7. 43
													Sept. 7	5. 17	•1055	Sept. 7	5. 17
													Sept. 7	5. 17	***	Sept. 7	5. 17

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

September 1 to 4. The times both of the Declination and Horizontal Force may be in error to 5 or 10 minutes. The Photographic Trace of the Declination Magnet, on the 3rd, is too faint for use.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.
Sept. 7	o. o	Sept. 7	h m	h m	h m	o o	Sept. 9	o. o	Sept. 9	h m	h m	o o	Sept. 9
8. 0	20. 59. 0	6. 20	.1059	h m	h m	o o	4. 39	21. 2. 40	4. 18	.1046	7. 56	.00780	h m
8. 15	21. 0. 0	6. 46	.1067				6. 56	21. 2. 10	4. 42	.1051	12. 30	.00892	
8. 39	20. 57. 0	7. 47	.1060				7. 35	20. 59. 30		***	15. 18	.01060	
9. 10	20. 58. 10	8. 23	.1079				8. 21	21. 1. 30	5. 25	.1047	19. 17	.01405	
10. 10	21. 1. 30		***						7. 13	.1054	21. 45	.01548	(†)
15. 0	2. 25	8. 48	.1070										
15. 40	1. 0	9. 2	.1077										
	***	9. 46	.1062										
16. 28	3. 5		***										
17. 8	2. 10	11. 41	.1061										
17. 43	0. 0		***										
18. 10	21. 0. 30	12. 49	.1073										
19. 30	20. 58. 25		***										
22. 40	21. 13. 30	13. 45	.1069										
23. 45	13. 40		***										
23. 59	12. 10	17. 56	.1078										

		22. 16	.1054										

		23. 59	.1054										
Sept. 8		Sept. 8											
o. o	21. 12. 10	o. o	.1054										
0. 30	15. 0	0. 20	.1062	Sept. 8	1. 18	.01002	Sept. 8	3. 0	21. 10. 26*	(†)	1. 0	.1046*	1. 15
1. 30	17. 0	0. 48	.1054		6. 6	.00730		9. 0	21. 1. 59*	1. 51	1. 0	.1041	2. 7
2. 13	13. 0		***		9. 18	.00580		21. 0	20. 58. 7*	2. 47	1. 0	.1047	4. 8
2. 30	13. 25	1. 57	.1060		9. 46	.00580				8. 15	1. 0	.1053	5. 29
2. 50	11. 10	2. 6	.1054			(†)				12. 13	1. 0	.1065	.00802
3. 0	12. 35	2. 33	.1062	18. 32		.00970				15. 51	1. 0	.1080	21. 0
3. 39	7. 0	2. 45	.1059	20. 15		.01062				19. 3	1. 0	.1070	22. 0
4. 0	8. 0	3. 5	.1071	23. 59		.00978				19. 21	1. 0	.1073	23. 0
	***	3. 32	.1053							20. 30	1. 0	.1063	.01508
6. 14	21. 6. 10	4. 17	.1078							23. 15	1. 0	.1061	(†)
7. 35	20. 45. 50	4. 46	.1068										
9. 27	21. 1. 0		***										
10. 25	o. o	5. 26	.1081										
11. 5	21. 1. 5	5. 45	.1070										
	(†)		***										
19. 40	20. 58. 10	6. 13	.1077										
22. 30	21. 8. 50	6. 40	.1058										
23. 45	10. 15	6. 46	.1064										
	(†)	6. 55	.1054										
		7. 17	.1069										
		7. 46	.1060										
		8. 0	.1061										
		8. 16	.1055										
		8. 29	.1060										
		8. 45	.1053										
		9. 28	.1059										
		21. 0	.1041*										
Sept. 9	(†)	Sept. 9		Sept. 9			Sept. 9	o. o	65. 2	66. 3	19. 16	.1083	***
o. 16	21. 10. 20	1. 0	.1046*	1. 6	.00978		3. 0	66. 2	68. 3		21. 7	.1070	***
1. 42	11. 20	2. 46	.1045	3. 43	.00930		9. 0	66. 8	68. 6		23. 59	.1068	
3. 43	4. 30	3. 7	.1050	5. 49	.00475		21. 0	61. 5	63. 0				

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instance they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	
Sept. 12	o. 15	21. 15	Sept. 12	Sept. 12	(†)	1068	Sept. 12	19. 5	21. 17	Sept. 14	1051	23. 59	01559	o. o
h m	21. 15	7. 0	h m	h m	"	o. o	h m	19. 56	20. 17	Sept. 14	1060	23. 59	01559	o. o
1. 35	8. 0	1. 55	1. 35	1. 35	**	1066	1. 7	20. 17	21. 2. 15	1056	1067	***	o. o	
4. 0	3. 10	4. 30	4. 0	4. 30	**	1066	8. 58	21. 2. 15	23. 20	1056	1067	***	o. o	
5. 25	3. 15	4. 47	3. 15	4. 47	**	1072	21. 5	7. 50	7. 50	1067	1067	6. 34	o. o	
7. 53	1. 50	6. 15	7. 53	6. 15	**	1076	22. 14	10. 5	10. 5	1074	1074	8. 33	o. o	
8. 15	o. 5	8. 43	8. 15	8. 43	**	1075	23. 12	10. 5	10. 5	1073	1073	10. 5	o. o	
8. 35	21. 1. 0	9. 6	8. 35	9. 6	**	1087	(†)	10. 5	10. 5	1079	1079	14. 53	o. o	
8. 57	20. 57. 20	9. 18	8. 57	9. 18	**	1079		10. 5	10. 5	1084	1084	18. 56	o. o	
9. 17	21. 1. 0	9. 42	9. 17	9. 42	**	1083		10. 5	10. 5	1073	1073	21. 15	o. o	
9. 30	20. 59. 35	10. 6	9. 30	10. 6	**	1077		10. 5	10. 5	1073	1073	23. 2	o. o	
10. 25	21. 2. 15	10. 47	10. 25	10. 47	**	1088		10. 5	10. 5	1076	1076	(†)	o. o	
11. 0	1. 10	10. 58	11. 0	10. 58	**	1083		10. 5	10. 5	1076	1076		o. o	
11. 55	3. 0	11. 27	11. 55	11. 27	**	1087		10. 5	10. 5	1076	1076		o. o	
12. 25	1. 20	11. 46	12. 25	11. 46	**	1079		10. 5	10. 5	1076	1076		o. o	
12. 40	4. 0	12. 9	12. 40	12. 9	**	1087		10. 5	10. 5	1076	1076		o. o	
13. 7	21. 0. 0	13. 47	13. 7	13. 47	**	1077		10. 5	10. 5	1076	1076		o. o	
14. 0	20. 57. 5	13. 47	14. 0	13. 47	**	1077		10. 5	10. 5	1076	1076		o. o	
14. 38	58. 40	13. 47	14. 38	58. 40	**	1086		10. 5	10. 5	1076	1076		o. o	
15. 30	20. 58. 30	17. 2	15. 30	17. 2	**	1086		10. 5	10. 5	1076	1076		o. o	
18. 45	21. 3. 30	19. 47	18. 45	19. 47	**	1071		10. 5	10. 5	1076	1076		o. o	
22. 10	7. 20	22. 13	22. 10	22. 13	**	1069		10. 5	10. 5	1076	1076		o. o	
Sept. 13	(†)	Sept. 13	Sept. 13	Sept. 13	(†)	1081	1. 0	1. 0	1. 0	1076	1076	13. 27	o. o	
o. 36	21. 6. 10	1. 0	o. 36	1. 0	**	1081	01170	3. 0	3. 0	1076	1076	13. 27	o. o	
4. 57	1. 5	1. 30	4. 57	1. 30	**	1083	1. 50	01236	9. 0	61. 863. 0	1065	1065	14. 6	o. o
5. 52	1. 40	3. 25	5. 52	3. 25	**	1072	3. 29	01207	21. 0	58. 059. 8	1079	1079	14. 6	o. o
6. 35	o. 20	5. 43	6. 35	5. 43	**	1086	5. 45	01270	10. 10	0. 54	1075	1075	14. 6	o. o
8. 12	21. 1. 15	7. 21	8. 12	7. 21	**	1091	8. 6	01285	11. 30	5. 15	1066	1066	14. 6	o. o
8. 46	20. 59. 30	9. 37	8. 46	9. 37	**	1077	13. 7	01410	9. 45	6. 42	1082	1082	16. 22	o. o
9. 44	20. 59. 0	11. 11	9. 44	11. 11	**	1086	11. 11	01235	7. 0	10. 66	1066	1066	18. 17	o. o
11. 17	21. 2. 15	17. 6	11. 17	17. 6	**	1088	17. 10	01410	11. 30	7. 22	1084	1084	18. 17	o. o
16. 42	o. 50	18. 43	16. 42	18. 43	**	1082	20. 48	01528	10. 10	9. 40	1079	1079	22. 16	o. o
17. 44	3. 10	19. 55	17. 44	19. 55	**	1087	22. 46	01470	9. 30	8. 26	1086	1086	23. 59	o. o
18. 58	2. 0	21. 25	18. 58	21. 25	**	1071		(†)	10. 10	5. 30	1063	1063		o. o
22. 56	12. 40	21. 31	22. 56	21. 31	**	1077			10. 10	9. 26	1061	1061		o. o
23. 12	11. 50	22. 0	23. 12	22. 0	**	1063			7. 10	10. 52	1061	1061		o. o
*	(†)	22. 26	*	22. 26	**	1067			7. 39	10. 29	1035	1035		o. o
		22. 41		22. 41	**	1060			9. 6	20. 57. 30	10. 52	1039		o. o
		23. 10		23. 10	**	1068			9. 22	21. 0. 30	10. 56	1035		o. o
		23. 21		23. 21	**	1062			10. 10	20. 54. 10	11. 21	1044		o. o
		23. 46		23. 46	**	1061			10. 39	42. 30	11. 42	1034		o. o
		(†)		(†)	**				11. 0	50. 40	12. 7	1026		o. o
									11. 13	47. 30	12. 13	1053		o. o
									11. 41	54. 40	12. 30	1048		o. o
									11. 57	46. 20	12. 39	1058		o. o
Sept. 14	(†)	Sept. 14	Sept. 14	Sept. 14	(†)	1069	o. 0	o. 0	10483	1. 0	61. 862. 7	1054	1054	o. o
o. 20	21. 11. 5	o. 17	o. 20	o. 17	**	1069	6. 45	00925	3. 0	63. 264. 7	1052	1052	1054	o. o
2. 0	13. 0	0. 49	2. 0	0. 49	**	1053	9. 47	00869	9. 10	63. 365. 0	1050	1050	1052	o. o
4. 55	1. 10	1. 30	4. 55	1. 30	**	1056	12. 13	00930	22. 35	56. 057. 0	1070	1070	1052	o. o
8. 5	o. 0	1. 58	8. 5	1. 58	**	1051	13. 45	01006	14. 30	21. 3. 30	1066	1066	1052	o. o
10. 30	2. 0	2. 36	10. 30	2. 36	**	1039	20. 6	01418	15. 14	20. 57. 0	14. 26	1071	1071	o. o
14. 14	2. 5	3. 7	14. 14	3. 7	**	1051			15. 29	58. 0	15. 30	1061	1061	o. o

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

September 9, 11, 13 and 15. The times of both the Declination and Horizontal Force are doubtful to the amount of 5 or 10 minutes.

September 10. The Photographic Trace of the Declination Magnet was too faint for use.

September 10. The times of the Horizontal Force may be 5 or 10 minutes in error.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.	
Sept. 15		Sept. 15													
15.45	20. 52. 35	16. 10	.1052	h m			h m	o o	Sept. 16		Sept. 16		h m		
15.51	53. 40	18. 9	.1042					o o	16. o	20. 59. 30	8. 45	.1070			
16. 2	51. 20	18. 34	.1021					o o	16. o	***	9. 6	.1082			
16. 14	52. 0	19. 4	.1038					o o	18. 45	20. 58. 45	9. 36	.1073			
16. 21	50. 45	19. 40	.1031					o o	20. 3	21. 2. 0	10. 7	.1090			
16. 48	20. 55. 0	20. 13	.1045					o o	20. 50	o. 15	10. 48	.1072			
17. 14	21. 0. 45		***					o o	21. 15	4. 50	12. 17	.1067			
17. 25	20. 59. 30	21. 15	.1031					o o	21. 45	3. 40	12. 34	.1086			
17. 42	21. 1. 15	21. 26	.1040					o o	22. 14	8. 0	12. 43	.1079			
18. 0	7. 40	22. 26	.1032					o o	22. 45	7. 25	12. 56	.1087			
18. 12	9. 0	22. 47	.1050					o o	23. 20	9. 10	13. 29	.1072			
18. 29	6. 30	23. 36	.1020					o o	(†)	14. 40	14. 57	.1073			
18. 59	6. 0	23. 59	.1042					o o		14. 57	15. 13	.1080			
19. 20		8. 50						o o		15. 35	15. 35	.1073			
19. 42		3. 40						o o		16. 17	16. 17	.1070			
19. 50		6. 30						o o		18. 38	18. 38	.1071			
20. 0		2. 50						o o		20. 56	20. 56	.1055			
20. 13		6. 0						o o		21. 45	21. 45	.1057			
20. 21		5. 5						o o		22. 13	22. 13	.1044			
20. 30		7. 15						o o		23. 59	23. 59	.1058			
20. 46		8. 30													
20. 58		8. 0													
21. 56		9. 30													
22. 21		8. 0													
22. 27		10. 10													
22. 40		9. 0													
22. 51		12. 45													
23. 6		12. 0													
23. 21		13. 5													
23. 48		10. 10													
23. 59		11. 0													
Sept. 16		Sept. 16													
1. o	21. 10. 21*	1. o	(†)	Sept. 16	o. o	.01657	1. o	59. 561. o	Sept. 17	(†)	o. o	.1058	Sept. 17	(†)	Sept. 17
3. o	3. 42*	1. 6	.1043*	7. 10	.01262	3. o	60. 462. o	1. 43	1. 10	1. 10	1. 43	.1046	1. o	.01265*	1. o
4. 8	0. 25		***	9. 13	.01207	9. o	59. 561. o	2. 46	11. 5	11. 5	2. 46	.1046	1. 36	.01242	9. o
4. 26	1. 45	1. 22	.1057	12. 36	.01322	21. o	55. 857. 3		9. 35	9. 35		***	3. o	.01171	20. o
4. 46	0. 30		***	12. 50	.01275				11. 30	11. 30	4. 15	.1064	4. 26	.00968	21. o
5. 30	21. 0. 35	1. 56	.1045	14. 45	.01376				1. 30	9. o	5. 20	.1047	5. 15	.00880	22. o
6. o	20. 57. 30	2. 17	.1057	15. 30	.01364				3. 7	3. o		***		***	23. o
6. 40	21. 1. o	2. 40	.1046	18. 26	.01612						5. 45	.1048	6. 47	.00988	
7. 25	o. o	3. 12	.1058	21. 8	.01730						6. 6	.1071	9. 38	.01030	
7. 51	21. 1. o		(†)	22. 4	.01672						6. 35	.1049	14. 40	.01129	
8. 16	20. 59. 20	4. o	.1054	23. 30	.01629						54. 50	6. 40	18. 26	.01361	
8. 39	21. 1. 55	4. 17	.1065		(†)						59. 10	6. 46	22. 52	.01690	
9. 8	20. 57. 10	4. 41	.1052								55. 35	7. 5	.1059	.01691	
9. 24	21. 0. 30	4. 53	.1060								55. o	7. 34	.1052		
9. 55	20. 58. 25	5. 6	.1056								57. o		***		
10. 10	21. 0. 10	5. 18	.1061								49. 10	8. 3	.1069		
10. 25	20. 59. o	5. 36	.1053								50. 5	8. 14	.1058		
10. 44	21. 2. o	5. 45	.1062								48. 10	8. 21	.1070		
11. o	21. 0. 10	5. 47	.1055								54. o	8. 39	.1070		
12. 2	20. 58. 5	6. 10	.1057								52. o		***		
12. 32	21. 11. 15	6. 21	.1053								59. o	9. 36	.1048		
12. 54	21. 2. 10	6. 46	.1068								59. 5	9. 47	.1056		
14. 10	20. 57. 35	7. 32	.1065	***	7. 7	.1057					54. o	10. 6	.1052		
											56. o		***		
											20. 55. 10	11. 15	.1064		
											21. 0. 15		***		
											***	15. 16	.1068		
											2. o		***		
											2. 30	16. 26	.1075		

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instance they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (↑) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(lxxxi)

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

September 10. The Photographic Trace of the Declination was too faint for use, and the times of the Horizontal Force are somewhat doubtful.

September 20. The times of both the Declination and Horizontal Force may be in error to the amount of 5 or 10 minutes.

INDICATIONS OF THE MAGNETOMETERS

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

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For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Sept. 27	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Sept. 30	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.					
							Of H. F. Magnet.	Of V. F. Magnet.										Of H. F. Magnet.	Of V. F. Magnet.		
Sept. 27	o. 55	20. 56. 30	Sept. 27	h. m	1057	15. 44	01450	h. m	o	o	Sept. 30	o. 55	(†)	Sept. 30	o. 55	02110	1. o	63° 8' 64° 5'			
9. 15	21. 0. 30	5. 13	1062	20. 33	01655	***	23. 10	01702			1. 0	21. 6. 0	0. 26	1058	3. o	66° 6' 67° 5'					
15. 10	o. 35										1. 21	5. 10	1. 5	1056	5. 7	{ 01482	9. o	68° 0' 69° 0'			
15. 25	2. 10	7. 23	1068	23. 59	01690						1. 36	6. 20	1. 49	1061	8. 26	{ 01510	21. o	65° 0' 66° 0'			
15. 40	o. 30	9. 30	1073								4. 15:	21. 2. 0	4. 56	1062	10. 42	{ 01832	21. o	65° 0' 66° 0'			
16. 25	o. o	10. 5	1081								6. 45	20. 58. 45	6. 45	1068	13. 16	{ 01893					
16. 54	2. 45	10. 36	1073										(†)	7. 34	1057	18. 47	{ 01945				
17. 30	21. 0. 0		***								9. o	21. 0. 40*	8. 17	1069	22. 13	{ 02150					
19. 50	20. 58. 0	11. 40	1076								13. 13	0. 20		***	23. 59	{ 02230					
21. 7	21. 2. 0		***								13. 57	21. 1. 0	10. 50	1072		{ 02203					
22. 45	4. 20	16. 35	1079								18. 37	20. 59. 10	11. 45	1080							
23. 30	6. 30	17. 17	1093								20. 36	20. 56. 40	12. 20	1074							
23. 59	7. 10	18. 8	1091								22. 28	21. 5. 5	13. 35	1073							
			***								23. 59	4. 20	14. 3	1077							
			20. 56											18. 20	1079						
			21. 45												(†)	1066*					
			22. 17												21. o						
			23. 59																		
Sept. 28	o. o	21. 7. 10	Sept. 28	h. m	1059	o. o	01690	1. 15	61° 2' 62° 0	Sept. 28	h. m	1. 17	01668	3. o	62° 2' 63° 0	Oct. 1	Oct. 1	Oct. 1	Oct. 1	Oct. 1	
1. o.	8. o	3. 57	1064	5. 8	1067	5. 25	01470	9. o	62° 5' 63° 2	22. 15	62° 0' 62° 5	2. 45:	3. o	1. 26	1071	4. 18	{ 02012	9. o	69° 2' 71° 5'		
4. 15:	1. 50	5. 8	1067	8. 47:	1073	15. 13	01518	22. 15	62° 0' 62° 5			7. 43	21. 0. 35	3. 15	1076	6. 6	{ 01883	20. o	65° 5' 66° 9		
6. 30	21. 0. o	5. 46	1067	1067	1067	15. 13	01579				8. 1	20. 59. o	4. 47	1073	10. 33	{ 01960	21. o	65° 0' 66° 8			
6. 52	20. 57. o	6. 43	1067	1067	1067	21. 12	01642				8. 35	21. 1. o	7. 46	1078	12. 36	{ 02073	22. o	65° 0' 66° 6			
8. 25:	21. 1. 10	7. 7	1060	1060	1060	23. 59	01550				11. 53	0. 15	9. 35	1077	12. 36	{ 02090	23. o	65° 5' 67° 0			
14. o	20. 59. 10	7. 45	1069	1069	1069						18. o	21. 1. o	14. 8	1079	21. 25	{ 02451					
19. 15	20. 57. 50	9. 7	1078	1078	1078						20. 50:	20. 57. o	18. 16	1085	23. 59	{ 02463					
20. 45	21. 3. 20		***								21. 45	59. 30	22. 30	1066							
23. 59	7. o	13. 35	1083										(†)	23. 59	1070						
			18. 6																		
			20. 39																		
			21. 36																		
			22. 18																		
			23. 3																		
			23. 59																		
Sept. 29	o. o	21. 7. o	Sept. 29	h. m	1056	o. o	01550	10. 10	65° 0' 65° 5	Sept. 29	h. m	1057	01276	21. o	60° 0' 61° 2	Oct. 2	Oct. 2	Oct. 2	Oct. 2	Oct. 2	
1. 30:	7. o	2. 6	1057	1057	1057	4. 6	{ 01322									(†)	o. o	02203	1. o	66° 8' 68° 0	
3. 15	21. 2. 45	2. 35	1051	1051	1051						0. 45	21. 6. 10	0. 45	1070	2. 36	{ 02372	2. o	66° 6' 68° 0			
5. 15	20. 59. 5	5. 26	1060	7. 18	1059	9. 15	01563				1. 11	5. o		***	2. 36	{ 02163	3. o	67° 0' 68° 5			
5. 45	21. 0. 25	5. 47	1058	1058	1058	12. 26:	01632				1. 35	6. 30	2. 46	1054	4. 45	{ 02175	4. o	66° 5' 68° 0			
7. o	21. 0. 15	6. 38	1066	1066	1066	20. 12	02067				3. 45	21. 3. o	4. 42	1074	8. 46	{ 02246	6. o	66° 0' 67° 5			
7. 22	20. 57. o	7. 7:	1064	1064	1064	23. 59	02110				6. 24	20. 59. 30	5. 46	1065	12. o	{ 02483	9. o	63° 5' 65° 5			
9. o	21. 0. 5	7. 46	1061	1061	1061						8. 25	21. 0. 10	5. 8	1065	14. 6	{ 02605	12. o	61° 8' 64° 5			
11. o	1. o	8. 21	1067	1067	1067						9. 25	20. 54. 10	6. 20	1056	18. 45	{ 03005	18. o	58° 8' 61° 0			
11. 20	2. 30		***								10. 25	59. 5	7. 41	1071	21. 57	{ 03142	20. o	59° 0' 61° 0			
11. 45	1. 5	11. 47	1078	1078	1078						11. 15	20. 59. 5	8. 20	1072	21. 57	{ 03063	21. o	59° 0' 61° 5			
12. 41	21. 1. 45	12. 35	1075	1075	1075						12. 10	21. 1. 55	8. 47	1063		{ 03063	22. o	59° 4' 61° 5			
17. 25	20. 59. o	17. 7	1084	1084	1084						12. 55	20. 52. 5	9. 35	1080		{ 03063	23. o	59° 7' 61° 5			
18. 30	58. o		***								13. 44	57. 35		***							
19. 30	59. 30	19. 16	1081	1081	1081						14. 4	20. 56. 40	11. 30	1080							
19. 55	20. 58. 25		***								14. 44	21. 0. 50	11. 49	1089							
21. 30	21. 1. o	22. 23	1063	1063	1063						15. 15	20. 59. 20	12. 7	1086							
22. 30	6. o		***								16. 14	21. 2. o	12. 36	1094							
23. 40	6. 5	23. 10	1062	1062	1062						16. 25	o. 15		***							
	(†)		(†)								16. 35	1. 10	13. 32	1088							
											17. o	21. o. o	14. 17	1076							
											19. 50	20. 57. 35	15. 36	1090							
											21. 8	21. 1. 10		***							

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(lxxxv)

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermometers.	Greenwich Mean Solar Time.	Western Declination.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermometers.		
						Of H.F. Magnet. Of V.F. Magnet.							Of H.F. Magnet. Of V.F. Magnet.			
Oct. 8	1. 45	21. 6. "	Oct. 8	Oct. 8	Oct. 8	•02554*	9. 0	69° 71' 0	Oct. 11	Oct. 11	Oct. 11	•02762	Oct. 11	1. 0	66° 26' 0	
1. 45	21. 6. 0	3. 0	•1076*	3. 0	•02404*	20. 0	64° 56' 0	17. 16	17. 16	17. 16	•02863	1. 0	67° 36' 0	3. 0	67° 36' 0	
2. 21	6. 50	3. 30	•1070	9. 0	•02864*	21. 0	64° 86' 5	18. 17	18. 17	18. 17	•02950	9. 0	63° 56' 2	21. 26	(†)	
2. 44	5. 30	***	21. 0	22. 0	64° 86' 5	23. 0	65° 06' 5	23. 0	23. 0	23. 0	•02848	21. 0	56° 85' 3	23. 59	•02890	
3. 11	6. 30	4. 35	•1079	22. 0	64° 86' 5	23. 0	65° 06' 5	23. 59	23. 59	23. 59	•02890	21. 0	56° 85' 3	23. 59	•02890	
3. 30	3. 30	4. 48	•1077	23. 0	65° 06' 5											
5. 45	1. 50	5. 45	•1084													
7. 24	21. 2. 30	6. 6	•1079													
8. 0	20. 58. 30	6. 27	•1085													
9. 30	21. 1. 0	6. 51	•1070													
12. 15	21. 0. 0	7. 47	•1080													
12. 41	20. 58. 35	8. 26	•1072													
13. 20	21. 0. 10		***													
14. 35	20. 57. 45	11. 10	•1081													
15. 30	21. 0. 25		***													
18. 55	21. 1. 0	12. 9	•1077													
20. 30	20. 59. 35		***													
23. 40	21. 4. 30	13. 52	•1084													
	(†)		***													
		15. 17	•1080													
		16. 37	•1085													
		18. 46	•1086													
		21. 58	•1071													
		23. 17	•1073													
		(†)														
Oct. 9	1. 0	21. 5. 44*	Oct. 9	Oct. 9	Oct. 9	•02854*	0. 0	65° 36' 0	Oct. 10	Oct. 10	Oct. 10	•02890	Oct. 11	1. 0	66° 26' 0	
3. 0	3. 57*	3. 0	•1074*	1. 0	•02724*	1. 0	66° 26' 1	9. 40	21. 3. 30	10. 40	•02887	3. 0	67° 36' 0	10. 40	•02887	
9. 0	21. 0. 14*	9. 0	•1078*	3. 0	•02544*	2. 0	67° 36' 4	10. 25	21. 1. 30	10. 57	***	9. 0	63° 56' 2	10. 57	***	
21. 0	20. 58. 55*	21. 0	•1085*	9. 0	•03544*	3. 0	67° 86' 0	10. 40	20. 57. 0	12. 43	•02590	21. 0	56° 85' 3	12. 43	•02590	
			•1101*	21. 0		4. 0	67° 66' 3	11. 0	21. 1. 10	12. 50	•02553	21. 0	56° 85' 3	12. 50	•02553	
						6. 0	67° 66' 0	12. 32	20. 56. 0	13. 45	•02571	21. 0	56° 85' 3	13. 45	•02571	
						9. 0	66° 26' 3	13. 3	21. 3. 0	14. 6	•02530	21. 0	56° 85' 3	14. 6	•02530	
						12. 0	63° 66' 0	14. 5	2. 0	14. 33	•02595	21. 0	56° 85' 3	14. 33	•02595	
						18. 0	59° 26' 4	14. 30	4. 0	14. 46	•03513	21. 0	56° 85' 3	14. 46	•03513	
						20. 0	59° 06' 5	15. 0	4. 0	15. 10	•03460	21. 0	56° 85' 3	15. 10	•03460	
						21. 0	58° 36' 2	15. 30	21. 0. 30	16. 34	•03362	21. 0	56° 85' 3	16. 34	•03362	
Oct. 10	1. 0	21. 22. 43*	Oct. 10	Oct. 10	Oct. 10	(†)	0. 0	60° 26' 5	16. 36	20. 59. 0	17. 46	•02863	Oct. 11	1. 0	66° 26' 0	
3. 0	21. 13. 15*	3. 0	•1055*	0. 33	•03551	1. 0	61° 26' 3	18. 0	21. 4. 0	18. 48	•02800	3. 0	67° 36' 0	18. 48	•02800	
9. 0	20. 38. 21*	9. 0	•1071*	1. 18	•03550	2. 0	62° 86' 2	18. 17	2. 0	18. 48	***	9. 0	63° 56' 2	18. 48	***	
21. 0	20. 59. 37*	21. 0	•1046*	5. 47	•03103	3. 0	64° 06' 8	18. 45	5. 0	18. 48	•02855	21. 0	56° 85' 3	18. 48	•02855	
					6. 34	•03130	4. 0	66° 06' 5	19. 13	9. 30	20. 2	•02920	21. 0	56° 85' 3	19. 13	•02920
					7. 17	•02983	9. 0	65° 56' 0	19. 51	3. 30	20. 13	•02855	21. 0	56° 85' 3	19. 51	•02855
					7. 36	•03027	21. 0	65° 26' 0	21. 55	4. 0	20. 57	•02760	21. 0	56° 85' 3	21. 55	•02760
					9. 40	•02790			22. 22	6. 30	21. 15	•02800	21. 0	56° 85' 3	21. 15	•02800
					10. 28	•02743			22. 55	6. 0	21. 43	•02655	21. 0	56° 85' 3	21. 43	•02655
					11. 25:	•02613			23. 59	8. 10	21. 43	•02760	21. 0	56° 85' 3	21. 43	•02760
					12. 6	•02710				22. 5	•02453	•02760	21. 0	56° 85' 3	22. 5	•02760
					12. 34	•02453	***			22. 20	•02663	•02760	21. 0	56° 85' 3	22. 20	•02760
					13. 17	•02568				22. 48	•02663	•02760	21. 0	56° 85' 3	22. 48	•02760
					14. 5	•02480	***									
					15. 5	•02663	***									

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(lxxxvii)

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

October 9 and 10. The Photographic Traces of the Declination and Horizontal Force Magnets were too faint for use.

INDICATIONS OF THE MAGNETOMETERS

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.	Of H. F. Magnet.	Of V. F. Magnet.	
						Of H. F. Magnet.										Of H. F. Magnet.	Of V. F. Magnet.
Oct. 19	o. o 21. 8. 0 ***	Oct. 19	o. o 1086 ***	Oct. 19	o. o 03715 1. 0 55° 8' 57'' 6'	Oct. 21	o. o 20. 55. 30	Oct. 21	o. o 1093	Oct. 22	o. o 02970 1. 0 61° 7' 62° 1'	Oct. 22	o. o 61° 7' 62° 1'	Oct. 23	o. o 03476 1. 0 56° 0' 57° 3'	o. o 56° 0' 57° 3'	
1. 0:	8. 35	2. 7	1077	4. 16	03710 3. 0 59° 0' 60° 8'	11. 20	21. 1. 10	13. 11	1091	11. 18	21. 5. 40	1. 0 1079*	1. 0 56° 8' 58° 0'	1. 18	21. 5. 40	1. 0 1079*	1. 0 56° 8' 58° 0'
2. 24	7. 0		***	7. 15	03273 9. 0 59° 7' 61° 4'	13. 50	20. 59. 0	14. 3	1095	1. 45	6. 30	1. 0 1079	1. 0 56° 8' 59° 0'	1. 45	6. 30	1. 0 1079	1. 0 56° 8' 59° 0'
3. 15:	21. 3. 20	6. 15	1092	9. 56:	02988 22. 5 54° 2' 57° 0'	14. 30	21. 1. 30	15. 7	1093	11. 0	20. 57. 50	17. 15	1099	11. 0	20. 57. 50	17. 15	1099
6. 53	20. 58. 35	11. 35	1100	13. 20	02975	15. 0	21. 1. 30	18. 46	1101	11. 20	21. 1. 30	19. 17	1096	11. 20	21. 1. 30	19. 17	1096
12. 5	21. 1. 0	11. 45	1106	20. 45	03330	16. 0	21. 1. 30	19. 21	1093	12. 1	21. 1. 30	20. 42	1073	12. 1	21. 1. 30	20. 42	1073
15. 15	1. 55	12. 28	1104	23. 59	03355	17. 0	21. 1. 30	20. 59	1073	12. 2	21. 1. 30	21. 59	1075	12. 2	21. 1. 30	21. 59	1075
15. 47	1. 0		***			18. 0	21. 1. 30	21. 42		12. 3	21. 1. 30	22. 35	1073	12. 3	21. 1. 30	22. 35	1073
16. 20	21. 2. 0	18. 7:	1115			19. 0	21. 1. 30	22. 47	1076	12. 4	21. 1. 30	23. 42	1073	12. 4	21. 1. 30	23. 42	1073
18. 30:	20. 59. 30		***			20. 0	21. 1. 30	23. 59	1075	12. 5	21. 1. 30	23. 59	1075	12. 5	21. 1. 30	23. 59	1075
19. 50	21. 1. 0	19. 24	1102			21. 0	21. 1. 30	23. 59		13. 1	21. 1. 30	24. 42		13. 1	21. 1. 30	24. 42	
20. 10	20. 58. 40	19. 53	1105			22. 0	21. 1. 30	23. 59		13. 2	21. 1. 30	24. 59		13. 2	21. 1. 30	24. 59	
20. 45	20. 59. 0		***			23. 0	21. 1. 30	23. 59		14. 1	21. 1. 30	25. 42		14. 1	21. 1. 30	25. 42	
23. 0	21. 7. 0	21. 0	1097			24. 0	21. 1. 30	23. 59		14. 2	21. 1. 30	25. 59		14. 2	21. 1. 30	25. 59	
23. 59	7. 45	21. 16	1099	***		25. 0	21. 1. 30	23. 59		15. 1	21. 1. 30	26. 42		15. 1	21. 1. 30	26. 42	
			22. 45	1083		26. 0	21. 1. 30	23. 59		15. 2	21. 1. 30	26. 59		15. 2	21. 1. 30	26. 59	
			23. 5	1087	(†)	27. 0	21. 1. 30	23. 59		16. 1	21. 1. 30	27. 42		16. 1	21. 1. 30	27. 42	
Oct. 20		Oct. 20		Oct. 20		Oct. 20		Oct. 20		Oct. 20		Oct. 20		Oct. 20		Oct. 20	
o. o 21. 8. 0	(†)	o. o 1089	1. 17	o. o 03355	9. 0 60° 0' 62° 0'	8. 40	o. 30	6. 36	1082	14. 5	1. 35	9. 0 1089	8. 45	10. 43	10. 43	10. 43	10. 43
o. 9	9. 0	o. 29	1089	1. 17	03368 21. 0 56° 2' 58° 5'	9. 39	1. 30	6. 53	1088	15. 2	1. 35	9. 0 1089	8. 45	10. 43	10. 43	10. 43	10. 43
o. 15	7. 30	1. 3	1084	4. 6	03248	10. 2	1. 30	6. 55	1081	15. 3	1. 35	9. 0 1089	8. 45	10. 43	10. 43	10. 43	10. 43
o. 45	7. 30	1. 42	1093	8. 36	02976	11. 2	1. 30	6. 55	1087	15. 4	1. 35	9. 0 1089	8. 45	10. 43	10. 43	10. 43	10. 43
1. 30	10. 0	2. 0	1082	12. 37	02890	12. 2	1. 30	6. 55	1087	15. 5	1. 35	9. 0 1089	8. 45	10. 43	10. 43	10. 43	10. 43
1. 45	7. 10	2. 14	1092	13. 55	02900	13. 2	1. 30	6. 55	1087	15. 6	1. 35	9. 0 1089	8. 45	10. 43	10. 43	10. 43	10. 43
2. 0	12. 20	4. 0	1089	20. 35	03132	14. 2	1. 30	6. 55	1087	15. 7	1. 35	9. 0 1089	8. 45	10. 43	10. 43	10. 43	10. 43
2. 55	11. 35	6. 38	1099		03204	15. 2	1. 30	6. 55	1087	15. 8	1. 35	9. 0 1089	8. 45	10. 43	10. 43	10. 43	10. 43
3. 51	8. 5	7. 54	1105			16. 2	1. 30	6. 55	1087	15. 9	1. 35	9. 0 1089	8. 45	10. 43	10. 43	10. 43	10. 43
4. 14	8. 0	10. 48	1096			17. 2	1. 30	6. 55	1087	16. 0	1. 35	9. 0 1089	8. 45	10. 43	10. 43	10. 43	10. 43
5. 15:	3. 30	11. 11	1099			18. 2	1. 30	6. 55	1087	16. 1	1. 35	9. 0 1089	8. 45	10. 43	10. 43	10. 43	10. 43
6. 15	21. 1. 10	11. 26	1092			19. 2	1. 30	6. 55	1087	16. 2	1. 35	9. 0 1089	8. 45	10. 43	10. 43	10. 43	10. 43
10. 8	20. 59. 50	11. 42	1095			20. 2	1. 30	6. 55	1087	16. 3	1. 35	9. 0 1089	8. 45	10. 43	10. 43	10. 43	10. 43
10. 18	57. 40	11. 57	1092			21. 2	1. 30	6. 55	1087	16. 4	1. 35	9. 0 1089	8. 45	10. 43	10. 43	10. 43	10. 43
10. 30	58. 10	12. 27	1104			22. 2	1. 30	6. 55	1087	16. 5	1. 35	9. 0 1089	8. 45	10. 43	10. 43	10. 43	10. 43
10. 51	56. 45	13. 13	1096			23. 2	1. 30	6. 55	1087	16. 6	1. 35	9. 0 1089	8. 45	10. 43	10. 43	10. 43	10. 43
11. 20	58. 0	18. 57	1101			24. 2	1. 30	6. 55	1087	16. 7	1. 35	9. 0 1089	8. 45	10. 43	10. 43	10. 43	10. 43
11. 35	56. 20	21. 8	1085			25. 2	1. 30	6. 55	1087	16. 8	1. 35	9. 0 1089	8. 45	10. 43	10. 43	10. 43	10. 43
13. 6	20. 59. 0		(†)			26. 2	1. 30	6. 55	1087	16. 9	1. 35	9. 0 1089	8. 45	10. 43	10. 43	10. 43	10. 43
13. 40	21. 5. 30					27. 2	1. 30	6. 55	1087	17. 0	1. 35	9. 0 1089	8. 45	10. 43	10. 43	10. 43	10. 43
14. 30:	1. 5					28. 2	1. 30	6. 55	1087	17. 1	1. 35	9. 0 1089	8. 45	10. 43	10. 43	10. 43	10. 43
18. 40:	21. 1. 15					29. 2	1. 30	6. 55	1087	17. 2	1. 35	9. 0 1089	8. 45	10. 43	10. 43	10. 43	10. 43
20. 43	20. 57. 20					30. 2	1. 30	6. 55	1087	17. 3	1. 35	9. 0 1089	8. 45	10. 43	10. 43	10. 43	10. 43
23. 59	21. 6. 0					31. 2	1. 30	6. 55	1087	17. 4	1. 35	9. 0 1089	8. 45	10. 43	10. 43	10. 43	10. 43
Oct. 21		Oct. 21		Oct. 21		Oct. 21		Oct. 21		Oct. 21		Oct. 21		Oct. 21		Oct. 21	
o. o 21. 6. 5	(†)	o. o 1076	6. 6	o. o 03204	1. 0 59° 0' 60° 0'	8. 45	21. 1. 0	12. 2	1102	18. 2	20. 59. 35	15. 5	1108	18. 0	56° 8' 58° 6'	18. 0	56° 8' 58° 6'
1. 0	8. 3*	2. 36	1089	6. 6	02947 3. 0 60° 3' 61° 2'	11. 0	20. 59. 0	12. 2	1102	18. 3	20. 59. 35	15. 5	1108	18. 0	56° 8' 58° 6'	18. 0	56° 8' 58° 6'
2. 0	6. 10	5. 41	1095	15. 0:	02830 21. 0 60° 0' 60° 7'	14. 0	21. 1. 5	16. 25	1102	18. 4	20. 59. 35	15. 5	1108	18. 0	56° 8' 58° 6'	18. 0	56° 8' 58° 6'
5. 30	1. 5	7. 8	1098	21. 17	02978	15. 0	21. 1. 5	16. 25	1102	18. 5	20. 59. 35	15. 5	1108	18. 0	56° 8' 58° 6'	18. 0	56° 8' 58° 6'
8. 50	21. 0. 0	10. 22	1097	23. 59	02970	16. 0	21. 1. 5	16. 25	1102	18. 6	20. 59. 35	15. 5	1108	18. 0	56° 8' 58° 6'	18. 0	56° 8' 58° 6'
9. 20	20. 58. 35	10. 43	1100			17. 0	21. 1. 5	16. 25	1102	18. 7	20. 59. 35	15. 5	1108	18. 0	56° 8' 58° 6'	18. 0	56° 8' 58° 6'
9. 44	59. 0	11. 45	1084			18. 0	21. 1. 5	16. 25	1102	18. 8	20.						

(xc)

INDICATIONS OF THE MAGNETOMETERS

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(xci)

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.			
Oct. 29	o. o	Oct. 29	o. o	Oct. 29	o. o	Oct. 29	o. o	o. o	Oct. 31	o. o	Oct. 31	o. o	Oct. 31	o. o		
h m	21. 4. 0	h m	1093	h m	04078	1. 0	54.8	56.2	h m	20. 7	1107	***	h m	1107		
0. 0	5.35	0. 0	***	3.42	1082	1. 46	{ 03990	3. 0	56.3	58.2	21.36	1096	***	0. 0	1096	
1. 5	***	***	***	1086	4. 34	{ 03937	9. 0	56.7	59.4	23.59	1099	***	h m	1099		
1. 55	3. 0	3. 47	1086	4. 34	03612	20. 0	52.5	55.0	Nov. 1	o. o	1099	***	Nov. 1	1099		
3. 45	1. 40	3. 56	1081	7. 20	03410	21. 0	51.8	55.0	o. 35	21. 6. 40	1099	***	o. 35	1099		
5. 30	0. 45	***	***	1081	12. 45	{ 03372	22. 0	52.7	55.0	1. 9	8. 10	1087	2. 15	1. 22	1087	
15. 30	1. 5	6. 55	1093	9. 6	{ 03804	23. 0	53.6	56.0	2. 0	3. 35	***	7. 30	2. 15	1092	9. 0	1092
19. 15	21. 0. 35	18. 31	1105	12. 45	03786	21. 46	04075	23. 16	2. 30	6. 5	1095	14. 0	1094	21. 0	1094	
21. 15	20. 58. 0	21. 2	1094	23. 59	04059	23. 59	04059	23. 59	2. 55	3. 0	19. 50	(†)	1094	21. 0	1094	
22. 10	21. 0. 0	***	***	1098	21. 47	1098	21. 47	21. 47	4. 8	21. 1. 35	1087	2. 15	1087	21. 0	1087	
22. 25	20. 58. 35	21. 47	1098	21. 47	1098	21. 47	1098	21. 47	4. 50	20. 56. 15	1099	23. 30	1095	21. 0	1095	
22. 30	21. 1. 5	***	***	1098	21. 47	1098	21. 47	21. 47	5. 6	57. 5	1095	23. 59	1095	21. 0	1095	
23. 8	1. 0	23. 59	1078	23. 59	1078	23. 59	1078	23. 59	5. 30	55.35	1099	***	23. 59	1099	1099	
23. 59	5. 0	***	***	1078	23. 59	1078	23. 59	23. 59	5.50	58. 5	1099	***	23. 59	1099	1099	
Oct. 30	o. o	Oct. 30	o. o	Oct. 30	o. o	Oct. 30	o. o	o. o	6. 20	20. 59. 45	8. 6	1099	***	o. o	1099	
o. o	21. 5. 0	o. o	1078	1. 50	04059	1. 50	03922	1. 0	8. 30	21. 1. 0	10. 3	1106	***	o. o	1099	
1. 0	6. 0	***	***	1090	6. 18	03596	2. 0	56.3	58.1	12. 10	1. 0	10. 3	1106	***	1106	
2. 15	3. 10	1. 47	1090	6. 18	03498	3. 0	57.0	58.8	12. 31	3. 5	13. 39	1109	***	1109	1109	
6. 13	21. 0. 0	2. 8	1085	9. 17	03498	4. 0	57.9	58.7	13. 46	1. 20	14. 28	1106	***	1106	1106	
6. 31	20. 57. 15	***	***	1085	9. 40	03536	6. 0	58.0	60.0	14. 50	3. 0	1115	1115	***	1115	
7. 15	21. 0. 35	3. 4	1091	14. 6	03570	9. 0	57.0	59.1	17. 17	2. 0	19. 12	1115	***	1115	1115	
7. 30	20. 59. 30	***	***	1091	20. 36	03762	12. 0	56.5	59.0	17. 35	3. 0	23. 59	1100	***	1100	
7. 50	21. 0. 30	4. 40	1087	23. 17	03780	18. 0	53.4	56.0	17. 52	1. 45	1100	***	21. 0	1100	1100	
10. 14	20. 59. 0	***	***	1093	23. 59	03763	20. 0	54.5	55.5	19. 0	2. 0	1100	***	21. 0	1100	
10. 52	21. 0. 15	6. 16	1088	21. 10	53.0	21. 10	53.0	21. 10	19. 0	2. 0	1100	***	21. 0	1100	1100	
13. 45	20. 58. 25	8. 40	1099	23. 0	54.7	21. 30	57.0	21. 30	20. 59. 0	21. 4. 0	21. 4. 0	21. 4. 0	21. 4. 0	21. 4. 0	21. 4. 0	
17. 0	20. 59. 30	14. 43	1099	23. 59	1095	23. 59	1095	23. 59	Nov. 2	Nov. 2	Nov. 2	Nov. 2	Nov. 2	Nov. 2	Nov. 2	
19. 35	21. 0. 0	19. 35	1107	22. 50	1093	22. 50	1093	22. 50	o. o	21. 4. 0	1100	o. o	10460	1. 04	8. 049. 6	
20. 0	20. 58. 0	***	***	1093	22. 50	1093	22. 50	22. 50	0. 54	5. 45	1104	2. 0	10439	3. 04	9. 350. 7	
20. 51	20. 57. 35	***	***	1093	22. 50	1093	22. 50	22. 50	1. 17	6. 30	(†)	4. 45	103870	9. 04	8. 249. 3	
23. 10	21. 6. 0	6. 0	23. 59	23. 59	1095	23. 59	1095	23. 59	3. 30	3. 0	1113*	10. 45	103712	21. 404	3. 046. 9	
23. 59	6. 0	23. 59	1095	23. 59	1095	23. 59	1095	23. 59	6. 0	1. 5	1108	16. 43	103840	21. 404	3. 046. 9	
Oct. 31	o. o	Oct. 31	o. o	Oct. 31	o. o	Oct. 31	o. o	o. o	6. 55	2. 50	1108	16. 43	10420	22. 30	10420	
o. o	21. 6. 0	***	***	1095	0. 56	1094	0. 46	0. 46	7. 14	1. 0	1096	23. 59	10430	23. 59	10430	
3. 15	21. 0. 30	2. 27	1087	5. 37	03819	2. 26	03762	2. 0	7. 44	21. 2. 0	5. 46	1099	***	1099	1099	
5. 45	20. 58. 30	7. 26	1103	5. 37	{ 03480	3. 0	57.5	58.0	8. 35	20. 58. 0	6. 47	1100	***	1100	1100	
8. 10	21. 0. 0	7. 26	1103	5. 37	{ 03583	4. 0	58.5	58.5	8. 47	21. 0. 0	7. 7	1093	***	1093	1093	
9. 0	20. 58. 30	7. 47	1105	8. 36	03526	9. 0	57.0	57.5	8. 58	20. 59. 0	7. 36	1101	***	1101	1101	
10. 35	58. 0	***	***	1105	19. 25	03847	21. 9	52.0	54.2	9. 10	21. 0. 10	7. 48	1094	***	1094	
11. 16	59. 30	8. 19	1099	23. 59	03963	23. 59	03963	23. 59	9. 39	20. 59. 5	8. 12	1100	***	1100	1100	
13. 0	20. 59. 0	9. 36	1106	13. 32	1103	13. 32	1103	13. 32	9. 53	21. 3. 0	8. 23	1099	***	1099	1099	
14. 15	21. 0. 10	***	***	1103	12. 57	1108	12. 57	1108	10. 15	21. 2. 0	8. 47	1110	***	1110	1110	
17. 45	20. 59. 35	11. 7	1103	13. 32	1103	13. 32	1103	13. 32	10. 47	21. 0. 10	9. 49	1112	***	1112	1112	
19. 34	21. 0. 30	***	***	1103	12. 57	1108	12. 57	1108	11. 10	20. 57. 30	10. 6	1107	***	1107	1107	
19. 50	20. 59. 0	13. 32	1103	13. 32	1103	13. 32	1103	13. 32	11. 30	56. 0	10. 20	1108	***	1108	1108	
21. 35	21. 0. 30	13. 48	1107	13. 48	1107	13. 48	1107	13. 48	12. 0	59. 10	10. 43	1113	***	1113	1113	
23. 38	6. 50	***	***	1107	13. 48	1107	13. 48	1107	12. 30	20. 56. 45	11. 17	1100	***	1100	1100	
23. 59	6. 40	18. 13	1113	18. 13	1113	18. 13	1113	18. 13	13. 15	21. 0. 15	11. 36	1108	***	1108	1108	

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(xciii)

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

Greenwich Mean Solar Time.	Western Declina- tion,	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V.F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		Greenwich Mean Solar Time.	Western Declina- tion,	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		
							Of H. F. Magnet.	Of V. F. Magnet.						Of H. F. Magnet.	Of V. F. Magnet.	
Nov. 9	o. / "	Nov. 9							Nov. 11	o. / "	Nov. 11					
15. 35	21. 1. 15	12. 27	.1104						18. o	21. 0. 30	17. 5	.1107				
16. 15	20. 59. 10		***						19. 38	20. 59. 10	17. 42	.1114				
16. 44	21. 0. 50	16. 10	.1115						20. o	21. 2. 0	18. 35	.1111				
17. 22	21. 0. 35		***						20. 24	20. 59. 0	19. 15	.1116				
18. 35	20. 58. 30	19. 12	.1113						21. o	21. 0. 25		.1095				
20. 39	20. 59. 0		***							***		***				
21. 35	21. 2. 5	21. 5	.1099						21. 30	20. 59. 0	21. 7	.1110				
22. 55	4. 30		***						22. 15	21. 3. 25	22. 19	.1107				
	***	23. 59	.1100						22. 34	2. 0		***				
23. 59	6. 0								23. 59		23. 59	.1096				
Nov. 10		Nov. 10		Nov. 10		Nov. 10			23. 45	7. 35						
o. o	21. 6. 0	0. 0	.1100	o. o	.04120	9. 25	50. 5. 51. 5		23. 59	6. 0						
o. 25	8. 30		***	5. o	.03982	21. o	46. 8. 50. 0		Nov. 12		Nov. 12		Nov. 12		Nov. 12	
o. 45	6. 30	2. 36	.1097	12. 30:	.03615				o. o	21. 6. 0	o. o	.1096	o. o	.04062	1. 0	50. 7. 51. 6
2. 5	6. 20	3. 5	.1101	19. 45	.03910				o. 20	5. 20		***	2. 5:	.03980	3. o	52. 3. 54. 0
2. 24	3. 30	3. 32	.1094	21. 55	.03940				o. 45	7. 0	3. 5	.1085	7. 15	.03522	9. o	54. 2. 55. 0
3. 10	3. 20	4. 17	.1101	(†)					1. 10	9. 0	5. 17	.1093	7. 50	.03520	20. o	47. 0. 48. 0
3. 24	0. 45	7. 7	.1096						1. 41	7. 5		***	7. 55	.03564	21. 15	46. 3. 50. 0
4. 3	3. o	10. 6	.1103						2. 16	3. 0	7. 42	.1092	11. o:	.03518	22. o	46. 3. 50. 0
4. 25	1. o	11. 10	.1100						3. o	6. 30	8. 6	.1100	14. 6	.03540	23. o	46. 5. 50. 0
5. 5	2. o	11. 31	.1109						4. 30:	21. 1. 25	8. 18	.1095	21. 45	.03980		
5. 40	1. 10	11. 46	.1105						6. 30	20. 59. 0	8. 46	.1099	23. 59	.04075		
6. 39	21. 1. 50	12. 15	.1111						7. 40	21. 0. 0	12. 37	.1103				
6. 55	20. 59. 35	12. 56	.1104						8. o	20. 56. 0	12. 50	.1102				
	***		***						8. 23	20. 56. 10	13. 36	.1113				
8. 15	20. 59. 30	16. 43	.1107						9. 45	21. 0. 55	14. 50	.1104				
9. 24	21. 1. 35	18. 35	.1109						12. 55	1. o		***				
10. 55	1. o		***						13. 28	5. 30	17. 17	.1110				
11. 20	5. 20	21. 51	.1092						13. 50	o. 35	17. 45	.1102				
11. 53	1. o		(†)						15. 44	1. 5	18. 40	.1113				
12. 30	21. 2. 10								16. 5	2. 20	20. 3	***				
16. o	1. o		***						16. 55	1. 25		.1115				
21. 45	1. 40		(†)						17. 15	2. 30	23. 7	***				
									18. 15	1. 25		.1093				
									19. 15	3. o	23. 59	***				
									20. 50	o. o		.1096				
Nov. 11	(†)	Nov. 11		Nov. 11		Nov. 11			21. 15:	1. 25						
1. o	21. 9. 24*	1. o	.1083*	1. o	.03980	3. o	52. 8. 53. 0		23. 40	6. o						
1. 15	7. 20	1. 22	.1085	1. 58	.03940	9. o	52. 5. 53. 3		23. 59	5. 30						
1. 31	5. o	1. 47	.1090	6. 30	.03496	21. o	47. 3. 49. 2		Nov. 13		Nov. 13		Nov. 13		Nov. 13	
1. 50	6. o		***	6. 56	{ .03530	{ .0364.5			o. o	21. 5. 30	o. o	.1096	o. o	.04075	o. o	50. 0. 50. 0
3. 15	4. o		***	1081		{ .03615			1. 10	3. 15	1. 35	.1100	3. 20	.04117	1. o	48. 0. 50. 0
5. o	1. 25	6. 41	.1091	9. 40	{ .03680	{ .03685			5. 30	21. 0. 10		(†)	8. 30	.03960	2. o	49. 0. 50. 5
6. 55	o. o	8. 2	.1095	17. 15	.03926				11. 35	20. 58. 0	3. o	.1094*	14. o:	.03830	3. o	50. 2. 51. 2
12. 40	1. 55	9. 56	.1094	23. 59	.04062				13. 25	21. 2. 0	3. 16	.1098	23. o:	.04082	4. o	50. 9. 51. 0
13. 8	5. 30	10. 42	.1100						18. 15	1. 55	3. 40	.1099	23. 59	.04085	6. o	52. 0. 52. 2
13. 19	4. o		***						19. 55	20. 59. 30	4. 36	.1100	(†)		9. o	52. 0. 52. 2
	(†)	12. 36	.1099						21. o	20. 59. 2*	6. 50	.1105			12. o	51. 6. 51. 8
14. 35	4. o	13. 31	.1105						21. 25	21. 3. o		***			18. o	49. 5. 50. 2
15. o	6. o	14. 7	.1100						22. 36	9. o	11. 12	.1105			20. o	49. 0. 49. 8
16. 15	21. 1. 50		***						23. 59	9. 30	11. 38	.1107			21. o	49. 0. 50. 0
17. 32	20. 59. 40	15. 46	.1107									14. 6	.1105		22. o	49. 6. 50. 2
													***		23. o	50. 3. 50. 4

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.				
							Of H. F. Magnet.	Of V. F. Magnet								Of H. F. Magnet.	Of V. F. Magnet			
h m	o / "	Nov.13 h m 17.56:	'1115 ***	h m		h m			Nov.15 h m 10.54	o / "	Nov.15 h m 10. o	'1105 ***	b m		b m					
		21.35	'1095						11.25	6.25										
		21.47	'1102						12. 5	o. o	10.39	'1113								
		22. 6	'1089 ***						13.27	3. o	10.56	'1106 ***								
		23. o	'1089						14.10	1.15										
		23.21	'1095						14.30	3. o	11.55	'1123								
		23.59	'1094						14.52	1. o	12.20	'1112								
Nov.14	—	Nov.14	Nov.14	Nov.14	Nov.14	Nov.14	Nov.14	Nov.14	15.25	2. 5	12.55	'1110								
o. o	21. 9.30	o. o	'1094	o. o	'04085	o. o	51. o 50.5	16.16	6. o	13.40	'1116									
1.30	10.30	o. 22	'1093	3. o	'03986	1. o	51.6 51.3	17.41	1.10	14.17	'1117									
1.51	8. 10	(†)	7.15	'03780	2. o	52.2 52.3	18.40	3. o		14.35	'1114 ***									
2.10	9. o	1. o	'1088*	11.45	'03742	3. o	53.0 53.2	19.15	2. o	17.39	'1131									
3.51	3. 20	3. o	'1090*	15. o	'03760	4. o	53.0 53.0	20. o	21. 4.10	19. o	'1129 ***									
4.10	4. 10	3. 6	'1087	20. 8	'03965	9. o	52.6 53.2	20.51	20. 58.20											
4.50	2. o	***	23.59	'04115	21. o	46.8 49.2	21. 7	21. o. o	20.11	'1111 ***										
5. 6	3. o	6.35	'1093						21.30	20.57.35										
5.45	21. o. 5	7.36	'1087						21.47	20.58. o	21.12	'1113 ***								
6.24	20.59.30	8.35	'1099						22. 7	21. 1. o										
6.45	21. o. 35	***							22.16	20.59.10	22.45	'1095								
7.25	20.57.30	11. 4	'1099						22.54	21. 7. o	22.50	'1104 ***								
8.10	21. o. o	11.13	'1107						23.35	7. o	23.17	'1093 (†)								
9.30	21. o. 10	11.40	'1103						23.59	8.15										
10. o	20.57. o	***																		
10.44	21. o. 15	13.58	'1111																	
11.40	20.58. o	14.20	'1118 ***																	
12.15	21. 1. 50	16.16	'1106																	
12.50	2. o	16.16	'1106																	
13. 5	4. 30	17.20	'1120																	
13.40	3. o	18.25	'1121																	
13.57	5. 5	19.48	'1105																	
14.30	21. 1. 30	20.35	'1110																	
15. 8	20.58. o	***																		
16. o	21. 3. 30	22.36	'1087 ***																	
16.32	4. 35	23.59	'1093																	
17. 7	o. o	23.59	'1093																	
18.53	1. 40																			
19.50:	4. o																			
21. o	o. 30																			
22. o	7. o																			
23.10	9.35 (†)																			
Nov.15	21. 9.10	Nov.15	Nov.15	Nov.15	Nov.15	Nov.15	Nov.15	Nov.15	Nov.17	21. 3. o	Nov.17	Nov.17	Nov.17	Nov.17	Nov.17	Nov.17	Nov.17	Nov.17	Nov.17	
o. o	o. o	'1093	o. o	'04115	1. o	49. o 49.8	21. 3. o	o. o	21. 3. o	o. 17	'1108	o. o	'03090	8. 30	43. o 44.2					
1. o	9. o	0.47	'1096	3. 30	'04020	3. o	51. o 51.2	23.59	21. 3. o	1. 10	1.50	'1109	6.45:	'03100	21. o	36.3 39.0				
2. 40	9. 30	***	2.35	'1091	8. 30	'03762	9. o	51. o 51.3	21. o	42. o 44. o	13.50	21. 2. o	5.55	'1119	13. o	'03028				
3.40	o. 50	3.46	'1095	12. 10	'03734	17. 15	'03965	21. 4.2	20. 59.40	11. 6	'1123	15. 24	'03135							
4. 20	2. 20	4.38	'1098	21. 47	'04276	(†)			14. 50	21. 2. 30	11. 10	'1113	20. 20	'03240						
5.20	3.35	5.45	'1097						16. 15	2. o	12. 7	'1128	23.59	'03042						
5.45	2. o	6.42	'1105							***	***	***	23.59	'02875						
10.15	o. o	6.42	***																	
10.40	2.30																			

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AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

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For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

VERTICAL FORCE.—November 15^d. 22^h. The adjustments were altered so that the scale-reading was diminished by 11^{div.}27, or by 0·01684 parts of the whole Vertical Force.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.							
h m	o / "	Nov. 21	h m	h m	h m	Of H. F. Magnet.	Nov. 23	h m	Nov. 23	h m	h m	Of H. F. Magnet.	Nov. 24	h m	Nov. 24	h m	Nov. 24	h m	Of H. F. Magnet.	Of V. F. Magnet.	
h m	o / "	Nov. 21	h m	h m	h m	Of H. F. Magnet.	Nov. 23	h m	Nov. 23	h m	h m	Of H. F. Magnet.	Nov. 24	h m	Nov. 24	h m	Nov. 24	h m	Of H. F. Magnet.	Of V. F. Magnet.	
Nov. 22	o. o	Nov. 22	h m	Nov. 22	h m	Nov. 22	h m	Nov. 22	h m	Nov. 22	h m	Nov. 22	h m	Nov. 22	h m	Nov. 22	h m	Nov. 22	h m	Nov. 22	h m
o. o	21. 4. o	o. o	1087	o. o	1087	1. o	55.0	56.0	1. o	1103	13. 11	1103	13. 11	1103	13. 11	1103	13. 11	1103	13. 11	1103	13. 11
***		***		6. o	1086	3. o	56.0	56.2	2. o	1109	13. 22	1109	13. 22	1109	13. 22	1109	13. 22	1109	13. 22	1109	13. 22
2. 10	4. o	2. 58	1104	9. 15	1096	9. o	52.8	54.0	2. 1. o	1093	14. 18	1093	14. 18	1093	14. 18	1093	14. 18	1093	14. 18	1093	14. 18
***		***		14. 15	1096	21. o	45.6	48.2	21. 2. o	1097	15. 3	1097	15. 3	1097	15. 3	1097	15. 3	1097	15. 3	1097	15. 3
3. 30	3. 50	3. 46	1099	20. 35	1096	1. o	55.0	56.0	20. 52. 10	1106	15. 22	1106	15. 22	1106	15. 22	1106	15. 22	1106	15. 22	1106	15. 22
3. 45	1. 30		***	22. 45	1096	3. o	56.0	56.2	20. 57. 10	1109	16. 11	1109	16. 11	1109	16. 11	1109	16. 11	1109	16. 11	1109	16. 11
7. 20	21. 3. 45	6. 17	1105	23. 59	1084	3. o	56.0	56.2	21. 2. o	1105	16. 56	1105	16. 56	1105	16. 56	1105	16. 56	1105	16. 56	1105	16. 56
9. o	20. 59. 35	7. 36	1100			1. o	55.0	56.0	21. 2. o	1102	17. 14	1102	17. 14	1102	17. 14	1102	17. 14	1102	17. 14	1102	17. 14
9. 40	21. 1. 30	8. 10	1096			2. o	56.0	56.2	21. 2. o	1103	17. 46	1103	17. 46	1103	17. 46	1103	17. 46	1103	17. 46	1103	17. 46
10. 25	o. o		***	8. 37	1080	3. o	56.0	56.2	21. 2. o	1109	19. 3	1109	19. 3	1109	19. 3	1109	19. 3	1109	19. 3	1109	19. 3
10. 53	1. 25	10. 26	1100			2. 5	19. 28		21. 2. o	1116	22. 57	1112	22. 57	1112	22. 57	1112	22. 57	1112	22. 57	1112	22. 57
11. 1	o. 30		***			3. 30			21. 2. o	(†)											
12. 30	21. 0. 35	12. 5	1099			4. 10			21. 2. o												
13. 20	20. 57. o	12. 46	1107						21. 2. o												
14. 25	21. 1. o	13. 37	1101						21. 2. o												
15. 30	1. 30	16. 46	1111						21. 2. o												
18. 6	2. o	17. 37	1116						21. 2. o												
18. 25	3. o		***						21. 2. o												
21. o	1. 50	20. 11	1116						21. 2. o												
21. 25	1. o	21. 10	1105						21. 2. o												
21. 45	2. 30	21. 47	1111						21. 2. o												
22. 16	2. 20	22. 21	1105						21. 2. o												
23. 30	6. o	22. 40	1109						21. 2. o												
23. 59	6. o	23. 59	1102						21. 2. o												
Nov. 23	o. o	Nov. 23	(†)	o. o	1074	1. o	48.9	50.0	21. 2. o	1113	11. 53	1117	11. 53	1117	11. 53	1117	11. 53	1117	11. 53	1117	11. 53
o. o	21. 6. o		1103*	2. 13	1078	3. o	51.7	52.2	21. 2. o	1109	12. 15	1113	12. 15	1113	12. 15	1113	12. 15	1113	12. 15	1113	12. 15
1. 57	7. o	2. 8	1098	4. 30	1074	9. o	49.0	50.0	21. 2. o	1123	14. 17	1116	14. 17	1116	14. 17	1116	14. 17	1116	14. 17	1116	14. 17
2. 30	4. o	2. 37	1091	8. 25	1074	22. 5	41.0	44.5	21. 2. o	1123	14. 55	1123	14. 55	1123	14. 55	1123	14. 55	1123	14. 55	1123	14. 55
2. 45	5. 45	3. 15	1081	9. 40	1074	1. o	49.0	50.0	21. 2. o	1128	17. 50	1118	17. 50	1118	17. 50	1118	17. 50	1118	17. 50	1118	17. 50
3. 58	2. 20	5. 6	1081	10. 18	1074	2. o	49.0	50.0	21. 2. o	1129	20. 20	1119	20. 20	1119	20. 20	1119	20. 20	1119	20. 20	1119	20. 20
4. 10	4. o	5. 30	1069	11. 24	1074	2. o	49.0	50.0	21. 2. o	1129	22. 25	1109	22. 25	1109	22. 25	1109	22. 25	1109	22. 25	1109	22. 25
4. 43	1. 5	6. 14	1081	12. 25	1074	2. o	49.0	50.0	21. 2. o	1129	23. 59	1104	23. 59	1104	23. 59	1104	23. 59	1104	23. 59	1104	23. 59
5. o	21. 3. 30	7. 11	1064	13. 33	1074	2. o	49.0	50.0	21. 2. o	1129	5. o	(†)									
5. 50	20. 59. 10	8. 7	1068	19. 7	1075	2. o	49.0	50.0	21. 2. o	1129											
6. o	21. 1. o	8. 21	1078	21. o	1074	2. o	49.0	50.0	21. 2. o	1129											
6. 14	20. 59. o	8. 46	1067	22. 45	1074	2. o	49.0	50.0	21. 2. o	1129											
6. 25	21. 1. 5	8. 52	1072	23. 59	1074	2. o	49.0	50.0	21. 2. o	1129											
6. 43	20. 59. o		(†)						21. 2. o												
7. o	55. 45	9. o	1070*						21. 2. o												
7. 30	53. o	9. 53	1090						21. 2. o												
7. 50	53. 50	10. 1	1087						21. 2. o												
8. 15	51. 40	10. 11	1094						21. 2. o												
9. o	54. o	10. 50	1065						21. 2. o												
9. 15	36. o	11. 42	1093						21. 2. o												
9. 50	48. 10		(†)						21. 2. o												
10. 17	48. 15	12. 40	1101						21. 2. o												
10. 36	47. o	12. 51	1107						21. 2. o												

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Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.				
Nov. 25	b m	Nov. 25	h m	b m	b m	o o	Nov. 27	o 1. 5	Nov. 27	h m	{ .03940	Nov. 27	b m	48° 4' 49° 8'			
8. 22	20. 55. 35	8. 40	.1109	8. 30	21. 1. 5	6. 26	7. 30	o. 10	22. 2	{ .03624	23. 0	o 48°	49° 8'				
8. 37	50. 0	9. 16	.1097	8. 30	***	8. 27	11. 01	23. 59	***	***	23. 59	***	***	***			
9. 5	55. 30	10. 13	.1111	14. 0	2. 0	12. 3	20. 8	21. 0. 0	11. 07	***	20. 45	20. 58. 5	23. 59	***			
9. 35	56. 10	11. 17	.1101	20. 45	21. 3. 20	20. 17	23. 9	21. 3. 20	11. 15	***	23. 59	23. 59	23. 59	***			
10. 20:	52. 35	12. 18	.1107	23. 59	3. 0	11. 00											
	***	13. 51	.1103														
13. 53	59. 40	15. 10	.1109														
15. 11	58. 0	***															
16. 0	58. 35	18. 31	.1109														
18. 50	59. 30	19. 12	.1111														
20. 30	59. 30	21. 6	.1098														
21. 0	59. 9*	(†)															
Nov. 26	(†)	Nov. 26		Nov. 26	Nov. 26												
0. 47	21. 4. 0	1. 0	.1078*	0. 45	.02680	1. 0	56. 8	56. 8	Nov. 28	o. o	.03652	o. o	49° 0'	50° 0'			
1. 15	7. 10	1. 6	.1080	2. 0:	.02713	9. 0	58. 0	59. 5	Nov. 28	1. 18	1. 15	.03560	1. 0	49° 8'	50° 9'		
2. 0	7. 30	2. 22	.1069	5. 15	.03052	21. 0	53. 0	54. 8	Nov. 28	2. 17	2. 10	.03170	2. 0	51° 0'	51° 7'		
2. 15	9. 25	3. 5	.1077	11. 0:	.03410	22. 0	53. 0	54. 7	Nov. 28	2. 54	2. 25	.03108	3. 0	52° 2'	52° 7'		
2. 54	6. 0	3. 27	.1068	13. 21	.03400	23. 0	53. 0	54. 7	Nov. 28	4. 17	4. 17	.03120	9. 0	53° 2'	54° 0'		
3. 8	7. 0			19. 50	.03634				Nov. 28	5. 7	1. 25	.03115	21. 0	51° 2'	53° 0'		
3. 36	4. 30	4. 13	.1075	23. 59	.03860				Nov. 28	11. 0:	1. 25	.03240					
	***	4. 43	.1062						Nov. 28	11. 03	1. 25	.03450					
4. 22	7. 0	5. 5	.1073						Nov. 28	11. 0	1. 25	.03385					
5. 5	3. 0	5. 11	.1065														
5. 11	21. 5. 30	5. 18	.1073														
5. 25	20. 59. 30	5. 46	.1061														
5. 38	21. 4. 0	6. 4	.1069														
6. 0	0. 0																
6. 23	1. 35	6. 26	.1067														
6. 38	1. 0	7. 34	.1082														
6. 45	2. 0																
8. 0:	0. 30	11. 35	.1080														
12. 0	0. 0	12. 26	.1089														
12. 40	21. 2. 0																
13. 15	20. 59. 0	14. 25	.1082														
14. 5	21. 0. 10																
14. 55:	1. 30	15. 22	.1091														
16. 45	21. 0. 30																
16. 58	20. 59. 0	16. 25	.1086														
17. 10	21. 1. 0																
17. 30	0. 0	20. 3	.1094														
21. 14	21. 1. 0	23. 30	.1080														
22. 0	20. 59. 10	23. 59	.1082														
23. 59	21. 2. 20																
Nov. 27		Nov. 27		Nov. 27	Nov. 27				Nov. 29	o. o	.03385	1. 0	55° 8'	56° 5'			
0. 0	21. 2. 20	0. 0	.1082	0. 0	.03860	0. 0	53. 6	55. 0	Nov. 29	1. 22	3. 0	.03308	3. 0	57° 8'	58° 5'		
2. 0	3. 45			***	1. 47	.03861	1. 0	54. 0	55. 0	Nov. 29	2. 0	4. 0	.03046	9. 0	60° 0'	60° 7'	
3. 0	2. 0	2. 50	.1082	7. 15:	.03680	2. 0	54. 6	55. 2	Nov. 29	3. 0	3. 30	5. 18	11. 0:	21. 0	58° 8'	59° 7'	
4. 40	4. 0			***	12. 0	.03820	3. 0	55. 1	55. 3	Nov. 29	4. 55	0. 0	8. 3	14. 30	.03290		
5. 41	2. 0	4. 46	.1088	19. 0	.04208	6. 0	55. 0	55. 2	Nov. 29	5. 53	21. 0	9. 20	21. 45	.03367			
6. 1	3. 0	5. 15	.1084	21. 0	{ .04120	9. 0	53. 5	54. 0	Nov. 29	8. 0	20. 57. 25	9. 46	23. 59	.03322			
7. 14	0. 0	5. 47	.1091	21. 45	{ .04045	12. 0	51. 9	52. 7	Nov. 29	9. 0	58. 0	10. 15	10. 31	.03220			
			***	{ .03930	22. 0	47. 7	49. 5	22. 35	9. 36	54. 0	10. 31	.03220					
					22. 0	47. 7	49. 5	22. 35	10. 0	55. 5	10. 31	.03220					
									10. 30	58. 0	16. 3	.03220					
									11. 35	20. 57. 15	18. 27:	.03220					
									14. 16	21. 0. 0	11. 03						
									15. 15	20. 58. 20	20. 46						
									16. 0	59. 5	23. 5						
									18. 45	57. 0	23. 59						
									21. 0	20. 57. 30	22. 35						
									21. 1. 15	21. 1. 15							

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

November 23. The Times of the Horizontal Force may be a little in error.

(c)

INDICATIONS OF THE MAGNETOMETERS

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(ci)

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Dec. 4	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	
Of H. F. Magnet.	Of V. F. Magnet.	Dec. 5	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Dec. 5	Dec. 5	Dec. 5	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Dec. 5	Dec. 5		
Of H. F. Magnet.	Of V. F. Magnet.	Dec. 5	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Dec. 5	Dec. 5	Dec. 5	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Dec. 5	Dec. 5		
Dec. 4		Dec. 4		Dec. 4											
1. 44	21. 7. 0	3. 0	·1064*	3. 50	·04048	3. 0	48° 0' 49° 5'	Dec. 5	21. 3. 30	1. 0	1097*	0. 0	·03706	0. 0	
	***	6. 51	·1077	4. 33	·03930	6. 0	48° 5' 49° 5'		4. 0	1. 0	1097*	1. 7	·03625	1. 0	
2. 23	11. 35	7. 12	·1073	7. 30	·03580	9. 0	49° 0' 50° 5'		7. 0	3. 0	1074*	1. 50	·03620	2. 0	
2. 54	7. 45	7. 37	·1079	8. 29	·03542	12. 0	48° 0' 49° 7'		5. 20	9. 0	1111*	2. 50	·03548	3. 0	
3. 14	7. 10	7. 55	·1065	9. 54	·03346	18. 0	46° 1' 47° 0'		10. 7	10. 7	1098	3. 35	·03642	9. 0	
3. 30	9. 0	8. 11	·1071	9. 54	·03480	20. 0	46° 9' 48° 0'		9. 0	7. 0	1074*	1. 50	·03690	21. 12	
3. 43	8. 0	8. 15	·1064	13. 26	·03548	21. 0	47° 3' 49° 2'		10. 7	10. 7	1111*	2. 50	·03642	43. 8	
4. 0	10. 35	8. 40	·1129	14. 5	·03530	22. 0	48° 0' 49° 6'		7. 0	9. 0	1098	5. 6	·03690	45. 9	
4. 15	21. 10. 30	9. 18	·1077	18. 0	·03780	23. 0	48° 9' 50° 0'		6. 30	15. 25	1109	5. 6	·03618		
4. 38	20. 59. 10	9. 27	·1079	20. 23	·03832				7. 15		***	5. 45	·03598		
4. 50	21. 3. 0	9. 36	·1075	22. 35	·03780				6. 20	15. 50	1107	9. 8:	·03820		
4. 54	2. 10	9. 54	·1101	23. 59	·03706				9. 0	16. 16	1113	14. 0	·04332		
5. 3	9. 0	10. 21	·1091						21. 7. 20	16. 50	1108	23. 0:	·04330		
5. 10	4. 5	10. 39	·1098						20. 59. 0	17. 43	1114	23. 30			
5. 25	21. 6. 0		***						21. 7. 5		***	(†)			
5. 50	20. 59. 0	11. 47	·1103						6. 35	18. 42	1117	***			
6. 10	21. 0. 0	12. 1	·1111						8. 45		***				
6. 35	20. 50. 30	13. 13	·1099						2. 30	19. 35	1111	***			
6. 45	53. 0	13. 58	·1116						5. 0	21. 3. 30	20. 27	1116			
7. 0	57. 0	14. 27	·1105						20. 37. 0	21. 0	1115				
7. 25	55. 5	14. 35	·1109						21. 0. 0	21. 45	1110				
7. 54	59. 40	15. 29	·1105						20. 54. 0	22. 17	1095	***			
8. 17	52. 0	16. 21	·1113						21. 1. 40		5. 53	21. 1. 40			
8. 40	35. 30	18. 21	·1111						20. 54. 25	23. 32	1104				
8. 45	49. 0	18. 43	·1115						21. 2. 20		(†)				
	(†)	19. 36	·1113								***				
9. 25	45. 30	20. 7	·1111						7. 30	1. 10					
9. 40	49. 0	20. 22	·1117						7. 45	2. 30					
9. 52	46. 0	20. 40	·1079						7. 55	21. 1. 30					
10. 10	56. 0	21. 15	·1102						8. 14	20. 51. 35					
10. 44	20. 55. 0		***						8. 41	59. 0					
11. 25	21. 2. 0	22. 14	·1088						9. 5	58. 30					
11. 40	0. 10	22. 40	·1096						9. 18	55. 30					
11. 54	0. 10	22. 57	·1076						9. 36	20. 56. 0					
12. 7	21. 2. 0	23. 15	·1082						10. 5	21. 1. 0					
12. 46	20. 59. 0	23. 25	·1077						12. 40	1. 20					
13. 0	21. 5. 0	23. 43	·1089						13. 45	2. 10					
13. 20	3. 30		(†)						14. 0	1. 5					
13. 55	21. 11. 0								15. 0	3. 0					
14. 35	20. 57. 30		***						16. 6	1. 15					
15. 9	21. 1. 0		***						16. 55	2. 10					
15. 55	20. 59. 30		***						17. 15	1. 0					
19. 5	21. 0. 0								18. 17	21. 1. 35					
20. 15	2. 0								19. 0	20. 59. 0					
20. 25	7. 5								19. 40	21. 2. 0	***				
20. 38	5. 10		***						21. 55	1. 5	***				
21. 50	5. 15								23. 0	5. 5					
22. 15	2. 35								23. 59	4. 0					
22. 43	6. 0								Dec. 6						
22. 54	5. 0								0. 0	21. 4. 0	(†)				
23. 8	7. 5								1. 0	7. 0	1099	1. 25	·04281	1. 0	
23. 36	1. 30								2. 15	3. 0	1105	2. 0:	·04298	9. 0	
23. 59	3. 30									2. 16	2. 37	1102	5. 15	·04060	21. 0
										3. 0		***	51. 52. 2		

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

(cii)

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	Dec. 6	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Readings of Thermo- meters.	
Dec. 6	21. 4. 30	Dec. 6	1105	6. 17	•04030	h m	o	o	Dec. 7	20. 59. 10	7. 45	1095	22. 0	•04305	h m
3. 17	3. 0	3. 34	1098	6. 45	•03972	***			11. 9	21. 1. 45	7. 50	1090	23. 59	•04348	o
3. 28	4. 5	4. 15	1109	11. 51	•03810				12. 40	21. 1. 10	9. 7	1100			
3. 35	2. 0	4. 28	1092	9. 50	•03967				13. 12	20. 59. 0	9. 18	1095			
3. 45	2. 45	4. 46	1105	12. 25	•03821				14. 50	21. 2. 0	10. 37	1100			
4. 6	20. 57. 0	4. 56	1112	12. 53	•03770				16. 5	21. 0. 30	11. 5	1095			
4. 16	5. 13	5. 13	1093	13. 14	•03780				21. 8	20. 57. 40	11. 46	1105			
4. 42	5. 36	5. 36	1111	13. 45	•03742				23. 15	21. 4. 0	12. 13	1107			
4. 51	21. 4. 0	5. 47	1095	13. 45	•03925				23. 59	4. 0	13. 12	1095			
5. 0	20. 59. 0	6. 3	1106	(†)							15. 46	1103			
5. 29	21. 4. 5	6. 7	1102	20. 55	•03950						19. 47	1103			
5. 40	0. 0	6. 18	1151	22. 0.	•03800						21. 6	1090			
5. 52	21. 2. 30	6. 29	1108	23. 59	•03800						23. 59	•1088			
6. 0	20. 52. 0	6. 37	1114												
6. 15	6. 43	6. 43	1099												
6. 29	21. 2. 15	6. 52	1113												
6. 37	20. 55. 5	7. 7	1093												
6. 50	21. 1. 35	7. 16	1096												
7. 1	7. 26	7. 26	1090												
7. 30	0. 0	7. 37	1099												
7. 40	5. 0	7. 46	1089												
7. 45	3. 5	7. 50	1095												
	***	8. 12	1077												
8. 33	0. 5	8. 40	1096												
8. 43	21. 2. 0	8. 47	1086												
8. 58	20. 55. 5	9. 3	1102												
9. 15	58. 10	9. 17	1093												
9. 30	55. 0	9. 33	1099												
9. 44	50. 0	9. 40	1093												
9. 52	54. 45	9. 46	1107												
10. 8	46. 35	10. 5	1078												
10. 25	46. 30														
10. 45	51. 30	10. 37	1089												
	***	10. 45	1081												
11. 47	40. 0	11. 3	1088												
12. 10	50. 0	11. 18	1084												
12. 21	58. 25	11. 46	1097												
12. 50	45. 10	12. 17	1080												
	***	(†)													
13. 8	47. 35	21. 0	1102*												
13. 30	44. 0														
13. 45	20. 45. 20														
20. 50	21. 0. 0														

23. 59	3. 30														
Dec. 7	21. 3. 30	Dec. 7	(†)	o. o	•03800	Dec. 7	Dec. 7	o. o	20. 30	20. 58. o	13. 15	1105			
o. o	***	1. 0	1094*	0. 45	•03741	3. o	54. 655. 2	20. 55	20. 58. o	14. 7	1102				
1. 45	3. 35	3. 0	1086*	1. 6	•03744	9. 6	56. 257. 4	22. o	21. 2. 25	14. 14	1108				
2. 50	4. 16	4. 16	1092	2. 40	•03586	22. o	50. 551. o		***	15. 6	1099				
3. 8	4. 27	4. 50	1098	2. 51	•03620				22. 40	6. 30	15. 17	1104			
3. 30	5. 18	5. 47	1097	3. 34	•03642				23. 15	7. 30	16. 6	1099			
9. o	20. 59. o	6. 45	1099	15. 30	•04000				23. 45	3. o	18. 7	1110			
9. 10	21. 0. o	7. 36	1087	18. 15	•04186					***	***	***			

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Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.	Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.	
							Of H. F. Magnet.	Of V. F. Magnet.							Of H. F. Magnet.	Of V. F. Magnet.
Dec. 8 23.59	° 21. 3. 30	Dec. 8 20. 11	'1102 ***	h m		h m	o	o	Dec. 9 23.59	° 21. 8. 0	Dec. 9 22. 17	'1077 '1063 '1072 '1063 ***	h m		h m	o o
		21. 8	'1105 ***							22. 34	'1072					
		22. 35	'1071 ***							22. 37	'1063					
		23. 47	'1099							22. 45	'1064 (†)					
		23. 59	'1099													
Dec. 9	21. 3. 30	Dec. 9	'1099	Dec. 9	(†)	Dec. 9	1. 0	52. 2 52. 4	Dec. 10 o. o	21. 8. 0	(†)	'02806 '02800 '02585 '02438 '02375 '02370	1. 0	54. 2 54. 0	Dec. 10 o. o	'02806 '02800 '02585 '02438 '02375 '02370
o. o	8. 30	o. o	'1098	2. 45	'02260	3. 0	54. 2 54. 5	o. 10	11. 20	1. 0	'1080*	1. 0	54. 7 55. 0	Dec. 10 o. o	'02806 '02800 '02585 '02438 '02375 '02370	
0. 53	8. 30	1. 56	'1096	5. 45	'02345	9. 0	54. 2 54. 6	1. 9	6. 0	1. 56	'1085	3. 52	55. 0 55. 7			
1. 24	4. 25	2. 31	'1099	10. 40	'02346	21. 0	51. 5 51. 9	1. 15	7. 30	2. 1	'1089	5. 30	'02438 '02375 '02370	21. 0	51. 2 51. 6	
2. 25	4. 0	3. 7	'1099	11. 7	'02253			1. 51	1. 30	2. 17	'1083	7. 22		22. 0	51. 2 51. 6	
3. 8	2. 0	3. 35	'1095	17. 40	'02480			2. 30	7. 25	2. 55	'1089	8. 16		23. 0	51. 2 51. 8	
3. 25	2. 55	4. 7	'1100	23. 59	'02806						'1077	11. 15				
4. 17	21. 0. 45	4. 37	'1078								'1084	15. 15				
5. 0	20. 52. 0	4. 46	'1093								'1076	16. 4				
5. 55	20. 59. 30	4. 49	'1085								'1085	18. 36				
		5. 7	'1099								'1083	21. 0				
7. 7	21. 1. 30	5. 26	'1094								'1074	23. 0				
7. 36	20. 59. 0	6. 17	'1104								'1080	23. 59				
8. 6	48. 10	6. 26	'1096								'1075					
8. 25	20. 52. 0	6. 40	'1099								'1093					
8. 54	21. 2. 0	7. 37	'1090								***					
9. 31	20. 50. 25	7. 55	'1077													
10. 35	55. 0	8. 17	'1085													
10. 45	59. 5		***													
11. 8	42. 0	9. 36	'1083													
11. 16	46. 0	9. 45	'1086													
11. 24	44. 40	9. 56	'1081													
12. 0	56. 30	10. 35	'1088													
12. 25	55. 0	10. 46	'1104													
12. 42	57. 25	11. 5	'1077													
12. 55	55. 0	11. 17	'1096													
14. 25	58. 10	11. 25	'1092													
14. 44	20. 57. 35	11. 37	'1106													
15. 15	21. 1. 0	11. 46	'1101													
15. 26	0. 10	12. 5	'1106													
15. 45	21. 2. 25	12. 20	'1098													
16. 5	20. 59. 20	12. 46	'1100													
16. 36	21. 2. 15	13. 7	'1109													
17. 0	8. 0		***													
17. 24	9. 0	14. 12	'1101													
17. 50	4. 0	14. 35	'1108													
18. 31	6. 50		***													
18. 50	3. 30	17. 10	'1109													
19. 40	5. 0	17. 25	'1114													
		18. 6	'1095													
20. 35	6. 35	18. 42	'1107													
21. 5	4. 45	19. 17	'1096													
21. 44	8. 20	19. 40	'1096													
22. 0	6. 25	19. 46	'1089													

23. 2	8. 0	20. 37	'1083													
23. 24	11. 0	20. 46	'1091													
23. 35	8. 5	21. 35	'1071													
23. 47	11. 30		***													

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

VERTICAL FORCE.—December 9^d. 1^h. The adjustments were altered, so that the scale-reading was diminished by 14^{div.}80, or by 0.02288 parts of the whole Vertical Force.

INDICATIONS OF THE MAGNETOMETERS

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(cv)

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS

Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Vertical Force in parts of the whole V. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.		Greenwich Mean Solar Time.	Western Declina- tion.	Greenwich Mean Solar Time.	Horizontal Force in parts of the whole H. F. uncorrected for Temperature.	Greenwich Mean Solar Time.	Readings of Thermo- meters.					
							Of H. F. Magnet.	Of V. F. Magnet.						Of H. F. Magnet.	Of V. F. Magnet.				
Dec. 19		Dec. 19		Dec. 19					Dec. 20		Dec. 20		Dec. 20						
4. 49	° 21. 19. 0	11. 36	'1079	7. 47	.03220	h m	o	o	6. 40	° 21. 10. 55	7. 27	'1085	16. 13	.02660	h m	o			
5. 4	14. 20	11. 42	'1076	7. 59	.03280				7. 0	21. 12. 35	7. 32	'1075	23. 20	.02826					
5. 15	8. 30	11. 46	'1082	9. 0	.02875				7. 25	20. 54. 0	7. 43	'1091	23. 59	.02832					
5. 36	3. 0	11. 56	'1070	9. 10	.02925				7. 27	21. 16. 30	7. 47	'1078							
5. 43	3. 55	12. 17	'1082	9. 25	.02837				7. 53	20. 55. 20	7. 55	'1083							
5. 52	2. 0	12. 27	'1074	10. 8	.02640				8. 0	20. 55. o	8. 15	'1059							
6. 8	9. 0	12. 52	'1084	10. 24	.02630				8. 7	20. 55. o	9. 15	'1077							
6. 24	4. 10		***	10. 44	.02677				8. 30	21. 3. o	9. 30	'1100							
6. 32	7. 45	13. 17	'1078	14. 45	.02810				8. 39	20. 58. 35	9. 42	'1063							
6. 53	1. 10		***	17. 50	.03020				8. 52	55. o	9. 59	'1095							
	(†)	14. 16	'1087	21. 8	.03138				9. 18	59. o	10. 17	'1067							
7. 45	10. 0	14. 41	'1095	23. 20	.03110				9. 40	41. 35	10. 26	'1076							
7. 55	2. 0	15. 0	'1091	23. 59	.03072				9. 46	45. o	10. 31	'1071							
8. 0	3. 30	15. 16	'1097						10. 0	38. 30	11. 2	'1082							
8. 19	1. 20		***						10. 16	51. o	11. 21	'1069							
8. 30	21. 4. 15	16. 50	'1104						10. 36	45. o	11. 33	'1075							
8. 55	20. 47. 0		***						10. 59	50. 45	11. 45	'1064							
	(†)	18. 35	'1107						11. 17	51. o	12. 7	'1096							
10. 30	53. 0	18. 46	'1103							***	12. 15	'1091							
10. 50	51. 0	20. 18	'1107						12. 0	47. 30	12. 28	'1097							
11. 10	54. 5		***						12. 15	51. 10	12. 35	'1087							
11. 21	54. 0	23. 17	'1093						12. 26	20. 50. o	12. 46	'1103							
11. 36	20. 51. 0	23. 32	'1098						12. 58	21. 0. 5	13. 10	'1083							
11. 58	21. 0. 0		(†)						13. 20	20. 50. 10	13. 31	'1101							
12. 9	20. 58. 0								14. 1	58. o	13. 38	'1097							
12. 28	21. 0. 5		***						14. 17	52. 30	13. 58	'1105							
12. 53	0. 0								14. 39	20. 56. 30	14. 4	'1094							
13. 40	5. 25								16. 26	21. 3. 25	14. 29	'1103							
13. 51	4. 0								16. 35	1. 10	14. 40	'1094							
14. 0	6. 0									***	14. 57	'1103							
15. 25	3. 50								17. 44	1. 0	15. 51	'1095							
16. 15	4. 0								18. 5	3. o	16. 9	'1099							
16. 24	2. 30		***						20. 43	21. 0. 20	16. 14	'1095							
17. 48	21. 3. 5								21. 30	20. 59. o	16. 42	'1101							
21. 10	20. 58. 0								23. 8	21. 1. o	17. 47	'1099							
22. 46	21. 2. 0								23. 59	1. 45	18. 26	'1104							
23. 0	1. 20										19. 12	'1101							
23. 6	3. 30										19. 47	'1106							
23. 20	2. 0		(†)								23. 13	'1096	(†)						
Dec. 20		Dec. 20	(†)	Dec. 20		Dec. 20			Dec. 21		Dec. 21		Dec. 21		Dec. 21				
I. 0	21. 3. 0	1. 0	'1102*	0. o	'03072	1. o	45. 2	46. 5	o. o	21. 1. 45	(†)	o. o	'02832	1. o	45. 3	45. 8			
	***	3. 0	'1099*	3. 10	'02920	3. o	46. 5	47. 2	0. 54	3. 15	1. o	'1103*	1. 15	46. 5	47. 3				
2. 25	2. 0	3. 30	'1107	7. 3	'02770	9. o	46. 2	47. 0	1. 10	2. o	3. o	'1099*	5. 50	'02550	9. 20	46. o	47. 5		
3. 0	2. 10	4. 12	'1111	7. 20	'02692	9. 20	42. 8	45. 0	3. 33	2. 5	3. 43	'1102	8. 55	{'02468	22. 15	43. o	45. o		
3. 15	5. 5	4. 30	'1092						4. 15	21. 0. 10	4. 55	'1110	8. 55	{'03070					
3. 35	3. 0	5. 9	'1106	8. 7	'02660				5. 54	20. 59. 10	4. 55	***	10. 1	'1107	16. 6	'03052			
4. 1	4. 0	5. 15	'1104	9. 9	'02728					7. 44	59. 25	11. 14	'1109		(†)				
4. 30	3. 0	5. 34	'1108	9. 53	'02630					8. 37	57. o	11. 33	'1114	22. 15	'03086				
4. 44	4. 5	5. 51	'1103							9. 8	58. 30	11. 43	'1111	***					
5. 2	0. o	6. 15	'1114	12. 5	'02614		***			11. 6	58. o	13. 18	'1109						
5. 29	4. 30	6. 51	'1088							11. 18	20. 56. 30	15. 22	'1113						
5. 54	21. 5. 10	6. 57	'1094	13. 10	'02532					11. 40	21. 1. o	(†)							
6. 15	20. 58. 30	7. 18	'1079	14. o	'02530					12. 28	20. 57. 20	22. 15	'1103*						

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(evii)

For the Horizontal and Vertical Forces, increasing readings denote increasing forces.

INDICATIONS OF THE MAGNETOMETERS

The indications are taken from the sheets of the Photographic Record, except where an asterisk is attached to the number, in which instances they are inferred from observations made with the telescope in the ancient manner. The Symbol *** denotes that the magnet has been generally in a state of agitation. The Symbol (†) denotes that the register has failed between the preceding and following readings. The Symbol : attached to a time denotes that the reading will apply equally well to a considerable range of time near that which is recorded. A brace denotes that at this time the curve of the Vertical Force was dislocated, and the difference of the numbers included by the brace shows the amount of the displacement.

December 31. The Declination Magnet was under adjustment.

TABLE showing the APPROXIMATE MEAN MONTHLY WESTERN DECLINATION at the ROYAL OBSERVATORY, GREENWICH, in the Years
1858, 1859, 1860, and 1861.

Months.	1858.	1859.	1860.	1861.
January	° 11'	° 11'	° 11'	° 11'
February.....	21. 32. 47	21. 26. 27	21. 14. 38	21. 10. 47
March	32. 31	27. 22	14. 53	14. 5
April.....	32. 26	26. 16	15. 4	7. 52
May.....	29. 16	22. 15	17. 10	5. 0
June	27. 34	24. 1	16. 1	1. 33
July.....	28. 28	23. 38	15. 44	4. 54
August	27. 24	22. 34	15. 27	5. 4
September.....	26. 43	22. 18	12. 44	2. 50
October.....	25. 33	19. 57	13. 28	1. 19
November.....	29. 45	18. 33	12. 49	1. 3
December	28. 40	18. 23	11. 30	0. 37
Means	21. 29. 27	21. 23. 13	21. 14. 23	21. 5. 24

ROYAL OBSERVATORY, GREENWICH.

R E S U L T S
OR
O B S E R V A T I O N S
OF THE
M A G N E T I C D I P.

1861.

From the beginning of the year 1861 to October 9, the observations of the Magnetic Dip were made with the instrument by Robinson used in preceding years, and described in the volume of *Greenwich Magnetical and Meteorological Observations* for 1847, and in preceding volumes. With this instrument are used four nine-inch needles, two of which, marked A and A 2, were made by Barrow, and two, marked A 1 and A 3, were made by Dent. In the tabular statement of the values of the Magnetic Dip these needles are called Barrow A and Barrow A 2, and Dent A 1 and Dent A 3.

From October 22 to the end of the year, the observations were made with a new Dip Instrument, constructed by Messrs. Troughton and Simms from plans furnished by the Astronomer Royal, and which, for distinction, is subsequently called Airy's Instrument. The following description will probably suffice to convey an idea of its peculiarities.

The form of the needles, the form of their axes, the form of the agate bearings, and the general arrangement of the relieving apparatus, are precisely the same as those in Robinson's and other needles. But the form of the observing apparatus is greatly modified, in order to secure the following objects :—

- I. To obtain a microscopic view of the points of the needles, as in the instruments introduced by Dr. Lloyd and Major-General Sabine.
- II. To possess at the same time the means of observing the needles while in a state of vibration.
- III. To have the means of observing needles of different lengths.
- IV. To give an illumination to the field of view of each microscope, directed from the side opposite to the observer's eye, so that the light may enter past the point of the needle into the object glass of the microscope, forming a black image of the needle-point in a bright field of view.
- V. To give facility for observing by day or night.

With these views, the following form is given to the apparatus :—

The needle, and the bodies of the microscopes, are inclosed in a square box. The base of the box, two vertical sides, and the top, are made of gun-metal (carefully selected to insure its freedom from iron); but the sides parallel to the plane of vibration of the needle are of glass. Of the two glass sides, that which is next the observer is firmly fixed; it is hereafter called "the graduated glass-plate." The other glass side can be withdrawn, to open the box, for inserting the needle, &c.

An axis, whose length is perpendicular to the plane of vibration of the needles, and is as nearly as possible in the line of the axis of the needle, supported on two bearings (of which one is cemented in a hole in the graduated glass-plate, the other being upon a horizontal bar near to the agate support of the needle-axis), carries a transverse arm, about 11 inches long, or rather two arms, projecting about $5\frac{1}{2}$ inches on each side of the axis. Each of these projecting arms has a long opening, or slot, about 1 inch wide, extending from the neighbourhood of the center-work nearly to the end of the arm. Through this opening the tube of a microscope passes, in a direction parallel to the axis of the needle, and is firmly fixed by a shoulder-bearing on one side of the arm, and a circular nut, working in a thread cut upon the microscope-tube, on the other side of the arm. The microscope can thus be fixed at any distance from the central axis, within the limits of the length of the projecting arm.

The microscope-tube thus carried is not the entire microscope, but so much as contains the object-glass and the field-glass. Upon the plane side of the field-glass (which is turned towards the object-glass), a series of parallel lines is engraved by etching with fluoric acid. The object-glass is so adjusted that the image of the needle-point is formed upon the plane side of the field-glass; and thus the parallel lines can be used for observing the needle in a state of vibration; and, one of them being adopted as standard, the lines can be used for reference to the graduated circle (to be mentioned). All this requires that there be an eye-glass also for the microscope.

The axis of which we have spoken is continued through the graduated glass-plate, and there it carries another transverse arm parallel to the former and generally similar to it. In each part of this slides a short eye-piece, carrying the eye-glass. Thus, reckoning from the observer's eye, there are the following parts :—

- (1.) The eye-glass.
- (2.) The graduated glass-plate (its graduations, however, not intervening in this part of the glass, whatever be the adjustment of the microscope).
- (3.) The field-glass, on the further surface of which the parallel lines are engraved.
- (4.) The object-glass.
- (5.) The needle.
- (6.) The removable glass side of the box.
- (7.) The illuminating reflector, to be described hereafter.

The optical part of the apparatus being thus described, we may proceed to speak of the graduated circle.

The graduations of the circle (whose diameter is about $9\frac{3}{4}$ inches) are etched on the inner surface of the graduated glass-plate. These divisions (as well as the parallel lines on the field glasses of the microscopes) are beautifully neat and regular, and are, I think, superior to any that I have seen on metal. The same piece of metal, which carries the transverse arms supporting the microscope-bodies, carries also two arms with verniers for reading their graduations. These verniers (being adapted to transmitted light) are thin plates of metal, with notches instead of lines. The reading of the verniers is very easy. The portion of the axis which is external to the graduated glass plate (towards the observer), and which has there, as already stated, two arms for carrying the microscope eye-glasses, has also two arms for carrying the lenses by which the verniers and glass-plate graduations are viewed. These four arms are the radii of a circle, which can be fixed in position by a clamp, attached to the gun-metal casing of the graduated glass-plate, and furnished with the usual slow-motion screw.

The entire system of the two arms carrying the microscope-bodies, the two arms carrying the microscope eye-glasses, the two arms carrying the verniers, and the two arms carrying the reading-glasses for the verniers, is turned rapidly by means of a button on the external side of the graduated glass-plate : or is moved slowly by means of the slow-motion screw just mentioned.

It now remains only to describe the illuminating apparatus. On the outside of the removeable glass plate, there are supports for the axis of a metallic circle turning in a plane parallel to the plane of needle-vibration. This circle has four slotted radii, and in these slots or openings there slide small frames carrying prismatic glass reflectors, each of which can turn on an axis, in the plane of the circle, but transverse to the radius. Two of these reflectors are for the purpose of sending light through the verniers, and therefore are fixed in radial distance ; the other two are for sending light past the ends of the needle through the microscopes, and therefore require adjustment on change of needle and corresponding change of position of microscopes. The circle can be turned by a small winch near the observer's hand.

The light which illuminates the whole is a gas-burner, in the line of the axis of rotation. Its rays fall upon the glass prisms, and each of these is adjusted by turning on its axis to throw the reflected light in the required direction.

The whole of the apparatus, as thus described, is planted upon a horizontal plate admitting of rotation in azimuth : the plate is graduated in azimuth, and verniers are fixed to the gun-metal tripod stand. The gas-pipe is led down the central vertical axis, and there communicates by a rotatory joint with the fixed gas-pipes.

The needles which are used with this instrument are—

B ₁ , a plain needle.....	} each 9 inches long.
B ₂ , a plain needle.....	
B ₃ , a loaded needle with adjustable load	
C ₁ , a plain needle.....	} each 6 inches long.
C ₂ , a plain needle.....	
C ₃ , a loaded needle with adjustable load	
D ₁ , a plain needle.....	} each 3 inches long.
D ₂ , a plain needle.....	
D ₃ , a loaded needle with adjustable load	

To change adjustments from the use of needles of one length to those of another length, it is necessary to change the positions of the microscope bodies, the microscope-eye-glasses, the microscope-reflectors (in respect of radial distance), and the same reflectors (in respect of inclination). At each observation, it is necessary to turn the circle which carries the reflectors ; but this is the work of an instant.

MAGNETIC DIP, observed at the ROYAL OBSERVATORY, GREENWICH, with ROBINSON'S DIP APPARATUS, in the Year 1861.

Day and Approximate Hour, 1861.	Needle.	Magnetic Dip.	Observer.	Day and Approximate Hour, 1861.	Needle.	Magnetic Dip.	Observer.
January 8. 22 11. 23 15. 22 17. 0 23. 1 29. 1 30. 21	Barrow A 2	68. 27 .00	T D	May 20. 1 24. 0 28. 0 30. 0	Dent A 1	68. 19 .50	T D
	Dent A 3	68. 26 .25	T D		Barrow A 2	68. 31 .25	T D
	, A 1	68. 18 .00	T D		Dent A 3	68. 27 .75	T D
	Barrow A 2	68. 29 .00	T D		, A 1	68. 18 .75	T D
	Dent A 3	68. 28 .00	T D		Barrow A 2	68. 31 .25	T D
	, A 1	68. 19 .50	T D		Dent A 3	68. 22 .50	T D
	Barrow A 2	68. 28 .50	T D				
February 4. 21 5. 22 8. 21 13. 21 19. 0 21. 0 27. 22	Dent A 3	68. 26 .75	T D	July 15. 1 15. 2 23. 0 23. 1 29. 22 29. 23 29. 23	Dent A 1	68. 14 .50	T D
	, A 1	68. 19 .50	T D		, A 3	68. 28 .25	T D
	Barrow A 2	68. 30 .25	T D		, A 1	68. 14 .00	T D
	Dent A 3	68. 26 .00	T D		Barrow A 2	68. 32 .25	T D
	, A 1	68. 19 .50	T D		Dent A 3	68. 31 .50	T D
	Barrow A 2	68. 32 .50	T D		, A 1	68. 15 .75	T D
	Dent A 3	68. 29 .00	T D		Barrow A 2	68. 33 .00	T D
March 5. 0 19. 22 26. 23	Barrow A	67. 58 .00	H	August 5. 23 September 6. 0 10. 22	Dent A 3	68. 25 .25	T D
	Dent A 1	68. 18 .50	T D		Dent A 1	68. 12 .00	T D
	Barrow A 2	68. 32 .00	T D		Barrow A 2	68. 31 .50	T D
April 3. 22 10. 22 17. 23 19. 1 23. 1 25. 23	Dent A 3	68. 27 .25	T D	12. 0 14. 1 16. 22 25. 21 30. 22	Dent A 3	68. 28 .00	T D
	, A 1	68. 19 .50	T D		, A 1	68. 14 .25	T D
	Barrow A 2	68. 32 .25	T D		Barrow A 2	68. 30 .50	T D
	Dent A 3	68. 27 .75	T D		Dent A 3	68. 26 .50	T D
	, A 1	68. 20 .25	T D		, A 1	68. 7 .75	T D
	Barrow A 2	68. 33 .25	T D				
May 3. 1	Dent A 3	68. 26 .75	T D	October 1. 23 9. 1	Barrow A 2	68. 29 .25	T D
					Dent A 3	68. 28 .75	T D

The initials T D and H are those of Mr. Downs and Mr. John Howe respectively.

MONTHLY MEANS of MAGNETIC DIPS, at the ROYAL OBSERVATORY, GREENWICH, with ROBINSON'S DIP APPARATUS, in the Year 1861.

Month, 1861.	Barrow, A.	Number of Observations.	Dent, A 1.	Number of Observations.	Barrow, A 2.	Number of Observations.	Dent, A 3.	Number of Observations.
January.....	68. 18 .75	2	68. 28 .17	3	68. 27 .13	2
February.....	68. 19 .50	2	68. 31 .38	2	68. 27 .25	3
March.....	67. 58 .00	I	68. 18 .50	I	68. 32 .00	I	....	..
April.....	68. 19 .88	2	68. 32 .75	2	68. 27 .50	2
May.....	68. 19 .13	2	68. 31 .25	I	68. 27 .25	2
June.....	68. 31 .25	I	68. 22 .50	I
July.....	68. 14 .75	3	68. 32 .50	2	68. 29 .88	2
August.....	68. 25 .25	I
September.....	68. 11 .33	3	68. 31 .00	2	68. 27 .25	2
October.....	68. 29 .25	I	68. 28 .75	I
Mean	68. 17 .41	15	68. 31 .06	15	68. 26 .97	16

For this table the monthly means have been formed without reference to the hour at which the observation was made on each day, as in preceding years no certain difference was found between observations taken at 21^h and at 3^h.

MAGNETIC DIP, observed at the ROYAL OBSERVATORY, GREENWICH, with AIRY'S DIP APPARATUS, in the Year 1861.

Day and Approximate Hour, 1861.	Needle.	Length of Needle.	Magnetic Dip.	Observer.	Day and Approximate Hour, 1861.	Needle.	Length of Needle.	Magnetic Dip.	Observer.
October 21. 22	B 2	9 inches	68. 18. 36	H C	November 19. 22	B 3	9 inches	68. 17. 2	H C
22. 22	B 2	9 "	68. 18. 59	H C	20. 22	B 3	9 "	68. 16. 40	H C
23. 0	B 1	9 "	68. 17. 55	H C	21. 22	B 3	9 "	68. 21. 47	H C
23. 22	B 2	9 "	68. 12. 39	H C	December 5. 0	C 1	6 "	68. 18. 56	H C
24. 0	B 1	9 "	68. 14. 24	H C	6. 22	C 2	6 "	68. 26. 36	H C
24. 22	B 2	9 "	68. 22. 5	H C	10. 1	C 1	6 "	68. 17. 8	H C
25. 0	B 1	9 "	68. 26. 12	H C	10. 22	C 1	6 "	68. 10. 31	H C
25. 22	B 2	9 "	68. 11. 25	H C	11. 0	C 2	6 "	68. 15. 23	H C
26. 0	B 1	9 "	68. 17. 30	H C	13. 22	C 2	6 "	68. 11. 55	H
27. 22	B 1	9 "	68. 13. 39	H C	14. 2	C 1	6 "	68. 10. 41	N
28. 0	B 2	9 "	68. 20. 22	H C	17. 23	C 1	6 "	68. 15. 57	H C
28. 22	B 1	9 "	68. 10. 9	H C	18. 0	C 2	6 "	68. 9. 16	N
29. 0	B 2	9 "	68. 15. 0	H C	19. 0	C 1	6 "	68. 15. 5	N
29. 22	B 2	9 "	68. 20. 57	H C	21. 0	C 1	6 "	68. 11. 38	N
30. 0	B 1	9 "	68. 14. 30	H C	21. 1	C 2	6 "	68. 16. 29	N
30. 22	B 1	9 "	68. 16. 48	H C	23. 0	C 2	6 "	68. 13. 9	H C
31. 0	B 2	9 "	68. 10. 8	H C					

November 22. A damp day.

The initials H C, N, and H are those of Mr. Henry C. Criswick, Mr. W. C. Nash, and Mr. John Howe respectively.

MONTHLY MEANS of MAGNETIC DIPS, at the ROYAL OBSERVATORY, GREENWICH, with AIRY'S DIP APPARATUS, in the Year 1861.

Month, 1861.	B 1, 9-inch Needle.	Number of Obser- vations.	B 2, 9-inch Needle.	Number of Obser- vations.	B 3, 9-inch Needle.	Number of Obser- vations.	C 1, 6-inch Needle.	Number of Obser- vations.	C 2, 6-inch Needle.	Number of Obser- vations.
October	68. 16. 23	8	68. 16. 41	9	.....	..	.....	..	....	..
November ....	....	..	....	..	68. 18. 29	3	....	..	....	..
December ....	....	..	....	..	....	..	68. 14. 17	7	68. 15. 28	6

ROYAL OBSERVATORY, GREENWICH.

O B S E R V A T I O N S

OF

D E F L E X I O N O F A M A G N E T

FOR

A B S O L U T E M E A S U R E

OF

H O R I Z O N T A L F O R C E.

1861.

The Old Apparatus, which had been used many years for observation of the Deflexion of a Magnet, and which has been used through the year 1861 and to the month of February 1862, is described, and the method of computing the results is explained, in the *Greenwich Magnetic and Meteorological Observations*, 1847, Introduction, page xlvi, and in the preceding Volume for 1846. The Magnet marked $\frac{D}{XX}$ (the same which was used from September 1845), has been employed to produce the deflexion of another magnet, marked $\frac{H}{23}$ (of nearly the same dimensions) : and the vibrations then observed are those of $\frac{D}{XX}$.

The weight of $\frac{D}{XX}$ is 507.302 grains, or 32.873 grammes.

The length of $\frac{D}{XX}$ is 0.3025 foot, or 92.198 millimètres.

The diameter of $\frac{D}{XX}$ is 0.025 foot, or 7.620 millimètres.

Its moment of inertia, therefore, (using the English grain and foot as the units of weight and measure,) is 3.88826.

The weight of the embracing frame and mirror is 108.242 grains, or 7.014 grammes ; and, on examining the distribution of this weight, it was thought probable that its moment of inertia would be nearly the same as if it were uniformly distributed over the mirror, whose horizontal length is 0.0658 foot ; its moment of inertia is therefore 0.03905.

The weight of the suspending stalk with a pulley is 39.377 grains, or 2.552 grammes, and its moment of inertia (estimated as probably the same as if it had been condensed on the pulley whose diameter is 0.0233 foot), is 0.00135.

The following is the explanation of the notation used :—

m = the magnetic moment of the deflecting magnet $\frac{D}{XX}$.

X = the absolute measure of horizontal magnetic force.

K = the moment of inertia of $\frac{D}{XX}$ with its stirrup and pulley as suspended for vibration = 3.92866, using the English foot and grain as the unit of length and weight.

π = the circumference of circle to diameter 1.

T = the time of vibration in seconds of mean solar time.

Then when the natural sine of the observed deflexion (the Deflecting Magnet being in the Lateral Position) is expressed by the formula

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

we have for the formulæ of computation

$$\frac{m}{X} = \frac{1}{2} a$$

$$mX = \frac{\pi^2 K}{T^2}$$

from which m and X are found.

The computation of the values of m and X has, to the year 1857, been made in reference to English measure only, using the foot and the grain as the units of length and weight ; but, for comparison with foreign observations of the Absolute Intensity of Magnetism, it is desirable that X should be expressed also in reference to French measure, in terms of the millimètre and milligramme. If an English foot be supposed equal to α times the millimètre, and a grain be equal to β times the milligramme, then it is plain that, for the reduction of $\frac{m}{X}$ and mX to French measure, these must be multiplied by α^3 and $\alpha^2\beta$ respectively. Hence, X^2 must be multiplied by $\frac{\beta}{\alpha}$, and X by $\sqrt{\frac{\beta}{\alpha}}$. Assuming that the mètre is equal to 39.37079 inches, and the gramme equal to 15.432349 grains, $\log \sqrt{\frac{\beta}{\alpha}}$ will be found to be = 9.6637805, and the factor for reducing the English values of X to French values will be 0.46108, or $\frac{1}{2.1689}$. The values of X in French measure thus derived from those in English measure are given in the proper table.

The natural sine of the observed deflexion, when the Deflecting Magnet is in the Axial Position, is treated in the same manner as the former, for expressing it by the formula

$$\frac{a^1}{(\text{distance})^3} + \frac{b^1}{(\text{distance})^5}$$

but no further use is made of these deflexions.

For the determination of the Absolute Measure of Horizontal Force on those days on which vibrations, unaccompanied by Deflexions, were observed, it is assumed that the quantity m (which is peculiar to the magnet) changes at a uniform rate from one observation of deflexion to the next ; and the comparison of its interpolated value with the value of mX given by the vibration determines the value of X .

ABSTRACT of the OBSERVATIONS of DEFLEXION of a MAGNET for ABSOLUTE MEASURE of HORIZONTAL FORCE, observed with the OLD APPARATUS.

Month and Day, 1861.	Position of Deflecting Magnet with regard to Suspended Magnet.	Distances of Centers of Magnets.	Temperature.	Observed Deflexion.	Mean of the Times of Vibration of Deflecting Magnet.	Number of Vibrations.	Temperature.	Observer.	
January 26	Lateral	ft. in. 1. 0	52° 0'	0. 1 " 8. 35. 1. 46	5. 966	100	46. 7	N	
	Axial			4. 30. 53. 40 2. 31. 44. 77					
	Lateral	1. 6	52° 0'	1. 17. 37. 40	5. 972	100	52. 6		
	Axial								
February 26	Lateral	ft. in. 1. 0	47° 2'	8. 26. 17. 51 4. 27. 57. 23	5. 953	100	40. 0	N	
	Axial			2. 35. 58. 24 1. 21. 15. 46					
	Lateral	1. 6	47° 2'		5. 880	100	50. 0		
	Axial								
March 14	Lateral	ft. in. 1. 0	50° 6'	8. 30. 53. 49 4. 29. 30. 21	5. 939	100	41. 7	N	
	Axial			2. 34. 40. 58 1. 16. 12. 99					
	Lateral	1. 6	50° 6'		5. 932	100	50. 8		
	Axial								
April 12	Lateral	ft. in. 1. 0	61° 4'	8. 29. 3. 65 4. 30. 33. 20	5. 960	100	58. 0	N	
	Axial			2. 29. 42. 33 1. 16. 13. 49					
	Lateral	1. 6	61° 4'		5. 955	100	61. 5		
	Axial								
May 14	Lateral	ft. in. 1. 0	64° 2'	8. 29. 31. 68 4. 28. 15. 91	5. 944	100	60. 2	N	
	Axial			2. 30. 16. 32 1. 16. 38. 07					
	Lateral	1. 6	64° 2'		5. 959	100	65. 0		
	Axial								
June 13	Lateral	1. 0	76° 6'	8. 25. 30. 66	5. 990	100	74. 2	N	
	Lateral	1. 6		2. 28. 59. 43					
July 17	Lateral	1. 0	70° 3'	8. 22. 57. 52	5. 913	100	67. 5	N	
	Lateral	1. 6		2. 29. 39. 90					
July 29	Lateral	1. 0	70° 7'	8. 21. 43. 20	5. 966	100	70. 7	N	
	Lateral	1. 6		2. 29. 0. 28					
July 31	Lateral	1. 0	70° 9'	8. 23. 59. 93	5. 951	94	69. 0	N	
	Lateral	1. 6		2. 31. 10. 38					
August 2	Lateral	1. 0	78° 3'	8. 23. 17. 81	5. 978	100	75. 0	N	
	Lateral	1. 6		2. 31. 8. 85					
September 10	Lateral	1. 0	68° 4'	8. 11. 25. 62	5. 970	100	64. 0	N	
	Lateral	1. 6		2. 27. 23. 20					
October 8	Lateral	1. 0	71° 7'	8. 15. 34. 52	5. 981	100	66. 0	N	
	Lateral	1. 6		2. 26. 40. 58					

The lengths of 1 foot and 1 foot 6 inches answer to 304.8 and 457.2 millimètres respectively.

The initial N is that of Mr. W. C. Nash.

ABSTRACT of the OBSERVATIONS of DEFLEXION of a MAGNET for ABSOLUTE MEASURE of HORIZONTAL FORCE, observed with the OLD APPARATUS—concluded.

Month and Day, 1861.	Position of Deflecting Magnet with regard to Suspended Magnet.	Distances of Centers of Magnets. ft. in. I. 0	Temperature. ° 59.3	Observed Deflexion. ° / " " 8. 21. 50. 69	Mean of the Times of Vibration of Deflecting Magnet. s 5.988	Number of Vibrations. 100	Temperature. ° 58.0	Observer. N
October 17	Lateral	I. 0 I. 6	59.3 50.2	8. 21. 50. 69	5.988	100	58.0	N
	Lateral			2. 27. 0. 28	6.000	100	58.4	
November 7	Lateral	I. 0	50.2 44.9	8. 19. 40. 05	5.965	100	46.5	N
	Lateral	I. 6		2. 28. 58. 93	5.972	100	48.6	
December 3	Lateral	I. 0	44.9 42.8	8. 20. 57. 55	5.984	100	43.8	N
	Lateral	I. 6		2. 30. 1. 66	5.953	100	44.0	
December 24	Lateral	I. 0	42.8	8. 22. 38. 29	5.945	100	41.0	N
	Lateral	I. 6		2. 30. 9. 25	5.975	100	42.0	

The lengths of 1 foot and 1 foot 6 inches answer to 304.8 and 457.2 millimètres respectively.

The initial N is that of Mr. W. C. Nash.

COMPUTATION of the VALUES of ABSOLUTE MEASURE of HORIZONTAL FORCE, with the OLD APPARATUS.

Month and Day, 1861.	In English Measure.										Value of X in French Measure.
	Apparent Value of a .	Apparent Value of b .	Apparent Value of a^1 .	Apparent Value of b^1 .	Adopted Value of a , assuming the Value of b + 0.00064 to June 13, and - 0.00259 from July 17.	Log. $\frac{1}{2} a$ = Log. $\frac{m}{X}$	Adopted Time of Vibration of Deflecting Magnet.	Log. $m X$.	Value of X .	Value of m .	
January 26	+0.14867	+0.00059	0.07418	0.00454	+0.14863	8.87107	5.969	0.03674	3.827	0.2844	1.764
February 26	+0.15814	-0.01140	0.08129	-0.00342	+0.14763	8.86813	5.917	0.04434	3.874	0.2859	1.786
March 14	+0.15478	-0.00671	0.07202	0.00630	+0.14837	8.87030	5.936	0.04155	3.852	0.2857	1.776
April 12	+0.14644	+0.00110	0.08572	-0.02451	+0.14684	8.86581	5.958	0.03834	3.857	0.2832	1.778
May 14	+0.14733	+0.00035	0.07305	0.00491	+0.14708	8.86651	5.952	0.03921	3.858	0.2837	1.779
June 13	+0.14600	+0.00052	...	...	+0.14590	8.86302	5.990	0.03369	3.849	0.2808	1.775
July 17	+0.14777	-0.00198	...	...	+0.14830	8.87011	5.926	0.04302	3.859	0.2861	1.779
29	+0.14689	-0.00146	...	...	+0.14788	8.86887	5.960	0.03805	3.842	0.2841	1.772
31	+0.15019	-0.00411	...	...	+0.14886	8.87176	5.955	0.03878	3.833	0.2853	1.767
August 2	+0.15031	-0.00443	...	...	+0.14870	8.87129	5.972	0.03630	3.824	0.2843	1.763
September 10	+0.14641	-0.00395	...	...	+0.14522	8.86100	5.974	0.03608	3.868	0.2809	1.784
October 8	+0.14419	-0.00053	...	...	+0.14599	8.86328	5.980	0.03514	3.854	0.2813	1.777
17	+0.14333	+0.00213	...	...	+0.14745	8.86762	5.994	0.03311	3.826	0.2821	1.764
November 7	+0.14732	-0.00248	...	...	+0.14741	8.86751	5.968	0.03688	3.843	0.2833	1.772
December 3	+0.14887	-0.00366	...	...	+0.14794	8.86905	5.969	0.03674	3.836	0.2837	1.769
24	+0.14870	-0.00301	...	...	+0.14833	8.87020	5.960	0.03805	3.836	0.2845	1.769

The value of b employed in the reductions from January to June, namely +0.00064, is the mean of the apparent values of b from the observations taken between those times, (rejecting the discordant results of February and March); and that used in the reductions from July 17 to the end of the year, namely -0.00259, is the mean from the observations taken between 1861, July 17, and 1862, February 3, when the series with the old apparatus ended.

VALUES of ABSOLUTE MEASURE of HORIZONTAL FORCE, from OBSERVATIONS of VIBRATION of the DEFLECTING MAGNET $\frac{D}{XX}$, unaccompanied by DEFLEXION.

Month and Day, 1861.	Adopted Time of Vibration.	Temperature.	Log. $m X$ in English Measure.	Value of m interpolated from the Deflexion Observations. In English Measure.	Inferred Value of X in English Measure.	Value of X in French Measure.	Observer.
January 18	5.945	35.5	0.04024	0.2841	3.862	1.781	H
24	5.941	43.7	0.04082	0.2843	3.864	1.782	N
March 27	5.952	55.0	0.03921	0.2845	3.847	1.774	H
April 17	5.946	55.6	0.04009	0.2833	3.872	1.785	H
30	5.943	56.0	0.04053	0.2835	3.873	1.786	H
May 13	5.950	47.8	0.03951	0.2837	3.861	1.780	H
22	5.960	64.3	0.03805	0.2829	3.858	1.779	N
July 27	5.978	69.2	0.03543	0.2844	3.815	1.759	N
September 30	5.961	74.8	0.03790	0.2812	3.881	1.789	N
October 3	5.982	69.3	0.03485	0.2812	3.853	1.777	N
December 11	5.936	42.5	0.04155	0.2840	3.875	1.787	N

The number of vibrations employed in each determination was 100.

The initials N and H are those of Mr. W. C. Nash and Mr. John Howe.

It will be remarked that, as no correction has been applied for temperature, the result is affected with a slight error, unless the temperature in these vibration-observations coincide with the temperature interpolated between the deflexion-observations.

In the spring of 1861, a Unifilar Instrument, similar in all respects (as is understood) to those used in and issued by the Kew Observatory, was procured by the courteous application of Major-General Sabine, from the makers, Messrs. J. T. Gibson and Son; and after having been subjected to the usual examinations, at the Kew Observatory, for determination of its constants (for which I am indebted to the kindness of Balfour Stewart, Esq.), was mounted at the Royal Observatory. Observations with this instrument commenced on June 11, and were continued through the year; and, after some slight modifications of its verniers, it is still maintained in use (1862).

The method of making observations with this instrument differs in no respect from that used with the Old Instrument. In the reduction of the observations, the precepts contained in the Skeleton Form prepared by the Kew Observatory Committee have received the strictest attention.

ABSTRACT of the OBSERVATIONS of DEFLEXION of a MAGNET for ABSOLUTE MEASURE of HORIZONTAL FORCE, made with the KEW UNIFILAR INSTRUMENT.

Month and Day, 1861.	Position of Deflecting Magnet with regard to Suspended Magnet.	Distances of Centers of Magnets. ft.	Temperature.	Observed Deflexion.	Mean of the Times of Vibration of Deflecting Magnet.	Number of Vibrations.	Temperature.	Observer.
June 11	Lateral	1' 0	69° 8	° / "	17. 5. 14	8	67° 0	H C
	Lateral	1' 3		7. 40. 2	4.630	50		
June 14	Lateral	1' 0	78° 2	16. 59. 11	4.625	150	75° 0	H C
	Lateral	1' 3		7. 38. 39	4.623	150		
July 18	Lateral	1' 0	65° 7	16. 50. 13	4.663	150	67° 1	H C
	Lateral	1' 3		7. 34. 59				
July 20	Lateral	1' 0	67° 1	16. 49. 34	4.660	150	66° 5	H C
	Lateral	1' 3		7. 34. 33	4.662	150		
August 1	Lateral	1' 0	68° 3	16. 45. 36	4.667	150	66° 0	H C
	Lateral	1' 3		7. 33. 3	4.672	150		
August 3	Lateral	1' 0	61° 9	16. 45. 1	4.673	150	62° 1	H C
	Lateral	1' 3		7. 32. 35	4.680	150		
October 10	Lateral	1' 0	61° 5	16. 19. 31	4.696	150	65° 5	H C
	Lateral	1' 3		7. 20. 50				
October 15	Lateral	1' 0	65° 5	16. 21. 25	4.725	150	64° 2	H C
	Lateral	1' 3		7. 21. 58				
November 11	Lateral	1' 0	46° 3	16. 14. 47	4.746	150	44° 0	H C
	Lateral	1' 3		7. 19. 46	4.740	150		
December 2	Lateral	1' 0	34° 2	16. 12. 22	4.747	150	32° 0	H C
	Lateral	1' 3		7. 17. 51	4.745	150		

The lengths of 1 foot and 1' 3 foot answer to 304.8 and 396.2 millimètres respectively.

The initials H C are those of Mr. Henry Criswick.

In the following calculations, every observation is reduced to the temperature 35°.

COMPUTATION of the VALUES of ABSOLUTE MEASURE of HORIZONTAL FORCE, from OBSERVATIONS with
the KEW UNIFILAR INSTRUMENT.

Month and Day, 1861.	In English Measure.								Value of X in French Measure.	
	Apparent Value of A.	Apparent Value of A ¹ .	Apparent Value of P.	Mean Value of P.	Log. $\frac{1}{2} A$ = Log. $\frac{m}{X}$	Adopted Time of Vibration of Deflecting Magnet.	Log. m X.	Value of X.		
June 11	+0.14777	0.08722	+0.00617		9.16922	4.630	0.33030	3.807	0.5619	1.756
July 14	+0.14715	0.08709	-0.00050		9.16798	4.624	0.32980	3.810	0.5609	1.757
July 18	+0.14556	0.08620	-0.00219		9.16340	4.663	0.32414	3.805	0.5542	1.755
July 20	+0.14551	0.08614	-0.00135		9.16317	4.661	0.32466	3.809	0.5544	1.756
August 1	+0.14498	0.08588	-0.00271	-0.00049	9.16172	4.670	0.32275	3.806	0.5523	1.755
August 3	+0.14474	0.08570	-0.00153		9.16090	4.677	0.32119	3.803	0.5508	1.754
October 10	+0.14116	0.08348	+0.00139		9.14976	4.696	0.31791	3.838	0.5417	1.770
October 15	+0.14152	0.08375	-0.00035		9.15102	4.725	0.31248	3.808	0.5391	1.756
November 11	+0.14013	0.08306	-0.00421		9.14707	4.743	0.30800	3.806	0.5339	1.755
December 2	+0.13952	0.08254	+0.00035		9.14477	4.746	0.30674	3.811	0.5317	1.757

VALUES of ABSOLUTE MEASURE of HORIZONTAL FORCE, from OBSERVATIONS of VIBRATIONS of the DEFLECTING MAGNET 3 W.,
unaccompanied by DEFLEXION.

Month and Day, 1861.	Adopted Time of Vibration.	Temperature.	Log. m X in English Measure.	Value of m interpolated from the Deflexion Observations. In English Measure.	Inferred Value of X in English Measure.	Value of X in French Measure.	Observer.
June 18	4.639	75.2.	0.32920	0.5600	3.811	1.757	H C
June 20	4.639	74.1	0.32912	0.5598	3.812	1.757	H C
July 31	4.666	73.5	0.32404	0.5525	3.817	1.760	H C
September 11	4.700	62.8	0.31699	0.5456	3.803	1.754	H C

The number of vibrations employed in each determination was 150.

The initials H C are those of Mr. Henry Criswick.

Every observation is reduced to the temperature 35°.

As observations were carried on with both instruments from 1861, June 11, to 1862, February 3, it has been judged desirable to exhibit here a comparison of the results. Although the observations were not taken on the same days, yet it is conceived that the difference of the means of the results may with safety be adopted as representing the true difference depending on the peculiarities of each instrument and the peculiarities of each mode of reduction. And, as the observations made with the Old Instrument were conducted precisely in the same way as for many years past, and those with the Kew Unifilar in the way which will probably be continued in future, it is presumed that this comparison will give the means of forming one continuous series commencing with the year 1848.

Taking then the means from the following Table, we have—

Mean of determinations by Old Instrument 3·844

Mean of determinations by Kew Unifilar 3·811

The determinations with the Old Instrument ought therefore to be diminished by $\frac{1}{17}$ part, to make them comparable with those of the Kew Unifilar.

COMPARISON OF RESULTS from the Two DEFLEXION INSTRUMENTS.

Month and Day, 1861-62.	Value of X in English Measure.		Value of X in French Measure.		
	From Old Instrument.	From Kew Unifilar.	From Old Instrument.	From Kew Unifilar.	
1861					
June 11	...	3·807	...	1·756	
13	3·849	...	1·775	...	
14	...	3·810	...	1·757	
July 17	3·859	...	1·779	...	
18	...	3·805	...	1·755	
20	...	3·809	...	1·756	
29	3·842	...	1·772	...	
31	3·833	...	1·767	...	
August 1	...	3·806	...	1·755	
2	3·824	...	1·763	...	
3	...	3·803	...	1·754	
September 10	3·868	...	1·784	...	
October 8	3·854	...	1·777	...	
10	...	3·838	...	1·770	
15	...	3·808	...	1·756	
17	3·826	...	1·764	...	
November 7	3·843	...	1·772	...	
11	...	3·806	...	1·755	
December 2	...	3·811	...	1·757	
3	3·836	...	1·769	...	
24	3·836	...	1·769	...	
1862.					
January 29	...	3·817	...	1·760	
30	3·838	...	1·770	...	
30	...	3·814	...	1·758	
31	3·846	...	1·773	...	
February 1	...	3·810	...	1·757	
3	3·867	...	1·783	...	

ROYAL OBSERVATORY, GREENWICH.

R E S U L T S

OF

METEOROLOGICAL OBSERVATIONS.

1861.

The day in the first column of the following tables is to be understood, generally, as defined in civil reckoning.

The barometer is described in the *Greenwich Magnetical and Meteorological Observations*, 1847, Introduction, page xlviii, and in the corresponding parts of several preceding volumes. The barometer has been read at 21^h, 0^h, 3^h, 9^h (Astronomical), on every day, excepting on Sundays, and on Good Friday and Christmas Day, on which days fewer observations have been taken. Every reading has been reduced to the reading which would have been obtained at the temperature 32° of the mercury and scale, by application of the correction given in table II. (pages 82 to 87) of the Report of the Committee of Physics of the Royal Society. The mean of the reduced readings has then been taken for each civil day, and finally converted into mean daily reading, by application of the correction inferred from Mr. Glaisher's paper in the *Philosophical Transactions*, 1848, part I.

The positions of all the thermometers are described in the Introduction, 1847, page lxix.

The thermometers, used for determining the highest temperature of the air, and the highest state of the wet-bulb thermometer, are mercurial thermometers invented by Messrs. Negretti and Zambra, and described in the *Results of Meteorological Observations*, 1851, Introduction page xcvi; and those for the lowest are of Rutherford's construction, described in the Introduction, 1847, page lxvii: they are self-registering. The readings given are corrected for index-errors.

The dry-bulb and wet-bulb thermometers are described in the Introduction, 1847, page xlxi; their scales have been verified from time to time, in the manner there described.

A mean daily reading of the dry-bulb thermometer is inferred from the mean of observations taken at the same hours as the observations of the barometer, corrected by a quantity given in the *Phil. Trans.*, 1848, part I. Another mean daily reading is inferred from the mean of the maximum and minimum thermometers, also corrected by a small quantity given in the same paper. The mean daily value given in the tables is found by combining these two corrected means giving them weights proportional to the number of observations from which they are respectively derived.

The dew-point has been inferred exclusively from simultaneous observations of the dry-bulb and wet-bulb thermometers. In order to find the difference between the dry-bulb reading and the dew-point, the difference between the dry-bulb and the wet-bulb readings has been multiplied by a factor taken from the following table (deduced by Mr. Glaisher from the comparison of all the simultaneous readings of the dry-bulb, wet-bulb, and dew-point thermometers, from the year 1840 to the end of the year 1854).

TABLE OF FACTORS, BY WHICH THE DIFFERENCE OF READINGS OF THE DRY-BULB AND WET-BULB THERMOMETERS IS TO BE MULTIPLIED, IN ORDER TO PRODUCE THE DIFFERENCE BETWEEN THE READINGS OF THE DRY-BULB AND DEW-POINT THERMOMETERS.

Reading of the Dry-bulb Thermometer.	Factor.										
20	8.1	32	3.3	44	2.2	56	2.0	68	1.8	80	1.7
21	7.9	33	3.0	45	2.2	57	1.9	69	1.8	81	1.7
22	7.6	34	2.8	46	2.1	58	1.9	70	1.8	82	1.7
23	7.3	35	2.6	47	2.1	59	1.9	71	1.8	83	1.7
24	6.9	36	2.5	48	2.1	60	1.9	72	1.8	84	1.7
25	6.5	37	2.4	49	2.1	61	1.9	73	1.8	85	1.7
26	6.1	38	2.4	50	2.1	62	1.9	74	1.7	86	1.7
27	5.6	39	2.3	51	2.0	63	1.9	75	1.7	87	1.6
28	5.1	40	2.3	52	2.0	64	1.9	76	1.7	88	1.6
29	4.6	41	2.3	53	2.0	65	1.8	77	1.7	89	1.6
30	4.2	42	2.2	54	2.0	66	1.8	78	1.7	90	1.6
31	3.7	43	2.2	55	2.0	67	1.8	79	1.7		

The dew-point being thus found for each individual observation, the mean is taken for each day (as defined from midnight to midnight), and this mean is corrected by application of the elements in the *Phil. Trans.*, 1848, part I.

The thermometers exhibiting the lowest temperature on the grass, and the highest and lowest temperatures of the water of the Thames, are described in the Introduction, 1847, pages lxix and lxxi. They are occasionally verified. They are read at 21^h (9^h A.M.) every day; their readings are placed opposite to the day preceding the civil day on which the scales are actually read. The thermometer for the highest temperature in the sunshine is a mercurial thermometer with blackened bulb, of Negretti and Zambra's construction: it is read at 9^h P.M. every evening.

The thermometer for the minimum temperature on the grass was out of order on March 24; July 7; August 8, 11, 17; December 19.

The thermometer for the maximum temperature in the water of the Thames was out of order from February 10 to 16; on April 6; April 28 to May 11; September 15 to 23; December 13 to 31. That for the minimum temperature was out of order on the same days, and also on February 24.

The mean daily value of the difference between dew-point temperature and air-temperature is the difference between the two numbers in the sixth and seventh columns. The Greatest and Least are the greatest and least among the differences corresponding to the times of observation in the civil day, or they are found from the absolute maxima and minima, as determined by comparing the observations of the self-registering wet-bulb thermometers with those of the self-registering dry-bulb thermometers.

The difference between the mean temperature for the day and the mean for the same day of the year on an average of forty-three years, is found by comparison with a table of results deduced by Mr. Glaisher from forty-three years' observations, made at the Royal Observatory, ending 1856.

Osler's Anemometer is described in the Introduction, 1847, page lxxi. Little explanation of the results deduced from it appears to be necessary. It may be understood generally that the greatest pressure occurred in gusts of short duration.

Whewell's Anemometer is described in the Introduction, 1847, page lxxii. The amount of movement of air here exhibited is to be understood as from 22^h to 22^h (10^h A.M. to 10^h A.M.), the numbers being placed opposite to the day preceding the civil day on which the instrument is read.

Robinson's Anemometer is described in the Introduction 1859, page cxli. The instrument is read off every day at 22^h (10^h A.M.)

The register of rain is read at 9^h P.M. from the Cylinder Rain-gauge partly sunk in the ground, described in page lxxv of the Introduction, 1847. If, however, there appears to be any doubt as to the correctness of the results, reference is made to a Rain-gauge of similar construction and placed near to it, and to a second of the same construction placed 10 feet above the ground.

For understanding the divisions of time under the heads of Electricity and Weather, the following remarks are necessary:—The day is divided by columns into two parts (from midnight to noon, and from noon to midnight), and each of these parts is roughly subdivided into two or three parts by colons (:). Thus, when there is a single colon in the first column, it denotes that the remarks before it apply (roughly) to the interval from midnight to 6 A.M., and those following it to the interval from 6 A.M. to noon. When there are two colons in the first column, it is to be understood that the twelve hours are divided into three nearly equal parts of four hours each. And similarly for the second column.

The Electrical Apparatus is described in page lxxvii of the Introduction, 1847. The following is the explanation of the notation employed, it being premised that the quality of the Electricity is always to be supposed positive when no indication of quality is given:—

g cur. denotes galvanic currents	N denotes negative	s denotes strong	v denotes variable
m .. moderate	P .. positive	sp .. sparks	w .. weak

The duplication of the letter denotes an intensity of the modification described: thus, ss is very strong; vv, very variable.

The Clouds and Weather are described generally by Howard's Nomenclature; the figure denotes the proportion of sky covered by clouds, the whole sky being represented by 10. The notation is as follows:—

a denotes aurora borealis	hl denotes hail	shs-r denotes showers of rain	h-sqs denotes heavy squalls
ci .. cirrus	so-ha .. solar halo	c-r .. continued rain	fr-h-sqs .. frequent heavy squalls
ci-cu .. cirro-cumulus	l .. lightning	c-h-r .. continued heavy rain	sc .. scud
ci-s .. cirro-stratus	li-cl .. light clouds	m-r .. misty rain	li-sc .. light scud
cu .. cumulus	lu-co .. lunar corona	fr-m-r .. frequent misty rain	sl .. sleet
cu-s .. cumulo-stratus	lu-ha .. lunar halo	sl-r .. slight rain	sn .. snow
d .. dew	m .. meteor	h-shs .. heavy showers	sl-sn .. slight snow
h-d .. heavy dew	ms .. meteors	fr-shs .. frequent showers	s .. stratus
f .. fog	n .. nimbus	fr-h-shs .. frequent heavy showers	t .. thunder
th-f .. thick-fog	r .. rain	li-shs .. light showers	t-s .. thunder storm
fr .. frost	th-r .. thin rain	oc-shs .. occasional showers	v .. variable
gt-glm .. great gloom	oc-r .. occasional rain	sq .. squall	w .. wind
h-fr .. hoar frost	fr-r .. frozen rain	sqs .. squalls	st-w .. strong wind
h .. haze	h-r .. heavy rain	fr-sqs .. frequent squalls	

The foot-notes show the means and extremes of readings, and their departure in each month from average values, as found from the preceding Twenty Years' Observations; those relating to Humidity have been calculated from the Second Edition of Glaisher's Hygrometrical Tables.

RESULTS OF ORDINARY METEOROLOGICAL OBSERVATIONS

MONTH and DAY, 1861.	Phases of the Moon.	Mean Daily Reading of the Barometer (corrected and reduced to 32° Fahrenheit).	READINGS OF THERMOMETERS.												WIND AS DEDUCED FROM ANEMOMETERS.														
			Dry.				Dew Point.		In the Water of the Thames, at Greenwich, by Self-Registering Thermometers, read at 9 th A.M. next morning.				Difference between the Dew Point Temperature and Air Temperature.			Difference between the Mean Temperature of the Day and the Mean Temperature of the same Day on an Average of 43 Years.			OSLER'S.			Pressure in lbs. on the square foot.			WHE- WELL'S		ROBIN- SON'S		
			Highest.	Lowest.	Mean Daily Value.	Mean Daily Value.	Highest.	Lowest.	Mean Daily Value.	Greatest.	Least.	A.M.	P.M.	Greatest.	Least.	Mean of 24 Obs.	Rain in Inches read at 9 th P.M.												
Jan. 1	..	in.	0	0	0	0	0	0	0	0	0	SW	NE	5·0	0·0	1·8	101	296	0·29										
2	Perigee; In Equator.	29·228	47·3	31·9	38·2	37·8	49·0	33·2	35·0	34·0	0·4	2·0	0·0	+ 1·7	NE	5·0	0·0	1·0	45	199	0·00								
3	..	29·918	33·2	26·0	29·0	20·9	45·0	22·0	34·0	33·0	8·1	10·3	6·7	- 7·4	NE	0·0	0·0	0·0	2	14	0·00								
4	Last Qr.	30·143	34·3	24·4	28·7	21·3	45·3	16·0	34·0	33·0	7·4	8·4	6·7	- 7·7	NE	0·0	0·0	0·0	..	39	0·00								
5	..	29·983	34·2	20·5	28·0	24·7	37·0	10·0	33·0	32·0	3·3	7·5	2·5	- 8·3	NE	0·0	0·0	0·0	1	98	0·02								
6	..	29·928	33·0	22·3	27·5	25·1	36·0	22·5	33·5	32·5	2·4	5·5	1·4	- 8·6	NE	1·0	0·0	0·0	3·0	236	0·00								
7	..	29·932	29·8	19·5	23·6	17·9	46·0	8·5	33·0	32·0	5·7	6·0	4·6	- 12·4	SE; NE	N	3·0	0·0	0·3	55	236	0·00							
8	Greatest Declination S.	29·966	32·5	20·5	26·4	19·2	41·5	10·0	33·0	32·0	7·2	9·9	3·9	- 9·4	W	0·0	0·0	0·0	15	77	0·00								
9	..	30·182	34·8	16·0	24·5	17·3	70·0	9·0	32·5	31·5	7·2	10·3	5·2	- 11·0	NE	1·0	0·0	0·0	1	19	0·00								
10	..	30·179	35·0	16·8	25·0	12·9	72·0	4·0	32·0	31·0	12·1	18·9	6·7	- 10·4	S	0·0	0·0	0·0	..	..	..					
11	New	30·204	29·8	17·0	21·7	18·9	31·0	10·2	32·0	31·0	2·8	3·6	1·7	- 14·0	SE	0·0	0·0	0·0	I	Fixed by frost.	0·00								
12	..	30·180	37·0	17·3	28·7	24·3	42·0	6·4	32·0	31·0	4·4	6·7	1·1	- 6·9	SE	0·0	0·0	0·0	45	168	0·02								
13	..	29·953	37·7	32·0	34·8	32·1	4·1·6	25·0	32·5	31·5	2·7	4·8	1·8	- 0·8	SW	0·0	0·0	0·0	..	..	..					
14	..	29·596	34·6	28·0	31·0	29·3	39·5	29·0	32·5	31·5	1·7	3·2	0·6	- 4·6	SW	0·0	0·0	0·0	2	9	0·11								
15	In Equator	29·636	31·8	24·2	28·0	24·6	49·0	16·0	32·0	31·0	3·4	4·8	3·0	- 7·6	SE	3·5	0·0	0·3	95	260	0·00								
16	..	29·921	29·7	26·3	27·6	21·5	37·8	18·6	32·0	31·0	6·1	6·7	5·5	- 7·9	E	9·0	1·0	3·0	120	363	0·00								
17	..	30·048	31·0	23·1	26·9	20·2	55·0	19·6	32·0	31·0	6·7	9·7	2·0	- 8·6	NE	4·0	0·0	0·3	30	134	0·00								
18	Apogee	30·134	37·0	30·3	33·5	30·6	43·0	23·0	32·0	31·0	2·9	4·3	1·5	- 2·4	NE	0·0	0·0	0·0	5	43	0·01								
19	..	30·129	36·3	30·2	32·9	28·9	42·0	18·5	32·5	31·5	4·0	5·8	2·2	- 3·4	NE	0·0	0·0	0·0	..	41	0·00								
20	First Qr.	30·088	36·2	32·0	33·8	28·8	41·0	25·0	32·0	31·5	5·0	5·7	3·9	- 2·7	NE	0·0	0·0	0·0	80	232	0·00								
21	..	30·221	43·9	34·6	39·5	39·3	50·3	31·6	34·0	33·0	0·2	0·4	0·0	+ 2·7	SW	0·0	0·0	0·0	30	138	0·00								
22	..	30·328	43·0	37·0	39·9	39·0	48·0	35·0	35·0	34·0	0·9	3·1	0·0	+ 2·8	SW	3·5	0·0	0·2	135	322	0·00								
23	Greatest Declination N.	30·230	39·8	32·5	35·6	34·9	49·0	18·0	35·0	34·0	0·7	1·2	0·3	- 1·7	SW	2·5	0·0	0·1	70	221	0·00								
24	..	30·086	39·0	33·3	36·3	35·8	42·0	31·5	36·0	35·0	0·5	1·0	0·0	- 1·2	SW	0·0	0·0	0·0	20	138	0·06								
25	..	29·896	47·6	31·7	40·6	37·4	65·0	24·2	37·0	36·0	3·2	8·1	1·3	+ 2·8	S	4·0	0·0	0·2	105	366	0·00								
26	Full	29·790	53·0	42·6	48·5	45·1	62·0	32·0	37·0	36·0	3·4	8·2	1·3	+ 10·5	SW	10·0	0·0	4·0	240	507	0·00								
27	..	30·160	52·9	42·5	46·8	43·7	80·0	35·0	38·0	37·0	3·1	9·0	1·3	+ 8·5	W	11·0	0·0	1·5	120	282	0·04								
28	..	30·124	55·0	42·7	47·1	44·5	85·0	36·0	39·0	38·0	2·6	7·6	0·4	+ 8·8	SW	5·0	0·0	0·4	95	227	0·00								
29	Perigee; In Equator.	30·107	49·8	35·4	41·7	39·9	76·0	35·5	40·0	39·0	1·8	7·4	0·7	+ 3·6	SW	1·0	0·0	0·0	2	74	0·00								
30	..	30·006	55·0	29·5	40·6	38·5	93·0	23·7	41·0	40·0	2·1	10·8	1·0	+ 2·7	SW	0·0	0·0	0·0	50	208	0·00								
31	..	30·016	44·0	31·5	37·8	37·5	45·0	25·0	42·0	41·0	0·3	3·5	0·0	+ 0·2	SW	2·5	0·0	0·1	50	208	0·00								
Means	..	30·029	51·0	38·5	43·8	39·2	88·0	32·0	42·0	41·0	4·6	11·4	1·2	+ 6·5	SSW	3·5	0·0	0·3	25	223	0·00								
		30·011	39·6	28·7	33·8	30·0	53·1	22·1	34·8	33·8	3·8	6·6	2·2	- 2·8	...	..	..	..	1520	5147	0·55							

BAROMETER READINGS FROM EYE-OBSERVATIONS.

The absolute minimum in the month was 29°·000 on the 1st.

The absolute maximum in the month was $20^{\text{in}}.166$ on the 3rd; the second minimum $"$ was $29^{\text{in}}.901$ on the 5th.

The first maximum in the month was $30^{\text{in}}\cdot 100$ on the 3rd, the second $20^{\text{in}}\cdot 224$ on the 10th; the third minimum $29^{\text{in}}\cdot 569$ on the 13th.

The second maximum was $30^{\text{in}}.224$ on the 10th; the absolute maximum was $30^{\text{in}}.243$ on the 21st; the fourth minimum was $29^{\text{in}}.768$ on the 25th.

The absolute maximum was $30^{\text{in}}.343$ on the 21st, the fourth maximum was $20^{\text{in}}.217$ on the 26th; the fifth minimum was $29^{\text{in}}.962$ on the 29th.

The range in the month was 1^{in.}: 243.

The range in the month was $11^{\circ} - 34^{\circ}$. The mean for the month was 25° F. , being 2.54 higher than the average of the preceding 20 years.

THE MEAN FOR THE AIR

TEMPERATURE OF THE AIR.
The mean temperature of the month was $11^{\circ}0$ on the 27th and 28th; the lowest was $16^{\circ}0$ on the 8th; and the range in the month was $39^{\circ}0$.

The highest in the month was $55^{\circ}0$ on the 27th and 29th; the lowest was $18^{\circ}0$ on the 21st, and the mean daily reading was $30^{\circ}6$, being $3^{\circ}6$ lower than the average of the preceding 20 years.

The mean of all the highest daily readings was $20^{\circ} 6$, being $3^{\circ} 6$ above that of all the lowest daily readings, which was $17^{\circ} 7$, being $5^{\circ} 0$ lower than the average of the preceding 20 years.

The mean of all the lowest daily readings was 28° 7, being 5° 8 lower than the average of the preceding 20 years.

The mean daily range was $10^{\circ}.9$, being $1^{\circ}.3$ greater than the average of the preceding 20 years.

MONTH and DAY, 1861.	ELECTRICITY.		CLOUDS AND WEATHER.	
	A.M.	P.M.	A.M.	
				P.M.
Jan. 1	s N	s : o	10, r	10, gt.-glm, m.-r
2	o	o	o	o
3	v	v	7, ci.-cu, ci.-s	7, ci.-cu, ci.-s : o
4	v	v	10, f	o, h : 7, ci.-cu, ci.-s, sn : 10, ci.-s
5	m	s	10, sl	10, sn : o
6	v	v : s, sps	o	7, cu, ci.-cu, ci, sn : 5, s, f
7	w	w	10, ci.-s, f	10, ci.-s, h
8	o	w	o	o
9	m	m : s	o	o
10	s	s	8, cu, ci.-cu, ci, f	8, cu, ci.-cu, ci : 10, th.-f
11	s	s : ss, sps	10, s, ci.-s, f	10, s, ci.-s : 7, ci.-s : o
12	o	o	10, cu.-s, ci.-s	10, cu.-s, ci.-s : 10, th.-r
13	m	m	10, sl, r	10, sn : 10
14	o	w : o	10	7, ci.-s, ci : 10
15	o	v	o	10, cu.-s, ci.-s
16	m	m : s	10, ci.-cu, ci.-s	1, ci : 5, ci.-cu, ci : 10, sn
17	o	o	10	10
18	v	v	10, f	10
19	w	o	10	10 : 10, s, ci.-s
20	o	o	10	10 : 10, th.-f
21	w	o	10	10 : o
22	o	o : s	10, f	10 : f
23	v	v	10	10 : oc.-r
24	o	o	7, s, ci.-s, h-fr	7, ci.-s, ci : 10, oc.-r
25	o	m : o	10, ci.-s, s	10, oc.-r
26	s	s	10	o : 7
27	o	m	3, ci, li.-cl	3, ci
28	s	w	7, ci.-s, ci	7, ci.-cu, ci.-s : o, f
29	o	o : m	10, th.-f	o, f : o
30	s	w	10, f	10, f : 10, oc.-r
31	w	w	3, ci.-cu, ci.-s	o

HUMIDITY OF THE AIR.

Temperature of the Dew Point.

The highest in the month was 49°o on the 25th; and the lowest was 30°.8 on the 9th.

The mean , was 30°o , being 5°.4 lower than the average of the preceding 20 years.

Elastic Force of Vapour.—The mean for the month was $0\text{in. } 167$, being $0\text{in. } 038$ less than the average of the preceding 20 years.

Weight of Vapour in a Cubic Foot of Air.—The mean for the month was $1\text{lb. } 9$, being $0\text{gr. } 5$ less than the average of the preceding 20 years.

Degree of Humidity.—The mean for the month was 85 (that of Saturation being represented by 100), being 4 less than the average of the preceding 20 years.

Weight of a Cubic Foot of Air.—The mean for the month was 564 grains, being 11 grains greater than the average of the preceding 20 years.

CLOUDS.

The mean amount for the month, a clear sky being represented by o and a cloudy sky by 10, was 7 o.

WIND.

The proportions were of N. 3, S. 9, W. 9, and E. 10. The greatest pressure in the month was $11\text{lb. } 0$ on the square foot on the 26th.

RAIN.

Fell on 7 days in the month, amounting to $0\text{in. } 6$, as measured in the simple cylinder gauge partly sunk below the ground; being $1\text{in. } 2$ less than the average fall of the preceding 46 years.

RESULTS OF ORDINARY METEOROLOGICAL OBSERVATIONS

MONTH and DAY, 1861.	Phases of the Moon.	Reading of the Barometer (corrected and re- duced to 32° Fahrenheit).	READINGS OF THERMOMETERS.												Difference between the Dew Point Temperature and Air Temperature.	WIND AS DEDUCED FROM ANEMOMETERS.												WHE- WELL'S SON'S. Amount of Horizontal Movement of the Air on each Day.	Rain in Inches read at 9 ^h P.M.	
			Dry.				Dew Point.				in the Sun, as shown by a Self-Registering Ther- mometer read at 9 A.M.					In the Water of the Thames, at Greenwich, by Self-Regis- tering Ther- mometers, read at 9 ^h A.M., next morning.				General Direction.				OSLER'S.						
			Mean Daily Value.	Highest.	Lowest.	Mean Daily Value.	Mean Daily Value.	Highest.	Lowest.	Mean Daily Value.	Greatest.	Least.	A.M.	P.M.		Pressure in lbs. on the square foot.	Greatest.	Least.	Mean of 24 Obs.											
Feb. 1	..	30°076	53·8	38·4	46·4	43·8	79·6	30·2	43·0	42·0	2·6	8·4	0·8	+ 9·2	SW	SW ; NW	5·0	0·0	0·8	155	318	0·00								
2	Last Qr.	30°521	45·1	34·7	38·6	33·5	77·8	23·0	43·0	42·0	5·1	11·4	1·6	+ 1·6	NW	NW	3·5	0·0	0·2	50	175	0·00								
3	..	30°253	45·2	32·5	39·6	36·1	62·8	25·0	43·0	42·0	3·5	7·9	2·8	+ 2·3	WSW	SW	2·5	0·0	0·0	145	332	0·00								
4	..	29°792	46·8	37·3	41·7	37·7	87·0	32·8	42·5	41·5	4·0	8·8	2·6	+ 4·0	SW	SW	5·0	0·0	2·0	205	426	0·00								
5	Greatest Declination S.	29°492	47·0	41·5	44·2	40·9	58·0	35·3	42·5	41·5	3·3	6·5	2·5	+ 5·8	SW	SW	9·0	0·0	2·8	260	559	0·00								
6	..	29°263	50·0	43·1	45·7	42·1	80·0	40·0	42·5	41·5	3·6	6·1	1·3	+ 6·7	SW	SW	8·0	0·0	3·5	180	405	0·00								
7	..	29°419	50·6	38·4	44·0	41·1	82·0	32·0	43·0	42·0	2·9	5·0	1·3	+ 4·8	SW	SSW	2·0	0·0	0·2	70	189	0·00								
8	..	29°384	48·2	40·2	43·9	41·5	63·7	36·0	43·5	42·5	2·4	7·1	2·0	+ 4·7	SSW	SE	1·5	0·0	0·0	5	100	0·02								
9	New	29°547	43·8	38·3	41·0	40·9	48·0	32·0	43·5	42·5	0·1	0·5	0·0	+ 2·0	SE	ESE ; NE	3·5	0·0	0·3	125	286	0·11								
10	..	30°107	43·8	32·9	37·0	31·6	91·0	34·0	5·4	11·4	4·5	- 1·7	NE	NE	7·0	0·0	1·5	65	221	0·00	Melted snow							
11	..	29°736	39·0	27·3	31·9	28·2	93·5	18·0	..	..	3·7	7·8	0·8	- 6·6	NNE	NE	3·0	0·0	0·5	49	229	0·04						
12	In Equator	29°517	37·8	24·4	30·2	24·4	79·0	16·0	..	..	5·8	10·8	3·7	- 8·1	NW	SW	0·0	0·0	0·0	27	75	0·00						
13	..	29°561	42·7	30·5	36·1	34·6	65·0	19·0	..	..	1·5	4·4	0·5	- 2·1	SW	SE ; NW ; N	2·5	0·0	0·1	15	101	0·05						
14	Apogee	29°859	43·2	26·6	36·2	34·4	61·0	17·0	..	..	1·8	6·8	1·1	- 1·8	N	SE	4·0	0·0	0·5	95	204	0·06						
15	..	29°513	50·0	40·5	44·5	41·7	54·0	31·2	..	..	2·8	3·6	1·5	+ 6·4	S	SSW	3·0	0·0	0·6	110	263	0·11						
16	..	29°584	53·3	42·0	47·2	44·0	77·0	36·0	..	..	3·2	6·1	0·6	+ 9·1	SW	SW	2·0	0·0	0·2	38	107	0·00						
17	..	29°578	56·0	38·7	46·4	42·8	96·0	37·0	42·5	41·5	3·6	9·2	0·7	+ 8·2	S ; SE	S	4·0	0·0	0·2	106	230	0·00								
18	First Qr.	29°501	53·9	37·7	45·5	44·0	97·0	29·0	42·5	41·5	1·5	5·8	0·0	+ 7·2	SE ; S	S	2·0	0·0	0·0	38	133	0·00								
19	Greatest Declination N.	29°523	52·5	39·5	45·5	42·1	82·0	30·5	42·5	41·5	3·4	11·8	0·9	+ 7·1	S ; SW	SW	3·0	0·0	0·3	53	132	0·00								
20	..	29°427	49·0	35·7	42·6	42·0	71·7	27·6	43·0	42·0	0·6	2·6	0·0	+ 4·1	SW	SW	1·2	0·0	1·5	243	531	0·02								
21	..	29°271	53·2	44·7	48·6	45·7	76·0	38·0	43·5	42·5	2·9	5·3	0·6	+ 10·1	SW	SW	25·0	3·0	7·7	310	646	0·25								
22	..	29°509	53·0	41·7	46·9	43·6	78·0	37·0	44·0	43·0	3·3	5·8	1·1	+ 8·3	SW	E	5·0	0·0	1·0	..	87	0·00								
23	..	29°416	48·5	43·3	45·6	45·6	50·0	40·0	44·0	43·0	0·0	0·0	0·0	+ 6·7	SW	NE	0·0	0·0	0·0	..	184	0·34								
24	..	29°781	44·0	40·0	41·9	40·9	49·0	40·8	44·5	43·5	1·0	2·3	0·0	+ 2·8	ENE ; NNE	NE	6·0	0·0	1·8	..	388	0·59								
25	Full In Equator; Perigee.	30°039	45·3	38·7	41·0	39·5	55·0	36·0	45·0	44·0	1·5	3·1	0·2	+ 1·5	NNE	NNE	3·0	0·0	0·5	..	70	0·00								
26	..	30°009	50·5	33·7	41·8	40·2	88·0	23·0	45·0	44·0	1·6	5·3	0·0	+ 2·1	NNE	N by E	0·0	0·0	0·0	..	57	0·00								
27	..	29°855	50·3	30·7	40·2	38·1	77·0	22·0	45·0	44·0	2·1	6·3	1·4	+ 0·4	N	SW	2·5	0·0	0·5	166	276	0·00								
28	..	29°684	51·7	38·8	44·5	40·9	83·0	30·4	45·0	44·0	3·6	7·1	1·7	+ 4·5	SW ; NW	NW ; SW	2·5	0·0	0·3	163	232	0·19								
Means	..	29°686	48·2	36·9	42·1	39·4	73·6	30·3	43·5	42·5	2·7	6·3	1·2	+ 3·5	Sum	Sum	Sum	1·78							

BAROMETER READINGS FROM EYE-OBSERVATIONS.

The absolute maximum in the month was 30°^{in.} 544 on the 2nd; the first minimum in the month was 29^{in.} 246 on the 6th.
The second maximum ,,, was 29^{in.} 466 on the 7th; the second minimum ,,, was 29^{in.} 368 on the 8th.
The third maximum ,,, was 30^{in.} 132 on the 10th; the third minimum ,,, was 29^{in.} 457 on the 13th.
The fourth maximum ,,, was 29^{in.} 962 on the 14th; the fourth minimum ,,, was 29^{in.} 471 on the 15th.
The fifth maximum ,,, was 29^{in.} 670 on the 16th; the absolute minimum ,,, was 29^{in.} 186 on the 21st.
The sixth maximum ,,, was 29^{in.} 541 on the 22nd; the sixth minimum ,,, was 29^{in.} 395 on the 23rd.
The seventh maximum ,,, was 30^{in.} 073 on the 25th.

The range in the month was 1^{in.} 358.

The mean for the month was 29^{in.} 686, being 0^{in.} 101 lower than the average of the preceding 20 years.

TEMPERATURE OF THE AIR.

The highest in the month was 56°·0 on the 17th; the lowest was 24°·4 on the 12th.

The range ,,, was 31°·6.

The mean ,,, of all the highest daily readings was 48°·2, being 3°·6 higher than the average of the preceding 20 years.

The mean ,,, of all the lowest daily readings was 36°·9, being 3°·7 higher than the average of the preceding 20 years.

The mean daily range was 11°·3, being 0°·1 less than the average of the preceding 20 years.

The mean for the month was 42°·1, being 3°·7 higher than the average of the preceding 20 years.

MONTH and DAY, 1861.	ELECTRICITY.		CLOUDS AND WEATHER.	
	A.M.	P.M.	A.M.	P.M.
Feb. 1	o	w	io	
2	v	v	o	
3	s	s	io, s, ci.-s	
4	w	w	io, ci.-s	: o
5	o	o	io	
6	o	o	io, oc.-r	
7	o	o : w	io, s, ci.-s	
8	o	o	io, ci.-s	
9	w	s N : o	io	
10	o	o : w	io, cu.-s, ci.-s	
11	o	s N, s P, sps, g cur : s	io, sn	
12	w	w	3, ci, h.-f	
13	o : s N	s N : w	io, sn	
14	v	v	o	
15	o	o : w	io, r	
16	o	o : s	io, ci.-s, sc, oc.-r	
17	v	v	7, ci.-cu, ci.-s	
18	ss N, ss P	s	io, ci.-s, ci	
19	o	o : s, sps	io, ci.-s, ci	
20	s	s N, sps	io, s, ci.-s	
21	o	o	io, ci.-s, sc	
22			o	
23			: 5, ci.-s, sc	
24			io, r	
25			io, r	
26			io, ci.-s, ci, f	
27			7, ci.-cu, ci	
28			io, h.-r	

HUMIDITY OF THE AIR.

Temperature of the Dew Point.

The highest in the month was $50^{\circ}.7$ on the 21st; and the lowest was $18^{\circ}.6$ on the 12th.

The mean ,,, was $39^{\circ}.4$, being $5^{\circ}.0$ higher than the average of the preceding 20 years.

Elastic Force of Vapour.—The mean for the month was $o^{in}.241$, being $o^{in}.040$ greater than the average of the preceding 20 years.

Weight of Vapour in a Cubic Foot of Air.—The mean for the month was $24^{\circ}.8$, being $0^{\circ}.5$ greater than the average of the preceding 20 years.

Degree of Humidity.—The mean for the month was 91 (that of Saturation being represented by 100), being 6 greater than the average of the preceding 20 years.

Weight of a Cubic Foot of Air.—The mean for the month was 548 grains, being 6 grains less than the average of the preceding 20 years.

CLOUDS.

The mean amount for the month, a clear sky being represented by o and a cloudy sky by io, was 7.4.

WIND.

The proportions were; N. 4, S. 11, W. 9, and E. 4. The greatest pressure in the month was $25^{lbs}.0$ on the square foot on the 21st.

RAIN.

Fell on 11 days in the month, amounting to $1^{in}.8$, as measured in the simple cylinder gauge partly sunk below the ground; being $o^{in}.2$ greater than the average fall of the preceding 46 years.

ELECTRICITY.—The insulating lamp was not burning from February 22 to February 24.

RESULTS OF ORDINARY METEOROLOGICAL OBSERVATIONS

MONTH and DAY, 1861.	Phases of the Moon.	READINGS OF THERMOMETERS.										Difference between the Dew Point Temperature and Air Temperature.	WIND AS DEDUCED FROM ANEMOMETERS.										Rain in Inches read at 9 ^h P.M.			
		Dry.			Dew Point.			In the Sun, as shown by a Self-Registering Ther- mometer read at 9 ^h P.M.			In the Water of the Thames, at Greenwich, by Self-Registering Thermometers, read at 9 ^h A.M. next morning.			Highest, Lowest, Mean Daily Value.			Highest, Lowest, Mean Daily Value.			General Direction.			Pressure in lbs. on the square foot.			
		Highest.	Lowest.	Mean Daily Value.	Highest.	Lowest.	Mean Daily Value.	Highest.	Lowest.	Mean Daily Value.	Highest.	Lowest.	Greatest.	Least.	A.M.	P.M.	Greatest.	Least.	Mean of 24 Obs.	miles.	miles.	in.				
Mar. 1	..	29°490	53°0	38°5	44°9	42°9	84°0	32°0	45°0	44°0	2°0	4°2	1°5	+ 4°8	SW	W	1bs.	lbs.	lbs.	miles.	miles.	in.				
	2	29°744	50°0	36°5	43°4	40°3	70°0	29°0	45°0	44°0	3°1	6°1	2°1	+ 3°4	WNW	SW	11°0	0°0	2°8	345	649	0°07				
	3	Last Qr.	29°553	53°7	40°7	46°2	41°3	82°0	40°7	44°5	43°5	4°9	7°2	3°0	+ 6°3	W	W	19°0	0°0	5°0	323	435	0°05			
	4	Greatest Declination S.	29°920	47°8	36°8	41°0	35°4	88°0	31°0	44°0	43°0	5°6	8°2	2°4	+ 1°1	W ; NW	NW	6°0	0°0	2°5	152	319	0°07			
	5	..	30°001	48°0	34°2	41°4	40°7	55°0	28°0	43°5	42°5	0°7	5°0	0°0	+ 1°4	NW	SW	4°0	0°0	1°0	243	476	0°01			
	6	..	29°636	55°4	45°6	48°6	44°7	92°0	40°2	43°5	42°5	3°9	5°4	0°0	+ 8°5	SW	SW	12°0	1°0	4°0	271	580	0°05			
	7	..	29°967	53°0	40°1	44°9	36°9	87°0	30°0	44°0	43°0	8°0	11°3	5°9	+ 4°8	WNW	NW ; SW	6°0	0°0	1°5	213	446	0°00			
	8	..	29°890	60°0	43°2	50°3	48°4	95°0	36°3	44°5	43°5	1°9	4°6	1°3	+ 10°2	W	W	5°0	0°0	2°0	160	328	0°00			
	9	..	30°241	53°4	36°5	43°9	39°5	88°0	26°0	45°0	44°0	4°4	8°4	3°5	+ 3°7	WNW	SW	3°0	0°0	0°2	162	298	0°00			
	10	..	29°709	57°8	37°9	46°7	44°5	100°5	29°7	45°5	44°5	2°2	6°8	2°0	+ 6°4	WSW	W	5°0	0°0	1°5	263	539	0°03			
	11	In Equator; New.	29°200	48°8	35°3	40°6	36°2	92°0	33°6	45°5	44°5	4°4	7°8	2°9	+ 0°1	W	WNW	19°0	0°0	3°7	209	459	0°18			
	12	..	29°240	49°8	34°7	40°8	38°3	56°0	28°0	45°0	44°0	2°5	5°5	1°2	+ 0°2	W ; NW	NW	8°0	0°0	1°0	201	426	0°10			
	13	Apogee	29°771	49°5	35°7	40°7	37°0	86°0	27°3	45°0	44°0	3°7	6°7	2°9	- 0°3	NW ; N	NNE	6°0	0°0	1°0	133	278	0°03			
	14	..	30°097	52°8	29°1	41°7	38°5	91°0	16°7	45°5	44°5	3°2	9°2	0°0	+ 0°4	Calm	W	0°0	0°0	0°0	156	301	0°01			
	15	..	29°977	54°0	37°7	45°5	41°7	85°0	33°0	45°5	44°5	3°8	8°4	1°1	+ 4°0	WSW	NW	2°5	0°0	0°3	124	235	0°01			
	16	..	29°811	49°0	33°5	40°8	39°8	70°0	23°0	45°5	44°5	1°0	4°2	0°0	- 0°9	SW	SW ; W	2°5	0°0	0°4	165	330	0°17			
	17	..	29°506	44°6	31°8	38°0	36°2	58°0	22°0	45°0	44°0	1°8	3°8	1°2	- 3°8	SW	SW	12°0	0°0	2°5	257	505	0°35			
	18	Greatest Declination N.	29°270	50°0	32°8	40°2	37°3	92°0	26°0	45°0	44°0	2°9	6°3	2°1	- 1°6	WSW	SW	5°0	0°0	0°8	186	388	0°00			
	19	First Qr.	28°918	50°0	36°5	42°0	39°1	89°0	33°5	44°5	43°5	2°9	5°5	2°2	+ 0°2	SW ; W	NW	3°0	0°0	2°0	201	429	0°07			
	20	..	29°377	48°8	36°5	42°0	41°8	59°0	26°2	44°0	43°0	0°2	2°6	0°0	+ 0°1	W	SW ; W	10°0	0°0	1°8	251	514	0°22			
	21	..	29°222	49°0	34°0	39°4	35°2	83°0	27°0	44°0	43°0	4°2	7°1	2°5	- 2°5	W	W	7°0	0°0	2°0	236	485	0°01			
	22	..	29°615	53°0	32°5	42°3	40°0	87°0	24°7	43°5	42°5	2°3	6°3	1°0	+ 0°4	W ; NW	W	5°0	0°0	0°5	160	317	0°00			
	23	..	29°717	57°3	37°8	45°1	43°3	96°0	30°0	44°0	43°0	1°8	5°9	1°1	+ 3°1	SW	SW	1°5	0°0	0°0	86	167	0°00			
	24	..	29°651	61°8	37°4	48°9	47°4	111°0	..	44°5	..	1°5	6°7	0°8	+ 6°8	SW	NW ; N	2°0	0°0	0°0	74	171	0°00			
	25	In Equator Fall; Perigee	29°747	47°0	40°5	42°8	42°1	52°0	39°2	45°0	44°0	0°7	1°6	0°0	+ 0°6	N	E	0°0	0°0	0°0	62	135	0°22			
	26	..	29°496	58°6	41°7	47°5	46°7	108°5	35°0	45°0	44°0	0°8	3°6	0°4	+ 5°2	S	SW	1°5	0°0	0°0	105	187	0°00			
	27	..	29°316	58°3	40°7	49°2	47°1	105°0	32°6	45°5	44°5	2°1	6°2	1°4	+ 6°8	SW	SW	1°5	0°0	0°1	91	181	0°00			
	28	..	29°374	56°5	40°0	46°4	45°3	83°0	40°0	46°0	45°0	1°1	5°4	0°0	+ 3°8	SW	NW	0°0	0°0	0°0	106	195	0°06			
	29	..	29°603	56°1	36°5	45°0	43°1	106°0	31°0	46°5	45°5	1°9	5°8	0°9	+ 2°2	SW	SW	1°0	0°0	0°0	129	244	0°00			
	30	..	29°496	51°0	38°7	43°4	42°4	74°0	31°8	46°5	45°5	1°0	3°2	0°7	+ 0°4	SW	SW	3°0	0°0	0°2	59	148	0°07			
	31	Greatest Declination S.	29°490	54°9	37°0	43°1	42°9	71°0	36°0	47°0	46°0	0°2	1°9	0°0	- 0°3	SSW	SW	0°0	0°0	0°0	36	92	0°17			
Means	..		29°614	52°7	37°1	43°8	41°2	83°7	30°7	44°9	43°9	2°6	5°8	1°4	+ 2°4	...	...	...	...	...	Sum	Sum	Sum	2°21

BAROMETER READINGS FROM EYE-OBSERVATIONS.

The first maximum in the month was 29ⁱⁿ. 843 on the 2nd; the second minimum was 29ⁱⁿ. 437 on the 3rd. The third maximum was 30ⁱⁿ. 006 on the 5th; the fourth minimum was 29ⁱⁿ. 283 on the 7th; the fifth minimum was 29ⁱⁿ. 148 on the 9th; the absolute minimum was 29ⁱⁿ. 529 on the 14th; the absolute minimum was 29ⁱⁿ. 743 on the 23rd; the seventh minimum was 29ⁱⁿ. 846 on the 29th; the tenth minimum was 29ⁱⁿ. 615 on the 29th; the tenth minimum was 29ⁱⁿ. 435 on the 1st. The range was 1ⁱⁿ. 465. The mean for the month was 29ⁱⁿ. 614, being 0ⁱⁿ. 179 lower than the average of the preceding 20 years. The highest in the month was 61°. 8 on the 24th; the lowest was 29°. 1 on the 14th. The range was 32°. 7. The mean of all the highest daily readings was 52°. 7, being 2°. 7 higher than the average of the preceding 20 years. The mean of all the lowest daily readings was 37°. 1, being 1°. 8 higher than the average of the preceding 20 years. The mean daily range was 15°. 6, being 0°. 9 greater than the average of the preceding 20 years. The mean for the month was 43°. 8, being 2°. 1 higher than the average of the preceding 20 years.

TEMPERATURE OF THE AIR.

The highest in the month was 61°. 8 on the 24th; the lowest was 29°. 1 on the 14th. The range was 32°. 7. The mean of all the highest daily readings was 52°. 7, being 2°. 7 higher than the average of the preceding 20 years. The mean of all the lowest daily readings was 37°. 1, being 1°. 8 higher than the average of the preceding 20 years. The mean daily range was 15°. 6, being 0°. 9 greater than the average of the preceding 20 years. The mean for the month was 43°. 8, being 2°. 1 higher than the average of the preceding 20 years.

MONTH and DAY, 1861.	ELECTRICITY.		CLOUDS AND WEATHER.	
	A.M.	P.M.	A.M.	P.M.
March 1	o	ss N, sps, g cur : o	10, h.-r	5, cu, ci.-cu, ci : t : o
2	o		10, ci.-s, ci	10, s, ci.-s : h.-r
3	o		10, fr.-sq	5, shs.-r
4	o		5, ci, sc	5, ci.-cu, ci : o
5	o		10	10, sl.-r
6	o		10	10 : sqs.-r : v
7	o	w : o	5, ci.-cu, ci : 10	10, cu.-s, ci.-s
8	o		10	10 : o
9	v	v	7, ci.-cu, ci.-s, h	3, ci.-cu, ci : o, a
10	o : w	o	3, ci	3, ci : h.-sh.-r : o, h
11	o		10, ci.-cu, ci.-s	10, cu, ci.-cu, ci : 10, h.-r : o
12	o	s N, s P, sps, g cur	10, h.-r	10, h.-r, t : 10, fr.-shs.-r
13	o		10	2, cu, ci.-cu, ci : o
14	o		o, h.-fr	10, cu, ci.-cu, ci : oc.-r
15	o	o : w	7, cu, ci.-cu, oc.-r	7, cu, ci.-cu, ci : o, h
16	o	s N : o	10, ci.-cu, ci.-s	10, r : hl : o
17	o	m N : o	10, s, ci.-s, h	10, r : o
18	o		o	7, ci.-cu, ci.-s
19	o	s N : o	10, th.-r	10, cu, cu.-s, ci.-s, hl, r : 7, lu-ha
20	o		10	10, oc.-r : 10, fr.-h.-sq : o
21	o	s N, s P, sps, g cur : o	o	7, ci.-cu, ci.-s : 10, shs.-hl.-sl.-r : o
22			o	7, cu, ci.-cu, ci : lu-ha : h
23			10	3, ci.-cu, ci.-s : o
24			o, h	10, ci.-cu, ci.-s
25			10, r	10
26			10, ci.-s	10, ci.-cu, ci.-s
27	o	o	8, ci.-s, ci	5, ci.-cu, ci.-s : 10, ci.-s, oc.-r
28	o			10, sl.-r : o, h
29	v	v	10, h.-r	o
30	o	w	o, h	10, cu.-s, ci.-s : 7, ci.-s
31	o		10, sl.-r	8, ci.-s li.-cl : o
			10, r	

HUMIDITY OF THE AIR.

Temperature of the Dew Point.

The highest in the month was $53^{\circ}4$ on the 24th; and the lowest was $33^{\circ}4$ on the 21st.

The mean " was $41^{\circ}2$, being $4^{\circ}8$ higher than the average of the preceding 20 years.

Elastic Force of Vapour.—The mean for the month was $0^{in}.259$ being $0^{in}.043$ greater than the average of the preceding 20 years.

Weight of Vapour in a Cubic Foot of Air.—The mean for the month was $2^{gr}.9$, being $0^{gr}.4$ greater than the average of the preceding 20 years.

Degree of Humidity.—The mean for the month was 90 (that of Saturation being represented by 100), being 8 greater than the average of the preceding 20 years.

Weight of a Cubic Foot of Air.—The mean for the month was 545 grains, being 5 grains less than the average of the preceding 20 years.

CLOUDS.

The mean amount for the month, a clear sky being represented by o and a cloudy sky by 10, was 6.5 .

WIND.

The proportions were; N. 4, S. 5, W. 22, and E. o. The greatest pressure in the month was $19^{lbs}.0$ on the square foot on the 3rd and 11th.

RAIN.

Fell on 21 days in the month, amounting to $2^{in}.2$, as measured in the simple cylinder gauge partly sunk below the ground; being $0^{in}.6$ greater than the average fall of the preceding 46 years.

ELECTRICITY.—From March 22 to March 26 the insulating lamp was not burning.

RESULTS OF ORDINARY METEOROLOGICAL OBSERVATIONS

MONTH and DAY, 1861.	Phases of the Moon.	Mean Daily Reading of the Barometer (corrected and reduced to 32° Fahrenheit).	READINGS OF THERMOMETERS.										Difference between the Dew Point Temperature and Air Temperature.	WIND AS DEDUCED FROM ANEMOMETERS.													
			Dry.					Dew Point.							In the Water of the Thames, at Greenwich, by Self-Registering Thermometers, read at 9 th A.M. next morning.					General Direction.					WHE- WELL'S	ROBIN- SON'S	
			Highest.	Lowest.	Mean Daily Value.	Highest.	Lowest.	Highest.	Lowest.	Mean Daily Value.	Greatest.	Least.		Highest.	Lowest.	Mean Daily Value.	Greatest.	Least.	Mean of 24 Obs.	A.M.	P.M.	Greatest.	Least.				
April	..	29°612	52°2	33°1	41°5	40°9	77°0	25°0	47°5	46°5	0°6	0°4	0°0	- 2°1	SW ; S by E	SE	lbs.	lbs.	lbs.	miles.	miles.	in.					
	Last Qr.	29°558	54°0	35°6	43°3	42°3	85°0	32°0	47°5	46°5	1°0	4°0	0°0	- 0°8			3°5	0°0	0°2	82	173	0°02					
	..	29°600	56°0	39°5	45°2	44°5	82°0	33°0	48°0	47°0	0°7	4°8	0°0	+ 0°7			2°0	0°0	0°0	101	207	0°17					
	..	29°667	56°3	40°8	47°1	45°0	96°0	36°0	48°0	47°0	2°4	5°8	1°3	+ 2°3	W	W	1°5	0°0	0°0	122	233	0°00					
	..	29°785	54°0	36°3	44°0	42°8	77°0	26°3	48°0	47°0	1°2	5°0	0°5	- 1°1			0°0	0°0	0°0	36	111	0°00					
	..	30°031	52°2	30°4	40°2	39°4	103°0	22°0	..	..	0°8	3°8	0°0	- 5°2			0°0	0°0	0°0	78	174	0°00			
	7 In Equator	30°123	53°0	38°8	42°1	41°0	81°0	32°0	48°0	47°0	1°1	3°7	0°0	- 3°4	NE; E	ESE	1°5	0°0	0°0	80	192	0°00					
	..	30°278	49°8	32°7	41°1	38°6	86°0	21°9	48°0	47°0	2°5	3°2	1°8	- 4°4			1°0	0°0	0°0	95	214	0°00					
	..	30°396	53°5	33°5	41°7	40°5	90°2	26°0	48°0	47°0	1°2	4°6	0°0	- 3°7			3°0	0°0	0°2	70	179	0°00					
	10 Apogee; New.	30°364	55°0	32°3	42°7	39°7	107°0	21°0	49°0	48°0	3°0	6°8	1°0	- 2°4	ESE	E	0°0	0°0	0°0	40	98	0°00					
	..	30°297	61°2	28°6	45°6	41°3	111°0	20°3	49°0	48°0	4°3	8°0	1°0	+ 0°6			0°0	0°0	0°0	34	98	0°00					
	..	30°222	63°5	38°3	49°4	46°0	101°0	28°0	49°0	48°0	3°4	6°5	1°0	+ 4°5			3°0	0°0	0°3	125	272	0°00					
	..	30°135	55°3	41°5	46°7	45°7	86°0	37°8	49°0	48°0	1°0	3°6	0°0	+ 1°5	NE	NE	1°5	0°0	0°1	116	253	0°00					
	..	30°130	48°0	41°7	44°2	43°4	69°5	39°0	49°0	48°0	0°8	1°3	0°0	- 1°3			1°0	0°0	0°0	112	252	0°00					
	15 Greatest Declination N.	30°162	53°2	40°8	45°2	42°4	67°0	39°0	49°0	48°0	2°8	9°2	0°9	- 0°5			2°5	0°0	0°2	91	224	0°00					
	..	30°235	61°8	40°1	49°9	41°9	109°0	30°0	49°5	48°5	8°0	17°5	4°2	+ 3°9	NE	E	3°0	0°0	0°3	118	254	0°00					
	..	30°179	55°5	37°7	46°0	42°8	109°0	30°5	49°5	48°5	3°2	10°6	0°9	- 0°2			1°0	0°0	0°0	119	239	0°00					
	18 First Qr.	30°056	56°0	40°5	46°6	40°6	103°0	39°0	50°0	49°0	6°0	12°4	3°3	+ 0°2			E by S	E by S	1°0	0°0	0°0	96	203	0°00			
	..	30°067	52°7	39°8	44°9	38°6	83°0	38°0	50°0	49°0	6°3	10°6	4°8	- 1°6	ESE	ENE	2°5	0°0	0°2	99	231	0°00					
	..	30°066	53°7	32°5	41°3	31°5	103°0	22°0	50°0	49°0	9°8	20°2	5°2	- 5°4			2°0	0°0	0°1	86	196	0°00					
	In Equator	29°743	54°2	26°8	40°2	34°5	72°0	14°0	50°5	49°5	5°7	15°0	3°8	- 6°8			E; SW	NE	2°5	0°0	0°0	88	200	0°00			
	..	29°738	56°2	34°5	44°1	35°7	95°0	21°7	51°0	50°0	8°4	17°2	4°4	- 3°4	NE	NNE	1°0	0°0	0°0	35	123	0°00					
	..	29°733	54°0	39°0	45°1	40°7	79°5	39°0	51°0	50°0	4°4	10°8	1°5	- 2°5			2°5	0°0	0°1	43	126	0°01					
	24 Perigee; Full.	29°866	61°0	33°9	46°3	40°4	85°0	23°0	51°5	50°5	5°9	16°2	2°0	- 1°3			N	N	0°0	0°0	0°0	80	166	0°00			
	..	29°884	61°3	39°2	49°5	42°0	73°0	26°0	51°5	50°5	7°5	15°8	4°1	+ 1°9	NW	NNE	3°0	0°0	0°2	122	279	0°00					
	..	29°957	61°0	41°5	48°9	41°2	86°0	29°7	52°0	51°0	7°7	17°1	4°0	+ 1°3			3°0	0°0	0°3	103	226	0°00					
	27 Greatest Declination S.	29°960	41°3	34°5	36°2	34°3	42°0	26°0	52°0	51°0	1°9	3°1	1°0	- 1°8			E	E	0°0	0°0	0°0	59	154	0°51			
	..	29°915	53°7	29°1	40°8	36°1	86°0	18°0	..	..	4°7	15°6	2°1	- 7°7	ESE	NW; N	3°0	0°0	0°1	86	185	0°01			
	..	30°058	52°3	36°7	43°1	33°6	97°0	28°7	..	..	9°5	17°0	3°1	- 6°0			0°0	0°0	0°0	57	148	0°00			
	..	30°140	59°2	31°8	46°4	37°9	97°0	20°5	8°5	18°6	4°6	- 3°1			N	WSW	3°0	0°0	0°0	80	170	0°00			
Means	..	29°999	55°0	36°0	44°3	40°2	87°9	28°2	49°4	48°4	4°1	9°6	1°9	- 1°9	...	...	...	...	...	Sum.	5674	Sum. 0°83

BAROMETER READINGS FROM EYE-OBSERVATIONS.

The first maximum in the month was 29^{in.}.628 on the 1st; the absolute minimum in the month was 29^{in.}.553 on the 2nd.

The absolute maximum ,,, was 30^{in.}.412 on the 9th; the second minimum ,,, was 30^{in.}.122 on the 13th.

The third maximum ,,, was 30^{in.}.247 on the 16th; the third minimum ,,, was 29^{in.}.691 on the 22nd.

The fourth maximum ,,, was 30^{in.}.037 on the 26th; the fourth minimum ,,, was 29^{in.}.904 on the 28th.

The fifth maximum ,,, was 30^{in.}.159 on the 30th.

The range in the month was 0^{in.}.859.

The mean for the month was 29^{in.}.999, being 0^{in.}.264 higher than the average of the preceding 20 years.

TEMPERATURE OF THE AIR.

The highest in the month was 63°.5 on the 12th; the lowest was 26°.8 on the 21st; and the range in the month was 36°.7.

The mean ,,, of all the highest daily readings was 55°.0, being 1°.8 lower than the average of the preceding 20 years.

The mean ,,, of all the lowest daily readings was 36°.0, being 2°.6 lower than the average of the preceding 20 years.

The mean daily range was 19°.0, being 0°.8 greater than the average of the preceding 20 years.

The mean for the month was 44°.3, being 2°.0 lower than the average of the preceding 20 years.

MONTH and DAY, 1861.	ELECTRICITY.		CLOUDS AND WEATHER.		
	A.M.	P.M.	A.M.	P.M.	
April 1	o	s N : s	10, f	: r	10, ci.-cu, ci.-s, oc.-r : o : 10
2	o	o	10, oc.-r		7, s, ci.-s, fr.-shs.-r
3	o	o	10, h.-r	: 9, ci.-cu, ci.-s	7, s, ci.-s, li.-cl : 10, oc.-r
4	o	o	10	: 4, ci.-cu, ci.-s	5, ci.-cu, ci.-s, ci
5	o	o	10, ci.-cu, ci.-s, h		10, h : 7, ci.-cu, ci.-s
6	w	o : s	10, th.-f		5, ci.-cu, ci.-s : 10
7	v	v	10	: 7, ci.-cu, ci.-s	7, ci.-cu, ci.-s : 5, s, ci.-s
8	o	o : s	10, cu, ci.-cu, ci		10 : o
9	o : m	m : s	7, cu, ci.-cu, ci		7, cu, ci.-cu, ci
10	o	m : ss, sps	o		o
11	s	w	o, h		o : f
12	w	o : w	10, ci.-cu, ci.-s		7, cu, ci.-cu, ci.-s : 10, ci.-s
13	w	o : s	10, ci.-s		10, s, ci.-s : 10, oc.-r
14	v	v	10, oc.-r		10
15	o	w	10		10 : a
16			2, cu, ci.-cu, ci		o
17			10	: o	o : 10 : oc.-r
18			10	: o	o : 10
19			7		7, ci.-cu, cu.-s, ci.-s : 10
20			7, ci.-cu, ci.-s		7, ci.-s, ci : o
21			10, h		10, sl.-r : o
22			10, cu.-s, ci.-s		10
23	v	v	10		10, r : o
24	s	s : ss, sps	7, ci.-s, ci		7, ci.-s, h : o, h
25	m	o	10, ci.-cu, ci.-s		7, ci.-cu, ci.-s : o
26			7, ci.-cu, ci.-s		7, cu.-s, ci.-s : 10
27			10, h.-r		10, sn, h.-r : 6, ci.-s : o, h.-f
28			10, cu.-s, ci.-s, h.-f		10, s, ci.-s : hl, r
29			10, ci.-cu, ci.-s		10, cu.-s, ci.-s : o
30	o	o	7, ci.-cu, ci.-s		10, cu, cu.-s, ci.-s

HUMIDITY OF THE AIR.

Temperature of the Dew Point.

The highest in the month was $54^{\circ}8$ on the 12th; and the lowest was $30^{\circ}0$ on the 20th.

The mean " was $40^{\circ}2$, being $0^{\circ}3$ higher than the average of the preceding 20 years.

Elastic Force of Vapour.—The mean for the month was $0^{\text{in}}.249$ being $0^{\text{in}}.002$ greater than the average of the preceding 20 years.

Weight of Vapour in a Cubic Foot of Air.—The mean for the month was $2^{\text{gr}}.9$, being the same as the average of the preceding 20 years.

Degree of Humidity.—The mean for the month was 85 (that of Saturation being represented by 100), being 6 greater than the average of the preceding 20 years.

Weight of a Cubic Foot of Air.—The mean for the month was 551 grains, being 9 grains greater than the average of the preceding 20 years.

CLOUDS.

The mean amount for the month, a clear sky being represented by o and a cloudy sky by 10, was $7^{\circ}1$.

WIND.

The proportions were; N. 9, S. 2, W. 5, and E. 14. The greatest pressure in the month was $3^{\text{lb}}.5$ on the square foot on the 2nd.

RAIN.

Fell on 6 days in the month, amounting to $0^{\text{in}}.8$, as measured in the simple cylinder gauge partly sunk below the ground; being $1^{\text{in}}.0$ less than the average fall of the preceding 46 years.

ELECTRICITY.—April 16 to 22, and April 26 to 29. The insulating lamp was not burning.

RESULTS OF ORDINARY METEOROLOGICAL OBSERVATIONS

MONTH and DAY, 1861.	Phases of the Moon.	Mean Daily Reading of the Barometer (corrected and reduced to 32° Fahrenheit).	READINGS OF THERMOMETERS.										Difference between the Dew Point Temperature and Air Temperature.	WIND AS DEDUCED FROM ANEMOMETERS.										Rain in Inches read at 9 a.m.
			Dry.			Dew Point.		In the Water of the Thames, at Greenwich, by Self-Registering Thermometers, read at 9 a.m. next morning.			Highest in the Sun, as shown by a Self-Registering Thermometer read at 9 a.m. next morning.				General Direction.			Pressure in lbs. on the square foot.			WHE- WELL'S	ROBIN- SON'S		
			Highest.	Lowest.	Mean Daily Value.	Mean Daily Value.	Highest.	Lowest.	Mean Daily Value.	Greatest.	Least.	A.M.	P.M.	Greatest.	Least.	Mean of 24 Obs.	miles	miles	in.					
May 1	Last Qr.	30°139	61°5	43°2	50°2	40°2	97°0	32°5	..	..	10°0	15°0	5°5	+ 0°2	WSW	NNW	2°5	0°0	0°1	80	187	0°00
2	..	30°104	64°0	39°5	50°4	42°5	94°0	28°0	..	..	7°9	14°8	4°1	- 0°1	NNW	N	0°0	0°0	0°0	87	192	0°00
3	..	29°868	62°7	41°5	50°0	43°8	100°3	38°8	..	..	6°2	17°1	4°0	- 0°9	W	NW; N	6°5	0°0	0°8	182	393	0°05
4	In Equator	29°557	53°6	36°7	43°3	35°1	109°0	31°8	..	..	8°2	16°4	3°6	- 8°0	N	NNE	9°0	0°0	1°2	182	392	0°07
5	..	30°049	52°6	34°8	42°9	34°8	96°0	26°0	..	..	8°1	16°0	3°6	- 8°7	NNE	NNE	6°5	0°0	0°7	110	238	0°00
6	..	29°972	56°0	40°3	46°2	36°9	93°0	35°0	..	..	9°3	18°0	5°5	- 5°6	NE	NNE	0°0	0°0	0°0	46	139	0°00
7	Apogee	29°831	49°8	34°2	42°1	36°8	71°0	23°9	..	..	5°3	9°7	5°3	- 9°7	NE	NNE	0°0	0°0	0°0	57	135	0°00
8	..	29°729	48°0	36°5	39°9	34°4	75°0	33°0	..	..	5°5	10°7	2°0	- 11°9	NNE	NNE	0°0	0°0	0°0	6	38	0°06
9	New	29°602	56°2	33°4	43°8	34°8	103°8	24°8	..	..	9°0	15°8	2°0	- 7°8	NNE	NNE	0°0	0°0	0°0	67	160	0°00
10	..	29°551	52°3	37°7	44°2	35°4	70°0	30°3	..	..	8°8	16°0	3°1	- 7°2	NE	ENE	3°5	0°0	0°8	137	338	0°00
11	..	29°441	50°0	40°8	44°4	44°4	50°0	39°5	..	..	0°0	0°8	0°0	- 6°9	ENE	ENE	4°0	0°0	0°5	59	150	1°07
12	Greatest Declination N.	29°654	65°0	45°3	52°1	49°7	86°5	44°1	52°0	51°0	2°4	5°7	0°9	+ 0°8	E	NE	2°5	0°0	0°1	105	247	0°05		
13	..	30°106	53°2	40°6	45°1	39°0	69°0	40°2	52°0	51°0	6°1	11°2	3°3	- 6°3	N	N	2°0	0°0	0°1	45	141	0°00		
14	..	30°257	65°0	33°7	51°5	44°5	97°0	26°0	52°5	51°5	7°0	17°3	3°1	- 0°3	Calm	SSW	0°0	0°0	0°0	60	121	0°00		
15	..	30°176	71°3	46°7	57°7	49°1	103°0	38°3	53°0	52°0	8°6	19°6	1°4	+ 5°5	Calm	SE	0°0	0°0	0°0	45	116	0°00		
16	..	30°014	77°9	48°3	61°1	51°8	113°0	39°7	53°0	52°0	9°3	22°6	1°4	+ 8°5	SW	N; SE	0°0	0°0	0°0	85	184	0°01		
17	First Qr.	30°009	61°2	40°0	48°7	44°8	86°2	48°3	53°0	52°0	3°9	11°2	4°0	- 4°1	NW	NE	3°0	0°0	0°2	85	202	0°00		
18	..	30°124	60°5	37°8	46°8	37°5	103°0	35°0	53°0	52°0	9°3	16°8	5°3	- 6°3	NE	NE; SE	0°0	0°0	0°0	63	143	0°00		
19	In Equator	30°245	60°2	36°0	46°9	37°9	116°5	24°0	53°8	52°8	9°0	18°6	2°5	- 6°4	NE	NE; SE	0°0	0°0	0°0	74	158	0°00		
20	..	30°218	74°0	39°7	57°5	46°5	107°0	29°0	55°0	54°0	11°0	24°1	2°1	+ 3°9	WSW	NW	2°0	0°0	0°1	80	184	0°00		
21	..	30°187	78°6	48°8	62°9	51°0	106°0	46°0	55°7	54°7	11°0	25°5	2°9	+ 9°1	W	WNW	2°0	0°0	0°2	110	244	0°00		
22	Perigee	30°042	68°8	53°7	60°4	54°6	82°0	45°0	56°0	55°0	5°8	11°5	5°7	+ 6°3	WNW; N	N	0°0	0°0	0°0	53	136	0°00		
23	..	29°902	80°2	51°5	64°9	58°1	119°0	50°0	57°4	56°4	6°8	20°9	0°4	+ 10°6	N; SW	WSW; N	4°0	0°0	0°1	137	283	0°50		
24	Full	29°831	65°5	48°7	55°0	42°8	96°0	42°5	59°0	58°0	12°2	18°4	6°4	+ 0°6	NNE	W; S	2°0	0°0	0°1	86	193	0°00		
25	Greatest Declination S.	29°637	66°8	45°5	54°7	45°8	109°0	43°0	60°8	59°8	8°9	18°4	2°4	+ 0°1	SW	SW	3°0	0°0	0°3	175	339	0°00		
26	..	29°745	64°0	47°9	54°3	48°7	96°0	44°4	61°7	60°7	5°6	11°2	3°3	- 0°4	SW	SW	3°0	0°0	0°3	106	207	0°00		
27	..	29°930	72°0	48°3	58°5	44°4	119°0	43°7	61°0	60°0	14°1	25°6	8°4	+ 3°6	WSW; NE	NE; E	2°0	0°0	0°0	76	192	0°00		
28	..	29°906	57°0	50°0	52°2	44°1	66°0	49°3	61°5	60°5	8°1	10°6	2°0	- 3°0	E	NE	2°5	0°0	0°2	109	237	0°02		
29	..	29°799	72°8	49°2	58°0	48°6	124°4	47°0	61°5	60°5	9°4	16°4	6°4	+ 2°6	NE	NE; S	1°5	0°0	0°0	50	132	0°00		
30	..	29°790	75°3	51°4	62°8	46°2	125°0	48°8	62°0	61°0	16°6	26°8	6°8	+ 7°1	NE	Calm	0°0	0°0	0°0	61	145	0°00		
31	Last Qr.	29°814	72°5	50°7	60°1	47°1	116°0	48°0	62°0	61°0	13°0	21°2	6°0	+ 4°0	N	SW	1°5	0°0	0°0	125	252	0°00		
Means	..	29°924	63°5	43°0	51°9	43°6	96°7	37°9	56°8	55°8	8°3	16°3	3°7	- 1°0	Sum	Sum	Sum	1°83	

BAROMETER READINGS FROM EYE-OBSERVATIONS.

The first minimum in the month was 29°826 on the 3rd.

The first maximum in the month was 30°076 on the 5th; the absolute minimum ,,, was 29°434 on the 11th.

The absolute maximum ,,, was 30°309 on the 14th; the third minimum ,,, was 29°938 on the 17th.

The third maximum ,,, was 30°262 on the 21st; the fourth minimum ,,, was 29°612 on the 25th.

The fourth maximum ,,, was 29°972 on the 27th.

The range in the month was 0°875. The mean for the month was 29°924, being 0°162 higher than the average of the preceding 20 years.

TEMPERATURE OF THE AIR.

The highest in the month was 80°2 on the 23rd; the lowest was 33°4 on the 9th; and the range in the month was 46°8.

The mean ,,, of all the highest daily readings was 63°5, being 0°9 lower than the average of the preceding 20 years.

The mean ,,, of all the lowest daily readings was 43°0, being 1°2 lower than the average of the preceding 20 years.

The mean daily range was 20°5, being 0°3 greater than the average of the preceding 20 years.

The mean for the month was 51°9, being 0°9 lower than the average of the preceding 20 years.

MONTH and DAY, 1861.	ELECTRICITY.		CLOUDS AND WEATHER.	
	A.M.	P.M.	A.M.	P.M.
May 1	o	w : m	10, ci.-cu, ci.-s, h	10, cu, cu.-s : 7, f
2	s	m	10, ci.-cu, ci.-s	8, ci.-cu, ci.-s : 10
3	o	o	10, oc.-r	10, ci.-cu, ci.-s : o
4	o	sN : o	10, oc.-r	7, shs.-hl.-r. : 8, s, ci.-s
5	o	o	9, ci.-cu, ci.-s	9, ci.-cu, ci.-s : 10, ci.-s
6	m	m	10, li.-cl	7, ci.-cu, ci.-s
7	o	o	10, sl.-r	10, sl.-r
8	w	w	10, sl.-r	10, sl.-r : 10, ci.-s
9	v	v	7, ci.-cu, ci.-s	7, ci.-cu, cu.-s, ci.-s : o
10			10, li.-cl	10, sl.-r
11			10, h.-r	10 : 10, l, t, h.-r : 10
12			10, s	10, ci, h : h.-r : 10
13			10	10 : o
14	o	o	o, h	7, li.-cl, h : o
15	o	o	o, h	3, cu, ci.-cu : o, h
16	w	o	2, ci, h	2, cu, ci.-cu : 10, r
17	o	o	10	10, cu.-s, ci.-s : o
18	o	v	7	7, cu, ci.-cu : o
19	v	v	7, cu.-s, ci.-s	7, ci.-cu, ci : o
20	o	o	2, h	2, cu, ci.-cu
21	o	o	7, ci, h	7, li.-cl
22	o	o	10	5, ci.-cu, ci.-s
23	w	o	7, cu, ci.-cu, ci	7, cu, ci.-cu, ci : 10, l, t, h.-r
24	o : s	s : w	7, ci.-cu, ci.-s	8, cu, ci.-cu, h : 3, ci
25	m	m	6, cu, ci.-cu, ci	9 : o
26	o	o : s	10, sl.-r	10, ci.-s
27	o	v	5, ci.-cu, ci.-s, h	8, ci : 10
28			10, sl.-r	10
29			10, cu.-s, ci.-s	7, cu.-s, ci.-s : 10, ci.-s
30			o, h	10 : 5, ci.-cu, ci.-s
31			7, ci.-cu, ci.-s	7, cu, ci.-cu, h : 10, ci.-s

HUMIDITY OF THE AIR.

Temperature of the Dew Point.

The highest in the month was $61^{\circ}.5$ on the 23rd; and the lowest was $34^{\circ}.2$ on the 7th.

The mean , , was $43^{\circ}.6$, being $1^{\circ}.9$ lower than the average of the preceding 20 years.

Elastic Force of Vapour.—The mean for the month was $0^{\text{in}}.284$, being $0^{\text{in}}.016$ less than the average of the preceding 20 years.

Weight of Vapour in a Cubic Foot of Air.—The mean for the month was $3^{\text{gr}}.2$, being $0^{\text{gr}}.2$ less than the average of the preceding 20 years.

Degree of Humidity.—The mean for the month was 74 (that of Saturation being represented by 100), being 2 less than the average of the preceding 20 years.

Weight of a Cubic Foot of Air.—The mean for the month was 542 grains, being 4 grains greater than the average of the preceding 20 years.

CLOUDS.

The mean amount for the month, a clear sky being represented by o and a cloudy sky by 10, was 7.6.

WIND.

The proportions were of N. 15, S. 4, W. 4, and E. 8. The greatest pressure in the month was $9^{\text{lb}}.0$ on the square foot on the 4th.

RAIN.

Fell on 8 days in the month, amounting to $1^{\text{in}}.8$, as measured in the simple cylinder gauge partly sunk below the ground; being $0^{\text{in}}.3$ less than the average fall of the preceding 46 years.

ELECTRICITY.—May 10 to 13, and May 28 to 31. The insulating lamp was not burning.

RESULTS OF ORDINARY METEOROLOGICAL OBSERVATIONS

MONTH and DAY, 1861.	Phases of the Moon.	Mean Daily Reading of the Barometer (corrected and reduced to 32° Fahrenheit).	READINGS OF THERMOMETERS.										Difference between the Dew Point Temperature and Air Temperature.	WIND AS DEDUCED FROM ANEMOMETERS.										
			Dry.			Dew Point.			In the Water of the Thames, at Greenwich, by Self-Registering Thermometers, read at 9 A.M. next morning.					General Direction.			OSLER'S.			WHE- WELL'S		ROBIN- SON'S		
			Highest.	Lowest.	Mean Daily Value.	Highest.	Lowest.	Mean Daily Value.	Highest.	Lowest.	Mean Daily Value.	Greatest.	Least.	A.M.	P.M.	Greatest.	Least.	Mean of 24 Obs.						
June 1	In Equator	in.	o	o	o	o	o	o	o	o	o	o	o	SW; W	W	1bs.	1bs.	miles.	68	185	o.30			
2	..	29.736	64.0	46.5	54.4	48.3	103.7	41.5	62.0	61.0	6.1	15.4	1.6	- 2.2	W	Calm	o.0	o.0	o.0	35	103	o.15		
3	Apogee	29.884	62.0	48.0	53.4	48.3	87.0	40.8	62.0	61.0	5.1	12.0	1.2	- 3.4	N	N	o.0	o.0	o.0	60	141	o.00		
4	..	29.888	62.0	51.0	53.8	49.0	100.0	49.8	62.0	61.0	4.8	9.7	0.8	- 3.3	N	Calm	o.0	o.0	o.0	20	102	o.13		
5	..	29.833	66.8	49.2	55.4	48.6	110.0	46.0	62.0	61.0	6.8	14.3	1.7	- 1.7	SW	E	o.0	o.0	o.0	55	128	o.02		
6	..	29.877	58.0	46.6	51.3	48.1	73.3	42.8	62.0	61.0	3.2	7.0	0.0	- 5.9	NE	NNE	2.5	o.0	o.1	145	302	o.00		
7	..	29.796	62.0	49.3	52.9	47.8	97.0	48.0	61.4	60.4	5.1	10.3	4.0	- 4.4	NNE	NE	2.0	o.0	o.1	100	225	o.04		
8	New Greatest, Dec. N.	29.743	58.8	47.5	52.1	45.2	76.0	47.0	61.4	60.4	6.9	11.2	2.3	- 5.1	NE	NE	o.0	o.0	o.0	40	121	o.00		
9	..	29.563	61.2	42.9	51.2	51.2	61.5	35.5	61.0	60.0	o.0	4.9	0.0	- 6.3	NE	NE; N	1.0	o.0	o.0	65	161	o.21		
10	..	29.695	66.2	50.5	55.8	51.1	105.0	45.0	60.7	59.7	4.7	9.5	1.7	- 1.9	W	- SW	3.0	o.0	o.1	140	262	o.27		
11	..	29.944	71.5	48.7	58.0	51.5	120.0	45.0	60.5	59.5	6.5	12.6	2.3	0.0	SW	SW	1.5	o.0	o.0	150	286	o.00		
12	..	30.027	70.3	54.5	60.1	54.3	95.0	50.0	60.5	59.5	5.8	12.4	1.2	+ 1.8	SW	SW	2.0	o.0	o.1	100	188	o.00		
13	..	30.034	78.3	51.8	64.3	54.9	125.0	47.0	61.0	60.0	9.4	19.7	1.4	+ 5.8	S; SE	E	3.0	o.0	o.5	90	198	o.00		
14	..	29.906	80.6	54.8	67.0	58.9	130.0	48.0	61.5	60.5	8.1	17.2	3.2	+ 8.2	NE	E; NE	4.0	o.0	o.3	110	244	o.00		
15	In Equator; First Quarter.	29.848	80.8	55.8	66.9	58.3	132.0	53.2	61.5	60.5	8.6	19.4	1.6	+ 7.9	NE	E	2.0	o.0	o.1	105	236	o.00		
16	..	29.881	78.8	54.2	63.2	57.9	136.4	48.0	62.0	61.0	5.3	15.8	1.7	+ 3.9	NE	NE	0.5	o.0	o.0	85	203	o.00		
17	..	29.921	72.2	49.5	58.9	52.1	129.0	45.3	62.5	61.5	6.8	15.5	3.2	- 0.5	NE	ESE	0.5	o.0	o.0	85	197	o.00		
18	..	29.930	75.0	46.8	60.2	53.8	132.0	45.0	63.0	62.0	6.4	17.1	3.4	+ c.7	ENE	E; ESE	0.0	o.0	o.0	40	117	o.00		
19	Perigee	29.867	81.8	53.0	65.1	58.2	123.0	50.0	63.7	62.7	6.9	20.2	3.0	+ 5.5	SE	SW; SE	0.0	o.0	o.0	25	100	o.00		
20	..	29.781	79.5	55.2	64.7	61.5	125.0	50.0	64.0	63.0	3.2	13.1	1.3	+ 4.9	SE	SW	0.0	o.0	o.0	50	143	o.13		
21	Greatest Declination S.	29.759	76.6	56.5	63.9	60.7	110.0	51.3	64.6	63.6	3.2	11.2	2.9	+ 4.0	SW; NE	ESE	0.0	o.0	o.0	5	138	o.02		
22	Full	29.682	76.8	58.8	64.5	57.3	115.0	54.0	64.6	63.6	7.2	15.3	0.0	+ 4.5	Variable; W	SW	0.0	o.0	o.0	85	175	o.00		
23	..	29.600	73.0	53.0	61.7	55.5	113.0	47.6	65.5	64.5	6.2	15.7	1.2	+ 1.5	SW	SW	2.0	o.0	o.0	105	220	o.03		
24	..	29.693	76.8	52.7	62.3	54.5	118.0	45.0	66.0	65.0	7.8	21.3	1.4	+ 1.9	WSW	SW	2.0	o.0	o.2	145	280	o.02		
25	..	29.606	61.7	54.1	56.3	55.0	70.0	49.7	66.5	65.5	1.3	2.5	0.0	- 4.3	SW	SW	2.5	o.0	o.1	140	270	o.24		
26	..	29.492	69.6	49.8	57.8	52.7	118.0	45.0	66.8	65.8	5.1	13.7	1.8	- 3.0	SW	SW; S	1.5	o.0	o.0	90	195	o.09		
27	..	29.588	77.0	47.7	58.5	53.6	115.0	41.3	67.0	66.0	4.9	16.0	1.2	- 2.5	NE	Calm	0.0	o.0	o.0	45	130	o.21		
28	In Equator	29.652	76.0	50.7	61.8	56.1	116.0	47.5	67.0	66.0	5.7	13.7	1.2	+ 0.5	Calm	W	0.0	o.0	o.0	120	243	o.00		
29	..	29.630	72.8	56.9	62.2	51.4	120.0	55.2	67.0	66.0	10.8	15.1	2.6	+ 0.7	NW	N	2.5	o.0	o.5	145	332	o.04		
30	Last Qr.	29.915	68.0	51.0	57.4	47.4	104.5	48.0	67.5	66.5	10.0	17.5	4.2	- 4.1	NW	N	2.0	o.0	o.2	120	259	o.00		
Means	..	29.782	70.8	51.3	59.1	53.1	108.6	47.2	63.3	62.3	5.9	13.8	1.8	+ 0.1	...	...	..	..	..	2568	5884	1.90		

BAROMETER READINGS FROM EYE-OBSERVATIONS.

The first minimum in the month was 29ⁱⁿ. 676 on the 1st.The first maximum in the month was 29ⁱⁿ. 906 on the 4th; the second minimum was 29ⁱⁿ. 540 on the 9th.The absolute maximum was 30ⁱⁿ. 073 on the 13th; the third minimum was 29ⁱⁿ. 838 on the 15th.The third maximum was 29ⁱⁿ. 943 on the 18th; the fourth minimum was 29ⁱⁿ. 595 on the 23rd.The fourth maximum was 29ⁱⁿ. 724 on the 24th; the absolute minimum was 29ⁱⁿ. 480 on the 26th.The fifth maximum was 29ⁱⁿ. 696 on the 28th; the sixth minimum was 29ⁱⁿ. 578 on the 29th.The range in the month was oⁱⁿ. 593.The mean for the month was 29ⁱⁿ. 782, being oⁱⁿ. 011 lower than the average of the preceding 20 years.

TEMPERATURE OF THE AIR.

The highest in the month was 81°. 8 on the 19th; the lowest was 42°. 9 on the 9th.

The range was 38°. 9.

The mean of all the highest daily readings was 70°. 8, being o°. 4 lower than the average of the preceding 20 years.

The mean of all the lowest daily readings was 51°. 3, being 1°. 1 higher than the average of the preceding 20 years.

The mean daily range was 19°. 5, being 1°. 5 less than the average of the preceding 20 years.

The mean for the month was 59°. 1, being o°. 1 lower than the average of the preceding 20 years.

MONTH and DAY, 1861.	ELECTRICITY.		CLOUDS AND WEATHER.	
	A.M.	P.M.	A.M.	P.M.
June 1	s N, s P, sps, g cur	s N, s P, sps, g cur	10, r	10, ci.-cu, cu.-s, ci.-s, oc.-r
2	o	o	10, ci.-cu, cu.-s, h	10, h.-r
3	o	o	10	10
4	o	o	10	10, cu.-s, ci.-s
5	s N, s P, sps, g cur	s N, s P, sps, g cur	10, t, h.-r	10, t, h.-r : o, h
6	o	o	10	10
7	o	o	10, oc.-r	7, fr.-shs.-r : 10, cu.-s, ci.-s
8	o	o	10, ci.-cu, ci, oc.-r	10, shs.-r
9	o	o	10, cu, ci.-cu, ci	10, cu, ci.-cu, r : 7 oc.-r
10	o : s N	s N : o	10, r : 8, cu, ci.-cu	8, cu, ci.-cu : ci.-s, oc.-r
11	: w	w : o	7, cu	10, cu, ci.-cu : 10, oc.-r
12	o	o	10	10 : o
13	o	w	o	o
14	o	o	o	o
15	o	o	2, cu, ci.-cu	2, cu, ci.-cu
16	m	m	6, ci.-cu, ci	6, ci.-cu, ci.-s : 10, ci.-s
17	v	v	2, ci.-s	o : lu.-co
18	o	s	o	o : 7, ci.-cu, ci.-s
19	w	w : s	3. li.-cl	7, cu, ci.-cu, ci : o : 5, ci.-cu, ci.-s
20	o	s N, s P, sps, g cur : o	10, ci.-s, h.-r	10, ci.-cu, ci.-s, shs.-r : t : 2, ci.-s
21	s	s	10	10, oc.-r : 10, h.-r : 7, ci.-cu
22	v	v	7, ci.-s	7, ci.-s
23	m	m	10, oc.-r	10, t, r : 5, ci.-s
24	v	v	7, ci.-cu, ci.-s	7, eu, ci.-cu, ci.-s : 10, shs.-r : o
25	o	o	10, r	10, r : o
26	o	o	10, h.-r	10, cu.-s, ci.-s : 7, cu, ci.-cu : o
27	w	s N : w	10, ci.-cu, ci.-s	10, li.-cl : t : o
28	w	w	9, li.-cl	10
29	m	o : w	10, cu.-s, ci.-s	10, ci.-cu, ci
30	w	o	7, ci.-cu, ci	7, cu.-s, ci.-s

HUMIDITY OF THE AIR.

Temperature of the Dew Point.

The highest in the month was $65^{\circ}3$ on the 20th; and the lowest was $45^{\circ}3$ on the 8th.

The mean ,,, was $53^{\circ}1$, being $2^{\circ}3$ higher than the average of the preceding 20 years.

Elastic Force of Vapour.—The mean for the month was $0^{in}.404$, being $0^{in}.031$ greater than the average of the preceding 20 years.

Weight of Vapour in a Cubic Foot of Air.—The mean for the month was $4^{gr}.6$, being $0^{gr}.4$ greater than the average of the preceding 20 years.

Degree of Humidity.—The mean for the month was 81 (that of Saturation being represented by 100), being 7 greater than the average of the preceding 20 years.

Weight of a Cubic Foot of Air.—The mean for the month was 531 grains, being the same as the average of the preceding 20 years.

CLOUDS.

The mean amount for the month, a clear sky being represented by o and a cloudy sky by 10, was 7.4.

WIND.

The proportions were of N. 8, S. 7, W. 7, and E. 8. The greatest pressure in the month was $4^{lb}.0$ on the square foot on the 14th.

RAIN.

Fell on 15 days in the month, amounting to $1^{in}.9$ as measured in the simple cylinder gauge partly sunk below the ground; being the same as the average fall of the preceding 46 years.

RESULTS OF ORDINARY METEOROLOGICAL OBSERVATIONS

MONTH and DAY, 1861.	Phases of the Moon.	Mean Daily Reading of the Barometer (corrected and re- duced to 32° Fahrenheit).	READINGS OF THERMOMETERS.										Difference between the Dew Point Temperature and Air Temperature.	Difference between the Mean Temperature of the Day and the Mean Temperature of the same Day on an Average of 48 Years.	WIND AS DEDUCED FROM ANEMOMETERS.						WHE- WELL'S ROBIN- SON'S	Amount of Horizontal Movement of the Air on each Day.	Rain in Inches read at 9^{h} P.M.				
			Dry.			Dew Point.		Highest in the Sun, as shewn by a Self-Registering Ther- mometer read at 9 A.M.			Lowest on the Grass, as shewn by a Self-Registering Ther- mometer read at 9 A.M. next morning.			In the Water of the Thames, at Greenwich, by Self-Regis- tering Ther- mometers, read at 9 A.M. next morning.			General Direction.			OSLER'S.							
			Highest. Mean Daily Value.	Lowest. Mean Daily Value.	Mean Daily Value.	Highest. Mean Daily Value.	Lowest. Mean Daily Value.	Highest. Mean Daily Value.	Lowest. Mean Daily Value.	Greatest. Mean Daily Value.	Least. Mean Daily Value.	A.M.	P.M.	Greatest. Mean of 24 Obs.	Least. Mean of 24 Obs.												
July 1	Apogee	in.	o	o	o	o	o	o	o	o	o	W	W	1bs.	lbs.	lbs.	miles.	miles.	in.								
2	..	29°992	76°3	48°7	61°8	50°3	132°0	42°0	67°5	66°0	11°5	22°8	3°1	+ 0°3	1°5	0°0	0°1	150	309	0°00							
3	..	29°795	74°2	57°1	62°5	49°3	121°0	50°4	67°0	66°0	13°2	23°0	2°3	+ 1°1	3°0	0°0	0°2	150	329	0°03							
4	..	29°762	72°0	53°0	60°7	48°1	125°0	47°5	67°0	66°0	12°6	22°4	5°2	- 0°7	NW	SW	2°0	0°0	0°1	125	251	0°00					
5	Greatest N.	29°324	67°0	50°7	57°3	52°1	107°0	47°5	66°6	65°6	5°2	12°7	0°8	- 4°2	SW	SW	3°0	0°0	0°3	160	310	0°05					
6	..	29°198	68°6	51°7	58°6	51°0	105°8	45°0	66°6	65°6	7°6	16°6	1°4	- 3°0	SW	SW	4°0	0°0	0°9	150	295	0°06					
7	..	29°309	72°5	50°7	59°7	52°4	107°0	45°0	66°0	65°0	7°3	21°1	1°2	- 2°0	SW	SW ; SE	2°0	0°0	0°3	75	181	0°03					
8	New	29°449	72°5	56°3	62°8	56°5	94°8	..	65°7	64°7	6°3	13°0	4°4	+ 1°0	SE ; NW	W	1°0	0°0	0°0	105	215	0°80					
9	..	29°567	76°3	53°6	61°3	54°5	122°0	50°0	66°0	65°0	6°8	13°7	1°7	- 0°4	W	SW	0°0	0°0	0°0	65	149	0°02					
10	..	29°752	73°9	51°8	62°1	53°7	125°0	47°0	66°0	65°0	8°4	19°4	1°8	+ 0°6	N	NW	1°0	0°0	0°0	120	215	0°00					
11	..	29°506	72°2	49°1	60°9	54°2	110°0	43°0	66°5	65°5	6°7	18°2	2°1	- 0°8	SW	SE ; NE	0°0	0°0	0°0	65	144	0°00					
12	In Equator	29°381	74°3	52°4	60°7	54°3	127°0	49°5	66°0	65°0	6°4	19°8	1°9	- 0°8	W	W	1°0	0°0	0°0	130	251	0°01					
13	..	29°733	72°3	48°4	59°3	50°0	115°0	42°0	66°0	65°0	9°3	19°8	2°1	- 2°3	W	SW	1°5	0°0	0°1	135	256	0°00					
14	..	29°506	72°2	49°1	60°9	54°2	110°0	43°0	66°5	65°5	6°7	18°2	2°1	- 0°8	SW	SE ; NE	0°0	0°0	0°0	65	144	0°00					
15	First Qr.	29°453	72°9	56°4	61°7	54°7	123°0	54°0	66°5	65°5	7°0	18°9	2°4	0°0	Calm	SW	2°5	0°0	0°2	75	160	0°25					
16	Perigee	29°556	75°3	53°7	62°1	55°1	107°0	49°8	66°0	65°0	7°0	15°5	1°4	+ 0°4	SW	SW ; W	2°5	0°0	0°1	140	274	0°02					
17	..	29°764	73°0	48°8	60°6	52°9	121°0	43°8	66°4	65°4	7°7	17°1	1°9	- 1°1	W	SW	2°0	0°0	0°2	185	362	0°00					
18	..	29°598	69°8	56°0	61°0	51°9	116°0	51°0	66°6	65°6	9°1	15°3	5°2	- 0°7	SW	SW	5°0	0°0	0°8	205	401	0°00					
19	Greatest S.	29°573	65°8	55°3	59°6	56°5	92°0	49°8	66°6	65°6	3°1	9°4	0°4	- 2°1	SW	SW	3°5	0°0	0°6	195	348	0°01					
20	..	29°572	73°8	59°0	63°0	59°7	96°0	57°0	66°0	65°0	3°3	7°4	1°1	+ 1°4	SW	SW	2°0	0°0	0°1	130	269	0°08					
21	..	29°626	71°8	55°5	61°9	57°4	100°0	51°8	66°0	65°0	4°5	10°3	2°0	+ 0°4	SW	SW	2°0	0°0	0°2	150	291	0°06					
22	Full	29°613	70°2	55°8	61°8	55°1	127°0	50°2	65°5	64°5	6°7	12°4	1°8	+ 0°3	SW	SW	3°5	0°0	0°4	205	367	0°01					
23	..	29°518	72°8	57°2	62°4	53°3	110°0	52°7	65°5	64°5	9°1	20°2	2°3	+ 0°9	SW	SW	3°0	0°0	0°5	135	297	0°00					
24	..	29°649	67°5	51°3	58°2	56°8	82°0	45°0	65°0	64°0	1°4	7°3	0°0	- 3°4	SW	SW	3°0	0°0	0°3	190	376	0°06					
25	In Equator	29°525	71°3	59°5	63°7	60°0	109°8	55°0	65°0	64°0	3°7	7°9	1°5	+ 1°9	SW	SW	5°0	0°0	2°0	200	395	0°05					
26	..	29°464	71°2	56°5	59°9	54°1	105°0	52°7	65°0	64°0	5°8	9°3	2°2	- 2°2	W	SW ; W	3°5	0°0	0°5	135	269	0°32					
27	..	29°601	73°3	49°8	59°6	51°4	125°0	47°5	64°8	63°8	8°2	17°5	1°7	- 2°7	WSW	SW	2°0	0°0	0°0	105	217	0°01					
28	..	29°767	73°0	50°5	59°4	53°8	125°0	49°0	65°0	64°0	5°6	13°9	1°8	- 3°1	WNW	W	2°5	0°0	0°1	135	268	0°05					
29	Apogee; Last Quarter.	29°846	73°0	48°8	59°7	50°9	123°0	45°0	65°0	64°0	8°8	17°1	1°9	- 2°8	SW	SW ; S	2°0	0°0	0°0	150	282	0°00					
30	..	29°721	72°6	55°5	61°2	51°7	121°0	50°0	65°4	64°4	9°5	19°3	2°0	- 1°3	SW	SW	5°0	0°0	0°8	200	384	0°00					
31	..	29°883	73°8	50°7	60°8	53°2	123°0	47°5	65°7	64°7	7°6	15°1	1°6	- 1°7	SW	SW	3°0	0°0	0°4	175	336	0°00					
Means	..	29°606	72°3	53°4	60°9	53°7	114°5	48°7	66°0	65°0	7°2	15°9	2°0	- 0°8	...	...	...	...	...	Sum	8597	Sum 2°18				

BAROMETER READINGS FROM EYE-OBSERVATIONS.

The absolute maximum in the month was $30^{\text{in}} \cdot 032$ on the 1st; the absolute minimum in the month was $29^{\text{in}} \cdot 170$ on the 5th.
The second maximum ,,, was $29^{\text{in}} \cdot 813$ on the 10th; the second minimum ,,, was $29^{\text{in}} \cdot 338$ on the 13th.
The third maximum ,,, was $29^{\text{in}} \cdot 788$ on the 17th; the third minimum ,,, was $29^{\text{in}} \cdot 539$ on the 20th.
The fourth maximum ,,, was $29^{\text{in}} \cdot 651$ on the 22nd; the fourth minimum ,,, was $29^{\text{in}} \cdot 446$ on the 23rd.
The fifth maximum ,,, was $29^{\text{in}} \cdot 708$ on the 24th; the fifth minimum ,,, was $29^{\text{in}} \cdot 397$ on the 26th.
The sixth maximum ,,, was $29^{\text{in}} \cdot 920$ on the 29th; the sixth minimum ,,, was $29^{\text{in}} \cdot 687$ on the 30th.

The range in the month was $29^{\text{in}} \cdot 862$.

The mean for the month was $29^{\text{in}} \cdot 606$, being $0^{\text{in}} \cdot 198$ lower than the average of the preceding 20 years.

TEMPERATURE OF THE AIR.

The highest in the month was $76^{\circ} 3$ on the 1st and 8th; the lowest was $48^{\circ} 4$ on the 11th; and the range in the month was $27^{\circ} 9$.

The mean ,,, of all the highest daily readings was $72^{\circ} 3$, being $1^{\circ} 5$ lower than the average of the preceding 20 years.

The mean ,,, of all the lowest daily readings was $53^{\circ} 4$, being $0^{\circ} 2$ higher than the average of the preceding 20 years.

The mean daily range was $18^{\circ} 9$, being $1^{\circ} 7$ less than the average of the preceding 20 years.

The mean for the month was $60^{\circ} 9$ being $1^{\circ} 0$ lower than the average of the preceding 20 years.

MONTH and DAY, 1861.	ELECTRICITY.			CLOUDS AND WEATHER.		
	A.M.		P.M.	A.M.		P.M.
July 1						
2	o	o	w	w : o	2, ci 10, r 7, cu, ci.-cu, ci	: 9, li.-cl
3	o	o		w		
4	m				10, ci.-s	
5	s N				7, cu, cu.-s	: shs.-r
6	o				7, li.-cl, oc.-r	
7	o				10, h.-r	: v
8	o				7, cu, ci.-cu, ci	
9	o				10, ci.-cu, ci.-s	
10	o				10, oc.-r	
11	o				9, ci.-cu, ci.-s, li.-cl	
12					10	
13					10	
14					10	
15					10, r	: 10, oc.-r
16					10, oc.-r	
17	o				7, cu, ci.-cu, ci	
18	w		m N	m : m	10, ci.-s	
19	o				10, oc.-r	
20	o				10, ci.-s	: oc.-shs.-r
21	s N				10, cu, cu.-s, ci.-s, shs.-r	
22	w				7, li.-cl	: h.-sh.-r
23	o				5, cu, ci.-cu, ci	
24	w				10	: oc.-r
25	-o				10, oc.-r	: 3, ci.-s, sc
26	o				10, h.-r	: 10, oc.-r
27	s N, s P, sps, g cur		s N, s P, sps, g cur		5, li.-cl	: 9, cu.-s, ci.-s, h.-sh.-r
28	m					
29	o					
30	s					
31	v					

HUMIDITY OF THE AIR.

Temperature of the Dew Point.

The highest in the month was 63°o on the 25th; and the lowest was 47°o on the 2nd and 3rd.

The mean , , was 53°.7 , being 0°.2 lower than the average of the preceding 20 years.

Elastic Force of Vapour.—The mean for the month was 0^{in}.413 , being 0^{in}.004 less than the average of the preceding 20 years.Weight of Vapour in a Cubic Foot of Air.—The mean for the month was 4^{gr}.6 , being the same as the average of the preceding 20 years.

Degree of Humidity.—The mean for the month was 78 (that of Saturation being represented by 100), being 2 greater than the average of the preceding 20 years.

Weight of a Cubic Foot of Air.—The mean for the month was 526 grains, being 2 grains less than the average of the preceding 20 years.

CLOUDS.

The mean amount for the month, a clear sky being represented by o and a cloudy sky by 10, was 7.4.

WIND.

The proportions were of N. 1, S. 12, W. 17, and E. 1. The greatest pressure in the month was 51^{lb}.0 on the square foot on the 18th, 25th, and 30th.

RAIN.

Fell on 20 days in the month, amounting to 2^{in}.2 , as measured in the simple cylinder gauge partly sunk below the ground; being 0^{in}.5 less than the average fall of the preceding 46 years.

ELECTRICITY.—The insulating lamp was not burning from July 12 to July 16.

RESULTS OF ORDINARY METEOROLOGICAL OBSERVATIONS

MONTH and DAY, 1861.	Phases of the Moon.	Mean Daily Reading of the Barometer (corrected and reduced to 32° Fahrenheit).	READINGS OF THERMOMETERS.								Difference between the Dew Point Temperature and Air Temperature.	WIND AS DEDUCED FROM ANEMOMETERS.								WHE- WELL'S ROBIN- SON'S	Amount of Horizontal Movement of the Air on each Day.	Rain in Inches read at 9 th P.M.				
			Dry.			Dew Point.		In the Sun, as shown by a Self-Registering Thermometer read at 9 A.M. next morning.				General Direction.			Pressure in lbs. on the square foot.											
			Highest.	Lowest.	Mean Daily Value.	Highest.	Lowest.	Highest.	Lowest.	Mean Daily Value.	Greatest.	Least.	A.M.	P.M.	Greatest.	Least.	Mean of 24 Obs.									
Aug. 1		29° 906	76° 8	55° 8	63° 6	54° 0	121° 0	51° 7	65° 7	64° 7	9° 6	22° 4	1° 6	+ 1° 1	SW	SW	1° 5	0° 0	0° 0	105	223	0° 00				
2	Greatest Declination N.	29° 593	80° 0	50° 5	63° 5	55° 8	127° 0	47° 5	66° 0	65° 0	7° 7	24° 2	1° 8	+ 1° 2	S	SW	3° 0	0° 0	0° 1	200	372	0° 05				
3	..	29° 744	67° 3	54° 0	58° 7	51° 5	97° 0	50° 0	66° 0	65° 0	7° 2	13° 7	3° 2	- 3° 5	SW	SW	8° 0	0° 0	2° 0	245	500	0° 00				
4	..	29° 884	75° 5	57° 0	63° 3	56° 5	112° 0	54° 0	65° 7	64° 7	6° 8	12° 6	4° 6	+ 1° 2	SW	SW	3° 5	0° 0	1° 3	170	324	0° 00				
5	..	29° 767	80° 4	53° 7	66° 1	55° 2	135° 0	49° 8	66° 0	65° 0	10° 9	25° 2	1° 6	+ 4° 1	SW	WW	2° 0	0° 0	0° 3	165	345	0° 00				
6	New	29° 930	76° 4	53° 1	63° 0	52° 7	125° 0	47° 4	66° 0	65° 0	10° 3	24° 1	2° 8	+ 1° 0	W	WW	2° 0	0° 0	0° 1	80	210	0° 00				
7	..	29° 813	78° 3	50° 7	62° 8	55° 9	127° 0	42° 8	66° 0	65° 0	6° 9	16° 8	1° 6	+ 0° 8	SW	SW	2° 0	0° 0	0° 2	175	345	0° 00				
8	..	29° 565	70° 0	58° 1	63° 0	61° 0	95° 0	..	66° 0	65° 0	2° 0	6° 1	0° 8	+ 1° 0	SW	W	4° 0	0° 0	1° 0	185	374	0° 31				
9	In Equator	29° 776	76° 0	57° 2	64° 7	61° 2	107° 0	52° 3	65° 5	64° 5	3° 5	8° 5	2° 5	+ 2° 8	W	W	3° 5	0° 0	0° 5	160	327	0° 01				
10	Perigee	29° 927	81° 3	59° 5	68° 2	58° 7	134° 0	52° 3	65° 5	64° 5	9° 5	22° 6	2° 0	+ 6° 4	W	SW	0° 0	0° 0	0° 0	110	219	0° 00				
11	..	29° 817	79° 3	57° 5	67° 7	60° 7	132° 0	..	66° 0	65° 0	7° 0	18° 2	0° 2	+ 6° 0	SW	SW	1° 5	0° 0	0° 0	101	207	0° 00				
12	..	29° 610	89° 3	57° 0	72° 9	63° 1	138° 8	50° 2	66° 7	65° 7	9° 8	25° 9	1° 1	+ 11° 3	SW	SW	1° 5	0° 0	0° 1	144	288	0° 00				
13	First Qr.	29° 812	81° 2	60° 8	67° 0	55° 9	123° 0	52° 7	67° 5	66° 5	11° 1	24° 8	3° 4	+ 5° 5	SW ; NW	NW ; N	2° 0	0° 0	0° 1	53	163	0° 03				
14	..	29° 838	79° 0	50° 8	64° 2	54° 6	124° 0	43° 0	67° 5	66° 5	9° 6	24° 0	1° 6	+ 2° 7	Calm ; SW	SW	1° 0	0° 0	0° 0	146	301	0° 00				
15	Greatest Declination S.	29° 671	73° 5	60° 4	65° 0	62° 3	107° 0	55° 0	67° 0	66° 0	2° 7	6° 7	0° 2	+ 3° 6	SW	SW	1° 0	0° 0	0° 0	101	207	0° 03				
16	..	29° 710	64° 7	56° 5	59° 4	57° 7	82° 0	50° 0	67° 0	66° 0	1° 7	5° 6	0° 4	- 2° 0	SW	SW	0° 0	0° 0	0° 0	80	179	0° 11				
17	..	29° 899	74° 3	49° 8	60° 8	51° 6	126° 0	..	67° 0	66° 0	9° 2	20° 7	1° 9	- 0° 5	W	SW	1° 0	0° 0	0° 1	120	260	0° 00				
18	..	29° 819	75° 0	52° 9	63° 8	52° 2	112° 0	48° 0	67° 0	66° 0	11° 6	21° 1	1° 4	+ 2° 7	SW	SW	3° 0	0° 0	0° 4	165	328	0° 00				
19	..	29° 808	75° 5	55° 5	63° 5	51° 2	127° 0	50° 0	67° 0	66° 0	12° 3	20° 6	4° 2	+ 2° 6	W	W	3° 0	0° 0	0° 3	175	355	0° 00				
20	Full	29° 933	73° 5	50° 1	59° 4	50° 9	112° 0	42° 5	66° 6	65° 6	8° 5	17° 8	1° 9	- 1° 4	NW	NW ; NW	2° 0	0° 0	0° 0	105	238	0° 00				
21	..	30° 068	69° 5	47° 3	58° 3	50° 8	107° 0	39° 8	66° 0	65° 0	7° 5	15° 7	2° 5	- 2° 3	NW	W ; NW	0° 0	0° 0	0° 0	40	176	0° 01				
22	In Equator	30° 089	69° 7	49° 3	59° 9	53° 3	111° 0	39° 8	65° 7	64° 7	6° 6	14° 6	4° 0	- 0° 5	W	SW	2° 0	0° 0	0° 1	180	366	0° 01				
23	..	29° 937	76° 3	57° 7	64° 1	55° 3	118° 0	55° 0	65° 7	64° 7	8° 8	18° 4	1° 7	+ 3° 8	W	NW ; N	2° 0	0° 0	0° 3	130	296	0° 00				
24	..	29° 946	71° 0	51° 9	59° 3	49° 3	107° 0	43° 5	65° 4	64° 4	10° 0	23° 2	3° 0	- 1° 0	N	NW	5° 0	0° 0	0° 8	150	336	0° 03				
25	..	30° 029	71° 0	48° 8	59° 0	50° 6	100° 2	40° 4	66° 5	65° 5	8° 4	21° 8	2° 8	- 1° 2	NW	W	1° 0	0° 0	0° 0	125	279	0° 00				
26	Apogee	30° 066	72° 9	54° 8	60° 7	54° 2	109° 0	45° 5	66° 5	65° 5	6° 5	12° 4	2° 9	+ 0° 8	W	NW ; Calm	1° 0	0° 0	0° 0	30	172	0° 00				
27	..	30° 104	78° 8	53° 5	65° 4	58° 4	117° 0	49° 8	66° 0	65° 0	7° 0	15° 3	3° 2	+ 5° 7	W	Calm	0° 0	0° 0	0° 0	20	128	0° 00				
28	Last Qr.	29° 837	80° 0	51° 3	65° 5	55° 4	128° 0	43° 0	65° 7	64° 7	10° 1	21° 2	4° 2	+ 5° 9	Calm	S	1° 0	0° 0	0° 0	35	177	0° 00				
29	Greatest Declination N.	29° 785	77° 0	53° 7	63° 4	56° 2	115° 0	49° 6	65° 4	64° 4	7° 2	18° 4	1° 3	+ 4° 0	WSW	WSW	1° 0	0° 0	0° 1	155	325	0° 00				
30	..	30° 037	74° 3	53° 5	62° 4	52° 5	111° 0	50° 0	65° 0	64° 0	9° 9	18° 5	3° 4	+ 3° 3	W	W	2° 0	0° 0	0° 2	80	217	0° 00				
31	..	30° 109	77° 3	46° 2	60° 8	52° 0	126° 0	39° 7	65° 0	64° 0	8° 8	19° 1	2° 1	+ 1° 8	SW	SW	0° 0	0° 0	0° 0	5	119	0° 00				
Means	..	29° 865	75° 6	53° 8	63° 2	55° 2	116° 5	47° 7	66° 1	65° 2	8° 0	18° 1	2° 3	+ 2° 2	...	...	..	..	..	3735	8356	0° 59

BAROMETER READINGS FROM EYE-OBSERVATIONS.

The first maximum in the month was 29ⁱⁿ. 936 on the 1st; the first minimum in the month was 29ⁱⁿ. 544 on the 2nd. The second maximum was 29ⁱⁿ. 897 on the 4th; the second minimum was 29ⁱⁿ. 740 on the 5th. The third maximum was 29ⁱⁿ. 953 on the 6th; the absolute minimum was 29ⁱⁿ. 532 on the 8th. The fourth maximum was 29ⁱⁿ. 945 on the 10th; the fourth minimum was 29ⁱⁿ. 532 on the 12th. The fifth maximum was 29ⁱⁿ. 917 on the 13th; the fifth minimum was 29ⁱⁿ. 654 on the 15th. The sixth maximum was 29ⁱⁿ. 969 on the 17th; the sixth minimum was 29ⁱⁿ. 759 on the 18th. The seventh maximum was 30ⁱⁿ. 139 on the 22nd; the seventh minimum was 29ⁱⁿ. 921 on the 23rd. The eighth maximum was 30ⁱⁿ. 137 on the 27th; the eighth minimum was 29ⁱⁿ. 708 on the 28th. The absolute maximum was 30ⁱⁿ. 165 on the 31st.

The range in the month was 0ⁱⁿ. 633.
The mean for the month was 29ⁱⁿ. 865, being 0ⁱⁿ. 077 higher than the average of the preceding 20 years.

TEMPERATURE OF THE AIR.
The highest in the month was 89° 3 on the 12th; the lowest was 46° 2 on the 31st; and the range in the month was 43° 1.
The mean of all the highest daily readings was 75° 6, being 2° 8 higher than the average of the preceding 20 years.
The mean of all the lowest daily readings was 53° 8, being 0° 4 higher than the average of the preceding 20 years.
The mean daily range was 21° 8, being 2° 4 greater than the average of the preceding 20 years.
The mean for the month was 63° 2, being 1° 9 higher than the average of the preceding 20 years.

MONTH and DAY, 1861.	ELECTRICITY.		CLOUDS AND WEATHER.	
	A.M.	P.M.	A.M.	
				P.M.
Aug. 1	v	v	10, r	: 7, ci.-cu, ci.-s
2	s	w	9, li.-cl	: 7, ci.-cu, ci.-s
3	o	o : w	10	: oc.-r
4	o	m	10	
5	o	o : w	3, cu, ci.-cu, ci	: o
6	s	o : s	2, li.-cl	
7	s	s	5, li.-cl	
8	s N, sps, g cur	o	10, r	: 10, oc.-r
9	o	o	10	10, th.-r
10	o	v	2, ci, li.-cl	2, ci.-cu, ci
11	m	m	5, ci.-cu, ci.-s	2, ci.-cu, li.-cl
12	s	w	o	o
13	w	w	10, sl.-r	7, cu, ci.-cu, ci
14	v	v	10, li.-cl	7, ci.-cu, ci.-s
15	m	o	10	10
16			10, r	10, r
17			2, li.-cl	7, li.-cl
18			o : 8, cu.-s, ci.-s	o
19			7, ci.-cu, ci.-s, ci	o
20			5, li.-cl	6, li.-cl
21	v	v	7, li.-cl	7, li.-cl
22	s	s	3, li.-cl	10
23	v	v	10, sl.-r	3, cu, ci.-cu, ci
24	o	o	10, li.-cl	10, ci.-cu, ci.-s
25			10	7, li.-cl, h
26			10	7
27			o	7, cu, ci.-cu, ci
28			5, ci.-cu, ci.-s	3, li.-cl
29			10	7, ci.-eu, ci.-s
30			9, s, ci.-s	8, li.-cl
31	v	v	o	o

HUMIDITY OF THE AIR.

Temperature of the Dew Point.

The highest in the month was $66^{\circ}.4$ on the 12th; and the lowest was $47^{\circ}.9$ on the 19th.

The mean , was $55^{\circ}.2$, being $1^{\circ}.1$ higher than the average of the preceding 20 years.

Elastic Force of Vapour.—The mean for the month was $c^{in}.436$, being $c^{in}.014$ greater than the average of the preceding 20 years.

Weight of Vapour in a Cubic Foot of Air.—The mean for the month was $4^{gr}.9$, being $0^{gr}.2$ greater than the average of the preceding 20 years.

Degree of Humidity.—The mean for the month was 76 (that of Saturation being represented by 100), being 1 less than the average of the preceding 20 years.

Weight of a Cubic Foot of Air.—The mean for the month was 528 grains, being the same as the average of the preceding 20 years.

CLOUDS.

The mean amount for the month, a clear sky being represented by o and a cloudy sky by 10, was 5.9.

WIND.

The proportions were of N. 3, S. 10, W. 18, and E. o. The greatest pressure in the month was $8^{lb}.0$ on the square foot on the 3rd.

RAIN.

Fell on 9 days in the month, amounting to $c^{in}.6$, as measured in the simple cylinder gauge partly sunk below the ground; being $c^{in}.8$ less than the average fall of the preceding 46 years.

ELECTRICITY.—August 16 to 20 and August 25 to 30. The insulating lamp was not burning.

RESULTS OF ORDINARY METEOROLOGICAL OBSERVATIONS

MONTH and DAY, 1861.	Phases of the Moon.	Mean Daily Reading of the Barometer (corrected and reduced to 32° Fahrenheit).	READINGS OF THERMOMETERS.										Difference between the Dew Point Temperature and Air Temperature.	WIND AS DEDUCED FROM ANEMOMETERS.											
			Dry.			Dew Point.		Highest in the Sun, as shewn by a Self-Registering Thermometer read at 9 A.M.			In the Water of the Thames, at Greenwich, by Self-Registering Thermometers, read at 9 A.M. next morning.				General Direction.			OSLER'S.			WHE- WELL'S		ROBIN- SON'S		
			Highest.	Lowest.	Mean Daily Value.	Highest.	Lowest.	Highest.	Lowest.	Mean Daily Value.	Highest.	Lowest.		A.M.	P.M.	Greatest.	Least.	Mean of 24 Obs.	Amount of Horizontal Movement of the Air on each Day.	Rain in Inches read at 9 A.M.					
Sept. 1	..	29.888	81.1	53.5	66.1	53.1	127.0	49.0	65.5	64.5	13.0	28.8	2.2	+ 7.3	S ; SW	SW	lbs.	lbs.	lbs.	miles.	miles.	in.			
2	..	29.779	78.5	53.7	64.6	53.2	125.0	43.7	66.0	65.0	11.4	27.5	2.2	+ 6.0	W	NW ; SW	0.0	0.0	0.0	80	191	0.00			
3	..	29.642	72.6	55.7	61.8	56.9	116.0	49.0	66.0	65.0	4.9	13.0	2.3	+ 3.3	SW	WSW	0.0	0.0	0.4	75	221	0.00			
4	New.	29.809	68.7	51.8	59.8	55.1	87.0	42.5	65.7	64.7	4.8	11.0	1.5	+ 1.4	WSW	SW	3.0	0.0	0.3	175	347	0.00			
5	In Equator	29.878	79.6	58.1	66.0	57.2	118.0	50.0	65.4	64.4	8.8	16.2	1.3	+ 7.8	WSW	SW	1.0	0.0	0.0	120	283	0.00			
6	..	29.630	72.1	51.0	60.1	57.2	96.0	56.3	65.0	64.0	2.9	9.5	0.4	+ 2.1	SW	WSW	3.0	0.0	0.3	180	362	0.07			
7	Perigee.	29.804	68.8	49.8	58.1	48.9	109.0	43.6	65.0	64.0	9.2	19.6	1.9	+ 0.3	W	NW ; WSW	5.0	0.0	1.0	160	319	0.00			
8	..	29.880	70.0	45.4	58.1	51.2	102.2	37.3	65.0	64.0	6.9	16.7	1.3	+ 0.4	SW	SW	1.0	0.0	0.0	90	285	0.00			
9	..	29.791	72.6	54.3	61.7	51.1	125.0	47.0	65.0	64.0	10.6	19.3	1.8	+ 4.1	SW	NW	0.0	0.0	0.0	30	146	0.07			
10	..	29.785	71.0	49.4	57.7	46.9	126.0	41.1	65.0	64.0	10.8	18.5	0.0	+ 0.2	NNE	NE ; Calm	0.0	0.0	0.0	20	99	0.00			
11	First Quarter ; Greatest Dec. S.	29.835	70.2	39.2	54.1	48.8	116.0	32.6	64.7	63.7	5.3	17.6	1.6	- 3.3	Calm	Calm	0.0	0.0	0.0	15	76	0.00			
12	..	29.988	74.3	41.5	57.5	52.0	122.0	38.7	64.7	63.7	5.5	15.7	1.2	+ 0.2	Calm	SW	0.0	0.0	0.0	15	177	0.00			
13	..	29.823	61.8	51.3	55.5	51.2	75.0	43.6	64.5	63.5	4.3	10.8	1.6	- 1.7	SW	SW	5.0	0.0	0.5	220	448	0.07			
14	..	29.570	67.2	47.0	56.1	47.9	116.0	43.6	64.0	63.0	8.2	19.1	1.8	- 0.9	WSW	WSW	6.0	0.0	2.0	180	406	0.01			
15	..	29.607	60.1	46.0	52.5	46.7	95.0	38.8	..	..	5.8	14.0	0.2	- 4.2	W	WNW	4.0	0.0	0.4	150	343	0.02	
16	..	29.834	64.0	49.4	55.1	46.4	102.2	40.0	..	..	8.7	16.2	4.0	- 1.4	WNW ; N	N	3.0	0.0	0.2	105	289	0.01	
17	..	30.013	65.0	44.5	53.0	47.5	100.8	38.0	..	..	5.5	15.5	3.1	- 3.3	NW	SW	0.0	0.0	0.0	..	113	0.00	
18	In Equator.	30.050	69.7	39.4	54.5	47.9	111.0	35.0	..	..	6.6	20.0	2.2	- 1.5	SW	SW	0.0	0.0	0.0	30	149	0.00	
19	Full.	29.960	71.8	47.5	57.3	49.4	118.0	41.0	..	..	7.9	22.8	0.4	+ 1.4	WSW	SW	0.0	0.0	0.0	70	226	0.00	
20	..	29.705	67.3	46.0	54.6	50.7	101.0	43.0	..	..	3.9	10.3	1.0	- 1.0	SW	WSW	3.0	0.0	0.1	105	244	0.03	
21	..	29.568	62.8	44.4	53.7	48.6	111.0	36.0	..	..	5.1	12.2	0.8	- 1.8	SW	SW	2.0	0.0	0.0	165	346	0.19	
22	Apogee.	29.380	59.3	49.5	55.3	51.2	79.0	45.0	..	..	4.1	7.0	1.1	- 0.1	SW	Calm	1.0	0.0	0.0	165	346	0.14	
23	..	29.273	65.2	51.5	55.7	47.3	115.5	53.0	..	..	8.4	13.3	3.6	+ 0.4	W	SW	6.0	0.0	2.0	205	404	0.28	
24	..	29.287	66.0	46.5	54.7	48.4	113.0	38.8	58.0	56.0	6.3	16.9	1.4	- 0.3	SW	SW	4.0	0.0	0.5	145	281	0.21			
25	..	29.166	57.0	47.0	50.6	48.6	81.0	41.5	58.0	55.0	2.0	4.2	0.0	- 4.3	SW	S ; NW	0.0	0.0	0.0	70	172	0.28			
26	..	29.584	59.1	45.2	51.5	46.0	91.5	40.0	57.5	55.0	5.5	10.8	0.6	- 3.2	NW ; SW	NW ; S	0.0	0.0	0.0	60	141	0.00			
27	Last Qr.	29.807	66.2	37.7	52.8	48.6	110.0	31.8	58.0	56.0	4.2	14.1	1.6	- 1.7	SW	S	1.0	0.0	0.0	145	273	0.00			
28	..	29.716	63.8	50.8	55.7	52.1	81.5	45.2	57.5	56.0	3.6	9.9	0.4	+ 1.4	SW	SW	3.0	0.0	0.5	140	271	0.01			
29	..	29.763	69.3	50.7	58.0	52.9	116.2	48.0	57.5	56.5	5.1	15.1	0.0	+ 4.0	SE	SW ; S	2.0	0.0	0.0	80	163	0.06			
30	..	29.713	74.0	49.0	61.5	55.2	120.5	42.8	57.5	56.5	6.3	18.5	3.6	+ 7.7	SE	SE ; SSW	0.5	0.0	0.0	80	159	0.00			
Means	..	29.717	68.3	48.2	57.1	50.6	106.9	42.5	62.6	61.4	6.5	15.5	1.5	+ 0.6	...	...	..	..	..	Sum.	Sum.	Sum.

BAROMETER READINGS FROM EYE-OBSERVATIONS.

The first maximum in the month was 29ⁱⁿ. 898 on the 5th; the first minimum in the month was 29ⁱⁿ. 612 on the 3rd. The second maximum ,,, was 29ⁱⁿ. 929 on the 8th; the second minimum ,,, was 29ⁱⁿ. 612 on the 6th. The third maximum ,,, was 30ⁱⁿ. 038 on the 12th; the third minimum ,,, was 29ⁱⁿ. 780 on the 9th. The absolute maximum ,,, was 30ⁱⁿ. 079 on the 18th; the fourth minimum ,,, was 29ⁱⁿ. 544 on the 14th. The fifth maximum ,,, was 29ⁱⁿ. 841 on the 27th; the absolute minimum ,,, was 29ⁱⁿ. 149 on the 25th. The sixth maximum ,,, was 29ⁱⁿ. 841 on the 29th; the sixth minimum ,,, was 29ⁱⁿ. 667 on the 28th.

The range in the month was 0ⁱⁿ. 930.

The mean for the month was 29ⁱⁿ. 717, being 0ⁱⁿ. 112 lower than the average of the preceding 20 years.

TEMPERATURE OF THE AIR.

The highest in the month was 81°. 1 on the 1st; the lowest was 37°. 7 on the 27th; and the range in the month was 43°. 4.

The mean ,,, of all the highest daily readings was 68°. 3, being 0°. 9 higher than the average of the preceding 20 years.

The mean ,,, of all the lowest daily readings was 48°. 2, being 0°. 7 lower than the average of the preceding 20 years.

The mean daily range was 20°. 1, being 1°. 6 greater than the average of the preceding 20 years.

The mean for the month was 57°. 1, being 0°. 2 higher than the average of the preceding 20 years.

MONTH and DAY, 1861.	ELECTRICITY.		CLOUDS AND WEATHER.	
	A.M.	P.M.	A.M.	P.M.
Sept. 1			o	
2			7, ci.-s, h	: 7
3			10, th.-r	: 5, ci.-s
4			10	: 5, ci.-s : o
5			5, li.-cl	: o
6			10	: o
7	v	v	10, li.-cl	10, ci.-cu, ci.-s, sc : 7, ci.-s, h
8	m	m	10, ci.-cu, ci.-s	10, ci.-cu, ci.-s, ci : o, h
9	o	o : s	10, h.-r : 9, cu, cu.-s, ci.-s	9, li.-cl : 7, s, ci.-s, h
10	v	v	o, h	7, cu, ci.-cu, ci : o
11	s	s	o, h	o : o, h
12	s	w : s	5, ci.-cu, ci.-s, f	2, li.-cl : 9, li.-cl : o
13	o	w N : o	10, h.-r	10, r : 7
14	o	w N : o	o	10, ci.-s, sc : o
15			10, cu.-s, ci.-s	10, oc.-r
16			5, ci.-cu, ci	10, cu.-s, ci.-s : 5, ci.-s : o
17			10, f	10, li.-cl
18	s	s : w	o, f	2, ci, h : 10, li.-cl
19	m	m : s	o, h	7, cu, ci.-cu, h : o, h : 3, lu.-ha
20	o	o : s	10, th.-r	8, oc.-r : 9, ci.-s, h, lu.-ha, lu.-cor
21	o	s N, sps : o	7, ci.-cu, ci.-s	10, oc.-r : h.-r : cu.-s, ci.-s
22	s	s	10, h.-r	10, s, r : 10
23			10, h.-r	5, ci.-cu, ci.-s
24			o	4, ci.-cu, ci : 10, s, ci.-s, h.-r : 10
25			10, r	7, ci.-s, li.-cl, r : 10 : 5, ci.-s, f
26			10, f	10, cu.-s ci.-s : o
27	m	m : s	o, f	7, ci.-cu, ci : 1, f
28	m	m : o	10	10, ci.-s : 10, r
29	v	v	10, r	5 : o
30	m	m	10, ci.-cu, ci, li.-cl	10 : 5 : 10

HUMIDITY OF THE AIR.

Temperature of the Dew Point.

The highest in the month was $62^{\circ}8$ on the 6th; and the lowest was $45^{\circ}4$ on the 18th and 20th.

The mean , was $50^{\circ}6$, being $0^{\circ}5$ lower than the average of the preceding 20 years.

Elastic Force of Vapour.—The mean for the month was $0^{in} \cdot 369$, being $0^{in} \cdot 013$ less than the average of the preceding 20 years.Weight of Vapour in a Cubic Foot of Air.—The mean for the month was $4^{oz} \cdot 1$, being $0^{oz} \cdot 1$ less than the average of the preceding 20 years.

Degree of Humidity.—The mean for the month was 79 (that of Saturation being represented by 100), being 2 less than the average of the preceding 20 years.

Weight of a Cubic Foot of Air.—The mean for the month was 532 grains, being 2 grains less than the average of the preceding 20 years.

CLOUDS.

The mean amount for the month, a clear sky being represented by o and a cloudy sky by 10, was $6^{\circ}3$.

WIND.

The proportions were of N. 2, S. 10, W. 16, and E. 2. The greatest pressure in the month was $6^{lbs} \cdot 0$ on the square foot on the 14th and 23rd.

RAIN.

Fell on 15 days in the month, amounting to $1^{in} \cdot 5$, as measured in the simple cylinder gauge partly sunk below the ground; being $1^{in} \cdot 0$ less than the average fall of the preceding 20 years.

ELECTRICITY.—September 1 to 6, 15 to 17 and 23 to 26. The insulating lamp was not burning.

RESULTS OF ORDINARY METEOROLOGICAL OBSERVATIONS

MONTH and DAY, 1861.	Phases of the Moon.	READINGS OF THERMOMETERS.												WIND AS DEDUCED FROM ANEMOMETERS.																	
		Dry.				Dew Point.				In the Water of the Thames, at Greenwich, by Self-Regis- tering Ther- mometers, read at 9 ^h A.M., next morning.				Difference between the Dew Point Temperature and Air Temperature.				OSLER'S.				Pressure in lbs. on the square foot.				WHE- WELL'S ROBIN- SON'S		Amount of Horizontal Movement of the Air on each Day.		Rain in Inches read 9 ^h P.M.	
		Mean Daily Barometer (corrected and re- duced to 32° Fahrenheit).	Highest.	Lowest.	Mean Daily Value.	Highest.	Lowest.	Mean Daily Value.	Highest.	Lowest.	Mean Daily Value.	Greatest.	Least.	Difference between the Mean Temperature of the Day and the Mean Temperature of the same Day on an Average of 43 Years.	A.M.	P.M.	Greatest.	Least.	Mean of 24 Obs.	miles.	miles.	in.									
Oct. 1	..	29°575	72°5	57°5	64°3	60°2	106°0	52°0	60°0	57°0	4°1	11°5	0°8	+ 10°8	Calm	SW	1bs.	1bs.	1bs.	65	147	0°09									
2	In Equator	29°817	66°3	51°0	57°6	51°6	99°0	49°0	60°0	57°0	6°0	12°1	1°8	+ 4°2	SW ; N	NW ; N	0°0	0°0	0°0	35	93	0°00									
3	..	30°000	68°5	48°3	57°5	54°6	109°3	42°0	60°0	58°0	2°9	14°6	0°0	+ 4°4	Calm	SE	0°0	0°0	0°0	65	144	0°00									
4	New Perigee	29°956	70°6	50°0	58°6	51°9	117°6	49°0	60°5	58°0	6°7	19°4	3°2	+ 5°6	SE	SE	0°0	0°0	0°0	75	156	0°00									
5	..	29°886	68°2	49°2	57°5	56°7	92°0	43°0	59°0	58°0	0°8	6°7	0°0	+ 4°7	SE ; S	Calm	0°0	0°0	0°0	40	105	0°03									
6	..	30°021	59°0	55°4	56°0	54°8	62°8	52°0	59°0	58°0	1°2	2°3	0°6	+ 3°5	NE	Calm	0°0	0°0	0°0	25	99	0°08									
7	..	29°885	70°0	54°0	60°6	60°0	105°0	50°0	59°0	58°0	0°6	7°6	0°0	+ 8°3	SE	Calm	0°0	0°0	0°0	5	67	0°00									
8	Greatest S.	29°688	75°6	50°3	62°1	59°9	115°0	45°0	59°0	58°0	2°2	13°0	1°5	+ 10°0	SW	SW	0°0	0°0	0°0	105	213	0°00									
9	..	29°796	69°3	49°0	58°2	56°1	110°0	47°0	60°0	59°0	2°1	12°8	0°4	+ 6°3	SW	SW	0°0	0°0	0°0	50	120	0°04									
10	First Qr.	29°694	68°0	45°9	56°5	54°4	105°0	43°6	60°0	59°0	2°1	11°5	0°0	+ 4°8	Calm	SE	2°0	0°0	0°0	135	261	0°00									
11	..	29°346	71°0	50°0	58°0	54°7	109°0	46°0	60°0	59°0	3°3	14°2	1°1	+ 6°6	SW	SW	6°0	0°0	0°5	190	375	0°43									
12	..	29°843	62°7	48°3	56°4	52°3	82°0	45°0	60°0	59°0	4°1	11°6	2°0	+ 5°4	SW	SW	5°0	0°0	1°0	180	350	0°00									
13	..	29°796	68°0	53°7	59°6	52°1	110°0	46°3	60°0	58°5	7°5	15°5	2°0	+ 9°1	SW	SW	4°0	0°0	0°4	135	300	0°00									
14	..	29°901	74°3	54°0	62°3	55°9	110°0	52°4	60°0	58°5	6°4	16°8	0°6	+ 12°2	SW ; SE	SE ; Calm	1°0	0°0	0°0	50	65	0°00									
15	In Equator	29°960	71°6	47°8	57°5	53°8	115°0	42°0	60°0	58°5	3°7	16°9	0°0	+ 7°7	SE ; Calm	SE	0°0	0°0	0°0	35	102	0°00									
16	..	30°114	57°2	48°0	52°2	49°7	65°0	46°5	59°5	58°5	2°5	6°8	1°2	+ 2°6	NE	NE	1°0	0°0	0°1	85	185	0°00									
17	..	30°135	61°0	39°9	50°2	44°8	102°6	31°0	59°5	57°5	5°4	16°0	0°7	+ 0°8	NE	NE	0°0	0°0	0°0	45	127	0°01									
18	Full	29°972	60°2	42°7	50°2	45°4	105°7	37°8	59°0	57°0	4°8	12°5	0°9	+ 1°0	NE	ESE	1°0	0°0	0°0	55	138	0°00									
19	..	29°788	63°0	40°8	50°1	47°3	106°0	32°0	59°0	57°5	2°8	11°6	0°0	+ 1°0	ESE	ESE	1°5	0°0	0°0	50	125	0°00									
20	Apogee	29°723	58°2	43°4	51°3	51°3	65°3	36°0	57°0	55°0	0°0	1°3	0°0	+ 2°2	Calm	Calm	0°0	0°0	0°0	25	86	0°00									
21	..	29°608	63°5	46°9	54°7	51°8	103°4	40°4	57°5	55°0	2°9	11°6	1°8	+ 5°8	SE	SE ; SW	1°0	0°0	0°0	100	193	0°01									
22	..	29°670	61°7	48°3	53°9	52°8	86°0	42°5	57°0	55°0	1°1	4°4	0°5	+ 5°3	SSE	S	2°0	0°0	0°1	125	249	0°16									
23	Greatest Declination N.	29°901	59°0	46°8	51°9	46°1	102°0	40°3	57°0	55°0	5°8	10°3	3°8	+ 3°6	SW	S	5°0	0°0	0°3	115	220	0°01									
24	..	29°906	64°2	49°5	56°4	53°2	95°0	46°5	57°0	55°0	3°2	7°4	1°0	+ 8°5	S	SSW	2°0	0°0	0°5	130	239	0°00									
25	..	29°970	64°0	55°5	58°6	57°0	73°0	51°0	56°5	55°0	1°6	4°0	0°8	+ 11°1	SW	Calm	0°0	0°0	0°0	45	115	0°03									
26	Last Qr.	30°001	60°1	46°0	52°2	48°3	105°0	46°3	56°7	55°0	3°9	9°3	1°9	+ 4°8	ENE	ENE	1°0	0°0	0°0	70	164	0°00									
27	..	29°927	58°6	40°5	48°9	44°0	92°3	30°7	56°5	55°0	4°9	13°3	1°0	+ 1°7	ENE	NE	2°0	0°0	0°1	110	255	0°00									
28	..	29°967	55°7	41°1	47°0	41°4	97°0	35°3	56°0	54°0	5°6	13°2	2°9	0°0	NE	NE	3°0	0°0	0°3	90	222	0°00									
29	..	29°843	54°8	39°6	46°8	43°4	98°0	30°3	56°0	53°0	3°4	8°6	2°5	0°0	NE	NE	2°0	0°0	0°2	130	287	0°00									
30	In Equator	29°798	54°7	43°1	47°6	43°3	92°0	35°2	56°0	52°5	4°3	10°2	2°5	+ 1°0	NE	NE	1°0	0°0	0°0	45	125	0°00									
31	..	29°615	56°0	43°6	48°3	41°8	79°0	40°6	56°0	52°0	6°5	12°8	1°3	+ 1°8	SW	SSW	0°5	0°0	0°0	120	237	0°00									
Means	..	29°842	64°1	47°7	54°9	51°3	97°3	42°8	58°5	56°6	3°6	11°0	1°2	+ 5°0	Sum	Sum	Sum	0°89								

BAROMETER READINGS FROM EYE-OBSERVATIONS.

The first maximum in the month was 30°0.019 on the 3rd; the first minimum in the month was 29°568 on the 1st. The second maximum ,,, was 30°0.044 on the 6th; the second minimum ,,, was 29°868 on the 5th. The third maximum ,,, was 29°863 on the 9th; the third minimum ,,, was 29°664 on the 8th. The fourth maximum ,,, was 29°903 on the 12th; the absolute minimum ,,, was 29°293 on the 11th. The absolute maximum ,,, was 30°171 on the 17th; the fifth minimum ,,, was 29°771 on the 13th. The sixth maximum ,,, was 30°030 on the 26th; the sixth minimum ,,, was 29°586 on the 21st.

The range in the month was 0°878.

The mean for the month was 29°842, being 0°152 higher than the average of the preceding 20 years.

TEMPERATURE OF THE AIR.

The highest in the month was 75°6 on the 8th; the lowest was 39°6 on the 29th.

The range ,,, was 36°0.

The mean ,,, of all the highest daily readings was 64°1, being 5°8 higher than the average of the preceding 20 years.

The mean ,,, of all the lowest daily readings was 47°7, being 4°0 higher than the average of the preceding 20 years.

The mean daily range was 16°4, being 1°8 greater than the average of the preceding 20 years.

The mean for the month was 54°9, being 4°7 higher than the average of the preceding 20 years.

MONTH and DAY, 1861.	ELECTRICITY.		CLOUDS AND WEATHER.	
	A.M.	P.M.	A.M.	P.M.
Oct. 1			9, ci.-cu, ci.-s, ci, r	9, cu.-s, ci.-s : l, t, r
2			7, ci, h	7, cu.-s, ci.-s : o : f
3		v : s, sps	10, th-f : 5, s, ci, li.-cl : o	o
4	w	w : s, g cur	5, ci.-cu, ci : 1, ci	o
5	s	s : w	10, li.-cl, f	10, h, f : 10, r
6	v	v	10, r	10, r : 10
7	s	s	10, th-f	10, li.-cl, h : th.-f
8	o	o : s	o	3, li.-cl : 5, 1
9	s	s	10, r	7, ci.-cu, ci.-s : o, f
10	s, sps, g cur	s, sps, g cur	10, f	o : 10 : o
11	o	s N, s P, sps, g cur : w	7, r	10, l, t, h.-r : o
12	m	m	10	10 : o
13	m	m	o, ci.-s, li.-cl	7, s, ci : 10, s, ci.-s, sc
14	v	v	3, ci, li.-cl	o
15	s	s : w	10, th-f	2, ci, li.-cl : o, f
16	o	w : s	10	10
17	s	m : s, sps	o	7, ci.-cu, ci : 10, th.-r
18	s	m : s	5, ci.-cu, ci	7, cu, ci.-cu, ci : f
19	s	s	10, th-f	o : o, h
20	s	s	10, f	10, f : 7, ci.-cu, cu.-s, ci.-s, f
21	v	v	o	10, cu.-s, ci.-s : oc.-r
22	s N, s P, sps, g cur	v	10, li.-cl	10, oc.-r : o
23	w	s	10, li.-cl	10, li.-cl : 7, ci.-cu, ci.-s : 10, ci.-s
24	w	w : s	10	10 : a
25	o	s	10, r	9, ci.-s : 10, ci.-s
26	s	s	10, li.-cl	7, ci.-cu, ci.-s : 7, ci, h
27	s	o	o, h	10, ci.-s, h
28	m	s	10	10 : 5
29	s	s	10	10, li.-cl
30	m	m : s	7, li.-cl	10, li.-cl : 10
31	s : o	o	10	o : 5, li.-cl

HUMIDITY OF THE AIR.

Temperature of the Dew Point.

The highest in the month was $63^{\circ}\cdot 1$ on the 7th; and the lowest was $41^{\circ}\cdot 1$ on the 31st.

The mean " was $51^{\circ}\cdot 3$, being $5^{\circ}\cdot 3$ higher than the average of the preceding 20 years.

Elastic Force of Vapour.—The mean for the month was $0^{\text{in}}\cdot 378$ being $0^{\text{in}}\cdot 066$ greater than the average of the preceding 20 years.

Weight of Vapour in a Cubic Foot of Air.—The mean for the month was $4^{\text{gr}}\cdot 2$, being $0^{\text{gr}}\cdot 6$ greater than the average of the preceding 20 years.

Degree of Humidity.—The mean for the month was 87 (that of Saturation being represented by 100), being the same as the average of the preceding 20 years.

Weight of a Cubic Foot of Air.—The mean for the month was 536 grains, being 3 grains less than the average of the preceding 20 years.

CLOUDS.

The mean amount for the month, a clear sky being represented by o and a cloudy sky by 10, was $6\cdot 5$.

WIND.

The proportions were of N. 6, S. 11, W. 5, and E. 9. The greatest pressure in the month was $6^{\text{lb}}\cdot 0$ on the square foot on the 11th.

RAIN.

Fell on 10 days in the month, amounting to $0^{\text{in}}\cdot 9$, as measured in the simple cylinder gauge partly sunk below the ground; being $1^{\text{in}}\cdot 9$ less than the average fall of the preceding 46 years.

ELECTRICITY.—From October 1 to 3. The insulating lamp was not burning.

RESULTS OF ORDINARY METEOROLOGICAL OBSERVATIONS

MONTH and DAY, 1861.	Phases of the Moon.	Mean Daily Reading of the Barometer (corrected and reduced to 32° Fahrenheit).	READINGS OF THERMOMETERS.										Difference between the Dew Point Temperature and Air Temperature.	WIND AS DEDUCED FROM ANEMOMETERS.										WHE- WELL'S ROBIN- SON'S	Amount of Horizontal Movement of the Air on each Day.	Rain in Inches read at 9 ^h P.M.
			Dry.				Dew Point.	in the Water of the Thames, at Greenwich, by Self-Registering Thermometers, read at 9 ^h A.M. next morning.				General Direction.			OSLER'S.			Pressure in lbs. on the square foot.								
			Highest.	Lowest.	Mean Daily Value.	Mean Daily Value.	Highest in the Sun, as shewn by a Self-Registering Thermometer read at 9 ^h P.M.	Lowest on the Grass, as shewn by a Self-Registering Thermometer read at 9 ^h A.M. next morning.	Highest.	Lowest.	Mean Daily Value.	Greatest.	Least.	A.M.	P.M.	Greatest.	Least.	Mean of 24 Obs.								
Nov. 1	..	i. 29·170 29·185 29·668	48·0 45·0 46·3	35·4 32·4 32·5	41·4 38·2 39·2	36·7 32·7 33·4	82·0 67·0 79·0	35·0 31·3 24·6	54·5 54·0 49·5	51·0 49·0 46·0	4·7 5·5 5·8	10·9 8·5 10·3	2·2 0·3 2·2	— 5·0 — 8·0 — 6·9	SW; NW NW; W NW	W NW NW	lbs. 0·0 5·0 3·0	lbs. 0·0 0·0 0·3	lbs. 0·0 1·6 110	miles 125 165 208	in. 0·15 0·21 0·00					
2	New; Perigee.	29·185	45·0	32·4	38·2	32·7	67·0	31·3	54·0	49·0	5·5	8·5	0·3	— 8·0	NW; W	NW										
3	..	29·668	46·3	32·5	39·2	33·4	79·0	24·6	49·5	46·0	5·8	10·3	2·2	— 6·9	NW	NW										
4	..	29·824	48·8	29·2	40·9	39·5	58·0	23·6	51·5	46·0	1·4	4·4	0·6	— 5·0	SW	SW	1·0	0·0	0·0	180	390	0·05				
5	Greatest Declination S.	29·483	55·5	41·7	47·9	44·0	63·0	41·0	52·5	46·0	3·9	8·4	2·5	+ 2·2	SW	SW	12·0	0·0	2·0	170	360	0·57				
6	..	29·326	50·2	41·2	45·8	43·3	65·0	36·5	52·5	46·0	2·5	4·8	0·8	+ 0·3	SW	SW	2·0	0·0	0·3	125	235	0·19				
7	..	29·311	51·2	34·5	42·3	38·3	88·0	27·0	51·0	45·5	4·0	10·6	0·5	— 2·8	WSW	SW	0·0	0·0	0·0	95	205	0·00				
8	..	29·210	47·8	32·9	39·4	36·0	86·0	27·0	49·0	45·0	3·4	9·2	0·3	— 5·4	WSW	WSW	0·0	0·0	0·0	80	179	0·00				
9	First Qr.	29·397	46·8	32·5	38·4	35·7	75·0	25·0	48·5	45·0	2·7	8·2	0·0	— 6·1	W	Calm; SE	0·0	0·0	0·0	120	252	0·00				
10	..	29·087	50·8	32·3	42·2	40·2	62·0	26·3	49·0	44·5	2·0	4·4	0·0	— 2·1	SE; S	SW	10·0	0·0	3·2	230	468	0·53				
11	In Equator	29·527	50·7	37·6	43·7	34·9	92·0	30·2	49·0	43·5	8·8	12·4	6·7	— 0·3	WSW	SW	3·5	0·0	1·0	175	338	0·00				
12	..	29·607	46·9	37·5	42·5	42·3	64·0	30·0	49·0	42·5	0·2	0·5	0·0	— 1·4	SSW	Var.	0·0	0·0	0·0	15	59	0·15				
13	..	29·284	44·5	32·3	39·1	39·1	58·0	30·0	48·0	42·0	0·0	0·7	0·0	— 4·4	ENE	NE	5·0	0·0	1·0	190	477	1·29				
14	..	29·168	46·3	34·8	40·7	36·9	75·0	29·5	47·5	41·5	3·8	7·3	1·8	— 2·6	WNW; W	WNW	9·0	0·0	2·4	155	367	0·54				
15	..	29·356	44·8	31·4	37·6	33·1	62·0	30·0	47·0	41·0	4·5	7·8	2·1	— 5·4	W	NW; N	0·0	0·0	0·0	75	199	0·00				
16	Apogee	29·466	38·6	25·5	32·0	26·3	72·0	18·0	46·5	40·0	5·7	11·6	3·2	— 10·6	WSW	WSW; NW	0·0	0·0	0·0	105	257	0·00				
17	Full	29·863	35·9	27·0	30·9	26·8	45·0	22·5	46·0	38·5	4·1	6·4	3·3	— 11·5	NNE	N	1·0	0·0	0·0	65	168	0·01				
18	..	30·247	31·5	23·5	27·1	24·4	35·0	16·5	45·0	36·0	2·7	4·0	1·8	— 15·1	W	SW	0·0	0·0	0·0	40	143	0·00				
19	Greatest Declination N.	30·352	41·8	23·2	34·1	26·5	73·0	16·5	45·0	35·5	7·6	11·5	5·2	— 8·1	SW	SW	2·0	0·0	0·2	180	374	0·00				
20	..	30·058	47·0	36·3	41·8	35·8	83·0	27·0	44·5	35·0	6·0	9·0	3·7	— 0·4	WSW	SW	3·0	0·0	0·8	210	422	0·00				
21	..	29·663	52·8	36·5	47·3	43·3	85·0	32·0	43·0	34·0	4·0	6·8	2·9	+ 5·3	SW	SW	9·0	0·0	2·0	280	552	0·01				
22	..	29·381	47·4	39·4	42·9	41·1	53·0	42·0	43·0	38·0	1·8	5·9	0·9	+ 1·2	WSW	SW	5·0	0·0	0·5	195	381	1·00				
23	..	29·327	43·8	32·5	38·1	33·7	75·0	30·9	43·0	38·0	4·4	6·2	0·0	— 3·3	WSW	W	3·5	0·0	0·3	115	249	0·00				
24	..	29·892	37·0	26·0	30·6	24·8	62·0	23·6	42·5	37·5	5·8	9·1	3·8	— 10·4	NNE	NNE; SSW	1·0	0·0	0·0	120	244	0·00				
25	Last Qr.	29·697	49·0	27·5	43·2	39·0	69·0	19·7	42·0	38·0	4·2	6·5	3·0	+ 2·4	SW	SW	7·0	0·0	2·0	305	635	0·00				
26	In Equator	29·427	57·8	48·8	53·1	50·2	61·0	38·5	43·5	38·0	2·9	4·0	2·0	+ 12·2	SW	SW; WNW	11·0	0·0	2·5	140	313	0·06				
27	..	29·698	51·0	37·0	42·1	37·5	55·0	33·5	44·5	38·0	4·6	7·0	1·8	+ 1·0	W	WSW	0·0	0·0	0·0	45	157	0·00				
28	..	29·831	48·4	32·7	41·1	39·1	74·0	27·0	43·2	39·5	2·0	6·9	0·7	— 0·4	WSW	SW	0·0	0·0	0·0	130	298	0·00				
29	..	29·646	56·0	44·0	51·9	51·5	62·0	34·0	44·0	40·0	0·4	2·7	0·0	+ 10·3	SW	SW	5·0	0·0	1·4	260	516	0·10				
30	..	29·681	56·3	43·5	49·7	47·9	66·0	38·0	47·0	40·5	1·8	4·6	1·6	+ 8·1	SW	WSW	5·0	0·0	1·8	250	501	0·20				
Means	..	29·561	47·3	34·1	40·8	37·1	68·2	28·9	47·2	41·4	3·7	7·0	1·8	— 2·4	Sum	Sum	Sum	5·06			

BAROMETER READINGS FROM EYE-OBSERVATIONS.

The first minimum in the month was 29ⁱⁿ.115 on the 2nd.The first maximum in the month was 29ⁱⁿ.860 on the 4th; the second minimum ,,, was 29ⁱⁿ.208 on the 8th.The second maximum ,,, was 29ⁱⁿ.487 on the 9th; the third minimum ,,, was 29ⁱⁿ.021 on the 10th.The third maximum ,,, was 29ⁱⁿ.637 on the 12th; the absolute minimum ,,, was 28ⁱⁿ.918 on the 13th.The absolute maximum ,,, was 30ⁱⁿ.426 on the 19th; the fifth minimum ,,, was 29ⁱⁿ.208 on the 22nd.The fifth maximum ,,, was 29ⁱⁿ.964 on the 24th; the sixth minimum ,,, was 29ⁱⁿ.355 on the 26th.The sixth maximum ,,, was 29ⁱⁿ.848 on the 28th; the seventh minimum ,,, was 29ⁱⁿ.641 on the 29th.The range in the month was 1ⁱⁿ.508.The mean for the month was 29ⁱⁿ.561, being 0ⁱⁿ.195 lower than the average of the preceding 20 years.The mean daily range was 1ⁱⁿ.2, being 1ⁱⁿ.6 greater than the average of the preceding 20 years.The mean for the month was 40[°]8, being 2[°]6 lower than the average of the preceding 20 years.The highest in the month was 57[°]8 on the 26th; the lowest was 23[°]2 on the 19th; and the range in the month was 34[°]6.The mean ,,, of all the highest daily readings was 47[°]3, being 2[°]0 lower than the average of the preceding 20 years.The mean ,,, of all the lowest daily readings was 34[°]1, being 3[°]6 lower than the average of the preceding 20 years.

MONTH and DAY, 1861.	ELECTRICITY.		CLOUDS AND WEATHER.		
	A.M.	P.M.	A.M.		P.M.
Nov. 1	o	o : m	10, r 10, sn 5, li.-cl		7, li.-cl : o : 10, l, r
2					10 : o
3					7, ci.-eu, ci.-s : o, h
4			10, th.-r		10, th.-r
5			10, ci.-s, sc		10, r
6			10, h.-r	: 10, li.-cl	10, oc.-r : 1 : 10
7	o	s	o, h.-f	: 7, li.-cl	7, li.-cl : o : 1
8	s	s	10, f	: o, h	7, li.-cl, h : o, f, h.-f
9	s	s	10, f		1, ci : 1, h.-f
10	s N	s N : m	10, n, s, h.-sq.s.-r 5, li.-cl		10, n, s, ci.-s, t, r : o : 1
11			10, r		5, li.-cl : o
12					10, r : f
13			10, r		10, r
14			10, r	: 7, li.-cl	7, li.-cl : 10, r
15			10, li.-cl		10 : 1, ci.-s, h, h.-f, lu.-ha
16			o, h, h.-f		7, li.-cl : 10, h
17			10, ci.-s, sn		10, ci.-s : o, h.-f
18			10, h, h.-f		10, h, h.-f : h, h.-f
19			2, ci.-s, h.-f		2, li.-cl
20			7, ci.-s	: o	o
21			10		10 : oc.-r
22			10, h.-r		10, r
23			o		10 : 10, th.-f
24			o, h		o, h
25			10, li.-cl		10
26			10, r		10, oc.-r
27			10, li.-cl		10, ci.-s : o
28			10, li.-cl, h		7, ci.-eu, ci.-s
29			10, r		10
30			10, h.-r		10, oc.-r : o

HUMIDITY OF THE AIR.

Temperature of the Dew Point.

The highest in the month was $53^{\circ} 3$ on the 26th; and the lowest was $21^{\circ} 3$ on the 24th.

The mean " was $37^{\circ} 1$, being $3^{\circ} 0$ lower than the average of the preceding 20 years.

Elastic Force of Vapour.—The mean for the month was $0^{in.} 221$ being $0^{in.} 034$ less than the average of the preceding 20 years.

Weight of Vapour in a Cubic Foot of Air.—The mean for the month was $2^{gr.} 6$, being $0^{gr.} 3$ less than the average of the preceding 20 years.

Degree of Humidity.—The mean for the month was 87 (that of Saturation being represented by 100), being 2 less than the average of the preceding 20 years.

Weight of a Cubic Foot of Air.—The mean for the month was 547 grains, being the same as the average of the preceding 20 years.

CLOUDS.

The mean amount for the month, a clear sky being represented by o and a cloudy sky by 10, was 6.9.

WIND.

The proportions were of N. 4, S. 9, W. 16, and E. 1. The greatest pressure in the month was $12^{lbs.} 0$ on the square foot on the 5th.

RAIN.

Fell on 15 days in the month, amounting to $5^{in.} 1$, as measured in the simple cylinder gauge partly sunk below the ground; being $2^{in.} 7$ greater than the average fall of the preceding 46 years.

ELECTRICITY.—The insulating lamp was not burning from November 2 to 6; and the Electrometer was not in action from November 11 to December 31.

(cl)

RESULTS OF ORDINARY METEOROLOGICAL OBSERVATIONS

MONTH and DAY, 1861.	Phases of the Moon.	Mean Daily Reading of the Barometer (corrected and reduced to 32° Fahrenheit).	READINGS OF THERMOMETERS.									Difference between the Dew Point Temperature and Air Temperature.	WIND AS DEDUCED FROM ANEMOMETERS.									
			Dry.			Dew Point.	Highest in the Sun, as shown by a Self-Registering Thermometer read at 9h. A.M. next morning.			In the Water of the Thames, at Greenwich, by Self-Registering Thermometers, read at 9h. A.M. next morning.				General Direction.			OSLER'S.			WHE- WELL'S	ROBIN- SON'S	
			Highest.	Lowest.	Mean Daily Value.	Mean Daily Value.	Highest.	Lowest.	Mean Daily Value.	Greatest.	Least.		A.M.	P.M.	Greatest.	Least.	Mean of 24 Obs.	Amount of Horizontal Movement of the Air on each Day.	Rain in Inches read at 9h P.M.			
Dec. 1	Perigee	in.	0	0	0	0	0	0	0	0	0	WSW; W	NW; NNE	6.0	0.0	1.9	65	162	0.00			
2	New; Greatest Dec. S.	29.911	49.3	35.0	43.4	37.2	76.0	31.0	47.5	42.0	6.2	Calm	SE	0.0	0.0	0.0	65	110	0.00			
3	..	30.279	45.4	28.0	36.5	34.2	68.0	24.0	47.0	42.0	2.3	SSE	SE	0.0	0.0	0.0	40	85	0.00			
4	..	30.129	45.8	30.7	37.5	32.2	68.0	23.5	47.0	42.0	5.3		
5	..	29.937	45.2	27.3	37.0	33.0	79.0	21.0	46.0	41.0	4.0	SE	SSE	0.0	0.0	0.0	90	173	0.00			
6	..	29.623	44.0	34.5	39.4	35.3	53.0	27.5	46.0	40.0	4.1	SW; NW	WSW	2.0	0.0	0.2	110	224	0.32			
7	..	29.401	47.9	34.2	41.8	41.5	50.0	27.0	46.0	40.0	0.3	SW	S; WSW	2.0	0.0	0.1	180	346	0.27			
8	..	29.220	53.8	43.0	48.3	43.7	75.0	37.8	44.0	40.0	4.6		
9	First Quarter; In Equator.	29.503	52.5	42.9	47.6	42.0	80.0	37.8	43.0	39.5	5.6	WSW	SW	7.0	0.0	1.7	150	295	0.15			
10	..	29.748	54.0	42.9	48.7	46.4	82.2	35.0	43.5	38.0	2.3	WSW	SW	4.0	0.0	0.4	170	348	0.25			
11	..	29.539	51.8	39.8	45.6	42.5	81.0	33.8	46.0	43.0	3.1	SSW	SSW	3.0	0.0	0.3	110	185	0.01			
12	..	29.720	52.0	48.0	50.3	46.8	59.0	38.0	46.0	42.0	3.5	SW	SW	3.5	0.0	0.3	115	220	0.00			
13	Apogee	29.329	53.2	48.0	50.6	46.8	62.0	43.4	..	..	3.8	SE; SW	SW	2.0	0.0	0.5	160	311	0.04	
14	..	29.887	49.3	39.5	44.7	40.3	82.0	34.0	..	..	4.4	SW	SW; S	2.0	0.0	0.0	5.0	230	456	
15	..	30.074	49.8	43.2	46.1	41.2	65.0	39.0	..	..	4.9	SW	SSW	5.0	0.5	1.8	120	209	0.00	
16	Greatest Declination N.	30.083	51.0	43.3	47.8	46.4	52.0	40.0	..	..	1.4	W	NW	9.0	1.0	2.5	250	479	0.07	
17	Full	30.036	47.0	39.3	43.3	39.6	50.0	34.0	..	..	3.7	WNW	W	2.5	0.0	0.5	205	420	0.02	
18	..	29.822	47.3	40.5	44.2	40.1	52.0	35.0	..	..	4.1	W	N	3.0	0.0	0.5	120	209	0.00	
19	..	30.119	45.0	34.5	39.3	35.4	69.0	..	..	..	3.9	NNE	NE	3.0	0.0	0.6	85	210	0.00
20	..	30.278	42.0	35.6	39.2	34.0	55.0	26.0	..	..	5.2	NE	NE	0.0	0.0	0.0	80	180	0.00	
21	..	30.196	40.8	36.5	38.6	35.5	51.0	32.0	..	..	3.1	NE	NE	0.0	0.0	0.0	70	174	0.00	
22	..	30.147	40.2	37.5	39.2	35.2	48.0	36.0	..	..	4.0	ENE	NE	0.0	0.0	0.0	95	226	0.00	
23	In Equator Last Qr.	30.202	45.0	37.5	41.7	37.9	52.0	34.0	..	..	3.8	ENE	E	2.0	0.0	0.0	95	225	0.00	
24	..	30.152	43.5	33.0	38.4	32.8	75.0	30.0	..	..	5.6	ESE	ESE	3.0	0.0	0.2	115	225	0.00	
25	..	30.057	42.2	32.1	36.3	29.8	69.8	27.2	..	..	6.5	ESE	ESE	0.0	0.0	0.0	50	110	0.00	
26	..	30.127	40.0	24.5	31.8	30.1	58.0	22.0	..	..	1.7	Calm	E	0.0	0.0	0.0	10	41	0.00	
27	..	30.400	39.1	23.5	32.2	31.2	40.4	19.6	..	..	1.0	Calm	ESE	2.0	0.0	0.1	75	178	0.00	
28	..	30.369	40.0	33.5	36.7	32.3	49.0	30.2	..	..	4.4	E	E	0.0	0.0	0.0	70	164	0.00	
29	Perigee	30.291	35.0	25.0	29.6	25.4	44.0	30.0	..	..	4.2	E	NE	0.0	0.0	0.0	5	40	0.00	
30	Greatest Declination S.	30.283	36.1	23.5	29.9	28.9	36.1	23.0	..	..	1.0	NE	ENE	0.0	0.0	0.0	35	96	0.00	
31	New	30.256	40.0	34.4	36.6	32.4	44.8	32.5	..	..	4.2	ENE	NE	0.0	0.0	0.0	40	94	0.03	
Means	..	29.974	45.9	36.0	41.0	37.3	61.6	31.4	..	..	3.7	..	..	..	..	..	Sum 3285	Sum 6833	Sum 125

BAROMETER READINGS FROM EYE-OBSERVATIONS.

The first maximum in the month was 30ⁱⁿ. 318 on the 2nd; the absolute minimum in the month was 29ⁱⁿ. 101 on the 7th.
The second maximum,, was 29ⁱⁿ. 792 on the 9th; the second minimum,, was 29ⁱⁿ. 643 on the 10th.
The third maximum,, was 29ⁱⁿ. 956 on the 11th; the third minimum,, was 29ⁱⁿ. 283 on the 13th.
The fourth maximum,, was 30ⁱⁿ. 116 on the 15th; the fourth minimum,, was 29ⁱⁿ. 807 on the 18th.
The fifth maximum,, was 30ⁱⁿ. 295 on the 20th; the fifth minimum,, was 30ⁱⁿ. 043 on the 25th.
The absolute maximum,, was 30ⁱⁿ. 416 on the 27th; the sixth minimum,, was 30ⁱⁿ. 242 on the 31st.
The range in the month was 1ⁱⁿ. 315.

The mean for the month was 29ⁱⁿ. 974, being 0ⁱⁿ. 169 higher than the average of the preceding 20 years.

TEMPERATURE OF THE AIR.

The highest in the month was 54°.0 on the 9th; the lowest was 23°.5 on the 27th and 30th.

The range,, was 30°.5.

The mean,, of all the highest daily readings was 45°.9, being 0°.9 higher than the average of the preceding 20 years.

The mean,, of all the lowest daily readings was 36°.0, being 0°.5 higher than the average of the preceding 20 years.

The mean daily range was 9°.9, being 0°.4 greater than the average of the preceding 20 years.

The mean for the month was 41°.0, being 0°.9 higher than the average of the preceding 20 years.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(cli)

MONTH and DAY, 1861.	ELECTRICITY.		CLOUDS AND WEATHER.	
	A.M.	P.M.	A.M.	P.M.
Dec. 1			8, ci.-cu, ci.-s, sc	7, li.-cl
2			7, ci.-cu, ci.-s, f, h.-f	7, li.-cl : o
3			3, ci, h.-f	o : h.-f
4			o, f, h.-f	o : a
5			10, r : 7, li.-cl, h	o, h
6			10	10, r
7			10, r : o	7, li.-cl
8			10 : o	o : 7, ci
9			10, s, ci.-s : h.-sh.-r	2, ci
10			10 : 2, li.-cl	10 : oc.-r
11			10, h.-r : o	o : 5, ci.-cu, cu.-s, lu.-cor
12			10, r	10
13			10, r	10, fr.-r : cu.-s, ci.-s
14			10, sl.-r : o	o : 9, ci.-s
15			10	10, li.-cl
16			10, h.-r	10, h.-r : 10, f
17			10, f	10, th.-f : 10, ci.-s, sc, lu.-cor
18			10	10 : 10, fr.-r
19			o : 5, li.-cl	7, ci.-s, sc : 3, ci.-cu, ci.-s : 1, a
20			10, li.-cl	10
21			10	10
22			10	10
23			10	10
24			o	o
25			o, h.-f	o
26			o, f, h.-f	o
27			10, th.-f, h.-f	10 : o, f
28			10	10, li.-cl
29			10	10 : 10, th.-f
30			10, h.-f	9, ci.-cu, ci.-s : 10, f
31			10, r : 10, ci.-cu, ci.-s	10, cu.-s, ci.-s : 10, ci.-s

HUMIDITY OF THE AIR.

Temperature of the Dew Point.

The highest in the month was $48^{\circ}4$ on the 10th and 16th; and the lowest was $23^{\circ}9$ on the 29th.The mean " was $37^{\circ}3$, being $0^{\circ}4$ higher than the average of the preceding 20 years.Elastic Force of Vapour.—The mean for the month was $0^{in}223$, being $0^{in}002$ greater than the average of the preceding 20 years.Weight of Vapour in a Cubic Foot of Air.—The mean for the month was $2^{lb}6$, being the same as the average of the preceding 20 years.

Degree of Humidity.—The mean for the month was 87 (that of Saturation being represented by 100), being 2 less than the average of the preceding 20 years.

Weight of a Cubic Foot of Air.—The mean for the month was 555 grains, being 3 grains greater than the average of the preceding 20 years.

CLOUDS.

The mean amount for the month, a clear sky being represented by o and a cloudy sky by 10, was 6.5.

WIND.

The proportions were of N. 5, S. 7, W. 9, and E. 10. The greatest pressure in the month was $9^{lb}0$ on the square foot on the 13th.

RAIN.

Fell on 10 days in the month, amounting to $1^{in}3$, as measured in the simple cylinder gauge partly sunk below the ground; being $0^{in}7$ less than the average fall of the preceding 46 years.

ELECTRICITY.—The Electrometer was not in action throughout the month.

MAXIMA AND MINIMA BAROMETER-READINGS,

MAXIMA AND MINIMA READINGS OF THE BAROMETER.

The following table contains the highest and lowest readings of the Barometer, reduced to 32° Fahrenheit, extracted from the photographic records. The readings are accurate; but the times are liable to great uncertainty, as the barometer frequently remains at its highest or lowest point through several hours. The time is the middle of the stationary period. Where the symbol : follows the time, it denotes that the quicksilver has been sensibly stationary through a period of more than one hour.

MAXIMA.		MINIMA.		MAXIMA.		MINIMA.		
Approximate Mean Solar Time, 1861.	Reading.	Approximate Mean Solar Time, 1861.	Reading.	Approximate Mean Solar Time, 1861.	Reading.	Approximate Mean Solar Time, 1861.	Reading.	
January	d h m	in.	January	d h m	in.	May	d h m	in.
	3. 0. 0	30°166		0. 21. 0	29°000		16. 20. 8	29°920
	10. 12. 30:	30°230		4. 20. 0	29°875		25. 9. 0:	29°612
	20. 10. 0:	30°357		13. 15. 15:	29°520		1. 0. 0:	29°676
	26. 2. 35	30°234		25. 15. 10	29°755		9. 14. 0:	29°538
	29. 19. 0	29°962		29. 19. 0	29°962		14. 22. 45	29°833
	February	30°544		6. 4. 40:	29°213		23. 7. 30:	29°590
	7. 9. 5	29°468		8. 11. 0	29°368		26. 6. 0:	29°480
	10. 7. 25	30°152		12. 20. 45:	29°457		28. 21. 45:	29°575
	13. 21. 0:	29°962		15. 19. 45	29°460		5. 0. 0:	29°170
February	16. 11. 0:	29°675	March	20. 13. 43	29°150		13. 9. 0	29°338
	20. 22. 35	29°375		21. 6. 33	29°105		19. 18. 0:	29°535
	21. 23. 30	29°560		23. 0. 46	29°390		22. 18. 50	29°410
	25. 0. 0:	30°073		1. 3. 40:	29°430		25. 16. 0:	29°336
	2. 0. 0	29°843		2. 20. 5	29°423		29. 19. 0:	29°660
	4. 19. 7	30°135		6. 5. 40	29°496		2. 9. 0:	29°544
	7. 7. 15:	30°039		8. 0. 0	29°861		5. 3. 0:	29°740
	9. 0. 0:	30°283		11. 6. 35	29°135		8. 2. 35:	29°530
	13. 21. 45:	30°148		18. 22. 0:	28°818		12. 3. 0	29°595
	19. 23. 0:	29°529		20. 8. 30	29°148		14. 21. 0:	29°564
March	22. 23. 0:	29°743		23. 21. 30:	29°627		18. 8. 0	29°759
	24. 21. 15	29°810		27. 18. 0:	29°262		23. 2. 30:	29°921
	29. 10. 0:	29°615		30. 22. 0:	29°466		28. 18. 0:	29°668
	1. 0. 0:	29°628		1. 21. 30:	29°553		September	3. 3. 30:
	9. 9. 0	30°412		13. 19. 0:	30°115		6. 7. 30	29°600
	15. 23. 15:	30°247		22. 18. 0:	29°684		9. 22. 0:	29°780
	26. 11. 0:	30°037		28. 1. 30:	29°904		14. 5. 0:	29°533
	29. 23. 30:	30°160		3. 5. 8	29°810		25. 5. 30:	29°140
	5. 8. 40	30°076		11. 3. 0	29°434		28. 17. 0:	29°660
	14. 9. 35	30°310						

MAXIMA AND MINIMA READINGS OF THE BAROMETER—concluded.

MAXIMA.		MINIMA.		MAXIMA.		MINIMA.		
Approximate Mean Solar Time, 1861.	Reading.	Approximate Mean Solar Time, 1861.	Reading.	Approximate Mean Solar Time, 1861.	Reading.	Approximate Mean Solar Time, 1861.	Reading.	
October	d. h. m	in.	October	d. h. m	in.	November	d. h. m	in.
	2. 22. 10:	30°.020		1. 0. 0:	29°.568		18. 23. 15	30°.428
	5. 22. 45	30°.046		5. 2. 0:	29°.868		24. 8. 30:	29°.964
	9. 9. 15	29°.870		8. 3. 0	29°.664		28. 6. 45	29°.860
	12. 12. 30:	29°.903		11. 2. 20	29°.275		1. 22. 15	29°.318
	16. 21. 0:	30°.171		13. 3. 0:	29°.765		9. 9. 0:	29°.792
	25. 21. 0:	30°.030		21. 4. 30:	29°.586		11. 4. 0:	29°.956
	November	3. 20. 45		November	1. 21. 0		15. 9. 0:	30°.116
	9. 9. 45:	29°.487		8. 1. 35:	29°.195		20. 0. 30	30°.295
	11. 21. 0:	29°.637		10. 0. 0	29°.005		26. 23. 0:	30°.416
November	d. h. m	in.		d. h. m	in.		d. h. m	in.
	13. 9. 30	28°.790		22. 10. 15:	29°.208		1. 21. 0	29°.101
	26. 1. 0:	29°.355		28. 21. 0:	29°.641		10. 3. 50:	29°.643
	13. 4. 40:	29°.283		13. 4. 40:	29°.807		17. 21. 0:	29°.807
	25. 6. 30:	30°.043		25. 6. 30:	30°.043		25. 6. 30:	30°.043
	31. 9. 0:	30°.242		31. 9. 0:	30°.242		31. 9. 0:	30°.242
	d. h. m	in.		d. h. m	in.		d. h. m	in.
	10. 3. 50:	29°.643		10. 3. 50:	29°.643		10. 3. 50:	29°.643
	13. 4. 40:	29°.283		13. 4. 40:	29°.283		13. 4. 40:	29°.283
	17. 21. 0:	29°.807		17. 21. 0:	29°.807		17. 21. 0:	29°.807

MONTHLY MEANS of RESULTS for METEOROLOGICAL ELEMENTS at the ROYAL OBSERVATORY, GREENWICH, in the Year 1861.

1861, MONTH.	Mean Reading of the Barometer.	TEMPERATURE OF THE AIR.							Mean Tempera- ture of Dew Point.	Mean Elastic Force of Vapour.	Mean Weight of Vapour in a Cubic Foot of Air.	Mean additional Weight required to saturate a Cubic Foot of Air.						
		Highest.	Lowest.	Range in the Month.	Mean of all the Highest.	Mean of all the Lowest.	Mean Daily Range.	Mean Tempera- ture.										
January ..	in. 30.011	55.0	16.0	39.0	39.6	28.7	10.9	33.8	30.0	0.167	1.9	0.3						
February ..	29.686	56.0	24.4	31.6	48.2	36.9	11.3	42.1	39.4	0.241	2.8	0.3						
March	29.614	61.8	29.1	32.7	52.7	37.1	15.6	43.8	41.2	0.259	2.9	0.3						
April	29.999	63.5	26.8	36.7	55.0	36.0	19.0	44.3	40.2	0.249	2.9	0.5						
May	29.924	80.2	33.4	46.8	63.5	43.0	20.5	51.9	43.6	0.284	3.2	1.2						
June	29.782	81.8	42.9	38.9	70.8	51.3	19.5	59.1	53.1	0.404	4.6	1.0						
July	29.606	76.3	48.4	27.9	72.3	53.4	18.9	60.9	53.7	0.413	4.6	1.3						
August ...	29.865	89.3	46.2	43.1	75.6	53.8	21.8	63.2	55.2	0.436	4.9	1.6						
September.	29.717	81.1	37.7	43.4	68.3	48.2	20.1	57.1	50.6	0.369	4.1	1.2						
October ...	29.842	75.6	39.6	36.0	64.1	47.7	16.4	54.9	51.3	0.378	4.2	0.6						
November .	29.561	57.8	23.2	34.6	47.3	34.1	13.2	40.8	37.1	0.221	2.6	0.4						
December .	29.974	54.0	23.5	30.5	45.9	36.0	9.9	41.0	37.3	0.223	2.6	0.4						
Means	29.798	69.4	32.6	36.8	58.6	42.2	16.4	49.4	44.4	0.304	3.4	0.8						
1861, MONTH.	Mean Degree of Humidity. (Sat. = 100.)	Mean Weight of a Cubic Foot of Air.	Mean Amount of Cloud. 0-10	Number of Cloudy Days.	Amount collected on the Ground, read daily.	Amount collected on the Ground, read Monthly.	RAIN.											
							WIND.											
From Osler's Anemometer.																		
Number of Days for Mean Direction of the Wind referred to different Points of Azimuth.																		
N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Number of Calm Days and Days on which the Pressure of the Wind was less than 1 lb. on the Sq. Foot.	Mean Daily Pressure in lbs. on Square Foot.	From Whewell's Anemo- meter.	From Robin- son's Anemo- meter.							
January...	85	gr. 564	7.0	7	..	0.6	0	3	1	1	2	11	1	1	11	0.44	54	177
February ..	91	548	7.4	11	..	1.8	1	4	1	2	3	11	2	2	2	0.96	116	248
March	90	545	6.5	21	..	2.2	2	0	1	0	0	10	11	5	2	1.27	175	346
April	85	551	7.1	6	0.8	0.8	4	6	9	0	0	1	2	3	5	0.08	83	189
May	74	542	7.6	8	1.8	1.6	8	7	3	1	1	3	3	2	3	0.19	88	201
June.....	81	531	7.4	15	1.9	1.8	4	6	5	2	1	8	3	1	0	0.08	86	196
July	78	526	7.4	20	2.2	2.1	0	0	1	1	2	18	7	2	0	0.30	140	277
August ...	76	528	5.9	9	0.6	0.6	0	0	0	0	2	15	11	3	0	0.26	120	270
September.	79	532	6.3	15	1.5	1.5	3	1	0	1	3	13	8	1	0	0.27	108	255
October ...	87	536	6.5	10	0.9	0.9	1	7	4	6	4	8	1	0	0	0.11	82	180
November .	87	547	6.9	15	5.1	5.2	2	2	0	0	1	15	7	3	0	0.78	148	320
December .	87	555	6.5	10	1.2	1.3	1	7	4	3	3	6	3	2	2	0.38	106	220
Means	83	542	6.9	Sum 147	..	Sum 20.4	Sum 26	Sum 43	Sum 29	Sum 17	Sum 22	Sum 119	Sum 59	Sum 25	Sum 25

Whewell's Anemometer was not at work during 3 days of January and 5 days of February. The mean horizontal movement for these months has been formed from the remaining days.

AT THE ROYAL OBSERVATORY, GREENWICH, IN THE YEAR 1861.

(clv)

READINGS OF THERMOMETERS SUNK IN THE GROUND.

(I.)—Reading of a Thermometer whose bulb is sunk to the depth of 25·6 feet (24 French feet) below the surface of the soil, at Noon on every Day, except Sundays, Good Friday, and Christmas Day.

Day of the Month, 1861.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	50° 96	50° 30	49° 39	48° 45	47° 96	47° 84	48° 11	48° 86	S	50° 72	51° 37	S
2	50° 92	50° 25	49° 35	48° 44	47° 98	S	48° 13	48° 90	49° 86	50° 75	51° 36	51° 68
3	50° 96	S	S	48° 42	47° 96	47° 87	48° 15	48° 92	49° 90	50° 76	S	51° 69
4	50° 90	50° 17	49° 26	48° 40	47° 93	47° 84	48° 16	S	49° 91	50° 80	51° 40	51° 67
5	50° 86	50° 17	49° 22	48° 38	S	47° 86	48° 18	49° 02	49° 98	50° 80	51° 45	51° 67
6	S	50° 11	49° 22	48° 35	47° 95	47° 86	48° 20	49° 02	49° 99	S	51° 46	51° 67
7	50° 82	50° 11	49° 12	S	47° 90	47° 85	S	49° 05	50° 02	50° 91	51° 46	51° 70
8	50° 80	50° 05	49° 16	48° 32	47° 90	47° 86	48° 25	49° 04	S	50° 95	51° 48	S
9	50° 79	50° 03	49° 11	48° 30	47° 88	S	48° 27	49° 10	50° 09	50° 96	51° 48	51° 70
10	50° 75	S	S	48° 31	47° 90	47° 87	48° 28	49° 15	50° 10	50° 96	S	51° 70
11	50° 76	49° 94	49° 03	48° 28	47° 90	47° 88	48° 30	S	50° 12	51° 02	51° 53	51° 70
12	50° 73	49° 90	48° 88	48° 26	S	47° 87	48° 33	49° 20	50° 14	51° 02	51° 57	51° 70
13	S	49° 90	48° 96	48° 22	47° 88	47° 90	48° 35	49° 23	50° 26	S	51° 52	51° 70
14	50° 68	49° 86	48° 95	S	47° 88	47° 90	S	49° 25	50° 23	51° 10	51° 55	51° 66
15	50° 64	49° 83	48° 92	48° 19	47° 90	47° 92	48° 40	49° 30	S	51° 10	51° 56	S
16	50° 65	49° 80	48° 88	48° 16	47° 90	S	48° 42	49° 31	50° 27	51° 10	51° 55	51° 65
17	50° 65	S	S	48° 17	47° 85	47° 93	48° 45	49° 35	50° 30	51° 10	S	51° 65
18	50° 62	49° 75	48° 81	48° 10	47° 86	47° 96	48° 46	S	50° 35	51° 13	51° 55	51° 63
19	50° 61	49° 72	48° 79	48° 10	S	47° 96	48° 50	49° 42	50° 40	51° 15	51° 62	51° 61
20	S	49° 68	48° 76	48° 10	47° 88	47° 96	48° 48	49° 45	50° 40	S	51° 62	51° 60
21	50° 57	49° 65	48° 72	S	47° 88	47° 98	S	49° 47	50° 45	51° 20	51° 65	51° 58
22	50° 56	49° 62	48° 71	48° 05	47° 86	47° 97	48° 58	49° 52	S	51° 23	51° 63	S
23	50° 51	49° 58	48° 71	48° 03	47° 90	S	48° 60	49° 54	50° 46	51° 23	51° 62	51° 56
24	50° 50	S	S	48° 07	47° 87	48° 03	48° 62	49° 55	50° 51	51° 28	S	51° 55
25	50° 50	49° 50	48° 62	48° 06	47° 86	48° 02	48° 66	S	50° 51	51° 30	51° 65	Christmas Day
26	50° 47	49° 48	48° 56	48° 05	S	48° 05	48° 72	49° 63	50° 55	51° 30	51° 70	51° 50
27	S	49° 45	48° 60	48° 01	47° 86	48° 06	48° 71	49° 68	50° 60	S	51° 65	51° 47
28	50° 41	49° 40	48° 55	S	47° 86	48° 07	S	49° 75	50° 61	51° 32	51° 63	51° 50
29	50° 38	Good Friday.	48° 02	47° 85	48° 05	48° 78	49° 72	S	51° 35	51° 70	S	
30	50° 35		48° 46	48° 00	47° 87	S	48° 80	49° 77	50° 68	51° 37	51° 72	51° 40
31	50° 34		S		47° 86	48° 83	49° 80			51° 38		51° 41
Means.	50° 66	49° 84	48° 91	48° 20	47° 89	47° 93	48° 43	49° 33	50° 27	51° 08	51° 56	51° 61

(II.)—Reading of a Thermometer whose bulb is sunk to the depth of 12·8 feet (12 French feet) below the surface of the soil, at the same times.

Day of the Month, 1861.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	48° 90	45° 74	45° 18	45° 32	46° 21	47° 46	50° 50	53° 06	S	55° 41	54° 73	S
2	48° 81	45° 62	45° 17	45° 36	46° 23	S	50° 61	53° 15	55° 07	55° 33	54° 68	52° 03
3	48° 71	S	S	45° 33	46° 30	47° 71	50° 68	53° 15	55° 06	55° 34	S	51° 95
4	48° 50	45° 55	45° 13	45° 41	46° 32	47° 78	50° 85	S	55° 07	55° 32	54° 62	51° 83
5	48° 37	45° 60	45° 18	45° 39	S	47° 90	50° 88	53° 37	55° 18	55° 26	54° 62	51° 72
6	S	45° 43	45° 18	45° 40	46° 38	48° 02	51° 02	53° 38	55° 18	S	54° 58	51° 62
7	48° 13	45° 52	45° 10	S	46° 38	48° 10	S	53° 47	55° 20	55° 26	54° 53	51° 58
8	48° 06	45° 38	45° 18	45° 50	46° 41	48° 20	51° 12	53° 44	S	55° 28	54° 50	S
9	47° 95	45° 39	45° 22	45° 51	46° 36	S	51° 32	53° 56	55° 25	55° 20	54° 40	51° 36
10	47° 88	S	S	45° 52	46° 48	48° 40	51° 40	53° 68	55° 29	55° 18	S	51° 30
11	47° 82	45° 25	45° 22	45° 57	46° 50	48° 52	51° 48	S	55° 31	55° 20	54° 30	51° 20
12	47° 66	45° 26	45° 22	45° 58	S	48° 61	51° 52	53° 80	55° 30	55° 10	54° 21	51° 12

READINGS OF THERMOMETERS SUNK IN THE GROUND

(II.)—Reading of a Thermometer whose bulb is sunk to the depth of 12 French feet—*concluded.*

Day of the Month, 1861.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
d	o	o	o	o	o	o	o	o	o	o	o	o	
13	S	45°30	45°22	45°58	46°56	48°77	51°62	53°82	55°30	S	54°10	51°02	
14	47°43	45°32	45°23	S	46°60	48°82	S	53°92	55°40	55°18	54°07	50°92	
15	47°33	45°32	45°26	45°63	46°65	48°88	51°78	53°93	S	55°12	53°95	S	
16	47°32	45°32	45°30	45°58	46°68	S	51°88	53°96	55°40	55°08	53°80	50°72	
17	47°22	S	S	45°72	46°58	49°02	52°01	54°08	55°41	55°06	S	50°68	
18	47°11	45°30	45°30	45°60	46°70	49°11	52°02	S	55°50	55°05	53°60	50°61	
19	47°02	45°30	45°30	45°61	S	49°20	52°10	54°25	55°50	55°05	53°51	50°52	
20	S	45°72	45°30	45°77	46°79	49°22	52°15	54°26	55°50	S	53°50	50°48	
21	46°82	45°23	45°33	S	46°83	49°32	S	54°26	55°48	55°05	53°40	50°40	
22	46°71	45°23	45°32	45°73	46°87	49°40	52°32	54°41	S	55°08	53°25	S	
23	46°62	45°20	45°36	45°78	46°92	S	52°42	54°50	55°43	55°02	53°15	50°30	
24	46°47	S	S	45°92	46°96	49°82	52°48	54°56	55°45	55°07	S	50°26	
25	46°43	45°21	45°33	46°00	47°02	49°73	52°57	S	55°39	55°03	52°92	Christmas Day.	
26	46°32	45°21	45°20	46°02	S	49°88	52°60	54°68	55°40	55°00	52°83		
27	S	45°18	45°32	46°02	47°16	50°02	52°72	54°80	55°42	S	52°63	50°03	
28	46°18	45°19	45°32	S	47°22	50°12	S	54°88	55°38	54°90	52°52	50°02	
29	46°03		Good Friday.	46°12	47°22	50°20	52°85	54°88	S	54°90	52°48	S	
30	45°94			45°21	46°19	47°36	S	52°94	54°93	55°44	54°88	52°33	49°85
31	45°88			S		47°45		53°00	54°98		54°81		49°81
Means.	47°32	45°37	45°24	45°66	46°71	48°89	51°81	54°04	55°33	55°12	53°74	50°86	

(III.)—Reading of a Thermometer whose bulb is sunk to the depth of 6·4 feet (6 French feet) below the surface of the soil, at the same times.

Day of the Month, 1861.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
d	o	o	o	o	o	o	o	o	o	o	o	o	
1	44°20		44°22	45°30	47°57	51°87	56°77	58°58	S	57°70	55°83	S	
2	44°19		44°20	45°53	47°51	S	56°77	58°67	60°03	57°55	55°60	48°96	
3	44°12		S	45°67	47°59	52°28	56°82	58°72	60°02	57°54	S	49°02	
4	43°96		44°32	45°60	47°57	52°54	56°88	S	60°02	57°56	55°21	49°02	
5	43°86		44°32	45°78	S	52°72	57°02	58°98	60°12	57°54	55°00	48°96	
6	S		44°39	45°86	47°80	52°80	57°09	59°02	60°10	S	54°65	48°70	
7	43°50		S	47°85	52°89	S	59°04	60°08	57°60	54°30	48°48		
8	43°40		44°49	46°03	47°90	52°91	57°20	59°05	S	57°60	54°12	S	
9	43°30		44°48	46°18	47°82	S	57°20	59°21	60°10	57°60	53°83	47°90	
10	S		46°20	48°03	52°98	57°20	59°37	60°08	57°72	S	48°02		
11			44°78	46°19	48°03	53°03	57°35	S	60°02	57°75	53°26	48°02	
12			44°84	46°23	S	53°12	57°48	59°64	59°90	57°62	53°05	48°03	
13			44°88	46°20	48°08	53°06	57°53	59°65	59°82	S	52°83	48°10	
14			44°92	S	48°15	53°20	S	59°87	59°78	57°78	52°30	48°12	
15			44°97	46°40	48°30	53°29	57°71	60°02	S	57°60	52°03	S	
16			44°91	46°30	48°27	S	57°82	60°08	59°51	57°52	51°72	48°30	
17			S	46°60	48°31	53°80	58°02	60°28	59°30	57°50	S	48°30	
18			44°92	46°58	48°60	54°13	58°03	S	59°30	57°47	51°30	48°30	
19			44°92	46°63	S	54°50	58°04	60°47	59°18	57°38	51°12	48°31	
20			44°81	47°00	49°12	54°85	58°13	60°30	59°02	S	50°90	48°39	
21			44°76	S	49°27	55°17	S	60°30	58°82	57°14	50°58	48°41	
22			44°73	47°17	49°50	55°46	58°23	60°33	S	57°04	50°12	S	
23			44°73	47°25	49°80	S	58°21	60°32	58°60	56°82	49°54	48°21	
24			S	47°50	49°98	56°03	58°30	60°29	58°51	56°78	S	48°10	
25			44°76	47°51	50°22	56°18	58°33	S	58°32	56°60	49°30	47°96	
26			44°03	44°60	47°56	S	56°25	58°37	60°10	58°28	56°50	49°20	47°96

(III.)—Reading of a Thermometer whose bulb is sunk to the depth of 6 French feet—concluded.

Day of the Month, 1861.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
27		44°10	44°80	47°50	50°83	56°41	58°48	60°19	58°20	S	49°11	47°78
28		44°17	44°97	S	51°03	56°55	S	60°10	58°00	56°30	49°03	47°56
29			Good Friday.	47°60	51°26	56°59	58°60	60°05	S	56°23	49°02	S
30				45°02	47°68	51°60	S	58°48	59°96	57°80	56°21	49°02
31				S	51°70	58°62	60°01			56°02		47°06
Means.	44°69	46°54	48°95	54°10	57°73	59°73	59°32	57°21	52°00	48°20

At temperatures below 43°.50 the fluid of this thermometer descends below the scale; the readings from January 10 to February 25 were all less than 43°.50.

(IV.)—Reading of a Thermometer whose bulb is sunk to the depth of 3·2 feet (3 French feet) below the surface of the soil, at the same times.

Day of the Month, 1861.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	°	°	°	°	°	°	°	°	°	°	°	°
1		39°63	42°63	45°00	46°60	56°10	60°53	62°05	S	57°46	53°70	S
2		39°96	42°90	44°98	46°98	S	60°52	62°33	62°70	57°80	53°21	46°02
3		S	S	44°98	47°35	56°26	60°86	62°41	62°83	58°10	S	45°60
4		39°93	43°08	45°18	47°60	55°92	60°90	S	62°93	58°12	51°48	44°98
5		40°10	43°03	45°40	S	55°73	60°66	62°32	62°82	58°18	50°70	44°21
6		40°30	42°78	45°51	47°58	55°56	60°61	62°60	62°72	S	50°51	43°70
7		40°87	42°95	S	47°80	55°35	S	63°02	62°80	58°32	50°30	43°40
8		40°93	43°16	45°44	47°82	55°12	60°83	63°18	S	58°45	49°98	S
9		41°28	43°47	45°30	47°60	S	60°85	63°37	62°02	58°83	49°42	44°25
10		S	S	45°17	47°65	54°83	61°02	63°45	61°82	58°70	S	44°60
11		41°12	43°73	45°16	47°72	55°00	61°21	S	61°71	58°68	48°48	45°00
12		40°75	43°79	45°46	S	55°20	61°47	64°10	61°40	58°60	48°21	45°21
13		40°28	43°49	45°82	48°03	55°73	61°52	64°60	61°08	S	47°98	45°50
14		40°03	43°25	S	48°30	56°51	S	65°10	60°91	58°10	47°21	45°83
15		39°77	43°08	46°33	48°43	57°48	61°82	65°13	S	58°20	47°10	S
16		40°08	43°20	46°40	49°23	S	61°93	65°02	59°92	58°01	46°83	45°80
17		S	S	46°63	50°06	59°37	61°95	64°77	59°52	57°81	S	45°88
18		41°18	42°88	47°09	50°77	60°05	61°93	S	59°30	57°30	45°63	45°93
19		41°45	42°57	47°46	S	60°53	61°92	64°10	59°20	56°81	45°00	45°80
20		41°86	42°50	47°86	51°15	61°08	61°80	64°06	59°06	S	44°42	45°46
21		41°94	42°58	S	51°63	61°42	S	63°83	59°06	56°00	44°12	45°02
22		42°32	42°57	47°40	52°28	61°47	61°82	63°32	S	55°88	44°25	S
23		42°43	42°42	47°23	53°20	S	61°93	62°93	58°38	55°80	44°48	44°50
24		S	S	47°32	53°60	61°45	61°88	62°75	58°34	55°72	S	44°47
25		43°07	43°10	47°32	54°21	61°30	61°82	S	58°02	55°62	44°10	Christmas Day
26		42°88	43°40	47°48	S	61°10	61°75	62°08	57°73	55°78	43°83	43°60
27		42°77	43°91	47°51	54°58	60°72	61°60	62°12	57°46	S	44°50	43°00
28		42°68	44°26	S	54°62	60°54	S	62°18	57°07	55°41	44°92	42°40
29			Good Friday.	46°68	54°88	60°44	61°63	62°34	S	54°92	44°90	S
30				44°85	46°61	55°14	S	61°77	62°70	57°28	54°41	45°33
31	39°50		S		55°60		61°97	62°78		54°05		41°52
Means.	..	41°15	43°18	46°26	50°39	58°17	61°43	63°28	60°24	57°08	47°33	44°54

At temperatures below 39°.70 the fluid of this thermometer descends below the scale; the readings on those days, which are slightly below this value, are estimated readings only, and therefore liable to some uncertainty. From January 1 to January 30 the readings were all below 39°.70, and mostly less than 39°.

READINGS OF THERMOMETERS SUNK IN THE GROUND

(V.)—Reading of a Thermometer whose bulb is sunk to the depth of 1 inch below the surface of the soil, within the case which covers the tops of the deep-sunk Thermometers, at the same times.

Day of the Month, 1861.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	o	o	o	o	o	o	o	o	o	o	o	o
1	40°5	44°0	46°0	45°0	50°2	62°0	63°7	66°3	S	62°0	48°1	S
2	35°0	40°8	43°3	46°3	51°8	S	65°3	67°3	66°3	60°8	43°6	40°0
3	34°3	S	S	47°8	52°3	59°3	63°7	63°0	66°0	59°5	S	41°2
4	32°0	41°0	43°2	48°0	46°3	58°6	64°3	S	63°2	60°7	42°6	39°3
5	34°5	43°2	41°8	47°7	S	58°3	62°7	67°3	66°7	59°6	50°5	41°3
6	S	44°7	47°0	43°7	47°5	57°3	63°7	67°3	67°3	S	48°3	40°0
7	32°0	44°2	44°0	S	47°0	56°8	S	68°1	62°7	61°7	44°3	47°3
8	30°8	43°5	47°7	46°0	48°0	57°3	65°0	66°1	S	62°2	43°5	S
9	30°8	41°9	45°8	45°7	48°7	S	64°0	67°2	62°5	62°0	42°3	47°2
10	28°0	S	S	46°0	47°7	58°3	64°3	68°0	62°7	58°6	S	47°5
11	31°2	38°4	44°0	47°0	47°8	60°5	65°0	S	60°2	62°7	44°7	47°3
12	34°5	35°2	42°2	49°8	S	62°2	65°3	73°0	62°8	57°5	43°7	48°3
13	S	36°8	42°2	47°0	49°2	65°0	66°3	69°7	60°2	S	42°6	48°8
14	33°0	36°3	41°6	S	51°5	67°5	S	69°3	60°8	62°6	43°0	46°0
15	32°2	42°3	46°0	46°7	56°5	68°5	64°3	69°7	S	58°3	42°3	S
16	31°0	44°2	44°2	50°8	59°5	S	65°4	65°8	57°8	57°3	37°3	46°3
17	34°3	S	S	50°3	57°0	66°3	65°0	64°3	55°8	54°4	S	46°0
18	34°1	45°0	40°7	51°0	51°8	66°0	65°0	S	57°3	55°2	34°8	45°0
19	34°1	46°0	43°6	49°6	S	68°3	64°3	67°3	60°2	53°3	36°0	43°5
20	S	43°3	43°0	47°3	57°0	67°3	65°2	65°0	60°2	S	41°8	41°3
21	37°0	46°3	42°0	S	61°8	69°3	S	62°0	57°3	55°6	44°8	41°5
22	36°0	46°0	41°8	46°7	61°3	67°0	65°3	62°7	S	57°5	46°0	S
23	35°8	46°3	46°8	50°0	64°1	S	65°5	62°7	61°4	57°5	56°3	S
24	37°0	S	S	48°0	59°3	65°5	62°7	S	54°9	58°8	41°3	Christmas Day
25	43°2	43°2	46°3	49°8	59°5	63°2	65°7	S	55°1	56°3	49°8	37°0
26	44°0	43°0	47°0	51°5	S	61°7	64°2	63°3	55°1	S	45°0	35°0
27	S	42°0	48°3	44°8	61°3	64°3	63°3	66°3	55°1	S	42°6	38°3
28	43°2	44°0	50°1	S	57°3	63°7	S	66°8	56°9	52°0	42°6	S
29	39°7	Good Friday.	46°8	46°8	60°4	65°0	64°8	66°5	S	51°3	49°0	34°8
30	38°8	46°0	47°3	S	64°0	S	65°3	65°3	60°7	51°5	51°8	34°8
31	43°0		S	62°8			65°5	63°3		51°6		38°0
Means.	35°5	42°6	44°6	47°7	54°9	63°2	64°6	66°2	60°3	57°5	43°9	42°6

(VI.)—Reading of a Thermometer within the case covering the deep-sunk Thermometers, whose bulb is placed on a level with their scales at the same times.

Day of the Month, 1861.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
d	o	o	o	o	o	o	o	o	o	o	o	o
1	43°5	50°8	51°3	46°8	57°3	64°0	71°5	72°5	S	70°1	46°4	S
2	32°3	43°2	45°8	49°8	59°7	S	69°8	76°0	74°0	64°0	40°8	39°8
3	32°9	S	S	51°3	59°7	61°6	68°6	62°2	69°5	66°5	S	43°5
4	28°5	44°7	43°7	53°7	46°8	60°0	65°5	S	66°5	68°0	46°0	42°0
5	32°4	45°1	45°3	49°6	S	62°7	63°6	76°0	76°0	63°8	53°6	40°8
6	S	47°7	53°6	47°2	53°6	57°5	68°8	73°5	70°6	S	48°8	42°6
7	28°5	47°3	47°2	S	49°2	56°8	S	73°5	66°0	66°2	49°8	50°2
8	31°2	45°2	48°0	49°8	49°3	59°0	71°5	66°0	S	69°8	46°2	S
9	30°9	42°8	49°7	51°3	55°0	S	69°5	71°7	67°4	66°3	43°2	52°0
10	23°0	S	S	55°3	51°8	61°7	68°4	76°0	68°6	64°3	S	52°6
11	33°2	38°0	45°0	59°0	47°3	69°2	70°2	S	65°8	68°3	49°8	49°2
12	36°5	35°0	43°8	61°3	S	66°0	70°8	86°0	72°5	60°2	46°2	51°2
13	S	39°7	45°5	55°6	49°7	76°3	67°5	73°6	59°8	S	41°3	51°2
14	30°5	40°2	49°2	S	62°2	79°8	S	76°0	66°0	71°5	45°2	47°3
15	29°0	47°2	51°3	49°8	69°3	79°7	66°2	70°2	S	66°2	41°2	S

(VI.)—Reading of a Thermometer within the case covering the deep-sunk Thermometers—*concluded.*

Day of the Month, 1861.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	°	°	°	°	°	°	°	°	°	°	°	°
16	28.3	48.8	48.6	60.5	72.3	S	69.8	63.7	61.5	56.8	35.7	48.4
17	35.9	S	S	56.0	56.0	73.5	71.7	70.8	57.2	60.0	S	45.0
18	35.7	50.9	44.8	56.7	55.6	73.7	67.3	S	65.0	59.6	30.7	46.5
19.	34.6	50.5	46.8	53.0	S	76.5	63.7	73.5	69.7	60.8	38.5	45.0
20.	S	45.2	45.1	52.6	69.0	72.5	68.0	69.8	60.3	S	47.7	40.9
21	42.0	52.0	44.0	S	75.0	75.2	S	65.3	61.2	60.2	50.3	40.0
22	39.0	50.8	49.3	51.4	65.2	72.8	68.3	68.8	S	60.7	46.0	S
23	37.2	48.2	54.3	55.2	76.0	S	69.8	70.2	58.0	57.2	42.5	44.2
24	42.0	S	S	56.3	63.2	71.3	60.8	66.8	64.4	61.2	S	42.7
25	50.9	42.2	45.0	53.6	65.2	61.0	67.8	S	55.2	62.3	45.5	Christmas Day.
26	50.0	47.3	51.2	58.8	S	64.6	66.3	65.0	57.0	56.9	55.0	35.8
27	S	46.8	57.2	38.7	69.2	71.6	68.5	76.2	64.2	S	44.8	32.7
28	45.8	46.5	51.7	S	56.2	70.2	S	78.7	58.0	52.6	45.1	38.8
29	42.0		Good Friday.	51.7	66.8	70.0	71.7	70.5	S	55.0	55.0	S
30	38.7		46.8	57.6	75.5	S	69.8	70.7	71.2	54.0	54.6	30.7
31	49.5		S		69.0		71.7	72.2		53.2		38.0
Means.	36.5	45.7	48.2	53.2	60.9	68.3	68.4	71.7	65.0	62.1	45.8	43.6

(clx) WEEKLY MEANS OF READINGS OF DEEP-SUNK THERMOMETERS, AND CHANGES OF THE DIRECTION OF THE WIND,

WEEKLY MEANS of READINGS of THERMOMETERS.										
Thermometers sunk in the ground.										
1861.		Period.	Bulb 24 French Feet deep.	Bulb 12 French Feet deep.	Bulb 6 French Feet deep.	Bulb 3 French Feet deep.	Bulb 1 Inch deep.			
d	d		°	°	°	°	°	°	°	°
January	1 to January	7	50° 90	48° 57	43° 97	...	34° 7	33° 0	33° 0	33° 0
	8 to	14	50° 75	47° 80	...	...	31° 4	30° 9	30° 9	30° 9
	15 to	21	50° 62	47° 14	...	...	33° 8	34° 2	34° 2	34° 2
	22 to	28	50° 49	46° 46	...	...	39° 9	44° 1	44° 1	44° 1
	29 to February	4	50° 30	45° 79	...	...	41° 2	44° 8	44° 8	44° 8
February	5 to	11	50° 07	45° 43	...	40° 77	42° 6	44° 4	44° 4	44° 4
	12 to	18	49° 84	45° 30	...	40° 35	40° 0	43° 6	43° 6	43° 6
	19 to	25	49° 62	45° 32	...	42° 18	45° 2	48° 2	48° 2	48° 2
	26 to March	4	49° 39	45° 18	44° 17	42° 82	43° 6	46° 9	46° 9	46° 9
March	5 to	11	49° 14	45° 18	44° 48	43° 19	45° 1	48° 1	48° 1	48° 1
	12 to	18	48° 90	45° 26	44° 91	43° 28	42° 8	47° 2	47° 2	47° 2
	19 to	25	48° 72	45° 32	44° 79	42° 62	43° 9	47° 4	47° 4	47° 4
	26 to April	1	48° 52	45° 27	44° 94	44° 28	47° 2	50° 7	50° 7	50° 7
April	2 to	8	48° 39	45° 40	45° 75	45° 25	46° 6	50° 2	50° 2	50° 2
	9 to	15	48° 26	45° 56	46° 23	45° 54	47° 0	55° 4	55° 4	55° 4
	16 to	22	48° 11	45° 67	46° 71	47° 14	49° 3	55° 0	55° 0	55° 0
	23 to	29	48° 04	45° 98	47° 49	47° 26	48° 5	52° 4	52° 4	52° 4
	30 to May	6	47° 96	46° 27	47° 62	47° 12	49° 2	55° 8	55° 8	55° 8
May	7 to	13	47° 89	46° 45	47° 95	47° 77	48° 1	50° 4	50° 4	50° 4
	14 to	20	47° 88	46° 67	48° 46	49° 66	55° 6	64° 1	64° 1	64° 1
	21 to	27	47° 87	46° 96	49° 93	53° 25	61° 2	69° 0	69° 0	69° 0
	28 to June	3	47° 86	47° 40	51° 62	55° 43	61° 0	65° 5	65° 5	65° 5
June	4 to	10	47° 86	48° 07	52° 80	55° 42	57° 8	59° 6	59° 6	59° 6
	11 to	17	47° 90	48° 77	53° 25	56° 55	65° 0	74° 1	74° 1	74° 1
	18 to	24	47° 98	49° 34	55° 02	61° 00	67° 2	73° 7	73° 7	73° 7
	25 to July	1	48° 06	50° 08	56° 46	60° 76	63° 6	68° 2	68° 2	68° 2
July	2 to	8	48° 18	50° 86	56° 96	60° 73	64° 1	68° 0	68° 0	68° 0
	9 to	15	48° 32	51° 52	57° 41	61° 32	64° 9	68° 8	68° 8	68° 8
	16 to	22	48° 48	52° 08	58° 05	61° 89	65° 0	68° 1	68° 1	68° 1
	23 to	29	48° 68	52° 61	58° 38	61° 77	64° 4	67° 5	67° 5	67° 5
	30 to August	5	48° 89	53° 11	58° 68	62° 14	65° 8	71° 4	71° 4	71° 4
August	6 to	12	49° 09	53° 56	59° 22	63° 29	68° 3	74° 4	74° 4	74° 4
	13 to	19	49° 31	53° 99	60° 06	64° 79	67° 7	71° 3	71° 3	71° 3
	20 to	26	49° 53	54° 45	60° 27	63° 16	63° 1	67° 6	67° 6	67° 6
	27 to September	2	49° 76	54° 92	60° 06	62° 47	65° 8	73° 7	73° 7	73° 7
September	3 to	9	49° 98	55° 16	60° 07	62° 69	64° 7	69° 3	69° 3	69° 3
	10 to	16	50° 19	55° 33	59° 85	61° 14	60° 8	65° 7	65° 7	65° 7
	17 to	23	50° 39	55° 47	59° 04	59° 09	58° 1	61° 9	61° 9	61° 9
	24 to	30	50° 58	55° 41	58° 18	57° 65	56° 7	61° 7	61° 7	61° 7
October	1 to October	7	50° 79	55° 32	57° 58	57° 99	60° 7	66° 4	66° 4	66° 4
	8 to	14	51° 00	55° 19	57° 68	58° 56	60° 9	66° 7	66° 7	66° 7
	15 to	21	51° 13	55° 07	57° 43	57° 36	55° 7	60° 6	60° 6	60° 6
	22 to	28	51° 28	55° 02	56° 67	55° 70	55° 9	58° 5	58° 5	58° 5
	29 to November	4	51° 37	54° 77	55° 85	53° 63	48° 1	49° 2	49° 2	49° 2
November	5 to	11	51° 48	54° 49	54° 19	49° 90	45° 6	48° 6	48° 6	48° 6
	12 to	18	51° 55	53° 96	52° 20	47° 16	40° 6	40° 1	40° 1	40° 1
	19 to	25	51° 63	53° 29	50° 26	44° 40	42° 0	45° 1	45° 1	45° 1
	26 to December	2	51° 68	52° 47	49° 06	44° 92	46° 4	49° 1	49° 1	49° 1
December	3 to	9	51° 68	51° 68	48° 68	44° 36	42° 7	45° 2	45° 2	45° 2
	10 to	16	51° 69	51° 05	48° 10	45° 32	47° 4	50° 0	50° 0	50° 0
	17 to	23	51° 60	50° 50	48° 32	45° 43	43° 3	43° 6	43° 6	43° 6
	24 to	31	51° 47	50° 02	47° 56	42° 80	37° 4	36° 4	36° 4	36° 4

ABSTRACT OF THE CHANGES OF THE DIRECTION OF THE WIND, AS DERIVED FROM OSLER'S ANEMOMETER.

By *direct* motion, in the following statements, is meant that the change of the direction of the wind was in the order N., E., S., W., N., &c.,
by *retrograde* is meant in the order N., W., S., E., N., &c.

1860. Dec. 31. 12. The direction of the wind was S.

1861. Jan. 31. 12. , , S., which implies a retrograde motion of 360° .

On Jan. 0. 22, 4^d. 22^h, 8^d. 3^h, the trace was shifted to the next set of lines downwards ; on Jan. 5^d. 22^h, 14^d. 22^h, the trace was shifted to the next set of lines upwards, implying direct motion of 1080° , and retrograde motion of 720° .

Therefore there was no change in the month of January.

1861. Jan. 31. 12. The direction of the wind was S.

Feb. 28. 12. , , S.W., which implies a direct motion of 45° .

On Feb. 11. 22, 26^d. 22^h, the trace was shifted to the next set of lines upwards ; on Feb. 14^d. 22^h, the trace was shifted to the next set of lines downwards, implying retrograde motion of 720° , and direct motion of 360° .

Therefore the whole excess of retrograde motion in the month of February was 315° .

1861. Feb. 28. 12. The direction of the wind was S.W.

March 31. 12. , , S.W., which implies no change.

On March 25. 22, the trace was shifted to the next set of lines downwards, implying direct motion of 360° .

Therefore the whole excess of direct motion in the month of March was 360° .

1861. March 31. 12. The direction of the wind was S.W.

April 30. 12. , , W.S.W., which implies a direct motion of $22\frac{1}{2}^\circ$.

On April 20. 22, the trace was shifted to the next set of lines downwards, implying direct motion of 360° .

Therefore the whole excess of direct motion in the month of April was $382\frac{1}{2}^\circ$.

1861. April 30. 12. The direction of the wind was W.S.W.

May 31. 12. , , S.W., which implies a retrograde motion of $22\frac{1}{2}^\circ$.

On May 15. 22, 16^d. 22^h, 19^d. 22^h, 24^d. 22^h, the trace was shifted to the next set of lines downwards, implying direct motion of 1440° .

Therefore the whole excess of direct motion in the month of May was $1417\frac{1}{2}^\circ$.

1861. May 31. 12. The direction of the wind was S.W.

June 30. 12. , , N.N.W., which implies a direct motion of $112\frac{1}{2}^\circ$.

On June 2. 22, 4^d. 22^h, 5^d. 22^h, the trace was shifted to the next set of lines downwards ; on June 6^d. 22^h, the trace was shifted to the next set of lines upwards, implying direct motion of 1080° , and retrograde motion of 360° .

Therefore the whole excess of direct motion in the month of June was $832\frac{1}{2}^\circ$.

1861. June 30. 12. The direction of the wind was N.N.W.

July 31. 12. , , S.W., which implies a retrograde motion of $112\frac{1}{2}^\circ$.

On July 2. 22, the trace was shifted to the next set of lines downwards, implying direct motion of 360° .

Therefore the whole excess of direct motion in the month of July was $247\frac{1}{2}^\circ$.

1861. July 31. 12. The direction of the wind was S.W.

Aug. 31. 12. , , W.S.W., which implies a direct motion of $22\frac{1}{2}^\circ$.

On Aug. 13. 22, 26^d. 22^h, the trace was shifted to the next set of lines downwards ; on Aug. 20^d. 22^h, the trace was shifted to the next set of lines upwards, implying direct motion of 720° , and retrograde motion of 360° .

Therefore the whole excess of direct motion in the month of August was $382\frac{1}{2}^\circ$.

1861. Aug. 31^d. 12^h. The direction of the wind was W.S.W.

Sept. 30. 12. , , S.S.W., which implies a retrograde motion of 45°.

On Sept. 11. 22, the trace was shifted to the second set of lines downwards ; on Sept. 22^d. 22^h, the trace was shifted to the next set of lines upwards, implying direct motion of 720°, and retrograde motion of 360°.

Therefore the whole excess of direct motion in the month of September was 315°.

1861. Sept. 30^d. 12^h. The direction of the wind was S.S.W.

Oct. 31. 12. , , S.S.W., which implies no change.

On Oct. 3. 22, 4^d. 3^h, 7^d. 22^h, 21^d. 22^h, the trace was shifted to the next set of lines downwards, implying direct motion of 1440°.

Therefore the whole excess of direct motion in the month of October was 1440°.

1861. Oct. 31^d. 12^h. The direction of the wind was S.S.W.

Nov. 30. 12. , , W.S.W., which implies a direct motion of 45°.

On Nov. 13. 19¹₂, the trace was shifted to the next set of lines upwards ; on Nov. 24^d. 22^h, the trace was shifted to the next set of lines downwards, implying retrograde motion of 360°, and direct motion of 360°.

Therefore the whole excess of direct motion in the month of November was 45°.

1861. Nov. 30^d. 12^h. The direction of the wind was W.S.W.

Dec. 31. 12. , , N.N.E., which implies a direct motion of 135°.

On Dec. 2. 22, the trace was shifted to the next set of lines downwards ; and on Dec. 23^d. 22^h, to the second set downwards ; on Dec. 26^d. 22^h, the trace was shifted to the next set of lines upwards, implying direct motion of 1080°, and retrograde motion of 360°.

Therefore the whole excess of direct motion in the month of December was 855°.

The whole excess of direct motion to the end of the year was 5962¹₂°.

The revolution-counter which is attached to the vertical spindle of the vane, whose readings increase with change of direction of the wind in the order N., E., S., W., &c., or in direct motion, and decrease with change of direction in the order N., W., S., E., &c. or in retrograde motion, gave the following readings :—

On 1860, December 31 ^d . 12 ^h.	..	..	..	..	..	..	..	..	..	37°50
1861, December 31. 12.	..	..	..	..	..	..	..	..	..	54°00

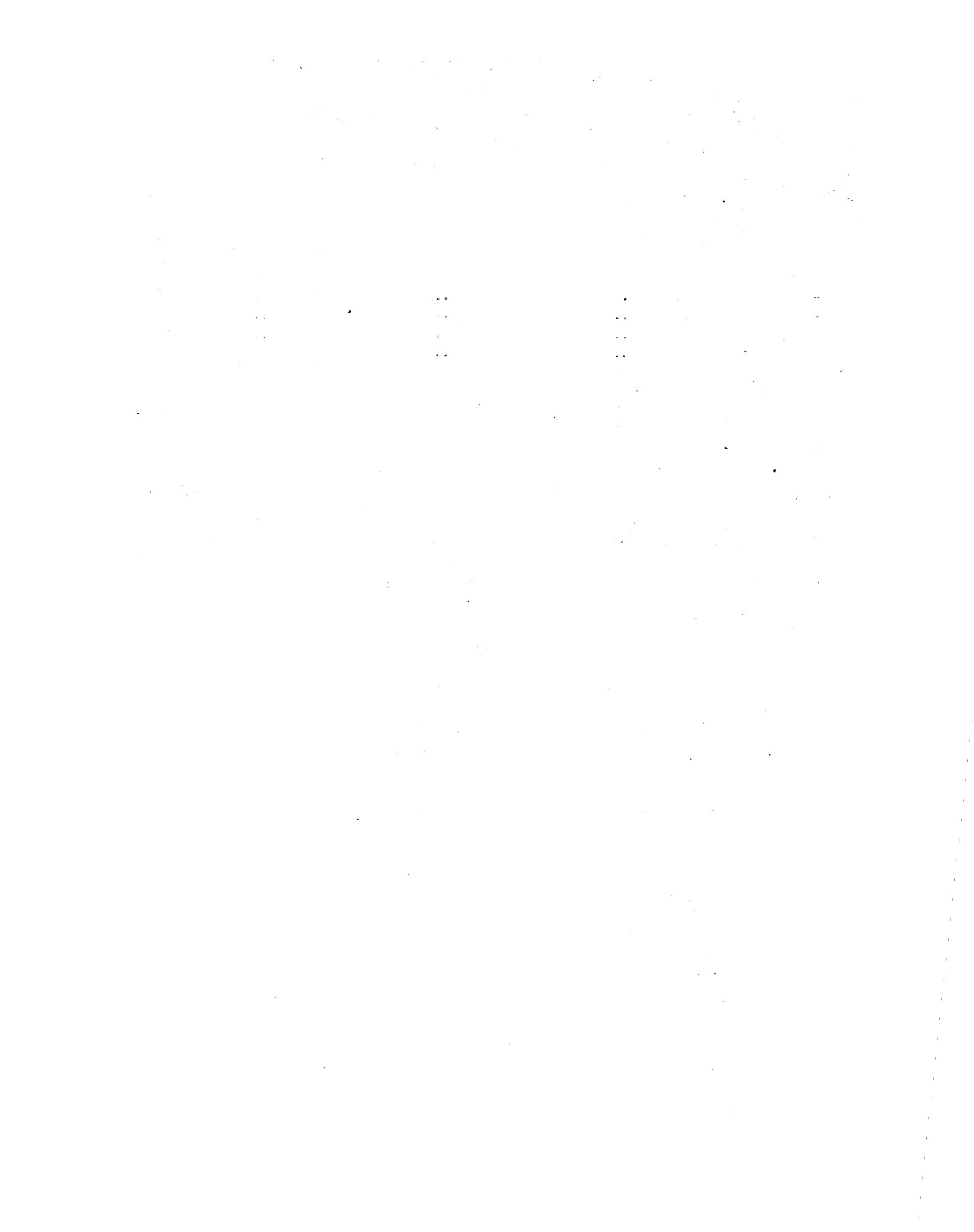
Implying an excess of direct motion, during the year, of 16·5 revolutions, or 5940°.

AMOUNT OF RAIN COLLECTED IN EACH MONTH OF THE YEAR 1861.

1861, MONTH.	Monthly Amount of Rain collected in each Gauge.						
	Osler's Anemometer Gauge.	On the Roof of the Octagon Room.	On the Roof of the Library.	On the Roof of the Photographic Thermometer Shed.	Crosley's.	Cylinder partly sunk in the Ground read Daily.	Cylinder partly sunk in the Ground read Monthly.
January - -	0.2	..	0.3	..	0.5	..	0.6
February - -	1.0	..	1.4	..	1.7	..	1.8
March - -	1.1	..	1.6	..	2.2	..	2.2
April - -	0.8	..	0.8	..	0.9	0.8	0.8
May - -	1.1	1.4	1.5	1.7	1.5	1.8	1.6
June - -	1.3	1.7	1.7	1.8	1.7	1.9	1.8
July - -	1.7	2.0	1.9	2.2	1.9	2.2	2.1
August - -	0.3	0.4	0.4	0.5	0.5	0.6	0.6
September - -	0.9	1.2	1.1	1.4	1.2	1.5	1.5
October - -	0.6	0.7	0.7	0.9	0.8	0.9	0.9
November - -	3.0	3.9	3.8	5.0	3.6	5.1	5.2
December - -	0.9	1.0	0.9	1.2	1.1	1.2	1.3
Sums - -	12.9	..	16.1	..	17.6	..	20.4

The heights of the receiving surfaces are as follows:

	Above the Mean Level of the Sea.		Above the Ground.	
	Ft.	In.	Ft.	In.
Osler's Anemometer Gauge	205	6	50	8
Gauge on the Roof of the Octagon Room	193	2 $\frac{1}{2}$	38	4 $\frac{1}{2}$
Gauge on the Roof of the Library.....	177	2	22	4
Gauge on the Roof of the Photographic Thermometer Shed	164	10	10	0
Crosley's Gauge	156	6	1	8
The Two Cylinder Gauges partly sunk in Ground.....	155	3	0	5



ROYAL OBSERVATORY, GREENWICH.

A P P E N D I X

TO

**RESULTS OF THE MAGNETICAL AND METEOROLOGICAL
OBSERVATIONS**

1861:

CONTAINING

O B S E R V A T I O N S

OF THE

MAGNETIC DIP

1856.

In the "Results of the Magnetical and Meteorological Observations 1856," page cxxxiv, it was stated that, in consequence of an injudicious use of the Dipping Needle there described, it was feared that the Observations of Dip in 1856 were useless, and their publication was therefore suppressed.

On comparing the results of the year 1856 with those of subsequent years, in which the Needle was used in an unobjectionable manner, it appears that they fall into series so well with the others that there is no sufficient reason for suppressing them; and they are therefore now exhibited in the usual form.

There is much greater discordance among the annual results than I could wish; but I am unable to assign its cause.

MAGNETIC DIP, observed at the ROYAL OBSERVATORY, GREENWICH, in the Year 1856.

Day and Approximate Hour, 1856.	Magnetic Dip.	Needle.	Day and Approximate Hour, 1856.	Magnetic Dip.	Needle.
d h	° ′		d h	° ′	
January 7. 21	68.44°00'	A 1	June 29. 21	68.42°25'	A 1
8. 3	68.45°00'	A 1	30. 3	68.41°75'	A 1
13. 21	68.41°25'	A 1			
14. 3	68.45°50'	A 1	July 7. 21	68.42°50'	A 1
28. 21	68.46°00'	A 1	8. 2	68.43°75'	A 1
29. 3	68.46°25'	A 1	20. 21	68.43°25'	A 1
			21. 2	68.44°50'	A 1
February 3. 21	68.44°50'	A 1	27. 21	68.45°00'	A 1
4. 3	68.46°75'	A 1	28. 3	68.44°50'	A 1
10. 21	68.45°00'	A 1			
11. 3	68.45°25'	A 1	August 3. 21	68.41°25'	A 1
17. 21	68.46°75'	A 1	4. 2	68.44°50'	A 1
18. 3	68.49°25'	A 1	10. 21	68.43°75'	A 1
24. 21	68.52°50'	A 1	11. 3	68.44°50'	A 1
25. 3	68.36°00'	A 1	17. 21	68.43°75'	A 1
			18. 3	68.47°50'	A 1
March 2. 21	68.43°50'	A 1	24. 21	68.36°50'	A 1
3. 3	68.43°50'	A 1	25. 3	68.27°25'	A 1
9. 21	68.40°00'	A 1			
10. 3	68.41°50'	A 1	September 0. 21	67.52°75'	A 1
17. 21	68.45°25'	A 1	1. 3	68.39°00'	A 1
18. 3	68.44°00'	A 1	7. 21	68.37°75'	A 1
23. 21	68.47°25'	A 1	8. 3	68.40°00'	A 1
24. 3	68.44°25'	A 1	14. 21	68.1°75'	A 1
30. 21	68.44°25'	A 1	14. 23	68.42°50'	A 2
31. 3	68.45°50'	A 1	15. 3	68.49°00'	A 2
			21. 21	68.47°75'	A 2
April 6. 21	68.47°25'	A 1			
7. 2	68.43°75'	A 1	October 14. 21	68.33°50'	A 2
13. 21	68.44°25'	A 1	14. 22	68.37°75'	A 1
14. 3	68.45°00'	A 1	19. 21	68.35°00'	A 2
20. 21	68.44°25'	A 1	20. 3	68.36°25'	A 2
21. 3	68.46°75'	A 1	26. 23	68.35°50'	A 1
27. 21	68.46°50'	A 1	27. 2	68.36°00'	A 1
28. 2	68.46°50'	A 1			
May 4. 21	68.45°00'	A 1	November 2. 21	68.37°50'	A 1
5. 2	68.42°75'	A 1	3. 3	68.39°25'	A 1
11. 21	68.44°75'	A 1	9. 21	68.39°00'	A 1
12. 2	68.45°25'	A 1	10. 3	68.39°75'	A 1
18. 21	68.46°50'	A 1	24. 22	68.54°75'	A 1
19. 3	68.45°25'	A 1	24. 23	69. 1°00'	A 2
25. 21	68.44°75'	A 1			
26. 3	68.44°00'	A 1			
			December 0. 21	68.45°50'	A 1
June 1. 21	68.45°50'	A 1	1. 3	68.49°75'	A 1
2. 3	68.45°00'	A 1	7. 21	68.42°25'	A 1
8. 21	68.44°00'	A 1	8. 3	68.47°25'	A 1
9. 3	68.43°75'	A 1	14. 21	68.47°50'	A 1
15. 21	68.46°25'	A 1	15. 3	68.46°00'	A 1
16. 3	68.45°25'	A 1	21. 21	68.48°25'	A 1
22. 21	68.44°75'	A 1	22. 3	68.46°25'	A 1
23. 2	68.44°00'	A 1	28. 21	68.45°00'	A 1
			29. 3	68.45°00'	A 1

The observations on September 1st, 3rd, and 14th, 23rd, were taken in consequence of the anomalous results of the observations immediately preceding them : and, on September 14, A₂ was introduced.

September 22 to October 14. The needles were in the hands of the maker for repair.

The observations of September are omitted in the following mean.

MONTHLY MEANS of MAGNETIC DIPS, at the ROYAL OBSERVATORY, GREENWICH, in the Year 1856.

1856, MONTH.	Barrow, A 1.	Number of Observations.	Barrow, A 2.	Number of Observations.
January.....	68. 44.66	6	.....	....
February.....	68. 45.75	3	.....	....
March.....	68. 43.90	10	.....	....
April.....	68. 45.53	8	.....	....
May.....	68. 44.78	8	.....	....
June.....	68. 44.25	10	.....	....
July.....	68. 43.92	6	.....	....
August.....	68. 41.12	8	.....	....
September.....	.....	...	.....	....
October.....	68. 36.42	3	68. 34.92	3
November.....	68. 42.05	5	69. 1.00	1
December.....	68. 46.28	10	.....	....
Mean	68. 43.51	...	.....	....

As there appeared to be no marked difference between Observations taken at 21^h and 3^h, the Monthly Means have been taken irrespectively of the hours of Observation.

ROYAL OBSERVATORY, GREENWICH.

C O R R E C T I O N

OF

N U M B E R S

IN THE

“RESULTS OF MAGNETICAL AND METEOROLOGICAL
OBSERVATIONS,”

1856, 1857, 1859, 1860.

In the "Results of Magnetical and Meteorological Observations;" 1856, page (cxxviii); 1857, page (cxxxviii); 1859, page (cxxxviii) and 1860, page (cxxvi) values were inadvertently printed as *Adopted Values of a*, which were not in fact computed with the aid of the Mean Value of *b*. The subsequent numbers were free from error, all calculations having been made with the true *Adopted Values of a*.

The following are the correct numbers:—

ADOPTED Values of *a*, after application of Mean Value of *b*.

1856.			1857.			1859.			1860.		
January	23	+ 0.16380	January	22	+ 0.15564	January	13	+ 0.14967	January	16	+ 0.14576
February	15	+ 0.16156	February	4	+ 0.15605	February	14	+ 0.14930	February	7	+ 0.14560
March	31	+ 0.16462	March	18	+ 0.15688	March	2	+ 0.15027	March	19	+ 0.14391
May	20	+ 0.15963	April	28	+ 0.15956	April	4	+ 0.14930	April	4	+ 0.14529
June	9	+ 0.15912	May	13	+ 0.15855	May	6	+ 0.15007	June	11	+ 0.14352
July	1	+ 0.15968	June	3	+ 0.15751	June	8	+ 0.14874	July	26	+ 0.14449
August	16	+ 0.15883	August	27	+ 0.15493	July	6	+ 0.14862	August	21	+ 0.14364
September	12	+ 0.16127	September	25	+ 0.15543	August	12	+ 0.14913	September	3	+ 0.14317
October	14	+ 0.16047	October	27	+ 0.15454	September	12	+ 0.14802	October	22	+ 0.14506
November	7	+ 0.15983	December	9	+ 0.15581	October	5	+ 0.14813	November	19	+ 0.14520
December	11	+ 0.15445				November	3	+ 0.15415	December	18	+ 0.14563
						December	9	+ 0.15550			

In the "Reduction of the Magnetic Observations made at the Royal Observatory, Greenwich, from 1848 to 1857," attached to the Volume of "Results of Magnetical and Meteorological Observations, 1859," are two tables, namely, Table XI., page (ccviii), and Table XVI., page (ccix), which are affected with very slight inaccuracies.

It is requested that the following Tables may be substituted for those in the Volume for 1859.

TABLE XI.—MEAN, through the Range of Months, of the MONTHLY MEAN DETERMINATIONS of the DIURNAL INEQUALITY of HORIZONTAL FORCE; exhibited separately for the different Years.

Hour. Göttingen Mean Solar Time.	January to December.										Mean 1848 to 1857.
	1848.	1849.	1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.	
0	-0.00164	-0.00137	-0.00134	-0.00114	-0.00133	-0.00097	-0.00082	-0.00086	-0.00086	-0.00102	-0.00113
1	- 128	- 101	- 87	- 87	- 107	- 78	- 59	- 57	- 67	- 91	- 86
2	- 76	- 45	- 38	- 53	- 84	- 58	- 45	- 45	- 53	- 70	- 57
3	- 20	- 4	- 3	- 27	- 36	- 31	- 27	- 23	- 44	- 55	- 27
4	+ 3	+ 18	+ 17	- 18	- 25	- 14	- 23	- 17	- 39	- 42	- 14
5	+ 32	+ 42	+ 33	- 8	+ 1	- 3	- 17	- 14	- 33	- 33	+ 1
6	+ 59	+ 65	+ 53	+ 13	+ 24	+ 21	- 4	- 10	- 21	- 20	+ 18
7	+ 68	+ 66	+ 52	+ 24	+ 30	+ 34	+ 12	- 3	- 7	- 2	+ 28
8	+ 71	+ 60	+ 54	+ 23	+ 35	+ 29	+ 10	- 10	- 1	- 2	+ 29
9	+ 57	+ 41	+ 34	+ 24	+ 31	+ 23	- 4	- 3	- 5	- 6	+ 23
10	+ 48	+ 40	+ 33	+ 27	+ 27	+ 27	- 9	- 8	- 2	- 10	+ 23
11	+ 37	+ 35	+ 27	+ 28	+ 33	+ 23	- 13	- 15	- 14	- 21	+ 25
12	+ 41	+ 28	+ 21	+ 30	+ 40	+ 23	- 18	- 17	- 24	- 31	+ 27
13	+ 30	+ 22	+ 23	+ 23	+ 37	+ 18	- 18	- 23	- 30	- 33	+ 26
14	+ 32	+ 25	+ 25	+ 28	+ 43	+ 24	- 27	- 29	- 32	- 36	+ 30
15	+ 30	+ 28	+ 26	+ 33	+ 36	+ 31	- 34	- 29	- 38	- 46	+ 33
16	+ 37	+ 32	+ 34	+ 46	+ 47	+ 40	- 38	- 37	- 52	- 51	+ 41
17	+ 48	+ 36	+ 36	+ 58	+ 53	+ 44	- 51	- 45	- 62	- 60	+ 49
18	+ 44	+ 37	+ 42	+ 56	+ 66	+ 51	- 51	- 53	- 64	- 68	+ 53
19	+ 28	+ 23	+ 45	+ 51	+ 52	+ 46	- 57	- 49	- 66	- 66	+ 48
20	- 9	- 20	+ 14	+ 23	+ 78	+ 21	- 35	- 29	- 43	- 44	+ 20
21	- 68	- 75	- 43	- 17	- 31	- 17	- 2	- 3	- 2	- 15	- 23
22	- 117	- 114	- 103	- 61	- 87	- 61	- 45	- 38	- 46	- 33	- 71
23	- 148	- 134	- 138	- 102	- 128	- 94	- 74	- 64	- 77	- 76	- 104

TABLE XVI.—MEAN, through the Range of Months, of the MONTHLY MEAN DETERMINATIONS of the DIURNAL INEQUALITY of VERTICAL FORCE; exhibited separately for the different Years.

Hour. Göttingen Mean Solar Time.	January to December.										Mean 1849 to 1857.	Mean in Terms of Horizontal Force.
	1849.	1850.	1851.	1852.	1853.	1854.	1855.	1856.	1857.			
0	+0.00016	+0.00102	+0.00077	+0.00090	+0.00145	+0.00155	+0.00154	+0.00160	+0.00120	+0.00113	+0.00291	
1	+ 30	+ 107	+ 66	+ 98	+ 143	+ 151	+ 142	+ 142	+ 102	+ 109	+ 281	
2	+ 49	+ 99	+ 46	+ 78	+ 108	+ 120	+ 112	+ 113	+ 60	+ 87	+ 224	
3	+ 68	+ 76	+ 18	+ 43	+ 65	+ 77	+ 36	+ 58	+ 3	+ 49	+ 126	
4	+ 47	+ 32	- 12	+ 9	+ 2	+ 9	- 27	- 5	- 39	- 3	+ 8	
5	+ 38	- 13	- 40	- 22	- 45	- 50	- 78	- 57	- 80	- 39	- 101	
6	+ 24	- 41	- 50	- 44	- 74	- 86	- 110	- 99	- 111	- 66	- 170	
7	- 4	- 76	- 69	- 63	- 105	- 122	- 145	- 133	- 134	- 95	- 245	
8	- 31	- 97	- 90	- 85	- 126	- 125	- 162	- 157	- 156	- 114	- 294	
9	- 55	- 127	- 110	- 106	- 147	- 157	- 181	- 171	- 168	- 136	- 351	
10	- 61	- 152	- 117	- 118	- 163	- 172	- 187	- 173	- 171	- 146	- 377	
11	- 62	- 158	- 109	- 113	- 156	- 175	- 173	- 169	- 155	- 141	- 364	
12	- 42	- 136	- 77	- 97	- 146	- 156	- 149	- 143	- 123	- 119	- 307	
13	- 40	- 101	- 43	- 73	- 114	- 127	- 99	- 107	- 75	- 87	- 224	
14	- 28	- 63	- 15	- 41	- 72	- 88	- 57	- 74	- 21	- 51	- 132	
15	- 8	- 17	+ 25	- 3	- 40	- 38	- 4	- 32	- 18	- 11	- 28	
16	+ 4	+ 19	+ 45	+ 33	+ 7	+ 14	+ 42	+ 13	+ 61	+ 26	+ 67	
17	+ 20	+ 52	+ 58	+ 48	+ 40	+ 48	+ 75	+ 51	+ 89	+ 53	+ 137	
18	+ 18	+ 66	+ 59	+ 53	+ 70	+ 89	+ 98	+ 83	+ 109	+ 72	+ 186	
19	+ 12	+ 69	+ 61	+ 60	+ 89	+ 97	+ 116	+ 105	+ 123	+ 81	+ 209	
20	+ 6	+ 73	+ 53	+ 52	+ 106	+ 110	+ 126	+ 123	+ 130	+ 87	+ 224	
21	+ 7	+ 78	+ 57	+ 52	+ 118	+ 123	+ 141	+ 142	+ 135	+ 95	+ 245	
22	+ 7	+ 91	+ 65	+ 71	+ 129	+ 138	+ 152	+ 156	+ 128	+ 104	+ 268	
23	+ 8	+ 106	+ 78	+ 78	+ 145	+ 148	+ 162	+ 165	+ 135	+ 114	+ 294	

